

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended April 30, 2019

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM TO

Commission File Number 001-38675

Elastic N.V.

(Exact name of registrant as specified in its Charter)

The Netherlands
(State or other jurisdiction of
incorporation or organization)

Not Applicable
(I.R.S. Employer
Identification No.)

800 West El Camino Real, Suite 350

Mountain View, California 94040

(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (650) 458-2620

Securities registered pursuant to Section 12(b) of the Act :

(Title of each class)	Trading Symbol(s)	(Name of each exchange on which registered)
Ordinary shares, Par Value €0.01 Per Share	ESTC	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES NO

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES NO

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES NO

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). YES NO

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input checked="" type="checkbox"/>		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES NO

The aggregate market value of the ordinary shares held by non-affiliates of the registrant, based on the closing price of the shares of ordinary shares on The New York Stock Exchange on October 31, 2018, was \$1,070,964,640.

The number of registrant's ordinary shares outstanding as of June 20, 2019 was 75,354,059.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement relating to the registrant's 2019 annual general meeting of shareholders (the "2019 Proxy Statement") are incorporated by reference into Part III of this Annual Report on Form 10-K where indicated. The 2019 Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year ended April 30, 2019.

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General

Unless the context otherwise indicates, references in this report to the terms “Elastic”, “the Company”, “we,” “our” and “us” refer to Elastic N.V. and its subsidiaries. All information presented herein is based on our fiscal calendar. Unless otherwise stated, references to particular years, quarters, months or periods refer to the Company’s fiscal years ended April 30 and the associated quarters, months and periods of those fiscal years.

Trademarks

The Elastic design logo, “Elastic” and our other registered or common law trademarks, service marks or trade names appearing in this Annual Report on Form 10-K are the property of elasticsearch B.V. Other trademarks and trade names referred to in this Annual Report on Form 10-K are the property of their respective owners.

Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, which statements involve substantial risk and uncertainties. Forward-looking statements generally relate to future events or our future financial or operating performance. In some cases, you can identify forward-looking statements because they contain words such as “may,” “will,” “should,” “expects,” “plans,” “anticipates,” “could,” “intends,” “target,” “projects,” “contemplates,” “believes,” “estimates,” “predicts,” “potential,” or “continue” or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans, or intentions. Forward-looking statements contained in this Annual Report on Form 10-K include, but are not limited to, statements about:

- our future financial performance, including our expectations regarding our revenue, cost of revenue, gross profit or gross margin, operating expenses (including changes in sales and marketing, research and development and general and administrative expenses), and our ability to achieve, and maintain, future profitability;
- our ability to continue to deliver and improve our offerings and successfully develop new offerings, including security-related product offerings;
- customer acceptance and purchase of our existing offerings and new offerings;
- our service performance and security, including the resources and costs required to prevent, detect and remediate potential security breaches;
- our ability to maintain and expand our customer base;
- the market for our products continuing to develop;
- competition from other products;
- the impact of foreign currency exchange rate and interest rate fluctuations on our results;
- the pace of change and innovation in the markets in which we participate and the competitive nature of those markets;
- our business strategy and our plan to build our business;
- our ability to effectively manage our growth;
- our international expansion strategy;
- our operating results and cash flows;
- our strategy of acquiring complementary businesses and our ability to successfully integrate acquired businesses and technologies, including our proposed acquisition of Endgame, Inc. (“Endgame”);
- our beliefs and objectives for future operations;
- our relationships with third parties, including partners;
- our ability to protect our intellectual property rights;
- our ability to develop our brands;
- the impact of expensing stock options and other equity awards;

- the sufficiency of our capital resources;
- our ability to successfully defend litigation brought against us;
- our ability to successfully expand in our existing markets and into new markets;
- sufficiency of cash to meet cash needs for at least the next 12 months;
- our ability to comply with laws and regulations that currently apply or become applicable to our business both in the United States and internationally;
- our ability to attract and retain qualified employees and key personnel; and
- the future trading prices of our ordinary shares.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Annual Report on Form 10-K, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Annual Report on Form 10-K primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition, results of operations, and prospects. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties, and other factors described in the section titled “Risk Factors” and elsewhere in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Annual Report on Form 10-K. We cannot assure you that the results, events, and circumstances reflected in the forward-looking statements will be achieved or occur, and actual results, events, or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this Annual Report on Form 10-K relate only to events as of the date on which such statements are made. We undertake no obligation to update any forward-looking statements after the date of this Annual Report on Form 10-K or to conform such statements to actual results or revised expectations, except as required by law. We may not actually achieve the plans, intentions, or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, or investments we may make.

PART I

Item 1. Business.

Elastic is a search company.

Search is foundational to a wide variety of experiences. Elastic makes the power of search—the ability to instantly find relevant information and insights from large amounts of data—available for a diverse set of applications and use cases.

When you hail a ride home from work with Uber, Elastic helps power the systems that locate nearby riders and drivers. When you shop online at Walgreens, Elastic helps power finding the right products to add to your cart. When you look for a partner on Tinder, Elastic helps power the algorithms that guide you to a match. When you search across Adobe’s millions of assets, Elastic helps power finding the right photo, font, or color palette to complete your project. As Sprint operates its nationwide network of mobile subscribers, Elastic helps power the logging of billions of events per day to track and manage website performance issues and network outages. As SoftBank monitors the usage of thousands of servers across its entire IT environment, Elastic helps power the processing of terabytes of daily data in real time. When Indiana University welcomes a new student class, Elastic helps power the cybersecurity operations protecting thousands of devices and critical data across collaborating universities in the BigTen Security Operations Center. All of this is search.

Why we search remains constant: we’re looking for insight, information, and answers. But how and what we search changes over time, from the Dewey Decimal System for libraries to Google for the World Wide Web to conversations with virtual assistants for everyday inquiries. Today, what we search has grown to include a rapidly increasing amount of structured and unstructured data from a multitude of sources such as databases, websites, applications, and mobile and connected devices. While search experiences often begin with search boxes, they are not confined to them. Dragging your finger across a map on a smartphone screen is search. Zooming into a specific time frame in a histogram is search. Mining log files for errors is search. Forecasting storage capacity two weeks into the future is search. Using natural language processing to analyze user sentiment is search.

Elastic created the Elastic Stack, a powerful set of software products that ingest and store data from any source, and in any format, and perform search, analysis, and visualization in milliseconds or less. Developers build on top of the Elastic Stack to apply the power of search to their data and solve business problems. We have also built software solutions on the Elastic Stack that address a wide variety of use cases including app search, site search, enterprise search, logging, metrics, application performance monitoring (“APM”), business analytics, and security analytics. The Elastic Stack and our solutions are designed to run on premises, in public or private clouds, or in hybrid environments. As the technology landscape shifts, our products grow and adapt. In that sense, we believe that our company is truly elastic.

Our origins are rooted in open source, which facilitates rapid adoption of our software and enables efficient distribution of our technology. Developers can download our software directly from our website for use in development and production environments. These downloads include both free and paid products. Open source also fosters our vibrant community of developers who help improve our products and build on top of them. As of April 30, 2019, our community included over 120,000 Meetup members across 215 Meetup groups in 48 countries. Meetup members are individuals who opt into an Elasticsearch Meetup group on meetup.com, an independent third-party website.

Our business model is based on a combination of open source and proprietary software. Many features of our software can be used free of charge. Some are only available through paid subscriptions, which include access to specific proprietary features and also include support. Unlike some open source companies, we do not build a separate enterprise version of an original open source project. Instead, we develop and test one robust codebase, over which we maintain control. We believe that maintaining full control over the source code enables us to develop better products for our users and customers. Our sales and marketing efforts start with developers who have already adopted our software and then evolve to departmental decision-makers and senior executives who have broad purchasing power in their organizations. All of these actions help us build a powerful commercial business model on top of open source.

Our customers often significantly expand their usage of our products over time. Expansion includes increasing the number of developers using our products, increasing the utilization of our products for a particular use case, and applying our products to new use cases. We focus some of our direct sales efforts on encouraging these types of expansion within our customer base.

Our business has experienced rapid growth around the world. As of April 30, 2019, we had over 8,100 customers compared to over 5,000 and over 2,800 customers as of April 30, 2018 and 2017, respectively. Our revenue was \$ 271.7 million in the year ended April 30, 2019, or fiscal 2019, \$ 159.9 million in the year ended April 30, 2018, or fiscal 2018, and \$88.2 million in the year ended April 30, 2017, or fiscal 2017, representing year-over-year growth of 70 % and 81% for the years ended April 30, 2019 and 2018, respectively. Subscriptions accounted for 91 %, 93 % and 90% of our total revenue in the years ended April 30, 2019, 2018 and 2017, respectively. Revenue from outside the United States accounted for 43 %, 39 % and 31% of our total revenue in the years ended April 30, 2019, 2018 and 2017, respectively.

In the years ended April 30, 2019, 2018 and 2017, we incurred net losses of \$102.3 million, \$52.7 million and \$52.0 million, respectively, and our net cash used in operating activities was \$23.9 million, \$20.8 million and \$16.1 million, respectively. We expect we will continue to incur net losses for the foreseeable future.

Our Products

We founded Elastic to bring the power of search to a broad range of business and consumer use cases. Our products enable our users and customers to instantly find relevant information and insights in large amounts of data.

We offer the Elastic Stack (previously known as the ELK Stack), a powerful set of software products that ingest and store data from any source, and in any format, and perform search, analysis, and visualization in milliseconds or less. The Elastic Stack is designed for direct use by developers to power a variety of use cases. We also offer software solutions built on the Elastic Stack that address a wide variety of use cases. The Elastic Stack and our solutions are designed to run on premises, in public or private clouds, or in hybrid environments.

The Elastic Stack

The Elastic Stack is comprised of four primary products:

- **Elasticsearch.** Elasticsearch is the heart of the Elastic Stack. It is a distributed, real-time search and analytics engine and datastore for all types of data, including textual, numerical, geospatial, structured, and unstructured.
- **Kibana.** Kibana is the user interface for the Elastic Stack. It is the visualization layer for data stored in Elasticsearch. It is also the management and configuration interface for all parts of the Elastic Stack.
- **Beats.** Beats is the family of lightweight, single-purpose data shippers for sending data from edge machines to Elasticsearch or Logstash.
- **Logstash.** Logstash is the dynamic data processing pipeline for ingesting data into Elasticsearch or other storage systems from a multitude of sources simultaneously.

Some features of the Elastic Stack are open source, while others are proprietary. Some proprietary features are licensed to users at no cost, while others require paid subscriptions. Paid proprietary features enable capabilities such as automating anomaly detection on time series data at scale, facilitating compliance with data security and privacy regulations, and allowing real-time notifications and alerts. The source code of all free and paid features in the Elastic Stack is visible to the public in the form of “open code.”

Our Solutions

We have built a number of solutions on top of the Elastic Stack to make it easier for organizations to use our software for certain common use cases. Like the Elastic Stack, our solutions comprise a combination of open source features, free proprietary features, and paid proprietary features. The solutions we offer include:

- **App Search** to power search in applications across documents, geographies, numbers, and more. It powers many familiar application user experience features: search bars, facets, time range, pricing sliders, result highlighting, pagination, geographic filters, and product recommendations.
- **Site Search** to create website search experiences. With seamless web crawling, high relevance, and intuitive customization features, our site search solution delivers an experience complete with features for spell correction, bigram matching, stemming, synonym recognition, phrase matching, suggested results, and more.

- **Enterprise Search** to quickly and easily search, discover, and organize information spread across businesses, including medical files, corporate communications, legal documents, stock trades, invoices, and presentations. It uses natural language processing to predict and learn from search queries to make results more accurate over time, and scales automatically to ensure continued performance.
- **Logging** to search and analyze petabytes of server and application logs to better ensure website, infrastructure, and application availability and performance. It allows users to ingest and index the data they may find important in order to quickly troubleshoot performance issues, help improve customer satisfaction, drive operational efficiencies, and more.
- **Metrics** to search and analyze numeric and time series data ranging from CPU usage to car sensor data or human heartbeats. It allows users to freely, continuously, and efficiently explore attributes such as host name, IP address, deployment, or color across any dimension at scale, and in a matter of minutes, view CPU, utilization, and process-level statistics.
- **Uptime** to easily track and monitor the availability, performance, and functionality of the hosts, websites, services and applications that make a business run. It enables administrators to proactively detect issues before users report them, and quickly investigate the root cause.
- **APM** to deliver insight into application metrics and provide developers with confidence in the code they have deployed. It enables developers to instrument their application code to capture performance data for visualization and exploration in pre-configured dashboards and custom user interfaces for common APM workflows.
- **Business Analytics** to analyze and measure business performance and goals. It delivers real-time insights into performance data such as customer satisfaction, online content performance, marketing metrics, and sales efficiency through informative and shareable visualizations and dashboards.
- **Security Analytics** to harden enterprise security by detecting zero-day malicious activity via real-time threat hunting and enabling creation of tailored security workflows. It is fast and nimble for ad hoc data exploration and scales to ingest all types of security data.
- **Maps** to allow real-time visualization and analysis of geospatial data. Whether you're monitoring the source location of a DDoS attack in real time, mapping top cities driving your web traffic or tracking deliveries in real time, location is an integral component of many search experiences.

Our Deployment Options

The Elastic Stack and our solutions generally can be deployed on premises, in public or private clouds, or in hybrid environments, to satisfy various user and customer needs. Our goal is to ultimately offer all of our products as both self-managed and SaaS deployments.

- **Self-Managed.** Today, most users manage their own deployments of the Elastic Stack and our solutions. To help with more complex deployment scenarios, we offer Elastic Cloud Enterprise (ECE), a paid proprietary product, to deliver centralized provisioning, management, and monitoring across multiple deployments.
- **SaaS.** Many customers are becoming increasingly interested in SaaS deployment alternatives that reduce the burden of administration. For these customers we have developed a family of SaaS products called Elastic Cloud, which includes Elasticsearch Service, Site Search Service and App Search Service. We host and manage our Elastic Cloud products on infrastructure from multiple public cloud providers.

Our Business Model

Our business model refers to how we make our software available, including our open source distribution and go-to-market strategy, and how we charge our customers. We believe our business model creates significant value for our users, our customers, and our company.

Our business model is based on a combination of open source and proprietary software. We market and distribute the Elastic Stack and our solutions using an open source distribution strategy. Developers are able to download our software directly from our website. Many features of our software can be used free of charge. Some are only available through paid subscriptions, which include access to specific proprietary features and also include support. These paid features can be unlocked with a simple license update, without the need to re-deploy the software. The rate at which our customers purchase additional subscriptions and expand the value of existing subscriptions depends on a number of factors, including customers' level of satisfaction with our products, the nature and size of the deployments, the desire to address additional use cases, and the perceived need for additional proprietary features. The source code of all Elastic Stack features, whether they are open source or proprietary, is visible to the public in the form of "open code."

Our open source model facilitates rapid and efficient developer adoption, particularly by empowering individual developers to download and use our software without payment, registration, or the friction of a formal sales interaction. Our use of open source licensing fosters a vibrant developer community around our products and solutions, which drives adoption of our products and increased interaction among users. Further, this approach enables community review of our code and products, which allows us to improve the reliability and security of our software. We believe that the number of times our products have been downloaded and the size of our developer community are indicative of the benefits of our open source strategy and the growth in adoption of our products. However, we typically do not have visibility into whether our products are being actively used unless the user opts to interact with us. As a result, we cannot accurately determine how much of our downloaded software is being actively used.

We have designed our strategy to avoid some of the risks associated with an open source model. One such risk relates to control over the direction and roadmap of our products. We maintain full control over the source code of our products and solutions. While community members may suggest changes to our products, only Elastic employees are able to commit changes to the codebase. Further, unlike some open source companies, we do not build a separate enterprise edition of an original open source project. Instead, we develop, maintain, and test a single robust codebase that is shared by our entire developer community.

Some open source companies sell only support for software that they make available at no cost. We believe this can create misaligned incentives in that the support vendor benefits from low software quality. Accordingly, we focus on designing high-quality software products that include proprietary features and are easy to use and reliable. We include support only as part of our subscriptions.

We believe in building products that provide value and appeal to the people who use them, including developers, architects, DevOps personnel, IT professionals, and security analysts. At the same time, a software company should be able to engage and build relationships with departmental or organizational leaders who make large technology purchasing decisions. At Elastic, we do both.

Strengths of Our Products

The strengths of our products include the following:

- **Speed** . The Elastic Stack can find matches for search criteria in milliseconds within even the largest structured and unstructured datasets. Its schema-less structure and inverted indices enable real-time search of high volumes of structured, unstructured, and time series data.
- **Scale** . The Elastic Stack is a distributed system and can scale massively. It has the ability to subdivide search indices into multiple pieces called shards, which enables data volume to be scaled horizontally and operations to be distributed across hundreds of systems or more. A developer running hundreds of nodes has the same user experience as a developer running a single node on a laptop.

- **Relevance** . Elasticsearch uses multiple analytical techniques to determine the similarity between stored data and queries, generating highly relevant results reflecting a deep understanding of text and context. Its sophisticated yet developer-friendly query language permits advanced search and analytics. Additionally, the speed of the Elastic Stack permits its query iteration, further enhancing the relevance of search results.
- **Ease of Use** . The Elastic Stack is engineered to take a user from data to dashboard or inquiry to insight in minutes. It offers an easy getting started experience, featuring streamlined download and deployment, sensible defaults, a simple and intuitive query language that just works, and no need to define a schema up front. Administrative tasks such as securing the Elastic Stack are intuitive and integrated into the user experience, as are investigative tasks such as data visualization.
- **Flexibility** . The Elastic Stack is able to ingest, filter, store, search, and analyze data in any form, whether structured or unstructured. These capabilities enable the Elastic Stack to generate insights from a wide variety of data sources for a range of use cases. The flexibility of the Elastic Stack also enables users to begin using our products along with their existing systems, which lowers barriers to adoption.
- **Extensibility** . Developers can use the Elastic Stack as a foundation for addressing a wide variety of use cases. Our open source approach to building the Elastic Stack empowers developers to innovate and utilize it to fit their specific needs. Additionally, our developer community actively engages with us to improve and expand the Elastic Stack.

Our Growth Strategies

We intend to pursue the following growth strategies:

- **Increase product adoption by improving ease of use and growing our open source community.** With our engineering efforts focused on the user experience, we will continue to develop software that makes our products easier to use and adopt for both developers and non-developers. We will continue to engage with developers globally through a wide range of touch points such as community meetups, global community groups, hackathons, our global events, which we call Elastic{ON}, and engagement on our website, user forums, and code repositories, to grow our open source community.
- **Expand our customer base by acquiring new customers.** Through our open source distribution strategy, users can easily download our software directly from our website and access many features of our software free of charge, which facilitates rapid adoption. Our sales and marketing team conducts campaigns to drive further awareness and adoption within the user community. As a result, many of our sales prospects are already familiar with our technology prior to entering into a commercial relationship with us. Additionally, we leverage our network of partners to drive awareness and expand our sales and marketing reach to target new customers. We will continue to engage our community and our partners to drive awareness and to invest in our sales and marketing team to grow our customer base.
- **Expand within our existing customer base through new use cases and larger deployments.** We often enter an organization through a single developer or a small team for an initial project or use case with an objective to quickly solve a technical challenge or business problem. Because of the rapid success with our products, knowledge of Elastic often spreads within an organization to new teams of developers, architects, IT operations personnel, security personnel, and senior executives. We will continue to invest in helping users and customers be successful with our products, and we view initial success with our products as a path to drive expansion to new use cases and projects and larger deployments within organizations.
- **Extend our product leadership through continued investment in our technology.** We will continue to invest in our self-managed and SaaS products to extend into new use cases, industries, geographies, and customers. For example, we will continue to invest in expanding our SaaS solutions, such as our Site Search Service and App Search Service, in order to provide them as self-managed products.
- **Increase usage of Elastic Cloud.** We believe that providing our SaaS products represents a significant growth opportunity. We plan to expand Elastic Cloud geographically and through more public cloud providers. We plan to offer more of our solutions, such as Elastic APM and others, as part of Elastic Cloud over time.

- **Expand our strategic and regional partnerships.** Our partners assist us in driving awareness of Elastic and our products, building new solutions on top of the Elastic Stack to solve customer pain points, and extending our reach in geographic areas and verticals where we do not have a formal sales presence. We have a diverse range of partners and we will continue to pursue partnerships to further the development of the Elastic Stack and our customer reach.
- **Selectively pursue acquisitions and strategic investments.** We have selectively pursued acquisitions and strategic investments in businesses and technologies in order to drive product and market expansion. Since inception, we have acquired the technology underlying our Site Search Service and App Search Service (formerly Swifttype), our APM solution (formerly Opbeat), our machine learning feature (formerly Prelert), our Beats product (formerly Packetbeat), our Elastic Cloud SaaS offering (formerly Found) and our Kibana and Logstash products through strategic transactions. We intend to continue to pursue acquisitions and strategic investments selectively.

Customers

Organizations of all sizes, in all industries, both private and public, purchase our products for a variety of use cases. As of April 30, 2019, we had over 8,100 customers. We have self-managed subscriptions for customers who manage their own deployments of the Elastic Stack and our solutions on premises, in public or private clouds, or in hybrid environments and Elastic Cloud subscriptions for customers who use our SaaS products. Elastic subscriptions include access to our paid proprietary features and products as well as support from Elastic's support engineers. No customer represented more than 10% of our revenue in the year ended April 30, 2019.

Engineering

Our engineering organization focuses on enhancing existing products and developing new products, both open source and proprietary, that are easy to use and can be run in any environment including on premises, in public or private clouds, or in hybrid environments. With a distributed engineering team spanning over 30 countries, we are able to recruit, hire, and retain high-quality, experienced developers, tech leads, and product managers, and operate at a rapid pace to drive product releases, fix bugs, and create new product offerings.

Our software development process is based on iterative releases across the Elastic Stack, our solutions, and the Elastic Cloud. We are organized in small functional teams with a high degree of autonomy and accountability. Our distributed and highly modular team structure and well-defined software development processes also allow us to successfully incorporate technologies that we have acquired.

As of April 30, 2019, we had 458 employees in our research and development organization, comprising 32% of our total headcount. We intend to continue to invest in our research and development capabilities to extend our products. Research and development expense totaled \$101.2 million and \$55.6 million, in the years ended April 30, 2019 and 2018, respectively. We plan to continue to devote significant resources to research and development.

Sales and Marketing

Open source is the core of our distribution model. We make it easy for individual developers to begin using our products in order to drive viral adoption. Users can download our software directly from our website without any sales interaction, and immediately begin using the full set of free and paid features. Access to our paid features is available for an initial trial period for both self-managed and SaaS subscriptions. Our community included over 120,000 Meetup members across 215 Meetup groups in 48 countries as of April 30, 2019.

As a result of our open source strategy, our sales prospects are often already using our technology. Our sales and marketing efforts extend our open source strategy in two key ways. First, we conduct low-touch marketing campaigns to keep users and customers engaged after they download our software. This includes providing high-quality content, documentation, webinars, videos, and blogs through our website. Second, we conduct high-touch virtual and field campaigns with qualified prospects and customers who have typically already deployed our software to drive further awareness, adoption, and expansion of our products and solutions.

Our sales teams are segmented primarily by geography and secondarily by employee count of our prospects and customers. We rely on inside sales development representatives to qualify leads based on their likelihood to make a purchase. We pursue sales opportunities primarily through a direct sales motion, in some cases assisted by partners. Our relationships within customer organizations often extend beyond the initial users of the technology and include technology and business decision-makers at various levels. We also engage with our customers on an ongoing basis through a customer success team, to ensure customer satisfaction and expand their usage of our technology.

As of April 30, 2019, we had 565 employees in our sales and marketing organization, including sales development, field sales, sales engineering, business development, sales operations, customer success, and marketing personnel.

Partners

We maintain partner relationships that help us market and deliver our products to our customers and complement our community. Our partner relationships include the following:

- **Cloud providers** . We work with many of the major cloud providers to increase awareness of our products and make it easy to access our software. We partner with Google to offer our Elasticsearch Service (part of Elastic Cloud) on Google Cloud Platform, or GCP. We partner with Alibaba to provide the Alibaba Cloud Elasticsearch service in China and the rest of the world. We also have relationships with Microsoft and IBM to offer Elastic Stack deployment templates on their clouds. Through these partnerships, customers of these companies may access Elastic's support engineers and may use our free and paid proprietary features. In addition, we make our Elasticsearch Service available on Amazon Web Services, or AWS, for direct purchase via our website. Elastic's Elasticsearch Service is a different offering than Amazon Elasticsearch Service. We do not partner with Amazon, provide support for Amazon Elasticsearch Service, or provide Amazon or customers of Amazon Elasticsearch Service with access to any of our free or paid proprietary features.
- **Systems integrators, channel partners, and referral partners** . We have a global network of systems integrators, channel partners, and referral partner relationships that help deliver our products to various business and government customers around the world.
- **OEM and MSP partners** . Our original equipment manufacturing, or OEM, and managed service provider, or MSP, partners embed an Elastic subscription into the products or services they offer to their own customers. OEM or MSP partners are able to include Elastic's paid and unpaid proprietary features in their product, receive ongoing support from Elastic for product development, and receive support for end customer issues related to Elastic.
- **Technology partners** . Our technology partners collaborate with Elastic to create a standardized solution for end users that includes technology from both Elastic and the partner. For example, we work with Micro Focus to integrate our products with their ArcSight product. Technology partners represent a deeper collaboration than community contributions and are distinct from distribution-oriented relationships like OEMs and MSPs.

Professional Services

We offer consulting and training as part of our offerings. To assist customers in accelerating their success with our software, our consulting team consists of engineers and architects who bring hands-on experience and deep technical knowledge to a project. Our training offerings enable our users to gain the necessary skills to develop, deploy, and manage our software.

Customer Support

We endeavor to make it easy for developers to download, install, deploy and use the Elastic Stack and our solutions. To this end, our open source developer community functions as a source of support and enables developers to engage in self-help and collaboration.

However, in many situations, such as those involving complex enterprise IT environments, large deployments and novel use cases, our users require our support. Accordingly, we include support as part of the subscriptions we sell for our products. Our global support organization is comprised of highly technical support engineers who are contributors to our open source, and provide support experiences including troubleshooting, technical audits, cluster tuning, and upgrade assistance. Our support team is distributed across over 20 countries and provides coverage 24 hours per day, all 365 days per year, across multiple languages.

We believe that software companies should not have incentives to build low quality software. In that connection, we do not sell support separately from our software subscriptions.

Our Technology

Our products consist of the Elastic Stack, our solutions, and software that supports our various deployment alternatives.

Technology Features of the Elastic Stack

Elasticsearch is the heart of the Elastic Stack, where users store, search, and analyze data. Key features of Elasticsearch include the following:

- **Store any type of data.** Elasticsearch combines powerful parts of traditional search engines, such as an inverted index to power fast full text search and a column store for analytics, with native support for a wide range of data types, including text, dates, numbers, geospatial data, date/numeric ranges, and IP addresses. With sensible defaults, and no upfront schema definition necessary, Elasticsearch makes it easy to start simple and fine-tune as datasets grow.
- **Powerful query language.** The Elasticsearch query domain specific language is a flexible, expressive search language that exposes a rich set of query capabilities across any kind of data. From simple Boolean operators to custom relevance functions, users can articulate exactly what they are looking for and bring their own definition of relevance. The query language also includes a composable aggregation framework that enables users to summarize, slice, and analyze structured or semi-structured datasets across multiple dimensions. Examples of these capabilities include tracking the top ten users by spend, looking at data week over week, analyzing data across geographies, and drilling down into details with specific filters all with a single search.
- **Developer friendliness.** Elasticsearch has consistent, well-documented application programming interfaces (APIs) that work the same way on one node during initial development as on a hundred nodes in production. Elasticsearch also ships with a number of language clients that provide a natural way to integrate with a variety of popular programming frameworks, reducing the learning curve, and leading to a shorter time to realizing value.
- **High speed.** Everything stored in Elasticsearch is indexed by default, such that users do not need to decide in advance what queries they will want to run. Our architecture optimizes throughput, time-to-data availability and query latency. Elasticsearch can easily index millions of events per second, and newly added data can be available for search nearly instantly.
- **High scale and availability.** Elasticsearch is designed to scale horizontally and be resilient to node or hardware failures. As nodes join a cluster, data is automatically re-balanced and queries and indexing are spread across the new nodes seamlessly. This makes it easy to add hardware to increase indexing throughput or improve query throughput. Elasticsearch also detects node failures and hardware or network issues and automatically protects user data by ejecting the failing or inaccessible nodes and creating new replicas of the data.

- **Machine learning and alerting.** Machine learning capabilities such as anomaly detection, forecasting, and categorization are tightly integrated with the Elastic Stack to automatically model the behavior of data, such as trends and periodicity, in real time in order to identify issues faster, streamline root cause analysis, and reduce false positives. Without these capabilities, it can be very difficult to identify issues such as infrastructure problems or intruders in real time across complex, high-volume, fast-moving datasets.
- **Security.** Security features give administrators the rights to grant specific levels of access to their various types of users, such as IT, operations, and application teams. Elasticsearch serves as the central authentication hub for the entire Elastic Stack. Security features include encrypted communications and encryption-at-rest; role-based access control; single sign-on and authentication; field-level, attribute-level, and document-level security; and audit logging.

Kibana is the user interface for the Elastic Stack. It allows users to manage the Elastic Stack and visualize data. Additionally, the interfaces for many of our solutions are built into Kibana. Key features of Kibana include the following:

- **Explore and visualize data stored in Elasticsearch.** Kibana provides interactive data views, visualizations, and dashboards powered by structured filtering and unstructured search to enable users to get to answers more quickly. A variety of data visualization types, such as simple line and bar charts, purpose-built geospatial and time series visualizations, tree diagrams, network diagrams, heatmaps, scatter plots, and histograms, support diverse user needs. Kibana Canvas is a composable and extensible creative infographics and reporting tool. Canvas creates multi-slide presentations backed by live data and infographics, in addition to fully customized live applications, all powered by data stored in Elasticsearch. Reporting features on top of Canvas enable sharing of these visualizations across the enterprise.
- **Incorporate advanced analytics and machine learning from Elasticsearch.** Kibana's query, filtering, and data summarization capabilities reflect Elasticsearch's powerful query domain specific language and aggregation framework while making it interactive.
- **Manage the Elastic Stack.** Kibana presents a broad user interface showing the health of Elastic Stack components and provides cluster alerts to notify administrators of problems. Its central management user interfaces (UIs) make it easier to operate the Elastic Stack at scale.
- **Application framework.** Kibana is designed to be extensible. Users interested in a highly specialized visualization type not distributed with Kibana by default can customize experiences through a Kibana plugin and make the plugin available to the community. Dozens of Kibana plugins have been shared by the community via Elastic documentation and code sharing platforms such as GitHub.

Beats and Logstash are data ingestion tools that enable users to collect and enrich any kind of data from any source for storage in Elasticsearch. Beats and Logstash have an extensible modular architecture. Beats are lightweight agents purpose-built for collecting data on devices, servers, and inside containers. Key features of Beats include the following:

- **Agents.** Beats are lightweight agents built for the purposes of efficient data collection at the edge for specific types of data, such as Filebeat for the collection of logging data, Metricbeat for the collection of system or service metric data, Auditbeat for the collection of security data, Packetbeat for the collection of network data, and Heartbeat for the collection of availability data. Dozens of community Beats enable the collection of data from specialized sources.
- **Extensibility and community Beats.** The Beats platform enables rapid creation of custom Beats that can be run on a variety of edge technologies for data collection. Over 80 Beats have been shared by the community via Elastic documentation and many more are available through code sharing platforms such as GitHub.

Logstash enables centralized collection and extract, transformation, and load capabilities. Key features of Logstash include the following:

- **Data transformation engine.** Logstash is a centralized data transformation engine that can receive and pull data from multiple sources, transform and filter that data, and send it to multiple outputs. Logstash has a powerful and flexible configuration language that allows users to create data stream acquisition and transformation logic without having to write code. This greatly extends and accelerates the ability to create data management pipelines to a wide variety of organizations and individuals.

- **Plugins.** Logstash collects data from a variety of sources, such as network devices, queues, API endpoints, and public cloud services. Logstash enriches the data via lookups against local data sources, such as a geolocation database, and remote data sources, such as relational databases. Logstash can output events to Elasticsearch or downstream queues and other datastores. We develop and support more than 70 plugins for many common integrations.
- **Logstash extensibility and community plugins.** A vibrant community of open source developers extends the reach through more than 700 community Logstash plugins that enable integration with a wide variety of data sources across many use cases.

Technology Features of Our Solutions

Our solutions are designed to minimize time-to-value and deployment costs of using the Elastic Stack for certain common use cases. The functionality of our solutions often includes specialized data collection, through standardized APIs or custom agents, and custom user interfaces for specific data analytics, visualizations, workflows, and actions. Most of our solutions can be self-managed or accessed through Elastic Cloud. Today, some of our solutions are only available through Elastic Cloud. We offer the following solutions:

- **App Search.** API clients for common programming frameworks to enable search of data stored in applications. It has an intuitive interface to help tune search queries for optimal utility.
- **Site Search.** Specialized website crawlers to enable search of website content. It offers an interface for search analytics and tuning relevance to match user behavior and expectations.
- **Enterprise Search.** Search capabilities and simple APIs serve as the foundation for integrating connectors and crawlers for data sources commonly used by enterprises, such as shared drives and other collaboration and document sharing offerings.
- **APM.** Agents for common programming frameworks and an APM server designed for scalable collection and processing of metrics coming from APM agents. It includes an interface supporting custom visualizations for waterfall transaction views and code-level visibility into application performance.
- **Metrics, Logging, Business Analytics, and Security Analytics.** These solutions come with pre-built configurations making it easy to use Beats and Logstash to ingest the respective type of data, and include default Kibana searches, dashboards, and visualizations to deliver instant insights.

Elastic Cloud and Elastic Cloud Enterprise

The Elastic Stack and our solutions can be deployed on premises, in public and private clouds, and in hybrid environments. We divide our deployment models into two categories: self-managed, which refers to users deploying the Elastic Stack and solutions on infrastructure they manage themselves (such as their own data center or private or public cloud environments), and Elastic Cloud, which refers to our SaaS products that we host and manage. To help self-managed users with more complex deployment scenarios, we offer Elastic Cloud Enterprise.

- **Elastic Cloud.** Elastic Cloud is our growing family of SaaS products and technologies that make it easy to deploy, operate, and scale Elastic products and solutions in the cloud. Elastic Cloud products include Elasticsearch Service, Site Search Service, and App Search Service, and are offered by us on certain large cloud providers.
- **Elastic Cloud Enterprise.** As part of building our Elastic Cloud offering, we built a comprehensive orchestration and administration infrastructure tool to easily provision, monitor, manage, secure, upgrade and backup the thousands of clusters that comprise our Elastic Cloud products. We then packaged this infrastructure into a downloadable and easily installable proprietary product called Elastic Cloud Enterprise, which makes this tool available to customers to use with their own self-managed deployments. Elastic Cloud Enterprise enables our customers to provision, monitor, manage, secure, upgrade and backup any number of clusters. It also helps our customers improve their hardware utilization and operational efficiency by allowing them to leverage shared hardware resources to manage multiple clusters, while still maintaining a strong level of isolation between those clusters.

Our Source Code

We define our culture by our “source code,” which expresses our core corporate values.

- **Home, Dinner:** There is no such thing as work-life balance. We are successful if we find balance in life. Elastic empowers its employees with the flexibility to do so. Be home for dinner, go for a run midday, care for a sick child, or visit a parent. Finding balance means being more innovative and efficient at work. Which makes for a better Elastic.
- **Space, Time:** It’s easy to get stuck in a day-to-day work pattern. Allowing for the space and time to dream requires conscious effort. Embracing a high failure rate does, too. Fulfillment comes from doing the obvious and dreaming up the un-obvious. Both are foundations of Elastic.
- **IT, Depends:** It’s pretty complicated to make some things simple, and even more complicated to make other things possible. We embrace and value the knowledge required to do both. When a question is asked, buckle up. Sh*t is about to get real. Your journey will likely start with “it depends.”
- **Progress, SIMPLE Perfection:** Perfection is not a destination. Color inside the lines or color outside the lines. Just pick a color. It’s as simple as 2048. An Elastic that moves is an Elastic that survives, thrives, and stands the test of time.
- **01.02, /FORMAT:** Our products are distributed by design, our company is distributed by intention. With many languages, perspectives, and cultures, it’s easy to lose something in translation. Over email and chat, doubly so. Until we get a perpetual empathy machine, don’t assume malice. A distributed Elastic makes for a diverse Elastic, which makes for a better Elastic.
- **As YOU, Are:** We all come in different shapes with different interests and skills. We all have an accent. Celebrate it. Just come as you are. No need to invest neurons trying to fit an arbitrary mold. We’d rather you put them to work shaping Elastic.
- **HUMBLE, Ambitious:** Ambition drives us to challenge ourselves and the people around us to do better. It is not an excuse to be an *sshole. Be humble. Be ambitious. At Elastic, we are both.
- **Speed, SCALE, Relevance:** Elastic is a search company. We focus on value to users by producing fast results that operate at scale and are relevant. This is our DNA. We believe search is an experience. It is what defines us, binds us, and makes us unique.

Our Distributed Culture

The Elastic Stack is powerful because it is distributed, gaining speed and stability from each additional node. Our company emulates the strengths of the distributed systems we build.

- **Distributed systems, distributed teams.** Elastic was born a distributed company, with founders in Israel, Germany, and the Netherlands, and early employees from the United Kingdom, France, Spain, the Czech Republic, and the United States. From our experience in open source projects, we know that great code and amazing ideas can come from anyone, anywhere.
- **Strength in diversity.** Being a distributed company is about harnessing the inherent strengths of diversity. Different people approach problems differently. We need that. When a consensus is reached between a wide variety of minds, the result is a solution that should stand the test of time.
- **Supporting resiliency.** Distributed systems are only powerful if they’re resilient. The same is true for our company. We are constantly improving the Elastic Stack to handle the challenges of distribution just as we are constantly improving how we support our employees no matter where they are. Organizational resiliency also requires recognizing that it’s not tools that make distribution work, it’s the people. Successful collaboration takes more than video calls and shared calendars. It takes a warm welcoming to let new hires know all cultures are accepted. It means always assuming the best intention of our peers.
- **Building camaraderie.** We hire intentionally. We hire thoughtfully. Smart. Curious. Nice. Respectful. These are qualities we look for in every Elastician. Our goal isn’t to build a company of people that simply work well together; our goal is to build a company that creates well together, imagines well together, laughs well together, dances well together. We want to build a culture of camaraderie so that no matter where someone’s located, they always feel connected.

- **Distributed us? Distributed you? Distributed we!** Elastic the company is just one piece of the Elastic community. Direct contact between our internal team and Elastic users is fundamental to our success. It's this culture of communication that enables us to maintain our commitment to open source. Distributed isn't always easy, and it isn't for everyone, but we believe it's the foundation of our success.

Community

As an open source company, our team extends beyond our employee base. It includes the millions of users who download our software, and over 120,000 Meetup members across 215 Meetup groups in 48 countries as of April 30, 2019. Our users interact with us on our website forums and on Twitter, GitHub, StackOverflow, Quora, Facebook, Weibo, WeChat, and more.

In order to build products that best meet our users' needs, we focus on, and invest in, building a strong community. Each download of the Elastic Stack is a new opportunity to educate our next contributor, hear about a new use case, explore the need for a new feature, or meet a future member of the team. Community is core to our identity, binding our products closely together with our users. Community gives us an ability to get their candid feedback, creating a direct line of communication between our users and the builders of our products across all of our features—open source, unpaid proprietary, and paid proprietary—enabling us to make our products simpler and better.

The Elastic community has a Code of Conduct. It covers the behaviors of the Elastic community in any forum, mailing list, wiki, website, code repository, IRC channel, private correspondence, or public meeting. It is designed to ensure that the Elastic community is a space where members and users can freely and openly communicate, collaborate, and contribute both ideas and code. It also covers our community ground rules: be considerate, be patient, be respectful, be nice, communicate effectively, and ask for help when unsure.

Competition

Our market is highly competitive, rapidly evolving, fragmented, and subject to changing technology, shifting customer needs, and frequent introductions of new offerings. Our principal competitors include:

- For our app search, site search, and enterprise search solutions: incumbent offerings such as Solr (open source offering), search tools including Google Custom Search Engine (an advertisement-based site search tool with limited user controls), Google Site Search and Google Search Appliance (both of which Google has declared to be end-of-life and stopped selling), and enterprise search tools including Endeca (acquired by Oracle), FAST (acquired by Microsoft), and Autonomy (acquired by HP and now offered by Micro Focus).
- For our logging and security analytics solutions: point solutions including Splunk and ArcSight SIEM (offered by Micro Focus).
- For our metrics, APM and business analytics solutions: software vendors with specific solutions to analyze metrics, typically with Internet of Things, or IoT, data, APM data, and business analytics data.
- Certain cloud infrastructure providers, including Amazon Web Services, that offer SaaS products based on Elastic's open source components. These offerings are not supported by Elastic and come without any of Elastic's proprietary features, whether free or paid.

The principal competitive factors for companies in our industry are:

- product capabilities, including speed, scale, and relevance, with which to power search experiences;
- an extensible product "stack" that enables developers to build a wide variety of solutions;
- powerful and flexible technology that can manage a broad variety and large volume of data;
- ease of deployment and ease of use;
- ability to address a variety of evolving customer needs and use cases;
- strength of sales and marketing efforts;
- flexible deployment model across on-premises, cloud, or hybrid environments;

- productized solutions engineered to be rapidly adopted to address specific applications;
- mindshare with developers and IT executives;
- adoption of products by many types of users (developers, architects, DevOps personnel, IT professionals, security analysts, and departmental and organizational leaders);
- enterprise-grade technology that is secure and reliable;
- size of customer base and level of user adoption;
- quality of training, consulting, and customer support;
- brand awareness and reputation; and
- low total cost of ownership.

We believe that we compare favorably on the basis of the factors listed above. However, many of our competitors have substantially greater financial, technical and other resources, greater brand recognition, larger sales forces and marketing budgets, broader distribution networks, more diverse product and services offerings and larger and more mature intellectual property portfolios. They may be able to leverage these resources to gain business in a manner that discourages customers from purchasing our offerings. Furthermore, we expect that our industry will continue to attract new companies, including smaller emerging companies, which could introduce new offerings. We may also expand into new markets and encounter additional competitors in such markets. While our products and solutions have various competitors across different use cases, such as app search, site search, enterprise search, logging, metrics, APM, business analytics and security analytics, we believe that few competitors currently have the capabilities to address our entire range of use cases. We believe our industry requires constant change and innovation, and we plan to continue to evolve search as a foundational technology to solve the problems of today and new emerging problems in the future.

Intellectual Property

Our success depends in part upon our ability to safeguard our core technology and other intellectual property assets. We seek to accomplish that objective by establishing intellectual property rights in and protecting those assets through a combination of patents, patent applications, registered and unregistered trademarks, copyrights, trade secrets, license agreements, confidentiality procedures, non-disclosure agreements with third parties, and other contractual measures. In addition, we maintain a policy requiring our employees, contractors, and consultants to enter into disclosure and invention assignment agreements. As of April 30, 2019, we had 7 issued patents in the United States with expirations ranging from 2031 to 2034, 32 pending U.S. nonprovisional patent applications, and eight pending non-U.S. patent filings. The pending patent applications, if issued, would expire between 2032 and 2039. In addition, as of April 30, 2019, we had 30 registered trademarks in the United States, 7 pending trademark applications in the United States, as well as 277 registered trademarks in various non-U.S. jurisdictions and 41 pending trademark applications in various non-U.S. jurisdictions.

Despite our efforts to protect our intellectual property assets, unauthorized parties may attempt to copy or obtain and use our proprietary technology to develop competing technologies with the same or similar functionality. Policing unauthorized use of our technology is difficult and time consuming. The laws, procedures and restrictions on which we rely may provide only limited protection, and any of our intellectual property rights may be challenged, invalidated, circumvented, infringed or misappropriated. In addition, the laws of certain countries do not protect proprietary rights to the same extent as the laws of the United States or other jurisdictions, and we therefore may be unable to protect our proprietary technology in certain jurisdictions. That is why we believe that factors such as the technological and creative skills of our personnel, creation of new products, features and functionality, and frequent enhancements to our technology are more essential to establishing and maintaining our technology leadership position.

From time to time, third parties may assert patent, copyright, trade secret and other intellectual property rights against us, our partners or our customers. Our standard license and other agreements may obligate us to indemnify our partners and customers against such claims. Successful claims of infringement by a third party could prevent us from continuing to offer our technology or performing certain services, require us to expend time and money to develop non-infringing solutions, or force us to pay for licenses or to pay substantial damages or other fees. We cannot assure you that we do not currently infringe, or that we will not in the future infringe, upon any third-party patents or other proprietary rights.

In addition, our technology incorporates software components licensed to the general public under open source software licenses such as the Apache Software License Version 2.0. We obtain many components from software developed and released by contributors to independent open source components of our technology. Open source licenses grant licensees broad permissions to use, copy, modify and redistribute our platform. As a result, open source development and licensing practices can limit the value of our software copyright assets.

Legal Proceedings

From time to time, we may be subject to legal proceedings and claims that arise in the ordinary course of business, including patent, commercial, product liability, employment, class action, whistleblower and other litigation and claims, as well as governmental and other regulatory investigations and proceedings. In addition, third parties may from time to time assert claims against us in the form of letters and other communications. We are not currently a party to any legal proceedings that, if determined adversely to us, would, in our opinion, have a material adverse effect on our business, results of operations, financial condition or cash flows. Future litigation may be necessary to defend ourselves, our partners and our customers by determining the scope, enforceability and validity of third-party proprietary rights, or to establish our proprietary rights. The results of any current or future litigation cannot be predicted with certainty, and regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Employees

As of April 30, 2019, we had 1,442 employees in over 35 countries. None of our employees is represented by a labor union. In certain countries in which we operate, such as France and Spain, we are subject to, and comply with, local labor law requirements which may automatically make our employees subject to industry-wide collective bargaining agreements. We have not experienced any work stoppages.

Corporate Information

We were incorporated in the Netherlands as a private company with limited liability (*besloten vennootschap met beperkte aansprakelijkheid*) on February 9, 2012 as Searchworkings Global B.V. On June 19, 2012, we changed our name to Elasticsearch global B.V., on December 11, 2013, we changed our name to Elasticsearch Global B.V., and on May 29, 2018, we changed our name to Elastic B.V. Immediately prior to the completion of our initial public offering (“IPO”) on October 10, 2018, we converted into a public company with limited liability (*naamloze vennootschap*) under Dutch law and changed our name to Elastic N.V. Our principal executive offices are located at 800 West El Camino Real, Suite 350, Mountain View, California 94040, and our telephone number is (650) 458-2620. We are registered with the trade register of the Dutch Chamber of Commerce under number 54655870. Our corporate seat is in Amsterdam, the Netherlands, and our registered office is at Keizersgracht 281, 1016 ED Amsterdam, the Netherlands.

Our ordinary shares are listed on the New York Stock Exchange (“NYSE”) under the symbol “ESTC”.

Our website address is www.elastic.co. Information contained on, or that can be accessed through, our website does not constitute part of this Annual Report on Form 10-K and inclusions of our website address in this Annual Report on Form 10-K are inactive textual references only.

We announce material information to the public about us, our products and services and other matters through a variety of means, including filings with the SEC, press releases, public conference calls, our website (www.elastic.co), the investor relations section of our website (<https://ir.elastic.co>), our blog (www.elastic.co/blog), and/or social media, including our Twitter account (<https://twitter.com/elastic>), Facebook page (www.facebook.com/elastic.co), and/or LinkedIn account (www.linkedin.com/company/elastic-co), in order to achieve broad, non-exclusionary distribution of information to the public. We encourage investors and others to review the information it makes public in these locations, as such information could be deemed to be material information. Please note that this list may be updated from time to time.

The Elastic design logo, “Elastic” and our other registered or common law trademarks, service marks or trade names appearing in this Annual Report on Form 10-K are the property of Elasticsearch B.V. Other trademarks and trade names referred to in this Annual Report on Form 10-K are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this Annual Report on Form 10-K may appear without the ® or ™ symbols.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) are filed with the U.S. Securities and Exchange Commission (“SEC”). We are subject to the informational requirements of the Exchange Act and file or furnish reports, proxy statements and other information with the SEC. Such reports and other information filed by us with the SEC are available free of charge on our website at www.elastic.co/ir when such reports are available on the SEC’s website. The SEC maintains an internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at www.sec.gov.

Item 1A. Risk Factors.

Risk Factors

A description of the risks and uncertainties associated with our business and ownership of our ordinary shares is set forth below. You should carefully consider the risks and uncertainties described below, together with all of the other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and the related notes thereto, before making a decision to invest in our ordinary shares. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties that we are unaware of, or that we currently believe are not material, may also become important factors that affect us. If any of the following risks occur, our business, financial condition, operating results and prospects could be materially and adversely affected. In that event, the price of our ordinary shares could decline, and you could lose part or all of your investment.

Risks Related to the Business

Our business and operations have experienced rapid growth, and if we do not appropriately manage future growth, if any, or are unable to improve our systems and processes, our business, financial condition, results of operations, and prospects will be adversely affected.

We have experienced rapid growth and increased demand for our offerings. Our employee headcount and number of customers have increased significantly, and we expect to continue to grow our headcount significantly over the next year. For example, our total number of customers has grown from over 2,800 as of April 30, 2017 to over 5,000 as of April 30, 2018 and to over 8,100 as of April 30, 2019. The growth and expansion of our business and offerings places a continuous significant strain on our management, operational, and financial resources. In addition, as customers adopt our technology for an increasing number of use cases, we have had to support more complex commercial relationships. We must continue to improve and expand our information technology and financial infrastructure, our operating and administrative systems, and our relationships with various partners and other third parties, and our ability to manage headcount and processes in an efficient manner to manage our growth to date and any future growth effectively.

We may not be able to sustain the diversity and pace of improvements to our offerings successfully or implement systems, processes, and controls in an efficient or timely manner or in a manner that does not negatively affect our results of operations. Our failure to improve our systems, processes, and controls, or their failure to operate in the intended manner, may result in our inability to manage the growth of our business and to forecast our revenue, expenses, and earnings accurately, or to prevent losses.

As we expand our business and operate as a public company, we may find it difficult to maintain our corporate culture while managing our employee growth. Any failure to manage our anticipated growth and related organizational changes in a manner that preserves our culture could negatively impact future growth and achievement of our business objectives. Additionally, our productivity and the quality of our offerings may be adversely affected if we do not integrate and train our new employees quickly and effectively. Failure to manage any future growth effectively could result in increased costs, negatively affect our customers’ satisfaction with our offerings, and harm our results of operations.

We have a history of losses and may not be able to achieve profitability or positive cash flows on a consistent basis. If we cannot achieve profitability or positive cash flows, our business, financial condition, and results of operations may suffer.

We have incurred losses in all years since our incorporation. We incurred a net loss of \$102.3 million, \$52.7 million and \$52.0 million in the years ended April 30, 2019, 2018 and 2017, respectively. As a result, we had an accumulated deficit of \$317.1 million as of April 30, 2019. We anticipate that our operating expenses will increase substantially in the foreseeable future as we continue to enhance our offerings, broaden our customer base, expand our sales and marketing activities, expand our operations, hire additional employees, and continue to develop our technology. These efforts may prove more expensive than we currently anticipate, and we may not succeed in increasing our revenue sufficiently, or at all, to offset these higher expenses. Revenue growth may slow or revenue may decline for a number of possible reasons, including slowing demand for our offerings or increasing competition. Any failure to increase our revenue as we grow our business could prevent us from achieving profitability or positive cash flow at all or on a consistent basis, which would cause our business, financial condition, and results of operations to suffer.

We may not be able to compete successfully against current and future competitors.

The market for our products is highly competitive, quickly evolving, and subject to rapid changes in technology. We believe that our ability to compete depends upon many factors both within and beyond our control, including the following:

- product capabilities, including speed, scale, and relevance, with which to power search experiences;
- an extensible product “stack” that enables developers to build a wide variety of solutions;
- powerful and flexible technology that can manage a broad variety and large volume of data;
- ease of deployment and ease of use;
- ability to address a variety of evolving customer needs and use cases;
- strength of sales and marketing efforts;
- flexible deployment model across on-premises, cloud, or hybrid environments;
- productized solutions engineered to be rapidly adopted to address specific applications;
- mindshare with developers and IT executives;
- adoption of products by many types of users (developers, architects, DevOps personnel, IT professionals, security analysts, and departmental and organizational leaders);
- enterprise-grade technology that is secure and reliable;
- size of customer base and level of user adoption;
- quality of training, consulting, and customer support;
- brand awareness and reputation; and
- low total cost of ownership.

We face competition from both established and emerging competitors. Our current primary competitors generally fall into the following categories:

- For our app search, site search, and enterprise search solutions: incumbent offerings such as Solr (open source offering), search tools including Google Custom Search Engine (an advertisement-based site search tool with limited user controls), Google Site Search and Google Search Appliance (both of which Google has declared to be end-of-life and stopped selling), and enterprise search tools including Endeca (acquired by Oracle), FAST (acquired by Microsoft), and Autonomy (acquired by HP and now offered by Micro Focus).
- For our logging and security analytics solutions: point solutions including Splunk and ArcSight SIEM (offered by Micro Focus).
- For our metrics, APM and business analytics solutions: software vendors with specific solutions to analyze metrics, typically with Internet of Things, or IoT, data, APM data, and business analytics data.

- Certain cloud infrastructure providers, including Amazon Web Services, that offer SaaS products based on Elastic's open source components. These offerings are not supported by Elastic and come without any of Elastic's proprietary features, whether free or paid.

Some of our current and potential competitors have longer operating histories, significantly greater financial, marketing and other resources and larger customer bases than we do. These factors may allow our competitors to respond more quickly than we can to new or emerging technologies and changes in customer preferences. These competitors may engage in more extensive research and development efforts, undertake more far-reaching marketing campaigns, and adopt more aggressive pricing policies which may allow them to build larger customer bases than we have. New start-up companies that innovate and large competitors that are making significant investments in research and development may develop similar offerings that compete with our offerings or that achieve greater market acceptance than our offerings. This could attract customers away from our offerings and reduce our market share. If we are unable to anticipate or react to these competitive challenges, our competitive position would weaken, which would adversely affect our business and results of operations.

Our limited operating history makes it difficult to evaluate our current business and prospects and may increase the risks associated with your investment.

We were founded in 2012. Our limited operating history makes it difficult to evaluate our current business and our future prospects, including our ability to plan for and model future growth. We have encountered and will continue to encounter risks and difficulties frequently experienced by rapidly growing companies in constantly evolving industries, including the risks described in this Annual Report on Form 10-K. If we do not address these risks successfully, our business and results of operations will be adversely affected, and the market price of our ordinary shares could decline.

Further, we have limited historical financial data and we operate in a rapidly evolving market. As such, any predictions about our future revenue and expenses may not be as accurate as they would be if we had a longer operating history or operated in a more predictable market.

If we are not able to keep pace with technological and competitive developments, our business will be harmed.

The market for search technologies is subject to rapid technological change, evolving industry standards, and changing regulations, as well as changing customer needs, requirements and preferences. Our success depends upon our ability to enhance existing products, expand the use cases of our products, respond to changing customer needs, requirements and preferences, and develop and introduce in a timely manner new offerings that keep pace with technological and competitive developments. We have in the past experienced delays in releasing new products, deployment options and product enhancements and may experience similar delays in the future. As a result, in the past, some of our customers deferred purchasing our products until the next upgrade was released. Future delays or problems in the installation or implementation of our new releases may cause customers to forgo purchases of our products and purchase those of our competitors instead.

Additionally, the success of new product introductions depends on a number of factors including, but not limited to, timely and successful product development, market acceptance, our ability to manage the risks associated with new product releases, the availability of software components for new products, the effective management of development and other spending in connection with anticipated demand for new products, the availability of newly developed products, and the risk that new products may have bugs, errors, or other defects or deficiencies in the early stages of introduction. We have in the past experienced bugs, errors, or other defects or deficiencies in new products and product updates and may have similar experiences in the future. Furthermore, our ability to increase the usage of our products depends, in part, on the development of new use cases for our products, which is typically driven by our developer community and may be outside of our control. We also have invested, and may continue to invest, in the acquisition of complementary businesses, technologies, services, products and other assets that expand the products that we can offer our customers. We may make these investments without being certain that they will result in products or enhancements that will be accepted by existing or prospective customers. Additionally, even if we are able to develop new products and product enhancements, we cannot ensure that they will achieve market acceptance. If we are unable to successfully enhance our existing products to meet evolving customer requirements, increase adoption and usage of our products, develop new products, or if our efforts to increase the usage of our products are more expensive than we expect, then our business, results of operations and financial condition would be adversely affected.

The markets for some of our products are new, unproven and evolving, and our future success depends on the growth and expansion of these markets and our ability to adapt and respond effectively to evolving markets.

The markets for certain of our products, such as our security analytics and APM solutions, are relatively new, rapidly evolving and unproven. Accordingly, it is difficult to predict customer adoption and renewals for these products, customers' demand for these products, the size, growth rate, expansion, and longevity of these markets, the entry of competitive products, or the success of existing competitive products. Our ability to penetrate these new and evolving markets depends on a number of factors, including the cost, performance, and perceived value associated with our products. If these markets do not continue to grow as expected, or if we are unable to anticipate or react to changes in these markets, our competitive position would weaken, which would adversely affect our business and results of operations.

Our operating results are likely to fluctuate from quarter to quarter, which could adversely affect the trading price of our ordinary shares.

Our results of operations, including our revenue, cost of revenue, gross margin, operating expenses, cash flow and deferred revenue, have fluctuated from quarter-to-quarter in the past and may continue to vary significantly in the future so that period-to-period comparisons of our results of operations may not be meaningful. Accordingly, our financial results in any one quarter should not be relied upon as indicative of future performance. Our quarterly financial results may fluctuate as a result of a variety of factors, many of which are outside of our control, may be difficult to predict, and may or may not fully reflect the underlying performance of our business. Factors that may cause fluctuations in our quarterly financial results include:

- our ability to attract and retain new customers;
- the loss of existing customers;
- customer renewal rates;
- our ability to successfully expand our business in the U.S. and internationally;
- our ability to foster an ecosystem of developers and users to expand the use cases of our products;
- our ability to gain new partners and retain existing partners;
- fluctuations in the growth rate of the overall market that our products address;
- fluctuations in the mix of our revenue, which may impact our gross margins and operating income;
- the amount and timing of operating expenses related to the maintenance and expansion of our business and operations, including investments in sales and marketing, research and development and general and administrative resources;
- network outages or performance degradation of Elastic Cloud;
- breaches of, or failures relating to, security, privacy, or data protection;
- general economic, industry and market conditions;
- increases or decreases in the number of elements of our subscriptions or pricing changes upon any renewals of customer agreements;
- changes in our pricing policies or those of our competitors;
- the budgeting cycles and purchasing practices of customers;
- decisions by potential customers to purchase alternative solutions;
- decisions by potential customers to develop in-house solutions as alternatives to our products;
- insolvency or credit difficulties confronting our customers, which could adversely affect their ability to purchase or pay for our offerings;
- our ability to collect timely on invoices or receivables;
- delays in our ability to fulfill our customers' orders;
- the cost and potential outcomes of future litigation or other disputes;

- future accounting pronouncements or changes in our accounting policies;
- our overall effective tax rate, including impacts caused by any reorganization in our corporate tax structure and any new legislation or regulatory developments;
- fluctuations in stock-based compensation expense;
- fluctuations in foreign currency exchange rates;
- the timing and success of new offerings introduced by us or our competitors or any other change in the competitive dynamics of our industry, including consolidation among competitors, customers or partners;
- the timing of expenses related to the development or acquisition of technologies or businesses and potential future charges for impairment of goodwill from acquired companies; and
- other risk factors described in this Annual Report on Form 10-K.

The impact of one or more of the foregoing or other factors may cause our operating results to vary significantly. Such fluctuations could cause us to fail to meet the expectations of investors or securities analysts, which could cause the trading price of our ordinary shares to fall substantially, and we could face costly lawsuits, including securities class action suits.

If we are unable to increase sales of our subscriptions to new customers, sell additional subscriptions to our existing customers, or expand the value of our existing customers' subscriptions, our future revenue and results of operations will be harmed.

We offer certain features of our products as open source software with no payment required, and also offer some of our proprietary features with no payment required. Customers purchase subscriptions in order to gain access to additional functionality and support. Our future success depends on our ability to sell our subscriptions to new customers and to expand the deployment of our offerings with existing customers by selling paid subscriptions to our existing users and expanding the value and number of existing customers' subscriptions. Our ability to sell new subscriptions depends on a number of factors, including the prices of our offerings, the prices of products offered by our competitors, and the budgets of our customers. In addition, a significant aspect of our sales and marketing focus is to expand deployments within existing customers. The rate at which our customers purchase additional subscriptions and expand the value of existing subscriptions depends on a number of factors, including customers' level of satisfaction with our offerings, the nature and size of the deployments, the desire to address additional use cases, and the perceived need for additional features, as well as general economic conditions. We rely in large part on our customers to identify new use cases for our products in order to expand such deployments and grow our business. If our customers do not recognize the potential of our offerings, our business would be materially and adversely affected. If our efforts to sell subscriptions to new customers and to expand deployments at existing customers are not successful, our total revenue and revenue growth rate may decline and our business will suffer.

If our existing customers do not renew their subscriptions, it could have an adverse effect on our business and results of operations.

We expect to derive a significant portion of our revenue from renewals of existing subscriptions. Our customers have no contractual obligation to renew their subscriptions after the completion of their subscription term. Our subscriptions for self-managed deployments typically range from one to three years, while many of our Elastic Cloud customers purchase subscriptions either on a month-to-month basis or on a committed contract of at least one year in duration.

Our customers' renewal rates may decline or fluctuate as a result of a number of factors, including their satisfaction with our products and our customer support, our products' ability to integrate with new and changing technologies, the frequency and severity of product outages, our product uptime or latency, and the pricing of our, or competing, products. If our customers renew their subscriptions, they may renew for shorter subscription terms or on other terms that are less economically beneficial to us. We may not accurately predict future renewal trends. If our customers do not renew their subscriptions, or renew on less favorable terms, our revenue may grow more slowly than expected or decline and our Net Expansion Rate may decline.

Because of the rights accorded to third parties under open source software licenses, there are limited technological barriers to entry into the markets in which we compete and it may be relatively easy for competitors, some of whom may have greater resources than we have, to enter our markets and compete with us.

Anyone may obtain access to the source code for our open source features and then redistribute it (either in a modified or unmodified form) and use it to compete in our markets. Additionally, we make the source code of our proprietary features for the Elastic Stack available, which may enable others to compete more effectively. Such competition can develop without the degree of overhead and lead time required by traditional proprietary software companies, due to the permissions allowed under open source licensing. It is possible for competitors to develop their own software, including software based on our products, potentially reducing the demand for our products and putting pricing pressure on our subscriptions. For example, Amazon offers some of our open source features as part of its Amazon Web Services offering. As such, Amazon competes with us for potential customers, and while Amazon cannot provide our proprietary software, the pricing of Amazon's offerings may limit our ability to adjust the price of our products. We cannot guarantee that we will be able to compete successfully against current and future competitors or that competitive pressure or the availability of new open source software will not result in price reductions, reduced operating margins and loss of market share, any one of which could harm our business, financial condition, results of operations and cash flows.

If we do not effectively expand and train our sales force, we may be unable to add new customers, increase sales to existing customers or expand the value of our existing customers' subscriptions and our business will be adversely affected.

We depend on our sales force to obtain new customers and to drive additional sales to existing customers by selling them new subscriptions and expanding the value of their existing subscriptions. We believe that there is significant competition for sales personnel, including sales representatives, sales managers, and sales engineers, with the skills and technical knowledge that we require. Our ability to achieve significant revenue growth will depend, in large part, on our success in recruiting, training and retaining sufficient numbers of sales personnel to support our growth. New hires require significant training and may take significant time before they achieve full productivity. Our recent hires and planned hires may not become productive as quickly as we expect, and we may be unable to hire or retain sufficient numbers of qualified individuals in the markets where we do business or plan to do business. In addition, particularly if we continue to grow rapidly, a large percentage of our sales force will have relatively little experience working with us, our subscriptions, and our business model. If we are unable to hire and train sufficient numbers of effective sales personnel, our sales personnel do not reach significant levels of productivity in a timely manner, or our sales personnel are not successful in obtaining new customers or increasing sales to our existing customer base, our business will be harmed.

Our ability to increase sales of our offerings is highly dependent on the quality of our customer support, and our failure to offer high quality support would have an adverse effect on our business, reputation and results of operations.

After our products are deployed within our customers' IT environments, our customers depend on our technical support services to resolve issues relating to our products. If we do not succeed in helping our customers quickly resolve post-deployment issues or provide effective ongoing support and education on our products, our ability to sell additional subscriptions to existing customers or expand the value of existing customers' subscriptions would be adversely affected and our reputation with potential customers could be damaged. Many larger enterprise and government entity customers have more complex IT environments and require higher levels of support than smaller customers. If we fail to meet the requirements of these enterprise customers, it may be more difficult to grow sales with them.

Additionally, it can take several months to recruit, hire, and train qualified technical support employees. We may not be able to hire such resources fast enough to keep up with demand, particularly if the sales of our offerings exceed our internal forecasts. To the extent that we are unsuccessful in hiring, training, and retaining adequate support resources, our ability to provide adequate and timely support to our customers, and our customers' satisfaction with our offerings, will be adversely affected. Our failure to provide and maintain high-quality support services would have an adverse effect on our business, financial condition, and results of operations.

We rely significantly on revenue from subscriptions and, because we recognize a significant portion of the revenue from subscriptions over the term of the relevant subscription period, downturns or upturns in sales are not immediately reflected in full in our results of operations.

Subscription revenue accounts for the substantial majority of our revenue, comprising 91%, 93% and 90% of total revenue in the years ended April 30, 2019, 2018 and 2017, respectively. We recognize a significant portion of our subscription revenue monthly over the term of the relevant time period. As a result, much of the subscription revenue we report each fiscal quarter is the recognition of deferred revenue from subscription contracts entered into during previous fiscal quarters. Consequently, a decline in new or renewed subscriptions in any one fiscal quarter will not be fully or immediately reflected in revenue in that fiscal quarter and will negatively affect our revenue in future fiscal quarters. Accordingly, the effect of significant downturns in new or renewed sales of our subscriptions is not reflected in full in our results of operations until future periods.

A real or perceived defect, security vulnerability, error, or performance failure in our software could cause us to lose revenue, damage our reputation, and expose us to liability.

Our products are inherently complex and, despite extensive testing and quality control, have in the past and may in the future contain defects or errors, especially when first introduced, or not perform as contemplated. These defects, security vulnerabilities, errors or performance failures could cause damage to our reputation, loss of customers or revenue, product returns, order cancellations, service terminations, or lack of market acceptance of our software. As the use of our products, including products that were recently acquired or developed, expands to more sensitive, secure, or mission critical uses by our customers, we may be subject to increased scrutiny, potential reputational risk, or potential liability should our software fail to perform as contemplated in such deployments. We have in the past and may in the future need to issue corrective releases of our software to fix these defects, errors or performance failures, which could require us to allocate significant research and development and customer support resources to address these problems.

Any limitation of liability provisions that may be contained in our customer and partner agreements may not be effective as a result of existing or future applicable law or unfavorable judicial decisions. The sale and support of our products entail the risk of liability claims, which could be substantial in light of the use of our products in enterprise-wide environments. In addition, our insurance against this liability may not be adequate to cover a potential claim.

Incorrect implementation or use of, or our customers' failure to update, our software could result in customer dissatisfaction and negatively affect our business, operations, financial results, and growth prospects.

Our products are often operated in large scale, complex IT environments. Our customers and some partners require training and experience in the proper use of and the benefits that can be derived from our products to maximize their potential. If our customers do not implement, update or use our products correctly or as intended, inadequate performance and/or security vulnerabilities may result. Because our customers rely on our software to manage a wide range of operations, the incorrect implementation, use of, or our customers' failure to update, our software or our failure to train customers on how to use our software productively may result in customer dissatisfaction, negative publicity and may adversely affect our reputation and brand. Failure by us to effectively provide training and implementation services to our customers could result in lost opportunities for follow-on sales to these customers and decrease subscriptions by new customers, and adversely affect our business and growth prospects.

If third parties offer inadequate or defective implementations of our open source software, our reputation could be harmed.

Certain cloud infrastructure providers, including Amazon Web Services, provide SaaS offerings based on open source components of the Elastic Stack, using the names of those open source components in marketing such offerings. These offerings are not supported by us and come without any of our proprietary features. We do not control how these third parties may use or offer our open source technology. These third parties could inadequately or incorrectly implement our open source technology, or fail to update such technology in light of changing technological or security requirements, which could result in real or perceived defects, security vulnerabilities, errors, or performance failures with respect to their open source offerings. Users, customers, and potential customers could confuse these third party products with our own products, and attribute such defects, security vulnerabilities, errors, or performance failures to our products. Any damage to our reputation and brand from defective implementations of our open source software could result in lost sales and lack of market acceptance of our products and could adversely affect our business and growth prospects.

We rely on traditional web search engines to direct traffic to our website. If our website fails to rank prominently in unpaid search results, traffic to our website could decline and our business would be adversely affected.

Our success depends in part on our ability to attract users through unpaid Internet search results on traditional web search engines, such as Google. The number of users we attract to our website from search engines is due in large part to how and where our website ranks in unpaid search results. These rankings can be affected by a number of factors, many of which are not in our direct control, and they may change frequently. For example, a search engine may change its ranking algorithms, methodologies or design layouts. As a result, links to our website may not be prominent enough to drive traffic to our website, and we may not know how or otherwise be in a position to influence the results. Any reduction in the number of users directed to our website could reduce our revenue or require us to increase our customer acquisition expenditures.

If our security measures are breached or unauthorized access to private or proprietary data is otherwise obtained, our software may be perceived as not being secure, customers may reduce the use of or stop using our products, and we may incur significant liabilities.

Any security breach, including those resulting from a cybersecurity attack, phishing attack, or any unauthorized access, unauthorized usage, virus or similar breach or disruption could result in the loss of confidential information, damage to our reputation, litigation, regulatory investigations or other liabilities. These attacks may come from individual hackers, criminal groups, and state-sponsored organizations. If our security measures are breached as a result of third-party action, employee error, defect or bug in our products, malfeasance or otherwise and, as a result, someone obtains unauthorized access to our confidential information or personal information or the confidential information or personal information of our customers, our reputation may be damaged, our business may suffer and we could incur significant liability. Even the perception of inadequate security may damage our reputation and negatively impact our ability to win new customers and retain existing customers. Further, we could be required to expend significant capital and other resources to address any data security incident or breach.

In addition, many of our customers may use our software for processing their sensitive and proprietary information, including business strategies, financial and operational data, personal or identifying information and other related data. As a result, unauthorized access or use of this data could result in the loss, compromise, corruption or destruction of our customers' sensitive and proprietary information and lead to litigation, regulatory investigations and claims, indemnity obligations, and other liabilities. We have implemented administrative, technical and physical measures designed to protect the integrity of customer information and prevent data loss, misappropriation and other security breaches and incidents and may incur significant costs in connection with the implementation of additional preventative measures in the future.

We engage third-party vendors and service providers to store and otherwise process some of our and our customers' data, including sensitive and personal information. Our vendors and service providers may also be the targets of cyberattacks, malicious software, phishing schemes, and fraud. Our ability to monitor our vendors and service providers' data security is limited, and, in any event, third parties may be able to circumvent those security measures, resulting in the unauthorized access to, misuse, disclosure, loss or destruction of our and our customers' data, including sensitive and personal information.

Techniques used to sabotage or obtain unauthorized access to systems or networks are constantly evolving and, in some instances, are not identified until launched against a target. We and our service providers may be unable to anticipate these techniques, react in a timely manner, or implement adequate preventative measures.

Further, we cannot assure that any limitations of liability provisions in our customer and user agreements, contracts with third-party vendors and service providers or other contracts would be enforceable or adequate or would otherwise protect us from any liabilities or damages with respect to any particular claim relating to a security breach or other security-related matter. We also cannot be sure that our existing insurance coverage will continue to be available on acceptable terms or will be available in sufficient amounts to cover claims related to a security incident or breach, or that the insurer will not deny coverage as to any future claim. The successful assertion of claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, including our financial condition, operating results, and reputation.

Interruptions or performance problems associated with our technology and infrastructure, and our reliance on technologies from third parties, may adversely affect our business operations and financial results.

We rely on third-party cloud platforms to host our cloud offerings. If we experience an interruption in service for any reason, our cloud offerings would similarly be interrupted. An interruption in our services to our customers could cause our customers' internal and consumer-facing applications to not function properly, which could have a material adverse effect on our business, results of operations, customer relationships and reputation.

In addition, our website and internal technology infrastructure may experience performance issues due to a variety of factors, including infrastructure changes, human or software errors, website or third-party hosting disruptions, capacity constraints, technical failures, natural disasters or fraud or security attacks. Our use and distribution of open source software may increase this risk. If our website is unavailable or our users are unable to download our products or order subscriptions or services within a reasonable amount of time or at all, our business could be harmed. We expect to continue to make significant investments to maintain and improve website performance and to enable rapid releases of new features and applications for our products. To the extent that we do not effectively upgrade our systems as needed and continually develop our technology to accommodate actual and anticipated changes in technology, our business and results of operations may be harmed.

We also rely on cloud technologies from third parties in order to operate critical functions of our business, including financial management services, relationship management services and lead generation management services. If these services become unavailable due to extended outages or interruptions or because they are no longer available on commercially reasonable terms or prices, our expenses could increase, our ability to manage our finances could be interrupted, our processes for managing sales of our offerings and supporting our customers could be impaired, and our ability to generate and manage sales leads could be weakened until equivalent services, if available, are identified, obtained and implemented, any of which could harm our business and results of operations.

We depend on our executive officers and other key employees, and the loss of one or more of these employees or an inability to attract and retain highly skilled employees could harm our business.

Our future success depends, in part, on our ability to continue to attract and retain highly skilled personnel. The loss of the services of any of our key personnel, the inability to attract or retain qualified personnel, or delays in hiring required personnel, particularly in engineering and sales, may seriously harm our business, financial condition, and results of operations. Although we have entered into employment offer letters with our key personnel, their employment is for no specific duration and constitutes at-will employment. We are also substantially dependent on the continued service of our existing engineering personnel because of the complexity of our products.

Our future performance also depends on the continued services and continuing contributions of our senior management, particularly our Chief Executive Officer and Chairman, Shay Banon, to execute on our business plan and to identify and pursue new opportunities and product innovations. We do not maintain key person life insurance policies on any of our employees. The loss of services of senior management could significantly delay or prevent the achievement of our development and strategic objectives, which could adversely affect our business, financial condition, and results of operations.

Additionally, the industry in which we operate is generally characterized by significant competition for skilled personnel as well as high employee attrition. We may not be successful in attracting, integrating, or retaining qualified personnel to fulfill our current or future needs. Also, to the extent we hire personnel from competitors, we may be subject to allegations that they have been improperly solicited, that they have divulged proprietary or other confidential information, or that their former employers own their inventions or other work product.

If we are not able to maintain and enhance our brand, especially among developers, our business and operating results may be adversely affected.

We believe that developing and maintaining widespread awareness of our brand, especially with developers, is critical to achieving widespread acceptance of our software and attracting new users and customers. Brand promotion activities may not generate user or customer awareness or increase revenue, and even if they do, any increase in revenue may not offset the expenses we incur in building our brand. For instance, our continued focus and investment in Elastic{ON} and similar investments in our brand, user engagement, and customer engagement may not generate a sufficient financial return. If we fail to successfully promote and maintain our brand, we may fail to attract or retain users and customers necessary to realize a sufficient return on our brand-building efforts, or to achieve the widespread brand awareness that is critical for broad customer adoption of our products.

Our corporate culture has contributed to our success, and if we cannot maintain this culture as we grow, we could lose the innovation, creativity and entrepreneurial spirit we have worked to foster, which could harm our business.

We believe that our culture has been and will continue to be a key contributor to our success. We expect to continue to hire aggressively as we expand. If we do not continue to maintain our corporate culture as we grow, we may be unable to foster the innovation, creativity, and entrepreneurial spirit we believe we need to support our growth. Moreover, many of our existing employees may be able to receive significant proceeds from sales of our ordinary shares in the public markets, which could lead to employee attrition and disparities of wealth among our employees that adversely affects relations among employees and our culture in general. Our substantial anticipated headcount growth and our continued transition from a private company to a public company may result in a change to our corporate culture, which could harm our business.

We rely on channel partners to execute a portion of our sales; if our channel partners fail to perform, our ability to sell our solution will be more limited, and our results of operations could be harmed.

A portion of our revenue is generated by sales through our channel partners, especially to U.S. federal government customers and in certain international markets. We provide certain of our channel partners with specific training and programs to assist them in selling our offerings, but there can be no assurance that these steps will be effective. In addition, our channel partners may be unsuccessful in marketing and selling our offerings. If we are unable to develop and maintain effective sales incentive programs for our channel partners, we may not be able to incentivize these partners to sell our offerings to customers.

Some of these partners may also market, sell, and support offerings that are competitive with ours, may devote more resources to the marketing, sales, and support of such competitive offerings, may have incentives to promote our competitors' offerings to the detriment of our own or may cease selling our offerings altogether. Our agreements with our channel partners typically have a duration of one to three years, and generally may be terminated for any reason by either party with advance notice prior to each renewal date. We cannot assure you that we will retain these channel partners or that we will be able to secure additional or replacement channel partners. The loss of one or more of our significant channel partners or a decline in the number or size of orders from any of them could harm our results of operations. In addition, many of our new channel partners require extensive training and may take several months or more to achieve productivity. Our channel partner sales structure could subject us to lawsuits, potential liability, and reputational harm if, for example, any of our channel partners misrepresents the functionality of our offerings to customers or violates laws or our or their corporate policies. If our channel partners are unsuccessful in fulfilling the orders for our offerings, or if we are unable to enter into arrangements with and retain high quality channel partners, our ability to sell our offerings and results of operations could be harmed.

If we are unable to maintain successful relationships with our partners, our business operations, financial results and growth prospects could be adversely affected.

We maintain partnership relationships with a variety of partners, including cloud providers, systems integrators, channel partners, referral partners, OEM and MSP partners, and technology partners, to jointly deliver offerings to our end customers and complement our broad community of users. In particular, we work with systems integrators and referral partners to market and sell our subscriptions.

Our agreements with our partners are generally non-exclusive, meaning our partners may offer customers the offerings of several different companies, including offerings that compete with ours, or may themselves be or become competitors. If our partners do not effectively market and sell our offerings, choose to use greater efforts to market and sell their own offerings or those of our competitors, or fail to meet the needs of our customers, our ability to grow our business and sell our offerings may be harmed. Our partners may cease marketing our offerings with limited or no notice and with little or no penalty. The loss of a substantial number of our partners, our possible inability to replace them, or the failure to recruit additional partners could harm our results of operations.

Our ability to achieve revenue growth in the future will depend in part on our success in maintaining successful relationships with our partners and in helping our partners enhance their ability to market and sell our subscriptions. If we are unable to maintain our relationships with these partners, our business, results of operations, financial condition or cash flows could be harmed.

The sales prices of our offerings may decrease, which may reduce our gross profits and adversely affect our financial results.

The sales prices for our offerings may decline for a variety of reasons, including competitive pricing pressures, discounts, anticipation of the introduction of new offerings, or promotional programs. For example, during the year ended April 30, 2019, we reduced prices for some of our Elastic Cloud offerings in conjunction with launching new offerings. Competition continues to increase in the market segments in which we participate, and we expect competition to further increase in the future, thereby leading to increased pricing pressures. Larger competitors with more diverse offerings may reduce the price of offerings that compete with ours or may bundle them with other offerings. Additionally, currency fluctuations in certain countries and regions may negatively impact actual prices that customers and channel partners are willing to pay in those countries and regions. Any decrease in the sales prices for our offerings, without a corresponding decrease in costs or increase in volume, would adversely impact our gross profit. Gross profit could also be adversely impacted by a shift in mix of our subscriptions from self-managed to our cloud offering, which has a lower gross margin, as well as any increase in our mix of professional services relative to subscriptions. We cannot assure you that we will be able to maintain our prices and gross profits at levels that will allow us to achieve and maintain profitability.

We expect our revenue mix to vary over time, which could harm our gross margin and operating results.

We expect our revenue mix to vary over time due to a number of factors, including the mix of our subscriptions for self-managed and our cloud offerings, and our professional services revenue. Due to the differing revenue recognition policies applicable to our subscriptions and professional services, shifts in our business mix from quarter to quarter could produce substantial variation in revenue recognized. Further, our gross margins and operating results could be harmed by changes in revenue mix and costs, together with numerous other factors, including entry into new markets or growth in lower margin markets; entry into markets with different pricing and cost structures; pricing discounts; and increased price competition. Any one of these factors or the cumulative effects of certain of these factors may result in significant fluctuations in our gross margin and operating results. This variability and unpredictability could result in our failure to meet internal expectations or those of securities analysts or investors for a particular period. If we fail to meet or exceed such expectations for these or any other reasons, the market price of our ordinary shares could decline.

The length of our sales cycle can be unpredictable, particularly with respect to sales through our channel partners or sales to large customers, and our sales efforts may require considerable time and expense.

Our results of operations may fluctuate, in part, because of the length and variability of the sales cycle of our subscriptions and the difficulty in making short-term adjustments to our operating expenses. Our results of operations depend in part on sales to large customers and increasing sales to existing customers. The length of our sales cycle, from initial contact with our sales team to contractually committing to our subscriptions can vary substantially from customer to customer based on deal complexity as well as whether a sale is made directly by us or through a channel partner. Our sales cycle can extend to more than a year for some customers. It is difficult to predict exactly when, or even if, we will make a sale to a potential customer or if we can increase sales to our existing customers. As a result, large individual sales have, in some cases, occurred in quarters subsequent to those we anticipated, or have not occurred at all. The loss or delay of one or more large transactions in a quarter could affect our cash flows and results of operations for that quarter and for future quarters. Because a substantial proportion of our expenses are relatively fixed in the short term, our results of operations will suffer if revenue falls below our expectations in a particular quarter, which could cause the price of our ordinary shares to decline.

Failure to protect our proprietary technology and intellectual property rights could substantially harm our business and results of operations.

Our success depends to a significant degree on our ability to protect our proprietary technology, methodologies, know-how and brand. We rely on a combination of trademarks, copyrights, patents, contractual restrictions, and other intellectual property laws and confidentiality procedures to establish and protect our proprietary rights. However, the steps we take to protect our intellectual property rights may be inadequate. We will not be able to protect our intellectual property rights if we are unable to enforce our rights or if we do not detect unauthorized use of our intellectual property rights. If we fail to protect our intellectual property rights adequately, our competitors may gain access to our proprietary technology and our business may be harmed. In addition, defending our intellectual property rights might entail significant expense. Any patents, trademarks, or other intellectual property rights that we have or may obtain may be challenged by others or invalidated through administrative process or litigation. As of April 30, 2019, we had 7 issued U.S. patents, 32 pending U.S. patent applications, and 8 pending non-U.S. filings, including 7 patent cooperation treaty patent applications. There can be no assurance that our patent applications will result in issued patents. Even if we continue to seek patent protection in the future,

we may be unable to obtain further patent protection for our technology. In addition, any patents issued in the future may not provide us with competitive advantages, or may be successfully challenged by third parties. Furthermore, legal standards relating to the validity, enforceability, and scope of protection of intellectual property rights are uncertain. Despite our precautions, it may be possible for unauthorized third parties to copy our products and use information that we regard as proprietary to create offerings that compete with ours. Effective patent, trademark, copyright, and trade secret protection may not be available to us in every country in which our products are available. We may be unable to prevent third parties from acquiring domain names or trademarks that are similar to, infringe upon, or diminish the value of our trademarks and other proprietary rights. The laws of some countries may not be as protective of intellectual property rights as those in the United States, and mechanisms for enforcement of intellectual property rights may be inadequate. As we expand our international activities, our exposure to unauthorized copying and use of our products and proprietary information will likely increase. Accordingly, despite our efforts, we may be unable to prevent third parties from infringing upon or misappropriating our intellectual property.

We enter into confidentiality and invention assignment agreements with our employees and consultants and enter into confidentiality agreements with other parties. No assurance can be given that these agreements will be effective in controlling access to and distribution of our proprietary information. Further, these agreements may not prevent our competitors from independently developing technologies that are substantially equivalent or superior to our products.

In order to protect our intellectual property rights, we may be required to spend significant resources to monitor and protect our intellectual property rights. Litigation may be necessary in the future to enforce our intellectual property rights and to protect our trade secrets. Litigation brought to protect and enforce our intellectual property rights could be costly, time-consuming, and distracting to management, and could result in the impairment or loss of portions of our intellectual property. Further, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims, and countersuits attacking the validity and enforceability of our intellectual property rights. Our inability to protect our proprietary technology against unauthorized copying or use, as well as any costly litigation or diversion of our management's attention and resources, could delay further sales or the implementation of our products, impair the functionality of our products, delay introductions of new products, result in our substituting inferior or more costly technologies into our products, or injure our reputation.

We could incur substantial costs as a result of any claim of infringement, misappropriation or violation of another party's intellectual property rights.

In recent years, there has been significant litigation involving patents and other intellectual property rights in the software industry. Companies providing software are increasingly bringing and becoming subject to suits alleging infringement, misappropriation or violation of proprietary rights, particularly patent rights, and to the extent we gain greater market visibility, we face a higher risk of being the subject of intellectual property infringement, misappropriation or violation claims. We do not currently have a large patent portfolio, which could prevent us from deterring patent infringement claims through our own patent portfolio, and our competitors and others may now and in the future have significantly larger and more mature patent portfolios than we have. The risk of patent litigation has been amplified by the increase in the number of a type of patent holder, which we refer to as a non-practicing entity, whose sole or principal business is to assert such claims and against whom our own intellectual property portfolio may provide little deterrent value. We could incur substantial costs in prosecuting or defending any intellectual property litigation. If we sue to enforce our rights or are sued by a third party that claims that our products infringe, misappropriate or violate their rights, the litigation could be expensive and could divert our management resources.

Any intellectual property litigation to which we might become a party, or for which we are required to provide indemnification, may require us to do one or more of the following:

- cease selling or using products that incorporate the intellectual property rights that we allegedly infringe, misappropriate or violate;
- make substantial payments for legal fees, settlement payments or other costs or damages;
- obtain a license, which may not be available on reasonable terms or at all, to sell or use the relevant technology; or
- redesign the allegedly infringing products to avoid infringement, misappropriation or violation, which could be costly, time-consuming or impossible.

If we are required to make substantial payments or undertake any of the other actions noted above as a result of any intellectual property infringement, misappropriation or violation claims against us or any obligation to indemnify our customers for such claims, such payments or actions could harm our business.

Indemnity provisions in various agreements potentially expose us to substantial liability for intellectual property infringement, misappropriation, violation and other losses.

Our agreements with customers and other third parties may include indemnification provisions under which we agree to indemnify them for losses suffered or incurred as a result of claims of intellectual property infringement, misappropriation or violation, damages caused by us to property or persons, or other liabilities relating to or arising from our software, services or other contractual obligations. Large indemnity payments could harm our business, results of operations and financial condition. Although we normally contractually limit our liability with respect to such indemnity obligations, we may still incur substantial liability related to them. Any dispute with a customer with respect to such obligations could have adverse effects on our relationship with that customer and other existing customers and new customers and harm our business and results of operations.

Our use of open source software could negatively affect our ability to sell our products and subject us to possible litigation.

Our technologies incorporate open source software, and we expect to continue to incorporate open source software in our products in the future. Few of the licenses applicable to open source software have been interpreted by courts, and there is a risk that these licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to commercialize our products. Moreover, we cannot assure you that we have not incorporated additional open source software in our software in a manner that is inconsistent with the terms of the applicable license or our current policies and procedures. If we fail to comply with these licenses, we may be subject to certain requirements, including requirements that we offer our solutions that incorporate the open source software for no cost, that we make available source code for modifications or derivative works we create based upon, incorporating or using the open source software and that we license such modifications or derivative works under the terms of applicable open source licenses. If an author or other third party that distributes such open source software were to allege that we had not complied with the conditions of one or more of these licenses, we could be required to incur significant legal expenses defending against such allegations and could be subject to significant damages, enjoined from the sale of our products that contained the open source software and required to comply with onerous conditions or restrictions on these products, which could disrupt the distribution and sale of these products. In addition, there have been claims challenging the ownership rights in open source software against companies that incorporate open source software into their products, and the licensors of such open source software provide no warranties or indemnities with respect to such claims. In any of these events, we and our customers could be required to seek licenses from third parties in order to continue offering our products, and to re-engineer our products or discontinue the sale of our products in the event re-engineering cannot be accomplished on a timely basis. We and our customers may also be subject to suits by parties claiming infringement, misappropriation or violation due to the reliance by our solutions on certain open source software, and such litigation could be costly for us to defend or subject us to an injunction. Some open source projects have known vulnerabilities and architectural instabilities and as provided on an “as-is” basis which, if not properly addressed, could negatively affect the performance of our product. Any of the foregoing could require us to devote additional research and development resources to re-engineer our solutions, could result in customer dissatisfaction, and may adversely affect our business, results of operations and financial condition.

One of our marketing strategies is to offer open source and free trials of our products, and we may not be able to realize the benefits of this strategy.

We are dependent upon lead generation strategies, including offering open source and free trials of our products, to generate sales opportunities. These strategies may not be successful in continuing to generate sufficient sales opportunities necessary to increase our revenue. Many users never convert from the open source or free trials to the paid versions of our products. To the extent that users do not become, or we are unable to successfully attract, paying customers, we will not realize the intended benefits of these marketing strategies and our ability to grow our revenue will be adversely affected.

Our software development and licensing model could be negatively impacted if the Apache License, Version 2.0 is not enforceable.

Important components of our software have been provided under the Apache License 2.0. This license states that any work of authorship licensed under it, and any derivative work thereof, may be reproduced and distributed provided that certain conditions are met. It is possible that a court would hold this license to be unenforceable or that someone could assert a claim for proprietary rights in a program developed and distributed under it. Any ruling by a court that this license is not enforceable, or that open source components of our products may not be reproduced or distributed, may negatively impact our distribution or development of all or a portion of our products.

In connection with the operation of our business, we may collect, store, transfer and otherwise process certain personal data and personally identifiable information. As a result, our business is subject to a variety of government and industry regulations, as well as other obligations, related to privacy, data protection and information security.

Privacy, data protection and information security have become significant issues in various jurisdictions where we offer our products. The regulatory frameworks for privacy, data protection and information security issues worldwide are rapidly evolving and are likely to remain uncertain for the foreseeable future. Federal, state, or non-U.S. government bodies or agencies have in the past adopted, and may in the future adopt, new laws and regulations or may make amendments to existing laws and regulations affecting data protection, data privacy and/or information security and/or regulating the use of the Internet as a commercial medium. For example, the California Consumer Privacy Act (the “CCPA”), which provides new data privacy rights for California residents, is expected to take effect on January 1, 2020. The CCPA provides for civil penalties, as well as a private right of action, for violations, which may increase our compliance costs and potential liability. The CCPA was amended in September 2018, and it is anticipated that it may be amended again before it goes into effect. Other states also are considering or have enacted privacy legislation that is similar to the CCPA. Many obligations under the CCPA and these other laws and legislative proposals remain uncertain, and we cannot fully predict their impact on our business. Industry organizations also regularly adopt and advocate for new standards in these areas. If we fail to comply with any of these laws or standards, we may be subject to investigations, enforcement actions, civil litigation, fines and other penalties, all of which may generate negative publicity and have a negative impact on our business.

In the United States, we may be subject to investigation and/or enforcement actions brought by federal agencies and state attorneys general and consumer protection agencies. We publicly post policies and other documentation regarding our practices concerning the processing, use and disclosure of personally identifiable information. Although we endeavor to comply with our published policies and documentation, we may at times fail to do so or be alleged to have failed to do so. The publication of our privacy policy and other documentation that provide promises and assurances about privacy and security can subject us to potential state and federal action if they are found to be deceptive, unfair, or misrepresentative of our actual practices.

Internationally, most jurisdictions in which we operate have established their own data security, privacy and data protection legal frameworks with which we or our customers must comply. Within the European Union, the European General Data Protection Regulation, or GDPR, became fully effective on May 25, 2018, and applies to the processing (which includes the collection and use) of certain personal data. As compared to previously-effective data protection law in the European Union, the GDPR imposes additional obligations and risk upon our business and increases substantially the penalties to which we could be subject in the event of any non-compliance. Administrative fines under the GDPR can amount up to 20 million Euros or four percent of the group’s annual global turnover, whichever is higher. We have incurred substantial expense in complying with the obligations imposed by the GDPR and we may be required to make significant changes in our business operations, all of which may adversely affect our revenue and our business overall. Additionally, because the GDPR’s standards have not been previously enforced against companies, we are unable to predict how they will be applied to us. Despite our efforts to attempt to comply with the GDPR, a regulator may determine that we have not done so and subject us to fines and public censure, which could harm our company.

Among other requirements, the GDPR regulates transfers of personal data subject to the GDPR to third countries that have not been found to provide adequate protection to such personal data, including the United States. We have undertaken certain efforts to conform transfers of personal data from the European Economic Area, or EEA, to the United States and other jurisdictions based on our understanding of current regulatory obligations and the guidance of data protection authorities. Despite this, we may be unsuccessful in establishing or maintaining conforming means of transferring such data from the EEA, in particular as a result of continued legal and legislative activity within the European Union that has challenged or called into question the legal basis for existing means of data transfers to countries that have not been found to provide adequate protection for personal data.

We may also experience hesitancy, reluctance, or refusal by European or multi-national customers to continue to use our products due to the potential risk exposure to such customers as a result of shifting business sentiment in the EEA regarding international data transfers and the data protection obligations imposed on them. We may find it necessary to establish systems to maintain personal data originating from the EEA in the EEA, which may involve substantial expense and may cause us to need to divert resources from other aspects of our business, all of which may adversely affect our business. We and our customers may face a risk of enforcement actions taken by European data protection authorities until the time, if any, that personal data transfers to us and by us from the EEA are legitimized under European law.

In June 2016, a referendum was passed in the United Kingdom to leave the European Union, commonly referred to as “Brexit.” This creates an uncertain political and economic environment in the United Kingdom and other European Union countries, even though the formal process for leaving the European Union may take years to complete. For example, a Data Protection Act that substantially implements the GDPR became law in the United Kingdom in May 2018. It remains unclear, however, how United Kingdom data protection laws or regulations will develop in the medium to longer term and how data transfers to and from the United Kingdom will be regulated. The full effect of Brexit is uncertain and depends on any agreements the United Kingdom may make to retain access to European Union markets. Consequently, no assurance can be given about the impact of the outcome and our business may be seriously harmed.

In addition to government regulation, privacy advocates and industry groups may propose new and different self-regulatory standards that may legally or contractually apply to us. One example of such a self-regulatory standard is the Payment Card Industry Data Security Standard, or PCI DSS, which relates to the processing of payment card information. In the event we fail to comply with the PCI DSS, fines and other penalties could result, and we may suffer reputational harm and damage to our business. Further, our customers may expect us to comply with more stringent privacy and data security requirements than those imposed by laws, regulations or self-regulatory requirements, and we may be obligated contractually to comply with additional or different standards relating to our handling or protection of data on or by our offerings. We also expect that there will continue to be changes in interpretations of existing laws and regulations, or new proposed laws, regulations, and other obligations concerning privacy, data protection and information security, which could impair our or our customers’ ability to collect, use or disclose information relating to consumers, which could decrease demand for our offerings, increase our costs and impair our ability to maintain and grow our customer base and increase our revenue.

Because the interpretation and application of many laws and regulations relating to privacy, data protection and information security, along with industry standards, are uncertain, it is possible that these laws may be interpreted and applied in a manner that is inconsistent with our existing data management practices or the features of our products, and we could face fines, lawsuits, regulatory investigations and other claims and penalties, and we could be required to fundamentally change our products or our business practices, which could have an adverse effect on our business. Any inability to adequately address privacy, data protection and data security concerns, even if unfounded, or any actual or perceived failure to comply with applicable privacy, data protection and information security laws, regulations and other obligations, could result in additional cost and liability to us, damage our reputation, inhibit sales and adversely affect our business. Furthermore, the costs of compliance with, and other burdens imposed by, the laws, regulations and policies that are applicable to the businesses of our customers may limit the use and adoption of, and reduce the overall demand for, our products. Privacy, data protection and information security concerns, whether valid or not valid, may inhibit market adoption of our products, particularly in certain industries and countries outside of the United States. If we are not able to adjust to changing laws, regulations and standards related to the Internet, our business may be harmed.

We may acquire other businesses which could require significant management attention, disrupt our business, dilute shareholder value and adversely affect our results of operations.

As part of our business strategy, we may acquire or make investments in complementary companies, products, or technologies. We have in the past acquired, and expect in the future to acquire, businesses that we believe will complement or augment our existing business (for example, our proposed acquisition of Endgame, Inc.). The identification of suitable acquisition candidates is difficult, and we may not be able to complete such acquisitions on favorable terms, if at all. If we do complete future acquisitions, we may not ultimately strengthen our competitive position or achieve our goals and business strategy, we may be subject to claims or liabilities assumed from an acquired company, product, or technology, and any acquisitions we complete could be viewed negatively by our customers, investors, and securities analysts. In addition, if we are unsuccessful at integrating future acquisitions, or the technologies associated with such acquisitions, into our company, the revenue and results of operations of the combined company could be adversely affected. Any integration process may require significant time and resources, which may disrupt our ongoing business and divert management’s attention, and we may not be able to manage the integration process successfully. We may not successfully evaluate or utilize the acquired technology or personnel, realize anticipated synergies from the acquisition, or accurately forecast the financial impact of an acquisition transaction and integration of such acquisition, including accounting charges. We may have to pay cash, incur debt, or issue equity or equity-linked securities to pay for any future acquisitions, each of which could adversely affect our financial condition or the market price of our ordinary shares. The sale of equity or issuance of equity-linked debt to finance any future acquisitions could result in dilution to our shareholders. The incurrence of indebtedness would result in increased fixed obligations and could also include covenants or other restrictions that would impede our ability to manage our operations. The occurrence of any of these risks could harm our business, results of operations, and financial condition.

Unfavorable conditions in our industry or the global economy or reductions in information technology spending could limit our ability to grow our business and negatively affect our results of operations.

Our results of operations may vary based on the impact of changes in our industry or the global economy on us or our customers. Current or future economic uncertainties or downturns could adversely affect our business and results of operations. Negative conditions in the general economy both in the United States and abroad, including conditions resulting from changes in gross domestic product growth, financial and credit market fluctuations, political turmoil, natural catastrophes, warfare and terrorist attacks on the United States, Europe, the Asia Pacific region or elsewhere, could cause a decrease in business investments by our customers and potential customers, including spending on information technology, and negatively affect the growth of our business. To the extent our offerings are perceived by customers and potential customers as discretionary, our revenue may be disproportionately affected by delays or reductions in general information technology spending. Also, customers may choose to develop in-house software as an alternative to using our products. Moreover, competitors may respond to market conditions by lowering prices. We cannot predict the timing, strength or duration of any economic slowdown, instability or recovery, generally or within any particular industry. If the economic conditions of the general economy or markets in which we operate do not improve, or worsen from present levels, our business, results of operations and financial condition could be adversely affected.

We are subject to governmental export and import controls that could impair our ability to compete in international markets or subject us to liability if we violate these controls.

Our software may be subject to U.S. export control laws and regulations including the Export Administration Regulations, or EAR, and trade and economic sanctions maintained by the Office of Foreign Assets Control, or OFAC. As such, an export license may be required to export or reexport our products to certain countries, end-users and end-uses. Because we incorporate encryption functionality into our products, we also are subject to certain U.S. export control laws that apply to encryption items. If we were to fail to comply with such U.S. export controls laws and regulations, U.S. economic sanctions, or other similar laws, we could be subject to both civil and criminal penalties, including substantial fines, possible incarceration for employees and managers for willful violations, and the possible loss of our export or import privileges. Obtaining the necessary export license for a particular sale or offering may not be possible and may be time-consuming and may result in the delay or loss of sales opportunities. Furthermore, U.S. export control laws and economic sanctions prohibit the export of products to certain U.S. embargoed or sanctioned countries, governments and persons, as well as for prohibited end-uses. Monitoring and ensuring compliance with these complex U.S. export control laws is particularly challenging because our offerings are widely distributed throughout the world and are available for download without registration. Even though we take precautions to ensure that we and our partners comply with all relevant export control laws and regulations, any failure by us or our partners to comply with such laws and regulations could have negative consequences for us, including reputational harm, government investigations and penalties.

In addition, various countries regulate the import of certain encryption technology, including through import permit and license requirements, and have enacted laws that could limit our ability to distribute our products or could limit our end-customers' ability to implement our products in those countries. Changes in our products or changes in export and import regulations in such countries may create delays in the introduction of our products into international markets, prevent our end-customers with international operations from deploying our products globally or, in some cases, prevent or delay the export or import of our products to certain countries, governments or persons altogether. Any change in export or import laws or regulations, economic sanctions or related legislation, shift in the enforcement or scope of existing export, import or sanctions laws or regulations, or change in the countries, governments, persons, or technologies targeted by such export, import or sanctions laws or regulations, could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential end-customers with international operations. Any decreased use of our products or limitation on our ability to export to or sell our products in international markets could adversely affect our business, financial condition and operating results.

Our international operations and expansion expose us to several risks.

As of April 30, 2019, we had customers located in over 100 countries, and our strategy is to continue to expand internationally. In addition, as a result of our strategy of leveraging a distributed workforce, as of April 30, 2019, we had employees located in over 35 countries. Our current international operations involve and future initiatives will involve a variety of risks, including:

- unexpected changes in regulatory requirements, taxes, trade laws, tariffs, export quotas, custom duties or other trade restrictions;

- different labor regulations, especially in the European Union, where labor laws are generally more advantageous to employees as compared to the United States, including deemed hourly wage and overtime regulations in these locations;
- exposure to many stringent and potentially inconsistent laws and regulations relating to privacy, data protection and information security, particularly in the European Union;
- changes in a specific country's or region's political or economic conditions;
- risks resulting from changes in currency exchange rates;
- challenges inherent to efficiently managing an increased number of employees over large geographic distances, including the need to implement appropriate systems, policies, benefits and compliance programs;
- risks relating to the implementation of exchange controls, including restrictions promulgated by the OFAC, and other similar trade protection regulations and measures in the United States or in other jurisdictions;
- reduced ability to timely collect amounts owed to us by our customers in countries where our recourse may be more limited;
- limitations on our ability to reinvest earnings from operations derived from one country to fund the capital needs of our operations in other countries;
- limited or unfavorable intellectual property protection; and
- exposure to liabilities under anti-corruption and anti-money laundering laws, including the U.S. Foreign Corrupt Practices Act of 1977, as amended, and similar applicable laws and regulations in other jurisdictions.

If we are unable to address these difficulties and challenges or other problems encountered in connection with our international operations and expansion, we might incur unanticipated liabilities or we might otherwise suffer harm to our business generally.

If we are not successful in sustaining and expanding our international business, we may incur additional losses and our revenue growth could be harmed.

Our future results depend, in part, on our ability to sustain and expand our penetration of the international markets in which we currently operate and to expand into additional international markets. We depend on direct sales and our channel partner relationships to sell our offerings in international markets. Our ability to expand internationally will depend upon our ability to deliver functionality and foreign language translations that reflect the needs of the international clients that we target. Our ability to expand internationally involves various risks, including the need to invest significant resources in such expansion, and the possibility that returns on such investments will not be achieved in the near future or at all in these less familiar competitive environments. We may also choose to conduct our international business through other partnerships. If we are unable to identify partners or negotiate favorable terms, our international growth may be limited. In addition, we have incurred and may continue to incur significant expenses in advance of generating material revenue as we attempt to establish our presence in particular international markets.

Our failure to raise additional capital or generate the significant capital necessary to expand our operations and invest in new offerings could reduce our ability to compete and could harm our business.

We expect that our existing cash and cash equivalents will be sufficient to meet our anticipated cash needs for at least the next twelve months. After that, we may need to raise additional funds, and we may not be able to obtain additional debt or equity financing on favorable terms, if at all. If we raise additional equity financing, our shareholders may experience significant dilution of their ownership interests and the per share value of our ordinary shares could decline. Furthermore, if we engage in debt financing, the holders of debt would have priority over the holders of our ordinary shares, and we may be required to accept terms that restrict our ability to incur additional indebtedness. We may also be required to take other actions that would otherwise be in the interests of the debt holders and force us to maintain specified liquidity or other ratios, any of which could harm our business, results of operations, and financial condition. If we need additional capital and cannot raise it on acceptable terms, we may not be able to, among other things:

- develop or enhance our products;
- continue to expand our sales and marketing and research and development organizations;

- acquire complementary technologies, products or businesses;
- expand operations in the United States or internationally;
- hire, train, and retain employees; or
- respond to competitive pressures or unanticipated working capital requirements.

Our failure to have sufficient capital to do any of these things could harm our business, financial condition, and results of operations.

Failure to comply with anti-bribery, anti-corruption, and anti-money laundering laws could subject us to penalties and other adverse consequences.

We are subject to the Foreign Corrupt Practices Act, or FCPA, the U.K. Bribery Act and other anti-corruption, anti-bribery and anti-money laundering laws in various jurisdictions both domestic and abroad. We leverage third parties, including channel partners, to sell our offerings and conduct our business abroad. We and our third-party intermediaries may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities and may be held liable for the corrupt or other illegal activities of these third-party business partners and intermediaries, our employees, representatives, contractors, partners, and agents, even if we do not explicitly authorize such activities. While we have policies and procedure to address compliance with such laws, we cannot assure you that all of our employees and agents will not take actions in violation of our policies and applicable law, for which we may be ultimately held responsible. Any violation of the FCPA or other applicable anti-bribery, anti-corruption laws, and anti-money laundering laws could result in whistleblower complaints, adverse media coverage, investigations, loss of export privileges, severe criminal or civil sanctions, or suspension or debarment from U.S. government contracts, all of which may have an adverse effect on our reputation, business, operating results and prospects.

A portion of our revenue is generated by sales to government entities, which are subject to a number of challenges and risks.

Sales to government entities are subject to a number of risks. Selling to government entities can be highly competitive, expensive, and time-consuming, often requiring significant upfront time and expense without any assurance that these efforts will generate a sale. Government certification requirements for products like ours may change, thereby restricting our ability to sell into the U.S. federal government, U.S. state government, or non-U.S. government sectors until we have attained the revised certification. Government demand and payment for our offerings may be affected by public sector budgetary cycles and funding authorizations, with funding reductions or delays adversely affecting public sector demand for our offerings.

Additionally, we rely on certain partners to provide technical support services to certain of our government entity customers to resolve any issues relating to our products. If our partners do not effectively assist our government entity customers in deploying our products, succeed in helping our government entity customers quickly resolve post-deployment issues, or provide effective ongoing support, our ability to sell additional offerings to new and existing government entity customers would be adversely affected and our reputation could be damaged.

Government entities may have statutory, contractual, or other legal rights to terminate contracts with us or our channel partners for convenience or due to a default, and any such termination may adversely affect our future results of operations. Governments routinely investigate and audit government contractors' administrative processes, and any unfavorable audit could result in the government refusing to continue buying our subscriptions, a reduction of revenue, or fines or civil or criminal liability if the audit uncovers improper or illegal activities, which could adversely affect our results of operations in a material way.

Unanticipated changes in effective tax rates or adverse outcomes resulting from examination of our income or other tax returns could expose us to greater than anticipated tax liabilities.

Our income tax obligations are based in part on our corporate structure and intercompany arrangements, including the manner in which we develop, value, and use our intellectual property and the valuations of our intercompany transactions. The tax laws applicable to our business, including the laws of the Netherlands, the United States and other jurisdictions, are subject to interpretation and certain jurisdictions may aggressively interpret their laws in an effort to raise additional tax revenue. The taxing authorities of the jurisdictions in which we operate may challenge our methodologies for valuing developed technology or intercompany arrangements, which could increase our worldwide effective tax rate and harm our financial position and results of operations. It is possible that tax authorities may disagree with certain positions we have taken and any adverse outcome of such a review or audit could have a negative effect on our financial position and results of operations. Further, the determination of our worldwide provision for income taxes and other tax liabilities requires significant judgment by management, and there are transactions where the ultimate tax determination is uncertain. Although we believe that our estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded in our consolidated financial statements and may materially affect our financial results in the period or periods for which such determination is made.

Our corporate structure and intercompany arrangements are subject to the tax laws of various jurisdictions, and we could be obligated to pay additional taxes, which would harm our results of operations.

Based on our current corporate structure, we may be subject to taxation in several jurisdictions around the world with increasingly complex tax laws, the application of which can be uncertain. The amount of taxes we pay in these jurisdictions could increase substantially as a result of changes in the applicable tax principles, including increased tax rates, new tax laws or revised interpretations of existing tax laws and precedents. In the United States, newly enacted legislation commonly referred to as the Tax Cuts and Jobs Act introduced a number of changes to U.S. federal income tax laws, the impact of which is uncertain. In addition, the authorities in the jurisdictions in which we operate could review our tax returns or require us to file tax returns in jurisdictions in which we are not currently filing, and could impose additional tax, interest and penalties. These authorities could also claim that various withholding requirements apply to us or our subsidiaries, assert that benefits of tax treaties are not available to us or our subsidiaries, or challenge our methodologies for valuing developed technology or intercompany arrangements, including our transfer pricing. The relevant taxing authorities may determine that the manner in which we operate our business does not achieve the intended tax consequences. If such a disagreement was to occur, and our position was not sustained, we could be required to pay additional taxes, and interest and penalties. Such authorities could claim that various withholding requirements apply to us or our subsidiaries or assert that benefits of tax treaties are not available to us or our subsidiaries. Any increase in the amount of taxes we pay or that are imposed on us could increase our worldwide effective tax rate and harm our business and results of operations.

Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations.

As of April 30, 2019 and 2018, we had net operating loss carryforwards in various jurisdictions of \$485.7 million and \$223.0 million, respectively, which may be utilized against future income taxes. Limitations imposed by the applicable jurisdictions on our ability to utilize net operating loss carryforwards could cause income taxes to be paid earlier than would be paid if such limitations were not in effect and could cause such net operating loss carryforwards to expire unused, in each case reducing or eliminating the benefit of such net operating loss carryforwards. Furthermore, we may not be able to generate sufficient taxable income to utilize our net operating loss carryforwards before they expire. If any of these events occur, we may not derive some or all of the expected benefits from our net operating loss carryforwards.

Catastrophic events, or man-made problems such as terrorism, may disrupt our business.

A significant natural disaster, such as an earthquake, fire, flood, or significant power outage could have an adverse impact on our business, results of operations, and financial condition. We have a number of our employees and executive officers located in the San Francisco Bay Area, a region known for seismic activity. In the event our or our partners abilities are hindered by any of the events discussed above, sales could be delayed, resulting in missed financial targets for a particular quarter. In addition, acts of terrorism and other geo-political unrest could cause disruptions in our business or the business of our partners, customers or the economy as a whole. Any disruption in the business of our partners or customers that affects sales in a given fiscal quarter could have a significant adverse impact on our quarterly results for that and future quarters. All of the aforementioned risks may be further increased if our disaster recovery plans prove to be inadequate.

We are exposed to fluctuations in currency exchange rates, which could negatively affect our financial condition and results of operations.

A portion of our subscriptions are generated and operating expenses are incurred outside the United States and denominated in foreign currencies and are subject to fluctuations due to changes in foreign currency exchange rates. The strengthening of the U.S. dollar increases the real cost of our offerings to our customers outside of the United States, leading to delays in the purchase of our offerings and the lengthening of our sales cycle. If the U.S. dollar continues to strengthen, this could adversely affect our financial condition and results of operations. In addition, increased international sales in the future, including through our channel partners, may result in greater foreign currency denominated sales, increasing our foreign currency risk. Moreover, operating expenses incurred outside the United States and denominated in foreign currencies are increasing and are subject to fluctuations due to changes in foreign currency exchange rates. If we are not able to successfully hedge against the risks associated with currency fluctuations, our financial condition and results of operations could be adversely affected. To date, we have not entered into any hedging transactions in an effort to reduce our exposure to foreign currency exchange risk. While we may decide to enter into hedging transactions in the future, the availability and effectiveness of these hedging transactions may be limited and we may not be able to successfully hedge our exposure, which could adversely affect our financial condition and results of operations.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our results of operations could fall below expectations of securities analysts and investors, resulting in a decline in the trading price of our ordinary shares.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, as provided in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included elsewhere in this Annual Report on Form 10-K, the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity, revenue, and expenses that are not readily apparent from other sources. Our results of operations may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in the market price of our ordinary shares. Significant assumptions and estimates used in preparing our consolidated financial statements include those related to revenue recognition, measurement of stock-based compensation expense, accounting of intangible assets, goodwill impairment test, and accounting for income taxes including deferred tax assets and liabilities.

Risks Related to Ownership of our Ordinary Shares

The market price for our ordinary shares has been and is likely to continue to be volatile or may decline regardless of our operating performance.

The stock markets, and securities of technology companies in particular, have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many technology companies. Stock prices of many technology companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In the past, shareholders have instituted securities class action litigation following periods of market volatility. If we were to become involved in securities litigation, it could subject us to substantial costs, divert resources and the attention of management from our business and adversely affect our business. The market price of our ordinary shares may fluctuate significantly in response to numerous factors, many of which are beyond our control, including:

- actual or anticipated changes or fluctuations in our operating results;
- the financial projections we may provide to the public, any changes in these projections or our failure to meet these projections;
- announcements by us or our competitors of new offerings or new or terminated significant contracts, commercial relationships or capital commitments;
- industry or financial analyst or investor reaction to our press releases, other public announcements, and filings with the SEC;
- rumors and market speculation involving us or other companies in our industry;

- future sales or expected future sales of our ordinary shares;
- investor perceptions of us and the industries in which we operate;
- price and volume fluctuations in the overall stock market from time to time;
- changes in operating performance and stock market valuations of other technology companies generally, or those in our industry in particular;
- failure of industry or financial analysts to maintain coverage of us, changes in financial estimates by any analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- actual or anticipated developments in our business or our competitors' businesses or the competitive landscape generally;
- litigation involving us, our industry or both, or investigations by regulators into our operations or those of our competitors;
- developments or disputes concerning our intellectual property rights or our solutions, or third-party proprietary rights;
- announced or completed acquisitions of businesses or technologies by us or our competitors;
- breaches of, or failures relating to, security, privacy or data protection;
- new laws or regulations or new interpretations of existing laws or regulations applicable to our business;
- any major changes in our management or our board of directors, particularly with respect to Mr. Banon;
- general economic conditions and slow or negative growth of our markets; and
- other events or factors, including those resulting from war, incidents of terrorism or responses to these events.

The concentration of our share ownership with insiders will likely limit your ability to influence corporate matters, including the ability to influence the outcome of director elections and other matters requiring shareholder approval.

Our executive officers, directors, current 5% or greater shareholders and affiliated entities together beneficially owned approximately 56% of our ordinary shares outstanding as of April 30, 2019. As a result, these shareholders, acting together, will have control over most matters that require approval by our shareholders, including matters such as adoption of the financial statements, declarations of dividends, the appointment and dismissal of directors, capital increases, amendment to our articles of associations and approval of significant corporate transactions. Corporate action might be taken even if other shareholders oppose them. This concentration of ownership might also have the effect of delaying or preventing a change of control of us that other shareholders may view as beneficial.

In addition, four of our non-executive directors are affiliated with a holder of greater than 5% of our ordinary shares.

The issuance of additional shares in connection with financings, acquisitions, investments, our share incentive plans or otherwise will dilute all other shareholders.

Our articles of association authorize us to issue up to 165 million ordinary shares and up to 165 million preference shares with such rights and preferences as included in our articles of association. Our General Meeting has empowered our board of directors, to issue ordinary shares and preference shares up to our authorized share capital for a period of five years from October 10, 2018. Subject to compliance with applicable rules and regulations, we may issue ordinary shares or securities convertible into ordinary shares from time to time in connection with a financing, acquisition, investment, our share incentive plans or otherwise. Any such issuance could result in substantial dilution to our existing shareholders unless pre-emptive rights exist and cause the market price of our ordinary shares to decline.

Certain holders of our ordinary shares may not be able to exercise pre-emptive rights and as a result may experience substantial dilution upon future issuances of ordinary shares.

Holders of our ordinary shares in principle have a pro rata pre-emptive right with respect to any issue of ordinary shares or the granting of rights to subscribe for ordinary shares, unless Dutch law or the articles of association state otherwise or unless explicitly provided otherwise in a resolution by our General Meeting of Shareholders, or the General Meeting, or—if authorized by the General Meeting—by a resolution of our board of directors. Our General Meeting has empowered our board of directors, to limit or exclude pre-emptive rights on ordinary shares for a period of five years from October 10, 2018, which could cause existing shareholders to experience substantial dilution of their interest in us.

Pre-emptive rights do not exist with respect to the issue of preference shares and holders of preference shares, if any, have no pre-emptive right to acquire newly issued ordinary shares. Also, pre-emptive rights do not exist with respect to the issue of shares or grant of rights to subscribe for shares to employees of the company or contributions in kind.

Sales of substantial amounts of our ordinary shares in the public markets, or the perception that they might occur, could reduce the price that our ordinary shares might otherwise attain.

Sales of a substantial number of shares of our ordinary shares in the public market, particularly sales by our directors, executive officers and significant shareholders, or the perception that these sales could occur, could adversely affect the market price of our ordinary shares and may make it more difficult for you to sell your ordinary shares at a time and price that you deem appropriate.

In addition, holders of an aggregate of approximately 42,665,555 ordinary shares, based on shares outstanding as of April 30, 2019, are entitled to rights with respect to registration of these shares under the Securities Act pursuant to our amended and restated investors' rights agreement. If these holders of our ordinary shares, by exercising their registration rights, sell a large number of shares, they could adversely affect the market price for our ordinary shares. We have also registered the offer and sale of all ordinary shares that we may issue under our equity compensation plan.

Certain anti-takeover provisions in our articles of association and under Dutch law may prevent or could make an acquisition of our company more difficult, limit attempts by our shareholders to replace or remove members of our board of directors and may adversely affect the market price of our ordinary shares.

Our articles of association contain provisions that could delay or prevent a change in control of our company. These provisions could also make it difficult for shareholders to appoint directors that are not nominated by the current members of our board of directors or take other corporate actions, including effecting changes in our management. These provisions include:

- the staggered three-year terms of the members of our board of directors, as a result of which only approximately one-third of the members of our board of directors may be subject to election in any one year;
- a provision that the members of our board of directors may only be removed by the General Meeting by a two-thirds majority of votes cast representing at least 50% of our issued share capital if such removal is not proposed by our board of directors;
- a provision that the members of our board of directors may only be appointed upon binding nomination of the board of directors, which can only be overruled with two-thirds majority of votes cast representing at least 50% of our issued share capital;
- the inclusion of a class of preference shares in our authorized share capital that may be issued by our board of directors, in such a manner as to dilute the interest of shareholders, including any potential acquirer or activist shareholder, in order to delay or discourage any potential unsolicited offer or shareholder activism;
- requirements that certain matters, including an amendment of our articles of association, may only be brought to our shareholders for a vote upon a proposal by our board of directors; and
- minimum shareholding thresholds, based on nominal value, for shareholders to call General Meetings of our Shareholders or to add items to the agenda for those meetings.

We are subject to the Dutch Corporate Governance Code but do not comply with all the suggested governance provisions of the Dutch Corporate Governance Code. This may affect your rights as a shareholder.

As a Dutch company we are subject to the Dutch Corporate Governance Code, or DCGC. The DCGC contains both principles and suggested governance provisions for management boards, supervisory boards, shareholders and general meetings, financial reporting, auditors, disclosure, compliance and enforcement standards. The DCGC is based on a “comply or explain” principle. Accordingly, public companies are required to disclose in their annual reports, filed in the Netherlands, whether they comply with the suggested governance provisions of the DCGC. If they do not comply with those provisions (e.g., because of a conflicting requirement), the company is required to give the reasons for such noncompliance. The DCGC applies to all Dutch companies listed on a government-recognized stock exchange, whether in the Netherlands or elsewhere, including the NYSE. The principles and suggested governance provisions apply to our board of directors (in relation to role and composition, conflicts of interest and independency requirements, board committees and remuneration), shareholders and the General Meeting (for example, regarding anti-takeover protection and our obligations to provide information to our shareholders) and financial reporting (such as external auditor and internal audit requirements). We comply with all applicable provisions of the DCGC except where such provisions conflict with U.S. exchange listing requirements or with market practices in the United States may affect your rights as a shareholder and you may not have the same level of protection as a shareholder in a Dutch company that fully complies with the suggested governance provisions of the DCGC.

We do not intend to pay dividends in the foreseeable future. As a result, your ability to achieve a return on your investment will depend on appreciation in the price of our ordinary shares.

We have never declared or paid any cash dividends on our shares. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any dividends on our ordinary shares in the foreseeable future. Were this position to change, payment of future dividends may be made only if our equity exceeds the amount of the paid-in and called-up part of the issued share capital, increased by the reserves required to be maintained by Dutch law or by our articles of association. Accordingly, investors must rely on sales of their ordinary shares after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

If industry or financial analysts do not publish research or reports about our business, or if they issue inaccurate or unfavorable research regarding our ordinary shares, our share price and trading volume could decline.

The trading market for our ordinary shares is influenced by the research and reports that industry or financial analysts publish about us or our business. We do not control these analysts, or the content and opinions included in their reports. As a new public company, we may be slow to attract research coverage and the analysts who publish information about our ordinary shares will have had relatively little experience with our company, which could affect their ability to accurately forecast our results and make it more likely that we fail to meet their estimates. In the event we obtain industry or financial analyst coverage, if any of the analysts who cover us issues an inaccurate or unfavorable opinion regarding our company, our stock price would likely decline. In addition, the stock prices of many companies in the technology industry have declined significantly after those companies have failed to meet, or significantly exceed, the financial guidance publicly announced by the companies or the expectations of analysts. If our financial results fail to meet, or significantly exceed, our announced guidance or the expectations of analysts or public investors, analysts could downgrade our ordinary shares or publish unfavorable research about us. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, our visibility in the financial markets could decrease, which in turn could cause our stock price or trading volume to decline.

We are an “emerging growth company” and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our ordinary shares less attractive to investors.

For so long as we remain an “emerging growth company” as defined in the JOBS Act, we may take advantage of certain exemptions from various requirements that are applicable to public companies that are not “emerging growth companies,” including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We may take advantage of these exemptions until we are no longer an emerging growth company. We would cease to be an emerging growth company upon the earliest to occur of: (i) the first fiscal year following the fifth anniversary of our initial public offering; (ii) the first fiscal year after our annual gross revenue is \$1.07 billion or more; (iii) the date on which we have, during the previous three-year period, issued more than \$1.0 billion in non-convertible debt securities; or (iv) as of the end of any fiscal year after the first anniversary of our initial public offering in which the market value of our ordinary shares held by non-affiliates exceeded \$700.0 million as of the end of the second quarter of that fiscal year. We cannot predict if investors will find our ordinary shares less attractive because we may rely on these exemptions. If some investors find our ordinary shares less attractive as a result, there may be a less active trading market for our ordinary shares and our stock price may be more volatile.

The requirements of being a public company may strain our resources, divert management’s attention and affect our ability to attract and retain qualified board members.

As a public company, we are subject to the reporting and corporate governance requirements of the Exchange Act, the listing requirements of the New York Stock Exchange and other applicable securities rules and regulations, including the Sarbanes-Oxley Act and the Dodd-Frank Wall Street Reform and Consumer Protection Act. Compliance with these rules and regulations will increase our legal and financial compliance costs, make some activities more difficult, time-consuming or costly and increase demand on our systems and resources, particularly after we are no longer an “emerging growth company” as defined in the JOBS Act. Among other things, the Exchange Act requires that we file annual, quarterly and current reports with respect to our business and results of operations and maintain effective disclosure controls and procedures and internal control over financial reporting. In order to improve our disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight may be required. As a result, management’s attention may be diverted from other business concerns, which could harm our business, financial condition, results of operations and prospects. Although we have already hired additional personnel to help comply with these requirements, we may need to further expand our legal and finance departments in the future, which will increase our costs and expenses.

In addition, changing laws, regulations and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs and making some activities more time-consuming. These laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expense and a diversion of management’s time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies, regulatory authorities may initiate legal proceedings against us and our business and prospects may be harmed. As a result of disclosure of information in the filings required of a public company and in this Annual Report on Form 10-K, our business and financial condition will become more visible, which may result in threatened or actual litigation, including by competitors and other third parties. If such claims are successful, our business, financial condition, results of operations and prospects could be materially harmed, and even if the claims do not result in litigation or are resolved in our favor, these claims, and the time and resources necessary to resolve them, could divert the resources of our management and materially harm our business, financial condition, results of operations and prospects.

If we fail to establish or maintain an effective system of internal controls, we may be unable to accurately report our financial results or prevent fraud, and investor confidence and the market price of our ordinary shares may, therefore, be adversely affected.

As a public company in the United States, we are required to maintain internal control over financial reporting and to report any material weaknesses in such internal control. In addition, beginning with our annual report for the year ending April 30, 2020, we will be required to furnish a report by management on the effectiveness of our internal control over financial reporting pursuant to Section 404. We are in the process of designing, implementing, and testing the internal control over financial reporting required to comply with these obligations. This process is time-consuming, costly, and complicated. In addition, our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting beginning with our annual report following the date on which we are no longer an “emerging growth company”, which may be up to five fiscal years following the date of our initial public offering. If we identify material weaknesses in our internal control over financial reporting, if we are unable to comply with the requirements of Section 404 in a timely manner or assert that our internal control over financial reporting are effective, or if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal control over financial reporting when required, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our ordinary shares may be adversely affected, and we could become subject to investigations by the stock exchange on which our securities are listed, the SEC, or other regulatory authorities, which could require additional financial and management resources.

Claims of U.S. civil liabilities may not be enforceable against us.

We are incorporated under the laws of the Netherlands and substantial portions of our assets are located outside of the United States. In addition, one member of our board of directors and certain experts named herein reside outside the United States. As a result, it may be difficult for investors to effect service of process within the United States upon us or such other persons residing outside the United States, or to enforce outside the United States judgments obtained against such persons in U.S. courts in any action, including actions predicated upon the civil liability provisions of the U.S. federal securities laws. In addition, it may be difficult for investors to enforce, in original actions brought in courts in jurisdictions located outside the United States, rights predicated upon the U.S. federal securities laws.

There is no treaty between the United States and the Netherlands for the mutual recognition and enforcement of judgments (other than arbitration awards) in civil and commercial matters. Therefore, a final judgment rendered by any federal or state court in the United States based on civil liability, whether or not predicated solely upon the U.S. federal securities laws, would not be enforceable in the Netherlands unless the underlying claim is re-litigated before a Dutch court of competent jurisdiction. In such proceedings, however, a Dutch court may be expected to recognize the binding effect of a judgment of a federal or state court in the United States without re-examination of the substantive matters adjudicated thereby, if (i) the jurisdiction of the U.S. federal or state court has been based on internationally accepted principles of private international law, (ii) that judgment resulted from legal proceedings compatible with Dutch notions of due process, (iii) that judgment does not contravene public policy of the Netherlands and (iv) that judgment is not incompatible with (x) an earlier judgment of a Dutch court between the same parties, or (y) an earlier judgment of a foreign court between the same parties in a dispute regarding the same subject and based on the same cause, if that earlier foreign judgment is recognizable in the Netherlands.

Based on the foregoing, there can be no assurance that U.S. investors will be able to enforce against us or members of our board of directors, officers or certain experts named herein who are residents of the Netherlands or countries other than the United States any judgments obtained in U.S. courts in civil and commercial matters, including judgments under the U.S. federal securities laws.

In addition, there can be no assurance that a Dutch court would impose civil liability on us, the members of our board of directors, our officers or certain experts named herein in an original action predicated solely upon the U.S. federal securities laws brought in a court of competent jurisdiction in the Netherlands against us or such members, officers or experts, respectively.

U.S. holders of our ordinary shares may suffer adverse tax consequences if we are characterized as a passive foreign investment company.

A non-U.S. corporation will generally be considered a passive foreign investment company, or PFIC, for U.S. federal income tax purposes, in any taxable year if either (1) at least 75% of its gross income for such year is passive income or (2) at least 50% of the value of its assets (based on an average of the quarterly values of the assets during such year) is attributable to assets that produce or are held for the production of passive income. For purposes of the PFIC asset test, the value of our assets will generally be determined by reference to our market capitalization. However, if we are considered to be a “controlled foreign corporation,” or CFC, that is not “publicly traded” for purposes of the PFIC rules during a tested period, the value of our assets will generally be determined by reference to our adjusted bases in our assets during such tested period. Due in part to changes in the CFC attribution rules as part of recently enacted legislation commonly referred to as the Tax Cuts and Jobs Act, we may have been a CFC prior to our IPO. However, based on our past and current projections of our income and assets, we do not expect to be a PFIC for the taxable year ended April 30, 2019 or for the foreseeable future. Nevertheless, a separate factual determination as to whether we are or have become a PFIC must be made each year (after the close of such year). Since our projections may differ from our actual business results and our market capitalization and value of our assets may fluctuate, we cannot assure you that we will not be or become a PFIC in the current taxable year or any future taxable year. If we are a PFIC for any taxable year during which a U.S. holder (as defined in “Taxation—Material U.S. Federal Income Tax Considerations to U.S. Holders”) holds our ordinary shares, the U.S. holder may be subject to adverse tax consequences. Each U.S. holder is strongly urged to consult its tax advisor regarding the application of these rules and the availability of any potential elections. See “Taxation—Material U.S. Federal Income Tax Considerations to U.S. Holders”.

If a U.S. holder is treated as owning at least 10% of our ordinary shares, such holder may be subject to adverse U.S. federal income tax consequences.

If a U.S. holder is treated as owning (directly, indirectly, or constructively) at least 10% of the value or voting power of our ordinary shares, such holder may be treated as a “United States shareholder” with respect to each “controlled foreign corporation” in our group (if any). Under changes implemented recently by legislation commonly referred to as the Tax Cuts and Jobs Act, because our group includes one or more U.S. subsidiaries, certain of our non-U.S. subsidiaries could be treated as controlled foreign corporations (regardless of whether we are treated as a controlled foreign corporation). A United States shareholder of a controlled foreign corporation may be required to report annually and include in its U.S. taxable income its pro rata share of “Subpart F income,” “global intangible low-taxed income,” and investments in U.S. property by controlled foreign corporations, regardless of whether we make any distributions. An individual that is a United States shareholder with respect to a controlled foreign corporation generally would not be allowed certain tax deductions or foreign tax credits that would be allowed to a United States shareholder that is a U.S. corporation. We cannot provide any assurances that we will assist investors in determining whether any of our non-U.S. subsidiaries is treated as a controlled foreign corporation or whether any investor is treated as a United States shareholder with respect to any such controlled foreign corporation or furnish to any investor who may be a United States shareholders information that may be necessary to comply with the aforementioned reporting and tax paying obligations. Failure to comply with these reporting obligations may subject a U.S. holder who is a United States shareholder to significant monetary penalties and may prevent from starting the statute of limitations with respect to such holder’s U.S. federal income tax return for the year for which reporting was due. A U.S. holder should consult its advisors regarding the potential application of these rules to an investment in our ordinary shares.

We may not be able to make distributions or repurchase shares without subjecting our shareholders to Dutch withholding tax.

Dutch dividend withholding tax may be levied on dividends and similar distributions made by us to our shareholders at the statutory rate of 15%. If dividend distributions are structured as a repayment of capital or a repurchase of shares, Dutch withholding tax may still be due at 15%. Such repayment of capital or repurchase of shares will be exempt from dividend withholding tax only in limited circumstances.

Item 1B. Unresolved Staff Comments.

None

Item 2. Properties.

As a distributed company, we employ a distributed workforce with offices and employee hubs around the world. The largest of these hubs is located in Mountain View, California, where we lease approximately 37,000 square feet. The lease will expire seven years after the commencement date. In June 2019, we exercised our right of first refusal to lease an additional 10,000 square feet at the Mountain View, California hub.

All offices are leased and we do not own any real property. We intend to procure additional space in the future as we continue to add employees and expand geographically. We believe that our current facilities are adequate to meet our current needs and that, as we grow, suitable additional space will be available to either expand existing hubs or open new hubs in new locations.

Item 3. Legal Proceedings.

The information called for by this Item is incorporated herein by reference to Item 8. "Financial Statements and Supplementary Data," Note 7, "Commitments and Contingencies" included elsewhere in this Annual Report on Form 10-K.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information for Ordinary Shares

Our ordinary shares began trading on the NYSE under the symbol “ESTC” on October 5, 2018. Prior to that date, there was no public trading market for our ordinary shares.

Holders of Record

As of June 20, 2019 there were 105 shareholders of record of our ordinary shares, and the closing price of our ordinary shares was \$77.82 per share as reported on the NYSE. Because many of our ordinary shares are held by brokers and other institutions on behalf of shareholders, we are unable to estimate the total number of shareholders represented by these record holders.

Dividend Policy

We have never declared or paid any dividends on our ordinary shares, and we do not anticipate declaring or paying dividends in the foreseeable future.

Securities Authorized for Issuance under Equity Compensation Plans

See Item 12 of Part III of this report regarding information about securities authorized for issuance under our equity compensation plans

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

None.

Stock Performance Graph

This performance graph shall not be deemed “filed” with the SEC for purposes of Section 18 of the Exchange Act or incorporated by reference into any of our filings under the Securities Act.

The graph below compares the cumulative total stockholder return on our ordinary shares with the cumulative total return on the S&P 500 Index and the S&P 500 Information Technology Index. The graph assumes \$100 was invested at the market close on October 5, 2018, which was our initial trading day, in our ordinary shares. Data for the S&P 500 Index and the S&P 500 Information Technology Index assume reinvestment of dividends. Our offering price of our ordinary shares in our IPO, which had a closing stock price of \$70.00 on October 5, 2018, was \$36.00 per share.

The comparisons in the graph below are based upon historical data and are not indicative of, nor intended to forecast, future performance of our ordinary shares .



Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Item 6. Selected Financial Data.

The following selected consolidated financial data should be read in conjunction with Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations* and the consolidated financial statements and related notes included in Part II, Item 8, *Financial Statements*, of this Annual Report on Form 10-K. The selected consolidated statements of operations data presented below for the years ended April 30, 2019, 2018 and 2017 and the consolidated balance sheet data as of April 30, 2019 and 2018 are derived from our audited consolidated financial statements that are included elsewhere in this Annual Report on Form 10-K. The consolidated balance sheet data as of April 30, 2017 is derived from our audited consolidated financial statements not included in this Annual Report of Form 10-K. The selected consolidated financial data in this section are not intended to replace our consolidated financial statements and the related notes, and are qualified in their entirety by the consolidated financial statements and related notes included elsewhere in Annual Report on Form 10-K. Our historical results are not necessarily indicative of our future results.

Consolidated Statements of Operations:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Revenue			
License - self-managed	\$ 39,474	\$ 25,759	\$ 14,503
Subscription - self-managed and SaaS	208,780	123,623	65,243
Total subscription revenue	248,254	149,382	79,746
Professional services	23,399	10,553	8,431
Total revenue	271,653	159,935	88,177
Cost of revenue (1)(2)(3)			
Cost of license - self-managed	387	387	55
Cost of subscription - self-managed and SaaS	53,560	27,920	13,161
Total cost of revenue - subscription	53,947	28,307	13,216
Cost of professional services	24,063	12,433	6,629
Total cost of revenue	78,010	40,740	19,845
Gross profit	193,643	119,195	68,332
Operating expenses (1)(2)(3)(4)			
Research and development	101,167	55,641	32,601
Sales and marketing	147,296	82,606	56,612
General and administrative	46,536	28,942	26,291
Total operating expenses	294,999	167,189	115,504
Operating loss (1)(2)(3)(4)	(101,356)	(47,994)	(47,172)
Other income (expense), net	3,441	(1,357)	(583)
Loss before income taxes	(97,915)	(49,351)	(47,755)
Provision for income taxes	4,388	3,376	4,213
Net loss	\$ (102,303)	\$ (52,727)	\$ (51,968)
Net loss per share attributable to ordinary shareholders, basic and diluted	\$ (1.86)	\$ (1.65)	\$ (1.71)
Weighted-average shares used to compute net loss per share attributable to ordinary shareholders, basic and diluted	54,893,365	32,033,792	30,359,419

(1) Includes stock-based compensation expense as follows:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Cost of Revenue			
Cost of subscription - self managed and SaaS	\$ 3,383	\$ 699	\$ 268
Cost of professional services	1,208	329	98
Research and development	16,100	5,045	3,302
Sales and marketing	11,996	3,560	3,420
General and administrative	7,255	3,109	11,798
Total stock-based compensation expense	<u>\$ 39,942</u>	<u>\$ 12,742</u>	<u>\$ 18,886</u>

(2) Includes employer payroll taxes on employee stock transactions as follows (information for years prior to fiscal year 2019 is not meaningful):

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Cost of Revenue			
Cost of subscription - self managed and SaaS	\$ 28	\$ -	\$ -
Cost of professional services	10	-	-
Research and development	939	-	-
Sales and marketing	747	-	-
General and administrative	90	-	-
Total stock-based compensation expense	<u>\$ 1,814</u>	<u>\$ -</u>	<u>\$ -</u>

(3) Includes amortization of acquired intangibles as follows:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Cost of Revenue			
Cost of license - self-managed	\$ 387	\$ 387	\$ 55
Cost of subscription - self-managed and SaaS	2,421	1,521	404
Sales and marketing	148	119	70
Total amortization of acquired intangibles	<u>\$ 2,956</u>	<u>\$ 2,027</u>	<u>\$ 529</u>

(4) Includes acquisition-related expenses as follows:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Research and development	\$ 689	\$ 655	\$ -
General and administrative	259	608	235
Total acquisition-related expenses	<u>\$ 948</u>	<u>\$ 1,263</u>	<u>\$ 235</u>

Consolidated Balance Sheet Data:

	As of April 30,		
	2019	2018	2017
	(in thousands)		
Cash and cash equivalents	\$ 298,000	\$ 50,941	\$ 59,640
Working capital	\$ 226,061	\$ 7,116	\$ 56,889
Total assets	\$ 485,738	\$ 183,013	\$ 144,347
Deferred revenue, current and non-current	\$ 170,666	\$ 102,561	\$ 54,152
Redeemable convertible preference shares	\$ -	\$ 200,921	\$ 200,921
Accumulated deficit	\$ (317,077)	\$ (214,774)	\$ (162,047)
Total shareholders' equity (deficit)	\$ 263,012	\$ (153,529)	\$ (128,538)

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the section titled "Selected Consolidated Financial Data" and our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed below. Factors that could cause or contribute to such difference include, but are not limited to, those identified below and those discussed in the section titled "Risk Factors" included elsewhere in this Annual Report on Form 10-K. Our fiscal year end is April 30.

Overview

Elastic is a search company. We deliver technology that enables users to search through massive amounts of structured and unstructured data for a wide range of consumer and enterprise applications. Our primary offering is the Elastic Stack, a powerful set of software products that ingest and store data from any source, and in any format, and perform search, analysis, and visualization in milliseconds or less. The Elastic Stack is designed for direct use by developers to power a variety of use cases. We have also built software solutions on the Elastic Stack that address a wide variety of use cases, including app search, site search, enterprise search, logging, metrics, APM, business analytics, and security analytics. Our products are used by individual developers and organizations of all sizes across a wide range of industries.

Elasticsearch is the heart of the Elastic Stack. It is a distributed, real-time search and analytics engine and datastore for exploring all types of data including textual, numerical, geospatial, structured, and unstructured. The first public release of Elasticsearch was in 2010 by our co-founder Shay Banon as an open source project. The Company was formed in 2012. Since then, we have added new products, released new features, acquired companies, and created new solutions to expand the functionality of our products.

Our business model is based on a combination of open source and proprietary software. We market and distribute the Elastic Stack and our solutions using an open source distribution strategy. Developers are able to download our software directly from our website. Many features of our software can be used free of charge. Some are only available through paid subscriptions, which include access to specific proprietary features and also include support. These paid features can be unlocked without the need to re-deploy the software.

We believe that open source drives a number of benefits for our users, our customers, and our company. It facilitates rapid and efficient developer adoption, particularly by empowering individual developers to download and use our software without payment, registration, or the friction of a formal sales interaction. Our use of open source licensing fosters a vibrant developer community around our products and solutions, which drives adoption of our products and increased interaction among users. Further, this approach enables community review of our code and products, which allows us to improve the reliability and security of our software.

We generate revenue primarily from sales of subscriptions for our software. We offer various subscription tiers that provide different levels of access to paid proprietary features and support. We do not sell support separately. Our subscription agreements for self-managed deployments typically have terms of one to three years and we bill for them annually in advance. Elastic Cloud customers may purchase subscriptions either on a month-to-month basis or on a committed contract of at least one year in duration. Subscriptions accounted for 91%, 93% and 90% of total revenue in the years ended April 30, 2019, 2018 and 2017, respectively. We also generate revenue from consulting and training services.

We had over 8,100 customers, over 5,000 customers and over 2,800 customers as of April 30, 2019, 2018, and 2017, respectively. We define a customer as an entity that generated revenue in the quarter ending on the measurement date from an annual or month-to-month subscription. All affiliated entities are typically counted as a single customer. The annual contract value, or ACV, of a customer's commitments is calculated based on the terms of that customer's subscriptions, and represents the total committed annual subscription amount as of the measurement date. Month-to-month subscriptions are not included in the calculation of ACV. The number of customers who represented greater than \$100,000 in ACV was over 440, over 275, and over 150 as of April 30, 2019, 2018 and 2017, respectively.

We engage in various sales and marketing efforts to extend our open source distribution model. We employ multi-touch marketing campaigns to nurture our users and customers and keep them engaged after they download our software. Additionally, we maintain direct sales efforts focused on users and customers who have adopted our software, as well as departmental decision-makers and senior executives who have broad purchasing power in their organizations. Our sales teams are primarily segmented by geographies and secondarily by the employee count of our customers. They focus on both initial conversion of users into customers and additional sales to existing customers. In addition to our direct sales efforts, we also maintain partnerships to further extend our reach and awareness of our products around the world.

We continue to make substantial investments in developing the Elastic Stack and the solutions we address and expanding our global sales and marketing footprint. With a distributed team spanning over 35 countries, we are able to recruit, hire, and retain high-quality, experienced developers, tech leads, product managers and sales personnel and operate at a rapid pace to drive product releases, fix bugs, and create and market new products. We had 1,442 employees as of April 30, 2019.

We have experienced significant growth, with revenue increasing to \$271.7 million in the year ended April 30, 2019 from \$159.9 million in the year ended April 30, 2018 and \$88.2 million in the year ended April 30, 2017, representing year-over-year growth of 70% for the year ended April 30, 2019 and 81% for the year ended April 30, 2018. In the year ended April 30, 2019, revenue from outside the United States accounted for 43% of our total revenue. For our non-U.S. operations, the majority of our revenue and expenses are denominated in currencies such as the Euro and British Pound Sterling. No customer represented more than 10% of our revenue in the years ended April 30, 2019, 2018 or 2017. We have not been profitable to date. In the years ended April 30, 2019, 2018 and 2017, we incurred net losses of \$102.3 million, \$52.7 million and \$52.0 million, respectively, and our net cash used in operating activities was \$23.9 million, \$20.8 million and \$16.1 million, respectively. We have experienced losses in each year since our incorporation and as of April 30, 2019, had an accumulated deficit of \$317.1 million. We expect we will continue to incur net losses for the foreseeable future. There can be no assurance as to when we may become profitable.

Initial Public Offering

In October 2018, we completed our IPO in which we issued and sold 8,050,000 ordinary shares at an offering price of \$36.00 per share, including 1,050,000 ordinary shares pursuant to the exercise in full of the underwriters' option to purchase additional shares. We received net proceeds of \$263.8 million, after deducting underwriting discounts and commissions of \$20.3 million and offering expenses of \$5.7 million. Immediately prior to the closing of the IPO, all 28,939,466 shares of our then-outstanding redeemable convertible preference shares automatically converted into 28,939,466 ordinary shares at their respective conversion ratios and the we reclassified \$200.6 million from temporary equity to additional paid-in capital and \$0.3 million to ordinary shares on our consolidated balance sheet.

Key Factors Affecting Our Performance

We believe that the growth and future success of our business depends on many factors, including those described below. While each of these factors presents significant opportunities for our business, they also pose important challenges that we must successfully address in order to sustain our growth and improve our results of operations.

Growing the Elastic community. Our open source strategy consists of providing a combination of open source, free proprietary and paid proprietary software and fostering a community of users and developers. Our strategy is designed to pursue what we believe to be significant untapped potential for the use of our technology. After developers begin to use our software and start to participate in our developer community, they become more likely to apply our technology to additional use cases and evangelize our technology within their organizations. This reduces the time required for our sales force to educate potential leads on our solutions, increasing their efficiency and shortening the sales process. In order to capitalize on our opportunity, we intend to make further investments to keep the Elastic Stack accessible and well known to software developers around the world. We intend to continue to invest in our products and support and engage our user base and developer community through content, events, and conferences in the U.S. and internationally. Our results of operations may fluctuate as we make these investments.

Developing new features and solutions to expand the use cases to which the Elastic Stack can be applied. The Elastic Stack is applied to various use cases both directly by developers and through the solutions we offer. Our revenue is derived primarily from subscriptions of the Elastic Stack and our solutions. We believe that releasing additional open source and proprietary features of the Elastic Stack and additional solutions on top of the stack drives usage of our products and ultimately drives our growth. To that end, we plan to continue to invest in building new features and solutions that expand the capabilities of the Elastic Stack and make it easier to apply to additional use cases. These investments may adversely affect our operating results prior to generating benefits, to the extent that they ultimately generate benefits at all.

Growing our customer base by converting users of our software to paid subscribers. Our financial performance depends on growing our paid customer base by converting free users of our software into paid subscribers. Our open source distribution model has resulted in rapid adoption by developers around the world. We have invested, and expect to continue to invest, heavily in sales and marketing efforts to convert additional free users to paid subscribers. Our investment in sales and marketing is significant given our large and diverse user base. The investments are likely to occur in advance of the anticipated benefits resulting from such investments, such that they may adversely affect our operating results in the near term.

Expanding within our current customer base. Our future growth and profitability depend on our ability to drive additional sales to existing customers. Customers often expand the use of our software within their organizations by increasing the number of developers using our products, increasing the utilization of our products for a particular use case, and expanding use of our products to additional use cases. We focus some of our direct sales efforts on encouraging these types of expansion within our customer base.

An indication of how our customer relationships have expanded over time is through our Net Expansion Rate, which is based upon trends in the ACV of customers that have entered into annual subscription agreements. To calculate an expansion rate as of the end of a given month, we start with the ACV from all such customers as of twelve months prior to that month end, or Prior Period Value. We then calculate the ACV from these same customers as of the given month end, or Current Period Value, which includes any growth in the value of their subscriptions and is net of contraction or attrition over the prior twelve months. We then divide the Current Period Value by the Prior Period Value to arrive at an expansion rate. The Net Expansion Rate at the end of any period is the weighted average of the expansion rates as of the end of each of the trailing twelve months. We believe that our Net Expansion Rate provides useful information about the evolution of our business' existing customers. The Net Expansion Rate includes the dollar-weighted value of our subscriptions that expand, renew, contract, or attrit. For instance, if each customer had a one-year subscription and renewed its subscription for the exact same amount, then the Net Expansion Rate would be 100%. Customers who reduced their annual subscription dollar value (contraction) or did not renew their annual subscription (attrition) would adversely affect the Net Expansion Rate. Our Net Expansion Rate was over 130% at the end of each of our last ten fiscal quarters.

As large organizations expand their use of the Elastic Stack across multiple use cases, projects, divisions and users, they often begin to require centralized provisioning, management and monitoring across multiple deployments. To satisfy these requirements, we offer Elastic Cloud Enterprise, a proprietary product. We will continue to focus some of our direct sales efforts on driving adoption of our Elastic Cloud Enterprise offering.

Increasing adoption of Elastic Cloud . Elastic Cloud, our family of SaaS products that includes Elasticsearch Service, Site Search Service, and App Search Service, is an important growth opportunity for our business. Organizations are increasingly looking for SaaS deployment alternatives with reduced administrative burdens. In some cases, open source users that have been self-managing deployments of the Elastic Stack subsequently become paying subscribers of Elastic Cloud. In the years ended April 30, 2019, 2018 and 2017, Elastic Cloud contributed 17%, 16% and 11% of our total revenue, respectively. We believe that offering a SaaS deployment alternative is important for achieving our long-term growth potential, and we expect Elastic Cloud's contribution to our subscription revenue to increase over time. However, an increase in the relative contribution of Elastic Cloud to our business could adversely impact our gross margin as a result of the associated hosting and managing costs.

Non-GAAP Financial Measures

In addition to our results determined in accordance with U.S. GAAP, we believe the following non-GAAP measures are useful in evaluating our operating performance. We use the following non-GAAP financial information to evaluate our ongoing operations and for internal planning and forecasting purposes. We believe that non-GAAP financial information, when taken collectively, may be helpful to investors because it provides consistency and comparability with past financial performance. However, non-GAAP financial information is presented for supplemental informational purposes only, has limitations as an analytical tool and should not be considered in isolation or as a substitute for financial information presented in accordance with U.S. GAAP. In particular, free cash flow is not a substitute for cash used in operating activities. Additionally, the utility of free cash flow as a measure of our financial performance and liquidity is further limited as it does not represent the total increase or decrease in our cash balance for a given period. In addition, other companies, including companies in our industry, may calculate similarly-titled non-GAAP measures differently or may use other measures to evaluate their performance, all of which could reduce the usefulness of our non-GAAP financial measures as tools for comparison. A reconciliation is provided below for each non-GAAP financial measure to the most directly comparable financial measure stated in accordance with U.S. GAAP. Investors are encouraged to review the related GAAP financial measures and the reconciliation of these non-GAAP financial measures to their most directly comparable GAAP financial measures, and not to rely on any single financial measure to evaluate our business.

We believe that these non-GAAP financial measures, when taken together with the corresponding GAAP financial measures, provide meaningful supplemental information regarding our performance by excluding certain items that may not be indicative of our business, operating results or future outlook.

Non-GAAP Gross Profit and Non-GAAP Gross Margin

We define non-GAAP gross profit and non-GAAP gross margin as GAAP gross profit and GAAP gross margin, respectively, excluding stock-based compensation expense, employer payroll taxes on employee stock transactions, and amortization of acquired intangible assets. We believe non-GAAP gross profit and non-GAAP gross margin provide our management and investors consistency and comparability with our past financial performance and facilitate period-to-period comparisons of operations, as these metrics generally eliminate the effects of certain variables from period to period for reasons unrelated to overall operating performance.

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Gross profit	\$ 193,643	\$ 119,195	\$ 68,332
Stock-based compensation expense	4,591	1,028	366
Employer payroll taxes on employee stock transactions	38	-	-
Amortization of acquired intangibles	2,808	1,908	459
Non-GAAP gross profit	<u>\$ 201,080</u>	<u>\$ 122,131</u>	<u>\$ 69,157</u>
Gross margin	71%	75%	77%
Non-GAAP gross margin (non-GAAP gross profit as a percentage of revenue)	74%	76%	78%

Non-GAAP Operating Loss and Non-GAAP Operating Margin

We define non-GAAP operating loss and non-GAAP operating margin as GAAP operating loss and GAAP operating margin, respectively, excluding stock-based compensation expense, employer payroll taxes on employee stock transactions, amortization of acquired intangible assets, and acquisition-related expenses. We believe non-GAAP operating loss and non-GAAP operating margin provide our management and investors consistency and comparability with our past financial performance and facilitate period-to-period comparisons of operations, as these metrics generally eliminate the effects of certain variables from period to period for reasons unrelated to overall operating performance.

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Operating loss	\$ (101,356)	\$ (47,994)	\$ (47,172)
Stock-based compensation expense	39,942	12,742	18,886
Employer payroll taxes on employee stock transactions	1,814	-	-
Amortization of acquired intangibles	2,956	2,027	529
Acquisition-related expenses	948	1,263	235
Non-GAAP loss from operations	<u>\$ (55,696)</u>	<u>\$ (31,962)</u>	<u>\$ (27,522)</u>
Operating margin	(37)%	(30)%	(53)%
Non-GAAP operating margin (non-GAAP loss from operations as a percentage of revenue)	(21)%	(20)%	(31)%

Free Cash Flow and Free Cash Flow Margin

Free cash flow is a non-GAAP financial measure that we define as net cash (used in) provided by operating activities less purchases of property and equipment. Free cash flow margin is calculated as free cash flow divided by total revenue. We believe that free cash flow and free cash flow margin are useful indicators of liquidity that provide information to management and investors about the amount of cash generated from our core operations that, after the purchases of property and equipment, can be used for strategic initiatives, including investing in our business and selectively pursuing acquisitions and strategic investments. We further believe that historical and future trends in free cash flow and free cash flow margin, even if negative, provide useful information about the amount of cash generated (or consumed) by our operating activities that is available (or not available) to be used for strategic initiatives. For example, if free cash flow is negative, we may need to access cash reserves or other sources of capital to invest in strategic initiatives. One limitation of free cash flow and free cash flow margin is that they do not reflect our future contractual commitments. Additionally, free cash flow does not represent the total increase or decrease in our cash balance for a given period.

The following table presents our cash flows for the periods presented and a reconciliation of free cash flow and free cash flow margin to net cash used in operating activities, the most directly comparable financial measure calculated in accordance with GAAP:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Net cash used in operating activities	\$ (23,937)	\$ (20,819)	\$ (16,107)
Less: Purchases of property and equipment	(3,447)	(2,968)	(843)
Free cash flow	<u>\$ (27,384)</u>	<u>\$ (23,787)</u>	<u>\$ (16,950)</u>
Net cash (used in) provided by investing activities	\$ (8,283)	\$ 8,330	\$ (20,331)
Net cash provided by financing activities	\$ 281,788	\$ 3,427	\$ 59,761
Net cash used in operating activities (as a percentage of total revenue)	(9)%	(13)%	(18)%
Less: Purchases of property and equipment (as a percentage of total revenue)	(1)%	(2)%	(1)%
Free cash flow margin	<u>(10)%</u>	<u>(15)%</u>	<u>(19)%</u>

Calculated Billings

We define calculated billings as total revenue plus the increase in total deferred revenue as presented on or derived from our consolidated statements of cash flows less the (increase) decrease in total unbilled accounts receivable in a given period. For annual contracts, we generally invoice customers at the time of entering into the contract. For multi-year contracts, we generally invoice customers for the first year at the time of entering into the contract, and then annually prior to each anniversary of the contract start date. Some Elastic Cloud customers purchase subscriptions on a month-to-month basis, which are usually invoiced monthly in arrears. Training and consulting services are invoiced either at the time of contract or at the time of delivery, based on the arrangement with the customer. Our management uses calculated billings to understand and evaluate our near term cash flows and operating results.

The following table presents our calculated billings for the periods presented and a reconciliation of calculated billings to total revenue, the most directly comparable financial measure calculated in accordance with GAAP:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Total revenue	\$ 271,653	\$ 159,935	\$ 88,177
Add: Increase in total deferred revenue	71,876	45,814	26,951
Less: Increase in unbilled accounts receivable	(571)	(25)	(558)
Calculated billings	<u>\$ 342,958</u>	<u>\$ 205,724</u>	<u>\$ 114,570</u>

Components of Results of Operations

Revenue

Subscription. Our revenue is primarily generated through the sale of time-based subscriptions to software which is either self-managed by the user or hosted and managed by us in the cloud. Subscriptions provide access to paid proprietary software features and access to support for our paid and unpaid software.

A portion of the revenue from self-managed subscriptions is generally recognized up front at the point in time when the license is delivered. This revenue is presented as License – self-managed in our consolidated statements of operations. The remainder of revenue from self-managed subscriptions, and revenue from subscriptions that require access to the cloud or that are hosted and managed by us in the cloud, is recognized ratably over the subscription term and is presented within Subscription – self-managed and SaaS in our consolidated statements of operations.

Professional services. Professional services revenue comprises consulting services as well as public and private training. Professional services revenue is typically recognized at the point in time the services are delivered.

Cost of Revenue

Subscription. Cost of license – self-managed consists of amortization of certain intangible assets. Cost of subscription – self-managed and SaaS consists primarily of personnel and related costs for employees associated with supporting our subscription arrangements, certain third-party expenses, and amortization of certain intangible and other assets. Personnel and related costs, or personnel costs, comprise cash compensation, benefits and stock-based compensation to employees, costs of third-party contractors, and allocated overhead costs. Third-party expenses consist of cloud infrastructure costs and other expenses directly associated with our customer support. We expect our cost of subscription – self-managed and SaaS to increase in absolute dollars as our subscription revenue increases.

Professional services. Cost of professional services revenue consists primarily of personnel costs directly associated with delivery of training, implementation and other professional services, costs of third-party contractors, facility rental charges and allocated overhead costs. We expect our cost of professional services revenue to increase in absolute dollars as we invest in our business and as professional services revenue increases.

Gross profit and gross margin. Gross profit represents revenue less cost of revenue. Gross margin, or gross profit as a percentage of revenue, has been and will continue to be affected by a variety of factors, including the timing of our acquisition of new customers and our renewals with existing customers, the average sales price of our subscriptions and professional services, the amount of our revenue represented by hosted services, the mix of subscriptions sold, the mix of revenue between subscriptions and professional services, the mix of professional services between consulting and training, transaction volume growth and support case volume growth. We expect our gross margin to fluctuate over time depending on the factors described above. We expect our revenue from Elastic Cloud to increase as a percentage of total revenue, which could adversely impact our gross margin as a result of the associated hosting and managing costs.

Operating Expenses

Research and development. Research and development expense mainly consists of personnel costs and allocated overhead costs for employees and contractors. We expect our research and development expense to increase in absolute dollars for the foreseeable future as we continue to develop new technology and invest further in our existing products.

Sales and marketing. Sales and marketing expense mainly consists of personnel costs, commissions, allocated overhead costs and costs related to marketing programs and user events. Marketing programs consist of advertising, events, brand-building and customer acquisition and retention activities. We expect our sales and marketing expense to increase in absolute dollars as we expand our salesforce and increase our investments in marketing resources. We capitalize sales commissions and associated payroll taxes paid to internal sales personnel that are related to the acquisition of customer contracts. Sales commissions costs are amortized over the period that the performance obligation they relate to are satisfied. These performance obligations primarily relate to our subscription contracts, which are typically sold for a one to three year duration.

General and administrative. General and administrative expense mainly consists of personnel costs for our management, finance, legal, human resources, and other administrative employees. Our general and administrative expense also includes professional fees, accounting fees, audit fees, tax services and legal fees, as well as insurance, allocated overhead costs, and other corporate expenses. We expect our general and administrative expense to increase in absolute dollars as we increase the size of our general and administrative functions to support the growth of our business. We also anticipate that we will continue to incur additional costs for employees and third-party consulting services related to operating as a public company.

Other Income (Expense), Net

Other income (expense), net primarily consists of gains and losses from transactions denominated in a currency other than the functional currency and interest income (expense).

Provision for Income Taxes

Provision for income taxes consists primarily of income taxes related to the Netherlands, U.S. federal, state and foreign jurisdictions in which we conduct business. Our effective tax rate is affected by recurring items, such as tax rates in jurisdictions outside the Netherlands and the relative amounts of income we earn in those jurisdictions. In addition, non-deductible stock-based compensation and changes in our valuation allowance had the most significant impact on the difference between the statutory Dutch tax rate and our effective tax rate.

Results of Operations

The following tables set forth our results of operations for the periods presented in dollars and as a percentage of our total revenue. For a discussion of our consolidated statement of operations data for the fiscal year ended April 30, 2018 compared to the year ended April 30, 2017 and as a percentage of revenue for that period, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations” the Company’s final prospectus for its IPO filed with the SEC pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended (File No. 333-227191) on October 5, 2018.

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Revenue			
License - self-managed	\$ 39,474	\$ 25,759	\$ 14,503
Subscription - self-managed and SaaS	208,780	123,623	65,243
Total subscription revenue	248,254	149,382	79,746
Professional services	23,399	10,553	8,431
Total revenue	271,653	159,935	88,177
Cost of revenue (1)(2)(3)			
Cost of license - self-managed	387	387	55
Cost of subscription - self-managed and SaaS	53,560	27,920	13,161
Total cost of revenue - subscription	53,947	28,307	13,216
Cost of professional services	24,063	12,433	6,629
Total cost of revenue	78,010	40,740	19,845
Gross profit	193,643	119,195	68,332
Operating expenses (1)(2)(3)(4)			
Research and development	101,167	55,641	32,601
Sales and marketing	147,296	82,606	56,612
General and administrative	46,536	28,942	26,291
Total operating expenses	294,999	167,189	115,504
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Other income (expense), net	3,441	(1,357)	(583)
Loss before income taxes	(97,915)	(49,351)	(47,755)
Provision for income taxes	4,388	3,376	4,213
Net loss	\$ (102,303)	\$ (52,727)	\$ (51,968)

(1) Includes stock-based compensation expense as follows:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Cost of Revenue			
Cost of subscription - self managed and SaaS	\$ 3,383	\$ 699	\$ 268
Cost of professional services	1,208	329	98
Research and development	16,100	5,045	3,302
Sales and marketing	11,996	3,560	3,420
General and administrative	7,255	3,109	11,798
Total stock-based compensation expense	\$ 39,942	\$ 12,742	\$ 18,886

(2) Includes employer payroll taxes on employee stock transactions as follows (information for years prior to fiscal year 2019 is not meaningful):

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Cost of Revenue			
Cost of subscription - self managed and SaaS	\$ 28	\$ -	\$ -
Cost of professional services	10	-	-
Research and development	939	-	-
Sales and marketing	747	-	-
General and administrative	90	-	-
Total employer payroll tax on stock transactions	<u>\$ 1,814</u>	<u>\$ -</u>	<u>\$ -</u>

(3) Includes amortization of acquired intangibles as follows:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Cost of Revenue			
Cost of license - self-managed	\$ 387	\$ 387	\$ 55
Cost of subscription - self-managed and SaaS	2,421	1,521	404
Sales and marketing	148	119	70
Total amortization of acquired intangibles	<u>\$ 2,956</u>	<u>\$ 2,027</u>	<u>\$ 529</u>

(4) Includes acquisition-related expenses as follows:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Research and development	\$ 689	\$ 655	\$ -
General and administrative	259	608	235
Total acquisition-related expenses	<u>\$ 948</u>	<u>\$ 1,263</u>	<u>\$ 235</u>

	Year Ended April 30,		
	2019	2018	2017
Revenue			
License - self-managed	14%	16%	16%
Subscription - self-managed and SaaS	77%	77%	74%
Total subscription revenue	91%	93%	90%
Professional services	9%	7%	10%
Total revenue	100%	100%	100%
Cost of revenue			
Cost of license - self-managed	0%	0%	0%
Cost of subscription - self-managed and SaaS	20%	17%	15%
Total cost of revenue - subscription	20%	17%	15%
Cost of professional services	9%	8%	8%
Total cost of revenue	29%	25%	23%
Gross profit	71%	75%	77%
Operating expenses			
Research and development	37%	35%	37%
Sales and marketing	54%	52%	63%
General and administrative	17%	18%	30%
Total operating expenses	108%	105%	130%
Operating loss	(37)%	(30)%	(53)%
Other income (expense), net	1%	(1)%	(1)%
Loss before income taxes	(36)%	(31)%	(54)%
Provision for income taxes	2%	2%	5%
Net loss	(38)%	(33)%	(59)%

Comparison of Fiscal Years Ended April 30, 2019 and 2018

Revenue

	Year Ended April 30,		Change	
	2019	2018	\$	%
(in thousands)				
Revenue				
License - self-managed	\$ 39,474	\$ 25,759	\$ 13,715	53%
Subscription - self-managed and SaaS	208,780	123,623	85,157	69%
Total subscription revenue	248,254	149,382	98,872	66%
Professional services	23,399	10,553	12,846	122%
Total revenue	\$ 271,653	\$ 159,935	\$ 111,718	70%

Total revenue increased by \$111.7 million, or 70%, in the year ended April 30, 2019 compared to the prior year.

Total subscription revenue increased \$98.9 million, or 66%, in the year ended April 30, 2019 compared to the prior year. Approximately 25% of the increase was due to sales to new customers added during the year ended April 30, 2019, and the remaining increase resulted from an increase in sales to existing customers.

Professional services revenue increased by \$12.8 million, or 122%, in the year ended April 30, 2019 compared to the prior year. The increase in professional services revenue was attributable to increased adoption of our professional services offerings.

Cost of Revenue and Gross Margin

	Year Ended April 30,		Change	
	2019	2018	\$	%
	(in thousands)			
Cost of revenue				
Cost of license - self-managed	\$ 387	\$ 387	\$ -	0%
Cost of subscription - self-managed and SaaS	53,560	27,920	25,640	92%
Total cost of revenue - subscription	53,947	28,307	25,640	91%
Cost of professional services	24,063	12,433	11,630	94%
Total cost of revenue	\$ 78,010	\$ 40,740	\$ 37,270	91%
Gross profit	\$ 193,643	\$ 119,195	\$ 74,448	62%
Gross margin:				
License - self-managed	99%	98%		
Subscriptions - self-managed and SaaS	74%	77%		
Total subscription margin	78%	81%		
Professional services	(3)%	(18)%		
Total gross margin	71%	75%		

Total cost of subscription revenue increased by \$25.6 million, or 91%, in the year ended April 30, 2019 compared to the prior year. This increase was primarily due to an increase of \$12.9 million in cloud infrastructure costs and increases of \$9.4 million in personnel and related charges together with \$1.0 million in software and equipment expense from growth in headcount in our support organization. In addition, amortization of acquired intangible assets increased \$0.9 million. Stock-based compensation expense, included within personnel and related costs, increased by \$2.7 million.

Total subscription margin decreased to 78% in the year ended April 30, 2019 from 81% in the prior year. This decrease is due to growth and related investment in our SaaS offerings which incur costs related to cloud infrastructure and the increased costs associated with scaling our support organization.

Cost of professional services revenue increased by \$11.6 million, or 94%, in the year ended April 30, 2019 compared to the prior year. This increase was primarily due to an increase of \$6.9 million in personnel and related costs and an increase of \$1.1 million in travel expenses driven by an increase in headcount in our consulting and training organizations. In addition, subcontractor costs increased by \$1.8 million to supplement our internal resources providing services to our customers and charges for training facility rentals increased by \$0.9 million. Stock-based compensation expense, included within personnel and related costs, increased by \$0.9 million.

Gross margin for professional services revenue was (3)% in the year ended April 30, 2019 compared to (18)% for the prior year. Historically, our professional services offerings have primarily consisted of training, however we have recently experienced increased demand for consulting services. In the year ended April 30, 2019, we have invested in headcount for our professional services organization that we believe will be needed as we continue to grow. Our gross margin for professional services may fluctuate or decline in the near-term as we seek to expand our professional services business.

Operating Expenses

Research and development

	Year Ended April 30,		Change	
	2019	2018	\$	%
	(in thousands)			
Research and development	\$ 101,167	\$ 55,641	\$ 45,526	82%

Research and development expense increased by \$45.5 million, or 82%, in the year ended April 30, 2019 compared to the prior year as we continued to invest in the development of new and existing offerings. Personnel and related costs increased by \$35.6 million and software and equipment expense increased by \$1.8 million, primarily as a result of growth in headcount. In addition, cloud infrastructure costs related to our research and development activities increased \$4.7 million. Stock-based compensation expense, included within personnel and related costs, increased by \$11.1 million.

Sales and marketing

	Year Ended April 30,		Change	
	2019	2018	\$	%
	(in thousands)			
Sales and marketing	\$ 147,296	\$ 82,606	\$ 64,690	78%

Sales and marketing expense increased by \$64.7 million, or 78%, in year ended April 30, 2019 compared to the prior year. This increase was primarily due to an increase of \$51.4 million in personnel and related costs as we continue to increase our sales and marketing headcount as well as an increase of \$9.4 million in commissions expense related to the amortization of contract acquisition costs, together with an increase of \$8.4 million in stock-based compensation expense. The increased headcount also resulted in an increase of \$4.9 million in travel expenses and \$3.7 million in software and equipment expense. In addition, marketing expenses increased \$3.3 million primarily due to our expanded user conference program in year ended April 30, 2019.

General and administrative

	Year Ended April 30,		Change	
	2019	2018	\$	%
	(in thousands)			
General and administrative	\$ 46,536	\$ 28,942	\$ 17,594	61%

General and administrative expense increased by \$17.6 million, or 61%, in the year ended April 30, 2019 compared to the prior year. As a result of our continued investment in headcount, personnel and related costs increased by \$14.9 million and travel expense increased \$2.3 million. Legal and professional advisory expenses increased by \$1.6 million as we invested in transitioning to a public company environment as well as due to our continued increase in international expansion. These increases were partially offset by a decrease in bad debt expense of \$0.8 million. Stock-based compensation expense, included within personnel and related costs, increased by \$4.1 million year over year.

Other Income (Expense), Net

	Year Ended April 30,		Change	
	2019	2018	\$	%
	(in thousands)			
Other income (expense), net	\$ 3,441	\$ (1,357)	\$ 4,798	NM

NM – Not meaningful

Other income was \$3.4 million for the year ended April 30, 2019 compared to other expense of \$1.4 million in the prior year. This increase was primarily due to a \$3.4 million increase in interest income on money market funds as a result of proceeds generated from our IPO, a net increase of \$1.1 million in realized gain from foreign currency fluctuations and an increase of \$0.3 million in miscellaneous income.

Provision for Income Taxes

	Year Ended April 30,		Change	
	2019	2018	\$	%
	(in thousands)			
Provision for income taxes	\$ 4,388	\$ 3,376	\$ 1,012	30%

The provision for income taxes increased by \$1.0 million, or 30%, for the year ended April 30, 2019 compared to the prior year. The increase in tax expense is primarily due to the establishment of a valuation allowance for deferred tax assets in the United States and United Kingdom as well as additional expense due to enacted legislation in the Netherlands, offset by a tax benefit for stock-based compensation. Our effective tax rate was (4)% and (7)% of our net loss before taxes for the year ended April 30, 2019 and 2018, respectively.

Quarterly Results of Operations

The following tables set forth our unaudited quarterly consolidated statements of operations data for each of the quarters indicated, as well as the percentage that each line item represents of our total revenue for each quarter presented. The information for each quarter has been prepared on a basis consistent with our audited consolidated financial statements included in this Annual Report on Form 10-K, and reflect, in the opinion of management, all adjustments of a normal, recurring nature that are necessary for a fair statement of the financial information contained in those financial statements. Our historical results are not necessarily indicative of the results that may be expected in the future. The following quarterly financial data should be read in conjunction with our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Revenue								
License - self-managed	\$ 12,624	\$ 9,406	\$ 10,204	\$ 7,240	\$ 8,839	\$ 5,815	\$ 6,456	\$ 4,649
Subscription - self-managed and SaaS	60,999	55,180	48,232	44,369	37,337	33,218	28,326	24,742
Total subscription revenue	73,623	64,586	58,436	51,609	46,176	39,033	34,782	29,391
Professional services	6,976	6,249	5,139	5,035	3,396	2,648	2,256	2,253
Total revenue	<u>80,599</u>	<u>70,835</u>	<u>63,575</u>	<u>56,644</u>	<u>49,572</u>	<u>41,681</u>	<u>37,038</u>	<u>31,644</u>
Cost of revenue (1)(2)(3)								
Cost of license - self-managed	97	96	97	97	97	96	97	97
Cost of subscription - self-managed and SaaS	16,548	13,941	12,870	10,201	9,302	7,382	6,254	4,982
Total cost of revenue - subscription	16,645	14,037	12,967	10,298	9,399	7,478	6,351	5,079
Cost of professional services	6,797	6,387	5,620	5,259	4,201	3,288	2,609	2,335
Total cost of revenue	<u>23,442</u>	<u>20,424</u>	<u>18,587</u>	<u>15,557</u>	<u>13,600</u>	<u>10,766</u>	<u>8,960</u>	<u>7,414</u>
Gross profit	<u>57,157</u>	<u>50,411</u>	<u>44,988</u>	<u>41,087</u>	<u>35,972</u>	<u>30,915</u>	<u>28,078</u>	<u>24,230</u>
Operating expenses (1)(2)(3)(4)								
Research and development	31,004	25,850	25,332	18,981	17,543	15,092	12,182	10,824
Sales and marketing	45,044	37,196	34,634	30,422	27,927	20,727	16,905	17,047
General and administrative	13,194	11,151	12,092	10,099	9,737	7,555	6,117	5,533
Total operating expenses	<u>89,242</u>	<u>74,197</u>	<u>72,058</u>	<u>59,502</u>	<u>55,207</u>	<u>43,374</u>	<u>35,204</u>	<u>33,404</u>
Operating loss (1)(2)(3)(4)	<u>(32,085)</u>	<u>(23,786)</u>	<u>(27,070)</u>	<u>(18,415)</u>	<u>(19,235)</u>	<u>(12,459)</u>	<u>(7,126)</u>	<u>(9,174)</u>
Other income (expense), net	704	1,877	264	596	(544)	(175)	86	(724)
Loss before income taxes	<u>(31,381)</u>	<u>(21,909)</u>	<u>(26,806)</u>	<u>(17,819)</u>	<u>(19,779)</u>	<u>(12,634)</u>	<u>(7,040)</u>	<u>(9,898)</u>
Provision for (benefit from) income taxes	3,454	(558)	733	759	1,624	696	987	69
Net loss	<u>\$ (34,835)</u>	<u>\$ (21,351)</u>	<u>\$ (27,539)</u>	<u>\$ (18,578)</u>	<u>\$ (21,403)</u>	<u>\$ (13,330)</u>	<u>\$ (8,027)</u>	<u>\$ (9,967)</u>
Net loss per share attributable to ordinary shareholders, basic and diluted	\$ (0.48)	\$ (0.30)	\$ (0.63)	\$ (0.56)	\$ (0.66)	\$ (0.41)	\$ (0.25)	\$ (0.32)
Weighted-average shares used to compute net loss per share attributable to ordinary shareholders, basic and diluted	72,307,990	70,725,336	43,978,770	32,978,163	32,638,830	32,392,894	31,684,020	31,439,156

(1) Includes stock-based compensation expense as follows:

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Cost of Revenue								
Cost of subscription - self-managed and SaaS	\$ 1,195	\$ 1,095	\$ 680	\$ 413	\$ 253	\$ 191	\$ 136	\$ 119
Cost of professional services	440	364	227	177	120	97	70	42
Research and development	4,714	4,604	4,685	2,097	1,618	1,352	1,092	983
Sales and marketing	3,911	3,471	2,762	1,852	1,112	960	756	732
General and administrative	1,667	1,577	2,885	1,126	1,061	954	716	378
Total stock-based compensation expense	<u>\$ 11,927</u>	<u>\$ 11,111</u>	<u>\$ 11,239</u>	<u>\$ 5,665</u>	<u>\$ 4,164</u>	<u>\$ 3,554</u>	<u>\$ 2,770</u>	<u>\$ 2,254</u>

(2) Includes employer payroll taxes on employee stock transactions as follows (information for periods prior to three months ended April 30, 2019 is not meaningful):

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Cost of Revenue								
Cost of subscription - self managed and SaaS	\$ 28	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost of professional services	10	-	-	-	-	-	-	-
Research and development	939	-	-	-	-	-	-	-
Sales and marketing	747	-	-	-	-	-	-	-
General and administrative	90	-	-	-	-	-	-	-
Total stock-based compensation expense	<u>\$ 1,814</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

(3) Includes amortization of acquired intangibles as follows:

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Cost of Revenue								
Cost of license - self-managed	\$ 97	\$ 96	\$ 97	\$ 97	\$ 97	\$ 96	\$ 97	\$ 97
Cost of subscription - self-managed and SaaS	570	638	637	576	554	554	216	197
Sales and marketing	\$ 33	38	40	37	37	38	22	22
Total amortization of acquired intangibles	<u>\$ 700</u>	<u>\$ 772</u>	<u>\$ 774</u>	<u>\$ 710</u>	<u>\$ 688</u>	<u>\$ 688</u>	<u>\$ 335</u>	<u>\$ 316</u>

(4) Includes acquisition-related expenses as follows:

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Research and development	\$ 168	\$ 173	\$ 174	\$ 174	\$ 167	\$ 174	\$ 174	\$ 140
General and administrative	-	-	53	206	-	-	303	305
Total acquisition-related expenses	<u>\$ 168</u>	<u>\$ 173</u>	<u>\$ 227</u>	<u>\$ 380</u>	<u>\$ 167</u>	<u>\$ 174</u>	<u>\$ 477</u>	<u>\$ 445</u>

The following table sets forth selected consolidated statements of operations data for each of the periods indicated as a percentage of total revenue:

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Revenue								
License - self-managed	15%	13%	16%	13%	18%	14%	17%	15%
Subscription - self-managed and SaaS	76%	78%	76%	78%	75%	80%	77%	78%
Total subscription revenue	91%	91%	92%	91%	93%	94%	94%	93%
Professional services	9%	9%	8%	9%	7%	6%	6%	7%
Total revenue	100%	100%	100%	100%	100%	100%	100%	100%
Cost of revenue (1)(2)(3)								
Cost of license - self-managed	0%	0%	0%	0%	0%	0%	0%	0%
Cost of subscription - self-managed and SaaS	21%	20%	20%	18%	19%	18%	17%	16%
Total cost of revenue - subscription	21%	20%	20%	18%	19%	18%	17%	16%
Cost of professional services	8%	9%	9%	9%	8%	8%	7%	7%
Total cost of revenue	29%	29%	29%	27%	27%	26%	24%	23%
Gross profit	71%	71%	71%	73%	73%	74%	76%	77%
Operating expenses (1)(2)(3)(4)								
Research and development	39%	36%	40%	34%	36%	36%	33%	34%
Sales and marketing	56%	52%	54%	54%	56%	50%	46%	54%
General and administrative	16%	16%	19%	18%	20%	18%	16%	18%
Total operating expenses	111%	104%	113%	106%	112%	104%	95%	106%
Operating loss (1)(2)(3)(4)	(40)%	(33)%	(42)%	(33)%	(39)%	(30)%	(19)%	(29)%
Other income (expense), net	1%	2%	0%	1%	(1)%	0%	0%	(2)%
Loss before income taxes	(39)%	(31)%	(42)%	(32)%	(40)%	(30)%	(19)%	(31)%
Provision for (benefit from) income taxes	4%	(1)%	1%	1%	3%	2%	3%	0%
Net loss	(43)%	(30)%	(43)%	(33)%	(43)%	(32)%	(22)%	(31)%

(1) Includes stock-based compensation expense as follows:

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Cost of Revenue								
Cost of subscription - self-managed and SaaS	1%	2%	1%	1%	1%	1%	0%	1%
Cost of professional services	1%	0%	0%	0%	0%	0%	0%	0%
Research and development	6%	7%	8%	4%	3%	3%	3%	3%
Sales and marketing	5%	5%	4%	3%	2%	3%	2%	2%
General and administrative	2%	2%	5%	2%	2%	2%	2%	1%
Total stock-based compensation expense	15%	16%	18%	10%	8%	9%	7%	7%

(2) Includes employer payroll taxes on employee stock transactions as follows (information for periods prior to three months ended April 30, 2019 is not meaningful):

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Cost of Revenue								
Cost of subscription - self-managed and SaaS	0%	0%	0%	0%	0%	0%	0%	0%
Cost of professional services	0%	0%	0%	0%	0%	0%	0%	0%
Research and development	1%	0%	0%	0%	0%	0%	0%	0%
Sales and marketing	1%	0%	0%	0%	0%	0%	0%	0%
General and administrative	0%	0%	0%	0%	0%	0%	0%	0%
Total stock-based compensation expense	2%	0%	0%	0%	0%	0%	0%	0%

(3) Includes amortization of acquired intangibles as follows:

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Cost of Revenue								
Cost of license - self-managed	0%	0%	0%	0%	0%	0%	0%	0%
Cost of subscription - self-managed and SaaS	1%	1%	1%	1%	1%	2%	1%	1%
Sales and marketing	0%	0%	0%	0%	0%	0%	0%	0%
Total amortization of acquired intangibles	1%	1%	1%	1%	1%	2%	1%	1%

(4) Includes acquisition-related expenses as follows:

	Three Months Ended							
	April 30, 2019	January 31, 2019	October 31, 2018	July 31, 2018	April 30, 2018	January 31, 2018	October 31, 2017	July 31, 2017
Research and development	0%	0%	0%	0%	0%	0%	0%	0%
General and administrative	0%	0%	0%	1%	0%	0%	1%	1%
Total acquisition-related expenses	0%	0%	0%	1%	0%	0%	1%	1%

Quarterly Trends in Revenue and Expense

Our quarterly total subscription revenue increased sequentially in each of the periods presented due to the expansion of our existing customer subscription footprint and an increase in the number of new customers. Revenue trends are impacted by seasonality in our sales cycle which generally reflects a trend to greater revenue in our second and fourth quarters and lower revenue in our first and third quarters, though we believe this trend has been somewhat masked by our overall revenue growth. Because we generally invoice annually in advance for subscription agreements at least one year in duration, but we recognize the majority of the revenue ratably over the term of those agreements, a substantial portion of the revenue that we report in each period is attributable to the recognition of deferred revenue relating to subscriptions invoiced during previous periods. Consequently, increases or decreases in subscriptions in any one period typically will not be fully reflected in our revenue for that period and will positively or negatively affect our revenue in future periods. Accordingly, the effect of downturns in sales and market acceptance of our products may not be fully reflected in our results of operations until future periods. The increase in professional services revenue in the second half of the year ended April 30, 2018 and through the year ended April 30, 2019 was a result of an increase in standalone consulting and training services due to increased adoption of our offerings.

Our cost of revenue increased sequentially in each of the quarters presented, primarily driven by expanded adoption of Elastic Cloud by existing and new customers, which resulted in increased hosting costs, as well as growth in personnel costs as we grew our support team.

Our total gross margin remained relatively flat during the first half of the year ended April 30, 2018. The slight decline in gross margin in the second half of the year ended April 30, 2018 and through the year ended April 30, 2019 was a result of changing mix between self-managed and Elastic Cloud subscriptions and an increase in investment in our consulting organization. We expect our revenue from Elastic Cloud to increase as a percentage of total revenue, which may adversely impact our gross margin as a result of the associated hosting costs.

Our research and development and general and administrative expenses generally increased sequentially over the periods presented as we grew the associated headcount and other costs. Prior to the year ended April 30, 2019, we have seen seasonality in sales and marketing costs associated with the timing of our largest user conference, Elastic {ON}, which we have held in the fourth quarter. Beginning in the year ended April 30, 2019, we held regional Elastic {ON} events throughout the year, thereby spreading the costs more evenly over the course of the year.

We are subject to income taxes in the Netherlands, the United States, and numerous other jurisdictions. Our tax expense fluctuates between quarters primarily as a result of seasonally higher earnings in the second and fourth quarters and due to the impact of tax rates in foreign jurisdictions, and the relative amounts of income we earn in those jurisdictions.

Liquidity and Capital Resources

As of April 30, 2019, we had cash and cash equivalents and restricted cash of \$298.0 million and \$2.3 million, respectively, and working capital of \$226.1 million. Our restricted cash constitutes cash deposits with financial institutions in support of letters of credit in favor of landlords for non-cancelable lease agreements.

In October 2018, we completed our IPO in which we issued and sold 8,050,000 ordinary shares at an offering price of \$36.00 per share, including 1,050,000 ordinary shares pursuant to the exercise in full of the underwriters' option to purchase additional shares. We received net proceeds of \$263.8 million, after deducting underwriting discounts and commissions of \$20.3 million and offering expenses of \$5.7 million. Previously, we financed our operations principally through private placements of our equity securities, as well as payments received from customers.

We have generated significant operating losses from our operations as reflected in our accumulated deficit of \$317.1 million as of April 30, 2019. We have historically incurred, and expect to continue to incur, operating losses and generate negative cash flows from operations on an annual basis for the foreseeable future due to the investments we intend to make as described above, and as a result we may require additional capital resources to execute on our strategic initiatives to grow our business.

We believe that our existing cash and cash equivalents will be sufficient to fund our operating and capital needs for at least the next 12 months. Our assessment of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves risks and uncertainties. Our actual results could vary as a result of, and our future capital requirements, both near-term and long-term, will depend on, many factors, including our growth rate, the timing and extent of spending to support our research and development efforts, the expansion of sales and marketing activities, the timing of new introductions of solutions or features, and the continuing market acceptance of our solutions and services. We may in the future enter into arrangements to acquire or invest in complementary businesses, services and technologies, including intellectual property rights. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. We may be required to seek additional equity or debt financing. In the event that additional financing is required from outside sources, we may not be able to raise it on terms acceptable to us or at all. If we are unable to raise additional capital when desired, or if we cannot expand our operations or otherwise capitalize on our business opportunities because we lack sufficient capital, our business, operating results and financial condition would be adversely affected.

The following table summarizes our cash flows for the periods presented:

	Year Ended April 30,		
	2019	2018	2017
	(in thousands)		
Net cash used in operating activities	\$ (23,937)	\$ (20,819)	\$ (16,107)
Net cash (used in) provided by investing activities	\$ (8,283)	\$ 8,330	\$ (20,331)
Net cash provided by financing activities	\$ 281,788	\$ 3,427	\$ 59,761

Net Cash Used in Operating Activities

Net cash used in operating activities during the year ended April 30, 2019 was \$23.9 million, which resulted from a net loss of \$102.3 million adjusted for non-cash charges of \$70.7 million and net cash inflow of \$7.7 million from changes in operating assets and liabilities. Non-cash charges primarily consisted of \$39.9 million for stock-based compensation expense, \$21.4 million for amortization of deferred contract acquisition costs, \$5.7 million of depreciation and intangible asset amortization expense and a \$3.6 million decrease in deferred income taxes. The net cash inflow from changes in operating assets and liabilities was the result of a \$71.9 million increase in deferred revenue due to higher billings and a net increase of \$16.9 million in accounts payable, accrued expenses and accrued compensation and benefits due to growth in our business and higher headcount. These inflows were partially offset by an increase in deferred contract acquisition costs of \$30.0 million as our sales commissions increased due to the addition of new customers and expansion of our existing customer subscriptions, a \$29.8 million increase in accounts receivable due to higher billings and timing of collections from our customers and a \$21.3 million increase in prepaid expenses and other assets primarily related to an increase in prepaid hosting costs and prepaid software subscription costs driven by the growth in our business.

Net cash used in operating activities during the year ended April 30, 2018 was \$ 20.8 million, which resulted from a net loss of \$52.7 million adjusted for non-cash charges of \$30.2 million and net cash inflow of \$1.7 million from changes in operating assets and liabilities. Non-cash charges primarily consisted of \$12.7 million for stock-based compensation expense, \$12.7 million for amortization of deferred contract acquisition costs, \$5.1 million of depreciation and intangible asset amortization expense which were partially offset by a \$0.3 million increase in deferred income taxes. The net cash inflow from changes in operating assets and liabilities was the result of a \$45.8 million increase in deferred revenue due to higher billings and a net increase of \$13.4 million in accounts payable, accrued expenses and accrued compensation and benefits due to growth in our business and higher headcount. These inflows were partially offset by a \$21.6 million increase in accounts receivable due to higher billings and timing of collections from our customers, an increase in deferred contract acquisition costs of \$20.5 million as our sales commissions increased due to the addition of new customers and expansion of our existing customer subscriptions, and a \$15.4 million increase in prepaid expenses and other assets primarily related to an increase in prepaid hosting costs and prepaid software subscription costs driven by the growth in our business.

Net cash used in operating activities during the year ended April 30, 2017 was \$16.1 million, which resulted from a net loss of \$52.0 million, adjusted for non-cash charges of \$31.1 million and net cash inflow of \$4.7 million from changes in operating assets and liabilities. Non-cash charges primarily consisted of \$3.2 million for depreciation and amortization expense, \$8.4 million for amortization of deferred contract acquisition costs, and \$18.9 million for stock-based compensation expense and a \$0.7 million decrease in deferred income taxes. The net cash inflow from changes in operating assets and liabilities was the result of a \$27.0 million increase in deferred revenue and a net increase of \$4.3 million in accounts payable, accrued expenses and other liabilities, and accrued compensation and benefits, partially offset by an \$11.1 million increase in accounts receivable due to higher billings and timing of collections from our customers, an increase in deferred contract acquisition costs of \$12.3 million as our sales commission payments increased due to addition of new customers and expansion of our existing customer subscriptions, and a \$3.1 million increase in prepaid expenses and other assets.

Net Cash (Used in) Provided by Investing Activities

Net cash used in investing activities during the year ended April 30, 2019 of \$8.3 million resulted from cash used for capital expenditures of \$3.4 million, other investing activities of \$2.9 million and business acquisitions, net of cash acquired, of \$2.0 million.

Net cash provided by investing activities during the year ended April 30, 2018 of \$8.3 million resulted from the maturity of short-term investments of \$15.0 million, which was partially offset by cash used for business acquisitions, net of cash acquired, of \$3.7 million and capital expenditures of \$3.0 million.

Net cash used in investing activities during the year ended April 30, 2017 of \$20.3 million resulted from the purchase of short-term investments of \$15.0 million, cash used for a business acquisition net of cash acquired of \$4.5 million, and net capital expenditures of \$0.8 million.

Net Cash Provided by Financing Activities

Net cash provided by financing activities of \$281.8 million during 2019 was due to net proceeds to us of \$269.5 million, after deducting underwriting discounts and commissions of \$20.3 million as a result of our IPO and \$18.6 million in proceeds from the exercise of stock options. These were partially offset by \$5.7 million of payment of offering costs, a repurchase of unvested early exercised options and \$0.6 million of other financing payments.

Net cash provided by financing activities of \$3.4 million during the year ended April 30, 2018 was due to \$3.8 million of proceeds from the exercise of stock options, which was partially offset by \$0.4 million of other financing payments.

Net cash provided by financing activities of \$59.8 million during the year ended April 30, 2017 was due to \$57.8 million in proceeds from issuance of Series D redeemable convertible preference shares, and \$2.1 million in proceeds from the exercise of stock options offset in part by \$0.1 million of other financing payments.

Off Balance Sheet Arrangements

As of April 30, 2019, we did not have any relationships with any entities or financial partnerships, such as structured finance or special purpose entities, that would have been established for the purpose of facilitating off balance sheet arrangements or other purposes.

Contractual Obligations and Commitments

Our principal commitments consist of obligations under operating leases for office space and hosting infrastructure commitments. The following table summarizes our contractual obligations as of April 30, 2019:

	Total	Less than 1 year	1-3 years (in thousands)	3-5 years	More than 5 years
Operating lease commitments (1)	\$ 33,894	\$ 6,455	\$ 10,600	\$ 9,819	\$ 7,020
Hosting infrastructure commitments (2)	44,295	7,962	36,333	-	-
Other commitments (3)	90	90	-	-	-
Total contractual obligations	<u>\$ 78,279</u>	<u>\$ 14,507</u>	<u>\$ 46,933</u>	<u>\$ 9,819</u>	<u>\$ 7,020</u>

- (1) Consists of future non-cancelable minimum rental payments under operating leases for our offices, excluding rent payments from our sub-tenants and variable operating expenses. Non-cancelable rent payments from our sub-tenants as of April 30, 2019 for the next five years are expected to be an aggregate of \$0.1 million.
- (2) In December 2018, we entered into non-cancelable capacity commitments with a hosting infrastructure vendor for total minimum commitments of \$17.0 million for calendar year 2019, \$20.0 million for calendar year 2020 and \$23.0 million for calendar year 2021. Furthermore, actual payments under these capacity commitments may be higher than the total minimum commitment depending on services used.
- (3) Consists of a note payable related to financing of our infrastructure.

In addition to the contractual obligations set forth above, as of April 30, 2019, we had \$2.3 million in letters of credit outstanding in favor of certain landlords for office space. These letters of credit renew annually and expire on various dates through 2023.

The table above does not reflect obligations pursuant to cash-settled restricted stock units issued to certain employees. Refer to Note 11 to our consolidated financial statements elsewhere in this Annual Report on Form 10-K.

The contractual commitment amounts in the table above are associated with agreements that are enforceable and legally binding. Obligations under contracts that we can cancel without a significant penalty are not included in the table above. Purchase orders issued in the ordinary course of business are not included in the table above, as our purchase orders represent authorizations to purchase rather than binding agreements.

Critical Accounting Policies

We prepare our financial statements in conformity with generally accepted accounting principles in the United States, or GAAP. The preparation of financial statements in accordance with GAAP requires certain estimates, assumptions and judgments to be made that may affect our consolidated financial statements. Accounting policies that have a significant impact on our results are described in Note 2 to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K. The accounting policies discussed in this section are those that we consider to be the most critical. We consider an accounting policy to be critical if the policy is subject to a material level of judgment and if changes in those judgments are reasonably likely to materially impact our results.

Revenue Recognition

We generate our revenue primarily from the sale of self-managed subscriptions (which include licenses for proprietary features, support, and maintenance) and SaaS subscriptions. We also generate revenue from professional services, which consist of consulting and training.

The consolidated financial statements reflect our accounting for revenue in accordance with ASC Topic 606, *Revenue from Contracts with Customers*, or ASC 606, which we early adopted on May 1, 2017. We have presented the consolidated financial statements for the year ended April 30, 2017 as if ASC 606 had been effective for this period.

Under ASC 606, we recognize revenue when our customer obtains control of promised products or services in an amount that reflects the consideration that we expect to receive in exchange for those goods or services. In determining the appropriate amount of revenue to be recognized as we fulfill our obligations under each of our agreements, we perform the following steps:

(i) identification of the contract with a customer;

We contract with customers through order forms, which in some cases are governed by master sales agreements. We determine that we have a contract with a customer when the order form has been approved, each party's rights regarding the products or services to be transferred can be identified, the payment terms for the services can be identified, we have determined the customer has the ability and intent to pay, and the contract has commercial substance. We apply judgment in determining the customer's ability and intent to pay, which is based on a variety of factors, including the customer's historical payment experience or, in the case of a new customer, credit, reputation, and financial or other information pertaining to the customer. At contract inception we evaluate whether two or more contracts should be combined and accounted for as a single contract and whether the combined or single contract includes more than one performance obligation. We have concluded that our contracts with customers do not contain warranties that give rise to a separate performance obligation.

(ii) determination of whether the promised goods or services are performance obligations;

Performance obligations promised in a contract are identified based on the products and services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the products or services either on their own or together with other resources that are readily available from third parties or from us, and are distinct in the context of the contract, whereby the transfer of the products and services is separately identifiable from other promises in the contract.

Our self-managed subscriptions include both an obligation to provide access to proprietary features in our software, as well as an obligation to provide support (on both open source and proprietary features) and maintenance. Our SaaS products provide access to hosted software as well as support, which we consider to be a single performance obligation.

Services-related performance obligations relate to the provision of consulting and training services. These services are distinct from subscriptions and do not result in significant customization of the software.

(iii) measurement of the transaction price;

We measure the transaction price with reference to the standalone selling price, or SSP, of the various performance obligations inherent within a contract. The SSP is determined based on the prices at which we separately sell these products assuming the majority of these fall within a pricing range. In instances where SSP is not directly observable, such as when we do not sell the software license separately, we derive the SSP using information that may include market conditions and other observable inputs which can require significant judgment. There is typically more than one SSP for individual products and services due to the stratification of those products and services by quantity, term of the subscription, sales channel and other circumstances. Variable consideration is included in the transaction price if, in our judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. None of our contracts contain a significant financing component.

(iv) allocation of the transaction price to the performance obligations;

If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. For contracts that contain multiple performance obligations, we allocate the transaction price to each performance obligation based on a relative SSP. If one of the performance obligations is outside of the SSP range, we allocate SSP considering the midpoint of the range. We also consider if there are any additional material rights inherent in a contract, and if so, we allocate a portion of the transaction price to such rights based on SSP.

(v) *recognition of revenue when we satisfy each performance obligation;*

Revenue is recognized at the time the related performance obligation is satisfied by transferring the promised product or service to the customer. Our self-managed subscriptions include both upfront revenue recognition when the license is delivered as well as revenue recognized ratably over the contract period for support and maintenance based on the stand-ready nature of these subscription elements. Revenue from our SaaS products is recognized ratably over the contract period when we satisfy the performance obligation.

Consulting services are time-based arrangements and revenue is recognized as these services are performed. Revenue from training services is recognized on the dates these services are complete.

We generate sales directly through our sales team and through our channel partners. Sales to channel partners are made at a discount and revenues are recorded at this discounted price once all the revenue recognition criteria above are met. To the extent that we offer rebates, incentives, or joint marketing funds to such channel partners, recorded revenues are reduced by this amount. Channel partners generally receive an order from an end-customer prior to placing an order with us. Payment from channel partners is not contingent on the partner's collection from end-customers.

Contract Balances

The timing of revenue recognition may differ from the timing of invoicing to customers. For annual contracts, we typically invoice customers at the time of entering into the contract. For multi-year agreements, we generally invoice customers on an annual basis prior to each anniversary of the contract start date. We record unbilled accounts receivable related to revenue recognized in excess of amounts invoiced as we have an unconditional right to invoice and receive payment in the future related to those fulfilled obligations. Contract liabilities consist of deferred revenue which is recognized over the contractual period.

Deferred Contract Acquisition Costs

Deferred contract acquisition costs represent costs that are incremental to the acquisition of customer contracts, which consist mainly of sales commissions and associated payroll taxes. We determine whether costs should be deferred based on sales compensation plans, if the commissions are in fact incremental and would not have occurred absent the customer contract. Sales commissions for renewal of a contract are considered commensurate with the commissions paid for the acquisition of the initial contract given there is no substantive difference in commission rates.

Deferred contract acquisition costs are expensed commensurate with the recognition of revenue as performance obligations are satisfied. These performance obligations primarily relate to our subscription contracts which are typically sold for a one to three year duration. Amortization of deferred contract acquisition costs is recognized in sales and marketing expense in the consolidated statement of operations. We periodically review the carrying amount of deferred contract acquisition costs to determine whether events or changes in circumstances have occurred that could impact the period of benefit of these deferred costs. We did not recognize any impairment of deferred contract acquisition costs during the years ended April 30, 2019, 2018 and 2017.

Stock-Based Compensation Expense

Compensation expense related to stock-based awards granted to employees is calculated based on the fair value of such awards on the date of grant. We determine the grant date fair value of the awards using the Black-Scholes option-pricing model. The related stock-based compensation expense is recognized on a straight-line basis over the period in which an employee is required to provide service in exchange for the stock-based award, which is generally four years.

Our use of the Black-Scholes option pricing model requires the input of highly subjective assumptions, including the fair value of the underlying ordinary shares, the expected term of the option, the expected volatility of the price of our ordinary shares, risk-free interest rates and the expected dividend yield of our ordinary shares. The assumptions used to determine the fair value of the awards represent management's best estimates. These estimates involve inherent uncertainties and the application of management's judgment.

These assumptions and estimates are as follows:

- *Fair value of ordinary shares.* See “Ordinary Share Valuations” below.
- *Expected term.* The expected term represents the period that our stock-based awards are expected to be outstanding. The expected term assumptions were determined based on the vesting terms, exercise terms and contractual lives of the options. For option grants that are considered “plain vanilla,” the expected term was estimated using the simplified method. The simplified method calculates the expected term as the midpoint between the vesting date and the contractual expiration date of the award.
- *Expected volatility.* Since the Company has limited trading history of its ordinary shares, the expected volatility is derived from the average historical stock volatilities of several unrelated public companies within the Company’s industry that the Company considers to be comparable to its own business over a period equivalent to the option’s expected term.
- *Risk-free interest rate.* We base the risk-free interest rate used in the Black-Scholes option pricing model on the implied yield available on U.S. Treasury zero-coupon issues with a remaining term equivalent to that of the options for each expected term.
- *Dividend yield.* The expected dividend assumption is based on our current expectations about our anticipated dividend policy. As we have no history of paying any dividends, we used an expected dividend yield of zero.

The following table summarizes the assumptions used in the Black-Scholes option pricing model to determine the fair value of our stock options:

	Year Ended April 30,		
	2019	2018	2017
Expected term (in years)	6.02 - 6.08	6.02 - 6.08	6.02 - 6.08
Expected stock price volatility	40.5% - 46.7%	40.7% - 44.1%	40.4% - 43.5%
Risk-free interest rate	2.4% - 3.1%	1.8% - 2.6%	1.3% - 2.2%
Dividend yield	0%	0%	0%

We will continue to use judgment in evaluating the assumptions related to our stock-based compensation on a prospective basis. As we continue to accumulate additional data related to our ordinary shares, we may refine our estimation process, which could materially impact our future stock-based compensation expense.

Prior to our IPO, we also assessed the need to record stock-based compensation expense when certain of our affiliated shareholders purchased shares from our employees and founders in excess of fair value of such shares. We recognized any such excess value as stock-based compensation expense in our consolidated statements of operations. During the year ended April 30, 2017, we recorded \$13.8 million in stock-based compensation expense from a secondary stock purchase transaction that was executed among certain of our employees, founders, and certain of our affiliated shareholders.

Ordinary Share Valuations

For valuations after the completion of the IPO, our board of directors determines the fair value of each share of underlying ordinary shares based on the closing price of our ordinary shares as reported on the date of the grant. Our ordinary shares are publicly traded and are therefore subject to potentially significant fluctuations in the market price. Increases and decreases in the market price of our ordinary shares will also increase and decrease the fair value of our stock-based awards granted in future periods.

Prior to the completion of our IPO, the fair value of the ordinary shares underlying our equity awards was determined by our board of directors, after considering contemporaneous third-party valuations and input from management. The valuations of our ordinary shares were determined in accordance with the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. In the absence of a public trading market, our board of directors, with input from management, exercised significant judgment and considered numerous objective and subjective factors to determine the fair value of our ordinary shares as of the date of each option grant, including the following factors:

- contemporaneous valuations performed at periodic intervals by unrelated third-party valuation firms;

- the prices, rights, preferences and privileges of our redeemable convertible preference shares relative to those of our ordinary shares;
- the lack of marketability of our ordinary shares;
- our actual and expected operating and financial performance;
- current business conditions and projections;
- our hiring of key personnel and the experience of our management;
- our history and the timing of the introduction of new products;
- our stage of development;
- the likelihood of achieving a liquidity event, such as an initial public offering or a merger or acquisition of our business given prevailing market conditions;
- the illiquidity of stock-based awards involving securities in a private company;
- the market performance of comparable publicly traded companies;
- secondary stock transactions, including a secondary stock purchase transaction that included certain of our employees, founders and certain of our affiliated shareholders; and
- U.S. and global capital markets conditions.

In valuing our ordinary shares, the fair value of our business, or enterprise value, was determined using both the income approach and market approach. The income approach estimates value based on the expectation of future cash flows that a company will generate. These future cash flows are discounted to their present values using a discount rate based on the capital rates of return for venture-backed early stage companies and is adjusted to reflect the risks inherent in our cash flows. The market approach estimates value based on a comparison of the company to comparable public companies in a similar line of business. From the comparable companies, a representative market value multiple is determined and then applied to the company's financial results to estimate the value of the subject company.

The resulting equity value was then allocated to each class of stock using an option pricing methodology and Probability Weighted Expected Return Method, or PWERM. The option pricing method is based on a binomial lattice model, which allows for the identification for a range of possible future outcomes, each with an associated probability. The option pricing method is appropriate to use when the range of possible future outcomes is difficult to predict and thus creates highly speculative forecasts. PWERM involves a forward-looking analysis of the possible future outcomes of the enterprise. This method is particularly useful when discrete future outcomes can be predicted at a relatively high confidence level with a probability distribution. Discrete future outcomes considered under the PWERM include an IPO, as well as non-IPO market based outcomes. Determining the fair value of the enterprise using the PWERM requires us to develop assumptions and estimates for both the probability of an IPO liquidity event and stay private outcomes, as well as the values we expect those outcomes could yield. We apply significant judgment in developing these assumptions and estimates, primarily based upon the enterprise value we determined using the income approach and market approach, our knowledge of the business and our reasonable expectations of discrete outcomes occurring. After the equity value is determined and allocated to the various classes of shares, a discount for lack of marketability, or DLOM, is applied to arrive at the fair value of ordinary shares. A DLOM is applied based on the theory that as an owner of a private company stock, the stockholder has limited opportunities to sell this stock and any such sale would involve significant transaction costs, thereby reducing overall fair market value.

Our assessments of the fair value of ordinary shares for grant dates between the dates of the valuations were based in part on the current available financial and operational information and the ordinary share value provided in the most recent valuation as compared to the timing of each grant. For financial reporting purposes, we considered the amount of time between the valuation date and the grant date to determine whether to use the latest ordinary share valuation. This determination included an evaluation of whether the subsequent valuation indicated that any significant change in valuation had occurred between the previous valuation and the grant date.

Business Combinations, Goodwill and Intangible Assets

We allocate the fair value of purchase consideration in a business combination to tangible assets, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is allocated to goodwill. The allocation of the purchase consideration requires management to make significant estimates and assumptions, especially with respect to intangible assets. These estimates can include, but are not limited to, future expected cash flows from acquired customers and acquired technology from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable but which are inherently uncertain and unpredictable, and, as a result, actual results may differ from estimates. During the measurement period, which is up to one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

We assess goodwill for impairment at least annually, in the fourth quarter, and whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable. For the purposes of impairment testing, we have determined that we have one operating segment and one reporting unit. Our test of goodwill impairment starts with a qualitative assessment to determine whether it is necessary to perform a quantitative goodwill impairment test. If qualitative factors indicate that the fair value of the reporting unit is more likely than not less than its carrying amount, then a quantitative goodwill impairment test is performed. For the quantitative analysis, we compare the fair value of our reporting unit to its carrying value. If the estimated fair value exceeds book value, goodwill is considered not to be impaired and no additional steps are necessary. However, if the fair value of the reporting unit is less than book value, then under the second step the carrying amount of the goodwill is compared to its implied fair value.

Acquired intangible assets are amortized over their estimated useful lives. We evaluate the recoverability of our intangible assets for possible impairment whenever events or circumstances indicate that the carrying amount of such assets may not be recoverable. Recoverability of these assets is measured by a comparison of the carrying amounts to the future undiscounted cash flows the intangible assets are expected to generate. If such review indicates that the carrying amount of our intangible assets is not recoverable, the carrying amount of such assets is reduced to fair value.

Income Taxes

We are subject to income taxes in the Netherlands and numerous other jurisdictions including federal, state, and local jurisdictions in the United States and all other tax jurisdictions or countries in which we conduct business. Earnings from our non-Dutch activities are subject to local country income tax.

We follow the asset and liability method of accounting for income taxes. This method requires recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax basis of assets and liabilities. We assess whether it is more likely than not that some portion or all of the deferred tax assets will be realized. We record a valuation allowance to our deferred tax assets to the extent we believe they are not more likely than not to be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income.

We recognize the tax benefit from uncertain tax positions only if it is more likely than not that the tax position will be sustained on examination by the tax authorities, based on the technical merits of the position. The tax benefit is measured based on the largest benefit that is more likely than not of being realized upon ultimate settlement. We adjust reserves for our uncertain tax positions due to changing facts and circumstances. We recognize interest and penalties due to taxing authorities as a component of provision for income taxes.

We make estimates and judgments about our future taxable income based on assumptions that are consistent with our plans and estimates. Should the actual amounts differ from estimates, the amount of valuation allowance could be materially impacted. Any adjustment to the deferred tax asset valuation allowance would be recorded in the consolidated statement of operations for the periods in which the adjustment is determined to be required.

J OBS Act Extended Transition Period

We are an emerging growth company, as defined in the JOBS Act. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

We have operations both within the United States and internationally, and we are exposed to market risk in the ordinary course of our business.

Interest Rate Risk

We had cash, cash equivalents, and restricted cash of \$300.3 million as of April 30, 2019. Our cash, cash equivalents, and restricted cash are held in cash deposits and money market funds. The primary objectives of our investment activities are the preservation of capital, the fulfillment of liquidity needs and the fiduciary control of cash and investments. We do not enter into investments for trading or speculative purposes. Due to the short-term nature of these instruments, we do not believe that an immediate 10% increase or decrease in interest rates would have a material effect on the fair market value of our investment portfolio. Declines in interest rates, however, would reduce our future interest income.

Foreign Currency Risk

Our revenue and expenses are primarily denominated in U.S. dollars. For the year ended April 30, 2019, we recorded a gain of \$0.2 million on foreign exchange transactions. To date, we have not had a formal hedging program with respect to foreign currency, but we may do so in the future if our exposure to foreign currency should become more significant. For business conducted outside of the United States, we may have both revenue and costs incurred in the local currency of the subsidiary, creating a partial natural hedge. Changes to exchange rates therefore have not had a significant impact on the business to date; however, we will continue to reassess our foreign exchange exposure as we continue to grow our business globally. We do not believe that an immediate 10% increase or decrease in the relative value of the U.S. dollar to other currencies would have a material effect on operating results.

As of April 30, 2019, our cash, cash equivalents, and restricted cash were primarily denominated in U.S. dollars, Euros, and Great British Pounds. A 10% increase or decrease in current exchange rates would not materially affect our cash, cash equivalents, and restricted cash balances.

Inflation Risk

We do not believe that inflation has had a material effect on our business, financial condition or results of operations.

Item 8. Financial Statements and Supplementary Data.

Elastic N.V.

Form 10-K

For the Fiscal Year Ended April 30, 2019

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The supplementary financial information required by this Item 8, is included in Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations*, under the caption "Quarterly Results of Operations Data," which is incorporated herein by reference.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Elastic N.V.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Elastic N.V. and its subsidiaries (the “Company”) as of April 30, 2019 and April 30, 2018, and the related consolidated statements of operations, of comprehensive loss, of redeemable convertible preference shares and shareholders’ equity (deficit), and of cash flows for each of the three years in the period ended April 30, 2019, including the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of April 30, 2019 and April 30, 2018, and the results of its operations and its cash flows for each of the three years in the period ended April 30, 2019 in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

San Jose, California
June 28, 2019

We have served as the Company's auditor since 2018.

Elastic N.V.

Consolidated Balance Sheets

(in thousands, except share and per share data)

	As of April 30,	
	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	\$ 298,000	\$ 50,941
Restricted cash	2,280	668
Accounts receivable, net of allowance for doubtful accounts of \$1,411 and \$776 as of April 30, 2019 and April 30, 2018, respectively	81,274	53,233
Deferred contract acquisition costs	17,215	12,125
Prepaid expenses and other current assets	30,872	15,261
Total current assets	429,641	132,228
Property and equipment, net	5,448	4,536
Goodwill	19,846	19,182
Intangible assets, net	6,723	8,297
Deferred contract acquisition costs, non-current	8,935	5,954
Deferred offering costs	-	242
Deferred tax assets	1,748	3,946
Other assets	13,397	8,628
Total assets	\$ 485,738	\$ 183,013
Liabilities, Redeemable Convertible Preferred Shares and Shareholders' Equity (Deficit)		
Current liabilities:		
Accounts payable	\$ 4,450	\$ 2,176
Accrued expenses and other liabilities	18,740	11,816
Accrued compensation and benefits	22,147	15,191
Deferred revenue	158,243	95,929
Total current liabilities	203,580	125,112
Deferred revenue, non-current	12,423	6,632
Other liabilities, non-current	6,723	3,877
Total liabilities	222,726	135,621
Commitments and contingencies (Note 7)		
Redeemable convertible preference shares, par value €0.001 per share; No shares authorized, issued, or outstanding as of April 30, 2019; 29,026,193 shares authorized; 28,939,466 shares issued and outstanding as of April 30, 2018	-	200,921
Shareholders' equity (deficit):		
Convertible preference shares, €0.01 par value; 165,000,000 shares authorized, 0 shares issued and outstanding as of April 30, 2019; 0 shares authorized, issued and outstanding as of April 30, 2018	-	-
Ordinary shares, par value €0.01 per share: 165,000,000 shares authorized; 73,675,083 shares issued and outstanding as of April 30, 2019	754	-
Ordinary shares, par value of €0.001 per share; 72,000,000 shares authorized; 0 and 33,232,955 shares issued and outstanding as of April 30, 2019 and April 30, 2018, respectively	-	33
Treasury stock, 35,937 shares (repurchased at an average price of \$10.30 per share)	(369)	(369)
Additional paid-in capital	581,135	62,542
Accumulated other comprehensive loss	(1,431)	(961)
Accumulated deficit	(317,077)	(214,774)
Total shareholders' equity (deficit)	263,012	(153,529)
Total liabilities, redeemable convertible preference shares and shareholders' equity (deficit)	\$ 485,738	\$ 183,013

The accompanying notes are an integral part of these consolidated financial statements.

Elastic N.V.

Consolidated Statements of Operations
(in thousands, except share and per share data)

	Year Ended April 30,		
	2019	2018	2017
Revenue			
License - self-managed	\$ 39,474	\$ 25,759	\$ 14,503
Subscription - self-managed and SaaS	208,780	123,623	65,243
Total subscription revenue	248,254	149,382	79,746
Professional services	23,399	10,553	8,431
Total revenue	271,653	159,935	88,177
Cost of revenue			
Cost of license - self-managed	387	387	55
Cost of subscription - self-managed and SaaS	53,560	27,920	13,161
Total cost of revenue - subscription	53,947	28,307	13,216
Cost of professional services	24,063	12,433	6,629
Total cost of revenue	78,010	40,740	19,845
Gross profit	193,643	119,195	68,332
Operating expenses			
Research and development	101,167	55,641	32,601
Sales and marketing	147,296	82,606	56,612
General and administrative	46,536	28,942	26,291
Total operating expenses	294,999	167,189	115,504
Operating loss	(101,356)	(47,994)	(47,172)
Other income (expense), net	3,441	(1,357)	(583)
Loss before income taxes	(97,915)	(49,351)	(47,755)
Provision for income taxes	4,388	3,376	4,213
Net loss	\$ (102,303)	\$ (52,727)	\$ (51,968)
Net loss per share attributable to ordinary shareholders, basic and diluted	\$ (1.86)	\$ (1.65)	\$ (1.71)
Weighted-average shares used to compute net loss per share attributable to ordinary shareholders, basic and diluted	54,893,365	32,033,792	30,359,419

The accompanying notes are an integral part of these consolidated financial statements.

Elastic N.V.

Consolidated Statements of Comprehensive Loss
(in thousands)

	Year Ended April 30,		
	2019	2018	2017
Net loss	\$ (102,303)	\$ (52,727)	\$ (51,968)
Other comprehensive loss:			
Foreign currency translation adjustments	(470)	931	(432)
Other comprehensive income (loss)	(470)	931	(432)
Total comprehensive loss	<u>\$ (102,773)</u>	<u>\$ (51,796)</u>	<u>\$ (52,400)</u>

The accompanying notes are an integral part of these consolidated financial statements.

Elastic N.V.

**Consolidated Statements of Redeemable Convertible Preference Shares
and Shareholders' Equity (Deficit)**

(in thousands, except share data)

	Redeemable Convertible Preference Shares		Ordinary Shares		Treasury Shares	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount	Amount				
Balances as of April 30, 2016	25,394,234	\$ 143,115	29,770,625	\$ 30	\$ -	\$ 8,607	\$ (1,460)	\$ (110,079)	\$ (102,902)
Issuance of Series D redeemable convertible preference shares, net of issuance costs of \$194	3,545,232	57,806	-	-	-	-	-	-	-
Issuance of ordinary shares upon exercise of stock options	-	-	672,447	-	-	2,086	-	-	2,086
Repurchase of ordinary shares	-	-	(2,000)	-	(25)	-	-	-	(25)
Vesting of early exercised stock options	-	-	-	-	-	109	-	-	109
Ordinary shares issued in connection with the acquisition of Prelert	-	-	688,975	1	-	5,707	-	-	5,708
Stock-based compensation	-	-	-	-	-	18,886	-	-	18,886
Net Loss	-	-	-	-	-	-	-	(51,968)	(51,968)
Foreign currency translation	-	-	-	-	-	-	(432)	-	(432)
Balances as of April 30, 2017	28,939,466	200,921	31,130,047	31	(25)	35,395	(1,892)	(162,047)	(128,538)
Issuance of ordinary shares upon exercise of stock options	-	-	668,518	1	-	2,336	-	-	2,337
Issuance of ordinary shares related to early exercised stock options	-	-	148,630	-	-	-	-	-	-
Repurchase of ordinary shares	-	-	(33,937)	-	(344)	-	-	-	(344)
Vesting of early exercised stock options	-	-	-	-	-	109	-	-	109
Ordinary shares issued in connection with the acquisition of Prelert	-	-	98,425	-	-	-	-	-	-
Ordinary shares issued in connection with the acquisition of Opbeat	-	-	488,998	-	-	4,018	-	-	4,018
Ordinary shares issued in connection with the acquisition of Swifttype	-	-	732,274	1	-	8,391	-	-	8,392
Stock-based compensation	-	-	-	-	-	12,293	-	-	12,293
Net Loss	-	-	-	-	-	-	-	(52,727)	(52,727)
Foreign currency translation	-	-	-	-	-	-	931	-	931
Balances as of April 30, 2018	28,939,466	200,921	33,232,955	33	(369)	62,542	(961)	(214,774)	(153,529)
Change in par value upon conversion from B.V. to N.V.	-	-	-	303	-	(303)	-	-	-
Conversion of redeemable convertible preference shares to ordinary shares upon initial public offering	(28,939,466)	(200,921)	28,939,466	289	-	200,632	-	-	200,921
Issuance of ordinary shares upon initial public offering, net of underwriting discounts and issuance costs	-	-	8,050,000	93	-	263,749	-	-	263,842
Issuance of ordinary shares upon exercise of stock options	-	-	3,117,320	33	-	18,519	-	-	18,552
Issuance of ordinary shares upon subscription of restricted stock awards	-	-	244,498	3	-	(3)	-	-	-
Vesting of early exercised stock options	-	-	-	-	-	1,019	-	-	1,019
Vesting of ordinary shares subject to repurchase	-	-	-	-	-	449	-	-	449
Repurchase of early exercised stock options	-	-	(43,630)	-	-	-	-	-	-
Ordinary shares issued in connection with the acquisition of Lambda Lab	-	-	134,474	-	-	-	-	-	-
Stock-based compensation	-	-	-	-	-	34,531	-	-	34,531
Net loss	-	-	-	-	-	-	-	(102,303)	(102,303)
Foreign currency translation	-	-	-	-	-	-	(470)	-	(470)
Balances as of April 30, 2019	-	\$ -	73,675,083	754	(369)	581,135	(1,431)	(317,077)	263,012

The accompanying notes are an integral part of these consolidated financial statements.

Elastic N.V.

Consolidated Statements of Cash Flows
(in thousands)

	Year Ended April 30,		
	2019	2018	2017
Cash flows from operating activities			
Net loss	\$ (102,303)	\$ (52,727)	\$ (51,968)
Adjustments to reconcile net loss to cash used in operating activities:			
Depreciation and amortization	5,695	5,066	3,150
Amortization of deferred contract acquisition costs	21,374	12,731	8,417
Stock-based compensation expense	39,942	12,742	18,886
Deferred income taxes	3,621	(323)	663
Other	69	1	30
Changes in operating assets and liabilities, net of impact of business acquisitions:			
Accounts receivable, net	(29,804)	(21,606)	(11,128)
Deferred contract acquisition costs	(30,006)	(20,497)	(12,290)
Prepaid expenses and other current assets	(18,049)	(6,920)	(3,707)
Other assets	(3,292)	(8,502)	600
Accounts payable	2,226	(23)	(241)
Accrued expenses and other liabilities	10,872	5,380	1,935
Accrued compensation and benefits	3,842	8,045	2,595
Deferred revenue	71,876	45,814	26,951
Net cash used in operating activities	(23,937)	(20,819)	(16,107)
Cash flows from investing activities			
Purchases of property and equipment	(3,447)	(2,968)	(843)
Purchases of short-term investments	-	-	(15,000)
Maturities of short-term investments	-	15,000	-
Business acquisitions, net of cash acquired	(1,986)	(3,702)	(4,488)
Other	(2,850)	-	-
Net cash (used in) provided by investing activities	(8,283)	8,330	(20,331)
Cash flows from financing activities			
Proceeds from the issuance of redeemable convertible preference shares, net of issuance costs	-	-	57,806
Net proceeds from issuance of ordinary shares in initial public offering	269,514	-	-
Proceeds from issuance of ordinary shares upon exercise of stock options	18,552	2,337	2,086
Proceeds from the issuance of ordinary shares related to early exercise of stock options	-	1,566	-
Repurchase of ordinary shares	-	(344)	(25)
Repurchase of early exercised options	(500)	-	-
Repayment of notes payable	(106)	(132)	(106)
Payment of deferred offering costs	(5,672)	-	-
Net cash provided by financing activities	281,788	3,427	59,761
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	(897)	781	(635)
Net increase (decrease) in cash, cash equivalents, and restricted cash	248,671	(8,281)	22,688
Cash, cash equivalents, and restricted cash, beginning of period	51,609	59,890	37,202
Cash, cash equivalents, and restricted cash, end of period	\$ 300,280	\$ 51,609	\$ 59,890
Supplemental disclosures of cash flow information			
Cash paid for income taxes	\$ 3,067	\$ 3,189	\$ 1,442
Cash paid for interest	\$ 9	\$ 14	\$ 21
Supplemental disclosures of non-cash investing and financing information			
Purchases of property and equipment included in accounts payable	\$ 157	\$ 6	\$ 69
Vesting of early exercised stock options	\$ 1,019	\$ 109	\$ 109
Vesting of shares subject to repurchase	\$ 449	\$ -	\$ -
Issuance of ordinary shares for business acquisition	\$ -	\$ 12,410	\$ 5,708
Deferred offering costs accrued, unpaid	\$ -	\$ 242	\$ -

The accompanying notes are an integral part of these consolidated financial statements.

1. Organization and Description of Business

Elastic N.V. (formerly Elasticsearch Global B.V. and subsequently Elastic B.V.) (the “Company”) was founded in 2012 and has its corporate seat in Amsterdam, the Netherlands. Elastic is a search company. It created the Elastic Stack, a powerful set of software products that ingest and store data from any source and in any format, and perform search, analysis, and visualization in milliseconds or less. Developers build on top of the Elastic Stack to apply the power of search to their data and solve business problems. The Company also offers software solutions built on the Elastic Stack that address a wide variety of use cases including app search, site search, enterprise search, logging, metrics, application performance monitoring (“APM”), business analytics, and security analytics. The Elastic Stack and the Company’s solutions are designed to run on premises, in public or private clouds, or in hybrid environments.

Initial Public Offering

In October 2018, the Company completed its initial public offering (“IPO”) in which it issued and sold 8,050,000 ordinary shares at an offering price of \$36.00 per share, including 1,050,000 ordinary shares pursuant to the exercise in full of the underwriters’ option to purchase additional shares. The Company received net proceeds of \$263.8 million, after deducting underwriting discounts and commissions of \$20.3 million and offering expenses of \$5.7 million. Immediately prior to the closing of the IPO, all 28,939,466 shares of the Company’s then-outstanding redeemable convertible preference shares automatically converted into 28,939,466 ordinary shares at their respective conversion ratios and the Company reclassified \$200.6 million from temporary equity to additional paid-in capital and \$0.3 million to ordinary shares on its consolidated balance sheet.

The Company’s articles of association designated and authorized the Company to issue 72 million ordinary shares with a par value of €0.001 per share up until immediately prior to the completion of the IPO at which time the authorized ordinary shares increased to 165 million. In addition, the par value of ordinary shares was changed from €0.001 per share to €0.01 per share as required by Dutch law at the time of the Company’s conversion into a Dutch public limited company (*naamloze vennootschap*).

2. Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and include the financial statements of the Company and its wholly owned subsidiaries. All intercompany transactions and accounts have been eliminated in consolidation.

Reclassifications

Certain prior period amounts have been reclassified in order to conform to the current period presentation. These reclassifications had no effect on the previously reported net loss.

Fiscal Year

The Company’s fiscal year ends on April 30. References to fiscal 2019, for example, refer to the fiscal year ended April 30, 2019.

Use of Estimates and Judgments

The preparation of the consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. Such estimates include, but are not limited to, allocation of revenue between recognized and deferred amounts, deferred contract acquisition costs, allowance for doubtful accounts, valuation of stock-based compensation, fair value of ordinary shares, fair value of acquired intangible assets and goodwill, useful lives of acquired intangible assets and property and equipment, and valuation allowance for deferred income taxes. The Company bases these estimates on historical and anticipated results, trends and various other assumptions that it believes are reasonable under the circumstances, including assumptions as to future events. Actual results could differ from those estimates.

Foreign Currency

The reporting currency of the Company is the U.S. dollar. The Company determines the functional currency of each subsidiary in accordance with ASC 830, *Foreign Currency Matters*, based on the currency of the primary economic environment in which each subsidiary operates. Items included in the financial statements of such subsidiaries are measured using that functional currency.

For the subsidiaries where the U.S. dollar is the functional currency, foreign currency denominated monetary assets and liabilities are re-measured into U.S. dollars at current exchange rates and foreign currency denominated nonmonetary assets and liabilities are re-measured into U.S. dollars at historical exchange rates. Gains or losses from foreign currency re-measurement and settlements are included in other income (expense), net in the consolidated statement of operations. For the years ended April 30, 2019, 2018 and 2017, the Company recognized re-measurement gain of \$0.2 million, a loss of \$1.3 million and a loss of \$0.6 million, respectively.

For subsidiaries where the functional currency is other than the U.S. dollar, the Company uses the period-end exchange rates to translate assets and liabilities, the average monthly exchange rates to translate revenue and expenses, and historical exchange rates to translate shareholders' equity (deficit), into U.S. dollars. The Company records translation gains and losses in accumulated other comprehensive loss as a component of shareholders' equity (deficit) in the consolidated balance sheet.

Comprehensive Loss

The Company's comprehensive loss includes net loss and unrealized gains and losses on foreign currency translation adjustments.

Cash, Cash Equivalents and Restricted Cash

The Company considers all highly liquid investments, including money market funds with an original maturity of three months or less at the date of purchase, to be cash equivalents. The carrying amount of the Company's cash equivalents approximates fair value, due to the short maturities of these instruments. Restricted cash represents cash on deposit with financial institutions in support of letters of credit in favor of certain landlords for non-cancelable lease agreements.

Cash, cash equivalents, and restricted cash as reported in the Company's consolidated statement of cash flows includes the aggregate amounts of cash and cash equivalents and the restricted cash as shown on the consolidated balance sheet. Cash, cash equivalents, and restricted cash as reported in the Company's consolidated statement of cash flows consists of the following (in thousands):

	As of April 30,	
	2019	2018
Cash and cash equivalents	\$ 298,000	\$ 50,941
Restricted cash	2,280	668
Cash, cash equivalents and restricted cash	\$ 300,280	\$ 51,609

Short-Term Investments

Investments with an original maturity of three months or less at the date of purchase are considered cash equivalents, while all other investments are classified as short-term or long-term based on the nature of the investments, their maturities, and their availability for use in current operations. The Company determines the appropriate classification of its investments at the time of purchase and reevaluates such designation at each balance sheet date. The Company's short-term investments consist of bank deposits with original maturities greater than three months but less than twelve months and are classified as short-term investments within current assets in the consolidated balance sheet.

Fair Value of Financial Instruments

The Company's financial instruments consist of cash equivalents, accounts receivable, accounts payable, and accrued liabilities. Cash equivalents are stated at amortized cost, which approximates fair value at the balance sheet dates, due to the short period of time to maturity. Accounts receivable, accounts payable and accrued liabilities are stated at their carrying value, which approximates fair value due to the short time to the expected receipt or payment date.

Assets and liabilities recorded at fair value on a recurring basis in the consolidated balance sheet consisting primarily of cash equivalents are categorized based upon the level of judgment associated with the inputs used to measure their fair values. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The Company measures its financial assets and liabilities at fair value at each reporting period using a fair value hierarchy which requires the Company to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value:

- Level 1: Observable inputs, such as unadjusted quoted prices in active markets for identical assets or liabilities at the measurement date.
- Level 2: Observable inputs, other than Level 1 prices, such as quoted prices in active markets for similar assets and liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The carrying values of the Company's financial instruments, including cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate their respective fair values due to the short period of time to maturity, receipt or payment.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk are primarily cash, cash equivalents, restricted cash, short-term investments, and accounts receivable. The primary focus of the Company's investment strategy is to preserve capital and meet liquidity requirements. The Company maintains its cash accounts with financial institutions where, at times, deposits exceed federal insurance limits. The Company invests its excess cash in highly-rated money market funds and in short-term investments. The Company extends credit to customers in the normal course of business. The Company performs credit analyses and monitors the financial health of its customers to reduce credit risk. Trade accounts receivable are recorded at the invoiced amount and do not bear interest. Management performs ongoing credit evaluations of customers and maintain allowances for potential credit losses on customers' accounts when deemed necessary.

As of April 30, 2019 and 2018, no customer represented 10% or more of net accounts receivable. No customer accounted for more than 10% of the Company's revenue for the years ended April 30, 2019, 2018 and 2017, respectively.

Accounts Receivable, Unbilled Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable primarily consists of amounts billed currently due from customers. The Company's accounts receivable are subject to collection risk. Gross accounts receivable are reduced for this risk by an allowance for doubtful accounts. This allowance is for estimated losses resulting from the inability of the Company's customers to make required payments. The Company determines the need for an allowance for doubtful accounts based upon various factors, including past collection experience, credit quality of the customer, age of the receivable balance, and current economic conditions, as well as specific circumstances arising with individual customers. Accounts receivables are written off against the allowance when management determines a balance is uncollectible and the Company no longer actively pursues collection of the receivable.

The Company does not typically offer right of refund in its contracts. The allowance for doubtful accounts reflects the Company's best estimate of probable losses inherent in the Company's receivables portfolio. The Company has not experienced significant credit losses from its accounts receivable. As of April 30, 2019 and 2018, the allowance for doubtful accounts was \$ 1.4 million and \$0.8 million, respectively. Activity related to the Company's allowance for doubtful accounts was as follows (in thousands):

	Year ended April 30,		
	2019	2018	2017
Beginning balance	\$ 776	\$ 357	\$ 52
Bad debt expense	1,105	1,265	431
Accounts written off	(470)	(846)	(126)
Ending balance	\$ 1,411	\$ 776	\$ 357

Unbilled accounts receivable represents amounts for which the Company has recognized revenue, pursuant to the Company's revenue recognition policy, for fulfilled obligations, but not yet billed. The unbilled accounts receivable balance was \$1.7 million and \$1.1 million as of April 30, 2019 and 2018, respectively.

Capitalized Software Costs

Software development costs for software to be sold, leased, or otherwise marketed are expensed as incurred until the establishment of technological feasibility, at which time those costs are capitalized until the product is available for general release to customers and amortized over the estimated life of the product. Technological feasibility is established upon the completion of a working prototype that has been certified as having no critical bugs and is a release candidate. To date, costs to develop software that is marketed externally have not been capitalized as the current software development process is essentially completed concurrently with the establishment of technological feasibility. As such, all related software development costs are expensed as incurred and included in research and development expense in the consolidated statement of operations.

Costs related to software acquired, developed, or modified solely to meet the Company's internal requirements, with no substantive plans to market such software at the time of development, or costs related to development of web-based products are capitalized. Costs incurred during the preliminary planning and evaluation stage of the project and during the post implementation operational stage are expensed as incurred. Costs incurred during the application development stage of the project are capitalized. The Company did not capitalize any costs related to software developed for internal use or web-based products in the years ended April 30, 2019, 2018 and 2017.

Property and Equipment

Property and equipment are recorded at cost and depreciated over their estimated useful lives using the straight-line method. Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation are removed from the financial statements and any resulting gain or loss is reflected within the consolidated statement of operations. There was no material gain or loss incurred as a result of retirement or sale in the periods presented. Repair and maintenance costs are expensed as incurred.

Business Combinations

The Company has completed a number of acquisitions of other businesses in the past and may acquire additional businesses or technologies in the future. The results of businesses acquired in a business combination are included in the Company's consolidated financial statements from the date of acquisition. The Company allocates the purchase price, which is the sum of the consideration provided and may consist of cash, equity or a combination of the two, in a business combination to the identifiable assets and liabilities of the acquired business at their acquisition date fair values. The excess of the purchase price over the amount allocated to the identifiable assets and liabilities, if any, is recorded as goodwill. Determining the fair value of assets acquired and liabilities assumed requires management to use significant judgment and estimates, including the selection of valuation methodologies, estimates of future revenue and cash flows, discount rates and selection of comparable companies.

When the Company issues stock-based or cash awards to an acquired company's shareholders, the Company evaluates whether the awards are consideration or compensation for post-acquisition services. The evaluation includes, among other things, whether the vesting of the awards is contingent on the continued employment of the acquired company's shareholders beyond the acquisition date. If continued employment is required for vesting, the awards are treated as compensation for post-acquisition services and recognized as expense over the requisite service period.

To date, the assets acquired and liabilities assumed in the Company's business combinations have primarily consisted of goodwill and finite-lived intangible assets, consisting primarily of developed technologies, in-process research & development ("IPR&D"), customer relationships and trade names. The estimated fair values and useful lives of identifiable intangible assets are based on many factors, including estimates and assumptions of future operating performance and cash flows of the acquired business, the nature of the business acquired, and the specific characteristics of the identified intangible assets. The estimates and assumptions used to determine the fair values and useful lives of identified intangible assets could change due to numerous factors, including market conditions, technological developments, economic conditions and competition. In connection with determination of fair values, the Company may engage independent appraisal firms to assist with the valuation of intangible and certain tangible assets acquired and certain assumed obligations.

Acquisition-related transaction costs incurred by the Company are not included as a component of consideration transferred, but are accounted for as an operating expense in the period in which the costs are incurred.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of net assets acquired in business combinations accounted for using the acquisition method for accounting and is not amortized. The Company tests goodwill for impairment at least annually, in the fourth quarter of each year, or more frequently if events or changes in circumstances indicate that this asset may be impaired. For the purposes of impairment testing, the Company has determined that it has one operating segment and one reporting unit. The Company's test of goodwill impairment starts with a qualitative assessment to determine whether it is necessary to perform a quantitative goodwill impairment test. If qualitative factors indicate that the fair value of the reporting unit is more likely than not less than its carrying amount, then a quantitative goodwill impairment test is performed. For the quantitative analysis, the Company compares the fair value of its reporting unit to its carrying value. If the estimated fair value exceeds book value, goodwill is considered not to be impaired and no additional steps are necessary. However, if the fair value of the reporting unit is less than book value, then under the second step the carrying amount of the goodwill is compared to its implied fair value. There was no impairment of goodwill recorded for the years ended April 30, 2019, 2018 and 2017.

Acquired Intangible Assets

Acquired amortizable intangible assets are amortized on a straight-line basis over the estimated useful lives of the assets.

	Useful life (in years)
Trade names	\$ 4
Customer relationships	4
Developed technology	4-5

Impairment of Long-Lived Assets

The Company evaluates the recoverability of long-lived assets, including property and equipment and amortizable acquired intangible assets for possible impairment whenever events or circumstances indicate that the carrying amount of such assets may not be fully recoverable. Such events and changes may include: significant changes in performance relative to expected operating results, significant changes in asset use, significant negative industry or economic trends, and changes in the Company's business strategy. Recoverability of these assets is measured by a comparison of the carrying amounts to the future undiscounted cash flows the assets are expected to generate. If such review indicates that the carrying amount of long-lived assets is not recoverable, the carrying amount of such assets is reduced to fair value. The Company determined that there were no events or changes in circumstances that indicated that its long-lived assets were impaired during the years ended April 30, 2019, 2018 and 2017.

In addition to the recoverability assessment, the Company periodically reviews the remaining estimated useful lives of property and equipment and amortizable intangible assets. If the estimated useful life assumption for any asset is changed, the remaining unamortized balance would be depreciated or amortized over the revised estimated useful life, on a prospective basis.

Deferred Offering Costs

Deferred offering costs were capitalized and consisted of fees and expenses incurred in connection with the sale of the Company's ordinary shares in its IPO, including the legal, accounting, printing and other IPO-related costs. Upon consummation of the IPO in October 2018, \$0.2 million of previously deferred offering costs along with additional offering costs of \$5.5 million were reclassified to shareholders' equity (deficit) and recorded against the proceeds from the offering.

Deferred Rent

Rent expense is recognized on a straight-line basis over the non-cancelable term of the operating lease. The Company records the difference between cash rent payments and recognized rent expense as a deferred rent liability included in other accrued liabilities and other liabilities, non-current on the consolidated balance sheet. Incentives granted under the Company's facility leases, including allowances to fund leasehold improvements, are deferred and are recognized as adjustments to rent expense on a straight-line basis over the term of the lease.

Revenue Recognition

The Company generates revenue primarily from the sale of self-managed subscriptions (which include licenses for proprietary features, support, and maintenance) and SaaS subscriptions. The Company also generates revenue from professional services, which consist of consulting and training.

Prior to the year ended April 30, 2017, the Company had not previously reported under U.S. GAAP or prepared financial statements in accordance with U.S. GAAP, and therefore never reported revenue under ASC Topic 605, *Revenue Recognition*. The consolidated financial statements reflect the Company's accounting for revenue in accordance with ASC Topic 606, *Revenue from Contracts with Customers* ("ASC 606"), which the Company early adopted on May 1, 2017. The Company is presenting the consolidated financial statements for the year ended April 30, 2017 as if ASC 606 had been effective for this period.

Under ASC 606, the Company recognizes revenue when its customer obtains control of promised goods or services in an amount that reflects the consideration that the Company expects to receive in exchange for those goods or services. In determining the appropriate amount of revenue to be recognized as it fulfills its obligations under each of its agreements, the Company performs the following steps:

(i) identification of the contract with a customer;

The Company contracts with its customers through order forms, which in some cases are governed by master sales agreements. The Company determines that it has a contract with a customer when the order form has been approved, each party's rights regarding the products or services to be transferred can be identified, the payment terms for the services can be identified, the Company has determined the customer has the ability and intent to pay and the contract has commercial substance. The Company applies judgment in determining the customer's ability and intent to pay, which is based on a variety of factors, including the customer's historical payment experience or, in the case of a new customer, credit, reputation and financial or other information pertaining to the customer. At contract inception the Company evaluates whether two or more contracts should be combined and accounted for as a single contract and whether the combined or single contract includes more than one performance obligation. The Company has concluded that its contracts with customers do not contain warranties that give rise to a separate performance obligation.

(ii) determination of whether the promised goods or services are performance obligations;

Performance obligations promised in a contract are identified based on the products and services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the products or services either on their own or together with other resources that are readily available from third parties or from the Company, and are distinct in the context of the contract, whereby the transfer of the products and services is separately identifiable from other promises in the contract.

The Company's self-managed subscriptions include both an obligation to provide access to proprietary features in its software, as well as an obligation to provide support (on both open source and proprietary features) and maintenance. The Company's SaaS products provide access to hosted software as well as support, which the Company considers to be a single performance obligation.

Services-related performance obligations relate to the provision of consulting and training services. These services are distinct from subscriptions and do not result in significant customization of the software.

(iii) measurement of the transaction price;

The Company measures the transaction price with reference to the standalone selling price ("SSP") of the various performance obligations inherent within a contract. The SSP is determined based on the prices at which the Company separately sells these products, assuming the majority of these fall within a pricing range. In instances where SSP is not directly observable, such as when the Company does not sell the software license separately, the Company determines the SSP using information that may include market conditions and other observable inputs that can require significant judgment. There is typically more than one SSP for individual products and services due to the stratification of those products and services by quantity, term of the subscription, sales channel and other circumstances. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. None of the Company's contracts contain a significant financing component.

(iv) allocation of the transaction price to the performance obligations;

If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. For contracts that contain multiple performance obligations, the Company allocates the transaction price to each performance obligation based on a relative SSP. If one of the performance obligations is outside of the SSP range, the Company allocates SSP considering the midpoint of the range. The Company also considers if there are any additional material rights inherent in a contract, and if so, the Company allocates a portion of the transaction price to such rights based on SSP.

(v) recognition of revenue when the Company satisfies each performance obligation;

Revenue is recognized at the time the related performance obligation is satisfied by transferring the promised product or service to the customer. The Company's self-managed subscriptions include both upfront revenue recognition when the license is delivered as well as revenue recognized ratably over the contract period for support and maintenance based on the stand-ready nature of these subscription elements. Revenue on the Company's SaaS product is recognized ratably over the contract period when the Company satisfies the performance obligation.

Consulting services are time-based arrangements and revenue is recognized as these services are performed. Revenue from training services is recognized on the dates these services are complete.

The Company generates sales directly through its sales team and through its channel partners. Sales to channel partners are made at a discount and revenues are recorded at this discounted price once all the revenue recognition criteria above are met. To the extent that the Company offers rebates, incentives or joint marketing funds to such channel partners, recorded revenues are reduced by this amount. Channel partners generally receive an order from an end-customer prior to placing an order with the Company. Payment from channel partners is not contingent on the partner's collection from end-customers.

Cost of Revenue

Cost of revenue consists primarily of costs related to providing subscription and professional services to the Company's customers, including personnel costs (salaries, bonuses and benefits, and stock-based compensation) and related expenses for customer support and services personnel, as well as cloud infrastructure costs, third-party expenses, depreciation of fixed assets, amortization associated with acquired intangible assets, and allocated overhead.

Research and Development

Research and development costs are expensed as incurred and consist primarily of personnel costs, including salaries, bonuses and benefits, and stock-based compensation. Research and development costs also include depreciation and allocated overhead.

Advertising

Advertising costs are charged to operations as incurred or the first time the advertising takes place, based on the nature of the advertising, and include direct marketing, events, public relations, sales collateral materials and partner programs. Advertising costs were \$6.5 million, \$1.7 million, \$1.0 million for the years ended April 30, 2019, 2018 and 2017 respectively. Advertising costs are recorded in sales and marketing expense in the consolidated statement of operations.

Stock-Based Compensation

Compensation expense related to stock awards issued to employees, including stock options, restricted stock awards ("RSAs"), and restricted stock units ("RSUs") is measured at the fair value on the date of the grant and recognized over the requisite service period. The fair value of stock options is estimated on the date of the grant using the Black-Scholes option-pricing model. The fair value of RSAs and RSUs is estimated on the date of the grant based on the fair value of the Company's underlying ordinary shares.

Compensation expense for stock options and RSUs is recognized on a straight-line basis over the requisite service period. Compensation expense for RSAs is amortized on a graded basis over the requisite service period as long as the underlying performance condition is probable to occur. RSAs issued till date included a performance condition in the form of a specified liquidity event. The liquidity event condition was satisfied upon the effectiveness of the Company's registration statement on Form S-1, or IPO registration statement, on October 5, 2018. On that date, the Company recorded a cumulative stock-based compensation expense of \$1.7 million using the accelerated attribution method for all RSAs, for which the service condition had been fully satisfied as of October 5, 2018. The remaining unrecognized stock-based compensation expense related to the RSAs will be recorded over their remaining requisite service periods. The Company recognizes forfeitures as they occur.

Net Loss per Share Attributable to Ordinary Shareholders

The Company calculates basic net loss per share by dividing the net loss by the weighted-average number of ordinary shares outstanding during the period, less shares subject to repurchase. Diluted net loss per share is computed by giving effect to all potentially dilutive ordinary share equivalents outstanding for the period, including stock options and restricted stock units.

Prior to the closing of the IPO in October 2018, the Company calculated basic and diluted net loss per share attributable to ordinary shareholders in conformity with the two-class method required for companies with participating securities. The Company considered all series of redeemable convertible preference shares and early exercised stock options to be participating securities as the holders were entitled to receive non-cumulative dividends on a pari passu basis in the event that a dividend was paid on ordinary shares. Under the two-class method, the net loss attributable to ordinary shareholders was not allocated to the redeemable convertible preference shares and early exercised stock options as the holders of redeemable convertible preference shares and early exercised stock options did not have a contractual obligation to share in losses.

Under the two-class method, basic net loss per share attributable to ordinary shareholders was calculated by dividing the net loss by the weighted-average number of ordinary shares outstanding during the period, less shares subject to repurchase. Diluted net loss per share attributable to ordinary shareholders was computed by giving effect to all potentially dilutive ordinary shares outstanding for the period. For purposes of this calculation, redeemable convertible preference shares, stock options to acquire ordinary shares, contingently issuable shares, and early exercised stock options were considered potentially dilutive ordinary shares, but had been excluded from the calculation of diluted net loss per share attributable to ordinary shareholders as their effect was antidilutive.

Upon closing of the IPO, all shares of redeemable convertible preference shares then outstanding were automatically converted into an equivalent number of shares of ordinary shares on a one-to-one basis and their carrying amount reclassified into stockholders' equity (deficit). As of April 30, 2019, the Company did not have any preference shares issued and outstanding.

Treasury Shares

Ordinary shares of the Company that are repurchased are recorded as treasury shares at cost and are included as a component of shareholders' equity (deficit).

Segments

Operating segments are defined as components of an entity for which separate financial information is available and that is regularly reviewed by the Chief Operating Decision Maker ("CODM"). The Company's Chief Executive Officer is its CODM. The Company's CODM reviews financial information presented on a consolidated basis for the purposes of making operating decisions, allocating resources and evaluating financial performance. As such, the Company has determined that it operates in one operating and one reportable segment. The Company presents financial information about its operating segment and geographical areas in Note 15 to the consolidated financial statements.

Income Taxes

The Company is subject to income taxes in the Netherlands and numerous foreign jurisdictions. These foreign jurisdictions may have different statutory rates than the Netherlands. The Company records a provision for income taxes for the anticipated tax consequences of the reported results of operations using the asset and liability method. Under this method, the Company recognizes deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial reporting and the tax basis of assets and liabilities, as well as for operating losses and tax credit carryforwards. Deferred tax assets and liabilities are measured using the tax rates that are expected to apply to taxable income for the years in which those tax assets and liabilities are expected to be realized or settled. The Company records a valuation allowance to reduce its deferred tax assets to the net amount that it believes is more likely than not to be realized.

The calculation of the Company's tax obligations involves dealing with uncertainties in the application of complex tax laws and regulations. ASC 740, *Income Taxes*, provides that a tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, on the basis of the technical merits. The Company has assessed its income tax positions and recorded tax benefits for all years subject to examination, based upon the Company's evaluation of the facts, circumstances and information available at each period end. For those tax positions where the Company has determined there is a greater than fifty percent likelihood that a tax benefit will be sustained, the Company has recorded the largest amount of tax benefit that may potentially be realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. For those income tax positions where it is determined there is less than fifty percent likelihood that a tax benefit will be sustained, no tax benefit has been recognized.

Although the Company believes that it has adequately reserved for its uncertain tax positions, the Company can provide no assurance that the final tax outcome of these matters will not be materially different. As the Company expands internationally, it will face increased complexity, and the Company's unrecognized tax benefits may increase in the future. The Company makes adjustments to its reserves when facts and circumstances change, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made.

New Accounting Pronouncements Not Yet Adopted

Leases: In February 2016, the Financial Accounting Standards Board (FASB) issued ASU No. 2016-02, *Leases (Topic 842)*, which modifies lease accounting for lessees to increase transparency and comparability by recording lease assets and liabilities for operating leases and disclosing key information about leasing arrangements. In July 2018, the FASB issued ASU 2018-10, *Codification Improvements to Topic 842, Leases*, and ASU 2018-11, *Leases (Topic 842), Targeted Improvements*, which affect certain aspects of the previously issued guidance. Amendments include an additional transition method that allows entities to apply the new standard on the adoption date and recognize a cumulative effect adjustment to the opening balance of retained earnings. The new guidance becomes effective for the Company for the year ending April 30, 2020.

The ASU provides an optional transition method that entities can use when adopting the standard. Upon adoption of the new standard as of May 1, 2019, the Company will recognize a cumulative-effect adjustment to the opening balance of accumulated deficit as of the adoption date. The Company will elect the optional transition approach to not apply Topic 842 in the comparative periods presented.

Upon adoption, the Company is planning to elect the following:

- the package of practical expedients which allows for not reassessing (1) whether existing contracts contain leases, (2) the lease classification for existing leases, and (3) whether existing initial direct costs meet the new definition.
- the practical expedient in ASC Subtopic 842-10 to not separate non-lease components from lease components and instead account for each separate lease component and non-lease components associated with that lease component as a single lease component by class of the underlying asset.
- not to recognize ROU assets and lease liabilities for short-term leases, which have a lease term of twelve months or less and do not include an option to purchase the underlying asset that the Company is reasonably certain to exercise.

The Company is not planning to elect the hindsight practical expedient.

The Company expects that the adoption of Topic 842 will result in the recognition of total right-of-use assets between \$25.0 million and \$30.0 million and total lease liabilities between \$25.0 million and \$30.0 million, with the most significant impact related to office space leases. The Company does not have any finance leases. The Company does not expect the adoption of Topic 842 to have a material impact to the consolidated statements of operations or to have any impact on its cash flows from operating, investing or financing activities.

Credit Losses: In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326)*. ASU 2016-13 changes the impairment model for most financial assets, and will require the use of an expected loss model in place of the currently used incurred loss method. Under this model, entities will be required to estimate the lifetime expected credit loss on such instruments and record an allowance to offset the amortized cost basis of the financial asset, resulting in a net presentation of the amount expected to be collected on the financial asset. The update to the standard becomes effective for the Company for the year ending April 30, 2021. The Company is currently evaluating the impact of the adoption of ASU 2016-13 on its consolidated financial statements.

Goodwill Impairment : In January 2017, the FASB issued ASU No. 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. The new standard will simplify the measurement of goodwill by eliminating step two of the two-step impairment test. Step two measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. The new guidance requires an entity to compare the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. Additionally, an entity should consider income tax effects from any tax-deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. The new guidance becomes effective for the Company for the year ending April 30, 2021, though early adoption is permitted. The Company does not expect the adoption of the new accounting standard will have a material impact on its consolidated financial statements.

Comprehensive Income : In February 2018, the FASB issued ASU No. 2018-02, *Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which provides financial statement preparers with an option to reclassify stranded tax effects within accumulated other comprehensive income to retained earnings in each period in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Cuts and Jobs Act (or portion thereof) is recorded. For all entities, it is effective for fiscal years beginning after December 15, 2018, and interim periods therein. The new guidance becomes effective for the Company for the year ending April 30, 2020, though early adoption is permitted. The amendments in this ASU should be applied either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Cuts and Jobs Act is recognized. The Company is currently evaluating the potential impact of this ASU on its consolidated financial statements.

Fair Value Measurements: In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820)*, which modifies, removes and adds certain disclosure requirements on fair value measurements based on the FASB Concepts Statement, *Conceptual Framework for Financial Reporting—Chapter 8: Notes to Financial Statements*. The new guidance becomes effective for the Company for the year ending April 30, 2021. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements and the narrative description of measurement uncertainty should be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments should be applied retrospectively to all periods presented upon their effective date. Early adoption is permitted. The Company is currently evaluating the potential impact of this ASU on its consolidated financial statements.

Intangible Assets: In August 2018, the FASB issued ASU No. 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40)*, which align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by the amendments in this ASU. The new guidance becomes effective for the Company for the year ending April 30, 2021, though early adoption is permitted. The Company is currently evaluating the potential impact of this ASU on its consolidated financial statements.

3. Revenue and Performance Obligations

Disaggregation of Revenue

The following table presents revenue by category (in thousands):

	Year Ended April 30,					
	2019		2018		2017	
	Amount	% of Total Revenue	Amount	% of Total Revenue	Amount	% of Total Revenue
Self-managed subscription	\$ 202,419	74%	\$ 123,898	77%	\$ 70,398	79%
<i>License</i>	39,474	15%	25,759	16%	14,503	16%
<i>Subscription</i>	162,945	60%	98,139	61%	55,895	63%
SaaS	45,835	17%	25,484	16%	9,348	11%
Total subscription revenue	248,254	91%	149,382	93%	79,746	90%
Professional services	23,399	9%	10,553	7%	8,431	10%
Total revenue	\$ 271,653	100%	\$ 159,935	100%	\$ 88,177	100%

Remaining Performance Obligations

As of April 30, 2019, the Company had \$352.5 million of remaining performance obligations, which is comprised of product and services revenue not yet delivered. As of April 30, 2019, the Company expects to recognize approximately 88% of its remaining performance obligations as revenue over the next 24 months and the remainder thereafter.

4. Fair Value Measurements

The Company measures financial assets and liabilities that are measured at fair value on a recurring basis at each reporting period using a fair value hierarchy that prioritizes the use of observable inputs and minimizes the use of unobservable inputs when measuring fair value. A financial instrument's classification within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

The following table summarizes assets that are measured at fair value on a recurring basis as of April 30, 2019 (in thousands):

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Financial Assets:				
Cash and cash equivalents:				
Money market funds	\$ 261,864	\$ -	\$ -	\$ 261,864

Money market funds consist of cash equivalents with remaining maturities of three months or less at the date of purchase. The Company uses quoted prices in active markets for identical assets to determine the fair value of its Level 1 investments in money market funds. There were no financial instruments measured at fair value on a recurring basis as of April 30, 2018.

5. Balance Sheet Components

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following (in thousands):

	<u>As of April 30,</u>	
	<u>2019</u>	<u>2018</u>
Prepaid hosting costs	\$ 12,006	\$ 7,834
Deposits	1,268	582
Prepaid software subscription costs	4,326	2,483
Deferred stock-based compensation expense	784	496
Prepaid value added taxes	4,239	113
Other	8,249	3,753
Total prepaid expenses and other current assets	<u>\$ 30,872</u>	<u>\$ 15,261</u>

Property and Equipment, Net

The cost and accumulated depreciation of property and equipment were as follows (in thousands):

	<u>Useful Life (in years)</u>	<u>As of April 30,</u>	
		<u>2019</u>	<u>2018</u>
Leasehold improvements	Lesser of estimated useful life or remaining lease term	\$ 6,176	\$ 5,725
Computer hardware and software	3	\$ 5,393	\$ 5,132
Furniture and fixtures	3-5	\$ 3,094	\$ 2,443
Assets under construction		\$ 1,243	-
Total property and equipment		\$ 15,906	\$ 13,300
Less: accumulated depreciation		(10,458)	(8,764)
Property and equipment, net		<u>\$ 5,448</u>	<u>\$ 4,536</u>

Depreciation expense related to property and equipment was \$ 2.7 million, \$3.0 million and \$2.6 million for the years ended April 30, 2019 , 2018 and 2017, respectively.

Intangible Assets, Net

Intangible assets consisted of the following as of April 30, 2019 (in thousands):

	Gross Fair Value	Accumulated Amortization	Net Book Value	Weighted Average Remaining Useful Life (in years)
Developed technology	\$ 12,130	\$ 5,646	\$ 6,484	2.5
Customer relationships	398	268	130	2.2
Trade names	972	863	109	2.2
Total	<u>\$ 13,500</u>	<u>\$ 6,777</u>	<u>\$ 6,723</u>	
Foreign currency translation adjustment			-	
Total			<u><u>\$ 6,723</u></u>	

Intangible assets consisted of the following as of April 30, 2018 (in thousands):

	Gross Fair Value	Accumulated Amortization	Net Book Value	Weighted Average Remaining Useful Life (in years)
Developed technology	\$ 10,791	\$ 2,838	\$ 7,953	3.4
Trade names	957	809	148	3.0
Customer relationships	398	175	223	2.9
Total	<u>\$ 12,146</u>	<u>\$ 3,822</u>	<u>\$ 8,324</u>	
Foreign currency translation adjustment			(27)	
Total			<u><u>\$ 8,297</u></u>	

Amortization expense for the intangible assets for the years ended April 30, 2019, 2018 and 2017 was as follows (in thousands):

	Year Ended April 30,		
	2019	2018	2017
Cost of revenue—cost of license—self-managed	\$ 387	\$ 387	\$ 55
Cost of revenue—cost of subscription—self-managed and SaaS	2,421	1,521	404
Sales and marketing	148	119	70
Total amortization of acquired intangible assets	<u>\$ 2,956</u>	<u>\$ 2,027</u>	<u>\$ 529</u>

The expected future amortization expense related to the intangible assets as of April 30, 2019 was as follows (in thousands, by fiscal year):

2020	\$ 2,649
2021	2,616
2022	1,397
2023	61
2024	-
Total	<u><u>\$ 6,723</u></u>

Goodwill

The following table represents the changes to goodwill (in thousands):

	Carrying Amount
Balance as of April 30, 2017	\$ 12,057
Addition from acquisition	6,810
Foreign currency translation adjustment	315
Balance as of April 30, 2018	<u>\$ 19,182</u>
Addition from acquisition	1,038
Foreign currency translation adjustment	(374)
Balance of April 30, 2019	<u><u>\$ 19,846</u></u>

There was no impairment of goodwill during the years ended April 30, 2019, 2018 and 2017.

Accrued Expenses and Other Liabilities

Accrued expenses and other liabilities consisted of the following (in thousands):

	As of April 30,	
	2019	2018
Accrued expenses	\$ 8,124	\$ 3,279
Income taxes payable	149	2,357
Value added taxes payable	4,236	2,536
Liability for early exercise of unvested stock options	-	1,566
Share repurchase liability	1,612	449
Other	4,619	1,629
Total accrued expenses and other liabilities	<u>\$ 18,740</u>	<u>\$ 11,816</u>

Accrued Compensation and Benefits

Accrued compensation and benefits consisted of the following (in thousands):

	As of April 30,	
	2019	2018
Accrued vacation	\$ 9,655	\$ 6,570
Accrued commissions	6,510	5,913
Post-combination compensation liability	655	655
Other	5,327	2,053
Total accrued compensation and benefits	<u>\$ 22,147</u>	<u>\$ 15,191</u>

Contract Balances

The timing of revenue recognition may differ from the timing of invoicing to customers. For annual contracts, the Company typically invoices customers at the time of entering into the contract. For multi-year agreements, the Company generally invoices customers on an annual basis prior to each anniversary of the contract start date. The Company records unbilled accounts receivable related to revenue recognized in excess of amounts invoiced as the Company has an unconditional right to invoice and receive payment in the future related to those fulfilled obligations. Contract liabilities consist of deferred revenue which is recognized over the contractual period.

The following table provides information about unbilled accounts receivable, deferred contract acquisition costs, and deferred revenue from contracts with customers (in thousands):

	As of April 30,	
	2019	2018
Unbilled accounts receivable, included in accounts receivable, net	\$ 1,710	\$ 1,139
Deferred contract acquisition costs	\$ 26,150	\$ 18,079
Deferred revenue	\$ 170,666	\$ 102,561

Significant changes in the unbilled accounts receivable and the deferred revenue balances were as follows (in thousands):

	Unbilled Accounts Receivable		
	Year Ended April 30,		
	2019	2018	2017
Beginning balance	\$ 1,139	\$ 1,114	\$ 556
Amounts transferred to accounts receivable from unbilled accounts receivable presented at the beginning of the period	(1,139)	(1,114)	(556)
Revenue recognized during the period in excess of invoices issued	1,710	1,139	1,114
Ending balance	\$ 1,710	\$ 1,139	\$ 1,114

	Deferred Revenue		
	Year Ended April 30,		
	2019	2018	2017
Beginning balance	\$ 102,561	\$ 54,152	\$ 27,222
Additions through acquisition	-	859	528
Increases due to invoices issued, excluding amounts recognized as revenue during the period	163,963	96,944	51,862
Revenue recognized that was included in deferred revenue balance at beginning of period	(95,858)	(49,394)	(25,460)
Ending balance	\$ 170,666	\$ 102,561	\$ 54,152

Deferred Contract Acquisition Costs

Deferred contract acquisition costs represent costs that are incremental to the acquisition of customer contracts, which consist mainly of sales commissions and associated payroll taxes. The Company determines whether costs should be deferred based on sales compensation plans, if the commissions are in fact incremental and would not have occurred absent the customer contract. Sales commissions for renewal of a contract are considered commensurate with the commissions paid for the acquisition of the initial contract given there is no substantive difference in commission rates.

Deferred contract acquisition costs are expensed commensurate with the recognition of revenue as performance obligations are satisfied. These performance obligations primarily relate to the Company's subscription contracts which are typically sold for a one to three-year duration. Amortization of deferred contract acquisition costs is recognized in sales and marketing expense in the consolidated statement of operations. The Company periodically reviews the carrying amount of deferred contract acquisition costs to determine whether events or changes in circumstances have occurred that could impact the period of benefit of these deferred costs. The Company did not recognize any impairment of deferred contract acquisition costs during the years ended April 30, 2019, 2018 and 2017.

The following table summarizes the activity of the deferred contract acquisition costs (in thousands):

	Year Ended April 30,		
	2019	2018	2017
Beginning balance	\$ 18,079	\$ 10,135	\$ 6,262
Capitalization of contract acquisition costs	29,445	20,675	12,290
Amortization of deferred contract acquisition costs	(21,374)	(12,731)	(8,417)
Ending balance	\$ 26,150	\$ 18,079	\$ 10,135
Deferred contract acquisition costs, current	17,215	12,125	7,288
Deferred contract acquisition costs, non- current	8,935	5,954	2,847
Total deferred contract acquisition costs	\$ 26,150	\$ 18,079	\$ 10,135

6. Business Combinations

Fiscal 2019 Acquisition

Lambda Lab Corp.

In July 2018, the Company acquired 100% of the share capital of Lambda Lab Corp. (“Lambda Lab”), a privately held company headquartered in the United States. Lambda Lab was a code search company whose product was built on top of Elasticsearch and focused on building semantic understanding of code, exposed through powerful search features. Purchase consideration for the acquisition was \$2.0 million in cash. Excluded from the purchase consideration are 134,474 ordinary shares of \$2.2 million issued to certain employees of Lambda Lab. These shares are subject to repurchase until the two year anniversary of the close of the acquisition and are contingent upon these employees’ continued employment with the Company. The repurchase option lapses as to fifty percent of the ordinary shares on each anniversary of the close of the acquisition. The Company will record stock-based compensation expense of \$2.2 million over the two year vesting term. During the year ended April 30, 2019, the Company recorded stock-based compensation expense of \$1.4 million. As of April 30, 2019, a share repurchase liability, included in accrued expenses and other accrued liabilities and in other liabilities, non-current, was \$1.1 million and \$1.1 million, respectively. As of April 30, 2019, the deferred stock-based compensation expense included in prepaid expenses and other current assets was \$0.8 million and in other assets was \$0.1 million.

The following table summarizes the components of the Lambda Lab purchase price and the preliminary allocation of the purchase price at fair value (in thousands):

Cash paid	\$ 1,997
Developed technology	\$ 1,339
Trade name	15
Goodwill	1,038
Net liabilities acquired	(395)
Total purchase consideration	\$ 1,997

The amount allocated to developed technology was \$1.3 million. The fair value assigned to developed technology was determined primarily using the multi-period excess earnings model, which estimates the revenue and cash flows derived from the asset and then deducts portions of the cash flow that can be attributed to supporting assets otherwise recognized. The acquired developed technology is being amortized on a straight-line basis over four years, which approximates the pattern in which these assets are utilized.

Goodwill of \$1.0 million, none of which is deductible for tax purposes, was recorded in connection with the Lambda Lab acquisition, which is primarily attributed to synergies arising from the acquisition and the value of the acquired workforce.

Acquisition costs of \$0.2 million were charged to general and administrative expenses in the consolidated statement of operations for the year ended April 30, 2019.

Lambda Lab has been included in the Company’s consolidated results of operations since the acquisition date. Lambda Lab’s results were immaterial to the Company’s consolidated results for the year ended April 30, 2019.

Fiscal 2018 Acquisitions

Swifttype, Inc.

In October 2017, the Company acquired 100% of the share capital of Swifttype, Inc. (“Swifttype”), a privately held company headquartered in the United States. Swifttype provided enterprise search and search engine platforms for organizations, websites and applications. The acquisition has been accounted for as a business combination and the Company has included the financial results of Swifttype in the consolidated financial statements from the date of the acquisition.

The following table summarizes the components of the Swifttype purchase price and the allocation of the purchase price at fair value (in thousands):

Cash paid	\$	1,724
Ordinary shares		8,392
Total consideration	\$	10,116
Developed technology	\$	5,392
Trade name		97
Customer relationships		158
Goodwill		1,885
Net assets acquired		2,584
Total purchase consideration	\$	10,116

Included in net assets acquired was \$1.1 million of cash acquired.

Fifteen percent of the equity consideration, or 109,842 ordinary shares issued to the former shareholders, was subject to repurchase on the fifteen-month anniversary of the close of the acquisition for any indemnity claims. No indemnity claims were made by the Company during the indemnification period that expired in January 2019.

The amounts allocated to developed technology, customer relationships and trade name (the acquired intangible assets) total \$5.6 million. The fair value assigned to developed technology was determined using the multi-period excess earnings model, which estimates the revenue and cash flows derived from the asset and then deducts portions of the cash flow that can be attributed to supporting assets otherwise recognized. The fair value of the Company’s customer relationships was determined using the income approach, which discounts expected future cash flows to present value using estimates and assumptions determined by management. The fair value assigned to trade name was determined using the relief from royalty method, where the owner of the asset realizes a benefit from owning the intangible asset rather than paying a rental or royalty rate for use of the asset. The acquired identifiable intangible assets are being amortized on a straight-line basis over four years, which approximates the pattern in which these assets are utilized.

The following table sets forth the components of identifiable intangible assets acquired and their estimated useful lives as of the date of acquisition (in thousands):

	Fair Value	Useful life (in years)
Developed technology	\$ 5,392	4
Customer relationships	158	4
Trade name	97	4
Total identifiable intangible assets	\$ 5,647	

Goodwill of \$1.9 million, none of which is deductible for tax purposes, was recorded in connection with the Swifttype acquisition, which is primarily attributed to synergies arising from the acquisition and the value of the acquired workforce.

Acquisition costs of \$0.3 million were charged to general and administrative expenses in the consolidated statement of operations for the year ended April 30, 2018.

Opbeat, Inc.

In May 2017, the Company acquired 100% of the share capital of Opbeat, Inc. (“Opbeat”), a privately-held company headquartered in the United States. Opbeat was an APM company that helped developers find and fix issues faster by monitoring the end-to-end performance impact of changes to the application code.

The following table summarizes the components of the Opbeat purchase price and the allocation of the purchase price at fair value (in thousands):

Cash paid	\$	3,123
Ordinary shares		4,019
Total consideration	\$	7,142
Developed technology	\$	1,846
Goodwill		4,925
Net assets acquired		371
Total purchase consideration	\$	7,142

Included in net assets acquired was \$0.1 million of cash acquired.

Fifteen percent of the equity consideration, or 73,349 ordinary shares, was subject to repurchase on the fifteen-month anniversary of the close of the acquisition for any indemnity claims. No indemnity claims were made by the Company during the indemnification period that expired in August 2018.

The amount allocated to developed technology was \$1.8 million. The fair value assigned to developed technology was determined primarily using the multi-period excess earnings model, which estimates the revenue and cash flows derived from the asset and then deducts portions of the cash flow that can be attributed to supporting assets otherwise recognized. The acquired developed technology is being amortized on a straight-line basis over four years, which approximates the pattern in which these assets are utilized.

The following table sets forth the components of the identifiable intangible asset acquired and its estimated useful life as of the date of acquisition (in thousands):

	Fair Value		Useful life (in years)
Developed technology	\$	1,846	4

Goodwill of \$4.9 million, none of which is deductible for tax purposes, was recorded in connection with the Opbeat acquisition, which is primarily attributed to synergies arising from the acquisition and the value of the acquired workforce.

Acquisition costs of \$0.3 million were charged to general and administrative expenses in the consolidated statement of operations for the year ended April 30, 2018.

Founders consideration holdback

Founders of Opbeat will receive an aggregate cash payment of \$0.7 million at each of the one and two-year anniversary of the close of the acquisition. These payments are contingent upon continued employment with the Company and therefore have been excluded from the purchase consideration. As of April 30, 2018, the Company had accrued for \$0.7 million of the contingent cash payment which is included in accrued expenses and other accrued liabilities on the balance sheet. Excluded from the purchase consideration are 93,052 ordinary shares of \$0.9 million issued to the founders of Opbeat as these are subject to repurchase until the two year anniversary of the close of the acquisition and are contingent upon these founders’ continued employment with the Company. The repurchase option lapses as to fifty percent of the ordinary shares on each anniversary of the close of the acquisition. The Company will record stock-based compensation expense of \$0.9 million over the two-year vesting term. For the years ended April 30, 2019 and 2018, the Company recorded stock-based compensation expense of \$0.5 million and \$0.4 million, respectively. As of April 30, 2019, a share repurchase liability, included in accrued expenses and other accrued liabilities, was \$0.5 million, respectively. As of April 30, 2019, the deferred stock-based compensation expense, included within prepaid expenses and other current assets, was less than \$0.1 million.

Fiscal 2017 Acquisition

Prelert, Inc.

In September 2016, the Company acquired 100% of the share capital of Prelert, Inc. (“Prelert”), a privately-held company headquartered in the United States. Prelert provided software for machine learning through its subscription offerings. Prelert’s products have been integrated into the Company’s existing subscription offerings. The acquisition has been accounted for as a business combination and the Company has included the financial results of Prelert in the consolidated financial statements from the date of the acquisition.

The following table summarizes the components of the Prelert purchase price and the allocation of the purchase price at fair value (in thousands):

Cash paid	\$	5,000
Ordinary shares		5,708
Total consideration	\$	10,708
Developed technology	\$	411
Trade name		108
Customer relationships		93
IPR&D		1,525
Goodwill		7,554
Net assets acquired		1,017
Total purchase consideration	\$	10,708

Included in net assets acquired was \$0.5 million of cash acquired.

The amounts allocated to developed technology, customer relationships and trade name (the acquired intangible assets) total \$0.6 million. The fair value assigned to developed technology was determined primarily using the cost approach, which estimates the cost to reproduce the asset, adjusted for loss due to functional and economic obsolescence. The fair value of the Company’s customer relationships was determined primarily using the income approach, which discounts expected future cash flows to present value using estimates and assumptions determined by management. The fair value assigned to trade name was determined using the relief from royalty method, where the owner of the asset realizes a benefit from owning the intangible asset rather than paying a rental or royalty rate for use of the asset. The acquired identifiable intangible assets are being amortized on a straight-line basis over four to five years, which approximates the pattern in which these assets are expected to be utilized. Additionally, \$1.5 million of the purchase consideration was allocated to IPR&D relating to Prelert’s Elasticsearch interface that had not been fully built at the time of the acquisition. In May 2017, after completion of additional developmental effort around the machine learning feature, the IPR&D was transferred to developed technology and is being amortized over a period of five years, which approximates the pattern in which this asset is expected to be utilized.

The following table sets forth the components of identifiable intangible assets acquired and their estimated useful lives as of the date of acquisition (in thousands):

	Fair Value	Useful life (in years)
Developed technology	\$ 411	5
Customer relationships	93	4
Trade name	108	4
IPR&D	1,525	N/A
Total identifiable intangible assets	\$ 2,137	

Goodwill of \$7.6 million, none of which is deductible for tax purposes, was recorded in connection with the Prelert acquisition, which is primarily attributed to synergies arising from the acquisition and the value of the acquired workforce.

Twelve and one-half percent of the equity consideration, or 98,425 ordinary shares, was held back for customary indemnification matters in accordance with the acquisition agreement. No indemnity claims were made by the Company during the eighteen-month indemnification period that expired in March 2018.

Acquisition costs of \$0.2 million were charged to general and administrative expenses in the consolidated statement of operations for the year ended April 30, 2017.

Prelert has been included in the Company's consolidated results of operations since the acquisition date. Prelert's results were immaterial to the Company's consolidated results for the year ended April 30, 2017.

Fair Value of Ordinary Shares Used for Purchase Consideration

The fair value of the ordinary shares issued as part of the consideration paid for the above acquisitions was determined by the Company's board of directors based on numerous subjective and objective factors, including, but not limited to, a contemporaneous valuation performed by an independent third-party valuation firm. Because the Company was not publicly traded at the time the acquisitions were completed, the Company's board of directors considered valuations of comparable companies, sales of redeemable convertible preference shares, sales of ordinary shares to unrelated third parties, operating and financial performance, the lack of liquidity of the Company's ordinary shares, and general and industry-specific economic outlook, among other factors.

7. Commitments and Contingencies

Operating Leases

The Company has entered into non-cancelable operating leases, primarily related to rental of office space, expiring through 2025. The Company recognizes operating lease costs on a straight-line basis over the term of the agreement, taking into account adjustments for market provisions such as free or escalating base monthly rental payments or deferred payment terms such as rent holidays that defer the commencement date of the required payments. The Company may receive renewal or expansion options, leasehold improvement allowances or other incentives on certain lease agreements.

Hosting Infrastructure Commitments

In December 2017, the Company entered into non-cancelable capacity commitments with a hosting infrastructure vendor for a total minimum commitment of \$12.5 million in each of the subsequent three years. In December 2018, the agreement was amended to establish total minimum commitments of \$17.0 million for calendar year 2019, \$20.0 million for calendar year 2020 and \$23.0 million for calendar year 2021. As of April 30, 2019, the Company had paid \$15.7 million toward the calendar year 2019 commitment.

Other Commitments

Other commitments consist of a loan issued to finance the Company's tenant improvements. The current portion of the loan is included within other accrued liabilities and the non-current portion is included within other liabilities, non-current on the consolidated balance sheet. The term of the arrangement is 60 months, terminating in March 2020. The Company repaid \$0.1 million of the loan, including both principal and interest, during the year ended April 30, 2019. The outstanding balance of the loan, including interest, was \$0.1 million as of April 30, 2019.

Future minimum lease payments under non-cancelable office leases, hosting infrastructure commitments, and other commitments as of April 30, 2019 were as follows (in thousands):

Years Ending April 30,	Minimum Lease Payments	Hosting Infrastructure Commitments	Other Commitments	Total
2020	6,455	7,962	90	14,507
2021	5,494	21,000	-	26,494
2022	5,106	15,333	-	20,439
2023	5,217	-	-	5,217
2024	4,602	-	-	4,602
Thereafter	7,020	-	-	7,020
Total	\$ 33,894	\$ 44,295	\$ 90	\$ 78,279

Rent expense related to operating leases was \$7.3 million, \$6.5 million and \$5.4 million for the years ended April 30, 2019, 2018 and 2017, respectively.

Letters of Credit

The Company had a total of \$2.3 million in letters of credit outstanding in favor of certain landlords for office space as of April 30, 2019.

Legal Matters

From time to time, the Company has become involved in claims and other legal matters arising in the ordinary course of business. The Company investigates these claims as they arise. Although claims are inherently unpredictable, the Company is currently not aware of any matters that, if determined adversely to the Company, would individually or taken together have a material adverse effect on its business, results of operations, financial position or cash flows.

The Company accrues estimates for resolution of legal and other contingencies when losses are probable and estimable.

Although the results of litigation and claims are inherently unpredictable, the Company believes that there was not at least a reasonable possibility that the Company had incurred a material loss with respect to such loss contingencies, as of April 30, 2019, therefore, the Company has not recorded an accrual for such contingencies.

Indemnification

The Company enters into indemnification provisions under its agreements with other companies in the ordinary course of business, including business partners, landlords, contractors and parties performing its research and development. Pursuant to these arrangements, the Company agrees to indemnify, hold harmless, and reimburse the indemnified party for certain losses suffered or incurred by the indemnified party as a result of the Company's activities. The terms of these indemnification agreements are generally perpetual. The maximum potential amount of future payments the Company could be required to make under these agreements is not determinable. The Company has never incurred costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, the Company believes the fair value of these agreements is not material. The Company maintains commercial general liability insurance and product liability insurance to offset certain of the Company's potential liabilities under these indemnification provisions.

In addition, the Company indemnifies its officers, directors and certain key employees while they are serving in good faith in their respective capacities. To date, there have been no claims under any indemnification provisions.

8. Related Parties

In November 2016, the Company's board of directors approved a tender offer which allowed the Company's employees and founders to sell ordinary shares to a third-party investment fund. This investment fund purchased 3,347,193 ordinary shares from participating founders and certain employees for a total purchase price of \$44.9 million.

Since the purchasing investment fund is an entity affiliated with a holder of economic interest in the Company and the fund acquired shares from employees and founders at a price in excess of fair value of such shares, the amount paid in excess of the fair value of ordinary shares at the time of the tender offer was recorded as stock-based compensation expense.

Total stock-based compensation expense related to the tender offer included in the consolidated statement of operations for the year ended April 30, 2017 was as follows (in thousands):

Cost of revenue—cost of subscription—self-managed and SaaS	\$	62
Cost of revenue—professional services		10
Research and development		1,440
Sales and marketing		1,207
General and administrative		11,038
Total stock-based compensation expense	\$	<u>13,757</u>

There were no other material related party transactions in the years ended April 30, 2019, 2018 and 2017. There were no amounts payable to or amounts receivable from related parties as of April 30, 2019 and 2018.

9. Redeemable Convertible Preference Shares

The Company previously issued redeemable convertible preference shares in one or more series, each with such designations, rights, qualifications, limitations, and restrictions. Immediately prior to the closing of the IPO, all shares of redeemable convertible preference shares then outstanding were automatically converted into an equivalent number of ordinary shares on a one-to-one basis and their carrying amount reclassified into shareholders' equity (deficit). As of April 30, 2019, there were no redeemable convertible preference shares issued and outstanding.

10. Ordinary Shares

The Company's articles of association designated and authorized the Company to issue 72 million ordinary shares with a par value of €0.001 per share up until immediately prior to the completion of the IPO at which time the authorized ordinary shares increased to 165 million. In addition, the par value per ordinary share was changed from €0.001 per share to €0.01 per share as required by Dutch law at the time of the Company's conversion into a Dutch public limited company (*naamloze vennootschap*).

Each holder of ordinary shares has the right to one vote per ordinary share. The holders of ordinary shares are also entitled to receive dividends whenever funds are legally available and when declared by the board of directors, subject to the prior rights of holders of all classes of shares outstanding having priority rights to dividends. No dividends have been declared by the Company's board of directors from inception through the year ended April 30, 2019.

Ordinary Shares Reserved for Issuance

The Company had reserved shares of ordinary shares for issuance as follows:

	As of April 30,	
	2019	2018
Conversion of Series A redeemable preference shares	-	10,228,680
Conversion of Series B redeemable preference shares	-	6,071,373
Conversion of Series C redeemable preference shares	-	5,820,722
Conversion of Series C-1 redeemable preference shares	-	3,273,459
Conversion of Series D redeemable preference shares	-	3,545,232
Options issued and outstanding	22,866,438	22,237,484
RSUs issued and outstanding	740,467	-
Remaining shares available for future issuance under the 2012 Plan	9,649,123	2,061,282
Total ordinary shares reserved	33,256,028	53,238,232

Early Exercised Options

Certain ordinary share option holders have the right to exercise unvested options, subject to a repurchase right held by the Company at the original exercise price, in the event of voluntary or involuntary termination of employment of the shareholder. As of April 30, 2019 and 2018, there were zero and 148,630 shares, respectively, of unvested ordinary shares that had been early exercised and were subject to repurchase. The proceeds related to unvested ordinary shares are recorded as liabilities until the stock vests, at which point they are transferred to additional paid-in capital.

Shares issued for the early exercise of options are included in issued and outstanding shares as they are legally issued and outstanding.

11. Equity Incentive Plans

In September 2012, the Company's board of directors adopted and the Company's shareholders approved the 2012 Stock Option Plan, Amended and Restated Stock Option Plan, which was amended and restated in September 2018 (as amended and restated, the "2012 Plan"). Under the 2012 Plan, the board of directors may grant stock options and other equity-based awards to eligible employees, directors, and consultants to attract and retain the best available personnel for positions of substantial responsibility, to provide additional incentive to employees, directors and consultants, and to promote the success of the Company's business. The Company's board of directors or compensation committee determine the vesting schedule for all equity-based awards. Stock options granted to new employees under the 2012 Plan generally vest over four years with 25% of the option shares vesting one year from the vesting commencement date and then ratably over the

following 36 months subject to the employees continued service to the Company. Refresh grants to existing employees generally vest monthly over four years subject to the employees continued service to the Company. Equity settled RSUs granted to new employees generally vest over a period of four years with 25% vesting on the one-year anniversary of the vesting start date and the remainder vesting semi-annually over the next three years, subject to the grantee's continued service to the Company. Equity settled RSUs granted to existing employees generally vest semi-annually over a period of four years, subject to the grantee's continued service to the Company. The Company's compensation committee may explicitly deviate from the general vesting schedules in its approval of an equity-based award, as it may deem appropriate. Options expire ten years after the date of grant. During the year ended April 30, 2018, the Company started issuing RSAs and RSUs under the 2012 Plan. Stock options, RSAs and RSUs that are canceled under certain conditions shall become available for future grant or sale under the 2012 Plan unless the 2012 Plan is terminated. The equity awards available for grant for the periods presented were as follows:

	Year Ended April 30,	
	2019	2018
Available at beginning of fiscal year	2,061,282	4,989,092
Awards authorized	12,000,000	7,500,000
Options granted	(4,722,404)	(11,264,179)
Options cancelled	976,130	1,137,867
Options repurchased	43,630	-
RSUs granted	(732,701)	(57,000)
RSAs granted	-	(244,498)
RSUs cancelled	23,186	-
Available at end of period	<u>9,649,123</u>	<u>2,061,282</u>

Stock Options

The following table summarizes stock option activity for the 2012 Plan (in thousands, except share and per share data):

	Options Outstanding			
	Number of Options Outstanding	Weighted- Average Exercise Price	Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Balance as of April 30, 2017	12,928,320	\$ 5.80	7.65	\$ 45,303
Stock options granted	11,264,179	\$ 11.71		
Stock options exercised	(817,148)	\$ 4.78		
Stock options cancelled	(1,137,867)	\$ 9.39		
Balance as of April 30, 2018	<u>22,237,484</u>	\$ 8.65	8.31	\$ 98,365
Stock options granted	4,722,404	\$ 23.27		
Stock options exercised	(3,117,320)	\$ 5.95		
Stock options cancelled	(976,130)	\$ 11.78		
Balance as of April 30, 2019	<u>22,866,438</u>	\$ 11.90	7.98	\$ 1,684,106
Exercisable as of April 30, 2019	<u>9,767,010</u>	\$ 7.67	7.07	\$ 760,696

Options exercisable include 724,600 options that were unvested as of April 30, 2019.

Aggregate intrinsic value represents the difference between the exercise price of the options to purchase ordinary shares and the fair value of the Company's ordinary shares. The weighted-average grant-date fair value per share of options granted was \$10.22 and \$5.09 for the years ended April 30, 2019 and 2018, respectively.

As of April 30, 2019, the Company had unrecognized stock-based compensation expense of \$81.3 million related to unvested stock options that the Company expects to recognize over a weighted-average period of 2.84 years.

RSAs

In October 2017, in connection with the acquisition of Swiftype, the Company granted RSAs to certain employees with both service-based and performance-based vesting conditions. The performance-based vesting condition is satisfied on the earlier of: (1) a change of control transaction or (2) the expiration of the lock-up period after the effective date of the IPO, subject to continued service through the end of the lock-up period. The service-based vesting condition is generally satisfied based on one of two vesting schedules: (i) vesting of 50% of the shares upon the closing of the Swiftype acquisition, 25% of the shares on the one-year anniversary of the closing, and 25% of the shares on the two-year anniversary of the closing, or (ii) vesting of 50% of the shares on the one-year anniversary of the closing of the Swiftype acquisition and 50% of the shares on the two-year anniversary of the closing.

The performance-based vesting condition related to these awards was deemed probable upon the effectiveness of the Company's IPO on October 8, 2018. On that date, the Company recorded a cumulative stock-based compensation expense of \$1.7 million using the accelerated attribution method for the RSAs that had satisfied the applicable service-based vesting condition on that date with the remaining expense to be recognized over the remaining requisite service period. Total stock-based compensation expense related to the RSAs for the year ended April 30, 2019 was \$2.6 million.

The issuance of shares underlying the RSAs was contingent upon payment of the subscription price by the employees. As of April 30, 2018, the subscription price had not been paid and therefore the RSAs remained outstanding and the shares remained unissued. During the year ended April 30, 2019, the subscription price for these awards was paid and the underlying ordinary shares were issued. Ordinary shares issued upon payment of the subscription price are subject to repurchase by the Company until the underlying performance-based and service-based vesting conditions are satisfied.

The following table summarizes RSA activity for the 2012 Plan:

	Number of Awards	Weighted- Average Grant Date Fair Value
Outstanding at April 30, 2017	-	\$ -
RSAs granted	244,498	\$ 11.46
Outstanding at April 30, 2018	244,498	\$ 11.46
RSAs subscribed	(244,498)	\$ 11.46
Outstanding at April 30, 2019	-	-

RSUs

During the year ended April 30, 2019, the Company granted 732,701 RSUs at a weighted average grant date fair value of \$64.55 per unit, including 120,299 RSUs at a weighted average grant date fair value of \$24.53 per unit that are cash settled. Cash settled RSUs will generally be paid as a cash bonus equal to the difference between the grant date fair value of the applicable RSU award and the 45-day weighted average closing price of ordinary shares subject to the RSU award at the time of vesting and settlement. The cash settled RSUs vest upon the satisfaction of both service-based and performance-based vesting conditions. The service-based vesting condition is generally over four years with 25% vesting on the one-year anniversary of the award and the remainder vesting quarterly over the next 36 months, subject to the grantee's continued service to the Company. The performance-based vesting condition is defined as (i) a change in control where the consideration paid to the Company's equity security holders is cash, publicly traded stock, or a combination of both, or (ii) the expiration of any lock-up period of the IPO, subject in each instance to the grantee's continued service through such date. As a result of the Company's IPO, the performance-based vesting condition was deemed probable and the Company recorded cumulative stock-based compensation expense of \$0.8 million related to the cash settled RSUs in October 2018. As of April 30, 2019, the Company had a liability of \$1.5 million related to the cash settled RSUs recorded in accrued compensation and benefits on the consolidated balance sheet.

Stock-based compensation expense related to RSUs for the year ended April 30, 2019 was \$7.1 million. As of April 30, 2019, the Company had unrecognized stock-based compensation expense of \$39.5 million related to equity settled RSUs that the Company expects to recognize over a weighted-average period of 3.65 years.

The following table summarizes RSU activity for the 2012 Plan:

	Number of Awards	Weighted- Average Grant Date Fair Value
Outstanding and unvested at April 30, 2017	-	\$ -
RSUs granted	57,000	\$ 13.07
Outstanding and unvested at April 30, 2018	57,000	\$ 13.07
RSUs granted	732,701	\$ 64.55
RSUs released	(26,048)	\$ 14.84
RSUs cancelled	(23,186)	\$ 59.93
Outstanding and unvested at April 30, 2019	740,467	\$ 62.48

Determination of Fair Value

The determination of the fair value of stock-based options on the date of grant using an option pricing model is affected by the fair value of the Company's ordinary shares, as well as assumptions regarding a number of complex and subjective variables. The Company uses the Black-Scholes option pricing model to calculate the fair value of stock options, which requires the use of assumptions including actual and projected employee stock option exercise behaviors, expected price volatility of the Company's ordinary shares, the risk-free interest rate and expected dividends. Each of these inputs is subjective and generally requires significant judgment to determine.

Fair Value of Ordinary Shares: Prior to the IPO, the fair value of ordinary shares underlying the stock awards had historically been determined by the board of directors, with input from the Company's management. The board of directors previously determined the fair value of the ordinary shares at the time of grant of the awards by considering a number of objective and subjective factors, including valuations of comparable companies, sales of redeemable convertible preference shares, sales of ordinary shares to unrelated third parties, operating and financial performance, the lack of liquidity of the Company's ordinary shares, and general and industry-specific economic outlook. Subsequent to the IPO, the fair value of the underlying ordinary shares is determined by the closing price, on the date of the grant, of the Company's ordinary shares, which are traded publicly on the New York Stock Exchange.

Expected Term: The expected term represents the period that options are expected to be outstanding. For option grants that are considered to be "plain vanilla," the Company determines the expected term using the simplified method. The simplified method deems the term to be the average of the time-to-vesting and the contractual life of the options.

Expected Volatility: Since the Company has limited trading history of its ordinary shares, the expected volatility is derived from the average historical stock volatilities of several unrelated public companies within the Company's industry that the Company considers to be comparable to its own business over a period equivalent to the option's expected term.

Risk-Free Interest Rate: The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant for zero-coupon U.S. Treasury notes with maturities approximately equal to the option's expected term.

Dividend Rate: The expected dividend is assumed to be zero as the Company has never paid dividends and has no current plans to do so.

The Company's expected volatility and expected term involve management's best estimates, both of which impact the fair value of the option calculated under the Black-Scholes option pricing model and, ultimately, the expense that will be recognized over the life of the option.

The fair value of stock options granted was estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	Year Ended April 30,		
	2019	2018	2017
Expected term (in years)	6.02 - 6.08	6.02 - 6.08	6.02 - 6.08
Expected stock price volatility	40.5% - 46.7%	40.7% - 44.1%	40.4% - 43.5%
Risk-free interest rate	2.4% - 3.1%	1.8% - 2.6%	1.3% - 2.2%
Dividend yield	0%	0%	0%

Stock-Based Compensation Expense

Total stock-based compensation expense recognized in the Company's consolidated statements of operations was as follows (in thousands):

	Year Ended April 30,		
	2019	2018	2017
Cost of revenue—cost of subscription—self-managed and SaaS	\$ 3,383	\$ 699	\$ 268
Cost of revenue—professional services	1,208	329	98
Research and development	16,100	5,045	3,302
Sales and marketing	11,996	3,560	3,420
General and administrative	7,255	3,109	11,798
Total stock-based compensation expense	<u>\$ 39,942</u>	<u>\$ 12,742</u>	<u>\$ 18,886</u>

Total stock-based compensation expense for the year ended April 30, 2019 and April 30, 2018 includes a charge of \$4.4 million and \$0.4 million, respectively, related to an expense arising from business combinations. Total stock-based compensation expense for the year ended April 30, 2017 includes a charge related to a secondary sale of \$13.8 million. Refer to Note 8—*Related Parties*.

12. Net Loss Per Share Attributable to Ordinary Shareholders

The following table sets forth the computation of basic and diluted net loss per share attributable to ordinary shareholders (in thousands, except share and per share data):

	Year Ended April 30,		
	2019	2018	2017
Numerator:			
Net loss	\$ (102,303)	\$ (52,727)	\$ (51,968)
Denominator:			
Weighted-average shares used in computing net loss per share attributable to ordinary shareholders, basic and diluted	54,893,365	32,033,792	30,359,419
Net loss per share attributable to ordinary shareholders, basic and diluted	<u>\$ (1.86)</u>	<u>\$ (1.65)</u>	<u>\$ (1.71)</u>

The following outstanding potentially dilutive ordinary shares were excluded from the computation of diluted net loss per share attributable to ordinary shareholders for the periods presented because the impact of including them would have been antidilutive:

	Year Ended April 30,		
	2019	2018	2017
Redeemable convertible preference shares	-	28,939,466	28,939,466
Stock options	22,866,438	22,237,484	12,928,320
RSUs	595,503	-	-
Contingently issuable shares	-	-	98,425
Shares subject to repurchase	254,350	276,243	-
Early exercised stock options	-	148,630	81,250
Total	<u>23,716,291</u>	<u>51,601,823</u>	<u>42,047,461</u>

The table above does not include 244,498 RSAs outstanding as of April 30, 2018, as these RSAs were subject to a performance-based vesting condition that was not considered probable as of April 30, 2018. During the year ended April 30, 2019, the subscription price for these awards was paid and the underlying ordinary shares were issued. As of April 30, 2019, 73,350 ordinary shares issued upon payment of the subscription price were subject to repurchase by the Company until the underlying service-based vesting conditions is satisfied.

13. Income Taxes

The Company is incorporated in the Netherlands but operates in various countries with differing tax laws and rates. The geographical breakdown of income (loss) before provision for income taxes is summarized as follows (in thousands):

	Year Ended April 30,		
	2019	2018	2017
Dutch	\$ (121,803)	\$ (58,810)	\$ (61,590)
Foreign	23,888	9,459	13,835
Loss before income taxes	\$ (97,915)	\$ (49,351)	\$ (47,755)

The components of the provision for income taxes were as follows (in thousands):

	Year Ended April 30,		
	2019	2018	2017
Current:			
Dutch	\$ -	\$ -	\$ -
Foreign	912	3,731	3,495
Total current tax expense	912	3,731	3,495
Deferred:			
Dutch	\$ (233)	\$ -	\$ -
Foreign	3,709	(355)	718
Total deferred tax expense	3,476	(355)	718
Total provision for income taxes	\$ 4,388	\$ 3,376	\$ 4,213

The Company's effective tax rate substantially differed from the Dutch statutory tax rate of 25% primarily due to the valuation allowance on the Dutch, U.S. and United Kingdom deferred tax assets in addition to a deferred tax asset revaluation as a result of enacted tax legislation in the Netherlands, offset by stock based compensation. A reconciliation of income taxes at the statutory income tax rate to the provision for income taxes included in the consolidated statement of operations is as follows (in thousands, except for rates):

	Year Ended April 30,					
	2019		2018		2017	
	Tax	Rate	Tax	Rate	Tax	Rate
Dutch statutory income tax	\$ (24,479)	25.0%	\$ (12,338)	25.0%	\$ (11,939)	25.0%
Foreign income taxed at different rates	(310)	0.3%	(670)	1.4%	484	(1.0)%
Stock-based compensation	(24,848)	25.3%	4,669	(9.4)%	4,241	(8.9)%
Credits	(2,161)	2.2%	(697)	1.4%	(504)	1.1%
Change in valuation allowance	43,071	(44.0)%	11,495	(23.3)%	11,226	(23.5)%
Deferred tax asset revaluation	11,883	(12.1)%	1,081	(2.2)%	-	-
Other	1,232	(1.2)%	(164)	0.3%	705	(1.5)%
Provision for income taxes	\$ 4,388	(4.5)%	\$ 3,376	(6.8)%	\$ 4,213	(8.8)%

Deferred Income Taxes

Deferred tax assets are recognized for the expected future tax consequences of temporary differences between the carrying amounts and the tax basis of assets and liabilities. Management assesses whether it is more likely than not that some portion or all of the deferred tax assets will be realized. Deferred tax assets are reduced by valuation allowance to the extent management believes it is not more likely than not to be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income. Management makes estimates and judgments about future taxable income based on assumptions that are consistent with the Company's plans and estimates.

Significant components of the Company's deferred tax assets are summarized as follows (in thousands):

	As of April 30,	
	2019	2018
Deferred tax assets:		
Accrued compensation	\$ 1,685	\$ 795
Net operating loss carryforward	84,194	47,331
Deferred revenue	-	367
Intangibles/assets	2,321	1,005
Stock-based compensation	4,089	1,013
Research and development credits	3,584	978
Other	1,875	519
Gross deferred tax assets	97,748	52,008
Less valuation allowance	(92,309)	(45,906)
Total deferred tax assets	5,439	6,102
Deferred tax liabilities:		
Deferred contract acquisition costs	(5,878)	(3,467)
Deferred revenue	(858)	-
Other	(674)	(984)
Gross deferred tax liabilities	(7,410)	(4,451)
Net deferred tax assets (liabilities)	\$ (1,971)	\$ 1,651

The valuation allowance for deferred tax assets as of April 30, 2019 and 2018 was \$92.3 million and \$45.9 million, respectively. As the Company has generated losses since inception in the Netherlands and California (United States) jurisdictions, management maintains a full valuation allowance against the net deferred tax assets in these jurisdictions. In addition, the United States and the United Kingdom jurisdictions are anticipated to have cumulative losses for the foreseeable future, and as such a valuation allowance has been established for these regions. The valuation allowance in the Netherlands, the United States and the United Kingdom jurisdictions increased by \$10.6 million, \$35.0 million and \$0.8 million, respectively, during the year ended April 30, 2019 and \$16.9 million, \$1.3 million and no valuation allowance, respectively, for the year ended April 30, 2018. The valuation allowance for Dutch deferred tax assets as of April 30, 2019 and 2018 was \$53.1 million and \$42.5 million, respectively, the valuation allowance for the United States deferred tax assets as of April 30, 2019 and 2018 was \$38.4 million and \$3.4 million, respectively, and the valuation allowance for the United Kingdom deferred tax assets as of April 30, 2019 was \$0.8 million and there was no valuation allowance as of April 30, 2018.

As of April 30, 2019, the Company had net operating loss ("NOL") carryforwards for Dutch, U.S. Federal and U.S. State income tax purposes of \$251.0 million, \$116.4 million and \$112.2 million, respectively, which begin to expire in the year ending April 30, 2022, April 30, 2029 and April 30, 2024, respectively. The Company also has research and development tax credit carryforwards for United States Federal, State and Canada, income tax purposes of \$1.9 million, \$1.3 million and \$0.4 million respectively, which begin to expire April 30, 2033, April 30, 2022 and April 30, 2039, respectively. The deferred tax assets associated with the NOL carryforwards and other tax attributes in the Netherlands, the United States, and the United Kingdom are subject to a full valuation allowance.

Uncertain Tax Positions

The calculation of the Company's tax obligations involves dealing with uncertainties in the application of complex tax laws and regulations. ASC 740, *Income Taxes*, provides that a tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, on the basis of the technical merits. The Company has assessed its income tax positions and recorded tax benefits for all years subject to examination, based upon the Company's evaluation of the facts, circumstances and information available at each period end.

Although the Company believes that it has adequately reserved for its uncertain tax positions, the Company can provide no assurance that the final tax outcome of these matters will not be materially different. As the Company expands, it will face increased complexity, and the Company's unrecognized tax benefits may increase in the future. The Company makes adjustments to its reserves when facts and circumstances change, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made.

The Company had unrecognized tax benefits of \$3.9 million as of April 30, 2019, of which none would impact the effective tax rate before consideration of any valuation allowance. The activity within the Company's unrecognized gross tax benefits is summarized as follows (in thousands):

	As of April 30,		
	2019	2018	2017
Balance as of beginning of year	\$ 2,019	\$ 1,196	\$ 584
Increase related to tax positions taken in prior periods	240	6	-
Increase related to tax positions taken in the current period	1611	817	612
Balance as of end of year	<u>\$ 3,870</u>	<u>\$ 2,019</u>	<u>\$ 1,196</u>

The Company's policy is to recognize penalties and interests accrued on any unrecognized tax benefits as a component of income tax expense. During the year ended April 30, 2019, 2018 and 2017 the Company recognized less than \$0.1 million, \$0.2 million and less than \$0.1 million, respectively, of interest and penalties. The amount of accrued interest and penalties recorded on the consolidated balance sheet as of April 30, 2019 and 2018 was \$0.3 million and \$0.3 million, respectively.

The Company is subject to periodic examination of income tax returns by various domestic and international tax authorities. The Company is currently under audit with the French tax authority for the tax years ended April 30, 2015 to April 30, 2018, and the Dutch tax authority for the tax years ended April 30, 2015 to April 30, 2017.

The Company does not anticipate any significant increases or decreases in its uncertain tax positions within the next twelve months. The Company files tax returns in multiple jurisdictions, including the Netherlands and United States. The Company's tax filings for fiscal years starting in 2013 remain open in various tax jurisdictions. If the examinations are resolved unfavorably, there is a possibility they may have a material negative impact on its results of operations.

Dutch income taxes and non-Dutch withholding taxes associated with the repatriation of earnings or for temporary differences related to investments in non-Dutch subsidiaries, excluding the U.S. subsidiaries, have not been provided for, as the Company intends to reinvest the earnings of such subsidiaries indefinitely or the Company has concluded that an immaterial additional tax liability would arise on the distribution of such earnings. Earnings from the Company's U.S. subsidiaries are being treated as being currently repatriated back to the Netherlands though no Dutch income taxes nor U.S. withholding taxes in regard to such repatriations are being recorded due to the Dutch participation exemption provisions and exemption from withholding taxes under the income tax treaty between the Netherlands and the United States. At April 30, 2019, there were cumulative earnings of \$37.9 million, from the non-U.S. subsidiaries. If such earnings were to be repatriated they would be exempt from taxation in the Netherlands and the amount of dividend withholding taxes from such foreign jurisdictions would not be material, due to the various income tax treaties between the Netherlands and the respective foreign jurisdictions.

On December 22, 2017, the Tax Cuts and Jobs Act ("TCJA") was signed into law making significant changes to the United States Internal Revenue code. Changes include, but are not limited to, a U.S. corporate income tax rate ("U.S. federal tax rate") decrease to from 35% to 21% effective January 1, 2018. As a result of the decrease in the U.S. federal tax rate to 21% effective January 1, 2018, the Company has computed its income tax expense for the year ended April 30, 2018 using a blended U.S. federal tax rate of 29.7%. The 21% U.S. federal tax rate applies to the Company's year ending April 30, 2019 and each year thereafter. During the year ended April 30, 2018, the Company remeasured its deferred tax assets and liabilities using the U.S. federal tax rate that is expected to apply when the related temporary differences are expected to reverse. Accordingly, this change in tax rate resulted in a provisional reduction in the Company's U.S. deferred tax assets by \$1.1 million.

On December 22, 2017, the staff of the SEC issued Staff Accounting Bulletin No. 118, which addresses how a company recognizes provisional amounts when a company does not have the necessary information available, prepared or analyzed (including computations) in reasonable detail to complete its accounting for the effect of the changes in the TCJA. The measurement period ends when a company has obtained, prepared, and analyzed the information that was needed in order to complete the accounting requirements under ASC Topic 740, but cannot extend beyond one year. The Company has determined that the U.S. transition tax on accumulated earnings of foreign subsidiaries and the deferred tax asset re-measurement were each provisional and reasonable estimates as of April 30, 2018. In the year ended April 30, 2019, the Company finalized the computation of the transition tax and made immaterial changes to the provisional amounts.

The TCJA contains several new tax provisions that became effective on January 1, 2018, such as the introduction of Global Intangible Low Taxed Income (“GILTI”). Due to the Company’s net operating loss, such new tax provisions did not have a material impact on the Company’s results for the year ended April 30, 2019.

14. Employee Benefit Plans

The Company has a defined-contribution plan in the U.S. intended to qualify under Section 401 of the Internal Revenue Code (the “401(k) Plan”). The Company has contracted with a third-party provider to act as a custodian and trustee, and to process and maintain the records of participant data. Substantially all the expenses incurred for administering the 401(k) Plan are paid by the Company. This Plan covers substantially all employees who meet minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax basis. The Company makes contributions to the plan up to 6% of the participating employee’s W-2 earnings and wages. The Company recorded \$5.0 million, \$2.8 million and \$1.7 million of expense related to the plan during the years ended April 30, 2019, 2018 and 2017, respectively.

The Company also has defined-contribution plans in certain other countries for which the Company recorded \$1.9 million, \$1.4 million and \$0.5 million of expense during the years ended April 30, 2019, 2018 and 2017, respectively.

15. Segment Information

The following table summarizes the Company’s total revenue by geographic area based on the billing address of the customers (in thousands):

	Year Ended April 30,		
	2019	2018	2017
United States	\$ 155,935	\$ 97,006	\$ 60,501
Rest of world	115,718	62,929	27,676
Total revenue	\$ 271,653	\$ 159,935	\$ 88,177

Other than the United States, no other individual country exceeded 10% or more of total revenue during the periods presented.

The following table presents the Company’s property and equipment, net of depreciation, by geographic region (in thousands):

	As of April 30,	
	2019	2018
United States	\$ 3,219	\$ 3,187
The Netherlands	1,769	\$ 341
United Kingdom	251	582
Rest of world	209	426
Total property and equipment, net	\$ 5,448	\$ 4,536

16. Subsequent Events

On June 5, 2019, the Company entered into an Agreement and Plan of Reorganization (the “Merger Agreement”) with Avengers Acquisition Corp., a Delaware corporation and a direct wholly-owned subsidiary of the Company (“Merger Sub”), Endgame, Inc., a Delaware corporation (“Endgame”), and Shareholder Representative Services LLC, a Colorado limited liability company, solely in its capacity as the representative, agent and attorney-in-fact of the securityholders of Endgame (“Securityholder Representative”), pursuant to which, subject to the terms and conditions set forth therein, Merger Sub will merge with and into Endgame (the “Merger”) whereupon the separate corporate existence of Merger Sub shall cease and Endgame shall continue as the surviving corporation of the Merger as a direct wholly-owned subsidiary of Elastic.

Pursuant to the terms of the Merger Agreement, the Company will acquire Endgame for a total purchase price of \$234 million, subject to customary adjustments, including the establishment of an indemnity escrow fund. The Company will pay the purchase price through (i) the issuance of ordinary shares, (ii) the repayment of Endgame’s outstanding indebtedness (expected to be approximately \$14 million), (iii) the assumption of Endgame’s outstanding options, and (iv) a cash deposit to fund an expense fund for the fees and expenses of the Securityholder Representative.

The Merger Agreement contains customary termination rights for both the Company and Endgame and further provides that the Company must pay Endgame a termination fee of \$3.5 million upon termination of the Merger Agreement under certain specified circumstances.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.*Evaluation of Disclosure Controls and Procedures*

We maintain “disclosure controls and procedures,” as defined in Rule 13a-15(e) and Rule 15d-15(e) under the Exchange Act of 1934 (the “Exchange Act”), that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Annual Report on Form 10-K. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of April 30, 2019, our disclosure controls and procedures were effective to provide reasonable assurance that the information required to be disclosed by us in this Annual Report on Form 10-K was (a) reported within the same periods specified by SEC rules and regulations and (b) communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding any required disclosure.

Management's Report on Internal Control Over Financial Reporting

This Annual Report on Form 10-K does not include a report of management's assessment regarding internal control over financial reporting or an attestation report of our independent registered public accounting firm due to a transition period established by the rules of SEC for newly public companies.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended April 30, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, believes that our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives and are effective at the reasonable assurance level. However, our management does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item (other than the information set forth in the next paragraph) will be included in our definitive proxy statement for our 2019 annual general meeting of shareholders (the "Proxy Statement"), which will be filed with the SEC within 120 days after the end of our year ended April 30, 2019, and is incorporated herein by reference.

We have adopted a Code of Business Conduct and Ethics (the "Code of Conduct"), applicable to all of our employees, officers and directors, including our chief executive officer, chief financial officer and other executive and senior financial officers. The full text of the Code of Conduct is available on our website at elastic.co. The nominating and corporate governance committee of our board of directors is responsible for overseeing the Code of Conduct and must approve any waivers of the Code of Conduct for employees, executive officers and directors. We expect that any amendments to the Code of Conduct, or any waivers of its requirements, will be disclosed on our website, as required by applicable law or the listing standards of The New York Stock Exchange. The inclusion of our website address in this Form 10-K does not include or incorporate by reference into this Form 10-K the information on or accessible through our website.

Item 11. Executive Compensation

The information required by this item will be set forth in the 2019 Proxy Statement and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item will be set forth in the 2019 Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item will be set forth in the 2019 Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by this item will be set forth in the 2019 Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)(1) Financial Statements

See Index to Financial Statements in Item 8 of this Annual Report on Form 10-K.

(a)(2) Financial Statement Schedule

All financial statement schedules have been omitted as the information is not required under the related instructions or is not applicable or because the information required is already included in the financial statements or the notes to those financial statements.

(a)(3) Exhibits

We have filed or incorporated by reference the exhibits listed on the accompanying Exhibit Index.

Exhibit Index

Exhibit No.	Description of Exhibit	Incorporated by Reference		Exhibit
		Form	File No.	
2.1	Agreement and Plan of Reorganization, dated as of June 5, 2019, by and among Elastic N.V, Avengers Acquisition Corp., Endgame, Inc. and Shareholder Representative Services LLC, solely in its capacity as the representative of the securityholders of Endgame.	8-K	001-38675	2.1
3.1	Articles of Association of Elastic N.V. (English translation)	10-Q	001-38678	3.1
3.2	Deed of Amendment of the Articles of Association of Elastic N.V. (English translation)	10-Q	001-38675	3.2
3.3	Deed of Conversion and Amendment of the Articles of Association of Elastic N.V. Articles of Association (English translation)	10-Q	001-38675	3.3
4.1	Amended and Restated Investors' Rights Agreement among the Company and certain holders of its ordinary shares, dated as of July 19, 2016.	S-1	333-227191	4.1
4.2	Description of share capital			
10.1+	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers	S-1/A	333-227191	10.1
10.2+	2012 Stock Option Plan and related form agreements.	S-1/A	333-227191	10.2
10.3+	Form of Change in Control and Severance Agreement.	S-1	333-227191	10.3
10.4+	Change in Control and Severance Agreement between the Company and Janesh Moorjani, dated as of August 1, 2018.	S-1	333-227191	10.4
10.5+	Employment Agreement between the Company and Shay Banon, dated as of September 4, 2018.	S-1	333-227191	10.5
10.6+	Employment Letter between the Company and Janesh Moorjani, dated as of August 1, 2018.	S-1	333-227191	10.6
10.7+	Employment Letter between the Company and Aaron Katz, dated as of August 1, 2018.	S-1	333-227191	10.7
10.8+	Employment Letter between the Company and Kevin Kluge, dated as of August 1, 2018.	S-1	333-227191	10.8
10.9+	Employment Letter between the Company and W.H. Baird Garrett, dated as of July 31, 2018.	S-1	333-227191	10.9
10.10+	Offer Letter between the Company and Jonathan Chadwick, dated as of July 27, 2018.	S-1	333-227191	10.10
10.11	Office Lease Agreement, by and between the Company and Asset Growth Partners, L.P., dated as of July 9, 2014.	S-1	333-227191	10.11
10.12	First Amendment to Office Lease Agreement, by and between the Registrant and Asset Growth Partners, L.P., dated as of March 30, 2015.	S-1	333-227191	10.12
10.13	Second Amendment to Office Lease Agreement, by and between the Registrant and Asset Growth Partners, L.P., dated as of September 16, 2015.	S-1	333-227191	10.13
10.14	Third Amendment to Office Lease Agreement, by and between the Registrant and Asset Growth Partners, L.P., dated as of April 18, 2018.	S-1	333-227191	10.14
21.1	List of subsidiaries of the Registrant			
23.1	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm			

24.1	Power of Attorney (contained in the signature page of this report)
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

+ Indicates a management contract or compensatory plan or arrangement.

* The certifications attached as Exhibits 32.1 and 32.2 hereto accompany this Annual Report on Form 10-K pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed “filed” by the Registrant for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and are not to be incorporated by reference into any of the Registrant’s filings under the Securities Act, irrespective of any general incorporation language contained in any such filing.

Item 16. Form 10-K Summary

None .

DESCRIPTION OF SHARE CAPITAL

General

Set forth below is a summary of relevant information concerning our share capital and material provisions of our articles of association, applicable Dutch law and the Dutch Corporate Governance Code, or DCGC. Because it is only a summary, it does not contain all the information that may be important to you. For a complete description of the matters set forth in this “Description of Share Capital,” you should refer to our Articles of Association, which is included as an exhibit to our Annual Report on Form 10-K, and to the applicable provisions of Dutch law.

Authorized Capital

Under Dutch law, a company’s authorized share capital sets out the maximum number of shares that it may issue without amending its articles of association.

Our articles of association provide for an authorized share capital in the amount of €3.3 million divided into 165 million ordinary shares, each with a nominal value of €0.01, and 165 million preference shares, each with a nominal value of €0.01. All issued shares have been fully paid up and the shares are held in dematerialized form.

Ordinary Shares

The holders of ordinary shares are entitled to one vote per share on all matters submitted to voting at a General Meeting of Shareholders, or the General Meeting. Subject to preferences that may be applicable to any preference shares outstanding at the time, the holders of outstanding ordinary shares are entitled to receive dividends *pro rata* according to their shareholdings. Upon our liquidation, dissolution or winding up, holders of our ordinary shares are entitled to share *pro rata* in all assets remaining after payment of liabilities and the liquidation preference of any then-outstanding preference shares. Holders of ordinary shares have no conversion rights or other subscription rights, but are entitled to pre-emptive rights as set out in the section titled “Pre-Emptive Rights”. There are no redemption or sinking fund provisions applicable to the ordinary shares.

Preference Shares

There are no preference shares issued and outstanding. The issuance of preference shares could have the effect of restricting dividends on the ordinary shares, diluting the voting power of the ordinary shares, impairing the liquidation rights of the ordinary shares or delaying, deterring or preventing a change in control. Such issuance could have the effect of decreasing the market price of the ordinary shares. We currently have no plans to issue any preference shares.

Issuance of Shares

Our articles of association provide that shares may be issued or rights to subscribe for our shares may be granted pursuant to a resolution of the General Meeting, or alternatively, by our board of directors if so designated by the General Meeting. A resolution of the General Meeting to issue shares or to grant rights to subscribe for shares can only be adopted at the proposal of our board of directors. Shares may be issued or rights to subscribe for shares may be granted by resolution of our board of directors, if and insofar as our board of directors is designated to do so by the General Meeting. Designation by resolution of the General Meeting cannot be withdrawn unless determined otherwise at the time of designation. The scope and duration of our board of directors’ authority to issue shares or grant rights to subscribe for shares (such as granting stock options or issuing convertible bonds) is determined by a resolution of the General Meeting and relates, at the most, to all unissued shares in the company’s authorized capital on the date on which the board of directors resolves to issue shares or grant rights to subscribe for shares. The

duration of this authority may not exceed a period of five years. Designation of our board of directors as the body authorized to issue shares or grant rights to subscribe for shares may be extended by a resolution of the General Meeting for a period not exceeding five years in each case. The number and class of shares that may be issued is determined at the time of designation.

The payment for shares must be made in cash, unless an alternative contribution has been agreed upon. Preference shares, as well as ordinary shares issued to current or former employees or directors of the company or its subsidiaries to satisfy an obligation of the Company under an equity incentive plan, may be paid up at the expense of the reserves of the company.

No shareholders' resolution or resolution of our board of directors is required to issue shares pursuant to the exercise of a previously granted right to subscribe for shares.

Transfer of Shares. New York Property Law Regime.

The Board may resolve, with due observation of the statutory requirements, that the laws of the State of New York, United States of America shall govern the property law regime of the ordinary shares that are registered in the part of the shareholders register which is kept outside the Netherlands by a registrar appointed by the Board. Such resolution, as well as the revocation thereof, shall be made public as required by law and shall be made available for inspection at the Company's office and the Dutch trade register.

The Board has adopted such resolution, which became effective after the completion of our initial public offering.

Pre-Emptive Rights

Dutch law and our articles of association give holders of ordinary shares pre-emptive rights to subscribe on a *pro rata* basis for any issue of new ordinary shares or, upon a grant of rights, to subscribe for ordinary shares. Holders of ordinary shares have no pre-emptive rights upon (i) the issue of ordinary shares against a payment in kind (being a contribution other than in cash); (ii) the issue of ordinary shares to our employees or the employees of a member of our group; and (iii) the issue of ordinary shares to persons exercising a previously granted right to subscribe for shares.

A holder of ordinary shares may exercise pre-emptive rights during a period of at least two weeks from the date of the announcement of the issue of shares. Pursuant to our articles of association, the General Meeting may restrict or exclude the pre-emptive rights of shareholders or designate our board of directors to do so. A resolution of the General Meeting to restrict or exclude the pre-emptive rights, may only be adopted on the proposal of our board of directors. A resolution of the General Meeting to exclude or restrict pre-emptive rights, or to authorize our board of directors to exclude or restrict pre-emptive rights, requires a majority of the votes cast, if more than or equal to 50% of our issued and outstanding share capital is present or represented at the General Meeting. A resolution of the General Meeting to exclude or restrict pre-emptive rights, or to authorize our board of directors to exclude or restrict pre-emptive rights, requires a majority of at least two-thirds of the votes cast, if less than 50% of our issued and outstanding share capital is present or represented at the General Meeting.

The designation of our board of directors as the body competent to restrict or exclude the pre-emptive rights may be extended by a resolution of the General Meeting for a period not exceeding five years in each case. Designation by resolution of the shareholders at the General Meeting cannot be withdrawn unless determined otherwise at the time of designation.

Acquisition of Shares by the Company

The company and each of its subsidiaries may acquire the company's shares, subject to certain provisions of Dutch law and the articles of association of the company or such subsidiary, as applicable. Shares may be acquired by the company or a subsidiary against no consideration or against consideration. Shares may only be acquired

against consideration if (i) our shareholders' equity (*eigen vermogen*) less the acquisition price is not less than the sum of the paid-up and called-up share capital and any reserves to be maintained by law or our articles of association, (ii) we and our subsidiaries would not thereafter hold shares or hold shares as pledgee with an aggregate nominal value exceeding 50% of our then current issued share capital, and (iii) the board of directors has been designated to do so by the General Meeting. The designation of the board of directors is not required if we acquire fully paid-up shares for the purpose of transferring these to our employees or the employees of a member of our group under any applicable equity compensation plan.

Capital Reduction

The General Meeting may resolve, upon a proposal by the board of directors, to reduce the issued share capital by a cancellation of shares or by reducing the nominal value of the shares by amending the articles of association. A resolution to cancel shares may only relate to shares held by the company itself or to all shares of a specific class. A reduction of the nominal value of shares, with or without repayment, must be made *pro rata* on all shares concerned. This requirement may be waived if all shareholders concerned so agree. Cancellation of preference shares that have not been paid-up at the expense of the company's reserves shall take place against (i) the repayment of the amount paid-up on those shares, (ii) the payment of its preferred dividend, and (iii) simultaneous release from the obligation to pay any further calls on the shares to the extent that the shares have not been fully paid up. Cancellation of preference shares that have been paid up at the expense of the company's reserves shall take place against payment of its preferred dividend (or the time proportionate part thereof), but without repayment of the nominal value of the shares, which shall be added to the company's reserves.

A resolution of the General Meeting to reduce the share capital requires a majority of the votes cast, if more than or equal to half of the issued and outstanding share capital is present or represented at the General Meeting. A resolution of the General Meeting to reduce the share capital requires a majority of at least two-thirds of the votes cast, if less than half of the issued and outstanding share capital is present or represented at the General Meeting.

In addition, Dutch law contains detailed provisions regarding the reduction of capital. A resolution to reduce the issued share capital shall not take effect as long as creditors can have legal recourse against the resolution.

Amendment of Articles of Association

Our articles of association may only be amended by a resolution of the General Meeting upon a proposal made by our board of directors. If a resolution to amend the articles of association is submitted to the General Meeting, this must in all cases be stated in the notice convening the General Meeting. A resolution by the General Meeting to amend the articles of association may be adopted by a simple majority of votes cast.

Company's Shareholders' Register

Subject to Dutch law, we must keep our shareholders' register accurate and up-to-date. Our board of directors keeps our shareholders' register and records names and addresses of all holders of shares, showing the date on which the shares were acquired, the date of the acknowledgement by our company of such acquisition of shares, as well as the amount paid on each share. The register also includes the names and addresses of those with a right of usufruct (*vruchtgebruik*) or a right of pledge in respect of shares. Part of the register may be kept outside of the Netherlands to comply with applicable local law or stock exchange rules. Our shareholders' register is available for inspection by the shareholders and others entitled to inspect the register pursuant to Dutch law.

Corporate Objectives

Our corporate objectives are: (a) the exploitation of an enterprise with respect to the development of software; (b) to participate in, acquire, hold, operate, manage, finance, exchange and/or dispose of any interest in and to conduct the management or supervision of other entities, companies, partnerships and businesses; (c) to finance subsidiaries and their enterprises, and to borrow from and lend money to subsidiaries; (d) to acquire, exploit

and dispose of registered property and other property; (e) to acquire, exploit and dispose of patents, trade names, trademarks, know-how, royalties

and rights of intellectual and/or industrial property, as well as to grant licenses to such rights and to acquire and exploit licenses; (f) to furnish guarantees, provide security, warrant performance in any other way and to assume liability, whether jointly and severally or otherwise, in respect of our obligations or the obligations of other parties; and (g) to perform all activities which are incidental to or which may be conducive to any of the foregoing.

Limitation on Liability and Indemnification Matters

Under Dutch law, a member of our board of directors and certain other officers may be held liable for damages in the event of improper or negligent performance of their duties. They may be held jointly and severally liable for damages to us and to third parties for infringement of the articles of association or of certain provisions of the Dutch Civil Code. In certain circumstances, they may also incur additional specific civil and criminal liabilities. Directors and certain other officers are insured under an insurance policy taken out by us against damages resulting from their conduct when acting in their capacities as directors or officers. In addition, our articles of association provide for indemnification of our directors, including reimbursement for reasonable legal fees and damages or fines based on acts or failures to act in their duties. No indemnification shall be given to a member of our board of directors if (i) a Dutch court has established, without possibility for appeal, that the acts or omissions of such indemnified person that led to the financial losses, damages, suit, claim, action or legal proceedings can be described as deliberate (*opzettelijk*), willfully reckless (*bewust roekeloos*) or seriously culpable, (ii) the costs or capital losses of the indemnified person are covered by an insurance policy and the insurer has paid out these costs or capital losses, or (iii) the indemnified person failed to notify us as soon as possible of the costs or capital losses or of the circumstances that could lead to the costs or capital losses.

Shareholders' Meetings and Consents

General Meeting

General Meetings are held in the Netherlands at the place where we have our corporate seat (Amsterdam) or at Haarlemmermeer (Schiphol Airport), Rotterdam, or The Hague (the Netherlands). The annual General Meeting shall be held no later than six months after the end of the financial year on the date and hour and at the place mentioned in the convening notice. Additional extraordinary General Meetings may also be held whenever considered appropriate by our board of directors. Pursuant to Dutch law, one or more shareholders and others entitled to attend a General Meeting, who jointly represent at least one-tenth of the issued share capital, may request our board of directors to convene a General Meeting. If our board of directors has not taken the steps necessary to ensure that a General Meeting is held within the relevant statutory period after the request, the requesting persons may, at his/her/their request, be authorized by a court in preliminary relief proceedings to convene a General Meeting.

General Meetings shall be convened by a notice, which shall include an agenda stating the items to be discussed, including for the annual General Meeting, among other things, the discussion and adoption of the annual accounts, appropriation of our profits and proposals relating to the board of directors, including the filling of any vacancies in our board of directors. In addition, the agenda shall include such items as have been included therein by our board of directors. One or more shareholders, alone or together, representing at least 3% of the issued share capital may also request to include items in the agenda of a General Meeting. Requests must be made in writing and received by our board of directors at least 60 days before the day of the meeting. No resolutions shall be adopted on items other than those which have been included in the agenda. In accordance with the DCGC, a shareholder may request the inclusion of an item on the agenda only after consulting our board of directors in that respect. If one or more shareholders intends to request that an item be put on the agenda for a General Meeting that may result in a change in the company's strategy, pursuant to the DCGC our board of directors may invoke a response time of a maximum of 180 days until the day of the General Meeting. A legislative proposal is currently being drafted pursuant to which a response time of a maximum of 250 days may be given a statutory basis. It is currently unclear in what form and when the legislative proposal will be submitted to Dutch parliament.

The General Meeting is presided over by the non-executive director designated as lead independent director, or the Lead Independent Director, or, if he is absent, by the vice chairperson of the board of directors. Members of our board of directors may attend a general meeting. In these meetings, they have an advisory vote. The chairperson of the meeting may decide at his or her discretion to admit other persons to the meeting.

The external auditor of the company may attend the annual General Meeting in which the annual accounts are discussed.

Admission and Registration

All shareholders, and each usufructuary and pledgee to whom the right to vote on our shares accrues, are entitled, in person or represented by a proxy authorized in writing, to attend and address the General Meeting and exercise voting rights *pro rata* to their shareholding. Shareholders may exercise their rights if they are the holders of our shares on the record date for such General Meeting, which is the 28th day before the day of the General Meeting, and they or their proxy have notified us of their intention to attend the General Meeting in writing or by any other electronic means that can be reproduced on paper ultimately at a date set for that purpose by our board of directors, specifying such person's name and the number of shares for which such person may exercise the voting rights and/or meeting rights at such General Meeting. The convocation notice shall state the record date as determined by Dutch law and the manner in which the persons entitled to attend the General Meeting may register and exercise their rights.

Quorum and Voting Requirements

Each share confers the right to cast one vote at the General Meeting. Shareholders may vote by proxy. No votes may be cast at a General Meeting on shares held by us or our subsidiaries. Nonetheless, the holders of a right of usufruct (*vruchtgebruik*) and the holders of a right of pledge in respect of shares in our share capital held by us or our subsidiaries are not excluded from the right to vote on such shares, if the right of usufruct (*vruchtgebruik*) or the right of pledge was granted prior to the time such share was acquired by us or any of our subsidiaries. We may not cast votes on shares in respect of which we or a subsidiary holds a right of usufruct (*vruchtgebruik*) or a right of pledge. Shares which are not entitled to voting rights pursuant to the preceding sentences will not be taken into account for the purpose of determining the number of shares on which votes may be cast, or the amount of the share capital that is present or represented at a General Meeting. Insofar as the law or our articles of association do not prescribe a larger majority, the General Meeting adopts resolutions by a simple majority of votes cast in a General Meeting where at least one third of the issued and outstanding shares are represented.

Shareholder Consent

Under Dutch law, the approval of the General Meeting is required for any significant change in the identity or character of the company or its associated business enterprise.

The Board of Directors

Election and Dismissal of Members of the Board of Directors

Under our articles of association, our directors are appointed by the General Meeting upon a binding nomination by our board of directors. The General Meeting may at all times overrule the binding nomination by a resolution adopted by a majority of two-thirds of votes cast, provided that majority represents more than half of the issued share capital.

If a binding nomination for the appointment of a director is overruled, the board of directors may make a non-binding nomination for such vacancy. If such non-binding nomination is voted down by the General Meeting, the General Meeting shall be free to appoint a person to fill the vacancy.

A resolution to appoint a director other than at the proposal of the board of directors requires a majority of two-thirds of votes cast, which majority represents more than half of the issued share capital.

The board of directors will designate one of the executive directors as chief executive officer, or the Chief Executive Officer, for a period determined by the board of directors. If there is only one executive director in office, he or she shall automatically be the Chief Executive Officer. The board of directors may grant a director the title of Chairman, including the Chief Executive Officer. The board of directors will designate one of the non-executive directors as Lead Independent Director. The board of directors will also designate one of the non-executive directors as vice-chairman.

The General Meeting may at any time suspend or dismiss a director. A resolution to suspend or dismiss a director other than at the proposal of the board of directors requires a two-third majority of votes cast, representing more than half of the issued share capital.

Duties and Liabilities of Directors

Under Dutch law, our board of directors is collectively responsible for our general affairs. Pursuant to our articles of association, our board of directors may divide its duties among its members, with our day-to-day management entrusted to the executive director(s). The non-executive directors supervise the management of the executive director(s) and the general affairs of our company and the business connected with it and provide the executive director(s) with advice. In addition, both the executive director(s) and the non-executive directors must perform such duties as are assigned to them pursuant to the articles of association. The division of tasks within our board of directors is determined (and amended, if necessary) by our board of directors. Each director has a duty to properly perform the duties assigned to him or her and to act in our corporate interest. Under Dutch law, the corporate interest extends to the interests of all corporate stakeholders, such as shareholders, creditors, employees and other stakeholders.

Board Rules

Pursuant to the articles of association, the board of directors shall adopt regulations dealing with its internal organization, the manner in which decisions are taken, the composition, the duties and organization of committees and any other matters concerning the executive directors, non-executive directors and committees, or the Board Rules.

Decision Making

Pursuant to the Board Rules, where possible, the board of directors adopts its resolutions by unanimous vote. If this is not possible, the resolution is adopted by a majority of votes cast. In the event of a tie vote, if the Chief Executive Officer is entitled to vote, the Chief Executive Officer has a casting vote. If the Chief Executive Officer is not entitled to vote, the proposal is rejected.

Pursuant to the Board Rules, the board of directors may only adopt resolutions at a meeting if the majority of the directors entitled to vote is present or represented at the meeting. If the Lead Independent Director believes there is an urgent situation that requires an immediate resolution by the board of directors, the aforementioned quorum requirements does not apply provided that (i) at least two directors entitled to vote are present or represented at the meeting of which at least one is an executive director, and (ii) reasonable efforts have been made to involve the other directors in the decision-making.

Resolutions of the board of directors entailing a significant change in the identity or character of the company or its associated business enterprise require the approval of the shareholders at the General Meeting. This includes in any case: (i) the transfer to a third party of the business enterprise of the company or practically the entire business enterprise of the company; (ii) the entry into or breaking off of any long-term cooperation of the company or a subsidiary with another legal entity or company or as a fully liable partner of a general partnership or limited partnership, where such entry or breaking off is of material importance to the company; or (iii) the acquisition or disposal by the company or a subsidiary of an interest in the capital of a company with a value of at least one-third of the company's assets according to the consolidated balance sheet with explanatory notes included in the last adopted annual accounts of the company. Failure to obtain the approval of the General Meeting for these resolutions of the board of directors does not affect the power of representation of the board of directors.

Representation

The board of directors as a whole is authorized to represent the company. In addition, the company may be represented by an executive director acting individually. Our board of directors may appoint individuals (*procuratiehouders*) with general or limited power to represent the company. Each of these individuals shall be able to represent the company with due observance of any restrictions imposed on him or her. Our board of directors shall determine their titles.

Dividends and Other Distributions

Amount Available for Distribution

Pursuant to Dutch law and the articles of association, the distribution of profits will take place following the adoption of our annual accounts, from which we will determine whether such distribution is permitted. We may make distributions to the shareholders, whether from profits or from our freely distributable reserves, only insofar as our shareholders' equity exceeds the sum of the paid-up and called-up share capital plus the reserves required to be maintained by Dutch law.

Under the articles of association, any profits must first be applied to pay a dividend on the preference shares, if outstanding, before distribution of any remaining distributable profits to the holders of ordinary shares. There are no preference shares outstanding.

The board of directors may resolve to reserve the profits or part of the profits. Any profits remaining after any dividend payments on preference shares and such reservation will be at the disposal of the General Meeting which may resolve to add the remaining profits to the reserves or distribute it among the holders of ordinary shares. Distributions of dividends on ordinary shares will be made *pro rata* according to the nominal value of each share.

Subject to Dutch law and the articles of association, our board of directors may resolve to distribute an interim dividend on shares of a certain class if it determines such interim dividend to be justified by our profits. For this purpose, our board of directors must prepare an interim statement of assets and liabilities. Such interim statement shall show our financial position not earlier than on the first day of the third month before the month in which the resolution to make the interim distribution is announced. An interim dividend can only be paid if an interim statement of assets and liabilities is drawn up showing that our shareholders' equity (*eigen vermogen*) exceeds the sum of the paid-up and called-up share capital plus the reserves required to be maintained by Dutch law.

The General Meeting, upon the proposal by the board of directors, may resolve that we make distributions to holders of ordinary shares from one or more of our freely distributable reserves, other than by way of profit distribution, subject to the due observance of our policy on reserves and dividends. Any such distributions will be made *pro rata* according to the nominal value of each share.

Dividends and other distributions shall be made payable not later than the date determined by our board of directors. Claims to dividends and other distributions not made within five years and one day from the date that such dividends or distributions became payable will lapse and any such amounts will be considered to have been forfeited to us (*verjaring*).

We do not anticipate paying any cash dividends for the foreseeable future.

Exchange Controls

Pursuant to Dutch law, there are no exchange controls applicable to the transfer to persons outside of the Netherlands of dividends or other distributions with respect to, or of the proceeds from the sale of, shares of a Dutch company.

Pursuant to Dutch law, there are no exchange controls applicable to our import or export of capital, including the availability of cash and cash equivalents to us as a Dutch company.

Dissolution and Liquidation

The company may only be dissolved by a resolution of the General Meeting upon a proposal made by our board of directors. If a resolution to dissolve the company is to be submitted to a general meeting, this must in all cases be stated in the notice convening the General Meeting. If the General Meeting resolves to dissolve the company, the members of our board of directors will be charged with the liquidation of the business of the company, unless the General Meeting resolves otherwise. During liquidation, the provisions of the articles of association will remain in force as far as possible.

Any surplus remaining after settlement of all debts and liquidation costs will first be distributed to the holders of preference shares who will receive the amount paid up on their shares as well as any dividend accruing on their shares *pro rata* according to the nominal value paid up on the shares and calculated over each year or part of a year in the period beginning on the day following the period over which the last dividend on the preference shares was paid. Any remaining balance will be distributed to the holders of ordinary shares in proportion to the nominal value of their shareholdings.

Public Offer

Public Offer Rules

The company will not be subjected to the Dutch offer rules as they apply to Dutch companies listed on a regulated market in a member state of the European Economic Area.

Squeeze Out Procedures

Pursuant to article 2:92a of the Dutch Civil Code, a shareholder who for his or her own account holds at least 95% of our issued share capital may initiate proceedings against our minority

shareholders jointly for the transfer of their shares to the claimant. The proceedings are held before the Dutch Enterprise Chamber of the Amsterdam Court of Appeal (*Ondernemingskamer van het Gerechtshof te Amsterdam*), or the “Enterprise Chamber”, and can be instituted by means of a writ of summons served upon each of the minority shareholders in accordance with the provisions of the Dutch Code of Civil Procedure (*Wetboek van Burgerlijke Rechtsvordering*). The Enterprise Chamber may grant the claim for squeeze out in relation to all minority shareholders and will determine the price to be paid for the shares, if necessary after appointment of one or three experts who will offer an opinion to the Enterprise Chamber on the value to be paid for the shares of the minority shareholders. Once the order to transfer becomes final before the Enterprise Chamber, the person acquiring the shares shall give written notice of the date and place of payment and the price to the holders of the shares to be acquired whose addresses are known to him or her. Unless the addresses of all of them are known to the acquiring person, such person is required to publish the same in a Dutch daily newspaper with a national circulation.

Anti-Takeover Provisions

Under Dutch law, protective measures against takeovers are possible and permissible, within the boundaries set by Dutch law and Dutch case law.

The resolutions adopted prior to the completion of our initial public offering and the provisions of our articles of association may have the effect of making a takeover of our company more difficult or less attractive, including as described below:

- Our board of directors is designated to issue preference shares and grant rights to subscribe for preference shares up to 100% of our issued share capital at the time of the issue for a period of five years from the date of the completion of our initial public offering. The purpose of this designation is to protect the company from influences that do not serve our best interests and threaten to undermine our continuity, independence and identity. The preference shares (or right to subscribe for preference shares) will be issued to a separate, newly incorporated foundation which will be structured to operate independently from us. The foundation's objectives will provide that it will promote the interests of the company and the businesses maintained by the company and group companies. The foundation tries to realize these objectives, including by acquiring and holding preference shares and exercising the rights attached to those preference shares, at the sole discretion of the board of the foundation. The foundation can be granted a call option for, in principle, an indefinite period. On each exercise of the call option the foundation would be entitled to acquire up to a maximum of preference shares corresponding to 100% of the issued ordinary shares at the time of exercise of the call option that are held by parties other than the foundation, the company or any of the company's subsidiaries minus the number of preference shares held by the foundation (if any). The foundation may exercise the call option repeatedly, each time up to the aforementioned maximum. The call option can, *inter alia*, be used by the foundation to (i) prevent, delay or otherwise complicate an unsolicited takeover bid for an unsolicited acquisition of ordinary shares by means of an acquisition at the stock market or otherwise, (ii) prevent and countervail concentration of voting rights in the General Meeting, and/or (iii) resist unwanted influence by and pressure from shareholders to amend the strategy of the management board. If the foundation exercises the call option the company shall issue such number of preference shares for which the option is exercised. The preference shares shall be issued for their nominal value, of which at least 25% should be paid up upon issuance, possibly at the expense of the company's reserve. These preference shares will have both a liquidation and dividend preference over our ordinary shares and will accrue cash dividends at a fixed rate.
- Our board of directors is designated to issue ordinary shares and grant rights to subscribe for ordinary shares up to the amount of our authorized share capital for ordinary shares and to limit or exclude pre-emptive rights on ordinary shares, in each case for a period of five years from the date of the completion of our initial public offering.
- Our articles of association include provisions that may make it more difficult for a third party to acquire control over us or effect a change in our board of directors. These provisions include: a provision that directors can only be appointed upon nomination by our board of directors; a provision that directors may only be removed by the General Meeting by a two-thirds majority of votes cast representing more than half of our outstanding share capital (unless the removal was proposed by the board of directors); and a requirement that certain resolutions, including an amendment of our articles of association, may only be adopted by our General Meeting if they are proposed by our board of directors.

Comparison of Dutch Corporate Law, Our Articles of Association and Board By-Laws and U.S. Corporate Law

The following comparison between Dutch corporate law, which applies to us, and Delaware corporation law, the law under which many publicly listed corporations in the United States are incorporated, discusses additional matters. Because these statements are summaries, they do not address all aspects of Dutch law that may be relevant to us and our shareholders or all aspects of Delaware law which may differ from Dutch law, and they are not intended to be a complete discussion of the respective rights.

Duties of Board Members

The Netherlands. We have a one-tier board structure consisting of our executive directors and non-executive directors.

Under Dutch law, our board of directors is collectively responsible for our general affairs. Pursuant to our articles of association, our board of directors divides its duties among its members, with our day-to-day management entrusted to the executive directors. The non-executive directors supervise the management of the executive directors and the general affairs in the company and the business connected with it and provide the executive directors with advice. In addition, both the executive directors and the non-executive directors must perform such duties as are assigned to them pursuant to the articles of association. The division of tasks within our board of

directors is determined (and amended, if necessary) by our board of directors. Each director has a duty to properly perform the duties assigned to him or her and to act in our corporate interest.

Under Dutch law, the corporate interest extends to the interests of all corporate stakeholders, such as shareholders, creditors, employees and other stakeholders.

An executive director may not be allocated the tasks of: (i) serving as the Lead Independent Director of our board of directors; (ii) determining the remuneration of the executive directors; or (iii) nominating directors for appointment; (iv) instructing an external auditor to audit the statutory annual accounts; and (v) supervising the performance of the executive directors. An executive director may not participate in the adoption of resolutions (including any deliberations in respect of such resolutions) relating to items (ii) through (iv) in the previous sentence.

Delaware. The board of directors bears the ultimate responsibility for managing the business and affairs of a corporation. In discharging this function, directors of a Delaware corporation owe fiduciary duties of care and loyalty to the corporation and to its stockholders. Delaware courts have decided that the directors of a Delaware corporation are required to exercise informed business judgment in the performance of their duties. Informed business judgment means that the directors have informed themselves of all material information reasonably available to them. Delaware courts have also imposed a heightened standard of conduct upon directors of a Delaware corporation who take any action designed to defeat a threatened change in control of the corporation. In addition, under Delaware law, when the board of directors of a Delaware corporation approves the sale or break-up of a corporation, the board of directors may, in certain circumstances, have a duty to obtain the highest value reasonably available to the stockholders.

Director Terms

The Netherlands. Pursuant to the articles of association, a member of our board of directors shall retire not later than on the day on which the first General Meeting is held following lapse of three years since his or her appointment. The period of three years may be deviated from by a resolution of the General Meeting upon the proposal of the board of directors. A retiring member of our board of directors may be re-appointed.

Under Dutch law, the shareholders at the General Meeting have the authority to suspend or remove members of our board of directors at any time, with or without cause, by means of a resolution passed by a simple majority of the votes cast upon the proposal by the board of directors. A resolution to suspend or dismiss a director other than at the proposal of the board of directors requires a two-thirds majority of votes cast, representing more than half of the issued share capital. Executive directors may also be suspended by our board of directors. A suspension by our board of directors may be discontinued by the General Meeting at any time.

Delaware. The Delaware General Corporation Law generally provides for a one-year term for directors, but permits directorships to be divided into up to three classes with up to three-year terms, with the years for each class expiring in different years, if permitted by the certificate of incorporation, an initial bylaw or a bylaw adopted by the stockholders. A director elected to serve a term on a “classified” board may not be removed by stockholders without cause. There is no limit in the number of terms a director may serve, unless stated otherwise in the certificate of incorporation or bylaws.

Board Member Vacancies

The Netherlands. Under Dutch law, the General Meeting appoints the members of our board of directors. For each seat on our board of directors to be filled, our board of directors shall make a binding nomination. The General Meeting may at all times overrule the binding nomination by a resolution adopted by a majority of two-thirds of votes cast, provided that majority represents more than half of the issued share capital.

If a binding nomination for the appointment of a director is overruled, the board of directors may make a non-binding nomination for such vacancy. If such non-binding nomination is voted down by the General Meeting, the General Meeting shall be free to appoint a person to fill the vacancy.

A resolution to appoint a director other than at the proposal of the board of directors requires a majority of two-thirds of votes cast, which majority represents more than half of the issued share capital.

If the seat of an executive director is vacant or upon the inability of the executive director to act, the remaining executive director or executive directors will temporarily be entrusted with the executive management of the company, unless the board of directors provides for a temporary replacement. If the seats of all executive directors are vacant, or upon the inability of all executive directors or the sole executive director to act, as the case may be, the executive management of the company will temporarily be entrusted to the non-executive directors, unless the board of directors provides for one or more temporary replacements.

If the seat of a non-executive director is vacant or upon the inability of a non-executive director to act, the remaining non-executive director or non-executive directors will temporarily be entrusted with the performance of the duties and the exercise of the authorities of that non-executive director, unless the board of directors provides for a temporary replacement. If the seats of all non-executive directors are vacant or upon inability of all non-executive directors or the sole non-executive director to act, as the case may be, the General Meeting shall be authorized to temporarily entrust the performance of the duties and the exercise of the authorities of non-executive directors to one or more other individuals.

Delaware. The Delaware General Corporation Law provides that vacancies and newly created directorships may be filled by a majority of the directors then in office (even though less than a quorum) unless (i) otherwise provided in the certificate of incorporation or bylaws of the corporation or (ii) the certificate of incorporation directs that a particular class of stock is to elect such director, in which case a majority of the directors elected by such class, or a sole remaining director elected by such class, will fill such vacancy.

Conflict-of-Interest Transactions

The Netherlands. Directors will immediately report any potential direct or indirect personal interest in a matter which is conflicting with the interests of the company and the business enterprise connected with it to the Lead Independent Director or, in his absence, the vice-chairman of the board of directors. The Lead Independent Director will report a potential conflict of interest to the vice-chairman or, in his absence, to the other directors. The vice-chairman will report a potential conflict of interest to the Lead Independent Director or, in his absence, the other directors. The potentially conflicted director will provide all relevant information, including information concerning his or her spouse, registered partner or other partner, foster child and relatives by blood or marriage up to the second degree as defined under Dutch law. The board of directors shall decide, without the director concerned being present, whether there is a conflict of interest. A conflict of interest in relation to a director may exist if we intend to enter into a transaction with a legal entity (i) in which such director personally has a material financial interest, (ii) whose (management or supervisory) board of directors includes a member who is related under family law to such director or (iii) in which such director has a management or supervisory position. A director shall not participate in any discussions and decision making if he or she has a conflict of interest in the matter being discussed. If for this reason no resolution can be taken by the board of directors, the board of directors will nevertheless resolve on the matter. All transactions in which there are conflicts of interest with directors shall be agreed on terms that are customary in the market concerned. Decisions to enter into transactions in which management and the audit committee have determined that there is a conflict of interest with one or more director(s) that is of material significance to us or to the relevant director require the approval of the board of directors. The board of directors may only grant its approval if the transaction is to be entered into on terms that are customary in the market. All transactions between us and legal or natural persons who hold at least one tenth of our shares shall be agreed on terms that are customary in the sector in which we and our combined businesses are active. The board of directors, following review by the audit committee, is required to approve such transactions that are of a material significance to us or to such persons.

Delaware. The Delaware General Corporation Law generally permits transactions involving a Delaware corporation and an interested director of that corporation if:

- the material facts as to the director's relationship or interest are disclosed and a majority of disinterested directors consent;
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- the material facts are disclosed as to the director's relationship or interest and a majority of shares entitled to vote thereon consent; or
- the transaction is fair to the corporation at the time it is authorized by the board of directors, a committee of the board of directors or the stockholders.

Proxy Voting by Board Members

The Netherlands. At a meeting of the board of directors, a director may only be represented by another director holding a proxy in writing or in a reproducible manner by electronic means of communication.

Delaware. A director of a Delaware corporation may not issue a proxy representing the director's voting rights as a director.

Voting Rights

The Netherlands. In accordance with Dutch law and our articles of association, each issued ordinary share and each preference share confers the right to cast one vote at the general meeting. Each holder of ordinary shares or preference shares may cast as many votes as it holds shares. Shares that are held by us or our direct or indirect subsidiaries do not confer the right to vote.

Shareholders may exercise their rights at a General Meeting if they are the holders of our shares on the record date, which is currently the 28th day before the day of the General Meeting, and they or their proxy have notified us of their intention to attend the General Meeting in writing or by any other electronic means that can be reproduced on paper ultimately at a date set for that purpose by our board of directors, specifying such person's name and the number of shares for which such person may exercise the voting rights and/or meeting rights at such General Meeting. The record date and the manner in which shareholders can register and exercise their rights will be set out in the notice of the meeting.

Delaware. Under the Delaware General Corporation Law, each stockholder is entitled to one vote per share of stock, unless the certificate of incorporation provides otherwise. In addition, the certificate of incorporation may provide for cumulative voting at all elections of directors of the corporation, or at elections held under specified circumstances. Either the certificate of incorporation or the bylaws may specify the number of shares or the amount of other securities that must be represented at a meeting in order to constitute a quorum, but in no event will a quorum consist of less than one-third of the shares entitled to vote at a meeting.

Stockholders as of the record date for the meeting are entitled to vote at the meeting, and the board of directors may fix a record date that is no more than 60 nor less than 10 days before the date of the meeting, and if no record date is set then the record date is the close of business on the day next preceding the day on which notice is given, or if notice is waived then the record date is the close of business on the day next preceding the day on which the meeting is held. The determination of the stockholders of record entitled to notice or to vote at a meeting of stockholders shall apply to any adjournment of the meeting, but the board of directors may fix a new record date for the adjourned meeting.

Shareholder Proposals

The Netherlands. Pursuant to our articles of association, extraordinary General Meetings will be held whenever considered appropriate by our board of directors. Pursuant to Dutch law, one or more shareholders, and others entitled to attend a General Meeting, who jointly represent at least one-tenth of the issued share capital may request our board of directors to convene a General Meeting. If our board of directors has not taken the steps necessary to ensure that a General Meeting could be held within the relevant statutory period after the request, the requesting persons may, at his/her/their request, be authorized by Court in preliminary relief proceedings to convene a General Meeting.

Also, one or more shareholders, alone or jointly, representing at least 3% of the issued share capital may request to include items on the agenda of a General Meeting. Requests must be made in writing and received by our

board of directors at least 60 days before the day of the meeting. In accordance with the DCGC, a shareholder shall exercise the right of putting an item on the agenda only after consulting our board of directors in that respect. If one or more shareholders intends to request that an item be put on the agenda that may result in a change in the company's strategy, pursuant to the DCGC our board of directors may invoke a response time of a maximum of 180 days until the day of the General Meeting.

Delaware. Delaware law does not specifically grant stockholders the right to bring business before an annual or special meeting. However, if a Delaware corporation is subject to the SEC's proxy rules, a stockholder who owns at least \$2,000 in market value, or 1% of the corporation's securities entitled to vote, may propose a matter for a vote at an annual or special meeting in accordance with those rules.

Action by Written Consent

The Netherlands. Our articles of association do not provide for the possibility that shareholders' resolutions can also be adopted in writing without holding a meeting of shareholders. Although permitted by Dutch law, for a listed company, this method of adopting resolutions is not feasible as it requires all individual shareholders to sign the written resolution.

Delaware. Although permitted by Delaware law, publicly listed companies do not typically permit stockholders of a corporation to take action by written consent.

Appraisal Rights

The Netherlands. The concept of appraisal rights is not known as such under Dutch law.

However, pursuant to Dutch law a shareholder who for his own account contributes at least 95% of our issued share capital may initiate proceedings against our minority shareholders jointly for the transfer of their shares to the claimant. The proceedings are held before the Enterprise Chamber. The Enterprise Chamber may grant the claim for squeeze out in relation to all minority shareholders and will determine the price to be paid for the shares, if necessary after appointment of one or three experts who will offer an opinion to the Enterprise Chamber on the value to be paid for the shares of the minority shareholders. Once the order to transfer becomes final before the Enterprise Chamber, the person acquiring the shares shall give written notice of the date and place of payment and the price to the holders of the shares to be acquired whose addresses are known to him or her. Unless the addresses of all of them are known to the acquiring person, such person is required to publish the same in a Dutch daily newspaper with a national circulation.

Furthermore, in accordance with the Directive (EU) 2017/1132 of the European Parliament and the Council of June 14, 2017 on cross-border mergers of limited liability companies, Dutch law provides that, to the extent that the acquiring company in a cross-border merger is organized under the laws of another European Union member state, a shareholder of a Dutch disappearing company who has voted against the cross-border merger may file a claim with the Dutch company for compensation. Such compensation—inter alia—to be determined by one or more independent experts. The shares of such shareholder that are subject to such claim will cease to exist as of the moment of entry into effect of the cross-border merger.

Payment by the acquiring company is only possible if the resolution to approve the cross-border merger by the corporate body of the other company or companies involved in the cross-border merger includes the acceptance of the rights of the shareholders of the Dutch company to oppose the cross-border merger.

Delaware. The Delaware General Corporation Law provides for stockholder appraisal rights, or the right to demand payment in cash of the judicially determined fair value of the stockholder's shares, in connection with certain mergers and consolidations.

Shareholder Suits

The Netherlands. In the event a third party is liable to a Dutch company, shareholders cannot bring a claim against that third party to recover losses sustained as a result of a decrease in value, or loss of an increase in value, of

their shares, unless a specific duty of care towards those shareholders was breached by the third party. The Dutch Civil Code provides for the possibility to initiate such actions collectively. A foundation or an association whose objective is to protect the rights of a group of persons having similar interests can institute a collective action. The collective action itself cannot result in an order for payment of monetary damages but may only result in a declaratory judgment (*verklaring voor recht*). In order to obtain compensation for damages, the foundation or association and the defendant may reach—often on the basis of such declaratory judgment—a settlement. A Dutch court may declare the settlement agreement binding upon all the injured parties with an opt-out choice for an individual injured party within a term, set by the court, of at least three months. Alternatively, an individual injured party may also itself bring a civil claim for damages.

Delaware. Under the Delaware General Corporation Law, a stockholder may bring a derivative action on behalf of the corporation to enforce the rights of the corporation. An individual also may commence a class action suit on behalf of himself or herself and other similarly situated stockholders where the requirements for maintaining a class action under Delaware law have been met. A person may institute and maintain such a suit only if that person was a stockholder at the time of the transaction which is the subject of the suit. In addition, under Delaware case law, the plaintiff normally must be a stockholder at the time of the transaction that is the subject of the suit and throughout the duration of the derivative suit. Delaware law also requires that the derivative plaintiff make a demand on the directors of the corporation to assert the corporate claim before the suit may be prosecuted by the derivative plaintiff in court, unless such a demand would be futile.

Repurchase of Shares

The Netherlands. Under Dutch law, a company such as ours may not subscribe for newly issued shares in its own capital. Such company may, however, subject to certain restrictions of Dutch law and its articles of association, acquire shares in its own capital.

Shares may be acquired by the company and each of its subsidiaries against no consideration or against payment of a consideration. Shares may only be acquired against consideration if (i) our shareholders' equity (*eigen vermogen*) less the acquisition price is not less than the sum of the paid-up and called-up share capital and any reserves to be maintained by law or our articles of association, (ii) we and our subsidiaries would not thereafter hold shares or hold shares as pledgee with an aggregate nominal value exceeding 50% of our then current issued share capital, and (iii) the board of directors has been designated to do so by the General Meeting. The designation of the board of directors is not required if the company acquires fully paid-up shares for the purpose of transferring these to our employees or the employees of a member of our group under any applicable equity compensation plan, provided the shares are quoted on an official list of a stock exchange.

An authorization by the General Meeting to our board of directors for the repurchase of shares can be granted for a maximum period of 18 months. Such authorization must specify the number and class of shares that may be acquired, the manner in which these shares may be acquired and the price range within which the shares may be acquired.

Delaware. Under the Delaware General Corporation Law, a corporation may purchase or redeem its own shares unless the capital of the corporation is impaired or the purchase or redemption would cause an impairment of the capital of the corporation. A Delaware corporation may, however, purchase or redeem out of capital any of its preferred shares or, if no preferred shares are outstanding, any of its own shares if such shares will be retired upon acquisition and the capital of the corporation will be reduced in accordance with specified limitations.

Anti-Takeover Provisions

The Netherlands. Under Dutch law, various protective measures are possible and permissible within the boundaries set by Dutch law and Dutch case law. We have adopted several provisions that may have the effect of making a takeover of our company more difficult or less attractive, including requirements that certain matters, including an amendment of our articles of association, may only be brought to our General Meeting for a vote upon a proposal by our board of directors.

Delaware. In addition to other aspects of Delaware law governing fiduciary duties of directors during a potential takeover, the Delaware General Corporation Law also contains a business combination statute that protects Delaware companies from hostile takeovers and from actions following the takeover by prohibiting some transactions once an acquirer has gained a significant holding in the corporation.

Section 203 of the Delaware General Corporation Law prohibits “business combinations,” including mergers, sales and leases of assets, issuances of securities and similar transactions by a corporation or a subsidiary with an interested stockholder that beneficially owns 15% or more of a corporation’s voting stock, within three years after the person becomes an interested stockholder, unless:

- the transaction that will cause the person to become an interested stockholder is approved by the board of directors of the target prior to the transactions;
- after the completion of the transaction in which the person becomes an interested stockholder, the interested stockholder holds at least 85% of the voting stock of the corporation not including shares owned by persons who are directors and officers of interested stockholders and shares owned by specified employee benefit plans; or
- after the person becomes an interested stockholder, the business combination is approved by the board of directors of the corporation and holders of at least 66.67% of the outstanding voting stock, excluding shares held by the interested stockholder.

A Delaware corporation may elect not to be governed by Section 203 by a provision contained in the original certificate of incorporation of the corporation or an amendment to the original certificate of incorporation or to the bylaws of the company, which amendment must be approved by a majority of the shares entitled to vote and may not be further amended by the board of directors of the corporation. Such an amendment is not effective until twelve months following its adoption.

Inspection of Books and Records

The Netherlands. Our shareholders’ register is available for inspection by the shareholders and others entitled to inspect the register pursuant to Dutch law. Otherwise, shareholders have no right to inspect our books and records.

Delaware. Under the Delaware General Corporation Law, any stockholder may inspect for any proper purpose certain of the corporation’s books and records during the corporation’s usual hours of business.

Removal of Board Member

The Netherlands. The shareholders at a General Meeting have the authority to suspend or remove members of our board of directors at any time, with or without cause. A resolution to suspend or dismiss a director at the proposal of the board of directors can be adopted by a simple majority of the votes cast. A resolution to suspend or dismiss a director other than at the proposal of the board of directors requires a two-thirds majority of votes cast, representing more than half of the issued share capital. Executive directors may also be suspended by our board of directors. A suspension by our board of directors may be discontinued by the General Meeting at any time.

Delaware. Under the Delaware General Corporation Law, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors, except (i) unless the certificate of incorporation provides otherwise, in the case of a corporation whose board of directors is classified, stockholders may effect such removal only for cause or (ii) in the case of a corporation having cumulative voting, if less than the entire board of directors is to be removed, no director may be removed without cause if the votes cast against his removal would be sufficient to elect him or her if then cumulatively voted at an election of the entire board of directors, or, if there are classes of directors, at an election of the class of directors of which he or she is a part.

Pre-Emptive Rights

The Netherlands. Under Dutch law, in the event of an issuance of ordinary shares or upon a grant of rights to subscribe for ordinary shares, each shareholder will have a pro rata pre-emptive right in proportion to the aggregate nominal value of the ordinary shares held by such holder (with the exception of ordinary shares to be issued to employees or ordinary shares issued against a contribution other than in cash or the issue of shares to persons exercising a previously granted right to subscribe for shares). A shareholder may exercise pre-emptive rights during a period of at least two weeks from the date of the announcement of the issue of shares. Under our articles of association, the pre-emptive rights in respect of newly issued ordinary shares may be restricted or excluded by a resolution of the shareholders at the general meeting upon proposal of our board of directors, if and insofar as our board of directors has not been designated by the General Meeting to restrict or exclude pre-emptive rights.

Our board of directors may restrict or exclude the pre-emptive rights in respect of newly issued ordinary shares if it has been designated as the authorized body to do so by the General Meeting. Such designation can be granted for a period not exceeding five years. A resolution of the General Meeting to restrict or exclude the pre-emptive rights or to designate our board of directors as the authorized body to do so requires a two-thirds majority of the votes cast, if less than one half of our issued share capital is represented at the meeting.

Delaware. Under the Delaware General Corporation Law, stockholders have no pre-emptive rights to subscribe for additional issues of stock or to any security convertible into such stock unless, and to the extent that, such rights are expressly provided for in the certificate of incorporation.

Dividends

The Netherlands. Pursuant to Dutch law and the articles of association, the distribution of profits will take place following the adoption of our annual accounts, from which we will determine whether such distribution is permitted. We may make distributions to the shareholders, whether from profits or from the freely distributable reserves, only insofar as our shareholders' equity exceeds the sum of the paid-up and called-up share capital plus the reserves required to be maintained by Dutch law.

Under the articles of association, any profits must first be applied to pay a dividend on the preference shares, if outstanding, before distribution of any remaining distributable profits to the holders of ordinary shares. No preference shares shall be outstanding upon the completion of the offering.

The board of directors may resolve to reserve the profits or part of the profits. Any profits remaining after any dividend payments on preference shares and such reservation will be at the disposal of the General Meeting which may resolve to add the remaining profits to the reserves or distribute it among the holders of ordinary shares. Distributions of dividends will be made *pro rata* to the nominal value of each ordinary share.

Subject to Dutch law and the articles of association, our board of directors may resolve to distribute an interim dividend on shares of a certain class if it determines such interim dividend to be justified by our profits. For this purpose, our board of directors must prepare an interim statement of assets and liabilities. Such interim statement shall show our financial position not earlier than on the first day of the third month before the month in which the resolution to make the interim distribution is announced. An interim dividend can only be paid if an interim statement of assets and liabilities is drawn up showing that our shareholders' equity (*eigen vermogen*) exceeds the sum of the paid-up and called-up share capital plus the reserves required to be maintained by Dutch law.

The General Meeting, upon the proposal by the board of directors, may resolve that we make distributions to holders of ordinary shares from one or more of the company's freely distributable reserves, other than by way of profit distribution, subject to the due observance of our policy on reserves and dividends. Any such distributions will be made pro rata to the nominal value of each share.

Dividends and other distributions shall be made payable not later than the date determined by our board of directors. Claims to dividends and other distribution not made within five years and one day from the date that such dividends or distributions became payable, will lapse and any such amounts will be considered to have been forfeited to us (*verjaring*).

Delaware. Under the Delaware General Corporation Law, a Delaware corporation may pay dividends out of its surplus (the excess of net assets over capital), or in case there is no surplus, out of its net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year (provided that the amount of the capital of the corporation is not less than the aggregate amount of the capital represented by the issued and outstanding stock of all classes having a preference upon the distribution of assets). In determining the amount of surplus of a Delaware corporation, the assets of the corporation, including stock of subsidiaries owned by the corporation, must be valued at their fair market value as determined by the board of directors, without regard to their historical book value. Dividends may be paid in the form of ordinary shares, property or cash.

Shareholder Vote on Certain Reorganizations

The Netherlands. Under Dutch law, the General Meeting must approve resolutions of our board of directors relating to a significant change in the identity or the character of the company or the associated business enterprise of the company, which includes:

- (i) a transfer of the business enterprise or virtually the entire business enterprise to a third party;
- (ii) the entry into or termination of a long-term cooperation of the company or a subsidiary with another legal entity or company or as a fully liable partner in a limited partnership or general partnership, if such cooperation or termination is of material significance for the company; and
- (iii) the acquisition or divestment by the company or a subsidiary of a participating interest in the capital of a company having a value of at least one-third of the amount of its assets according to its statement of financial position and explanatory notes or, if the company prepares a consolidated statement of financial position, according to its consolidated statement of financial position and explanatory notes in the last adopted annual accounts of the company.

Delaware. Under the Delaware General Corporation Law, the vote of a majority of the outstanding shares of capital stock entitled to vote thereon generally is necessary to approve a merger or consolidation or the sale of all or substantially all of the assets of a corporation. The Delaware General Corporation Law permits a corporation to include in its certificate of incorporation a provision requiring for any corporate action the vote of a larger portion of the stock or of any class or series of stock than would otherwise be required.

Under the Delaware General Corporation Law, no vote of the stockholders of a surviving corporation to a merger is needed, however, unless required by the certificate of incorporation, if (i) the agreement of merger does not amend in any respect the certificate of incorporation of the surviving corporation, (ii) the shares of stock of the surviving corporation are not changed in the merger and (iii) the number of shares of common stock of the surviving corporation into which any other shares, securities or obligations to be issued in the merger may be converted does not exceed 20% of the surviving corporation's common stock outstanding immediately prior to the effective date of the merger. In addition, stockholders may not be entitled to vote in certain mergers with other corporations that own 90% or more of the outstanding shares of each class of stock of such corporation, but the stockholders will be entitled to appraisal rights.

Remuneration of Members of the Board of Directors

The Netherlands . Under Dutch law and our articles of association, we must adopt a remuneration policy for members of our board of directors. Such remuneration policy shall be adopted by the General Meeting upon the proposal of the board of directors. The remuneration of the individual members of the board of directors shall be determined by the board of directors, at the recommendation of the compensation committee and the nominating and corporate governance committee, within the limits of the remuneration policy adopted by the General Meeting, provided that the executive directors may not take part in the deliberations and decision-making concerning the remuneration of the executive directors. With respect to remuneration schemes in the form of ordinary shares or rights to subscribe for ordinary shares is submitted by the board of directors to the General Meeting for their approval. This proposal must set out at least the maximum number of ordinary shares or rights to subscribe for ordinary shares to be granted to board of directors and the criteria for granting or amendment.

Delaware. Under the Delaware General Corporation Law, the stockholders do not generally have the right to approve the compensation policy for directors or the senior management of the corporation, although certain aspects of executive compensation may be subject to stockholder vote due to the provisions of U.S. federal securities and tax law, as well as exchange requirements.

Dutch Corporate Governance Code

As a Dutch company we are subject to the DCGC.

The DCGC contains both principles and suggested governance provisions for management boards, supervisory boards, shareholders and general meetings, financial reporting, auditors, disclosure, compliance and enforcement standards. As a Dutch company, we are subject to the DCGC and are required to disclose in our management report, filed in the Netherlands, whether we comply with the suggested governance provisions of the DCGC. If we do not comply with the suggested governance provisions of the DCGC (for example, because of a conflict with the rules of the stock exchange on which our shares are listed or otherwise), we must list the reasons for any deviation from the suggested governance provisions of the DCGC in our management report.

As a listed company incorporated and existing under the laws of the Netherlands, we comply with all applicable provisions of the DCGC except where such provisions conflict with U.S. exchange listing requirements or with market practices in the United States or the Netherlands. Our deviations from the DCGC are summarized below.

- We have granted and intend to grant options and restricted stock units in the future to non-executive directors. Such remuneration is in accordance with the New York Stock Exchange corporate governance requirements and market practice among companies listed on the New York Stock Exchange, although it constitutes a deviation from suggested governance provision 3.3.2 of the DCGC.
- The agreement with our executive director provides for (i) a severance payment in excess of one year base salary in certain events and (ii) a severance payment if such agreement is terminated at the initiative of the executive director. We believe these severance provisions are consistent with U.S. market practice, although in deviation from suggested governance provision 3.2.3 of the DCGC.
- Pursuant to our articles of association, our board of directors will nominate one or more candidates for each vacant seat on our board of directors. A resolution of the General Meeting to overrule such binding nomination requires at least two-thirds of the votes cast representing more than half of our issued share capital. Although in deviation from suggested governance provision 4.3.3 of the DCGC, this is in line with article 2:133 (2) of the Dutch Civil Code, which provides for the same majority and quorum requirements as included in our articles of association, and is considered to promote continuity within our board of directors.
- Our board of directors has granted and intends to grant options and restricted stock units to members of our board of directors. The options provide for vesting conditions which allow exercise of the options within the first three years of their grant date. Furthermore, the restricted stock units are not subject to a five-year holding period. Both elements qualify as a deviation from best practice provision 3.1.2 of the DCGC. Such conditions are market practice among companies listed at New York Stock Exchange. We are in competition with other companies in this field and we intend to maintain an attractive compensation package for our current and future board members.

Transfer Agent and Registrar

The transfer agent and registrar for our ordinary shares is Computershare Trust Company, N.A. The transfer agent's address is 250 Royall Street, Canton, Massachusetts 02021, and its telephone number is (877) 373-6374.

Exchange Listing

Our ordinary shares are listed on the New York Stock Exchange under the symbol "ESTC".

SUBSIDIARIES OF ELASTIC N.V.

Name of Subsidiary	Jurisdiction of Incorporation
Avengers Acquisition Corp.	Delaware
Elasticsearch AB	Sweden
Elasticsearch AS	Norway
Elasticsearch B.C. Ltd.	Canada
elasticsearch B.V.	Netherlands
Elasticsearch (Beijing) Information Technology Co., Ltd.	People's Republic of China
Elasticsearch (CH) AG	Switzerland
Elasticsearch Federal Inc.	Delaware
Elasticsearch Finance B.V.	Netherlands
Elasticsearch GmbH	Germany
Elasticsearch Government, Inc.	Delaware
Elasticsearch HK Limited	Hong Kong
Elasticsearch KK	Japan
Elasticsearch, Inc.	Delaware
Elasticsearch Korea Limited	Korea
Elasticsearch Limited	United Kingdom
Elasticsearch Pte Ltd.	Singapore
Elasticsearch Pty Ltd	Australia
Elasticsearch SARL	France
Elasticsearch, S.L.U.	Spain
Opbeat ApS	Denmark
Opbeat, LLC	Delaware
Prekert Inc.	Delaware
Swifttype, Inc.	Delaware

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-227782) of Elastic N.V. of our report dated June 28, 2019 relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
San Jose, California
June 28, 2019

**Certification by the Principal Executive Officer pursuant to
Securities Exchange Act Rules 13a-14(a) and 15d-14(a)
as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Shay Banon, certify that:

1. I have reviewed this Annual Report on Form 10-K of Elastic N.V. (the “registrant”) for the fiscal year ended April 30, 2019;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: June 28, 2019

By: /s/ Shay Banon

Name: Shay Banon

Title: Chief Executive Officer and Chairman
(*Principal Executive Officer*)

**Certification by the Principal Financial Officer pursuant to
Securities Exchange Act Rules 13a-14(a) and 15d-14(a)
as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Janesh Moorjani, certify that:

1. I have reviewed this Annual Report on Form 10-K of Elastic N.V. (the “registrant”) for the fiscal year ended April 30, 2019;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: June 28, 2019

By: /s/ Janesh Moorjani

Name: Janesh Moorjani

Title: Chief Financial Officer

(*Principal Accounting and Financial Officer*)

