

Computer Task Group, Incorporated 2019 Annual Report



August 7, 2020

Fellow CTG Shareholders:

During the past calendar year, we took further strategic actions to position CTG for short- and long-term success. As we continue to drive improvements throughout the business, I welcome this opportunity on behalf of the Board of Directors to share with you CTG's recent accomplishments and provide an update on the Company's direction.

We were pleased to report exceptional results for 2019, with revenue reaching a six-year high, driven by a combination of organic growth and the contribution from our two successful acquisitions in Europe. Our relentless focus on improved revenue quality and cost reductions yielded significant improvement in operating margin and net income, and resulted in the highest reported earnings per share in four years. We extended this momentum in the first half of 2020, with the Company reporting the highest first-half non-GAAP operating margin and earnings per share in six years.

CTG's strong performance is a testament to the continued execution of our strategic plan driven by the highly effective leadership of Filip Gydé, who the Board unanimously appointed CEO on March 1, 2019. Consistent with his long-term record of success in Europe, Filip hit the ground running by making the necessary changes in our North American operation to continue advancing the Company's transformation to a more Solutions-centric, higher-margin organization. He also rapidly established a company-wide culture, unifying employees around our mission to deliver for our clients while enhancing shareholder value. The Board has great confidence in Filip, who together with an exceptional leadership team, is delivering strong operating results and ultimately increasing value for our shareholders.

We started the new year with the expectation of building on the momentum generated in 2019, but like so many other companies, we needed to quickly adapt and implement effective measures to address the COVID-19 pandemic. Our first priority is the health and safety of our employees, as we continue to reliably and effectively serve the needs of our clients. Despite the heightened near-term uncertainty associated with the pandemic, the Board is extremely confident in our management team's ability to navigate this unprecedented environment realizing improved quality of revenue and profits across the enterprise while remaining focused on the execution of the Company's strategic plan.

On behalf of your CTG Board, thank you for your continued support of our Company.

Daniel J. Šullivan Chairman of the Board



August 7, 2020

Fellow Shareholders of CTG:

As I reflect on the past eighteen months as CEO, I am excited to report that the CTG team has delivered significant progress towards positioning the Company for sustainable long-term growth, increased profitability and improved shareholder value.

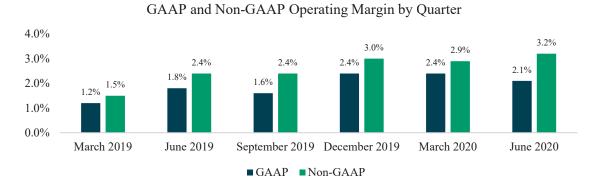
Over the course of 2019, we took decisive actions to transform CTG's business toward a Solutions-centric organization, building upon the strategic plan we implemented several years ago. The primary objectives underlying our strategic plan include:

- 1. Immediately improve margins and profitability
- 2. Generate long-term growth above that of our served markets, while emphasizing higher-margin business opportunities
- 3. Optimally allocate capital in support of solutions development and acquisitions that will provide continued financial improvement and shareholder value creation

Through disciplined execution, we achieved impressive financial results for 2019, including the second consecutive year of strong top-line growth, and a significant year-over-year improvement in CTG's profitability. Key highlights from our full year 2019 financial results included:

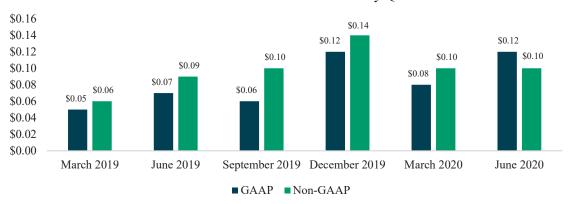
- Total revenue increased 9.9% to \$394.2 million, representing a six-year high
- Revenue from IT Solutions grew 24.9% to represent 35.8% of total revenue, contributing to an increasing mix of higher-margin business
- Revenue in Europe increased 20.5% (27.2% in local currency) year-over-year, reflecting a combination of expanded new engagements and the contribution from the Tech-IT acquisition
- Operating income more than tripled year-over-year to \$7.0 million, demonstrating our successful ongoing transition towards a more Solutions-centric organization with a focus on higher-margin engagements
- GAAP net income significantly increased to \$4.1 million, or \$0.29 per diluted share, CTG's highest earnings per share in four years
- Non-GAAP net income was \$5.6 million, or \$0.40 per diluted share

Key financial highlights from the past six quarters include significant improvement in the non-GAAP operating margin, diluted EPS, and adjusted EBITDA:









Net Income, EBITDA, and Adjusted EBITDA by Quarter (millions)



It was particularly rewarding to see the tremendous financial progress we made across the business that came from our team's consistent efforts and focused execution. We are especially proud that we have achieved \$0.38 of GAAP diluted EPS, \$0.44 of non-GAAP diluted EPS, net income of \$5.5 million, and adjusted EBITDA of \$14.7 million for the twelve month period ended June 2020.

In addition to the actions taken to protect the wellbeing of our employees in light of the COVID-19 pandemic, our entire organization quickly and safely adapted to the changing business landscape to fully meet the needs of CTG clients, including a work-from-home model. We made these adjustments without a loss in productivity, which resulted in both increased efficiencies and higher utilization across our global operations.

Additionally, we took proactive steps to further strengthen the Company's financial position by securing liquidity in the form of drawing down \$12.0 million under our revolving credit facility and accelerating the collection of receivables from our largest IT Staffing client. We also streamlined expenses, such as the implementation of selective furloughs and temporary salary adjustments for nearly all non-billable employees, including senior management.

The actions taken since year-end have proven highly successful and contributed to our reporting of solid financial results through the first half of 2020, with non-GAAP operating margins and earnings per share representing the highest achieved in six years. Underlying these results was a significant increase in higher-quality revenue and margins driven by our expanding mix of IT Solutions business, as well as



improvement in the quality of Staffing revenue through better pricing and disengaging from lower-margin projects.

Despite the recent environment, our business development and solutions organizations have remained focused on maintaining a robust pipeline of new business opportunities. We remain confident in our strategy as outlined below and are committed to ongoing disciplined execution of the plan. We believe the increased adoption of remote work environments will ultimately expand clients' needs for scalable IT and cloud-based solutions, supporting a potential acceleration of our transformational shift towards a Solutions-centric organization.

Continuing to Advance our Strategic Shift to IT Solutions

Our IT Solutions business continued its momentum, with 2019 marking another year of more than 20% year-over-year growth. The significant drivers within this business are CTG's core global solutions offerings – Application Advantage and EIM Advantage – which have gained traction in our financial, healthcare and energy verticals. Application Advantage includes application management, support, and service desk solutions, while EIM Advantage includes data related services, such as data management and analytics.

We recently added a third core solutions offering, Global Testing Solutions, which builds upon our testing expertise in Europe. Our Testing Solutions include services for websites, software, mobile applications and Internet of Things connected objects. We recently commenced an automated testing solution for a leading integrated healthcare organization in the northeastern U.S., which represented the Company's first-ever engagement for testing solutions in North America. Each of our solutions offerings are scalable and command higher margins due to the value they provide our clients. The greater mix of solutions in our overall business has significantly contributed to CTG's operating results throughout 2019 and in the first half of 2020.

As part of our go-forward strategy, we extended our solutions capability by making our repeatable offerings and delivery platforms available in new and existing markets. In mid-2020, we expanded CTG's strategic delivery platform with the opening of our newest delivery center in Bogotá, Colombia. This new location complements our established delivery centers in North America, Western Europe and India, all of which leverage a proven centralized approach to deliver high-quality, cost-effective IT services and solutions for clients. Additionally, we are continuously expanding our global solutions portfolio with new offerings focused around our core areas of application support, data management and testing. As an example, in March of 2020 we announced the acquisition of StarDust, with operations in France and Canada, which supports our strategy to expand Global Testing Solutions across all of CTG's served geographies. Additionally, we will officially launch our Microsoft 365 Services (M365) offering later this year. This solution is specifically targeted at helping clients maximize the value of their M365 investments, from initial implementation and migration planning, to deployment, optimization, and maintenance.

Maintaining Strong Growth in Europe

Our European business was again a key driver of our consolidated revenue and earnings growth in 2019. At the center of this sustained performance was continued new business growth, highlighted by a series of new or extended contracts with the EU institutions and prominent financial services clients in Belgium, France, Luxembourg, and the United Kingdom.



The excellent performance of our European business reflected the significant contributions from our acquisition of Tech-IT, which included securing several sizable IT infrastructure and implementation solutions contracts. We are leveraging our previous acquisition in France and Tech-IT in Luxembourg to cross-sell our enhanced solutions services across all of the geographies we serve to further expand our business, as demonstrated by our nearly 21% revenue growth rate in 2019.

Capitalizing on Long-term Growth Opportunities in Health Solutions

In 2019, we achieved double-digit year-over-year growth in our Health Solutions business for the second consecutive year. This organic growth was driven by continued strong demand for our core Solutions offerings across new and extended contract wins throughout the year. We achieved a meaningful milestone in the first half of 2020, with our team successfully converting an existing application management project into a secured multi-million dollar contract to manage the go-live implementation of EPIC-based electronic health records (EHR) for a prominent healthcare system in the northeastern U.S.

We believe that healthcare represents a large vertical with long-term growth opportunity. We continue to align CTG's Health Solutions offerings with important industry trends, including value-based care. Our strategy is focused on expanding existing Solutions offerings to better address the industry's growing needs for data and analytics, testing, and the deployment and optimization of EHR.

Maximizing Return on IT Staffing Through More Selective Engagements

Throughout 2019, our priority in the IT Staffing business remained focused around improving revenue quality and operating performance. Following a comprehensive strategic review of this business during the first half of the year, we implemented a series of structural changes primarily in North America. We are now more selective on specific staffing engagements, including our current contracted business and prospective engagements. As a result, we began transitioning away from certain lower margin staffing business late in 2019.

In addition, we made structural changes to consolidate our sales and delivery resources to concentrate our commercial efforts on higher-value IT and professional staffing services with middle-market companies. We continue to explore strategic offerings with select clients to convert existing staffing projects to managed services engagements. If successful, such conversions would ultimately benefit both CTG and our clients by enabling potential cost savings, higher profitability and added value. We will continue to be disciplined on pricing and resource prioritization to ensure we maintain an efficient, low cost delivery organization capable of supporting higher volume clients.

Strategic Acquisitions Contributing to Accelerated Transformation

In late 2019, we completed the integration of Tech-IT, which followed the successful acquisition and integration of Soft Company in 2018. Together, these highly strategic and immediately accretive transactions have played a key role in our overall success, providing synergies and augmenting our ongoing transformational shift to a more Solutions-centric organization.

Soft Company and Tech-IT each provided unique strategic synergies and benefits: Soft Company meaningfully expanded CTG's footprint in Europe by establishing a solid presence in France, and Tech-IT added highly complementary infrastructure solutions which together enable CTG to deliver complete end-to-end solutions in Europe.



We plan to continue to evaluate and opportunistically pursue targeted acquisitions that complement our strategic plan and ongoing shift toward IT solutions, while also contributing higher margins that are immediately accretive to growth and profitability.

Continuing to Build on Accomplishments

We remain committed to building on our ongoing success and maintaining the momentum we have generated these past eighteen months. Driving this company-wide effort is a well-seasoned leadership team with a shared vision for the continued expansion of CTG's time-tested solutions, IT capabilities, and expertise.

We have done an excellent job navigating the recent environment to meet the needs of clients, and will continue managing the factors within our control. Importantly, CTG remains well capitalized with a strong balance sheet and sufficient working capital to support significant growth in our business. Our leadership team is aligned and confident that we have the right strategy to deliver increased value to our shareholders, and we are actively working to utilize the current environment to support an accelerated shift toward an increasingly Solutions focused organization. As we continue to drive transformational growth in our IT Solutions business, we expect it to become a substantially larger portion of our overall business, which will generate improved operating leverage, resulting in significant long-term profitability.

Given the steps we have taken, I am confident we are on track to position CTG as a premier global solutions provider. I would like to thank all of our shareholders for their continued support. Our success would not be possible without our incredible people – the hard-working employees of CTG, our world-class executive leadership team, and our active and engaged Board of Directors.

Filip J.L. Gydé

President and Chief Executive Officer



Reconciliation of GAAP to Non-GAAP Information

The Company has referenced non-GAAP information in this shareholder letter. The Company believes that the use of non-GAAP financial information provides useful information to investors and management to gain an overall understanding of its current financial performance and prospects. In addition, non-GAAP financial measures are used by management for forecasting, facilitating ongoing operating decisions, and measuring the Company's overall performance. The Company believes that these non-GAAP measures align closely with its internal measurement processes and are reflective of the Company's core operating results.

Specifically, the non-GAAP information as presented exclude gains from life insurance proceeds and on the sale of real estate, and costs associated with severance and certain acquisition-related expenses. In 2020, the acquisition-related expenses consist of due diligence costs, and the amortization of intangible assets. In 2019, acquisition-related expenses also include changes in the value of earn-out payments upon the achievement of certain financial targets from the acquisitions of Soft Company and Tech-IT.

The reconciliation of GAAP to non-GAAP operating margin by quarter is as follows:

	March	June	Sept.	Dec.	March	June
	2019	2019	2019	2019	2020	2020
GAAP Operating Margin	1.2%	1.8%	1.6%	2.4%	2.4%	2.1%
Acquisition-related expenses	0.3%	0.6%	0.8%	0.6%	0.5%	0.4%
Severance	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%
Non-GAAP Operating Margin	1.5%	2.4%	2.4%	3.0%	2.9%	3.2%

The reconciliation of GAAP to non-GAAP diluted earnings per share by quarter is as follows:

	March 2019				Sept. 2019		Dec. 2019		March 2020		June 2020	
GAAP Diluted Earnings per Share	\$	0.05	\$	0.07	\$	0.06	\$	0.12	\$	0.08	\$	0.12
Acquisition-related expenses		0.01		0.02		0.04		0.02		0.02		0.02
Severance		-		-		-		-		-		0.02
Gain on sale of building		-		-		-		-		-		(0.03)
Non-taxable life insurance gain						_				_		(0.03)
Non-GAAP Diluted Earnings per Share	\$_	0.06	\$	0.09	\$	0.10	\$	0.14	\$	0.10	\$	0.10



The reconciliation of Net income to Earnings before Interest, Taxes and Depreciation (EBITDA) and adjusted EBITDA by quarter is as follows:

	March		March June		Sept.		Dec.		March		June	
(in millions)	2(019	2019		2(2019		019	2020		2020	
Net income	\$	0.6	\$	0.9	\$	0.9	\$	1.7	\$	1.1	\$	1.8
Taxes		0.3		0.6		0.4		0.8		0.7		1.4
Interest		0.1		0.1		0.1		0.1		0.1		-
Depreciation and amortization		0.7		0.7		1.0		0.8		0.8		0.8
Equity-Based compensation expense		0.2		0.5		0.5		0.6		0.5		0.6
Severance		-		-		-		-		-		0.6
Non-taxable life insurance gain		-		-		-		-		-		(0.4)
Gain on sale of building												(0.8)
EBITDA	\$	1.9	\$	2.8	\$	2.9	\$	4.0	\$	3.2	\$	4.0
Acquisition-related expenses		0.2		0.2		0.2		0.2		0.2		-
Adjusted EBITDA	\$	2.1	\$	3.0	\$	3.1	\$	4.2	\$	3.4	\$	4.0

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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ANNUAL REPORT PURSUANT	• •	THE SECURITIES EXCHANGE ACT O)F 1934
	For the fiscal year ended Decembe OR	r 31, 2019	
☐ TRANSITION REPORT PURSUA 1934		OF THE SECURITIES EXCHANGE AC	CT OF
For t	the Transition period from Commission File No. 1-941	to 0	
	TASK GROUP,	INCORPORATE in its charter)	D
New York (State or other jurisdiction of incorporation 800 Delaware Avenue, Buffalo, N (Address of principal executive o	New York	16-0912632 (I.R.S. Employer Identification No.) 14209 (Zip Code)	
Registrant	t's telephone number, including area	code: (716) 882-8000	
	rities registered pursuant to Section	12(b) of the Act:	
<u>Title of Each Class of Stock</u> Common Stock, par value \$0.01 per share	<u>Trading Symbol</u> CTG	Name of each exchange on which register. The NASDAQ Stock Market, LLC	
Securiti	es registered pursuant to Section 12(g) of the Act: <u>None</u>	
Indicate by check mark if the registrant is a	well-known seasoned issuer, as defined	- I in Rule 405 of the Securities Act. YES \Box NO	⊃ ⊠
Indicate by check mark if the registrant is no	ot required to file reports pursuant to Sec	ction 13 or Section 15(d) of the Act. YES □ N	10 ⊠
Indicate by check mark whether the registra 1934 during the preceding 12 months (or for such s filing requirements for the past 90 days. YES ⊠	shorter period that the registrant was re-	filed by Section 13 or 15(d) of the Securities Exquired to file such reports), and (2) has been sub	
Indicate by check mark whether the registra 405 of Regulation S-T (232.405 of this chapter) durant such files). YES \boxtimes NO \square		reractive Data File required to be submitted pursion shorter period that the registrant was required	
Indicate by check mark whether the registra company, or an emerging growth company. See the emerging growth company" in Rule 12b-2 of the Experience of the	e definitions of "large accelerated filer,"	rated filer, a non-accelerated filer, a smaller repo "accelerated filer," "smaller reporting company,"	
Large accelerated filer □		Accelerated filer	\boxtimes
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		Emerging growth company	
If an emerging growth company, indicate by any new or revised financial accounting standards	•	d not to use the extended transition period for content in the Exchange Act. □	mplying with
Indicate by check mark whether the registra	nt is a shell company (as defined in Rul	e 12b-2 of the Act). YES □ NO ☒	
The aggregate market value of the registran which the common equity was last sold on the last		ry held by non-affiliates, computed by reference t cently completed second quarter was \$53.8 milli	

The total number of shares of Common Stock of the Registrant outstanding at March 9, 2020 was 15,069,117.

DOCUMENTS INCORPORATED BY REFERENCE

the purposes of this calculation, all persons who are or may be executive officers or directors of the registrant have been deemed to be affiliates.

None.

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As used in this annual report on Form 10-K, references to "CTG," "the Company" or "the Registrant" refer to Computer Task Group, Incorporated and its subsidiaries, unless the context suggests otherwise.

PARTI

Forward-Looking Statements

This annual report on Form 10-K contains forward-looking statements made by the management of Computer Task Group, Incorporated (CTG, the Company or the Registrant) that are subject to a number of risks and uncertainties. These forward-looking statements are based on information as of the date of this report. The Company assumes no obligation to update these statements based on information from and after the date of this report. Generally, forward looking statements include words or phrases such as "anticipates," "believes," "estimates," "expects," "intends," "plans," "projects," "could," "may," "might," "should," "will" and words and phrases of similar impact. The forward-looking statements include, but are not limited to, statements regarding future operations, industry trends or conditions and the business environment, and statements regarding future levels of or trends in business strategy and expectations, new business opportunities, cost control initiatives, business wins, market demand, revenue, operating expenses, capital expenditures, and financing. The forward-looking statements are made pursuant to safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Numerous factors could cause actual results to differ materially from those in the forward-looking statements, including the following: (i) the availability to CTG of qualified professional staff, (ii) domestic and foreign industry competition for clients and talent, including technical, sales and management personnel, (iii) increased bargaining power of large clients, (iv) the Company's ability to protect confidential client data, (v) the partial or complete loss of the revenue the Company generates from International Business Machines Corporation (IBM) and other significant clients, (vi) the uncertainty of clients' implementations of cost reduction projects, (vii) the effect of healthcare reform and initiatives, (viii) the mix of revenue between staffing and solutions, (ix) currency exchange risks, (x) risks associated with operating in foreign jurisdictions, (xi) renegotiations, nullification, or breaches of contracts with clients, vendors, subcontractors or other parties, (xii) the impact of current and future laws and government regulation, as well as repeal or modification of such, affecting the information technology (IT) solutions and staffing industry, taxes and the Company's operations in particular, (xiii) industry and economic conditions, including fluctuations in demand for IT services, (xiv) consolidation among the Company's competitors or clients, (xv) the need to supplement or change our IT services in response to new offerings in the industry or changes in client requirements for IT products and solutions, (xvi) the risks associated with acquisitions, (xvii) actions of activist shareholders, and (xviii) the risks described in Item 1A of this annual report on Form 10-K and from time to time in the Company's reports filed with the Securities and Exchange Commission (SEC).

Item 1. Business

Overview

CTG was incorporated in Buffalo, New York on March 11, 1966, and its corporate headquarters are located at 800 Delaware Avenue, Buffalo, New York 14209 (716-882-8000). CTG is an information and technology solutions company with operations in North America, Western Europe, and India. CTG's 2019 employees and billable subcontractors total approximately 3,950 people worldwide. During 2019, the Company had ten operating subsidiaries: Computer Task Group of Canada, Inc., providing services in Canada; Computer Task Group Belgium N.V., CTG ITS S.A., Computer Task Group IT Solutions, S.A., Computer Task Group Luxembourg PSF S.A., Computer Task Group (U.K.) Limited, CTG Health Solutions N.V., Soft Company SAS ("Soft Company"), and Tech-IT PSF S.A. ("Tech-IT"), each primarily providing services in Europe; and Computer Task Information Technology Private Services Limited, providing services in India. The parent corporation, CTG, Inc., primarily performs services in North America.

The Company primarily operates in one industry segment, providing information and technology services to its clients. These services include information and technology-related solutions, including supplemental staffing as a solution. With solution services, we generally take responsibility for the deliverables and some level of project and staff management, and services may include high-end advisory or business-related consulting. When providing staffing services, including managed staffing, staff augmentation, and volume staffing, we typically supply personnel to our clients who then, in turn, take their direction from the clients' managers.

Services

CTG provides a range of innovative solutions across industries that address our clients' most pressing information, technology, and business challenges. The Company's consultants make technology work for its clients and deliver real business value. CTG primarily serves the following industries: healthcare and life sciences, manufacturing, energy, financial services, government, technology, and telecommunications. The services provided typically encompass the IT

business solution life cycle, including phases for planning, developing, implementing, managing, and ultimately maintaining the IT solution. A typical client is an organization with large, complex information and data processing requirements.

CTG's flexible offerings can be delivered using one or more of four delivery approaches, allowing the Company to meet each client's unique needs. The following describes the typical services provided via each delivery approach:

- Strategy: CTG's strategic consulting engagements deliver customized recommendations and plans that address business and IT challenges and maximize benefit realization. Consultants apply business, information, and technology insights to guide clients through business challenges via effective use of technology, from IT strategy and system selection, to workflow process design.
- Solutions: CTG's information and technology solutions include engagements with a fixed duration and
 deliverables that achieve value-based outcomes. These solutions include the implementation, maintenance, and
 optimization of software applications, the development and deployment of customized software and solutions
 designed to fit the needs of a specific client or market, comprehensive testing solutions that help CTG's clients
 assess, develop, improve, implement, and automate testing programs, and the design and distribution of
 complex technology components.
- Services: CTG's services deliver ongoing support with service-level responsibility for a range of IT functions to
 ensure system availability and high client satisfaction. CTG provides multi-tier expertise for the management of
 mission-critical enterprise IT functions, including help/service desk; infrastructure maintenance; application
 management, support and testing; and, technical and business monitoring.
- **Staffing:** CTG's staffing services address a range of information and technology resource needs, from filling specific talent gaps to managing high-volume staffing programs. CTG recruits, retains, and manages IT talent for its clients, which are primarily large technology service providers and other companies with multiple locations and a significant need for high-volume professional IT resources.

IT solutions and IT and other staffing revenue as a percentage of consolidated revenue for the three years ended December 31, 2019, 2018, and 2017 is as follows:

	2019	2018	2017
IT solutions	36%	31%	30%
IT and other staffing	64%	69%	70%
Total	100%	100%	100%

Capabilities

CTG's range of global offerings span six service areas that, collectively, address many of its clients' most pressing information, technology, and business challenges. CTG's capabilities ensure that its clients are utilizing the right information technology to meet their business needs, maximizing the value from their IT systems, and operating in the most efficient and effective manner. All offerings are supported by proven program and project management processes, tools, and industry-best practices that ensure the reliability, transparency, and accountability that the Company's clients have come to expect.

CTG provides solutions in the following areas:

- Business Solutions and Consulting: Helps CTG's clients gain a sustainable advantage by providing
 comprehensive solutions that combine strategic advisory services, technical expertise, industry-specific
 knowledge, and the ability to implement recommendations. Services include strategy, assessments, and
 business requirements; benefits realization; performance improvement; and customized technology solutions.
- **Application Solutions:** Provides clients with a full range of offerings designed to maximize enterprise software and application investment value, efficiency, and effectiveness in support of each client's unique strategic objectives. Services include development; performance management; deployment, implementation, and integration; upgrades and optimization; hosting, support, and management; and, application support and service desk.
- Testing: Ensures new and legacy technologies are rigorously verified to meet business requirements, industry standards, and government regulations. CTG delivers full testing programs for clients or can help clients with individual service offerings, including testing advisory consulting; performance testing; test methodology and process; test automation; test tool implementation; and test training and certifications.

- Information Management: Designed to support today's intelligence and connected enterprise and provide CTG's clients with the ability to better manage, and derive greater value from, data with services that include business process; data management; collaboration and document control; analytics and visualization; and solutions designed to address the regulatory compliance requirements of some of the industries and markets that CTG serves, such as good practice quality guidelines and regulations (GxP), General Data Protection Regulation (GDPR), and the lawful disclosure of data and information to law enforcement agencies from telecommunication providers.
- Infrastructure, Operations, and Support: Ensure the right processes, people, and technology are in place to support business goals and make technology work for CTG's clients in order to safeguard business continuity and help ensure the clients' infrastructure, operations, and technologies keep pace with organizational growth. Services include help desk/service desk (Tier 1); technology selection; technology lifecycle management; IT services management (ITSM) process improvement; disaster recovery and business continuity; and, organizational project and change management.
- IT Consulting and Staffing: Provide clients with reliable services and professional technical talent in a consistent, efficient, and cost-effective manner. CTG addresses a variety of talent requirements and fulfills a range of technical and professional roles, including project managers, engineers, developers, business and technical analysts, database administrators, testers, DevOps, and more.

Vertical Markets

The Company promotes a majority of its services through five vertical market focus areas: technology service providers, manufacturing, healthcare (which includes services provided to healthcare providers, health insurers (payers), and life sciences companies), financial services, and energy. The remainder of CTG's revenue is derived from general markets.

CTG's revenue by vertical market as a percentage of consolidated revenue for the three years ended December 31, 2019, 2018, and 2017 is as follows:

	2019	2018	2017
Technology service providers	32.2%	32.4%	33.1%
Manufacturing	16.8%	19.5%	24.3%
Healthcare	16.6%	16.2%	16.8%
Financial services	13.8%	15.2%	9.1%
Energy	5.2%	4.7%	5.0%
General markets	15.4%	12.0%	11.7%
Total	100.0%	100.0%	100.0%

Revenue for the Company's technology service providers vertical market as a percentage of consolidated revenue decreased slightly in 2019 as compared with 2018 due to a change in business mix as the Company focused on selling its IT solutions services, which are not included in this vertical market. The revenue as a percentage of consolidated revenue decreased for 2018 as compared with 2017 due to a change in business mix and a decrease in demand from this vertical market.

The revenue in our manufacturing vertical market is primarily generated from several large staffing clients, including Lenovo (through SDI as a vendor manager for Lenovo) which is our second largest client. Revenue from Lenovo and other large clients decreased in 2019 as compared with 2018, and in 2018 as compared with 2017, due to a decrease in demand from these clients for the Company's services.

In 2019, the demand from our healthcare clients increased at a rate that was slightly above the overall revenue increase for the Company, which caused the percentage of total revenue to increase. This increase was a reversal in trend as compared with a reduction in 2018 as revenue fell due to the completion of electronic health records (EHR) and related projects that was not offset through new engagements.

Revenue for the Company's financial services vertical market as a percentage of consolidated revenue decreased in 2019 as compared to 2018 due to lower demand from these clients throughout our European operations. Revenue in this vertical market significantly increased in 2018 as compared with 2017 due to the addition of Soft Company in February 2018, which provides a large portion of its services to the financial services market.

Revenue for the Company's energy vertical market increased as a percentage of consolidated revenue in 2019 due to strong demand for our services in this market. The revenue for the Company's energy vertical market decreased as a percentage of consolidated revenue in 2018 as compared with 2017 given the revenue increase in this vertical market was less than the growth in other vertical markets.

For the year ended December 31, 2019, CTG provided its services to 519 clients in North America and Europe. In North America, the Company operates in the United States and Canada, with greater than 99% of 2019 North American revenue generated in the United States. In Europe, the Company operates in Belgium, Luxembourg, France, and the United Kingdom. Of total 2019 consolidated revenue of \$394.2 million, approximately 61% was generated in North America and 39% in Europe. One client, IBM, accounted for greater than 10% of CTG's consolidated revenue in 2019.

Revenue Recognition and Backlog

The Company recognizes revenue when control of the promised good or service is transferred to clients, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. For time-and-material contracts, revenue is recognized as hours are incurred and costs are expended. For contracts with progress billing schedules, primarily monthly, revenue is recognized as services are rendered to the client. Revenue for fixed-price contracts is recognized over time using an input-based approach. Over time revenue recognition best portrays the Company's performance in transferring control of the goods or services to the client. On most fixed price contracts. revenue recognition is supported through contractual clauses that require the client to pay for work performed to date, including cost plus a reasonable profit margin, for goods or services that have no alternative use to the Company. On certain contracts, revenue recognition is supported through contractual clauses that indicate the client controls the asset, or work in process, as the Company creates or enhances the asset. On a given project, actual salary and indirect labor costs incurred are measured and compared with the total estimate of costs of such items at the completion of the project. Revenue is recognized based upon the percentage-of-completion calculation of total incurred costs to total estimated costs. The Company infrequently works on fixed-price projects that include significant amounts of material or other nonlabor related costs that could distort the percent complete within a percentage-of-completion calculation. The Company's estimate of the total labor costs it expects to incur over the term of the contract is based on the nature of the project and our experience on similar projects, and includes management judgments and estimates that affect the amount of revenue recognized on fixed-price contracts in any accounting period. Losses on fixed-price projects are recorded when identified.

The Company's revenue from contracts accounted for under time-and-material, progress billing, and percentage-of-completion methods as a percentage of consolidated revenue for the three years ended December 31, 2019, 2018, and 2017 is as follows:

	2019	2018	2017
Time-and-material	79.6%	84.7%	85.9%
Progress billing	10.2%	10.5%	10.8%
Percentage-of-completion	10.2%	4.8%	3.3%
Total	100.0%	100.0%	100.0%

As of December 31, 2019 and 2018, the backlog for fixed-price and all managed-support contracts was approximately \$53.6 million and \$52.0 million, respectively. Approximately 58% or \$31.0 million of the December 31, 2019 backlog is expected to be earned in 2020. Approximately 53% of the \$52.0 million of backlog at December 31, 2018, or \$27.4 million, was earned in 2019. Revenue is subject to slight seasonal variations, with a minor slowdown and a decrease in billable resource utilization in months of high vacation and legal holidays (July, August, and December). Backlog does not tend to be seasonal; however, it does fluctuate based upon the timing of entry into long-term contracts.

Competition

The IT services market, for both information and technology solutions and IT and professional staffing services, is highly competitive. The market is also highly fragmented with many providers and no single competitor maintaining clear market leadership. Competition varies by location, the type of service, and the client to whom services are provided. The Company's competition comes from four major channels: large national or international companies, including major accounting and consulting firms and large companies headquartered in India; hardware vendors and suppliers of packaged software systems; small local firms or individuals specializing in specific programming services or applications; and from a client's internal IT staff. CTG competes against all four of these channels for its share of the market. The Company believes that to compete successfully it is necessary to have a local geographic presence, offer appropriate IT solutions, provide skilled professional resources, and price its services competitively.

Intellectual Property

The Company has registered its symbol and logo with the U.S. Patent and Trademark Office and has taken steps to preserve its rights in other countries where it operates. We regard patents, trademarks, copyrights and other intellectual property as important to our success, and we rely on them in the United States and foreign countries to protect our investments in products and technology. Our patents expire at various times, but we believe that the loss or expiration of any individual patent would not materially affect our business. We, like any other company, may be subject to claims of alleged infringement of the patents, trademarks and other intellectual property rights of third parties from time to time in the ordinary course of business. CTG has entered into agreements with various software and hardware vendors from time to time in the normal course of business, and has capitalized certain costs under software development projects.

Employees

CTG's business depends on the Company's ability to attract and retain qualified professional staff to provide services to its clients. The Company has a structured recruiting organization that works with its clients to meet their requirements by recruiting, retaining, and providing high quality, motivated staff. As the Company works with a number of subcontractors with Soft Company, which was acquired on February 15, 2018, the Company now includes subcontractors in its total headcount, which equals approximately 3,950 employees worldwide, with approximately 2,650 in the United States and Canada and 1,300 in Europe. Of these employees, approximately 3,550 are IT professionals and 400 are individuals who work in sales, recruiting, delivery, administrative and support positions. The Company believes that its relationship with its employees is good and supported by the Company's 2019 recognition as a Great Place to Work® in North America, Belgium, and Luxembourg. No employees are covered by a collective bargaining agreement or are represented by a labor union. CTG is an equal opportunity employer.

Financial Information About Geographic Areas

The following table sets forth certain financial information relating to the performance of the Company for the three years ended December 31, 2019, 2018, and 2017. This information should be read in conjunction with the audited consolidated financial statements and notes thereto included in Item 8, "Financial Statements and Supplementary Data" included in this report.

	 2019		2018	2017
(amounts in thousands)				
Revenue from External Clients:				
United States	\$ 241,038	\$	232,178	\$ 219,886
Luxembourg (2)	64,852		44,660	36,954
Belgium (1)	52,468		48,585	39,347
Other countries	35,812		33,346	5,023
Total foreign revenue	153,132		126,591	81,324
Total revenue	\$ 394,170	\$	358,769	\$ 301,210
Operating Income (loss):				
United States (5)	\$ 733	\$	(3,083)	\$ 221
Luxembourg (2)	2,363		1,731	2,841
France (4)	1,346		1,129	_
United Kingdom (3)	1,199		671	596
Belgium (1)	1,159		1,528	439
Other countries	112		104	71
Total foreign operating income (5)	6,179		5,163	3,947
Total operating income	\$ 6,912	\$	2,080	\$ 4,168
Total Assets:		-		
United States	\$ 54,043	\$	39,488	\$ 83,499
Luxembourg (2)	42,943		26,355	22,478
Belgium (1)	30,159		27,128	18,410
France (4)	26,500		27,425	2,360
Other countries	5,061		3,725	888
Total foreign assets	104,663		84,633	44,136
Total assets	\$ 158,706	\$	124,121	\$ 127,635

- (1) Revenue, operating income, and assets for our Belgium operations have been disclosed separately as they exceed 10% of the consolidated balances in at least one of the years presented.
- (2) Revenue, operating income, and assets for our Luxembourg operations have been disclosed separately as they exceed 10% of the consolidated balance in at least one of the years presented.
- (3) Operating income for our United Kingdom operations has been disclosed separately as it exceeds 10% of the consolidated balance in at least one of the years presented.
- (4) Operating income and assets for our France operations have been disclosed separately as they exceed 10% of the consolidated balance in at least one of the years presented.
- (5) During 2019 and 2018, the Company allocated corporate support costs primarily for management, finance and information technology services from the United States to our foreign operations to reflect costs that are recorded in the United States but support our foreign operations. These allocations totaled \$1.6 million and \$0.9 million in 2019 and 2018, respectively, and are not reflected in these operating income (loss) totals.

Available Company Information

The Company's annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (Exchange Act), and reports pertaining to the Company filed under Section 16 of the Exchange Act are available without charge on the Company's website at www.ctg.com as soon as reasonably practicable after the Company electronically files the information with, or furnishes it to, the SEC. The SEC's website, www.sec.gov, contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The Company's code of ethics (Code of Conduct), committee charters and governance policies (including a fraud and insider trading policy) are also available without charge on the Company's website at http://investors.ctg.com/corporate-governance. If applicable, the Company intends to disclose future amendments to, or waivers from, certain provisions of the Code of Conduct on the Company's website or in a current report on Form 8-K.

Item 1A. Risk Factors

The following risk factors should be read carefully in connection with evaluating our business and the forward-looking information contained in this Annual Report on Form 10-K. The risk factors below represent what we believe are the known material risk factors with respect to the Company and our business. Any of the following risks could materially adversely affect our business, our operations, the industry in which we operate, our financial position, or our future financial results.

Our business depends on the availability of a large number of highly qualified IT professionals, sales and management personnel, and our ability to recruit and retain these individuals.

We actively compete with many other IT service providers for qualified personnel, including professional IT staff, recruiters, sales people, and management. The availability of qualified personnel may affect our future ability to provide services and meet the requirements of our clients. An inability to fulfill client requirements at agreed upon rates due to a lack of available qualified personnel may adversely impact our revenue and operating results in the future.

Increased competition and the bargaining power of our large clients may cause our billing rates to decline, which would have an adverse effect on our revenue and, if we are unable to control our personnel costs accordingly, on our margins and operating results.

We have experienced reductions in the rates we bill a number of our larger clients for services due to highly competitive market conditions. Additionally, we actively compete against many other companies for business at both new and existing clients. Billing rate reductions or competitive pressures may lead to a further decline in revenue. When faced with such pressures, if we are unable to make commensurate reductions in our personnel costs, our margins and operating results would be adversely affected.

We derive a significant portion of our revenue from two clients, and a significant reduction in the amount of requirements requested by these clients would have an adverse effect on our revenue and operating results.

IBM and SDI are CTG's two largest clients. CTG provides services to various IBM divisions in a number of locations. SDI acts as a vendor manager for Lenovo, and all of the Company's revenue generated through SDI relates to CTG

employees working at various divisions of Lenovo. Subsequent to December 31, 2019, the National Technical Services Agreement (NTS Agreement) with IBM was extended for four months and now expires on May 1, 2020. In 2019, 2018, and 2017, IBM accounted for \$84.9 million or 21.5%, \$80.6 million or 22.5%, and \$76.4 million or 25.4% of the Company's consolidated revenue, respectively. SDI accounted for \$28.1 million or 7.1%, \$27.6 million or 7.7%, and \$34.2 million or 11.4% of the Company's consolidated revenue, respectively, during these periods. The Company's accounts receivable from IBM at December 31, 2019 and 2018 totaled \$23.0 million and \$22.1 million, respectively, and accounts receivable from SDI totaled \$3.2 million and \$3.6 million, respectively.

Our client contracts generally have a short term or are terminable on short notice, and a significant number of failures to renew contracts in place, or early terminations or renegotiations of our existing client contracts could adversely affect our results of operations.

Our clients typically retain us on a non-exclusive, engagement-by-engagement basis, rather than under exclusive long-term contracts. We performed 79.6% of our services on a time-and-materials basis during 2019. As such, our clients generally have the right to terminate a contract with us upon written notice without the payment of any financial penalty. Client projects may involve multiple engagements or stages, and there is a risk that a client may choose not to retain us for additional stages of a project, or that a client will cancel or delay additional planned engagements. These terminations, cancellations, or delays could result from factors that are beyond our control and are unrelated to our work product or the progress of the project, but could be related to business or financial conditions of the client, changes in client strategies or the economy in general. When contracts are terminated, we lose the anticipated future revenue and we may not be able to eliminate the associated costs required to support those contracts in a timely manner. Consequently, our operating results in subsequent periods may be lower than expected. Our clients can cancel or reduce the scope of their engagements with us on short notice. If they do so, we may be unable to reassign our professionals to new engagements without delay. The cancellation or reduction in scope of an engagement could, therefore, reduce the utilization rate of our professionals, which would have a negative impact on our business, financial condition, and results of operations. As a result of these and other factors, our past financial performance should not be relied on as a guarantee of similar or improved future performance. Due to these factors, we believe that our results from operations in the future may fluctuate from period to period.

The introduction of new IT services or changes in client requirements for IT services may render our existing IT Solutions or IT Staffing offerings obsolete or unnecessary, which, if we are unable to keep pace with these corresponding changes, could have an adverse effect on our business.

Our success depends, in part, on our ability to implement and deliver IT Solutions or IT and other staffing services that anticipate and keep pace with rapid and continuing changes in technology, industry standards, and client preferences and requirements. We may not be successful in anticipating or responding to these developments on a timely basis, and our offerings may not be successful in the marketplace. Also, services, solutions, and technologies developed by our competitors may make our solutions or staffing offerings uncompetitive or obsolete. Any one of these circumstances could have a material adverse effect on our ability to obtain and successfully complete client engagements.

We could be subject to liability and damage to our reputation resulting from cyber attacks or data breaches.

Cyber risks for companies providing global information technology (IT) and professional services, especially in regulated industries, continue to increase. This increase in risk may be attributed to the increasing value and dependence on data, including organizations' intellectual property and citizens' personal data that could be misused for identity theft and fraud. While the value and dependence of data has increased, likewise the reliance on electronic communications, mobile technologies, social networking, hybrid and cloud-based resources, smart devices, and emerging technologies continues to grow. In some regions, the regulatory compliance requirements surrounding data protection and privacy have also increased. In addition, the sophistication and organization of cyber attacks continues to evolve, as does the sophistication of threat actors such as organized crime, hackers, terrorists, activists, insider threats, foreign governments, and third parties, and their motives.

The Company's business, operations, and its clients rely on the secure processing, transmission, storage, integrity, and availability of information, services, and resources provided by its IT environments and operational processes. The Company's complex IT environments support a variety of technologies, industries, delivery services, regulatory compliance requirements, and clients globally.

Although the Company has not experienced any prior material data breaches, regulatory non-compliance incidents, or cyber security incidents, its environments may be impacted by cyber attacks or cyber security incidents caused via the aforementioned threat actors or the Company's personnel. These incidents could result in information loss, result in the disruption of the Company's internal or client-supporting operations and services, adversely affect its adherence with

regulatory requirements, or result in a data breach. Data losses and data breaches could include the unauthorized disclosure, misuse, loss, and destruction of both the Company's and its clients' intellectual property, financial information, or other regulated or privacy-related information, including but not limited to United States personally identifiable information (PII), personal data under the European General Data Protection Regulation (GDPR), and protected health information (PHI) under the United States Health Insurance Portability and Accountability Act of 1996 (HIPAA).

The Company's failure to reasonably protect sensitive data and address the regulatory compliance requirements of data and associated internal or delivery services under the Company's control could result in reputational damage, fines and penalties, litigation costs, external investigations, compensation costs including reimbursement and monetary awards, prohibition of providing services in a region or industry, and/or additional compliance costs that could have a material, adverse impact on the Company's operations. It could also have an adverse impact on the Company's ability to maintain and execute new contracts with clients that produce or work with similar data, and make it more difficult to retain and recruit qualified personnel to perform its services in the future. As the cyber threat and regulatory compliance landscape continues to evolve and the Company's risk profile changes, it may be required to expend additional resources to enhance existing and implement new risk mitigation strategies.

The foreign currency exchange, legislative, tax, regulatory and economic risks associated with international operations could have an adverse effect on our operating results if we are unable to mitigate or hedge these risks.

We have operations in the United States and Canada in North America, in Belgium, Luxembourg, France, and the United Kingdom in Europe, and in India. Although our foreign operations conduct their business in their local currencies, these operations are subject to their own currency fluctuations, legislation, employment and tax law changes, and economic climates. These factors as they relate to our foreign operations are different than those of the United States. Although we actively manage these foreign operations with local management teams, our overall operating results may be negatively affected by local economic conditions, changes in foreign currency exchange rates, or tax, regulatory or other economic changes beyond our control.

In addition, any widespread outbreak of an illness, pandemic or other local or global health issue (including COVID-19), natural disasters, climate change impacts, or uncertain political climates, international hostilities, or any terrorist activities, could adversely affect customer demand, the Company's operations, and its ability to source and deliver services to its customers, which could have a material adverse effect on the Company's financial results. For example, the U.K. referendum to exit from the European Union, commonly referred to as "Brexit," has caused global economic, trade and regulatory uncertainty. The company is actively monitoring and planning for Brexit.

Government cuts in healthcare programs, such as Medicare, and delays in legislative or regulatory healthcare mandates could cause a reduction in IT spending by our healthcare clients, which could materially and adversely affect our revenue and results of operations.

The Company's growth efforts include a focus on the healthcare market. Growth in this market depends on continued spending by our healthcare clients on IT projects. Cuts in government healthcare programs, such as sequestration, which has periodically cut Medicare reimbursements to hospitals and health systems, may result in reduced expenditures by our healthcare clients on IT projects. If additional government cuts in healthcare programs were to occur, whether due to the failure of Congress to adopt a budget, pass appropriations bills or raise the U.S. debt ceiling or for other reasons, there may be delays, reductions or cessation of funding to our clients, which could cause our clients to purchase less IT services from us, which could materially and adversely affect our revenue and results of operations.

In addition, delays in implementation of legislative or regulatory healthcare mandates could adversely affect the IT spending by our healthcare clients to implement such mandates. If the implementation of existing or contemplated legislative or regulatory healthcare mandates are deferred, the resulting reduction in IT spending by our healthcare clients could materially and adversely affect our revenue and results of operations.

Changes in government regulations and laws affecting the IT services industry, and the industries in which our clients operate, including accounting principles and interpretations, and the taxation of domestic operations could adversely affect our results of operations.

Changing laws, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Patient Protection and Affordable Care Act (PPACA), and new SEC regulations, create uncertainty for companies such as ours. These laws, regulations, and standards are subject to varying interpretations which, in many instances, is due to their lack of specificity. As a result, the application of these standards and regulations 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 are committed to maintaining high standards of corporate governance and public disclosure. As a result, our efforts to comply with evolving laws, tax regulations and other standards have resulted in, and are likely to continue to result in, increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities. In particular, our continuing efforts to comply with Section 404 of the Sarbanes-Oxley Act of 2002 and the related regulations regarding our required assessment of our internal controls over financial reporting and our independent auditors' audit of internal control require the commitment of significant internal, financial and managerial resources.

The Financial Accounting Standards Board (FASB), the SEC, and the Public Company Accounting Oversight Board (PCAOB) or other accounting rule making authorities have issued and may continue to issue new accounting rules or auditing standards that are different than those that we presently apply to our financial results. Such new accounting rules or auditing standards could require significant changes from the way we currently report our financial condition, results of operations or cash flows.

U.S. generally accepted accounting principles have been the subject of frequent changes in interpretations. As a result of the enactment of the Sarbanes-Oxley Act of 2002 and the review of accounting policies by the SEC as well as by national and international accounting standards bodies, the frequency of future accounting policy changes may accelerate. Such future changes in financial accounting standards may have a significant effect on our reported results of operations, including results of transactions entered into before the effective date of the changes.

We are subject to income and other taxes in the United States (federal and state) and numerous foreign jurisdictions. Our provisions for income and other taxes and our tax liabilities in the future could be adversely affected by numerous factors. These factors include, but are not limited to, income before taxes being lower than anticipated in countries with lower statutory tax rates and higher than anticipated in countries with higher statutory tax rates, changes in the valuation of deferred tax assets and liabilities, and changes in various federal, state and international tax laws, regulations, accounting principles or interpretations thereof, which could adversely impact our financial condition, results of operations, and cash flows in future periods. Due to the enactment of the Tax Cuts and Jobs Act in 2017, the Company recorded an additional \$1.7 million of tax expense upon enactment. There could be additional estimates related to the Tax Cuts and Jobs Act that could adversely affect our future financial position.

Existing and potential clients may outsource or consider outsourcing their IT requirements to foreign countries in which we may not currently have operations, which could have an adverse effect on our ability to obtain new clients or retain existing clients.

In recent years, more companies have started using, or are considering using, low-cost offshore outsourcing centers to perform technology-related work and complete projects. Currently, we have partnered with clients to perform services outside of North America to mitigate and reduce this risk to our Company. However, the risk of additional outsourcing of IT solutions overseas to countries where we do not have operations could have a material, adverse impact on our future operations.

Decreases in demand for IT Solutions and IT and Other Staffing services in the future would cause an adverse effect on our revenue and operating results.

The Company's revenue and operating results are significantly affected by changes in demand for its services. In the past, when the world economy deteriorated there was a significant decline in demand for the Company's services which negatively affected the Company's revenue and operating results as compared with prior years. Declines in demand for the requirement for our IT services in 2020 or future years would adversely affect our operating results as it has in the past.

The IT services industry is highly competitive and fragmented, which means that our clients have a number of choices for providers of IT services and we may not be able to compete effectively.

The market for our services is highly competitive. The market is fragmented, and no company holds a dominant position. Consequently, our competition for client requirements and experienced personnel varies significantly by geographic area and by the type of service provided. Some of our competitors are larger and have greater technical, financial, and marketing resources and greater name recognition than we have in the markets we collectively serve. In addition, clients may elect to increase their internal IT system resources to satisfy their custom software development and integration needs. Finally, our industry is being impacted by the growing use of lower-cost offshore delivery capabilities

(primarily India and other parts of Asia). There can be no assurance that we will be able to continue to compete successfully with existing or future competitors or that future competition will not have a material adverse effect on our results of operations and financial condition.

If we are unable to collect our receivables or unbilled services, our results of operations, financial condition, and cash flows could be adversely affected.

Our business depends on our ability to successfully obtain payment from our clients of the amounts they owe us for work performed. We evaluate the financial condition of our clients and typically bill and collect on reasonable cycles. We might, however, not accurately assess the creditworthiness of our clients, or macroeconomic conditions could also result in financial difficulties for our clients, including bankruptcy and insolvency. In certain industries, some clients have requested longer payment terms, which has adversely affected, and may continue to adversely affect, our cash flows. The timely collection of client balances also depends on our ability to complete our contractual commitments as required. If we are unable to meet our commitments or bill our clients on a timely basis, our results of operations and cash flows could be adversely affected. We have established allowances for losses of receivables and unbilled services where we deem the amounts to be uncollectible. The uncollectible amounts due to the Company from clients could differ from those that we currently anticipate.

Our share price could fluctuate and be difficult to predict.

Our share price has fluctuated in the past and could continue to fluctuate in the future in response to various factors, both external and internal. These factors include:

- changes in macroeconomic or political factors unrelated to our business in the geographies in which we operate;
- general or industry-specific market conditions or changes in financial markets;
- our failure to meet our growth or financial objectives (including revenue, operating margins, and earnings per share targets);
- our ability to generate cash flow to return cash to our shareholders at historical levels or levels expected by our stockholders;
- announcements by us or competitors about developments in our business or prospects; and
- projections or speculation about our business by the media or investment analysts.

If we repatriate our cash balances from our foreign operations, we may be subject to additional tax liabilities.

We earn a portion of our operating income outside of the United States, and any repatriation or deemed repatriation of funds currently held in foreign jurisdictions to the United States may result in additional tax liabilities for the Company. In addition, there have been changes to the tax laws in the United States that significantly impact how United States-based multinational corporations are taxed on foreign earnings. Any further changes in these tax laws could have a material adverse impact on our tax expense and cash flows.

Ineffective internal controls could impact the Company's business and operating results.

The Company's internal control over financial reporting may not prevent or detect misstatements because of the inherent limitations of internal controls, including the possibility of human error, the circumvention or overriding of controls, poorly designed or ineffective controls, or fraud. Internal controls that are deemed to be effective can provide only reasonable assurance with respect to the preparation and fair presentation of the Company's consolidated financial statements. If the Company fails to maintain the adequacy of its internal controls, including the failure to implement new or improve existing controls, or fails to properly execute or properly test these controls, the Company's business and operating results could be adversely impacted and the Company could fail to meet its financial reporting obligations.

Changing economic conditions and the effect of such changes on accounting estimates could have a material impact on our results of operations.

The Company has also made a number of estimates and assumptions relating to the reporting of its assets and liabilities and the disclosure of contingent assets and liabilities to prepare its consolidated financial statements pursuant to the rules and regulations of the SEC and other accounting rulemaking authorities. Such estimates primarily relate to the

valuation of stock options for recording equity-based compensation expense, allowances for doubtful accounts receivable, investment valuation, discount rates associated with pension plans, incurred but not recorded claims related to the Company's self-insured medical plan, valuation allowances for deferred tax assets, acquisition and related accounting, legal matters, other contingencies and estimates of progress toward completion and direct profit or loss on contracts, as applicable. As future events and their effects cannot be determined with precision, actual results could differ from these estimates. Changes in the economic climates in which the Company operates may affect these estimates and will be reflected in the Company's consolidated financial statements in the event they occur. Such changes could result in a material impact on the Company's results of operations.

Risks to the Company from acquisitions include integration challenges, disruptions of the Company's core business, a failure to achieve objectives, and the assumption of liabilities.

The Company regularly evaluates acquisitions to aid the Company's growth in revenue and profits by expanding the services the Company offers in the geographies in which the Company operates, and its client base. Acquisitions often present significant challenges and risks relating to the integration of the business into the Company, and there can be no assurances that the Company will manage acquisitions successfully, that the Company's core business will not be significantly disrupted after an acquisition is finalized, or that strategic acquisition opportunities will be available to the Company on acceptable terms. The risks from an acquisition include the Company failing to achieve strategic objectives and anticipated revenue and profit improvements, borrowing a significant amount of money to fund the acquisitions which creates financial stress for the Company's operations, as well as failing to retain the key personnel of the acquired business. Finally, the assumption of liabilities related to litigation or other legal proceedings involving the acquired business may present a significant risk.

We may require additional capital to support our business, and this capital may not be available to us on acceptable terms, if at all.

On December 21, 2017, the Company entered into a Credit and Security Agreement, which provides for a three-year revolving credit facility in an aggregate principal amount of \$45.0 million, including a sublimit of \$10.0 million for letters of credit and a \$10.0 million sublimit for swing line loans. The Credit and Security Agreement was amended on December 23, 2019 to extend its term for three years and now expires in December 2022. At December 31, 2019, we had \$5.3 million of borrowings outstanding under our revolving credit facility. The Company may be dependent on our revolving credit facility to meet working capital and operational requirements, and access to our facility is dependent on, among other things, compliance with applicable covenants, including fixed charge coverage ratio, consolidated earnings before interest, taxes, depreciation, and amortization (EBITDA) targets, and a limit on annual expenditures for property, plant, equipment, and capitalized software. The fixed charge coverage ratio is only tested if availability on a measurement date is below a threshold. The amount available for borrowing under the revolving credit facility could be significantly reduced due to poor operational performance, or other factors. Any loss or material reduction of our ability to access funds under the revolving credit facility could materially and negatively impact our liquidity.

Actions of activist stockholders could cause us to incur substantial costs, divert management's and the board's attention and resources, and have an adverse affect on our business and stock price.

From time to time, we may be subject to proposals by stockholders urging us to take certain corporate actions. If activist stockholder activities ensue, our business could be adversely affected as responding to proxy contests and reacting to other actions by activist stockholders can be costly and time-consuming, disrupt our operations, and divert the attention of management and our board of directors, all of which could interfere with our ability to execute our strategic plan. We may be required to retain the services of various professionals to advise us on activist stockholder matters, including legal, financial and communications advisors, the costs of which may adversely affect our future financial results. In addition, the perceived uncertainties as to our future direction, strategy or leadership created as a consequence of activist stockholder initiatives may result in the loss of potential business opportunities, harm our ability to attract new investors, clients, and employees, and cause our stock price to experience periods of volatility or stagnation.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

At December 31, 2019, the Company owned its headquarters building at 800 Delaware Avenue located in Buffalo, New York. This building is operated by CTG of Buffalo, a subsidiary of the Company which is part of the Company's North American operations. The corporate headquarters consists of approximately 48,000 square feet and is occupied by

corporate administrative operations. At December 31, 2019, this property was not used as collateral as part of the Company's existing revolving credit agreement.

The Company previously owned a corporate administrative building at 700 Delaware Avenue located in Buffalo, New York. The Company sold its corporate administrative building in February 2018 for \$1.8 million, and as the book value was \$1.6 million, we recorded an immaterial gain on the sale.

All of the remaining Company locations, totaling approximately 20 sites, are leased facilities. Most of these facilities are located in the United States, with eight (8) of these locations in Europe in the countries of Belgium, Luxembourg, France and the United Kingdom, where our European operations are located, and one in Hyderabad, India. These facilities generally serve as sales and support offices and their size varies with the number of people employed at each office, ranging from 250 to approximately 23,000 square feet. The Company's lease terms vary from periods of less than a year to fifteen years and typically have flexible renewal options. The Company believes that its presently owned and leased facilities are adequate to support its current and anticipated future needs.

Item 3. Legal Proceedings

The Company and its subsidiaries are involved from time to time in various legal proceedings arising in the ordinary course of business. Although the outcome of lawsuits or other proceedings involving the Company and its subsidiaries cannot be predicted with certainty and the amount of any liability that could arise with respect to such lawsuits or other proceedings cannot be predicted accurately, management does not expect these matters, if any, to have a material adverse effect on the financial position, results of operations, or cash flows of the Company.

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

Stock Market Information

The Company's common stock is traded on The NASDAQ Stock Market LLC under the symbol CTG. The following table sets forth the high and low sales prices for the Company's common stock for each quarter of the previous two years.

Stock Price	High		Low	
Year Ended December 31, 2019				
Fourth Quarter	\$	6.10	\$	4.78
Third Quarter	\$	5.26	\$	4.03
Second Quarter	\$	4.74	\$	4.00
First Quarter	\$	4.64	\$	4.01
Year Ended December 31, 2018				
Fourth Quarter	\$	5.65	\$	3.85
Third Quarter	\$	8.21	\$	5.16
Second Quarter	\$	9.24	\$	6.31
First Quarter	\$	8.35	\$	4.97

On March 9, 2020, there were 1,250 holders of record of the Company's common shares. The Company currently does not pay a dividend. A dividend was last paid in the 2016 fourth quarter. At December 31, 2019, under the terms of the Company's revolving credit facility, the Company is required to meet certain financial covenants in order to pay dividends. The Company was in compliance with these financial covenants at both December 31, 2019 and 2018. For additional information regarding these financial covenants, see Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations - Financial Condition and Liquidity." The determination of the timing, amount and the payment of dividends, if any, on the Company's common stock in the future is at the discretion of the Board of Directors and will depend upon, among other things, the Company's profitability, liquidity, financial condition, capital requirements, and compliance with the covenants under the Company's Credit and Security agreement. The Company currently has no intention to pay a dividend in the foreseeable future.

For information concerning common stock issued in connection with the Company's equity compensation plans, see Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters."

Issuer Purchases of Equity Securities

The Company's Board of Directors has authorized the repurchase of its stock up to a total of \$30.0 million. As of March 9, 2020, the Company had repurchased approximately \$22.3 million shares pursuant to the authorization, leaving a remaining authorization of approximately \$7.7 million.

On February 15, 2018, the Company announced its intent to commence in the future a modified "Dutch auction" tender offer to repurchase up to 10% of its outstanding shares of common stock. On April 20, 2018, the Company accepted for payment an aggregate of 1,530,990 shares of its common stock at a purchase price of \$8.85 per share, for an aggregate cost of approximately \$13.5 million, excluding fees and expenses related to the tender offer.

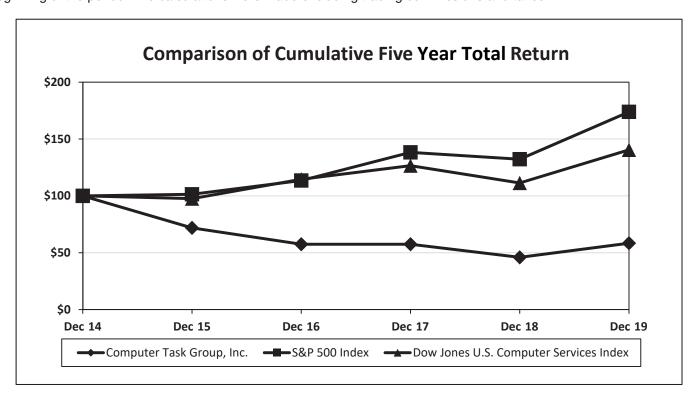
The information below for the fiscal fourth quarter of 2019 does not include shares withheld by or surrendered to the Company either to satisfy the exercise cost for the cashless exercise of employee stock options, or to satisfy tax withholding obligations associated with employee equity awards as the number of shares is minor.

Period	Total Number of Shares Purchased		Average Price Paid per Share*	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Amount that May Yet be Purchased Under the Plans Or Programs	
		_	Onare			
September 28 - October 31	_	\$	_	_	\$	7,727,724
November 1 - November 30	_	\$	_	_	\$	7,727,724
December 1 - December 31	<u> </u>	\$			\$	7,727,724
Total	_	\$	_	_		

^{*} Excludes broker commissions

Company Performance Graph

The following graph displays a five-year comparison of cumulative total shareholder returns for the Company's common stock, the S&P 500 Index, and the Dow Jones U.S. Computer Services Index, assuming a base index of \$100 at the end of 2014. The cumulative total return for each annual period within the five years presented is measured by dividing (1) the sum of (A) the cumulative amount of dividends for the period, assuming dividend reinvestment, and (B) the difference between the Company's share price at the end and the beginning of the period by (2) the share price at the beginning of the period. The calculations were made excluding trading commissions and taxes.



	Base Period		I	s			
	December 2014	December 2015	December 2016	December 2017	December 2018	December 2019	
Computer Task Group, Inc.	\$ 100.00	\$ 71.86	\$ 47.43	\$ 57.46	\$ 45.96	\$ 58.36	
S&P 500 Index	\$ 100.00	\$ 101.38	\$ 113.51	\$ 138.29	\$ 132.23	\$ 173.86	
Dow Jones U.S. Computer Services Index	\$ 100.00	\$ 97.58	\$ 114.60	\$ 126.55	\$ 111.38	\$ 140.49	

The information included under this section entitled "Company Performance Graph" is deemed not to be "soliciting material" or "filed" with the SEC, is not subject to the liabilities of Section 18 of the Exchange Act, and shall not be deemed incorporated by reference into any of the filings previously made or made in the future by the Company under the Exchange Act or the Securities Act of 1933, except to the extent the Company specifically incorporates any such information into a document that is filed.

Item 6. Selected Financial Data

Consolidated Summary—Five-Year Selected Financial Information

The selected operating data and financial position information set forth below for each of the years in the five-year period ended December 31, 2019 has been derived from the Company's audited consolidated financial statements. This information should be read in conjunction with the audited consolidated financial statements and notes thereto in Item 8, "Financial Statements and Supplementary Data" included in this report.

	 2019	 2018	2017		2016		 2015
(amounts in millions, except per-share data)	(1)	(2)		(3)		(4)	(5)
Operating Data							
Revenue	\$ 394.2	\$ 358.8	\$	301.2	\$	324.9	\$ 369.5
Operating income (loss)	\$ 6.9	\$ 2.1	\$	3.9	\$	(33.3)	\$ 10.6
Net income (loss)	\$ 4.1	\$ (2.8)	\$	0.8	\$	(34.6)	\$ 6.5
Basic net income (loss) per share	\$ 0.31	\$ (0.20)	\$	0.05	\$	(2.22)	\$ 0.42
Diluted net income (loss) per share	\$ 0.29	\$ (0.20)	\$	0.05	\$	(2.22)	\$ 0.41
Cash dividend per share	\$ _	\$ _	\$	_	\$	0.18	\$ 0.24
Financial Position							
Working capital	\$ 45.0	\$ 51.9	\$	50.8	\$	53.7	\$ 53.0
Total assets	\$ 158.7	\$ 124.1	\$	127.6	\$	126.9	\$ 163.1
Long-term debt	\$ 5.3	\$ 3.6	\$	4.4	\$	4.7	\$ 1.2
Shareholders' equity	\$ 66.2	\$ 64.2	\$	78.6	\$	78.8	\$ 117.7

- (1) During 2019, the Company incurred acquisition-related legal and consulting fees, adjustments to the fair value of earn-out liabilities, and amortization of intangible assets of approximately \$2.3 million. These expenses reduced net income by approximately \$1.5 million, or \$0.11 per basic and \$0.11 per diluted share.
- (2) During 2018, the Company recorded a valuation allowance against its U.S. deferred tax assets of \$4.1 million based on the history of U.S. losses for tax purposes and uncertain profitability in future years. The Company incurred acquisition-related legal and consulting fees, adjustments to the fair value of the earn-out liability, and amortization of intangible assets of approximately \$2.0 million. The Company also recorded severance of approximately \$0.7 million for former executives. Finally, the Company recorded a \$0.8 million gain from non-taxable life insurance for a former executive that passed away in 2018. These expenses increased net loss by a net amount of \$6.0 million and basic and diluted loss per share by \$0.43.
- (3) During 2017, the Company incurred \$1.2 million of unexpected costs associated with the Company's self-insured medical plan, and \$0.8 million for severance charges for former executives, which reduced operating income by a total of \$2.0 million. Additionally, the Company was impacted by the enactment of the Tax Cuts and Jobs Act, which resulted in the Company recording an additional \$1.7 million of tax expense upon enactment. Finally, the Company recorded a \$0.4 million gain from non-taxable life insurance for a former executive that passed away in 2017. These charges decreased net income by a net amount of \$2.5 million and basic and diluted loss per share by \$0.17.
- (4) During 2016, the Company incurred \$37.3 million related to goodwill impairment charges, and \$1.5 million for severance charges for two former executives, which reduced operating income by a total of \$38.8 million. These charges increased net loss by \$38.3 million and basic and diluted loss per share by \$2.45.
- (5) During 2015, the Company incurred approximately \$1.1 million of costs relating to the disposal of one of the Company's capitalized software projects. The Company also incurred approximately \$1.2 million of costs relating to severance charges in Europe. In total, these costs reduced operating income by \$2.3 million, net income by \$1.2 million, and basic and diluted net income per share by \$0.08. Included in net income is \$0.2 million from a non-taxable life insurance gain for a former executive that passed away in 2015.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations Forward-Looking Statements

This annual report on Form 10-K contains forward-looking statements made by the management of Computer Task Group, Incorporated (CTG, the Company or the Registrant) that are subject to a number of risks and uncertainties. These forward-looking statements are based on information as of the date of this report. The Company assumes no obligation to update these statements based on information from and after the date of this report. Generally, forward looking statements include words or phrases such as "anticipates," "believes," "estimates," "expects," "intends," "plans," "projects," "could," "may," "might," "should," "will" and words and phrases of similar impact. The forward-looking statements include, but are not limited to, statements regarding future operations, industry trends or conditions and the business environment, and statements regarding future levels of or trends in business strategy and expectations, new business opportunities, cost control initiatives, business wins, market demand, revenue, operating expenses, capital expenditures, and financing. The forward-looking statements are made pursuant to safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Numerous factors could cause actual results to differ materially from those in the forward-looking statements, including the following: (i) the availability to CTG of qualified professional staff, (ii) domestic and foreign industry competition for clients and talent, including technical, sales and management personnel, (iii) increased bargaining power of large clients, (iv) the Company's ability to protect confidential client data, (v) the partial or complete loss of the revenue the Company generates from International Business Machines Corporation (IBM) and other significant clients, (vi) the uncertainty of clients' implementations of cost reduction projects, (vii) the effect of healthcare reform and initiatives, (viii) the mix of revenue between staffing and solutions, (ix) currency exchange risks, (x) risks associated with operating in foreign jurisdictions, (xi) renegotiations, nullification, or breaches of contracts with clients, vendors, subcontractors or other parties, (xii) the impact of current and future laws and government regulation, as well as repeal or modification of such, affecting the information technology (IT) solutions and staffing industry, taxes and the Company's operations in particular, (xiii) industry and economic conditions, including fluctuations in demand for IT services, (xiv) consolidation among the Company's competitors or clients, (xv) the need to supplement or change our IT services in response to new offerings in the industry or changes in client requirements for IT products and solutions, (xvi) the risks associated with acquisitions, (xvii) actions of activist shareholders, and (xviii) the risks described in Item 1A of this annual report on Form 10-K and from time to time in the Company's reports filed with the Securities and Exchange Commission (SEC).

Industry Trends

The market demand for the Company's services is heavily dependent on information and technology-related spending by major corporations, organizations and government entities in the markets and regions that we serve. The pace of technology advances and changes in business requirements and practices of our clients all have a significant impact on the demand for the services that we provide. Competition for new engagements and pricing pressure has been strong. Throughout 2017, many of our healthcare clients did not begin new projects when existing projects ended due to their capital constraints. The demand for the Company's information and technology-related solutions business, primarily in our healthcare vertical market in North America improved in 2018 and 2019 as spending increased along with the improving economy.

The Company operates in one industry segment, providing information and technology-related services to its clients. These services include information and technology-related solutions, including supplemental staffing as a solution. With solutions services, we generally take responsibility for the deliverables and some level of project and staff management, and services may include high-end advisory or business related consulting. When providing staffing services, including managed staffing, staff augmentation, and volume staffing, we typically supply personnel to our clients who then, in turn, take their direction from the clients' managers.

IT solutions and IT and other staffing revenue as a percentage of consolidated revenue for the three years ended December 31, 2019, 2018, and 2017 is as follows:

	2019	2018	2017
IT solutions	36%	31%	30%
IT and other staffing	64%	69%	70%
Total	100%	100%	100%

The Company promotes a majority of its services through five vertical market focus areas: technology service providers, manufacturing, healthcare (which includes services provided to healthcare providers, health insurers (payers), and life sciences companies), financial services, and energy. The remainder of CTG's revenue is derived from general markets.

CTG's revenue by vertical market as a percentage of consolidated revenue for the three years ended December 31, 2019, 2018, and 2017 is as follows:

	2019	2018	2017
Technology service providers	32.2%	32.4%	33.1%
Manufacturing	16.8%	19.5%	24.3%
Healthcare	16.6%	16.2%	16.8%
Financial services	13.8%	15.2%	9.1%
Energy	5.2%	4.7%	5.0%
General markets	15.4%	12.0%	11.7%
Total	100.0%	100.0%	100.0%

The IT services industry is extremely competitive and characterized by continuous changes in client requirements and improvements in technologies. Our competition varies significantly by geographic region, as well as by the type of service provided. Many of our competitors are larger than CTG, and have greater financial, technical, sales, and marketing resources. In addition, the Company frequently competes with a client's own internal IT staff. Our industry is impacted by the growing use of lower-cost offshore delivery capabilities (primarily India and other parts of Asia). There can be no assurance that we will be able to continue to compete successfully with existing or future competitors or that future competition will not have a material adverse effect on our results of operations and financial condition.

Revenue Recognition

The Company recognizes revenue when control of the promised good or service is transferred to clients, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. For time-and-material contracts, revenue is recognized as hours are incurred and costs are expended. For contracts with progress billing schedules, primarily monthly, revenue is recognized as services are rendered to the client. Revenue for fixed-price contracts is recognized over time using an input-based approach. Over time revenue recognition best portrays the Company's performance in transferring control of the goods or services to the client. On most fixed price contracts, revenue recognition is supported through contractual clauses that require the client to pay for work performed to date, including cost plus a reasonable profit margin, for goods or services that have no alternative use to the Company. On certain contracts, revenue recognition is supported through contractual clauses that indicate the client controls the asset, or work in process, as the Company creates or enhances the asset. On a given project, actual salary and indirect labor costs incurred are measured and compared with the total estimate of costs of such items at the completion of the project. Revenue is recognized based upon the percentage-of-completion calculation of total incurred costs to total estimated costs. The Company infrequently works on fixed-price projects that include significant amounts of material or other nonlabor related costs that could distort the percent complete within a percentage-of-completion calculation. The Company's estimate of the total labor costs it expects to incur over the term of the contract is based on the nature of the project and our experience on similar projects, and includes management judgments and estimates that affect the amount of revenue recognized on fixed-price contracts in any accounting period. Losses on fixed-price projects are recorded when identified.

The Company's revenue from contracts accounted for under time-and-material, progress billing, and percentage-of-completion methods as a percentage of consolidated revenue for the three years ended December 31, 2019, 2018, and 2017 is as follows:

	2019	2018	2017
Time-and-material	79.6%	84.7%	85.9%
Progress billing	10.2%	10.5%	10.8%
Percentage-of-completion	10.2%	4.8%	3.3%
Total	100.0%	100.0%	100.0%

Results of Operations

The table below sets forth percentage information calculated as a percentage of consolidated revenue as reported on the Company's consolidated statements of operations as included in Item 8, "Financial Statements and Supplementary Data" in this report.

Year Ended December 31, (percentage of revenue)	2019	2018	2017
Revenue	100.0%	100.0%	100.0%
Direct costs	80.9%	80.9%	81.4%
Selling, general and administrative expenses	17.3%	18.5%	17.2%
Operating income	1.8%	0.6%	1.4%
Interest and other income (expense), net	(0.2)%	0.1%	_
Income before income taxes	1.6%	0.7%	1.4%
Provision for income taxes	0.6%	1.5%	1.1%
Net income (loss)	1.0%	(0.8)%	0.3%

2019 as compared with 2018

The Company recorded revenue in 2019 and 2018 as follows:

Year Ended December 31, (dollars in thousands)	% of total	2019	% of total	2018	Year-Over- Year Change
North America	61.5%	\$ 242,218	64.9%	\$ 232,695	4.1%
Europe	38.5%	151,952	35.1%	126,074	20.5%
Total	100.0%	\$ 394,170	100.0%	\$ 358,769	9.9%

The Company's focus, throughout its operations, is to expand the amount of IT Solutions services it provides to its clients, as compared with IT staffing services, and to become a solutions-centric company. IT Solutions provide significant value to our clients, and drive higher bill rates and margins for the Company. Our existing solutions, such as application maintenance and outsourcing, data management and testing, combined with new or expanded solutions through acquisitions, will give the Company a broader set of IT solutions to provide to its clients. Additionally, the Company will continue to expand the capabilities of its existing solutions by adding elements such as robotic process automation and artificial intelligence.

The revenue increase in North America in 2019 as compared with 2018 was primarily due to a significant increase in demand for the Company's IT solutions business, primarily in our healthcare vertical market, and a modest increase in demand for our IT staffing business, primarily in our technology services provider vertical market. The revenue increase in Europe is primarily due to strong demand for the Company's services in the European markets we serve, and the acquisition of Tech-IT on February 6, 2019, which at the time of acquisition had estimated annual revenue of approximately \$20 million. Reimbursable expenses billed to clients and included in revenue totaled \$2.6 million and \$3.2 million in 2019 and 2018, respectively.

On a consolidated basis, IT solutions revenue increased \$28.2 million or 24.9% in 2019 as compared with 2018. The increase is primarily due to an increase in IT solutions services in both North America and Europe and the addition of Tech-IT, which conducts its operations in Luxembourg. In North America, we continue to shift our focus to IT solutions services, as the profit on those engagements is significantly higher than the profit on our IT staffing services. In our European operations, greater than 50% of the services we provide to clients are IT solutions, and those operations have consistently grown organically at a rate that far exceeds the growth rate for IT services of 3-5% in the markets in which we conduct business. The acquisition of Tech-IT expanded our IT solutions services by adding software and hardware services, including consulting, infrastructure and software design and development, infrastructure integration, project management, and training.

Also on a consolidated basis, IT and other staffing revenue increased \$7.2 million or 2.9% during 2019 as compared with 2018. The IT staffing revenue increase was primarily due to growth in IT staffing in North America with our largest client, IBM.

Additionally, given the Company's strategic focus on becoming a more solutions-centric company, a decision was made, starting in the second half of 2019, to critically evaluate each significant staffing engagement as it comes up for

renewal to determine if the Company wants to continue to provide those services to its client. Those decisions are based on, among other factors, critically evaluating the work performed, the availability of the resources, the client, the long-term opportunities for the service provided at the client, and the revenue and profit associated with the engagement. Accordingly, the Company made a decision to disengage from several small engagements and a large staffing engagement late in 2019. While these decisions will negatively affect revenue during 2020, the Company believes the reallocation of resources away from these engagements to other higher margin, IT solutions services will positively impact the Company in the long-term, and aid in the transformation to a more solutions-centric IT services provider.

Following the acquisition of Soft Company in 2018, which relies heavily on billable subcontractors (non-employees), we revised how we define and calculate headcount in order to report all billable consultants, including both employees and subcontractors. Accordingly, the Company's billable consultants were approximately 3,950 at December 31, 2019, which was a 4.8% decrease from approximately 4,150 billable consultants at December 31, 2018. Approximately 91% of this headcount is for technical resources and 9% for support positions. The decrease in headcount year-over-year was due to disengaging from several IT staffing projects late in 2019.

The significant increase in revenue in the Company's European operations in 2019 as compared with 2018 was due to an increase in demand for the Company's IT solutions services across a number of the vertical markets we serve. The weakness relative to the U.S. dollar of the currencies in Belgium, Luxembourg, France, and the United Kingdom, the countries in which the Company's European subsidiaries operate, offset this significant increase. In Belgium, Luxembourg, and France, the functional currency is the Euro, while in the United Kingdom the functional currency is the British Pound. In 2019 as compared with 2018, the average value of the Euro decreased 5.2%, and the average value of the British Pound decreased 4.3%. A significant portion of the Company's revenue from its European operations is recorded in Belgium, Luxembourg, and France. Had there been no change in these exchange rates from 2018 to 2019, total European revenue would have been approximately \$8.4 million higher, or \$160.3 million as compared with the \$152.0 million reported. When considering the year-over-year change in revenue in constant currencies, revenue from our European operations increased 27.2%. Operating income was negatively impacted by \$0.3 million in 2019 as compared with 2018 given the decrease in the exchange rates year-over-year.

The Company continues to assess the potential impact, if any, that the United Kingdom's exit from the European Union will have its operations. As the total revenue generated by our British subsidiary is immaterial when compared with the Company's total consolidated revenue, we do not expect the impact of the pending exit to have a material impact on the Company's operations, and we have not experienced any significant impact to date.

International Business Machines Corporation (IBM) was CTG's largest client and accounted for \$84.9 million or 21.5% and \$80.6 million or 22.5% of the Company's consolidated revenue in 2019 and 2018, respectively. The National Technical Services Agreement with IBM was extended for four months and now expires on May 1, 2020. The Company continues to negotiate with IBM on a long-term extension of this agreement. As part of the National Technical Services Agreement, the Company provides its services as a predominant supplier primarily to IBM's Integrated Technology Services and the Systems and Technology Group business units. This agreement accounted for approximately 70% of all of the services provided to IBM by the Company in 2019. The Company's accounts receivable from IBM at December 31, 2019 and 2018 totaled \$23.0 million and \$22.1 million, respectively.

We expect to continue to derive a significant portion of our revenue from IBM in future years; however, a significant decline or the loss of the revenue from this client would have a significant negative effect on our operating results. No other client accounted for more than 10% of the Company's revenue in 2019 or 2018.

Direct costs, defined as costs for billable staff including billable out-of-pocket expenses, were 80.9% of consolidated revenue in both 2019 and 2018. In 2019, direct costs as a percentage of revenue fell throughout the year from a high of 81.8% in the first quarter to a low of 79.6% in the fourth quarter as the Company's strategy to focus on selling IT solutions had an increasing impact on the Company's financial results as the year went on. Additionally, the decision to disengage from a large, low margin staffing engagement, as well as other smaller engagements late in 2019, had a modest impact on the year's direct cost percentage.

Selling, general and administrative (SG&A) expenses were 17.3% of revenue in 2019 as compared with 18.5% of revenue in 2018. The decrease in SG&A expenses as a percentage of revenue in 2019 as compared with 2018 is primarily due to a concerted effort to reduce certain support costs while continuing to invest in sales and other resources that support IT solutions services in order to focus on the Company's long-term growth. Additionally, SG&A in 2019 included acquisition-related costs of \$2.3 million, primarily the amortization of intangible assets resulting from our recent acquisitions. SG&A in 2018 includes acquisition-related costs totaling \$2.0 million, and \$0.7 million in severance.

Operating income was 1.8% of revenue in 2019 as compared with 0.6% of revenue in 2018. Operating income from the North American operations was \$0.8 million in 2019 before allocations of \$1.6 million to foreign operations, compared

with a loss of \$2.4 million in 2018 before allocations of \$0.9 million. The 2018 loss was impacted by investments in business development, recruiting, and marketing, totaling approximately \$3.5 million.

Operating income from our European operations was \$6.1 million in 2019 before allocations of \$1.6 million from our North American operations, compared with \$6.3 million in 2018 before allocations of \$0.9 million.

Other income (expense) was (0.2)% of revenue in 2019 and 0.1% of revenue in 2018. In 2018, the Company recorded a non-taxable life insurance gain of approximately \$0.8 million as one of its former executives passed away.

The Company's effective tax rate (ETR) is calculated based upon the full year's operating results and various tax related items. The ETR in 2019 was 34.4%, while the 2018 ETR was 224.2%.

The ETR in 2019 was impacted as a large portion of the Company's profits result from the Company's European operations where the effective tax rates are generally higher than in the U.S. Additionally, the ETR was higher in 2019 primarily due to non-deductible acquisition costs related to the Tech-IT and Soft Company acquisitions.

The ETR was high in 2018 primarily due to the Company recording a valuation allowance for its deferred tax assets in the U.S. totaling \$3.8 million as the Company had recurring pre-tax losses in recent years and uncertainty as to income in future years. The Company also incurred approximately \$0.7 million of tax associated with the GILTI provisions of the 2017 Tax Cut and Jobs Act, and \$0.3 million of tax from non-deductible acquisition-related costs in our European operations. These items, which caused additional tax expense, were offset by a non-taxable life insurance gain, the reversal of the valuation for deferred tax assets in the United Kingdom, the Tax Cuts and Jobs Act which reduced the US federal corporate tax rate to 21%, and tax benefits for the Work Opportunity Tax Credit (WOTC) and Research and Development tax credit (R&D).

Net income for 2019 was 1.0% of revenue or \$0.29 per diluted share, compared with net loss of (0.8)% of revenue or \$(0.20) per diluted share in 2018. Diluted earnings per share were calculated using 14.0 million weighted-average equivalent shares outstanding in 2019 and 13.8 million in 2018.

2018 as compared with 2017

The Company recorded revenue in 2018 and 2017 as follows:

Year Ended December 31, (dollars in thousands)	% of total	2018	% of total	2017	Year-Over- Year Change
North America	64.9%	\$ 232,695	73.1%	\$ 220,085	5.7%
Europe	35.1%	126,074	26.9%	81,125	55.4%
Total	100.0%	\$ 358,769	100.0%	\$ 301,210	19.1%

Reimbursable expenses billed to clients and included in revenue totaled \$3.2 million and \$3.3 million in 2018 and 2017, respectively.

The revenue increase in North America in 2018 as compared with 2017 was primarily due to a significant increase in demand for the Company's IT solutions business, primarily in our healthcare vertical market, and a modest increase in demand for our IT staffing business, primarily in our technology services provider vertical market. The revenue increase in Europe was primarily due to strong demand for the Company's services in the European markets we serve, and the acquisition of Soft Company on February 15, 2018, which had an annual revenue of approximately \$30 million.

On a consolidated basis, IT solutions revenue increased \$21.7 million or 23.7% in 2018 as compared with 2017. The increase was primarily due to an increase in IT solutions services in Europe and the addition of Soft Company, which was acquired on February 15, 2018. Soft Company primarily specializes in providing IT services to finance, insurance, telecom, and media services companies. The increase was also due in part to our strategy to shift to non-electronic health records (EHR) services in our healthcare vertical market. The Company expanded its healthcare IT business development team in 2018 with individuals who have experience selling healthcare IT services such as advisory and technical services, outsourcing, and staff augmentation. This team was successful in driving revenue growth in this vertical market and expanding the non-EHR healthcare related services we provide.

Also on a consolidated basis, IT and other staffing revenue increased \$35.9 million or 17.1% during 2018 as compared with 2017. The IT staffing increase was primarily due to the addition of Soft Company in the 2018 first guarter,

growth in IT staffing in North America, and in part due to a change in accounting related to the new revenue recognition standard which requires revenue we previously recorded on a net basis to now be recorded on a gross basis for billable subcontractors. The Company recorded \$4.6 million, or 1.3% of our 2018 consolidated revenue on a gross basis, which would have been recorded on a net basis under the Company's historic accounting under Topic 605. This accounting change solely related to the IT and other staffing services.

Following the acquisition of Soft Company, which relies heavily on billable subcontractors, we have revised how we define and calculate headcount in order to report all billable consultants, including both employees and subcontractors. Based on this new approach, the Company's headcount was approximately 4,150 at December 31, 2018, which was a 22.1% increase from approximately 3,400 billable consultants at December 31, 2017. Approximately 92% of this headcount was for technical resources and 8% for support positions.

The significant increase in revenue in the Company's European operations in 2018 as compared with the corresponding 2017 period was due to an increase in demand for the Company's IT solutions services across a number of the vertical markets we serve and the strength relative to the U.S. dollar of the currencies in Belgium and Luxembourg, France and the United Kingdom, the countries in which the Company's European subsidiaries operate. In Belgium, Luxembourg, and France, the functional currency is the Euro, while in the United Kingdom the functional currency is the British Pound. In 2018 as compared with 2017, the average value of the Euro increased 4.5%, and the average value of the British Pound increased 3.6%. A significant portion of the Company's revenue from its European operations is generated in Belgium and Luxembourg. Had there been no change in these exchange rates from 2017 to 2018, total European revenue would have been approximately \$4.9 million lower, or \$121.2 million as compared with the \$126.1 million reported. When considering the year-over-year change in revenue in constant currencies, revenue from our European operations increased 49.0%. Operating income increased by \$0.3 million in 2018 as compared with 2017 given the change in the exchange rates year-over-year.

International Business Machines Corporation (IBM) was CTG's largest client and accounted for \$80.6 million or 22.5% and \$76.4 million or 25.4% of the Company's consolidated revenue in 2018 and 2017, respectively. As part of the National Technical Services Agreement, the Company also provides its services as a predominant supplier to IBM's Integrated Technology Services and the Systems and Technology Group business units. This agreement accounted for approximately 72% of all of the services provided to IBM by the Company in 2018. The Company's accounts receivable from IBM at December 31, 2018 and 2017 totaled \$22.1 million and \$21.5 million, respectively.

SDI was the Company's second largest client and accounted for \$27.6 million or 7.7% and \$34.2 million or 11.4% of the Company's consolidated revenue in 2018 and 2017, respectively. SDI acts as a vendor manager for Lenovo, and all of the Company's revenue generated through SDI relates to CTG employees working at Lenovo. The Company's accounts receivable from SDI at December 31, 2018 and 2017 totaled \$3.6 million and \$4.7 million, respectively.

No other client accounted for more than 10% of the Company's revenue in 2018 or 2017.

Direct costs, defined as costs for billable staff including billable out-of-pocket expenses, were 80.9% and 81.4% of consolidated revenue in 2018 and 2017, respectively. Direct costs in 2018 were impacted by higher fringe benefit costs than planned. In the 2017 third quarter, the Company recorded a significant increase in fringe benefit costs primarily consisting of medical expense. The increase in medical expense, which totaled approximately \$1.0 million in direct costs, was due to much higher utilization of the Company's self-insured medical plan during the year. The Company also recorded \$0.4 million of severance charges in the 2017 second quarter. When considering these items, direct costs as a percentage of revenue in 2018 were comparable in 2017.

Selling, general and administrative (SG&A) expenses were 18.5% of revenue in 2018 as compared with 17.2% of revenue in 2017. The increase in SG&A expenses as a percentage of revenue in 2018 as compared with 2017 was primarily due to costs incurred by our operating units as the Company continued to make investments in sales, recruiting and delivery resources in order to focus on the Company's long-term growth. Additionally, SG&A in 2018 includes acquisition-related costs, including the amortization of intangible assets associated with the acquisition of Soft Company, totaling \$2.0 million, and \$0.7 million in severance.

Operating income was 0.6% of revenue in 2018 as compared with 1.4% of revenue in 2017. The operating loss from the North American operations was \$2.4 million in 2018 compared with \$0.1 million in 2017. The 2018 loss was impacted by investments in business development, recruiting, and marketing of nearly \$3.5 million, some of which have yet to generate revenue and profits. Additionally, the Company recorded \$2.0 million in acquisition related costs, and \$0.7 million in severance. Operating income in 2017 was reduced by a total of \$2.0 million from unusually high utilization of the Company's self-insured medical plan, and severance.

Operating income from our European operations was \$5.3 million in 2018 compared with \$4.0 million in 2017. The increase in operating income in 2018 compared with 2017 was primarily due to strong demand for the Company's services in the European markets we serve, and the acquisition of Soft Company completed in February 2018.

Other income (expense) was 0.1% of revenue in 2018 and 0.0% of revenue in 2017. In 2018 and 2017, the Company recorded a non-taxable life insurance gain of approximately \$0.8 and \$0.4 million, respectively, as one of its former executives passed away in each year.

The Company's effective tax rate (ETR) is calculated based upon the full year's operating results and various tax related items. The ETR in 2018 was 224.2%, while the 2017 ETR was 80.1%.

The ETR was high in 2018 primarily due to the Company recording a valuation allowance for its deferred tax assets in the U.S. totaling \$3.8 million as the Company has recurring pre-tax losses in recent years and uncertainty as to income in future years. The Company also incurred approximately \$0.7 million of tax associated with the GILTI provisions of the 2017 Tax Cut and Jobs Act, and \$0.3 million of tax from non-deductible acquisition-related costs in our foreign operations. These items, which caused additional tax expense, were offset by a non-taxable life insurance gain, the reversal of the valuation for deferred tax assets in the United Kingdom, the Tax Cut and Jobs Act which reduced the U.S. federal corporate tax rate to 21%, and tax benefits for the Work Opportunity Tax Credit (WOTC) and Research and Development tax credit (R&D).

The ETR was high in 2017 primarily due to the effects of the Tax Cuts & Jobs Act which resulted in the Company reducing its U.S. deferred tax assets by \$1.7 million, and the adoption of ASU 2016-09, "Improvements to Employee Share-Based Payment Accounting," which required the Company to record additional tax expense of \$0.3 million for shortfalls that would previously have been recorded to capital in excess of par value on the Company's consolidated balance sheet. This additional tax expense was partially offset by tax benefits for the Work Opportunity Tax Credit (WOTC) and Research and Development tax credit (R&D).

Net loss for 2018 was (0.8)% of revenue or \$(0.20) per diluted share, compared with net income of 0.3% of revenue or \$0.05 per diluted share in 2017. Diluted earnings per share were calculated using 13.8 million weighted-average equivalent shares outstanding in 2018 and 15.3 million in 2017. The decrease in shares year-over-year was due to the Company's Dutch auction tender offer where the Company repurchased approximately 10% of its outstanding shares in April 2018.

Critical Accounting Policies

The preparation of financial statements and related disclosures in conformity with U.S. generally accepted accounting principles requires the Company's management to make estimates, judgments and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. The Company's significant accounting policies are included in Note 1 to the consolidated financial statements contained in this annual report on Form 10-K under Item 8, "Financial Statements and Supplementary Data." These policies, along with the underlying assumptions and judgments made by the Company's management in their application, have a significant impact on the Company's consolidated financial statements. The Company identifies its most critical accounting policies as those that are the most pervasive and important to the portrayal of the Company's financial position and results of operations, and that require the most difficult, subjective and/or complex judgments by management regarding estimates about matters that are inherently uncertain. The Company's critical accounting policy is related to the valuation allowance for deferred income taxes.

Income Taxes—Valuation Allowances on Deferred Tax Assets

At December 31, 2019, the Company had a total of approximately \$0.5 million of deferred tax assets, and approximately \$2.1 million of deferred tax liabilities recorded on its consolidated balance sheet. The deferred tax assets, net, primarily consist of deferred compensation, loss carryforwards, and state taxes. The changes in deferred tax assets and liabilities from period to period are determined based upon the changes in differences between the basis of assets and liabilities for financial reporting purposes and the basis of assets and liabilities for tax purposes, as measured by the enacted tax rates when these differences are estimated to reverse. The Company has made certain assumptions regarding the timing of the reversal of these assets and liabilities, and whether taxable income in future periods will be sufficient to recognize all or a part of any gross deferred tax asset of the Company.

At December 31, 2019, the Company had deferred tax assets recorded resulting from net operating losses in previous years totaling approximately \$0.6 million. The Company has analyzed each jurisdiction's tax position, including

forecasting potential taxable income in future periods and the expiration of the net operating loss carryforwards as applicable, and determined that it is unclear whether all of these deferred tax assets will be realized at any point in the future. Accordingly, at December 31, 2019, the Company had offset a portion of these assets with a valuation allowance totaling approximately \$0.3 million, resulting in a net deferred tax asset from net operating loss carryforwards of approximately \$0.3 million.

The Company's deferred tax assets and their potential realizability are evaluated each quarter to determine if any changes should be made to the valuation allowance. Any change in the valuation allowance in the future could result in a change in the Company's ETR. A 1% change in the ETR in 2019 would have increased or decreased net income by approximately \$63,000, or less than \$0.01 per diluted share.

Other Estimates

The Company has also made a number of estimates and assumptions relating to the reporting of its assets and liabilities and the disclosure of contingent assets and liabilities to prepare the consolidated financial statements pursuant to the rules and regulations of the SEC, the FASB, and other regulatory authorities. Such estimates primarily relate to the valuation of stock options for recording equity-based compensation expense, allowances for doubtful accounts receivable, investment valuation, discount rates associated with pension plans, incurred but not reported healthcare claims, acquisition and related accounting, legal matters, and estimates of progress toward completion and direct profit or loss on contracts, as applicable. As future events and their effect on the Company's operating results cannot be determined with precision, actual results could differ from these estimates. Changes in the economic climates in which the Company operates may affect these estimates and will be reflected in the Company's financial statements in the event they occur.

Financial Condition and Liquidity

Cash provided by (used in) operating activities was \$8.5 million, \$(0.3) million, and \$9.2 million in 2019, 2018, and 2017, respectively. In 2019, net income was \$4.1 million, while other non-cash adjustments, primarily consisting of depreciation and amortization expense, equity-based compensation, deferred income taxes, and deferred compensation totaled \$4.3 million. In 2018 and 2017, net income (loss) was \$(2.8) million and \$0.8 million, respectively, while the corresponding non-cash adjustments netted to \$6.3 million and \$4.5 million, respectively.

Accounts receivable balances increased \$3.6 million in 2019 as compared with 2018, increased \$8.7 million in 2018 as compared with 2017, and decreased \$5.2 million in 2017 as compared with 2016. The increase in the accounts receivable balance in 2019 resulted from an increase in revenue of 6.6% in the 2019 fourth quarter as compared with the 2018 fourth quarter. In addition, the Company's days sales outstanding (DSO) increased in 2019 as compared with 2018. DSO is calculated by dividing accounts receivable obtained from the consolidated balance sheet by average daily revenue for the fourth quarter of the respective year. DSO was 85 days at December 31, 2019 as compared with DSO at December 31, 2018 of 82 days. DSO was 82 days at December 31, 2018 as compared with DSO at December 31, 2017 of 86 days.

The cash surrender value of life insurance policies decreased \$1.0 million in 2019, increased \$1.4 million in 2018, and increased \$0.8 million in 2017. The increase or decrease in each of the years was due to normal appreciation of the existing cash surrender value of the outstanding policies at each respective point in time, which in turn was reduced by the benefits paid upon the death of former executives in 2018 and 2017. Accounts payable increased \$3.9 million in 2019, increased less than \$0.1 million in 2018, and increased \$1.7 million in 2017. The increase in 2019 was primarily due to the growth in the size of the Company and the timing of payments made near year-end, while the increase in 2017 was primarily due to the timing of certain payments near year-end. Accrued compensation increased \$2.2 million in 2019 primarily due to significant growth in the Company's operations and higher incentives for 2019 to be paid early 2020, and increased \$2.6 million in 2018 primarily due to significant growth in the Company's operations and headcount. Accrued compensation decreased \$1.3 million in 2017 as compared with 2016 due to a reduction in employee headcount. Income taxes receivable increased by \$0.2 million in 2018 due to refunds received from the federal government and higher taxable income, and decreased by \$0.5 million in 2018 due to refunds received from the federal government. Income taxes receivable increased by \$0.6 million in 2017 due to the timing of payments made in 2017.

Investing activities used \$11.5 million, \$12.6 million, and \$3.2 million of cash in 2019, 2018, and 2017, respectively. In 2019, net cash paid for the acquisition of Tech-IT totaled \$8.5 million, while in 2018, cash paid for the acquisition of Soft Company was \$13.8 million. The Company also used cash for additions to property, equipment and capitalized software of \$2.4 million in 2019, \$2.2 million in 2018, and \$2.5 million in 2017. The Company expects the amount to be spent in 2020 on additions to property, equipment and capitalized software to be similar to the amount spent in 2019. The Company has no material commitments for future capital expenditures. The Company received approximately \$1.8 million

of proceeds from the sale of its corporate administrative building in the first quarter of 2018. As the carrying value of the building was \$1.6 million, the Company recorded a gain of \$0.1 million after applicable fees. The Company paid premiums totaling \$0.6 million for life insurance in 2019. The Company received a total of \$2.1 million of proceeds from life insurance policies on former executives in the 2018 first and fourth quarters, and paid premiums totaling \$0.7 million for life insurance policies in the 2018 period. Insurance premiums paid in 2017 were \$0.6 million. Net cash received from the Company's deferred compensation plans was \$0.2 million in the 2018 period.

Financing activities provided (used) \$1.8 million, \$14.6 million, and \$(5.5) million of cash in 2019, 2018, and 2017, respectively. Net cash received (paid) under the Company's revolving credit agreement was \$1.7 million in 2019 and \$(0.8) in 2018. Payments made to taxing authorities that represent the value of shares withheld for taxes in employee equity-based compensation transactions totaled \$0.2 million and \$0.3 million in the 2019 and 2018 periods, respectively. Cash overdrafts relate to the amount of outstanding checks at a point in time, and netted to less than \$0.1 million and \$(0.5) million in the 2019 and 2018 periods, respectively. In 2018, the Company borrowed \$29.3 million against the cash surrender value of its life insurance policies, primarily to return capital to shareholders through the "Dutch Auction" tender offer, fund the acquisition of Soft Company, and for general working capital purposes. The Company also used \$14.9 million to purchase 1,767,000 shares for treasury under its buyback program in the 2018 period, including 1,530,990 shares purchased under the "Dutch Auction" tender offer in the 2018 second quarter. The Company also used \$6.2 million to purchase 1.2 million shares for treasury under its buyback program in the 2017 period. As of December 31, 2019, \$7.7 million was available under the Company's authorization to purchase shares in future periods. The Company recorded less than \$0.1 million, \$1.8 million, and \$0.7 million during 2019, 2018, and 2017, respectively, from the proceeds from stock option exercises. The amount was lower in 2019 as compared with 2018 and 2017 primarily due to a lower amount of outstanding stock options "in the money" in 2019.

No dividends were paid in 2019, 2018, or 2017.

In December 2017, the Company entered into a Credit and Security Agreement (the "Credit and Security Agreement") with its bank, which provides for a three-year revolving credit facility in an aggregate principal amount of \$45.0 million, including a sublimit of \$10.0 million for letters of credit and a \$10.0 million sublimit for swing line loans.

The Credit and Security Agreement was amended in December 2019 and now expires in December 2022. The Credit and Security Agreement has interest rates ranging from 150 to 200 basis points over LIBOR or the greater of (i) the prime rate, (ii) the federal fund effective rate plus 50 basis points, and (iii) adjusted LIBOR plus 100 basis points plus a spread ranging from 50 to 100 basis points based on the amounts outstanding under the Credit and Security Agreement. The Company can borrow under the Credit and Security Agreement with either rate at its discretion. With the 2019 amendment, the Company also removed the receivables due to the Company from IBM as collateral to the arrangement. Concurrently, the Company entered into an agreement with a large international bank to advance the payment of the IBM receivables due to the Company in the event it chooses to do so. Currently, terms on the receivables from IBM range from 75-90 days from invoice date. Under this new arrangement, the Company could accelerate the payment of the receivables due from IBM to 15 days.

There was \$5.3 million, \$3.6 million, and \$4.4 million outstanding under the Company's lines of credit at December 31, 2019, 2018, and 2017, respectively. The Company borrows or repays its debt as needed based upon its working capital obligations, including the timing of the U.S. bi-weekly payroll.

The maximum amount outstanding under its credit agreements in 2019, 2018, and 2017 was \$22.3 million, \$12.8 million, and \$6.0 million, respectively. The average amounts outstanding during 2019, 2018, and 2017 were \$10.4 million, \$4.1 million, and \$2.2 million, respectively, and carried weighted-average interest rates of 2.8%, 3.4%, and 3.0%, respectively. Total commitment fees incurred in 2019 and 2018 totaled approximately \$0.3 million each year, and approximately \$0.1 million in 2017, while interest paid in 2019 totaled \$0.4 million, \$0.2 million in 2018, and less than \$0.1 million in 2017.

Under the Credit and Security Agreement, the Company is required to meet certain financial covenants in order to maintain borrowings under its revolving credit line, pay dividends, and make acquisitions. The covenants are measured quarterly, and at December 31, 2019, included a fixed charge coverage ratio, which must be less than 1.10 to 1.00, consolidated earnings before interest, taxes, depreciation, and amortization (EBITDA), adjusted for equity-based compensation and severance expense, must be no less than \$5.0 million for the trailing twelve months, and capital expenditures for property, plant, equipment, and capitalized software must be no more than \$5.0 million in any annual period. The fixed charge coverage ratio is only tested if availability on a measurement date is less than \$5.625 million. Actual borrowings by CTG under the Credit and Security Agreement are subject to a borrowing base, which is a formula based on certain eligible receivables and reserves. Total availability as of December 31, 2019 was approximately \$12.9 million. The Company was in compliance with these covenants at December 31, 2019 as EBITDA, as defined above, was

\$11.6 million and capital expenditures for property, equipment and capitalized software were \$2.4 million in 2019. The Company was also in compliance with its covenants at December 31, 2018 and December 31, 2017.

Of the total cash and cash equivalents reported on the consolidated balance sheet at December 31, 2019 of \$10.8 million, approximately \$10.2 million is held by the Company's foreign operations and is considered to be indefinitely reinvested in those operations. The Company has not repatriated any of its cash and cash equivalents from its foreign operations in the past five years, and has no intention of doing so in the foreseeable future as the funds are generally required to meet the working capital needs of its foreign operations.

At December 31, 2019, the Company believes existing internally available funds, cash potentially generated from future operations, and funds potentially available under the Company's revolving line of credit (subject to collateral limits) totaling \$39.5 million, will be sufficient to meet foreseeable working capital and capital expenditure needs, fund stock repurchases, pay a dividend (if any), fund acquisitions, and allow for future internal growth and expansion.

Off-Balance Sheet Arrangements

The Company did not have off-balance sheet arrangements or transactions in 2019, 2018, and 2017 other than guarantees in our European operations which support office leases and performance under government contracts. These guarantees totaled approximately \$3.0 million at December 31, 2019. Also, the Company has purchase obligations in 2020, 2021, and 2022 for certain software, recruiting and other services totaling \$1.8 million.

Quantitative and Qualitative Disclosures about Market Risk

The Company's primary market risk exposure consists of foreign currency exchange risk associated with the Company's European operations. See Item 7A, "Quantitative and Qualitative Disclosure about Market Risk" in this report.

Recently Issued Accounting Standards

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)," which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e. lessees and lessors). The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. Topic 842 supersedes the previous leases standard, ASC 840, Leases. This guidance is effective for reporting periods beginning after December 15, 2018, January 1, 2019, the Company adopted the new lease standard using the modified retrospective transition approach and elected the transition method to apply the new lease standard as of the January 1, 2019 adoption date. Results for the reporting periods beginning after January 1, 2019 are presented under Topic 842, while prior period amounts are not adjusted and continue to be reported in accordance with accounting under Topic 840. In addition, the Company elected the package of practical expedients, which permits the Company not to reassess under the new standard prior conclusions about lease identification, lease classification, and initial direct costs. The Company has also elected the practical expedient to separate lease and non-lease components for its office leases and has elected to group lease and non-lease components for its vehicle leases. Upon adoption of Topic 842 on January 1, 2019, the Company recorded approximately \$13.1 million of operating lease right-of-use assets and lease liabilities. The adoption of Topic 842 did not have a significant impact on the Company's consolidated statements of income, comprehensive income (loss), or its consolidated statements of cash flows. The new lease standard does not affect the Company's compliance with financial covenants associated with its Credit and Security Agreement.

In January 2018, the FASB issued ASU 2018-02, "Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (AOCI)", which gives entities the option to reclassify to retained earnings the tax effects resulting from the Act related to items in AOCI that the FASB refers to as having been stranded in AOCI. The guidance required new disclosures regarding a company's accounting policy for releasing the tax effects in AOCI and permit the company the option to reclassify to retained earnings the tax effects resulting from the Act that are stranded in AOCI. The Company reclassified approximately \$0.3 million to retained earnings due to the adoption of ASU 2018-02 in the 2018 fourth quarter.

In June 2016, the FASB issued ASU 2016-13, "Measurement of Credit Losses on Financial Instruments", which requires the immediate recognition of estimated credit losses expected to occur over the remaining life of many financial assets, including trade receivables. The allowance for credit losses will be the difference between the amortized

cost balance of a financial asset and the amount of amortized cost expected to be collected over the remaining contractual life. When determining the allowance, expected credit losses over the contractual term of the financial assets will be estimated considering relevant information about past events, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. Subsequent changes in the allowance will be recorded through the income statement as an expense adjustment. This guidance is effective for reporting periods beginning after December 15, 2019; however, early adoption is permitted. The Company will adopt the new credit loss standard on January 1, 2020. The Company evaluated the impact of this standard on its consolidated financial statements and it does not expect the impact to be material upon adoption.

In January 2017, the FASB issued ASU 2017-04,"Simplifying the Test for Goodwill Impairment," which simplifies how an entity is required to test goodwill for impairment by eliminating Step 2 from the goodwill impairment test. This guidance is effective for reporting periods beginning after December 15, 2019; however, early adoption is permitted. The Company will adopt the new standard on January 1, 2020 for the year ending December 31, 2020 on a prospective basis. The Company does not expect a significant impact from the adoption of this standard.

In August 2018, the FASB issued ASU 2018-15, "Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract", which helps entities evaluate the accounting for fees paid in a cloud computing arrangement (hosting arrangement) by providing guidance for determining when the arrangement includes a software license. This guidance is effective for fiscal years beginning after December 15, 2019; however, early adoption is permitted. The Company will adopt the new standard on a prospective basis on January 1, 2020 and does not expect a significant impact on its operations from the adoption of this standard.

Contractual Obligations

The Company intends to satisfy its contractual obligations from operating cash flows, and, if necessary, from draws on its demand credit line. A summary of the Company's contractual obligations at December 31, 2019 is as follows:

		Payments Due by Period								
(in millions)		Tota	<u> </u>	th	ess an ear		Years 2-3		Years 4-5	More than 5 years
Long-term debt	Α	\$	5.3	\$	_	\$	5.3	\$	_	\$ —
Operating lease obligations	В	2	22.5		6.0		8.0		3.7	4.8
Purchase obligations	С		1.8		1.7		0.1		_	_
Deferred compensation benefits (U.S.)	D		4.4		0.6		1.0		1.0	1.8
Deferred compensation benefits (Netherlands)	Ε		3.2		0.2		0.5		0.6	1.9
Deferred compensation benefits (Belgium)	F		1.9		_		0.3		0.2	1.4
Deferred compensation benefits (France)	G		0.1		_		_		_	0.1
Other long-term liabilities	Н		0.1		_		0.1		_	_
Contingent consideration (Soft Company)	I		8.0		0.8		_		_	_
Contingent consideration (Tech-IT)	J		0.7		0.4		0.3		_	_
Total		\$ 4	10.8	\$	9.7	\$	15.6	\$	5.5	\$ 10.0

- A On December 21, 2017, the Company entered into the Credit and Security Agreement which provides for a three-year revolving credit facility in an aggregate principal amount of \$45.0 million. The agreement was amended on December 23, 2019 for three years and now expires in December 2022. The Company uses this Credit and Security Agreement to fund its working capital obligations as needed, primarily funding the U.S. bi-weekly payroll. A total of \$5.3 million in borrowings was outstanding under the Credit and Security Agreement as of December 31, 2019.
- B Operating lease obligations relate to the rental of office space, office equipment, and automobiles leased by the Company. Total rental expense under operating leases in 2019, 2018, and 2017 was approximately \$6.8 million, \$6.6 million, and \$5.9 million, respectively.
- C The Company's purchase obligations in 2020, 2021 and 2022 total approximately \$1.8 million, including \$0.4 million for software maintenance, support and related fees, \$0.4 million for telecommunications, \$0.5 million for recruiting services, \$0.3 million for professional organization memberships, and \$0.2 million for computer-based training courses.
- D The Company is committed for deferred compensation benefits in the U.S. under two plans. The Executive Supplemental Benefit Plan (ESBP) provides certain former key executives with deferred compensation benefits. The

ESBP was amended as of November 30, 1994 to freeze benefits for participants at that time. At December 31, 2019, 15 individuals were receiving benefits under this plan. The ESBP is deemed to be unfunded as the Company has not specifically identified Company assets to be used to discharge the deferred compensation benefit liabilities.

- E The Company retained a contributory defined-benefit plan for its previous employees located in the Netherlands when the Company disposed of its subsidiary, CTG Nederland B.V. This plan was curtailed on January 1, 2003 for additional contributions. The Company does not anticipate making additional contributions to fund the plan in future years.
- F The Company maintains a fully funded pension plan for its CTG Belgium and CTG Health Solutions (Belgium) employees. The Company will continue to make contributions to fund the plan as needed in future years.
- G As a result of the acquisition of Soft Company on February 15, 2018, the Company maintains an unfunded pension plan related to the current Soft Company employees (FDBP). The Company will make payments as needed in the future.
- H The Company has other long-term liabilities including payments for a postretirement benefit plan for several retired employees and their spouses, totaling fewer than 10 participants.
- The Company has a contingent consideration liability related to an earn-out provision of which a portion will be payable in each period subject to the achievement by Soft Company of certain revenue and EBIT targets for fiscal 2018 and 2019. The Company paid approximately \$1.2 million in 2019 for the achievement of these targets for fiscal year 2018 and expects to pay \$0.8 in 2020 for the achievement of these targets for fiscal year 2019.
- J The Company has a contingent consideration liability related to an earn-out provision of which a portion will be payable in each period subject to the achievement by Tech-IT of certain direct profit targets for fiscal years 2019 and 2020. The Company expects to pay \$0.4 million related to the achievement of these targets for fiscal year 2019 and \$0.3 million related to fiscal year 2020.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

The Company's primary market risk exposure consists of foreign currency exchange risk associated with the Company's European operations.

During 2019, revenue was impacted by the year-over-year foreign currency exchange rate changes of Belgium, Luxembourg, France, and the United Kingdom, the countries in which the Company's European subsidiaries operate. In Belgium, Luxembourg, and France, the functional currency is the Euro, while in the United Kingdom the functional currency is the British Pound. Had there been no change in these exchange rates from 2018 to 2019, total European revenue would have been approximately \$8.4 million higher in 2019, or \$160.3 million as compared with the \$152.0 million reported. Operating income in the Company's European operations would have been \$0.3 million higher if there had been no change in foreign currency exchange rates year-over-year.

The Company has historically not used any market rate sensitive instruments to hedge its foreign currency exchange risk as it conducts its foreign operations in local currencies, which generally limits risk. The Company believes the market risk related to intercompany balances in future periods will not have a material effect on its results of operations.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders Computer Task Group, Incorporated

Opinion on the financial statements

We have audited the accompanying consolidated balance sheet of Computer Task Group, Incorporated (a New York corporation) and subsidiaries (the "Company") as of December 31, 2019, the related consolidated statements of operations, comprehensive income (loss), shareholders' equity, and cash flows for the year ended December 31, 2019, and the related notes and financial statement schedule included under Item 15(a) (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019, and the results of its operations and its cash flows for the year ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in the 2013 Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated March 13, 2020 expressed an unqualified opinion.

Change in accounting principle

As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for leases in 2019 due to the adoption of ASU No. 2016-02, *Leases (Topic 842)*.

Basis for opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audit. We are a public accounting firm registered with the 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 audit 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 financial statements are free of material misstatement, whether due to error or fraud. Our audit included performing procedures to assess the risks of material misstatement of the 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 supporting the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2019.

Cleveland, Ohio March 13, 2020

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors Computer Task Group, Incorporated:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheet of Computer Task Group, Incorporated and subsidiaries (the Company) as of December 31, 2018, the related consolidated statements of operations, comprehensive income (loss), cash flows, and shareholders' equity for each of the years in the two-year period ended December 31, 2018, and the related notes and financial statement schedule (collectively, 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 December 31, 2018, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these 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 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/ KPMG LLP

We served as the Company's auditor from 2003 to 2019.

Buffalo, New York March 15, 2019

Consolidated Statements of Operations

Year Ended December 31,	2019 2018		2018	 2017	
(amounts in thousands, except per-share data)					
Revenue	\$	394,170	\$	358,769	\$ 301,210
Direct costs		319,135		290,282	245,234
Selling, general and administrative expenses		68,123		66,407	 51,808
Operating income		6,912		2,080	4,168
Interest and other income		311		223	88
Non-taxable life insurance gain		_		807	390
Interest and other expense		934		841	589
Income before income taxes		6,289		2,269	4,057
Provision for income taxes		2,164		5,086	3,251
Net income (loss)	\$	4,125	\$	(2,817)	\$ 806
Net income (loss) per share:					
Basic	\$	0.31	\$	(0.20)	\$ 0.05
Diluted	\$	0.29	\$	(0.20)	\$ 0.05
Weighted average shares outstanding:					
Basic		13,450		13,805	15,055
Diluted		13,997		13,805	15,324

Consolidated Statements of Comprehensive Income (Loss)

Year Ended December 31, (amounts in thousands)	2019	2018	2017
Net income (loss)	\$ 4,125	\$ (2,817)	\$ 806
Foreign currency translation adjustment, net of taxes	(1,084)	(2,059)	2,481
Implementation of accounting standards	_	(263)	_
Change in pension loss, net of taxes of \$265, \$0, and \$308, in 2019, 2018 and 2017, respectively Other comprehensive income (loss)	(2,847) (3,931)	1,387 (935)	606 3,087
Comprehensive income (loss)	<u>\$ 194</u>	<u>\$ (3,752)</u>	\$ 3,893

Consolidated Balance Sheets

December 31,	2019			2018
(amounts in thousands, except share balances)				
Assets				
Current Assets:			_	
Cash and cash equivalents	\$	10,781	\$	12,431
Accounts receivable, net of allowances of \$84 and \$104 in 2019 and 2018,				
respectively		88,772		81,313
Prepaid and other current assets		2,064		1,925
Income taxes receivable		231		349
Total current assets		101,848		96,018
Property, equipment and capitalized software, net		6,379		5,656
Operating lease right-of-use assets		21,253		_
Deferred income taxes		453		767
Acquired intangibles, net		8,439		5,936
Goodwill		16,681		11,664
Cash surrender value of life insurance		3,133		3,476
Other assets		328		412
Investments		192		192
Total assets	\$	158,706	\$	124,121
Liabilities and Shareholders' Equity				
Current Liabilities:				
Accounts payable	\$	18,612	\$	12,387
Accrued compensation		23,538		21,434
Advance billings on contracts		1,704		2,875
Short-term operating lease liabilities		5,904		, <u> </u>
Other current liabilities		7,096		7,467
Total current liabilities		56,854		44,163
Long-term debt		5,290		3,640
Deferred compensation benefits		12,346		9,906
Long-term operating lease liabilities		15,349		
Deferred income taxes		2,101		1,632
Other long-term liabilities		530		552
Total liabilities		92,470		59,893
Shareholders' Equity:	-	,		
Common stock, par value \$0.01 per share, 150,000,000 shares authorized;				
27,017,824 shares issued in both periods		270		270
Capital in excess of par value		112,096		116,427
Retained earnings		86,673		82,548
Less: Treasury stock of 12,311,010 and 12,745,888 shares at cost, in 2019				,
and 2018, respectively		(114,261)		(120,406)
Accumulated other comprehensive loss		(18,542)		(14,611)
Total shareholders' equity		66,236		64,228
Total liabilities and shareholders' equity	\$	158,706	\$	124,121

Consolidated Statements of Cash Flows

Year Ended December 31,	2019	2018	2017
(amounts in thousands)			
Cash flow from operating activities:	Φ 4.405	Φ (0.047)	Φ 000
Net income (loss)	\$ 4,125	\$ (2,817)	\$ 806
Adjustments to reconcile net income (loss) to net cash provided by			
(used in) operating activities:	0.000	0.507	1 570
Depreciation and amortization expense	3,268	2,537	1,578
Equity-based compensation expense	1,748	2,353	1,059
Deferred income taxes	(294)	3,070	2,437
Deferred compensation benefits	(427)	(729)	(162)
Gain on the sale of property and equipment	_	(108)	(000)
Non-taxable life insurance gain	_	(807)	(390)
Changes in assets and liabilities that provide (use) cash, excluding			
the effects of acquisitions: Accounts receivable	(0.607)	(0.704)	F 000
	(3,627)	(8,724)	5,202
Prepaid and other current assets	952 84	174 847	85 (421)
Other long-term assets Cash surrender value of life insurance			(421)
	961	(1,406)	(772)
Accounts payable	3,864	30	1,651
Accrued compensation	2,203	2,580	(1,336)
Income taxes payable / receivable	(186)	497	(592)
Advance billings on contracts	(2,830)	210	808
Other current liabilities	(1,061)	2,508	(447)
Other long-term liabilities	(250)	(518)	(276)
Net cash provided by (used in) operating activities	8,530	(303)	9,230
Cash flow from investing activities:	(0.404)	(40.700)	
Cash paid for acquisitions, net of cash received	(8,461)	(13,782)	(4.557)
Additions to property and equipment	(1,773)	(2,011)	(1,557)
Additions to capitalized software	(669)	(234)	(952)
Proceeds from the sale of property and equipment	(010)	1,724	(222)
Premiums paid for life insurance	(618)	(702)	(632)
Life insurance proceeds	_	2,151	
Deferred compensation plan investments, net		209	(45)
Net cash used in investing activities	(11,521)	(12,645)	(3,186)
Cash flow from financing activities:			
Proceeds from long-term debt	170,920	134,386	60,620
Payments on long-term debt	(169,270)	(135,181)	(60,910)
Proceeds from stock option plan exercises	91	1,848	735
Proceeds from life insurance loans	_	29,268	_
Taxes remitted for shares withheld from equity-based			
compensation transactions	(172)	(329)	(328)
Proceeds from Employee Stock Purchase Plan	147	93	155
Change in cash overdraft, net	78	(528)	397
Purchase of stock for treasury		(14,945)	(6,159)
Net cash provided by (used in) financing activities	1,794	14,612	(5,490)
Effect of exchange rates on cash and cash equivalents	(453)	(403)	1,209
Net increase (decrease) in cash and cash equivalents	(1,650)	1,261	1,763
Cash and cash equivalents at beginning of year	12,431	11,170	9,407
Cash and cash equivalents at end of year	\$ 10,781	\$ 12,431	\$ 11,170

Consolidated Statements of Shareholders' Equity

			0 - 11 - 11 -				Accumulated	-
	Commo	n Stock	Capital in Excess of	Retained	Treasu	ry Stock	Other Comprehensive	Total Shareholders'
	Shares	Amount	Par Value	Earnings	Shares	Amount	Income (loss)	Equity
(amounts in thousands)		7				7		
Balances as of December 31, 2016	27,018	\$ 270	\$ 123,947	\$ 84,223	11,078	\$(112,858)	\$ (16,763)	\$ 78,819
Employee Stock Purchase Plan share								
issuance			(133)		(29)	288	_	155
Stock Option Plan share issuance, net	_	_	(1,346)	_	(195)	2,080	_	734
Restricted stock plan share								
issuance/forfeiture			(2,870)		(182)	2,543	_	(327)
Deferred compensation plan share			(440)		(07)	000		450
issuance	_	_	(410)	_	(87)	860	_	450
Purchase of stock			4.050	-	1,169	(6,159)	_	(6,159)
Equity-based compensation Net income	_	_	1,059		_	_	_	1,059
Foreign currency adjustment		_	_	806			0.401	806 2.481
, ,	_	_	_	_	_	_	2,481 606	2,481
Pension loss adjustment, net of tax	07.010	Ф 070	<u>+ 100.047</u>	<u> </u>	11.754	<u> </u>		
Balances as of December 31, 2017 Implementation of Accounting Standards	27,018	\$ 270	\$ 120,247	\$ 85,029	11,754	\$(113,246)		\$ 78,624 73
, and the second				336			(263)	73
Employee Stock Purchase Plan share issuance			(109)	_	(21)	202		93
Stock Option Plan share issuance, net	_	_	(1,589)		(366)	3,438	_	1,849
Restricted stock plan share	_	_	(1,503)	_	(500)	0,400	_	1,043
issuance/forfeiture	_	_	(4,475)	_	(229)	2,626	_	(1,849)
Deferred compensation plan share			(1,110)		(==0)	_,0_0		(1,010)
issuance	_	_	_	_	(159)	1,519	_	1,519
Purchase of stock	_	_	_	_	1,767	(14,945)	_	(14,945)
Equity-based compensation	_	_	2,353	_		,	_	2,353
Net loss	_	_	_	(2,817)	_	_	_	(2,817)
Foreign currency adjustment	_	_	_	_	_	_	(2,059)	(2,059)
Pension loss adjustment, net of tax		=					1,387	1,387
Balances as of December 31, 2018	27,018	\$ 270	\$ 116,427	\$ 82,548	12,746	\$(120,406)	\$ (14,611)	\$ 64,228

(continued on next page)

(amounts in thousands)	Commo	on Stock Amount	Capital in Excess of Par Value	Retained Earnings	Treasu Shares	ry Stock Amount	Accumulated Other Comprehensive Income (loss)	Total Shareholders' Equity
Balances as of December 31, 2018	27,018	\$ 270	\$ 116,427	\$ 82,548	12,746	\$(120,406)	\$ (14,611)	\$ 64,228
Employee Stock Purchase Plan share issuance	_		(152)	_	(32)	299	_	147
Stock Option Plan share issuance, net	_	_	(663)	_	(45)	754	_	91
Restricted stock plan share issuance/forfeiture	_	_	(3,230)		(143)	3,058	_	(172)
Deferred compensation plan share issuance	_	_	(2,034)	_	(215)	2,034	_	_
Equity-based compensation	_	_	1,748	_		_	_	1,748
Net income	_	_	_	4,125	_	_	_	4,125
Foreign currency adjustment	_	_	_	_	_	_	(1,084)	(1,084)
Pension loss adjustment, net of tax							(2,847)	(2,847)
Balances as of December 31, 2019	27,018	\$ 270	\$ 112,096	\$ 86,673	12,311	\$(114,261)	\$ (18,542)	\$ 66,236

Notes to Consolidated Financial Statements

1. Summary of Significant Accounting Policies

Basis of Presentation and Consolidation

The consolidated financial statements include the accounts of Computer Task Group, Incorporated, and its subsidiaries (the Company or CTG), located primarily in North America, Western Europe, and India. There are no unconsolidated entities, or off-balance sheet arrangements other than certain guarantees supporting office leases and the performance under government contracts in the Company's European operations, and purchase obligations for certain software, recruiting and other services. All inter-company accounts have been eliminated. Management of the Company has made a number of estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities to prepare these consolidated financial statements in conformity with U.S. generally accepted accounting principles. Such estimates primarily relate to the valuation allowances for deferred tax assets, actuarial assumptions including discount rates and expected rates of return, as applicable, for the Company's defined benefit plans, the allowance for doubtful accounts receivable, assumptions underlying stock option valuation, investment valuation, estimates of progress toward completion and direct profit or loss on contracts, acquisition and related accounting, legal matters, and other contingencies. The current economic environments in the United States, Canada, Western Europe, and India where the Company has operations have increased the degree of uncertainty inherent in these estimates and assumptions. Actual results could differ from those estimates.

The Company primarily operates in one industry segment, providing information and technology-related services to its clients. These services include information and technology-related solutions, including supplemental staffing as a solution. CTG provides these services to all of the markets that it serves. The services provided typically encompass the IT business solution life cycle, including phases for planning, developing, implementing, managing, and ultimately maintaining the IT solution. A typical client is an organization with large, complex information and data processing requirements. The Company promotes a majority of its services through five vertical market focus areas: technology service providers, manufacturing, healthcare (which includes services provided to healthcare providers, health insurers (payers), and life sciences companies), financial services, and energy. The Company focuses on these five vertical areas as it believes that these areas are either higher growth markets than the general IT services market and the general economy, or are areas that provide greater potential for the Company's growth due to the size of the vertical market. The remainder of CTG's revenue is derived from general markets.

CTG's revenue by vertical market as a percentage of consolidated revenue for the three years ended December 31, 2019, 2018, and 2017 is as follows:

	2019	2018	2017
Technology service providers	32.2%	32.4%	33.1%
Manufacturing	16.8%	19.5%	24.3%
Healthcare	16.6%	16.2%	16.8%
Financial services	13.8%	15.2%	9.1%
Energy	5.2%	4.7%	5.0%
General markets	15.4%	12.0%	11.7%
Total	100.0%	100.0%	100.0%

Revenue and Cost Recognition

The Company recognizes revenue when control of the promised good or service is transferred to clients, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. For time-and-material contracts, revenue is recognized as hours are incurred and costs are expended. For contracts with progress billing schedules, primarily monthly, revenue is recognized as services are rendered to the client. Revenue for fixed-price contracts is recognized over time using an input-based approach. Over time revenue recognition best portrays the Company's performance in transferring control of the goods or services to the client. On most fixed price contracts, revenue recognition is supported through contractual clauses that require the client to pay for work performed to date, including cost plus a reasonable profit margin, for goods or services that have no alternative use to the Company. On certain contracts, revenue recognition is supported through contractual clauses that indicate the client controls the asset, or work in process, as the Company creates or enhances the asset. On a given project, actual salary and indirect labor costs incurred are measured and compared with the total estimate of costs of such items at the completion of the project.

Revenue is recognized based upon the percentage-of-completion calculation of total incurred costs to total estimated costs. The Company infrequently works on fixed-price projects that include significant amounts of material or other non-labor related costs that could distort the percent complete within a percentage-of-completion calculation. The Company's estimate of the total labor costs it expects to incur over the term of the contract is based on the nature of the project and our experience on similar projects, and includes management judgments and estimates that affect the amount of revenue recognized on fixed-price contracts in any accounting period. Losses on fixed-price projects are recorded when identified.

The Company's revenue from contracts accounted for under time-and-material, progress billing, and percentage-of-completion methods as a percentage of consolidated revenue for the three years ended December 31, 2019, 2018, and 2017 is as follows:

	2019	2018	2017
Time-and-material	79.6%	84.7%	85.9%
Progress billing	10.2%	10.5%	10.8%
Percentage-of-completion	10.2%	4.8%	3.3%
Total	100.0%	100.0%	100.0%

The Company recorded revenue for fiscal years ended 2019 compared to 2018 and 2018 compared to 2017 as follows:

Year Ended December 31, (dollars in thousands)	% of total	2019	% of total	2018	Year-Over- Year Change
North America	61.5% \$	242,218	64.9% \$	232,695	4.1%
Europe	38.5%	151,952	35.1%	126,074	20.5%
Total	100.0% \$	394,170	100.0% \$	358,769	9.9%
Year Ended December 31, (dollars in thousands)	% of total	2018	% of total	2017	Year-Over- Year Change
North America	64.9% \$	232,695	73.1% \$	220,085	5.7%
Europe	35.1%	126,074	26.9%	81,125	55.4%
Total	100.0% \$	250 760	100.0% \$	201 210	19.1%

Significant Judgments

With the exception of cost estimates on certain fixed-price projects, there are no other significant judgments used to determine the timing of satisfaction of performance obligations or determining transaction price and amounts allocated to performance obligations. The Company allocates the transaction price based on standalone selling prices for contracts with clients that include more than one performance obligation. Standalone selling prices are based on the expected cost of the good or service plus margin approach. Certain clients may qualify for discounts and rebates, which we account for as variable consideration. The Company estimates variable consideration and reduces revenue recognized based on the amount it expects to provide to clients.

Contract Balances

For time-and-material and progress billing contracts, the timing of the Company's satisfaction of its performance obligations is consistent with the timing of payment. For these contracts, the Company has the right to payment in the amount that corresponds directly with the value of the Company's performance to date. The Company uses the right to invoice practical expedient that allows the Company to recognize revenue in the amount for which it has the right to invoice for time-and-material and progress billing contracts. Bill schedules for fixed-price contracts are generally consistent with the Company's performance in transferring control of the goods or services to the client. There are no significant financing components in our contracts with clients. Advanced billings represent contract liabilities for cash payments received in advance of our performance. Unbilled receivables are reported within "accounts receivable" on the consolidated balance sheet. Accounts receivable and contract liability balances fluctuate based on the timing of the client's billing schedule and the Company's period-end date. There are no significant costs to obtain or fulfill contracts with clients.

Transaction Price Allocated to Remaining Performance Obligations

As of December 31, 2019, the aggregate transaction price allocated to unsatisfied or partially unsatisfied performance obligations for fixed-price and all progress billing contracts was approximately \$7.4 million and \$46.2 million, respectively. Approximately \$31.0 million of the transaction price allocated to unsatisfied or partially unsatisfied performance obligations is expected to be earned in 2020. Approximately \$22.6 million of the transaction price allocated to unsatisfied or partially unsatisfied performance obligations is expected to be earned in 2021 and beyond. The Company uses the right to invoice practical expedient. Therefore, no disclosure is required for unsatisfied performance obligations for contracts in which we recognize revenue at the amount to which we have the right to invoice for services performed.

Taxes Collected from Clients

In instances where the Company collects taxes from its clients for remittance to governmental authorities, primarily in its international locations, revenue and expenses are not presented on a gross basis in the consolidated financial statements as such taxes are recorded in the Company's accounts on a net basis.

The Company includes billable expenses in its accounts as both revenue and direct costs. These billable expenses totaled \$2.6 million, \$3.2 million, and \$3.3 million in 2019, 2018, and 2017, respectively.

Fair Value

Fair value is defined as the exchange price that would be received for an asset or paid for a liability in the principal or most advantageous market for the asset or liability, in an orderly transaction between market participants. The Company utilizes a fair value hierarchy for its assets and liabilities, as applicable, based upon three levels of input, which are:

Level 1—quoted prices in active markets for identical assets or liabilities (observable)

Level 2—inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities, quoted prices in inactive markets, or other inputs that are observable or can be supported by observable market data for essentially the full term of the asset or liability (observable)

Level 3—unobservable inputs that are supported by little or no market activity, but are significant to determining the fair value of the asset or liability (unobservable)

At December 31, 2019 and 2018, the carrying amounts of the Company's cash of \$10.8 million and \$12.4 million, respectively, approximated fair value.

As described in Note 3 of the consolidated financial statements, the Company acquired 100% of the equity of both Tech-IT in the first quarter of 2019 and Soft Company in the first quarter of 2018. Level 3 inputs were used to estimate the fair values of the assets acquired and liabilities assumed. The valuation techniques used to assign fair values to intangible assets included the relief-from-royalty method and excess earnings method.

The Company has a contingent consideration liability related to the earn-out provision of which a portion will be payable in each period subject to the achievement by Soft Company of certain revenue and EBIT targets for fiscal 2017, 2018, and 2019. There is no payout if the achievement on either target is below a certain target threshold. The fair value of this contingent consideration is determined using level 3 inputs. The fair value assigned to the contingent consideration liability is determined using the real options method, which requires inputs such as revenue forecasts, EBIT forecasts, discount rate, and other market variables to assess the probability of Soft Company achieving the revenue and EBIT targets. The fair value as of the February 15, 2018 acquisition date was determined to be \$2.0 million. In the 2018 second quarter, the Company paid approximately \$0.9 million relating to the earn-out based on the achievement by Soft Company of certain revenue and EBIT targets for fiscal 2017. In the 2019 third quarter, the Company paid approximately \$1.2 million relating to the earn-out based on the achievement by Soft Company of certain revenue and EBIT targets for fiscal 2018. The fair value of the remaining contingent consideration liability was determined to be approximately \$0.8 million as of December 31, 2019. As such, the Company recorded \$0.5 million of selling, general, and administrative expense during the 2019 year-to-date period. The remaining contingent consideration liability is recorded in "other current liabilities" on the December 31, 2019 consolidated balance sheet.

In addition, the Company has a contingent consideration liability related to the earn-out provision of which a portion will be payable in each period subject to the achievement by Tech-IT of direct profit targets for fiscal 2019 and 2020. There is no payout if the achievements are below the target thresholds. The fair value of this contingent consideration liability is determined using the real options method, which requires inputs such as revenue forecasts, EBIT forecasts,

discount rate, and other market variables to assess the probability of Tech-IT achieving the direct profit targets. The fair value as of the February 6, 2019 acquisition date was determined to be \$0.6 million. The fair value of the remaining contingent consideration liability was determined to be approximately \$0.7 million as of December 31, 2019. Approximately \$0.4 million and \$0.3 million of the remaining contingent consideration liability is recorded in "other current liabilities" and "other long-term liabilities", respectively, on the December 31, 2019, consolidated balance sheet.

The Company is also allowed to elect an irrevocable option to measure, on a contract-by-contract basis, specific financial instruments and certain other items that are currently not being measured at fair value. The Company did not elect to apply the fair value provisions of this standard for any specific contracts during the years ended December 31, 2019 and 2018.

Life Insurance Policies

The Company has purchased life insurance on the lives of a number of former employees who are plan participants in the non-qualified defined benefit Executive Supplemental Benefit Plan. In total, there are policies on 18 individuals, whose average age is 76 years old. These policies have generated cash surrender value and the Company has taken loans against the policies.

The Company borrowed \$1.4 million against the cash surrender value of these life insurance policies during 2019. At December 31, 2019, these insurance policies have a gross cash surrender value of \$29.7 million, outstanding loans and interest totaling \$27.2 million, and a net cash surrender value of \$2.5 million. At December 31, 2018, these insurance policies had a gross cash surrender value of \$28.4 million, outstanding loans and interest totaling \$25.8 million, and a net cash surrender value of \$2.6 million.

At December 31, 2019 and 2018, the total death benefit for the remaining policies was approximately \$37.7 million and \$37.6 million, respectively. Currently, upon the death of all of the plan participants, the Company would expect to receive approximately \$10.2 million, and under current tax regulations, would record a non-taxable gain of approximately \$7.7 million.

A former employee covered by these policies passed away in the 2018 third quarter. The Company recorded non-taxable gains of approximately \$0.8 million in the respective quarter. The Company received approximately \$1.0 million in the 2018 fourth quarter for the 2018 death.

Cash and Cash Equivalents, and Cash Overdrafts

For purposes of the statement of cash flows, cash and cash equivalents are defined as cash on hand, demand deposits, and short-term, highly liquid investments with a maturity of three months or less. As the Company does not fund its bank accounts for the checks it has written until the checks are presented to the bank for payment, the "change in cash overdraft, net" line item as presented on the consolidated statement of cash flows represents the increase or decrease in outstanding checks for a given period. The cash in the Company's U.S. banks is insured by the Federal Deposit Insurance Corporation up to the insurable limit of \$250,000. The Company's cash in its foreign bank accounts is not insured.

Trade Accounts Receivable

Trade accounts receivable balances are received on average approximately 85 days from the date of invoice. Generally, the Company does not work on any projects where amounts due are expected to be received greater than one year from the date of the invoice. Accordingly, the recorded book value for the Company's accounts receivable equals fair value. Outstanding trade accounts receivable are generally considered past due when they remain unpaid after the contractual due date has passed. An allowance for doubtful accounts receivable (allowance) is established using management's judgment. Specific identification of balances that are significantly past due and where client payments have not been recently received are generally added to the allowance unless the Company has direct knowledge that the client intends to make payment. Additionally, any balances which relate to a client that has declared bankruptcy or ceased its business operations are added to the allowance at the amount not expected to be received.

The Company recorded a net bad debt recovery of less than \$0.1 million in 2019, 2018, and 2017.

Property, Equipment and Capitalized Software Costs

Property and equipment are generally stated at historical cost less accumulated depreciation. Depreciation is computed using the straight-line method based on estimated useful lives of one year to thirty years, and begins after an asset has been placed into service. Leasehold improvements are generally depreciated over the shorter of the term of the lease or the useful life of the improvement. The cost of property or equipment sold or otherwise disposed of, along with related accumulated depreciation, is eliminated from the accounts, and the resulting gain or loss, if any, is reflected in current earnings. Maintenance and repairs are charged to expense when incurred, while significant improvements to existing assets are capitalized. Depreciation expense for the Company totaled \$1.9 million in 2019, \$1.8 million in 2018, and \$1.6 million in 2017.

As of December 31, 2019 and 2018, the Company had capitalized costs relating to software projects developed for internal use. Amortization periods for these projects range from two to five years, and begin when the software, or enhancements thereto, is available for its intended use. Amortization periods are evaluated annually for propriety.

Impairment of Long-Lived Assets and Long-Lived Assets to Be Disposed Of

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. When such circumstances exist, the recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Assets to be disposed of by sale, if any, are reported at the lower of the carrying amount or fair value less costs to sell. The Company does not have any long-lived assets that are impaired at December 31, 2019.

During 2017, the Company was in the process of negotiating the sale of its corporate administrative building. The Company classified the corporate administration building as held for sale and did not record depreciation expense relative to the corporate administrative building during the 2017 fourth quarter. The carrying value of the property was approximately \$1.6 million at December 31, 2017. In February 2018, the Company sold this property for \$1.8 million.

Leases

The Company is obligated under a number of short and long-term operating leases for office space and office equipment, and for automobiles leased in Europe. On January 1, 2019, the Company adopted Topic 842 using the modified retrospective transition approach and elected the transition method to apply the new lease standard as of the January 1, 2019 adoption date. Results for the reporting periods beginning after January 1, 2019 are presented under Topic 842, while prior period amounts are not adjusted and continue to be reported in accordance with the Company's historic accounting under Topic 840.

Goodwill

The goodwill recorded on the Company's consolidated balance sheet at December 31, 2019 relates to the acquisition of Soft Company in the 2018 first quarter and Tech-IT in the 2019 first quarter. In accordance with current accounting guidance for "Intangibles - Goodwill and Other," the Company performs goodwill impairment testing at least annually (in the Company's fourth quarter), unless indicators of impairment exist in interim periods.

The changes in the carrying amount of goodwill for the years ended December 31, 2019 and 2018 are as follows:

(amounts in thousands)	
Balance at December 31, 2017	\$ _
Acquired goodwill	12,720
Foreign currency translation	(1,056)
Balance at December 31, 2018	\$ 11,664
Acquired goodwill	5,331
Foreign currency translation	 (314)
Balance at December 31, 2019	\$ 16,681

Acquired Intangibles Assets

Acquired intangible assets at December 31, 2019 consist of the following:

(amounts in thousands)	Estimated Economic Life	ss Carrying Amount	umulated ortization	Cı	oreign ırrency nslation	t Carrying Amount
Trademarks	2 years	\$ 1,432	\$ 911	\$	(86)	\$ 435
Customer relationships	8-13 years	9,905	 1,191		(710)	8,004
Total		\$ 11,337	\$ 2,102	\$	(796)	\$ 8,439

Acquired intangible assets at December 31, 2018 consisted of the following:

(amounts in thousands)	Estimated Economic Life	s Carrying mount	umulated ortization	No	et Carrying Amount
Trademarks	2 years	\$ 686	\$ 300	\$	386
Customer relationships	13 years	5,951	401		5,550
Total		\$ 6,637	\$ 701	\$	5,936

Estimated amortization expense for the next five fiscal years, and thereafter, is as follows (amounts in thousands):

Year	Annual Amortization	
2020	\$	1,248
2021		925
2022		869
2023		869
2024		869
Thereafter		3,659
Total	\$	8,439

Income Taxes

The Company provides for deferred income taxes for the temporary differences between the financial reporting basis and the tax basis of the Company's assets and liabilities. In assessing the realizability of deferred tax assets, management considers within each tax jurisdiction, whether it is more likely than not that some portion or all of the deferred tax assets will be realized, or that a valuation allowance is required. Management considers all available evidence, both positive and negative, in assessing realizability of its deferred tax assets. A key component of this assessment is management's critical evaluation of current and future impacts of business and economic factors on the Company's ability to generate future taxable income. Factors that may affect the Company's ability to generate taxable income include, but are not limited to increased competition, a decline in revenue or margins, a loss of market share, the availability of qualified professional staff, and a decrease in demand for the Company's services. The Company elected to use the incremental cash tax savings approach when considering GILTI in its assessment of the realizability of its US deferred tax assets. Based on the Company's recent history of US losses for tax purposes and uncertain profitability in future years and assessment of the factors discussed above, management has determined that it is more likely than not that it will not realize its U.S. deferred tax assets, and accordingly a full valuation allowance has been recorded against these assets. Additionally, management has determined that a valuation allowance is required against its Netherlands and some of its Belgium deferred taxes. The total valuation allowance recorded against these deferred tax assets is \$5.7 million, a net increase of \$0.1 million during the year, which was recorded as income tax expense in the consolidated statement of operations. The Company recognizes, as applicable, accrued interest and penalties related to unrecognized tax benefits (if any) in tax expense.

The Company establishes an unrecognized tax benefit based upon the anticipated outcome of tax positions taken for financial statement purposes compared with positions taken on the Company's tax returns. The Company records the benefit for unrecognized tax benefits only when it is more likely than not that the position will be sustained upon examination by the taxing authorities. The Company reviews its unrecognized tax benefits on a quarterly basis. Such reviews include consideration of factors such as the cause of the action, the degree of probability of an unfavorable outcome, the Company's ability to estimate the liability, and the timing of the liability and how it will impact the Company's other tax attributes.

Equity-Based Compensation

The Company records the fair value of equity-based compensation expense for all equity-based compensation awards granted and recognizes the cost in the Company's income statement over the periods in which an employee or director is required to provide the services for the award. Compensation cost is not recognized for employees or directors that do not render the requisite services. The Company recognized the expense for equity-based compensation in its 2019, 2018, and 2017 consolidated statements of operations on a straight-line basis based upon awards that are ultimately expected to vest. See Note 10, "Equity-Based Compensation."

Net Income (Loss) Per Share

Basic and diluted earnings (loss) per share (EPS) for the years ended December 31, 2019, 2018, and 2017 are as follows:

		Net	Weighted Average	Earnings (loss) per
For the year ended	Inco	ome (loss)	Shares	Share
(amounts in thousands, except per-share data)				
December 31, 2019				
Basic EPS	\$	4,125	13,450	\$ 0.31
Dilutive effect of outstanding equity instruments		<u> </u>	547	 (0.02)
Diluted EPS	\$	4,125	13,997	\$ 0.29
December 31, 2018				
Basic EPS	\$	(2,817)	13,805	\$ (0.20)
Dilutive effect of outstanding equity instruments		<u> </u>	<u> </u>	 <u>—</u>
Diluted EPS	\$	(2,817)	13,805	\$ (0.20)
December 31, 2017				
Basic EPS	\$	806	15,055	\$ 0.05
Dilutive effect of outstanding equity instruments		<u> </u>	269	<u> </u>
Diluted EPS	\$	806	15,324	\$ 0.05

Weighted-average shares represent the average number of issued shares less treasury shares, and for the basic EPS calculations, unvested restricted stock.

Certain options representing 0.7 million, 1.1 million, and 1.2 million shares of common stock were outstanding at December 31, 2019, 2018, and 2017, respectively, but were not included in the computation of diluted earnings per share as their effect on the computation would have been anti-dilutive.

Accumulated Other Comprehensive Loss

The components that comprised accumulated other comprehensive loss on the consolidated balance sheets at December 31, 2019 and 2018 are as follows:

(amounts in thousands)	 2019	2018
Foreign currency translation adjustment, net of taxes	\$ (9,106)	\$ (8,022)
Implementation of accounting standards	-	(263)
Pension loss, net of tax of \$265 in 2019 and \$0 in 2018	 (9,436)	(6,326)
Accumulated other comprehensive loss	\$ (18,542)	\$ (14,611)

During 2019, 2018, and 2017, actuarial losses were amortized to expense as follows:

(amounts in thousands)	2	019	2018	2017
Amortization of actuarial losses	\$	185	\$ 277	\$ 322
Income tax			_	(57)
Net of tax	\$	185	\$ 277	\$ 265

The amortization of actuarial losses is included in determining net periodic pension cost. See Note 7, "Deferred Compensation Benefits" for additional information.

Foreign Currency

The functional currency of the Company's foreign subsidiaries is the applicable local currency. The translation of the applicable foreign currencies into U.S. dollars is performed for assets and liabilities using current exchange rates in effect at the balance sheet date, for equity accounts using historical exchange rates, and for revenue and expense activity using the applicable month's average exchange rates. The Company recorded a nominal amount of expense in 2019, 2018, and 2017 from foreign currency transactions for balances settled during the year or intended to be settled as of each respective year-end.

Guarantees

The Company has a number of guarantees in place in our European operations which support office leases and performance under government projects. These guarantees totaled approximately \$3.0 million and \$2.7 million at December 31, 2019 and 2018, respectively, and generally have expiration dates ranging from January 2020 through October 2034.

Recently Issued Accounting Standards

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)," which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e. lessees and lessors). The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. Topic 842 supersedes the previous leases standard, ASC 840, Leases. This guidance is effective for reporting periods beginning after December 15, 2018. On January 1, 2019, the Company adopted the new lease standard using the modified retrospective transition approach and elected the transition method to apply the new lease standard as of the January 1, 2019 adoption date. Results for the reporting periods beginning after January 1, 2019 are presented under Topic 842, while prior period amounts are not adjusted and continue to be reported in accordance with accounting under Topic 840. In addition, the Company elected the package of practical expedients, which permits the Company not to reassess under the new standard prior conclusions about lease identification, lease classification, and initial direct costs. The Company has also elected the practical expedient to separate lease and non-lease components for its office leases and has elected to group lease and non-lease components for its vehicle leases. Upon adoption of Topic 842 on January 1, 2019, the Company recorded approximately \$13.1 million of operating lease right-of-use assets and lease liabilities. The adoption of Topic 842 did not have a significant impact on the Company's consolidated statements of income, comprehensive income (loss), or its consolidated statements of cash flows. The new lease standard does not affect the Company's compliance with financial covenants associated with its Credit and Security Agreement.

In January 2018, the FASB issued ASU 2018-02, "Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (AOCI)", which gives entities the option to reclassify to retained earnings the tax effects resulting from the Act related to items in AOCI that the FASB refers to as having been stranded in AOCI. The guidance required new disclosures regarding a company's accounting policy for releasing the tax effects in AOCI and permit the company the option to reclassify to retained earnings the tax effects resulting from the Act that are stranded in AOCI. The Company reclassified approximately \$0.3 million to retained earnings due to the adoption of ASU 2018-02 in the 2018 fourth quarter.

In June 2016, the FASB issued ASU 2016-13, "Measurement of Credit Losses on Financial Instruments", which requires the immediate recognition of estimated credit losses expected to occur over the remaining life of many financial assets, including trade receivables. The allowance for credit losses will be the difference between the amortized cost balance of a financial asset and the amount of amortized cost expected to be collected over the remaining contractual life. When determining the allowance, expected credit losses over the contractual term of the financial assets will be estimated considering relevant information about past events, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. Subsequent changes in the allowance will be recorded through the income statement as an expense adjustment. This guidance is effective for reporting periods beginning after December 15, 2019; however, early adoption is permitted. The Company will adopt the new credit loss standard on January 1, 2020. The Company evaluated the impact of this standard on its consolidated financial statements and it does not expect the impact to be material upon adoption.

In January 2017, the FASB issued ASU 2017-04,"Simplifying the Test for Goodwill Impairment", which simplifies how an entity is required to test goodwill for impairment by eliminating Step 2 from the goodwill impairment test. This guidance is effective for reporting periods beginning after December 15, 2019; however, early adoption is permitted. The Company will adopt the new standard on January 1, 2020 for the year ending December 31, 2020 on a prospective basis. The Company does not expect a significant impact from the adoption of this standard.

In August 2018, the FASB issued ASU 2018-15, "Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract", which helps entities evaluate the accounting for fees paid in a cloud computing arrangement (hosting arrangement) by providing guidance for determining when the arrangement includes a software license. This guidance is effective for fiscal years beginning after December 15, 2019; however, early adoption is permitted. The Company will adopt the new standard on a prospective basis on January 1, 2020 and does not expect a significant impact on its operations from the adoption of this standard.

Subsequent Event

On March 3, 2020, the Company acquired 100% of the equity of Stardust, for approximately \$4.9 million. The acquisition was funded using cash on hand and borrowings under the Credit and Security Agreement. The France-based Stardust, with annual revenues of about \$7 million, is a leading provider of testing and quality assurance for digital services with offices in Marseille, France and Montreal, Canada. Stardust offers a complete range of testing services, including functional, multilingual, operational, environmental, regression, and application benchmarking, covering digital services and website, software, mobile applications, and Internet of Things connected objects. This acquisition expands the Company's current testing capabilities, and positions the Company to expand its global testing capabilities.

The Company has evaluated all subsequent events through the filing date of this Form 10-K with the SEC and there were no other subsequent events which required recognition, adjustment to or disclosure in the financial statements.

2. Property, Equipment and Capitalized Software

Property, equipment and capitalized software at December 31, 2019 and 2018 are summarized as follows:

December 31, (amounts in thousands)	Useful Life (years)	2019	 2018
Land	_	\$ 50	\$ 50
Buildings	30	1,808	1,808
Equipment	1-5	5,533	5,608
Furniture	5-10	2,214	2,433
Capitalized software	2-5	2,147	1,864
Other software	1-5	1,722	2,174
Leasehold improvements	3-10	 3,910	 4,355
		17,384	18,292
Accumulated depreciation and amortization		 (11,005)	 (12,636)
		\$ 6,379	\$ 5,656

The Company recorded additions to capitalized software of \$0.7 million and \$0.2 million during the years ended December 31, 2019 and December 31, 2018, respectively, and disposals of \$0.4 million and \$0.3 million, respectively. As of these dates, the Company had capitalized a total of \$2.1 million and \$1.9 million, respectively, solely for software projects developed for commercial use. Accumulated amortization for these projects totaled \$0.9 million and \$0.7 million as of December 31, 2019 and 2018, respectively. Amortization expense for these projects totaled \$0.5 million in both 2019 and 2018, and \$0.3 million in 2017. Depreciation expense for the Company totaled \$1.9 million in 2019, \$1.8 million in 2018, and \$1.6 million in 2017.

3. Acquisitions

Tech-IT PSF S.A. ("Tech-IT")

On February 6, 2019, the Company acquired 100% of the equity of Tech-IT for approximately \$9.7 million. The acquisition was funded using cash on hand and borrowings under the Credit and Security Agreement. Tech-IT, located in Bertrange, Luxembourg, is a leading provider of software and hardware services, including consulting, infrastructure and software design and development, infrastructure integration, project management, and training. The acquisition of Tech-IT is expected to enable the Company to strengthen its market position in Luxembourg and broaden its portfolio to offer end-to-end IT solutions.

The results of operations of Tech-IT have been included in the Company's consolidated financial results since the date of acquisition. As the Company has determined that the acquisition is not material to its existing operations, certain disclosures, including pro forma financial information, have not been included in this annual report on Form 10-K.

An earn-out of up to a maximum of \$1.7 million (1.5 million based on a EUR into USD exchange rate of 1.1386 at the time of acquisition) can be earned, a portion of which will be payable in each period subject to the achievement of direct profit targets for fiscal 2019 and 2020. There is no payout if the achievement is below the target threshold. The fair value as of the February 6, 2019 acquisition date was determined to be \$0.6 million. The fair value of the remaining contingent consideration liability was determined to be approximately \$0.7 million as of December 31, 2019.

Approximately \$0.4 million and \$0.3 million of the remaining contingent consideration liability is recorded in "other current liabilities" and "other long-term liabilities," respectively, on the consolidated balance sheet at December 31, 2019.

The acquisition date fair value of the consideration for the above transaction consisted of the following as of February 6, 2019:

(amounts in thousands)	
Cash consideration	\$ 9,678
Fair value of contingent consideration	569
Fair value of purchase consideration	\$ 10,247

The following table summarizes the allocation of the aggregate purchase consideration to the fair value of the assets acquired and liabilities assumed as of February 6, 2019:

(amounts in thousands)	
Assets Acquired:	
Cash	\$ 1,217
Accounts receivable	4,491
Prepaids & other	1,122
Property & equipment, net	98
Acquired intangibles	4,099
Goodwill	5,331
Total assets acquired	\$ 16,358
Liabilities Assumed:	
Accounts payable	\$ 2,378
Accrued compensation	172
Other short-term liabilities	2,447
Deferred income taxes	1,114
Total liabilities assumed	6,111
Net assets acquired	\$ 10,247

The purchase consideration for the acquisition was allocated to the assets acquired and liabilities assumed based upon their respective fair values. The excess consideration was recorded as goodwill, which is not deductible for income tax purposes.

The intangible assets acquired in this acquisition consisted of the following:

(amounts in thousands)	 Fair Value	Estimated Economic Life
Trademarks	\$ 683	2 years
Customer relationships	3,416	8 years
Fair value of purchase consideration	\$ 4,099	

The Company incurred acquisition-related legal and consulting fees and amortization of intangible assets of approximately \$0.8 million in 2019, which were recorded as a component of selling, general, and administrative expenses in the consolidated statements of income. The purchase price allocation for this acquisition has been finalized.

Soft Company SAS ("Soft Company")

On February 15, 2018, the Company acquired 100% of the equity of Soft Company for approximately \$16.9 million (13.6 million based on a EUR into USD exchange rate of 1.2392 at the time of acquisition). The acquisition was funded using cash on hand and borrowings under the Company's existing credit agreement. Soft Company, located in Paris, France, is an IT consulting company that specializes in providing IT services to finance, insurance, telecom, and media services companies. The acquisition of Soft Company is expected to enable the Company to expand its position in Europe and enhance its service offerings.

The Company has a contingent consideration liability related to an earn-out provision of which a portion will be payable in each period subject to the achievement by Soft Company of certain revenue and EBIT targets for fiscal 2017,

2018, and 2019. There is no payout if the achievement on either target is below a certain target threshold. The fair value as of the February 15, 2018 acquisition date was determined to be \$2.0 million. In the 2018 second quarter, the Company paid approximately \$0.9 million relating to the earn-out based on the achievement by Soft Company of certain revenue and EBIT targets for fiscal 2017. In the 2019 third quarter, the Company paid approximately \$1.2 million relating to the earn-out based on the achievement by Soft Company of certain revenue and EBIT targets for fiscal 2018. The fair value of the remaining contingent consideration liability was determined to be approximately \$0.8 million as of December 31, 2019. As such, the Company recorded \$0.5 million of selling, general and administrative expense during the 2019 year-to-date period. The remaining contingent consideration liability is recorded in "other current liabilities" on the consolidated balance sheet at December 31, 2019.

The acquisition date fair value of the consideration for the above transaction consisted of the following as of February 15, 2018:

(amounts in thousands)	
Cash consideration	\$ 16,910
Fair value of contingent consideration	1,997
Fair value of purchase consideration	\$ 18,907

The following tables summarizes the allocation of the aggregate purchase consideration to the fair values of the assets acquired and liabilities assumed as of February 15, 2018:

(amounts in thousands)	
Assets Acquired:	
Cash	\$ 4,059
Accounts receivable	5,551
Prepaids & other	243
Property & equipment, net	53
Acquired intangibles	7,238
Goodwill	 12,720
Total assets acquired	\$ 29,864
Liabilities Assumed:	
Accounts payable	\$ 4,085
Accrued compensation	2,669
Other short-term liabilities	2,006
Deferred income taxes	1,827
Other long-term liabilities	370
Total liabilities assumed	 10,957
Net assets acquired	\$ 18,907

The purchase consideration for the acquisition was allocated to the assets acquired and liabilities assumed based upon their respective fair values. The excess consideration was recorded as goodwill, which is not deductible for income tax purposes.

The intangible assets acquired in this acquisition consisted of the following:

(amounts in thousands)	Fair Value	Estimated Economic Life
Trademarks	\$ 74	9 2 years
Customer relationships	6,48	9 13 years
Fair value of purchase consideration	\$ 7,23	8

The results of operations of Soft Company have been included in the Company's consolidated financial results since the date of acquisition. The Company incurred acquisition-related legal and consulting fees, adjustments to the fair value of the earn-out liability, and amortization of intangible assets of approximately \$1.3 million in 2019 and \$2.0 million in 2018, which were recorded as a component of selling, general, and administrative expenses in the consolidated statement of operations.

4. Debt

In December 2017, the Company entered into a credit and security agreement (the "Credit and Security Agreement") with its bank, which provides for a three-year revolving credit facility in an aggregate principal amount of \$45.0 million, including a sublimit of \$10.0 million for letters of credit and a \$10.0 million sublimit for swing line loans.

The Credit and Security Agreement was amended in December 2019 and now expires in December 2022. The Credit and Security Agreement has interest rates ranging from 150 to 200 basis points over LIBOR or the greater of (i) the prime rate, (ii) the federal funds effective rate plus 50 basis points, and (iii) adjusted LIBOR plus 100 basis points plus a spread ranging from 50 to 100 basis points based on the amounts outstanding under the Credit and Security Agreement. The Company can borrow under the agreement with either rate at its discretion. With the 2019 amendment, the Company also removed the receivables due to the Company from IBM as collateral to the arrangement. Concurrently, the Company entered into an agreement with a large international bank to advance the payment of the IBM receivables due to the Company in the event it chooses to do so. Currently, terms on the receivables from IBM range from 75-90 days from invoice date. Under this new arrangement, the Company could accelerate the payment of the receivables due from IBM to 15 days. No receivables were advanced under this new arrangement during the 2019 year-to-date period.

At December 31, 2019 and 2018, there was \$5.3 million and \$3.6 million, respectively, outstanding under the Credit and Security Agreement. The Company borrows or repays its debt as needed based upon its working capital obligations, including the timing of the U.S. bi-weekly payroll.

The maximum amount outstanding under its credit agreements in 2019 and 2018 was \$22.3 million and \$12.8 million, respectively. In 2019 and 2018, the average amounts outstanding were \$10.4 million and \$4.1 million, respectively, and carried weighted-average interest rates of 2.8% and 3.4%, respectively. Total commitment fees incurred in 2019 and 2018 totaled approximately \$0.3 million each year, while interest paid in 2019 and 2018 totaled \$0.4 million and \$0.2 million, respectively.

Under the Credit and Security Agreement, the Company is required to meet certain financial covenants in order to maintain borrowings under its revolving credit line, pay dividends, and make acquisitions. The covenants are measured quarterly, and at December 31, 2019, included a fixed charge coverage ratio, which must be less than 1.10 to 1.00, consolidated earnings before interest, taxes, depreciation, and amortization (EBITDA), adjusted for equity-based compensation and severance expense, must be no less than \$5.0 million for the trailing twelve months, and capital expenditures for property, plant, equipment, and capitalized software must be no more than \$5.0 million in any annual period. The fixed charge coverage ratio is only tested if availability on a measurement date is less than \$5.625 million. Actual borrowings by CTG under the Credit and Security Agreement are subject to a borrowing base, which is a formula based on certain eligible receivables and reserves. Total availability as of December 31, 2019 was approximately \$12.9 million. The Company was in compliance with these covenants at December 31, 2019 as EBITDA, as defined above, was \$11.6 million and capital expenditures for property, equipment and capitalized software were \$2.4 million in 2019. The Company was also in compliance with its covenants at December 31, 2018 and December 31, 2017.

5. Income Taxes

The provision for income taxes for 2019, 2018, and 2017 consists of the following:

(amounts in the uppeds)		2019		2018		2017
(amounts in thousands) Domestic and foreign components of income (loss) before						
income taxes are as follows:						
Domestic	\$	2,306	\$	(1,119)	\$	591
Foreign		3,983		3,388		3,466
Total income (loss) before income taxes	\$	6,289	\$	2,269	\$	4,057
The provision (benefit) for income taxes consists of:						
Current tax:						
U.S. federal	\$	62	\$	16	\$	(570)
Foreign		1,947		1,937		1,458
U.S. state and local		107		107		116
Total current tax		2,116		2,060		1,004
Deferred tax:						
Enactment of the Tax Cuts and Jobs Act	\$	_	\$	_	\$	1,704
U.S. federal		_		3,939		347
Foreign		48		(784)		(25)
U.S. state and local				(129)		221
Total deferred tax		48		3,026		2,247
Total tax	\$	2,164	\$	5,086	\$	3,251
The effective and statutory income tax rate can be reconciled						
as follows:	•		_	4=0	^	4.070
Tax at statutory rate	\$	1,321	\$	476	\$	1,379
State tax, net of federal benefit		121		(12)		212
Non-taxable income		(250)		(300)		(573)
Non-deductible expenses		720		607		971
Change in estimate primarily related to foreign taxes		100		(767)		(69)
Change in valuation allowance related to U.S. federal taxes		(629)		4,154		(000)
Tax credits		(164)		(389)		(289)
Enactment of the Tax Cuts and Jobs Act		070				1,704
GILTI		376		662		(104)
Foreign rate differential		531		608		(164)
Other, net	Φ.	38	Φ.	<u>47</u>	Φ.	80
Total tax	\$	2,164	\$	5,086	\$	3,251
Effective income tax rate		34.4%)	224.2%		80.1%

The ETR was higher in 2019 primarily due to non-deductible acquisition costs related to the Tech-IT and Soft Company acquisitions.

The ETR was higher in 2018 primarily due to the recording of a valuation allowance against the Company's US deferred tax assets and GILTI. This additional tax expense was partially offset by a non-taxable life insurance gain, the Tax Cuts and Jobs Act which reduced the US federal corporate tax rate to 21%, and tax benefits for the Work Opportunity Tax Credit (WOTC) and Research and Development tax credit (R&D).

The ETR was higher in 2017 primarily due to the effects of the Tax Cuts & Jobs Act and the adoption of ASU 2016-09, "Improvements to Employee Share-Based Payment Accounting," which required the Company to record additional tax expense for shortfalls that would previously have been recorded to capital in excess of par value on the Company's consolidated balance sheet. This additional tax expense was partially offset by tax benefits for the Work Opportunity Tax Credit (WOTC) and Research and Development tax credit (R&D).

The Company's deferred tax assets and liabilities at December 31, 2019 and 2018 consist of the following:

December 31, (amounts in thousands)	2019	2018
Assets		
Deferred compensation	\$ 4,83	32 \$ 4,025
Loss and credit carryforwards	72	25 1,735
Accruals deductible for tax purposes when paid	16	66 189
State taxes	58	558
Depreciation	8	30
Unrealized gain	23	32 184
Leases	5,44	14
Other		23 31
Gross deferred tax assets	12,08	6,752
Deferred tax asset valuation allowance	(5,69	95) (5,590)
Gross deferred tax assets less valuation allowance	6,38	1,162
Liabilities		
Amortization	(2,18	39) (1,433)
Depreciation	(37	78) (393)
Leases	(5,44	14) —
Deferred compensation	(2	25) (201)
Gross deferred tax liabilities	(8,03	36) (2,027)
Net deferred tax liabilities	\$ (1,64	<u>48)</u> \$ (865)
Net deferred tax assets and liabilities are recorded as follows:		
Net non-current assets	\$ 45	53 \$ 767
Net non-current liabilities	(2,10	01) (1,632)
Net deferred tax liabilities	\$ (1,64	<u>\$ (865)</u>

In assessing the realizability of deferred tax assets, management considers, within each taxing jurisdiction, whether it is more likely than not that all or some portion of the deferred tax assets will be realized, or that a valuation allowance is required. Management considers all available evidence, both positive and negative, in assessing realizability of its deferred tax assets. A key component of this assessment is management's critical evaluation of current and future impacts of business and economic factors on the Company's ability to generate future taxable income. Factors that may affect the Company's ability to generate taxable income include, but are not limited to increased competition, a decline in revenue or margins, a loss of market share, the availability of qualified professional staff, and a decrease in demand for the Company's services. The Company elected to use the incremental cash tax savings approach when considering GILTI in its assessment of the realizability of its U.S. deferred tax assets. Based on the Company's recent history of U.S. losses for tax purposes, including a cumulative three-year loss in the U.S. as of December 31, 2019, and uncertain profitability in future years and assessment of the factors discussed above, management has determined that it is more likely than not that it will not realize its U.S. deferred tax assets, and accordingly a full valuation allowance has been recorded against these assets. Additionally, management has determined that a valuation allowance is required against its Netherlands deferred taxes and some of its Belgium deferred tax assets. The total valuation allowance recorded against these deferred tax assets is \$5.7 million, a net increase of \$0.1 million during the year, which was recorded as income tax expense in the consolidated statement of operations.

The Company has various U.S. state net operating loss carryforwards of \$3.9 million, which begin to expire in 2021. The Company has net operating loss carryforwards in the Netherlands, United Kingdom, and Belgium of \$0.4 million, \$1.6 million, and \$0.3 million, respectively. The carryforwards in the Netherlands expire between 2020 and 2025, and the carryforwards in the United Kingdom and Belgium have no expiration date.

The Company files income tax returns in the U.S. federal jurisdiction, and various states and foreign jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years prior to 2016.

At December 31, 2019, the Company believes it has adequately provided for its tax-related liabilities, and that no reserve for unrecognized tax benefits is necessary. No significant change in the total amount of unrecognized tax benefits is expected within the next twelve months. The Company recognizes accrued interest and penalties related to

unrecognized tax benefits (if any) in tax expense, as applicable. At December 31, 2019 and 2018, the Company had no accrual for the payment of interest and penalties.

The Company has not recorded a U.S. deferred tax liability for the excess book basis over the tax basis of its investments in foreign subsidiaries as these amounts continue to be indefinitely reinvested in foreign operations.

Net income tax payments during 2019, 2018, and 2017 totaled \$2.5 million, \$2.1 million, and \$1.6 million, respectively.

6. Lease Commitments

The Company is obligated under a number of long-term operating leases for office space and office equipment, and for automobiles leased in Europe. On January 1, 2019, the Company adopted Topic 842 using the modified retrospective transition approach and elected the transition method to apply the new lease standard as of the January 1, 2019 adoption date. Results for the reporting periods beginning after January 1, 2019 are presented under Topic 842, while prior period amounts are not adjusted and continue to be reported in accordance with the Company's historic accounting under Topic 840.

Most leases contain both lease components (fixed payments for rent) and non-lease components (common-area maintenance and other services). The Company has elected the practical expedient to separate lease and non-lease components for its office leases and has elected to group lease and non-lease components for its vehicle leases. Some leases contain renewal options with escalation clauses commensurate with local market fluctuations, however, generally limiting an annual increase to no more than 5.0% of the existing lease payment. The exercise of lease renewal options is at the Company's sole discretion. The Company has excluded renewal options in the measurement of right-of-use assets and lease liabilities if they are not reasonably certain of exercise.

Operating leases are included in the right-of-use lease assets, short-term lease liabilities, and long-term lease liabilities on the consolidated balance sheet. The Company measures the operating lease liabilities at lease commencement date based on the present value of remaining lease payments using the rate implicit in the lease when readily determinable, or the Company's secured incremental borrowing rate. The Company has made an accounting policy election not to recognize a lease liability or right-of-use asset for leases with a lease term of twelve months or less and do not include an option to purchase the underlying asset. The Company recognizes lease expense on a straight-line basis over the lease term and variable lease expense in the period incurred. Variable lease cost consists primarily of common-area maintenance, insurance, and taxes, which are paid based on actual costs incurred by the lessor. Operating lease cost for 2019 and 2018 was \$6.8 million and \$6.6 million, respectively. The Company incurred variable lease cost of \$0.6 million and \$0.5 million, and short-term lease cost of \$0.5 million and \$0.6 million in 2019 and 2018, respectively.

Maturities for the Company's lease liabilities for all operating leases as of December 31, 2019 are as follows:

Year	Тс	otal Operating Leases
(amounts in thousands)		
2020	\$	5,979
2021		4,696
2022		3,255
2023		2,257
2024		1,485
2025 & thereafter		4,828
Total undiscounted operating lease payments		22,500
Less: Interest		(1,247)
Total present value of operating lease liabilities	\$	21,253

The weighted average remaining lease term and discount rate for all operating leases as of December 31, 2019 are as follows:

	December 31, 2019
Weighted average remaining lease term (years)	6.51
Weighted average remaining discount rate	2.17%

An initial right-of-use asset of \$13.1 million was recognized as a non-cash asset addition upon adoption of Topic 842. Supplemental cash flow information related to the Company's operating leases for 2019 is as follows:

(amounts in thousands)	December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash outflow from operating leases	6,838
Right-of-use assets obtained in exchange for new operating lease liabilities	11,080

As of December 31, 2018 minimum obligations under operating leases were as follows (as reported under Topic 840):

(amounts in thousands)	
2019	\$ 5,586
2020	4,420
2021	3,050
2022	2,166
2023	1,411
Later years	 1,192
Minimum future obligations	\$ 17,825

7. Deferred Compensation Benefits

The Company maintains a non-qualified defined-benefit Executive Supplemental Benefit Plan (ESBP) that provides certain former key executives with deferred compensation benefits, based on years of service and base compensation, payable during retirement. The plan was amended as of November 30, 1994, to freeze benefits for the participants in the plan at that time.

The Company also retained certain potential obligations related to a contributory defined-benefit plan for its previous employees located in the Netherlands (NDBP) when the Company disposed of its subsidiary, CTG Nederland, B.V. Benefits paid are a function of a percentage of career average pay. This plan was curtailed for additional contributions in January 2003.

The Company also maintains a fully funded pension plan related to CTG Belgium and CTG Health Solutions (Belgium) employees (BDBP). This is a plan with active employees and the Company expects to make future contributions.

As a result of the acquisition of Soft Company on February 15, 2018, the Company maintains an unfunded pension plan related to the current Soft Company employees (FDBP). The Company did not make contributions to this plan in 2019 and does not anticipate making contributions to the plan in 2020. No benefit payments were made in 2019 and none are expected to be paid in 2020.

Net periodic pension cost for the years ended December 31, 2019, 2018, and 2017 for all of the plans is as follows:

Net Periodic Pension Cost	2	019	2018		2017
(amounts in thousands)					
Service cost	\$	330	\$ 340	\$	263
Interest cost		583	581		553
Expected return on assets		(612)	(650)		(597)
Amortization of actuarial loss		190	287		328
Net periodic pension cost	\$	491	\$ 558	\$	547

The change in benefit obligation and reconciliation of fair value of plan assets for the years ended December 31, 2019 and 2018 for the ESBP, NDBP, BDBP, and FDBP plans are as follows:

Changes in Benefit Obligation		2019	2018		
(amounts in thousands)	Φ.	07.507	Φ.	00.400	
Benefit obligation at beginning of period	\$	27,597	\$	29,498	
Service cost		330		343	
Interest cost		583		580	
Benefits paid		(862)		(711)	
Acquisition		_		350	
Actuarial loss (gain)		3,310		(821)	
Effect of exchange rate changes		(329)		(1,642)	
Benefit obligation at end of period		30,629		27,597	
Reconciliation of Fair Value of Plan Assets					
Fair value of plan assets at beginning of period		17,403		17,690	
Actual return on plan assets		610		365	
Employer contributions		1,145		1,181	
Benefits paid		(855)		(1,008)	
Effect of exchange rate changes		(224)		(825)	
Fair value of plan assets at end of period		18,079		17,403	
Accrued benefit cost	\$	12,550	\$	10,194	

Accrued benefit cost for the ESBP, NDBP, BDBP, and FDBP is included in the consolidated balance sheet as follows:

	Е	SBP		NDBP		BDBP	FDBP
As of December 31, 2019:							
Non-current assets	\$	_	\$		\$	95	\$
Current liabilities	\$	555	\$	_	\$	_	\$ _
Non-current liabilities	\$	4,635	\$	7,099	\$	_	\$ 356
Discount rates:							
Benefit obligation		2.60%	D	0.90%)	0.85%	0.80%
Net periodic pension cost		3.76%	o	1.90%)	0.85%	1.60%
Salary increase rate		—%	>	—%)	3.65%	1.75%
Expected return on plan assets		—%	o	4.00%)	3.25%	—%
As of December 31, 2018:							
Non-current assets	\$	_	\$	_	\$	92	\$ _
Current liabilities	\$	581	\$		\$	_	\$ _
Non-current liabilities	\$	4,596	\$	4,747	\$	_	\$ 363
Discount rates:							
Benefit obligation		3.76%	o	1.90%)	1.75%	1.60%
Net periodic pension cost		3.06%	o	1.80%)	1.65%	1.45%
Salary increase rate		—%	o	—%)	1.80%	1.75%
Expected return on plan assets		—%	D	4.00%)	3.25%	—%

For the ESBP, the accumulated benefit obligation at December 31, 2019 and 2018 was \$5.2 million. The amounts included in other comprehensive loss relating to the pension loss adjustment in 2019 and 2018, net of tax, were both approximately \$(0.3) million. The discount rate used in 2019 was 2.60%, which is reflective of a series of bonds that are included in the Moody's AA long-term corporate bond yield whose cash flow approximates the payments to participants under the ESBP for the remainder of the plan. This rate was a decrease of 116 basis points from the rate used in the prior year and resulted in an increase in the plan's liabilities of less than \$0.1 million. Benefits paid to participants are funded by the Company as needed, and are expected to total approximately \$0.6 million in 2020. The plan is deemed unfunded as the Company has not specifically identified Company assets to be used to discharge the deferred compensation benefit liabilities. The Company has purchased insurance on the lives of certain plan participants in amounts considered sufficient to reimburse the Company for the costs associated with the plan for those participants. The Company does not anticipate making contributions to the plan other than for current year benefit payments as required in 2020 or future years.

For the NDBP, the accumulated benefit obligation at December 31, 2019 and 2018 was \$14.5 million and \$12.2 million, respectively. The discount rate used in 2019 was 0.90%, which is reflective of a series of corporate bonds whose cash flow approximates the payments to participants under the NDBP for the remainder of the plan. This rate was a decrease of 100 basis points from the rate used in the prior year. The decrease in the discount rate and foreign currency fluctuations resulted in an increase in the plan's liabilities of \$2.3 million in 2019.

The assets for the NDBP are held by Aegon, a financial services firm located in the Netherlands. The Company maintains a contract with Aegon to insure future benefit payments of the NDBP; however, due to certain terms of the agreement and potential obligations to the Company, the NDBP has not been settled. The benefit payments to be made in 2020 are expected to be paid by Aegon from plan assets. The assets for the plan are included in a general portfolio of government bonds, a portion of which is allocated to the NDBP based upon the estimated pension liability associated with the plan. The fair market value of the plan's assets equals the contractual value of the NDBP in any given year. The fair value of the assets is determined using a Level 3 methodology (see Note 1 "Summary of Significant Accounting Policies—Fair Value"). In 2019 and 2018, the plan investments had a targeted minimum return of 4.0%, which is consistent with historical returns and the 4.0% return guaranteed to the participants of the plan. Aegon intends to maintain the current investment strategy of investing plan assets solely in government bonds in 2020.

For the BDBP, the accumulated benefit obligation at December 31, 2019 and 2018 was \$10.6 million and \$9.8 million, respectively. The discount rate used in 2019 was 0.85%, which is reflective of a series of corporate bonds whose cash flow approximates the payments to participants under the BDBP for the remainder of the plan. This rate was a decrease of 90 basis points from the rate used in the prior year. The decrease in the discount rate and foreign currency fluctuations resulted in an increase in the plan's liabilities of \$0.7 million in 2019.

The assets for the BDBP are held by Allianz for the CTG Belgium plan and by Vivium for the CTG Health Solutions (Belgium) plan, both financial services firms are located in Belgium. The Company maintains a contract with Allianz to insure future benefit payments of the BDBP. Contributions made by the Company to Allianz and Vivium are based on employees' current salaries. The benefit payments to be made in 2020 are expected to be paid by Allianz and Vivium from plan assets. The assets for the plan are included in the overall portfolio of assets held by Allianz and Vivium. The fair market value of the plan's assets equals the contractual value of the BDBP in any given year (which is the mathematical reserve held by Allianz and Vivium). The fair value of the assets is determined using a Level 3 methodology (see Note 1 "Summary of Significant Accounting Policies—Fair Value"). Allianz and Vivium do not guarantee a minimum return on the plan investments, whereas Belgian law sets a minimum return to be guaranteed to the participants of the plan.

For the FDBP, the accumulated benefit obligation at December 31, 2019 and 2018 was \$0.3 million. The amounts included in other comprehensive loss relating to the pension loss adjustment in 2019 and 2018, were both less than \$(0.1) million. The discount rate used in 2019 was 0.80%, which is reflective of a series of corporate bonds whose cash flows approximates the payments to participants under the FDBP for the remainder of the plan. This rate was a decrease of 80 basis points from the rate used in the prior year. The plan is deemed unfunded as the Company has not specifically identified Company assets to be used to discharge the deferred compensation benefit liabilities.

Anticipated benefit payments for the ESBP, NDBP, BDBP, and FDBP expected to be paid in future years are as follows:

(amounts in thousands)	
2020	\$ 821
2021	976
2022	920
2023	849
2024	917
2025 - 2029	 5,129
Total	\$ 9,612

For the ESBP, NDBP, BDBP, and FDBP, the amounts included in accumulated other comprehensive loss, net of tax, that have not yet been recognized as components of net periodic benefit cost as of December 31, 2019 are \$1.2 million, \$7.5 million, \$0.8 million, and less than \$(0.1) million, respectively, for unrecognized actuarial losses (gains). The amounts included in accumulated other comprehensive loss, net of tax, that had not yet been recognized as components of net periodic benefit cost as of December 31, 2018 were \$0.9 million, \$5.2 million, \$0.7 million, and less than \$0.1 million, respectively, also for unrecognized actuarial losses.

The amounts recognized in other comprehensive income, net of tax, for 2019, 2018, and 2017, which primarily consist of an actuarial gain related to year-over-year changes in the discount rate, totaled \$2.8 million, \$0.9 million, and \$0.6 million, respectively. Net periodic pension benefit and the amounts recognized in other comprehensive loss, net of tax, for the ESBP, NDBP, BDBP, and FDBP for 2019, 2018, and 2017 totaled \$3.3 million, \$0.3 million, and \$0.1 million, respectively.

The amounts in accumulated other comprehensive loss expected to be recognized as components of net periodic benefit cost during 2019 for the ESBP, NDBP, BDBP, and FDBP for unrecognized actuarial losses total \$0.2 million.

The Company also maintains the Key Employee Non-Qualified Deferred Compensation Plan for certain key executives. Company contributions to this plan, if any, are based on annually defined financial performance objectives. There were no contributions to the plan in 2019 for amounts earned in 2018, no contributions to the plan in 2018 for amounts earned in 2017, and \$0.1 million in contributions to the plan in 2017 for amounts earned in 2016. The Company does not anticipate making contributions in 2020 to this plan for amounts earned in 2019. The investments in the plan are included in the total assets of the Company, and are discussed in Note 1, "Investments." Participants in the plan have the ability to purchase stock units from the Company at current market prices using their available investment balances within the plan. In return for the funds received, the Company releases shares out of treasury stock equivalent to the number of share units purchased by the participants. These shares of common stock are not entitled to any voting rights, but will receive dividends in the event any are paid. The shares are being held by the Company, and will be released to the participants as prescribed by their payment elections under the plan.

The Company maintains the Non-Employee Director Deferred Compensation Plan for its non-employee directors. While no cash contributions were made to the plan for the directors during 2019 or 2018, contributions were made totaling \$0.5 million in 2017. During 2018 and 2019, the Directors were granted shares out of the Company's 2010 Equity Award Plan which were deposited into this plan. At the time the cash contributions were made in 2017, the non-employee directors elected to purchase stock units from the Company at current market prices using their available investment balance within the plan. Consistent with the Key Employee Non-Qualified Deferred Compensation Plan, in return for funds received, the Company released shares out of treasury stock equivalent to the number of share units purchased by the participants. These shares of common stock are not entitled to any voting rights, but will receive dividends in the event any are paid. The shares are being held by the Company, and will be released to the participants as prescribed by their payment elections under the plan.

8. Employee Benefits

401(k) Profit-Sharing Retirement Plan

The Company maintains a contributory 401(k) profit-sharing retirement plan covering substantially all U.S. employees. Previously, at the Company's discretion, up to 50% of the first 6% of eligible wages contributed by the participants was matched. This match was indefinitely suspended as of January 1, 2017. There were no Company contributions in 2019, 2018 and 2017.

Other Retirement Plans

The Company maintains various other defined contribution retirement plans covering European employees. Company contributions charged to operations were \$0.3 million in 2019 and \$0.2 million in both 2018 and 2017.

Employee Health Insurance

The Company provides various health insurance plans for its employees, including a self-insured plan for its salaried and hourly employees in the U.S. In 2015, the Company began offering compliant healthcare coverage as required under The Patient Protection and Affordable Care Act (PPACA). Where possible, the Company has passed the cost of this coverage on to its clients where the employees that elect this coverage are engaged.

9. Shareholders' Equity

Employee Stock Purchase Plan

Under the Company's First Employee Stock Purchase Plan (ESPP), employees may apply up to 10% of their compensation to purchase the Company's common stock. Shares are purchased at the closing market price on the business day preceding the date of purchase. As of December 31, 2019, approximately 54,000 shares remain unissued under the ESPP. During 2019, 2018, and 2017, approximately 32,000, 21,000, and 29,000 shares, respectively, were purchased under the ESPP at an average price of \$4.57, \$5.87, and \$5.29 per share, respectively.

Preferred Stock

At December 31, 2019 and 2018, the Company had 2.5 million shares of par value \$0.01 preferred stock authorized for issuance, but none outstanding.

10. Equity-Based Compensation

The Company issues stock options and restricted stock in exchange for services of key employees and independent directors. In accordance with current accounting standards, the calculated cost of its equity-based compensation awards is recognized in the Company's consolidated statements of operations over the period in which an employee or director is required to provide the services for the award. Compensation cost will not be recognized for employees or directors that do not render the requisite services. The Company recognizes the expense for equity-based compensation in its consolidated statements of operations on a straight-line basis based upon the number of awards that are ultimately expected to vest.

Equity-based compensation expense, the corresponding tax benefit and net equity-based compensation expense for 2019, 2018, and 2017 are as follows:

	 2019	2018		 2017
(amounts in thousands)				
Equity-based compensation expense	\$ 1,748	\$	2,353	\$ 1,059
Tax benefit			_	312
Net equity-based compensation expense	\$ 1,748	\$	2,353	\$ 747

On May 12, 2010, the shareholders approved the Company's 2010 Equity Award Plan (2010 Plan). Under the provisions of the 2010 Plan, stock options, restricted stock, stock appreciation rights, and other awards may be granted or awarded to key employees and independent directors of the Company, as well as non-employees. The compensation committee of the Board of Directors determines the nature, amount, pricing and vesting of the grants or awards. All options and awards remain in effect until the earliest of the expiration, exercise, or surrender date. Options generally become exercisable in three or four equal installments, typically beginning one year from the date of grant, and expire no more than 15 years from the date of grant. A total of 3,750,000 shares may be granted or awarded under the 2010 plan, 1,350,000 of which are available for grant as of December 31, 2019.

On April 26, 2000, the shareholders approved the Company's 2000 Equity Award Plan (Equity Plan). Under the provisions of the Equity Plan, stock options, restricted stock, stock appreciation rights, and other awards could previously be granted or awarded to key employees and independent directors of the Company. The compensation committee of the Board of Directors determined the nature, amount, pricing, and vesting of the grants or awards. All options and awards remain in effect until the earlier of the expiration, exercise, or surrender date. Options generally become exercisable in three or four equal annual installments, typically beginning one year from the date of grant, and expire no more than 15 years from the date of grant. In certain limited instances, options granted at fair market value were expected to vest nine and one-half years from the date of grant. There are no shares or options available for grant under this plan as of December 31, 2019.

Under the Company's 1991 Restricted Stock Plan, a total of 800,000 shares of restricted stock may be granted to certain key employees, 18,000 of which are available for grant as of December 31, 2019.

The Company granted 26,500 stock options during 2019 from the 2010 Equity Award Plan. The options vest ratably over three years, and are being expensed over that period. There were no other stock options granted during 2019. The Company utilizes the Black-Scholes option-pricing model to estimate the fair value of stock options granted on the date of grant. The per-option weighted-average fair value on the date of grant of stock options granted in 2019, 2018, and 2017 was \$1.26, \$1.91, and \$1.64, respectively.

The fair value of the options at the date of grant was estimated using the following weighted-average assumptions for the years ended December 31, 2019, 2018, and 2017:

	2019	2018	2017
Expected life (years)	3.7	3.7	3.9
Dividend yield	0.0%	0.0%	0.0%
Risk-free interest rate	2.2%	2.4%	1.9%
Expected volatility	36.1%	34.9%	35.8%

The Company used historical volatility calculated using daily closing prices for its common stock over periods that equal the expected term of the options granted to estimate the expected volatility for the grants made in 2019, 2018, and 2017. The risk-free interest rate assumption was based upon U.S. Treasury yields appropriate for the expected term of the Company's stock options based upon the date of grant. The expected term of the stock options granted was based upon the options expected vesting schedule and historical exercise patterns. The Company did not pay a dividend in 2019, 2018, or 2017, and does not anticipate paying a dividend in the future.

During 2019, 2018, and 2017, the Company issued restricted stock to certain key employees. The stock vests over a period of three or four years, with 25% or 33% of the stock issued vesting one year from the date of grant, and another 25% or 33% vesting each year thereafter until the stock is fully vested. The Company is recognizing compensation expense for these shares ratably over the expected term of the restricted stock, which is three or four years. In the event the Company issued stock to its independent directors, the stock vests at retirement. As the independent directors are eligible for retirement from the Company's Board of Directors at any point in time, the Company will recognize the expense associated with these shares on the date of grant. The shares of restricted stock issued are considered outstanding, can be voted, and are eligible to receive dividends, if any are paid. However, the restricted shares do not include a non-forfeitable right for the holder to receive dividends and none will be paid in the event the awards do not vest. Accordingly, only vested shares of outstanding restricted stock are included in the calculation of basic earnings per share.

During 2019, the Company granted 217,542 shares with a market condition to senior management from the 2010 Equity Award Plan. The closing price of the Company's stock on that day was \$4.93 per share. Under these grant agreements, the Company's cumulative three-year non-GAAP earnings per share for the years 2019, 2020, and 2021 must equal or exceed \$1.42 for 100% of the grants to vest. If the combined cumulative three-year non-GAAP earnings per share is 80% or more but less than 100% of the earnings per share target, a pro-rata portion of the grants shall vest. If at least 80% of the three-year non-GAAP earnings per share target is not met, the grants will expire. The performance share units have a fair value of approximately \$1.1 million and the Company is expensing these grants over the derived service period. Of the 217,542 performance shares granted during 2019, no shares were canceled during 2019, and 217,542 shares were outstanding as of December 31, 2019.

During 2018, the Company granted 216,600 shares with a market condition to senior management from the 2010 Equity Award Plan. The closing price of the Company's stock on that day was \$8.18 per share. Under these grant agreements, the Company's stock price must increase 50% to \$12.27 for a 30-day period within a three-year period from

the date of grant for 50% of the grants to vest. The Company's stock price must increase 100% to \$16.36 for a 30-day period within a three-year period from the date of grant for the remaining 50% of the grants to vest.

For these performance grants, the price on the date of grants was \$8.18 per share, the expected volatility was 34.5%, the expected dividend yield is zero, and the risk-free rate of return was 2.47%. Given these assumptions, the tranche of the grants that will vest with a 50% increase in the stock price have a value using a binomial model of \$2.30 per share, and a derived service period of 1.26 years. For the tranche of the grants that will vest with a 100% increase in the stock price, the value of the shares is \$1.30 per share and have a derived service period of 1.85 years. The Company is expensing these grants over the derived service period as noted for each tranche of a grant. Of the 216,600 performance shares granted during 2018, 88,300 shares were canceled during 2019, and 128,300 shares were outstanding as of December 31, 2019.

As of December 31, 2019, total remaining stock-based compensation expense for non-vested equity-based compensation was approximately \$2.3 million, which is expected to be recognized on a weighted-average basis over the next 15 months. Historically, the Company has issued shares out of treasury stock to fulfill the share requirements from stock option exercises and restricted stock grants.

A summary of stock option activity under the 2010 Plan and Equity Plan is as follows:

	2010 Plan Options	,	Weighted- Average Exercise Price	Equity Plan Options	Veighted- Average Exercise Price
Outstanding at December 31, 2016	1,000,855	\$	11.72	1,170,925	\$ 4.98
Granted	48,500	\$	5.38	_	\$ _
Exercised	_	\$	_	(232,750)	\$ 4.09
Canceled or forfeited	(17,350)	\$	9.73	_	\$ _
Expired	(144,950)	\$	9.73	(203,750)	\$ 5.48
Outstanding at December 31, 2017	887,055	\$	11.74	734,425	\$ 5.13
Granted	13,100	\$	6.45	_	\$
Exercised	(100,000)	\$	7.52	(286,875)	\$ 4.67
Canceled or forfeited	_	\$	_	_	\$
Expired	_	\$	_	_	\$ _
Outstanding at December 31, 2018	800,155	\$	12.18	447,550	\$ 5.42
Granted	26,500	\$	4.20	_	\$ _
Exercised	(45,096)	\$	4.95	(80,000)	\$ 3.57
Canceled or forfeited	(50,325)	\$	6.97	(72,125)	\$ 5.57
Expired		\$	_		\$
Outstanding at December 31, 2019	731,234	\$	12.69	295,425	\$ 5.89
Options Exercisable at December 31, 2019	647,188	\$	13.72	295,425	\$ 5.89

Under the 2010 Plan, there were 45,096 shares exercised in 2019, 100,000 shares exercised in 2018, and there were no shares exercised in 2017. For 2019, 2018, and 2017, the intrinsic value of the options exercised under the Equity Plan was \$0.1 million, \$1.1 million, and \$0.3 million, respectively.

A summary of restricted stock activity under the 2010 Plan, the Equity Plan and the 1991 Restricted Stock Plan is as follows:

	2010 Plan Restricted Stock	A۱	ighted- ⁄erage r Value	Equity Plan Restricted Stock	A۱	ighted- verage r Value	1991 Restricted Stock Plan	A	eighted- verage ir Value
Outstanding at Dec. 31, 2016	406,918	\$	5.14	61,500	\$	5.13	84,352	\$	10.96
Granted	292,342	\$	5.66	_		_	57,900	\$	5.75
Released	(101,960)	\$	5.39	(21,500)	\$	5.44	(32,823)	\$	14.41
Canceled or forfeited	(90,264)	\$	5.11				(18,975)	\$	9.10
Outstanding at Dec. 31, 2017	507,036	\$	5.40	40,000	\$	4.97	90,454	\$	6.76
Granted	483,800	\$	7.61	_		_		\$	_
Released	(104,516)	\$	5.52	_		_	(31,937)	\$	8.41
Canceled or forfeited	(35,393)	\$	5.11				(2,400)	\$	5.75
Outstanding at Dec. 31, 2018	850,927	\$	6.65	40,000	\$	4.97	56,117	\$	5.87
Granted	636,268	\$	4.42	_		_	_	\$	_
Released	(112,160)	\$	5.59	_		_	(20,868)	\$	6.40
Canceled or forfeited	(228,151)	\$	6.80			_	(10,874)	\$	5.15
Outstanding at Dec. 31, 2019	1,146,884	\$	5.49	40,000	\$	4.97	24,375	\$	5.75

Options Outstanding at December 31, 2019

A summary of stock options that were **outstanding** at December 31, 2019 for the 2010 Plan and the Equity Plan is as follows:

Range of Exercise Prices:	Number of Options Outstanding	-	/eighted Average rcise Price	Weighted Average Remaining Contractual Life in Years	ggregate insic Value
2010 Plan					
\$4.20 - \$7.48	245,763	\$	5.56	6.8	\$ 57,086
\$12.16 - \$13.75	232,375	\$	13.42	6.1	
\$15.04 - \$16.93	105,096	\$	15.83	3.6	
\$20.68 - \$21.41	148,000	\$	21.17	6.7	_
	731,234	\$	12.69	6.1	\$ 57,086
Equity Plan					
\$4.15 - \$4.78	105,300	\$	4.65	3.5	\$ 55,859
\$5.25 - \$7.18	190,125	\$	6.57	3.4	_
	295,425	\$	5.89	3.4	\$ 55,859

Options Exercisable at December 31, 2019

A summary of stock options that are **exercisable** at December 31, 2019 for the 2010 Plan and the Equity Plan is as follows:

Range of Exercise Prices: 2010 Plan	Number of Options Exercisable	-	Veighted Average ercise Price	Weighted Average Remaining Contractual Life in Years	ggregate insic Value
\$4.20 - \$7.48	161,717	\$	5.94	6.4	\$ 20,744
\$12.16 - \$13.75	232,375	\$	13.42	6.1	_
\$15.04 - \$16.93	105,096	\$	15.83	3.6	_
\$20.68 - \$21.41	148,000	\$	21.17	6.7	
	647,188	\$	13.72	5.9	\$ 20,744
Equity Plan					
\$4.15 - \$4.78	105,300	\$	4.65	3.5	\$ 55,859
\$5.25 - \$7.18	190,125	\$	6.57	3.4	_
	295,425	\$	5.89	3.4	\$ 55,859

The aggregate intrinsic values as calculated in the above charts detailing options that are outstanding and those that are exercisable, respectively, are based upon the Company's closing stock price on December 31, 2019 of \$5.18 per share.

11. Significant Clients

In 2019, International Business Machines Corporation (IBM) was the Company's largest client. The National Technical Services Agreement with IBM previously expired on December 31, 2019. The Agreement with IBM was extended for four months and now expires on May 1, 2020. In 2019, 2018, and 2017, IBM accounted for \$84.9 million or 21.5%, \$80.6 million or 22.5%, and \$76.4 million or 25.4% of the Company's consolidated revenue, respectively. The Company's accounts receivable from IBM at December 31, 2019 and 2018 amounted to \$23.0 million and \$22.1 million, respectively.

In 2019, SDI was the Company's second largest client and accounted for \$28.1 million or 7.1%, \$27.6 million or 7.7%, and \$34.2 million or 11.4% of the Company's consolidated revenue in 2019, 2018, and 2017, respectively. SDI acts as a vendor manager for Lenovo, and all of the Company's revenue generated through SDI relates to CTG employees working at Lenovo. The Company's accounts receivable from SDI at December 31, 2019 and 2018 totaled \$3.2 million and \$3.6 million, respectively.

No other client accounted for more than 10% of revenue in 2019, 2018, and 2017.

12. Contingencies

The Company and its subsidiaries are involved from time to time in various legal proceedings and tax audits arising in the ordinary course of business. At December 31, 2019 and 2018, the Company was in discussion with various governmental agencies relative to tax matters, including income, sales and use, and property and franchise taxes. The outcome of these audits and legal proceedings, as applicable, involving the Company and its subsidiaries cannot be predicted with certainty, and the amount of any liability that could arise with respect to such audits cannot be accurately predicted. However, as none of these matters are individually or in the aggregate significant and as management has not recorded an estimate of its potential liability for these audits at December 31, 2019 and 2018. The Company does not expect the conclusion of these matters to have a material adverse effect on the financial position, results of operations, or cash flows of the Company.

13. Enterprise-Wide Disclosures

The Company operates in one industry segment, providing IT services to its clients. The services provided include managed and flexible staffing and the planning, design, implementation, and maintenance of comprehensive IT solutions. All of the Company's revenue is generated from these services.

CTG's reportable information is based on geographical areas. The accounting policies of the individual geographical areas are the same as those described in Note 1, "Summary of Significant Accounting Policies."

Financial Information About Geographic Areas	 2019	 2018	 2017
(amounts in thousands)			
Revenue from External Customers:			
United States	\$ 241,038	\$ 232,178	\$ 219,886
Luxembourg (3)	64,852	44,660	36,954
Belgium ⁽¹⁾	52,468	48,585	39,347
Other countries	35,812	33,346	5,023
Total foreign revenue	153,132	126,591	81,324
Total revenue	\$ 394,170	\$ 358,769	\$ 301,210
Long-lived Assets:			
United States	\$ 3,534	\$ 3,715	\$ 5,206
France (2)	5,124	6,042	_
Luxembourg (3)	\$ 3,965	\$ _	\$ _
United Kingdom (2)	1,081	840	1,005
Other countries	1,114	995	785
Total long-lived assets	\$ 14,818	\$ 11,592	\$ 6,996
Deferred Tax Assets, Net of Valuation Allowance:			
United States	\$ 78	\$ _	\$ 3,810
Europe	375	767	51
Total deferred tax assets, net	\$ 453	\$ 767	\$ 3,861

- (1) Revenue for our Belgium operations has been disclosed separately as it exceeds 10% of consolidated revenue in at least one of the years presented.
- (2) Long-lived assets for our France and United Kingdom operations have been disclosed separately as they exceed 10% of consolidated long-lived assets in at least one of the years presented.
- (3) Long-lived assets for our Luxembourg operations has been disclosed separately as it exceeds 10% of consolidated long-lived assets in at least one of the years presented.

14. Quarterly Financial Data (Unaudited)

		Qua	rters	S		
	First (1)	 Second		Third	Fourth	Total
(amounts in thousands, except per-share data)						
2019						
Revenue	\$ 97,238	\$ 100,408	\$	97,204	\$ 99,320	\$ 394,170
Direct costs	79,522	82,072		78,462	79,079	319,135
Gross profit	17,716	18,336		18,742	20,241	75,035
Selling, general, and administrative expenses	16,589	16,483		17,218	17,833	68,123
Operating income	1,127	1,853		1,524	2,408	6,912
Interest and other income (expense), net	 (180)	(366)		(202)	125	 (623)
Income before income taxes	947	1,487		1,322	2,533	6,289
Provision for income taxes	315	544		443	862	2,164
Net income	\$ 632	\$ 943	\$	879	\$ 1,671	\$ 4,125
Basic net income per share	\$ 0.05	\$ 0.07	\$	0.07	\$ 0.12	\$ 0.31
Diluted net income per share	\$ 0.05	\$ 0.07	\$	0.06	\$ 0.12	\$ 0.29

			Qua	rters	;			
	 First (2)	;	Second		Third (3)	F	ourth (4)	 Total
(amounts in thousands, except per-share data)								
2018								
Revenue	\$ 82,713	\$	92,667	\$	90,260	\$	93,129	\$ 358,769
Direct costs	 66,874		75,082		72,935		75,391	 290,282
Gross profit	15,839		17,585		17,325		17,738	68,487
Selling, general, and administrative expenses	 15,256		16,064		16,560		18,527	 66,407
Operating income (loss)	583		1,521		765		(789)	2,080
Interest and other income (expense), net	 (54)		(218)		630		(169)	 189
Income (loss) before income taxes	529		1,303		1,395		(958)	2,269
Provision for income taxes	 115		363		307		4,301	 5,086
Net income (loss)	\$ 414	\$	940	\$	1,088	\$	(5,259)	\$ (2,817)
Basic net income (loss) per share	\$ 0.03	\$	0.07	\$	0.09	\$	(0.39)	\$ (0.20)
Diluted net income (loss) per share	\$ 0.03	\$	0.07	\$	0.09	\$	(0.39)	\$ (0.20)

A....

- (1) During the 2019 first quarter, the Company acquired Tech-IT. The results of operations of Tech-IT have been included in the Company's consolidated financial results since the date of acquisition.
- (2) During the 2018 first quarter, the Company acquired Soft Company. The results of operations of Soft Company have been included in the Company's consolidated financial results since the date of acquisition.
- (3) During the 2018 third quarter, the Company recorded a \$0.8 million non-taxable life insurance gain for a former executive that passed away in the 2018 third quarter. The non-taxable life insurance gain is included in other income. The Company also incurred approximately \$0.5 million of selling, general and administrative expense due to the valuation of the contingent consideration related to the Soft Company acquisition.
- (4) During the 2018 fourth quarter, the Company recorded a valuation allowance against its U.S. deferred tax assets of \$4.1 million based on the history of U.S. losses for tax purposes and uncertain profitability in future years. Approximately \$3.8 million of the total U.S. valuation allowance was recorded to income tax expense, partially offset by the reversal of the valuation allowance in the United Kingdom. The Company also recorded severance charges for former executives to selling, general, and administrative expense in the 2018 fourth quarter.

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

The Company's management has evaluated, under the supervision and with the participation of the Company's Chief Executive Officer and Chief Financial Officer, the effectiveness of the design and operations of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act) as of the end of the period covered by this annual report. Under Rule 13a-15(e) of the Exchange Act, "disclosure controls and procedures" means controls and other procedures that are designed to ensure that information required to be disclosed by the Company in the reports that it files with the SEC 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 our Company in the reports that it files or submits under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. Based on that evaluation, the Company's Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures were effective as of the end of the period covered by this annual report.

(a) Management's Annual Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining an adequate system of internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Further, because of changes in conditions, effectiveness of internal control over financial reporting may deteriorate.

Management of the Company conducted an evaluation of the effectiveness of the Company's internal control over financial reporting based on the *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that evaluation, the Company's management did not identify any control deficiencies it considered to be material weaknesses under the rules specified by the Public Company Accounting Oversight Board's Auditing Standard No. 5, and therefore concluded that its internal control over financial reporting was effective as of December 31, 2019.

The Company acquired Tech-IT on February 6, 2019, and management excluded from its assessment of the effectiveness of internal control over financial reporting as of December 31, 2019, Tech-IT's internal control over financial reporting associated with assets representing \$17.1 million of consolidated assets (of which \$8.7 million represents goodwill and intangible assets included in the scope of the assessment), and revenues representing \$17.7 million of consolidated revenues included in the consolidated financial statements of the Company as of and for the year ended December 31, 2019.

Our independent registered public accounting firm has issued an attestation report on the Company's effectiveness of internal control over financial reporting. Their report appears in Item 9A(b), Attestation Report of the Registered Public Accounting Firm.

(b) Attestation Report of the Registered Public Accounting Firm

Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders Computer Task Group, Incorporated

Opinion on internal control over financial reporting

We have audited the internal control over financial reporting of Computer Task Group, Incorporated (a New York corporation) and subsidiaries (the "Company") as of December 31, 2019, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements of the Company as of and for the year ended December 31, 2019, and our report dated March 13, 2020 expressed an unqualified opinion on those financial statements.

Basis for opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting ("Management's Report"). Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Our audit of, and opinion on, the Company's internal control over financial reporting does not include the internal control over financial reporting of Tech-IT PSF S.A., a wholly-owned subsidiary, whose financial statements reflect total assets and revenues constituting 11 and 4 percent, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2019. As indicated in Management's Report, Tech-IT PSF S.A. was acquired during 2019. Management's assertion on the effectiveness of the Company's internal control over financial reporting excluded internal control over financial reporting of Tech-IT PSF S.A.

Definition and limitations of internal control over financial reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ GRANT THORNTON LLP

Cleveland, Ohio March 13, 2020

(c) Changes in Internal Control Over Financial Reporting

The Company reviews, revises and improves the effectiveness of the Company's internal controls on a continuous basis. The Company's management, including its Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the Company's internal control over financial reporting as of the end of the period covered by this annual report. There were no changes in the Company's internal control over financial reporting that occurred during the Company's last fiscal quarter, which ended on December 31, 2019, that materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

None

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Except as otherwise set forth below, the information required in response to this item is included in this annual report on Form 10-K for the year ended December 31, 2019, except insofar as information with respect to executive officers is presented in Part I, Item 1 of this report pursuant to General Instruction G(3) of Form 10-K. Information regarding the Company's Code of Conduct is incorporated herein by reference to the information set forth under "Available Company Information" in Part I, Item 1 of this annual report on Form 10-K. The Company maintains a separate standing audit committee established in accordance with section 3(a)(58)(A) of the Exchange Act consisting of all independent directors, with James R. Helvey III as the designated audit committee financial expert. Mr. Helvey is independent, as independence for audit committee members is defined in the listing standard applicable to CTG.

Filip J.L. Gydé. Mr. Gydé, 59, was named Chief Executive Officer of the Company and appointed to the Company's Board of Directors effective March 1, 2019. Mr. Gydé has been with CTG since May 1987 and most recently served as the Executive Vice President, General Manager, and President for CTG's European operations. Mr. Gydé led the Company's European operations from October 2000 through February 2019, and served as Interim Executive Vice President of Operations of CTG from October 2014 to April 2015, during which time he was responsible for overall company operating activities.

James R. Helvey III. Mr. Helvey, 61, was appointed to CTG's Board of Directors in November 2015. Mr. Helvey co-founded Cassia Capital Partners, LLC, a registered investment advisor, in 2011 and has served as a managing partner since its formation. From 2005 to 2011, Mr. Helvey was a partner and the Risk Management Officer for CMT Asset Management Limited, a private investment firm. From 2003 to 2004, Mr. Helvey was a candidate for the United States Congress in the 5th District of North Carolina. Mr. Helvey served as Chairman and Chief Executive Officer of Cygnifi Derivatives Services, LLC, an online derivatives services provider, from 2000 to 2002. From 1985 to 2000, Mr. Helvev was employed by J.P. Morgan & Co., serving in a variety of capacities, including as Vice Chairman of J.P. Morgan's Risk Management Committee, Chair of J.P. Morgan's Liquidity Committee, Global Head of Derivative Counterparty Risk Management, head of the swap derivative trading business in Asia, and head of short-term interest rate derivatives and foreign exchange forward trading in Europe. Mr. Helvey graduated magna cum laude with honors from Wake Forest University. Mr. Helvey was also a Fulbright Scholar at the University of Cologne in Germany and received a Master's degree in international finance and banking from Columbia University. School of International and Public Affairs, where he was an International Fellow. Mr. Helvey is a director and serves on the Audit Committee of Coca-Cola Bottling Co. Consolidated., a publicly traded and independent bottler of Coca-Cola Company products, Verger Capital Management LLC, Piedmont Federal Savings Bank (Audit Chair), and has also served on the board of trustees of Wake Forest University from 1997 to 2017 and the Wake Forest Baptist Medical Center. Mr. Helvey was a director of Pike Corporation, an energy solutions provider, from 2005 to 2014, where he served as Lead Independent Director, Chairman of the Audit Committee and Chairman of the Compensation Committee.

David H. Klein. Mr. Klein, 71, has been a Director since September 2012. He is the President of Klein Solutions Group, LLC, which provides advice on policy, strategy, operations and finance to healthcare delivery and payer organizations. Mr. Klein also serves as a special advisor to the CEO of the University of Rochester (UR) Medical Center, a professor of public health sciences in the UR School of Medicine and Dentistry and as an executive professor of healthcare management in the UR Simon Business School. Mr. Klein was most recently the Chief Executive Officer of The Lifetime Healthcare Companies, which was comprised of Excellus BlueCross BlueShield (BCBS), Univera Healthcare, Lifetime Health Medical Group, Lifetime Care (home care agency), EBS-RMSCO Benefit Solutions (benefits consulting firm and third party administration) and MedAmerica (long-term care insurance company). Mr. Klein had been a senior executive with The Lifetime Healthcare Companies and its predecessor companies since 1986, serving as CEO from 2003 until 2012. Mr. Klein previously was an executive with the national BlueCross BlueShield Association and Health Care Service Corporation. He served as Director of the national Blue Cross Blue Shield Association (BCBSA) and America's Health Insurance Plans. Mr. Klein currently serves as a Director of the following privately held companies: Landmark Health (a General Atlantic and Francisco Partners (private equity fund) company which creates and manages home visiting multi-disciplinary medical groups to care for complex, chronically ill patients), Avalon Healthcare Solutions (also a Francisco Partners private equity fund) company that provides laboratory benefits management solutions. Cogito (a Goldman Sachs/ Open View Partner/Romulus Capital funded customer engagement/voice analytics company), NextHealth Technologies (a Norwest Venture Partners patient engagement optimization company), PNT (a claims and clinical information data acquisition company), Excel Partners Venture Fund (a venture capital fund that invests in hightech startups focused on Upstate New York) and Transparent Health Marketplace (a provider network management company using spot pricing and patient navigation to create value). Mr. Klein is a member of the Cressey & Company

private equity fund Distinguished Executives Council. He serves as an advisor to Health Catalyst Capital Management, LLC private equity fund, as non-executive chair of the New York eHealth Collaborative which operates New York State's health information exchange and as a Director of Commonwealth Care Alliance (a health plan that serves high cost high need patients). Mr. Klein is a member of Johns Hopkins University Carey School of Business Health Care Advisory Board and has chaired United Way of Greater Rochester and an American Cancer Society Capital Campaign to establish a new Rochester Hope Lodge. He has also been president of the local Boy Scout Council and Director of Northeast Region, Boy Scouts of America. He is a Boy Scouts' Distinguished Eagle Scout and a recipient of their Silver Beaver and Silver Antelope awards. Mr. Klein received a Bachelor of Science from Rensselaer Polytechnic Institute and his Master of Business Administration from the University of Chicago.

Valerie Rahmani. Ms. Rahmani, 62, was appointed to CTG's Board of Directors in November 2015. Ms. Rahmani is a non-executive Director and member of the Risk Committee of the London Stock Exchange Group plc. She is a nonexecutive Director and member of the Audit Committee of RenaissanceRe Holdings Ltd, a Bermuda-based reinsurance company. She is a non-executive Director and member of the Compensation Committee of Entrust Datacard, a private Minneapolis based Trusted Identity Company. She is also a Board member of a social media startup, Rungway, based in London. From November 2017 until August 2019, she was the part-time CEO of the Innovation Panel of Standard Life Aberdeen plc, a global investment company based in the UK. From 2010 to 2015, Ms. Rahmani was a member of the Board of Directors of Teradici Corporation - a private technology - company where she served on the Audit and Compensation Committees. She most recently served as Chief Executive Officer of Damballa, Inc. from 2009 to 2012. Damballa was a venture capital funded cyber-security company headquartered in Atlanta, Georgia, Prior to her role at Damballa, Ms. Rahmani was with IBM in various managerial capacities for 28 years. Her latest role with IBM was General Manager of IBM Internet Security Systems. Other IBM roles included General Manager of the \$2.7 billion Global Technology Services business, head of Sales and Services Strategy unit, General Manager of IBM's \$3.5 billon UNIX server business, General Manager of IBM's Mobile business as well as serving as the Executive Assistant to Louis Gerstner, former Chairman and Chief Executive Officer of IBM. Ms. Rahmani holds an MA and a Doctor of Philosophy degree in Chemistry from Oxford University, England.

Daniel J. Sullivan. Mr. Sullivan, 73, has been a Director of CTG since 2002 and was appointed to serve as the non-executive Chairman of the Board of Directors in October 2014. He most recently served as the President and Chief Executive Officer of FedEx Ground from 1998 until 2007. FedEx Ground is a wholly owned subsidiary of FedEx Corporation. From 1996 to 1998, Mr. Sullivan was the Chairman, President and Chief Executive Officer of Caliber System. In 1995, Mr. Sullivan was the Chairman, President and Chief Executive Officer of Roadway Services. Mr. Sullivan is currently a member of the Board of Directors of Schneider National, Inc. (Green Bay, Wisconsin), where he serves on the compensation and governance committees. He serves on the Board of Advisors of Package Solutions, Atlanta, Georgia from 2015 to the present, the Board of Advisors of Aviation Investment Partners, Charleston, South Carolina from 2014 to the present and is the Principal of Flyway, LLC, Kiawah Island, South Carolina from 2009 to the present. Mr. Sullivan is also an Emeritus Director of the Board of Directors of The Medical University of South Carolina Foundation where he serves as Vice Chairman of the Board of Directors. Mr. Sullivan previously served as a member of the Board of Directors of Pike Electric, Inc. from 2007 to 2014 (Pike Electric was sold in December 2014 to Court Square Capital Partners), GDS Express (Akron, Ohio) from 2004 to 2009; and Gevity, Inc. (Bradenton, Florida) from 2008 to 2009. He is a former federal commissioner for the Flight 93 National Memorial project in Somerset County, Pennsylvania.

Owen J. Sullivan. Mr. Sullivan, 62, was appointed to the Board of Directors in February 2017. Mr. Sullivan is Chief Operating Officer of NCR, a position he has held since July 2018. Before becoming Chief Operating Officer of NCR, Mr. Sullivan was an independent consultant, providing strategic planning, consulting and executive mentoring, and working with and investing alongside private equity firms and other investor groups. Prior to that, Mr. Sullivan was with ManpowerGroup, a workforce and talent management solutions company, from 2003 to 2013. At ManpowerGroup, he served as President of the Specialty Brands and Experis units from 2010 to 2013, and he served as the Chief Executive Officer of the Right Management and Jefferson Wells International, Inc. subsidiaries from 2004 to 2013 and from 2003 to 2010, respectively. Before joining ManpowerGroup, Mr. Sullivan was with Sullivan Advisors, LLC, a provider of strategic planning, consulting and executive mentoring for small to medium-sized businesses from 2001-2003. Prior to that, Mr. Sullivan was with Metavante Technologies, Inc., a bank technology processing company from 1993 to 2001, where he served in various management roles including as the President of Metavante's Financial Services Group and Enterprise Solutions Group. Mr. Sullivan is a member of the Board of Directors at Marquette University and serves as Chairman of the Board and a member of its Executive and Nominating and Governance Committees.

Arthur W. Crumlish. Mr. Crumlish, 65, was named Chief Executive Officer (CEO) of the Company and appointed to the Company's Board of Directors in July 2016. Mr. Crumlish retired as CEO and resigned as a director effective March 1, 2019.

The Nominating and Corporate Governance Committee and the Board of Directors focuses on the experience, qualifications, attributes and skills discussed in each of the director's biographies set forth above. In each case, the Committee and the Board of Directors considered the achievements of the individual in the successful career described.

With regard to Mr. Gydé, the Committee noted that Mr. Gydé has been with the Company since October 1990 and had served as the Executive Vice President, General Manager and President for the Company's European operations. Mr. Gydé led the Company's European operations since October 2000 and served as Interim Executive Vice President of Operations of CTG from October 15, 2014 until April 5, 2015, during which time he was responsible for overall company operating activities. With regard to Mr. Helvey, the Committee considered his extensive financial experience and prior audit committee experience. With regard to Mr. Klein, the Committee considered his extensive experience managing health plan entities and his knowledge of the healthcare industry. With regard to Ms. Rahmani, the Committee considered her experience in cybersecurity and her management experience within the IT Services industry. With regard to Mr. Daniel J. Sullivan, the Committee considered the broad perspective resulting from his diverse experience in managing and serving as an officer for a large, public company. With regard to Mr. Owen J. Sullivan, the Committee considered his extensive experience in the staffing solutions and professional resourcing industry, including his roles at ManpowerGroup.

Executive Officers of the Company

The following individuals are executive officers of the Company:

Name	Age	Office	Period During Which Served as Executive Officer	other Positions and Offices with Registrant
Filip J. L. Gydé	59	President and Chief Executive Officer Executive Vice President, President and	March 1, 2019 to date	Director
		General Manager of Europe Senior Vice President Interim Executive Vice President of Operations Senior Vice President	May 8, 2018 to Feb. 28, 2019 April 6, 2015 to May 7, 2018 Oct. 15, 2014 to April 5, 2015 Oct. 1, 2000 to Oct. 14, 2014	
John M. Laubacker	53	Executive Vice President, Chief Financial Officer Interim Chief Financial Officer	April 21, 2017 to date Oct. 15, 2014 to April 5, 2015	Treasurer
Peter P. Radetich	65	Senior Vice President, General Counsel	April 28, 1999 to date	Secretary
Thomas J. Niehaus	58	Executive Vice President, General Manager of North America	May 5, 2019 to date	None

Mr. Gydé was promoted to President and Chief Executive Officer on March 1, 2019. Previously, Mr. Gydé served as an Executive Vice President, and President and General Manager for the Company's European operations. Mr. Gydé was Interim Executive Vice President of Operations from October 15, 2014 until April 5, 2015, responsible for operating activities of the overall Company. Previously he was Senior Vice President and General Manager of CTG Europe from October 1, 2000 through October 14, 2014. Prior to that, Mr. Gydé was Managing Director of the Company's operations in Belgium. Mr. Gydé has been with the Company since May 1987.

Mr. Laubacker currently serves as an Executive Vice President, Chief Financial Officer (CFO) and Treasurer. Mr. Laubacker was promoted to CFO on April 21, 2017. Previously, Mr. Laubacker was promoted to Vice President in February 2017 and has served as Treasurer since 2006. Prior to that, Mr. Laubacker was the Director of Audit and Treasury Services and the Manager of External Reporting. Mr. Laubacker joined the Company in 1996.

Mr. Radetich currently serves as Senior Vice President, General Counsel and Secretary. Mr. Radetich was promoted to General Counsel and Secretary in April 1999, and joined the Company in June 1988 as Associate General Counsel.

Mr. Niehaus currently serves as an Executive Vice President, and General Manager of the Company's North American operations. Mr. Niehaus joined the Company in May 2019. Prior to joining CTG, Mr. Niehaus served as the managing member of TJN Advisory, a private advisory services consulting firm. Previously, Mr. Niehaus was the President and Chief Operating Officer of Encore Health Resources from 2011 to 2017, and then Chief Executive Officer of Encore in 2017. Mr. Niehaus worked for CTG from 1999 to 2011, including serving as a Senior Vice President.

Arthur W. Crumlish, the Company's former CEO, retired as CEO and resigned as a director effective March 1, 2019.

Item 11. Executive Compensation

COMPENSATION DISCUSSION AND ANALYSIS

Compensation Committee Composition and Primary Purposes

The Compensation Committee of the Board of Directors consists of Valerie Rahmani, Chair, James R. Helvey III, David H. Klein, Daniel J. Sullivan, and Owen J. Sullivan. The Compensation Committee is responsible for overseeing the administration of the Company's employee stock and benefit plans, establishing policies relating to the compensation of employees and setting the terms and conditions of employment for executive officers. During 2019, the Compensation Committee held a total of five meetings. The Board of Directors has determined that the members of the Compensation Committee are independent.

The Compensation Committee has a charter that is available on our Company's website as described above under "Available Company Information" in Part I, Item 1 of this annual report on Form 10-K. The Compensation Committee reviews the charter annually and updates the charter as necessary.

The primary purposes of the Compensation Committee are to:

- (1) review and approve corporate goals and objectives relevant to the Company's compensation philosophy,
- (2) evaluate the CEO's performance and determine the CEO's compensation in light of those goals and objectives,
- (3) review and approve executive officer compensation, incentive compensation plans and equity-based plans, and
- (4) produce an annual report on executive compensation, and approve the Compensation Discussion and Analysis, for inclusion in the Company's annual proxy statement or this annual report on Form 10-K for the year ended December 31, 2019.

Effect of Say-on-Pay Vote

At the July 2019 annual meeting, shareholders were asked to approve the Company's fiscal 2018 executive compensation programs. Of those who voted, over 77% voted to approve the proposal. In light of these results, and in consideration of shareholder input obtained from outreach efforts taken in connection with the 2019 meeting, the Compensation Committee carefully reviewed the Company's executive compensation practices. The Committee concluded that the Company's existing executive compensation programs continue to be the most appropriate for the Company and effective in rewarding executives commensurate with business results. The Committee believes that the best way to align the CEO's compensation with shareholder interests is to place the majority of his compensation at-risk in the form of long-term performance based equity awards and annual incentive opportunity.

Compensation Philosophy and Executive Compensation Objectives

Given the exceptionally competitive nature of the IT Industry, the Compensation Committee and management believe it is strategically critical to attract, retain and motivate the most talented employees possible by providing competitive total compensation packages. This general philosophy on compensation applies to all employees of the Company. With regard to executive officer compensation, the Company seeks to accomplish the following high-level objectives:

- Offer a Competitive Total Compensation Package. To attract the most talented executive officers possible, the
 Company should tailor each executive officer's total compensation plan to reflect average total compensation
 offered at similar organizations. This is accomplished by means of routine compensation surveying, the process
 for which is described further below.
- Tie Total Compensation to Performance in a Meaningful Manner. To promote the Company's overall annual and long-term financial and operating objectives, a significant portion of total compensation should be based upon the accomplishment of specific Company objectives within an executive officer's purview. This is accomplished by means of various performance-based incentive plans described further below.
- Encourage Executives to Think Like Shareholders. To promote the best interests of shareholders, executive officers should be encouraged to maintain a significant equity interest in the Company. This is accomplished by means of various equity award plans described further below.

How Executive Compensation is Determined

In order to promote the Company's objective of tying total compensation to performance in a meaningful manner, the Company has adopted a uniform approach to compensation planning. In short, once the Board of Directors has reviewed and approved the corporate goals and objectives for the entire Company, the Compensation Committee begins the process of setting compensation for the executive officers. Once compensation has been set for the executive officers, they in turn are able to set performance-based objectives for their direct reports. This approach to compensation planning continues throughout the organization. In this manner, the compensation planning process seeks to optimize shareholder value by integrating appropriate employee responsibilities with corporate objectives.

In an effort to accomplish the Company's objective of offering competitive total compensation packages, the Compensation Committee routinely surveys total compensation packages for all executive officers. In 2019, as has been the practice for several years, the Compensation Committee retained the services of Pay Governance LLC ("Pay Governance"), a highly regarded independent compensation consulting firm, to undertake an annual compensation review for each of the Company's executive officers. Pay Governance reports to, and acts solely at the direction of, the Compensation Committee. Pay Governance does not provide any other services to the Company or any of the Company's executive officers individually, aside from those services provided to the Compensation Committee. Pay Governance has provided the Committee with appropriate assurances and confirmation of its independent status. Furthermore, the Committee has considered the factors set forth in 17 C.F.R. §240.10C-1(b) (4) (i)-(vi) and believes that Pay Governance has been independent throughout its services to the Committee. Prior to conducting the study, Pay Governance was provided with job descriptions for each of the executive officers and was specifically instructed to provide the Compensation Committee with a Competitive Market Analysis, a written report for each executive officer reflecting the competitive range of total compensation for comparable positions.

Surveying Methodology Used. Pay Governance used a Towers Watson executive compensation database to create the report. This database contains compensation data from approximately 750 companies. From this data, Pay Governance performed regression analyses designed to identify a competitive range for jobs in similar companies by revenue size, and in similar business units or with similar position-specific revenue responsibilities. Pay Governance's competitive range is based solely on external competitive data and does not take individual performance or internal pay equity into account. The competitive range identified in the Pay Governance report approximates the statistical mean within one standard deviation. As such, the competitive range tends to fall within approximately fifteen percent (15%) of either side of the median. Deviation within this range is usually explained by differences in experience, length of service and/or differences in responsibilities.

For 2019, the Pay Governance report observed that total compensation for all named executive officers, except Mr. Gydé, was within the competitive range. The total compensation for Mr. Gydé was within the competitive range prior to his promotion to CEO in March 2019.

To further assess the Company's overall compensation practices versus the market, Pay Governance collected pay data for the CFO position from the most recent proxy statements for a number of peer companies selected by the Compensation Committee. The companies selected were Allscripts Healthcare Solutions, Inc., BG Staffing, Inc., Huron Consulting Group, Inc., Kforce Inc., Leidos Holdings, Inc., Mastech Digital, Inc., Navigant Consulting, Inc., and Volt Information Services, Inc. Pay Governance selected only the CFO position because all companies are required to report data on this position, and the duties are generally comparable. The results of this comparison indicated that the compensation level for the CFO fell between the 25th and 50th percentiles of the peer companies.

Upon completion of the report, the Compensation Committee met personally with a representative of Pay Governance to review the document. The Compensation Committee used a separate Pay Governance study, in conjunction with the Company's overall long-term financial and operating objectives for 2019, to set total compensation for the Company's current CEO. The Company's CEO did not have a direct role in establishing the terms of his compensation. The details of CEO total compensation for 2019 are discussed below.

The CEO used the Pay Governance Competitive Market Analysis, in conjunction with the Company's overall long-term financial and operating objectives for 2019, to make compensation recommendations to the Board for each executive officer. It has been the practice of the Board to approve total compensation packages that contain a significant portion of tailored, performance-based incentives within the executive officer's purview. The executive officers have no direct role in establishing the terms of their compensation. The details of each named executive officer's total compensation for 2019 are discussed below.

Components of Executive Compensation

The compensation paid to the Company's executive officers, as reflected in the tables set forth in this annual report on Form 10-K for the year ended December 31, 2019, can be broken down into the following three general categories: (i) Baseline Compensation, (ii) Performance-Based Incentives, and (iii) Equity-Based Incentives.

Baseline Compensation

Baseline Compensation includes annual base salary, standard employee benefits generally available to all employees and participation in certain executive-level employee benefit programs. Once awarded, compensation payments made under this component are provided during the course of the year without regard to achievement of specific performance-based objectives. The Company chooses to pay this component of compensation, as it comprises the foundation of executive compensation. As such, the Company considers maintaining competitive levels of baseline compensation essential to attracting and retaining talented personnel.

Annual Base Salary —In an effort to stay competitive, annual salaries for executive officers are reviewed by the Compensation Committee on a yearly basis. With respect to determining the base salary of executive officers, the Committee takes into consideration the compensation report prepared by Pay Governance, the executive's individual performance as well as internal equity considerations. Of these factors, the Pay Governance report is generally given the most weight. In addition, if circumstances warrant, such as a change in role or responsibility, the Compensation Committee may grant discretionary bonuses from time to time to executive officers. The Compensation Committee granted no discretionary bonuses in 2019.

Standard Employee Benefits — Executive officers are entitled to participate in the same benefit programs afforded generally to all other employees of the Company. Such benefits generally include a 401(k) program, Medical/Dental/Vision Health Plans, Employee Stock Purchase Plan, Short-Term and Long-Term Disability Plans, and a Flexible Spending Account Plan.

Executive-Level Benefits —In addition to the benefits afforded to employees generally, executive officers are also eligible to participate in or receive the benefit of the following Company sponsored Executive-Level Benefits: Long-Term Executive Disability Plan, Executive Life Insurance Plan, Accidental Death & Dismemberment and Travel Accident Plan, Income Tax Preparation and Advice program, and the Company's change in control agreements. Mr. Gydé does not have a change in control agreement as Belgian law designates the calculation of separation benefits. A synopsis of these Executive-Level Benefits is provided below:

- Long-Term Executive Disability Plan. The Company will pay, on the executive's behalf, the premiums associated
 with maintaining a long-term disability policy with approximately seventy percent (70%) salary replacement up to
 \$29,000 per month. The benefits provided under the Long-Term Executive Disability Plan are provided in lieu of
 the Long-Term Disability Plan afforded to employees generally.
- Executive Life Insurance Plan. The Company will pay, on the executive's behalf, the premiums associated with maintaining a life insurance policy with coverage equal to three times current annual base salary.
- Accidental Death & Dismemberment & Travel Accident Plan. The Company will pay, on the executive's behalf, the premiums associated with maintaining an accidental death and dismemberment policy with coverage equal to four times current annual base salary.
- Income Tax Preparation and Advice Program. The Company will generally reimburse executives for out-of-pocket fees expended, up to \$2,000 (11,000 Euro for Mr. Gydé in 2019 in light of the increased complexity of his tax reporting obligations triggered by his promotion to CEO, and 6,000 Euro thereafter) on tax preparation, financial planning or advice.
- Change in Control Agreements. All executive officers' change in control agreements contain double trigger mechanisms. Pursuant to the terms of these agreements, executives are generally entitled to the following benefits in the event of a change in control (as defined in the agreements): (a) immediate vesting of all stock-related awards granted under the 2010 Equity Award Plan, the 2000 Equity Award Plan, or the 1991 Restricted Stock Plan; (b) immediate vesting and cash payout of any deferred compensation accruing pursuant to the Company's Nonqualified Key Employee Deferred Compensation Plan; and (c) to the extent that the executive's stock option rights are impeded or adversely affected by the resulting change in control (i.e., no comparable conversion options offered), an executive is entitled to an immediate lump sum payout of the built-in gain on all unexercised stock options, calculated as of the date of the change in control. Further, additional severance benefits apply in the event the executive's employment is terminated for Good Reason by the executive or without Cause by the Company within six (6) months before or twenty-four (24) months after the date of change in control. These additional severance benefits include: a lump sum payment of two times the executive's annual rate of salary, a lump sum payment of two times the executive's average annual Incentive (calculated from the

preceding three years), a lump sum payout (in lieu of continued healthcare coverage) equal to twenty-five percent (25%) of current salary and highest annual Incentive (from the preceding three years), indemnification coverage for a period of sixty (60) months, a cash-out of equity-based compensation; and payout of any and all deferred compensation accruing up to the date of termination. For more information on Potential change in control related payments, see "Potential Payments upon Termination or Change in Control."

Performance-Based Incentives

Performance-Based Incentives include an annual cash incentive ("Incentive"). Compensation payments provided under this program are conditional upon the accomplishment of specific performance-based goals. The Company chooses to pay this component of compensation because it believes this compensation program is critical to motivating executive officers in a manner that directly affects shareholder value.

Annual Cash Incentive Compensation —Each executive officer's total annual compensation includes a potential Incentive award. Incentive payments are contingent upon the accomplishment of certain performance-based objectives selected by the Compensation Committee annually. In selecting objectives, the Compensation Committee seeks to individually tailor performance criteria for each executive officer. The amounts of the Incentive, and the formula for calculating actual payments, are regularly reviewed and surveyed in conjunction with the Pay Governance study discussed earlier. In 2019, the Compensation Committee established performance objectives for the executive officers based on targeted levels of revenue and operating income. To the extent an executive officer has specific operational responsibilities, performance objectives were split between: (i) consolidated revenue and operating income for the entire Company and (ii) business unit revenue and gross profit for that executive officer's focus of operation. Targets for non-operational executive officers, including the CEO, were based solely on consolidated revenue and non-GAAP operating income for the entire Company. In 2019, the planned consolidated revenue and consolidated operating income targets for all executive officer incentive plans were \$411,700,000 and \$9,081,000, respectively.

The formula for calculating each executive officer's Incentive provides that at least eighty percent (80%) of the stipulated plan target ("Threshold") must be achieved before any remuneration is awarded for that objective. If the Threshold is achieved, the executive officer receives fifty percent (50%) of the designated plan award for that objective. Then, for each additional percentage point (1%) achieved above the Threshold, up to one hundred percent (100%) of the plan target ("Objective Goal"), the executive officer receives another two and one-half percent (2.5%) of the designated plan award for that objective. For each additional percentage point (1%) achieved above the Objective Goal, the executive officer receives another five percent (5%) of the designated plan award for that objective. Each plan prohibits the receipt of amounts in excess of two hundred percent (200%) of the designated plan award for that objective.

The plan award is generally calculated as a percentage of annual base salary. In 2019, the plan awards were:

- (i) For Mr. Gydé, effective as of March 1, 2019 for his promotion to CEO, one hundred percent (100%) of base salary actually paid, and prior to Mr. Gydé's promotion, fifty-one percent (51%) of base salary actually paid,
- (ii) For Mr. Crumlish, previous CEO, one-hundred seven percent (107%) of base salary actually paid,
- (iii) For Mr. Laubacker, CFO, approximately sixty-one (61%) of base salary actually paid,
- (iv) For Mr. Niehaus, EVP, approximately sixty-two percent (62%) of base salary actually paid, and
- (v) For Mr. Radetich, SVP, approximately seventy-two percent (72%) of base salary actually paid.

The Compensation Committee believes that each executive officer's Incentive plan targets for 2019 involved a reasonably challenging degree of difficulty that considers current economic challenges and reflects the Board's desire to maintain flexibility in enhancing the executive officer's focus, motivation and enthusiasm. In exceptional circumstances, the Compensation Committee exercises discretion to award Incentive compensation absent achievement of the specified thresholds or to reduce or increase the size of any award or payout. In this manner, the Compensation Committee believes that each executive officer's Incentive plan targets are reasonably tailored to promote the Company's overall annual and long-term financial goals.

Equity-Based Incentives

This component of executive compensation consists of grants of restricted stock and stock options under the Company's 2010 Equity Award Plan. In making such grants, the Compensation Committee considers an executive's past contributions and expected future contributions towards Company performance. Grants are made to key employees of the Company who, in the opinion of the Compensation Committee, have had and are expected to continue to have a significant impact on the long-term performance of the Company. The awards are designed to reward individuals who

remain with the Company and to further align employee interests with those of the Company's shareholders. The Company chooses to pay this component of compensation because it believes that stock ownership by management is beneficial in aligning management's activities and decisions with shareholders' interests of maximizing share value.

Except in circumstances of new or recently promoted executive officers, the Compensation Committee generally grants equity compensation on a set date each year. The Company does not time or plan the release of material non-public information for the purpose of affecting the value of compensation. Equity awards may also be granted at other meetings of the Compensation Committee to individuals who become executive officers, are given increased responsibilities during the year or in recognition of special accomplishments. The Company has adopted stock ownership guidelines for senior executive officers requiring: (i) the CEO to own Company shares valued at five (5) times his or her own base salary, and (ii) the CFO, Executive Vice Presidents, and Senior Vice Presidents with oversight of operating segments, to own Company shares valued at three (3) times his or her own base salary.

Restricted Stock Grants During 2019 —The Compensation Committee granted restricted stock awards under the 2010 Equity Award Plan to various executive officers as identified in the tables below. In general, recipients of restricted stock awards receive a specified number of non-transferable restricted shares to be held by the Company, in the name of the grantee, until satisfaction of stipulated vesting requirements. Upon satisfaction of such vesting requirements, restrictions prohibiting transferability will be removed from the vested shares. In determining whether to grant an individual restricted stock, the Compensation Committee considers an executive's contribution toward Company performance, expected future contribution and the number of options and shares of common stock presently held by the executive. For awards of restricted stock granted in 2019 to the executive officers, the shares vest at the end of a three-year period. If the Company's cumulative three-year non-GAAP earnings per share for the years 2019, 2020, and 2021 equals or exceeds \$1.42, then one-hundred percent (100%) of the grants will vest. If the combined cumulative three-year non-GAAP earnings per share is eighty percent (80%) or more, but less than one-hundred percent (100%) of the earnings per share target, a pro-rata portion of the grants shall vest. If at least eighty percent (80%) of the three-year non-GAAP earnings per share target is not met, the grants will expire.

Compensation Committee Report

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K with management and, based on such review and discussions, the Compensation Committee recommended to the Board that the Compensation Discussion and Analysis be included in this annual report on Form 10-K for the year ended December 31, 2019.

Submitted by the Compensation Committee

Valerie Rahmani, Chair James R. Helvey III David H. Klein Daniel J. Sullivan Owen J. Sullivan

Compensation Committee Interlocks and Insider Participation

During the last completed fiscal year, the Compensation Committee was comprised entirely of independent directors. The Compensation Committee of the Board of Directors is composed of Valerie Rahmani, Chair, James R. Helvey III, David H. Klein, Daniel J. Sullivan, and Owen J. Sullivan.

2019 SUMMARY COMPENSATION TABLE

								ı	Non-Equity				
Name and					Stock	(Option	In	centive Plan		All Other		
Principal Position	Year	;	Salary		wards		wards	Co	mpensation	C	ompensation		Total
(a)	(b)	((c) (\$)	(e)	(\$) (1)	(f)	(\$) (2)		(g) (\$)		(i) (\$) (4)	_	(j) (\$)
Filip J.L. Gydé President and CEO (March 2019 to present)	2019	\$	395,508	\$	449,995	\$	_	\$	497,303	(3) \$	70,945	(6) \$	1,413,751
EVP, President and GM, CTG Europe	2018	\$	356,971	\$	45,000	\$	_	\$	229,406	(3) \$	113,268	(6) \$	744,645
	2017	\$	271,891	\$	28,715	\$	_	\$	279,667	(3) \$	107,855	(6) \$	688,128
Arthur W. Crumlish													
President and CEO (July 2016 to February 2019)	2019	\$	69,385	\$	_	\$	_	\$	_	(3) \$	597,229	(8) \$	666,614
	2018	\$	410,000	\$	158,940	\$	_	\$	222,413	(3) \$	16,380	(8) \$	807,733
	2017	\$	410,000	\$	91,977	\$	_	\$	155,680	(3) \$	19,121	(8) \$	676,778
John M. Laubacker													
EVP, CFO and Treasurer (April 2017 to present)	2019	\$	355,000	\$	209,998	\$	_	\$	302,333	(3) \$	34,578	(5) \$	901,909
	2018	\$	320,000	\$	71,640	\$	_	\$	106,152	(3) \$	30,323	(5) \$	528,115
	2017	\$	260,411	\$	66,866	\$	45,991	\$	67,069	(3) \$	22,543	(5) \$	462,880
Thomas J. Niehaus EVP and GM, CTG North America (from May 5, 2019 to present)	2019	\$	215,000	\$	101,097	\$	33,518	\$	145,193	(3) \$	47,681	(7) \$	542,489
Peter P. Radetich SVP and General Counsel	2019	\$	283,000	\$	144,996	\$	_	\$	285,669	(3) \$	19,964	(9) \$	733,629
	2018	\$	283,000	\$	50,400	\$	_	\$	102,689	(3) \$	20,018	(9) \$	456,107
	2017	\$	283,000	\$	29,167	\$	_	\$	71,878	(3) \$	34,359	(9) \$	418,404

- (1) The amounts in column (e) reflect the aggregate grant date fair value for the awards granted in the fiscal years ended December 31, 2019, 2018, and 2017 as applicable, as computed in accordance with FASB ASC Topic 718. The assumptions used in the calculation of these amounts are included in footnote 10 to the Company's audited financial statements for the fiscal year ended December 31, 2019 included in Item 8, "Financial Statements and Supplementary Data."
- (2) The amounts in column (f) reflect the aggregate grant date fair value for the options granted in the fiscal years ended December 31, 2019, 2018, and 2017 as applicable, as computed in accordance with FASB ASC Topic 718. The assumptions used in the calculation of these amounts are included in footnote 10 to the Company's audited financial statements for the fiscal year ended December 31, 2019 included in Item 8, "Financial Statements and Supplementary Data."
- (3) Represents cash payments earned under the respective executive's annual cash incentive plan.
- (4) Life Insurance. During 2019, 2018, and 2017, the Company provided life insurance benefits for Messrs. Gydé, Laubacker, Niehaus and Radetich. The premiums paid by the Company in 2019 for this benefit included \$38,151, \$15,969, \$32,452 and \$0, respectively. The premiums paid by the Company for this benefit in 2018 for Messrs. Crumlish, Laubacker, and Radetich totaled \$0, \$13,268, and \$0, respectively. The premiums paid for this benefit in 2017 for Messrs. Crumlish, Laubacker, and Radetich totaled \$0, \$11,759, and \$20,000, respectively.
 - 401(k) Contributions. The Company may match up to 3% of the contributions made by Messrs. Laubacker, Niehaus, and Radetich to the Computer Task Group, Incorporated 401(k) Retirement Plan. There were no contributions made by the Company to the executives in 2019, 2018, or 2017.
- (5) In addition to life insurance premiums (as further disclosed in footnote 4), during 2019, Mr. Laubacker received a total value of \$18,609 in Other Compensation for the following Executive-Level Benefits (which are further described beginning on page 75): Long-Term Executive Disability Plan, Accidental Death & Dismemberment & Travel Accident Plan. and the Executive Medical and Dental Plan.
- (6) In accordance with Belgian law, the Company is required to pay Mr. Gydé: (i) 92% of one month's pay as vacation pay and (ii) a year-end premium equal to one month's base salary. Together, these legal obligations totaled \$14,321 in 2019, \$63,005 in 2018, and \$56,673 in 2017. The Company also makes contributions towards Mr. Gydé's cafeteria plan account, which is a plan generally available to all Belgium employees. Contributions to Mr. Gydé's cafeteria plan totaled \$38,151 in 2019, \$30,773 in 2018, and \$34,794 in 2017. The Company also leases an automobile for Mr. Gydé's use, which is an option provided to all Belgium employees with a likelihood of traveling. The cost to the Company for leasing Mr. Gydé's automobile was \$16,234 in 2019, \$17,128 in 2018, and \$16,388 in 2017. Mr. Gydé also received \$2,239, \$2,362 and \$2,001 for the Income Tax Preparation and Financial Advice Program in 2019, 2018, and 2017, respectively. Mr. Gydé is paid in Euros and amounts are converted to United States Dollars based on the average foreign currency exchange rate for 2019.
- (7) In 2019, Mr. Niehaus received a total of \$15,229 for Executive-Level Benefits, which are further discussed on page 75.
- (8) In addition to life insurance premiums and 401(k) contributions (as further disclosed in footnote 4), during 2019 Mr. Crumlish received a total value of \$4,169 for the following Executive-Level Benefits (which are further described beginning on page 75): Long-Term Executive Disability Plan, Accidental Death & Dismemberment & Travel Accident Plan, the Executive Medical and Dental Plan, and the Income Tax Preparation and Advice Program. In 2018 and 2017, Mr. Crumlish received a total value of \$16,380 and \$19,121 for these benefits, respectively.
- (9) In addition to life insurance premiums (as further disclosed in footnote 4), during 2019 Mr. Radetich received a total value of \$19,964 for the following Executive-Level Benefits (which are further described beginning on page 75): Long-Term Executive Disability Plan, Accidental Death & Dismemberment & Travel Accident Plan, the Executive Medical and Dental Plan, and the Income Tax Preparation and Advice Program. During 2018 and 2017, Mr. Radetich received a total value of \$20,018 and \$34,359 from these Executive-Level Benefits, respectively.

Specific Executive Officer Compensation Plans and Employment Agreements

Filip J.L. Gydé, CEO. Mr. Gydé was promoted from EVP, President and General Manager of the Company's European operations to President and Chief Executive Officer on March 1, 2019. Mr. Gydé's compensation included annual base salary payments of \$395,508, an Incentive of \$497,303, and a grant of 91,277 restricted shares with a performance condition. In accordance with Belgian law, the Company is required to pay Mr. Gydé: (i) 92% of one month's pay as vacation pay and (ii) a year-end premium equal to one month's base salary. The amounts paid to Mr. Gydé are not reflected in the base salary amount. In setting baseline compensation and the performance standards for Mr. Gydé, the Compensation Committee considered the Pay Governance report. The total amount of compensation that Mr. Gydé received was based on a combination of his baseline compensation and the extent to which the thresholds for compensation were achieved under his performance based incentives. Pursuant to Belgian law, the Company is required to pay Mr. Gydé certain additional benefits that are generally afforded to all Belgian employees. These statutory benefits totaled \$70,945 ("2019 Summary Compensation Table") in 2019.

Arthur W. Crumlish, retired CEO. In 2019, Mr. Crumlish retired as Chief Executive Officer and a member of the Company's board of directors on March 1, 2019. Mr. Crumlish's total compensation included annual base salary payments of \$69,385. In setting baseline compensation and the performance standards for Mr. Crumlish's compensation, the Compensation Committee considered the Pay Governance report. The total amount of compensation that Mr. Crumlish received was based on a combination of his baseline compensation and the extent to which the thresholds for compensation were achieved under his performance based incentives.

Mr. Crumlish had a written Employment Agreement ("Agreement") addressing compensation terms. This Agreement provided that:

- compensation would be reviewed and adjusted annually by the Compensation Committee as appropriate;
- either party may terminate the employment relationship upon sixty (60) days prior written notice to the other;
- competitive activities, and other activities adverse to the Company's interests, are prohibited during the term of the employment relationship and for a six-(6) month period after any termination thereof.

The Agreement also provided severance compensation in the event of termination. In the event of termination by Mr. Crumlish for Good Reason (as defined in the Agreement), or by the Company other than for Cause (as defined in the Agreement), or if he died or became disabled, Mr. Crumlish would receive a lump-sum cash payment equal to his current base salary plus the average annual cash Incentive paid to him in the three (3) years leading up to the actual date of termination. Mr. Crumlish would also continue to receive medical and dental benefits for a period of twelve (12) months. Under this agreement, Mr. Crumlish received \$593,060 upon his retirement from the Company.

John M. Laubacker, CFO. In 2019, Mr. Laubacker's total compensation included annual salary payments of \$355,000, an Incentive of \$302,333, and a grant of 42,596 restricted shares with a performance condition. In setting baseline compensation and the performance standards for Mr. Laubacker's compensation, the Compensation Committee considered the Pay Governance report. The total amount of compensation that Mr. Laubacker received was based on a combination of his baseline compensation and the extent to which the thresholds for compensation were achieved under his performance based incentives.

Thomas J. Niehaus, EVP. Mr. Niehaus joined the Company on May 5, 2019 as the Executive Vice Present and General Manager for the Company's North American operations. In 2019, Mr. Niehaus' compensation included annual base salary payments of \$215,000 (\$325,000 on an annual basis), an Incentive of \$145,193, and a grant of 13,691 restricted shares with a performance condition. Also, Mr. Niehaus was granted 8,000 restricted shares and 26,500 stock options upon joining the Company in May 2019. In setting baseline compensation and the performance standards for Mr. Niehaus' compensation, the Compensation Committee considered the Pay Governance report. The total amount of compensation that Mr. Niehaus received was based on a combination of his baseline compensation and the extent to which the thresholds for compensation were achieved under his performance-based incentives.

Peter P. Radetich, SVP. In 2019, Mr. Radetich's compensation included annual base salary payments of \$283,000, an Incentive of \$285,669, and a grant of 29,411 restricted shares with a performance condition. In setting baseline compensation and the performance standards for Mr. Radetich's compensation, the Compensation Committee considered the Pay Governance report and his past performance. The total amount of compensation that Mr. Radetich received was based on a combination of his baseline compensation and the extent to which the thresholds for compensation were achieved under his performance-based incentives.

We believe executive pay must be internally consistent and equitable to motivate our employees to create shareholder value. We are committed to internal pay equity, and the Compensation Committee monitors the relationship between the pay our executive officers receive and the pay our non-managerial employees receive. The compensation for our CEO in 2019 was approximately 30 times the median pay of our employees.

Our CEO to median employee pay ratio is calculated in accordance with the SEC's rules and regulations under item 402(u) of Regulation S-K. We identified the median employee by examining the 2019 total cash compensation for all individuals, excluding our CEO, who were actively employed by us on December 31, 2019, the last day of our fiscal year. We included full-time, part-time, and seasonal employees. For employees that were not located in the US, we converted their total cash compensation from local currencies to US dollars by using the 2019 average currency exchange rates per www.irs.gov (https://www.irs.gov/individuals/international-taxpayers/yearly-average-currency-exchange-rates). We did not make any other assumptions, adjustments, or estimates with respect to the total cash compensation, and we did not annualize the compensation for any employees that were not employed by us for all of 2019. We believe the use of total cash compensation for all employees is a consistently applied compensation measure because we do not widely distribute annual equity awards to employees.

After identifying the median employee based on total cash compensation, we calculated the annual total compensation for such employee using the same methodology we use for our named executive officers as set forth in the 2019 Summary Compensation Table in our Proxy Statement.

As illustrated in the table below, our 2019 CEO to median employee pay ratio is 30:1:

Cationated Cutuma Davisuta

	Filip J.L. Gydé, President and CEO	Median CTG Employee
Salary	\$ 395,508	\$ 41,265
Overtime Pay	_	6,548
Stock Awards	449,995	_
Non-Equity Incentive	497,303	_
All Other Compensation	70,945	
	\$ 1,413,751	\$ 47,813
Ratio	29.57	1.00

2019 GRANTS OF PLAN-BASED AWARDS

Cationated Cutuma Davisuta

		Under N	ed Future F on-Equity I an Awards	ncentive	Under I	d Future Equity Inc an Award	entive				
Name	Grant Date	Threshold	Target	Maximum	Threshold	Target	Maximum	All Other Stock Awards: Number of Shares of Stock or Units	All Other Option Awards: Number of Securities Underlying Options	Exercise or Base Price of Option Awards (k)	Grant Date Fair Value of Stock and Option Awards
(a)	(b)	(c) (\$)	_(d) (\$)	(e) (\$)	(f) #	(g) #	(h) #	(i) #	(j) #	(\$/sh)	_(l) (\$)
Filip J.L. Gydé	9/26/2019	\$ 187,500	\$375,000	\$ 750,000	45,639	91,277	91,277	_	_	\$ —	\$449,995
Arthur W. Crumlish	_	\$ 220,000	\$440,000	\$ 880,000	_	_	_	_	_	\$ —	\$ —
John M. Laubacker	9/26/2019	\$ 107,500	\$215,000	\$ 430,000	21,298	42,596	42,596	_	_	\$ —	\$209,998
Thomas J. Niehaus	9/26/2019	\$ 65,385	\$130 760	\$ 261,538	6,846	13,691	13,691	_	_	\$ —	\$ 67,497
	3/20/2013	ψ 05,505	ψ 100,709	Ψ 201,300	0,040	10,001	,			Ψ	+,
	5/31/2019	\$ 05,565	\$ -	\$ —		-		8,000	26,500	\$ 4.20	

⁽¹⁾ The amounts shown in column (c) reflect Incentives that would be paid for achieving 80% of all stipulated plan targets. The amounts shown in column (d) reflect Incentives that would be paid for achieving 100% of all stipulated plan targets. For Mr. Gydé, his annual incentive as CEO for 2019 was \$450,000, but this amount was prorated to \$375,000 as his start date for becoming the Company's CEO was March 1, 2019. Additionally, Mr. Gydé earned \$34,059 of incentives as his role as SVP between January 1, 2019 & February 28, 2019. For Mr. Niehaus, his annual incentive was \$200,000, but this amount was prorated to \$130,769 for his start date of May 5, 2019 as the Executive Vice Present and General Manager for the Company's North American operations. The amounts shown in column (e) reflect the maximum Incentives that would be paid under the stipulated plan. Further discussion of Incentive plan calculations is provided under the section entitled "Annual Cash Incentive Compensation," found earlier in this annual report on Form 10-K for the year ended December 31, 2019 under the heading "Performance-Based Incentives."

Grants of Plan-Based Awards

Each of the Non-Equity Incentive Plan Awards represented in the table above were Incentive awards granted to the named executive officers during 2019. Such Incentive awards are described earlier in this report under the heading "Performance-Based Incentives." The formula for calculating each executive officer's Incentive provides that at least eighty percent (80%) of the stipulated plan target ("Threshold") must be achieved before any remuneration is awarded for that objective. If the Threshold is achieved, the executive officer receives fifty percent (50%) of the designated plan award¹ for that objective. Then, for each additional percentage point (1%) achieved above the Threshold, up to one hundred percent (100%) of the plan target ("Objective Goal"), the executive officer receives another two and one-half percent (2.5%) of the designated plan award for that objective. For each additional percentage point (1%) achieved above the Objective Goal, the executive officer receives another five percent (5%) of the designated plan award for that objective. Each plan prohibits the receipt of amounts in excess of two hundred percent (200%) of the designated plan award for that objective.

Pursuant to Company policies, an Incentive is only earned by and payable to an individual who remains in the Company's employ on the date of Incentive distribution. Incentive payments for 2019 were made on March 6, 2020.

Each of the equity awards represented in the table above were granted pursuant to the 2010 Equity Award Plan. The restricted stock awards represented in the table above were granted by the Board to the named executive officers on September 26, 2019 and include a performance condition. For awards of restricted stock granted in 2019 to the executive officers, the shares vest at the end of a three-year period. If the Company's cumulative three-year non-GAAP earnings per share for the years 2019, 2020, and 2021 equals or exceeds \$1.42, then one-hundred percent (100%) of the grants will vest. If the combined cumulative three-year non-GAAP earnings per share is eighty percent (80%) or more, but less than one-hundred percent (100%) of the earnings per share target, a pro-rata portion of the grants shall vest. If at least eighty percent (80%) of the three-year non-GAAP earnings per share target is not met, the grants will expire.

Recipients of restricted stock awards were required to enter into agreements with the Company governing the vesting, exercise and/or transferability (as applicable) of such awards. Vesting requirements for restricted stock awards are based solely on continued employment.

¹ The designated plan award is generally calculated as a percentage of annual base salary. In 2019, the designated plan awards were: (i) for Mr. Gydé, effective as of March 1, 2019 for his promotion to CEO, one hundred percent (100%) of base salary actually paid, and prior to Mr. Gydé's promotion, fifty-one percent (51%) of base salary actually paid, (ii) for Mr. Crumlish, previous CEO, one-hundred seven percent (107%) of base salary actually paid, (iii) for Mr. Laubacker, CFO, approximately sixty-one (61%) of base salary actually paid, (iv) for Mr. Niehaus, EVP, approximately sixty-two percent (62%) of base salary actually paid, and (v) for Mr. Radetich, SVP, approximately seventy-two percent (72%) of base salary actually paid

2019 OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END

		2019 001317 Opt	ion Awards				FISCAL TE		Stock A	Awards	
Name (a) Filip J.L. Gydé	Number of Securities Underlying Unexercised Options Exercisable (#) (b)	Number of Securities Underlying Unexercised Options Unexercisable (#) (c)	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#) (d)	Ex	ption ercise ice (\$) (e)	Option Expiration Date (f)	Number of Shares or Units of Stock That Have Not Vested (#) (g)	of S	arket Value Shares or Units of tock That Have Not 'ested (\$)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#) (i)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$) (j)
	20,000			\$	7.18	2/16/2020					
, ,	10,000	_	_	\$	12.16	2/15/2021	_		_	_	_
	9,000	_	_	\$	15.04	2/14/2022	_		_	_	_
	9,000	_	_	\$	20.68	2/12/2023	_		_	_	_
	9,000	_	_	\$	16.93	2/19/2024	_		_	_	_
	13,600	_	_	\$	7.48	11/10/2025				_	_
	_	_	_		_	_	145,325	\$	752,784	_	_
Arthur W. Crumlish	9,000 9,000	_	_	\$ \$	15.04 20.68	2/14/2022 2/12/2023	_		_	_	_
	9,000	_	_	Ф \$	16.93	2/12/2023	_		_	_	_
	10,875		_	\$	7.48	11/10/2025					
	90,192	45,096 (0	ca) —	\$	4.95	8/9/2026	_		_	_	_
John M. Laubacker	5,000	_	_	\$	7.18	2/16/2020	_		_	_	_
	7,500	_	_	\$	12.16	2/15/2021	_		_	_	_
	7,000	_	_	\$	15.04	2/14/2022	_		_	_	_
	7,000 7,000	_	_	\$ \$	20.68 16.93	2/12/2023 2/19/2024	_		_	_	_
	10,400			\$	7.48	11/10/2025					_
	12,450	12,450 (la) —	\$	5.75	5/15/2027	_		_	_	_
	,	´ — `	_		_	_	107,484		556,767	_	_
Thomas J. Niehaus	_	26,500 (r	na) —	\$	4.20	5/31/2029	_		_	_	_
	_	_	_		_	_	21,691	\$	112,359	_	_
Peter P. Radetich	15,000	_	_	\$	7.18	2/16/2020	_		_	_	_
	10,000 9,000	_	_	\$ \$	12.16 15.04	2/15/2021 2/14/2022	_		_	_	_
	9,000		_	\$ \$	20.68	2/14/2022	_			_	
	9,000	_	_	\$	16.93	2/12/2023	_		_	_	_
	14,500	_	_	\$	7.48	11/10/2025	_		_	_	_
		_	_	\$	_	_	86,859		449,930	_	_

^{45,096} vest on 8/9/2020

⁽ca) (la) (na) 6,225 each vest on 5/15/2020 and 5/15/2021 8,834 vest on 5/31/2020, and 8,833 each vest on 5/31/2021 and 5/31/2022

2019 OPTION EXERCISES AND STOCK VESTED

The following table provides information for each of the Company's named executive officers regarding stock option exercises and vesting of stock awards during 2019.

	Option	Stock Awards				
Name of Executive Officer	Number of Shares Acquired on Exercise (#) (1)	lue Realized Exercise (\$) (1)	Number of Shares Acquired on Vesting (#) (1)		lue Realized vesting (\$)	
Filip J. L. Gydé	_	\$ _	10,063	\$	46,715	
Arthur W. Crumlish	45,096	\$ 22,999	6,837	\$	28,579	
John M. Laubacker	_	\$ _	9,262	\$	42,572	
Thomas J. Niehaus	_	\$ _	_	\$	_	
Peter P. Radetich	_	\$ _	10,112	\$	46,919	

⁽¹⁾ For Option Awards, the value realized is the difference between the fair market value of the underlying stock at the time of exercise and the exercise price. For Stock Awards, the value realized is based on the fair market value of the underlying stock on the vest date.

Pension Benefits

The Company maintains an Executive Supplemental Benefit Plan (Supplemental Plan) which provides certain former executives with deferred compensation benefits. The Supplemental Plan was amended as of December 1, 1994 in order to freeze the then-current benefits, provide no additional benefit accruals for participants and to admit no new participants. None of the named executive officers participates in the Supplemental Plan.

Generally, the Supplemental Plan provides for retirement benefits of up to 50% of a participating employee's base compensation at termination or as of December 1, 1994, whichever is earlier, and pre-retirement death benefits calculated using the same formula that is used to calculate normal and early retirement benefits. Benefits are based on service credits earned each year of employment prior to and subsequent to admission to the Supplemental Plan through December 1, 1994. Retirement benefits and pre-retirement death benefits are paid during the 180 months following retirement or death, respectively, while disability benefits are paid until normal retirement age. Normal retirement is age 60. For any participant who is also a participant in the Deferred Compensation Plan, the normal retirement age was increased to 65.

2019 NONQUALIFIED DEFERRED COMPENSATION

Name of Executive Officer	Executive Contributions in Last FY (\$) (b) (1)	Registrant Contributions in Last FY (\$) (c)	Aggreg Earning Last F	js in	Aggregate Withdrawals / Distributions (\$) (e)	В	ggregate alance at st FYE (\$) (f)
Filip J. L. Gydé	_	_	\$	_	_	\$	_
Arthur W. Crumlish	<u> </u>	_	\$ 4	1,672	_	\$	328,571
John M. Laubacker	_	_	\$ 1	4,896	_	\$	150,615
Thomas J. Niehaus	_	_	\$	_	_	\$	_
Peter P. Radetich	_	_	\$ 3	1,966	_	\$	258,566

⁽¹⁾ During 2017, the Company discontinued contributions under the Deferred Compensation Plan. Mr. Gydé does not have an account under the Deferred Compensation Plan as he is not eligible to participate in the plan, and Mr. Niehaus does not have a balance as he joined the Company in 2019 subsequent to the contributions being discontinued, and he did not make any contributions to the Plan himself during 2019.

On February 2, 1995, the Compensation Committee approved the creation of a Nonqualified Key Employee Deferred Compensation Plan ("Deferred Compensation Plan"). The Deferred Compensation Plan is a successor plan to the Supplemental Plan. Participants in the Deferred Compensation Plan are eligible to elect to defer a percentage of their annual cash compensation. Prior to 2017, participants were eligible to receive a Company contribution of a percentage of their base compensation and annual Incentive if the Company attained annual defined performance objectives for the year. These performance objectives were on an annual basis for the upcoming year. The contribution to the Deferred Compensation Plan by the Company was discontinued during 2017.

Plan participants have a 100% non-forfeitable right to the value of their corporate contribution account after the fifth anniversary of employment with the Company. If a participant terminates employment due to death, disability, retirement at age 65, or upon the occurrence of a Change in Control Event (as defined in the plan), the participant or his or her estate will be entitled to receive the benefits accrued for the participant as of the date of such event. The Company contributions will be forfeited in the event a participant incurs a separation from service for cause. Participants are 100%

vested in their own contributions. All amounts in the Deferred Compensation Plan, including elective deferrals, are held as general assets of the Company and are subject to the claims of creditors of the Company.

Potential Payments upon Termination or Change in Control

Agreements with Mr. Gydé. Mr. Gydé is the only executive officer with an employment agreement affording severance benefits upon termination. Pursuant to the terms of such agreement, in the event of termination by Mr. Gydé for Good Reason (as that term is defined in the agreement), or by the Company other than for Cause (as that term is defined in the agreement), Mr. Gydé would receive a lump-sum cash payment equal to his current base salary plus an amount equal to the average annual Incentive paid to Mr. Gydé during the most recent three-year period. Mr. Gydé would also continue to receive medical and dental benefits for a period of twelve (12) months. Had Mr. Gydé's employment been terminated on December 31, 2019, he would have been eligible to receive an initial lump-sum cash payment equal to \$1,321,119. Mr. Gydé would also receive, for a period of twelve months, continuing medical and dental coverage under any plans he participates in as of the effective date of such termination. Continued medical and dental benefits would likely total approximately \$55,062.

Agreements with Mr. Crumlish. Mr. Crumlish's employment agreement afforded severance benefits upon termination. Pursuant to the terms of such agreement, in the event of termination by Mr. Crumlish for Good Reason (as that term is defined in the agreement), or by the Company other than for Cause (as that term is defined in the agreement), Mr. Crumlish would receive a lump-sum cash payment equal to his current base salary plus an amount equal to the average annual Incentive paid to Mr. Crumlish during the most recent three-year period. Upon Mr. Crumlish's retirement on March 1, 2019, he received a payment totaling \$593,060.

Payments made to Mr. Crumlish pursuant to this agreement were contingent upon his adherence to certain restrictive covenants, which were effective from the date of the agreement and continued until one year after his separation from the Company. These restrictive covenants generally prohibited Mr. Crumlish from, directly or indirectly: (i) engaging in any business activity which competes with the Company, (ii) soliciting or hiring any of the Company's employees, (iii) canvassing or soliciting customers of the Company, (iv) willfully dissuading or encouraging any person from conducting business with the Company or (v) intentionally disrupting any supplier relationship.

Agreements with Other Executive Officers. Since Belgian law mandates certain separation benefits, the Company does not maintain a change in control agreement with Mr. Gydé. Each of the other named executive officers have entered into a change in control agreement with the Company. All executive officers Change in Control agreements contain double trigger mechanisms.

If a change in control occurred on December 31, 2019, then each of the named executive officers (excluding Mr. Gydé) would have immediately become fully vested in any stock option or restricted stock awards previously granted. These awards are more fully described in the table entitled "Outstanding Equity Awards at Fiscal Year-end." If the stock price of the Company was \$5.18, which was the closing price of the stock on December 31, 2019, then the named executive officers could potentially have realized gains, before tax, from the sale of vested securities in the following amounts:

1	
John M. Laubacker \$ 772,778 \$	31,125
Thomas J. Niehaus \$ 112,359 \$	74,200
Peter P. Radetich \$807,210 \$	_

Had the abovementioned executive officers' employment been terminated without cause by the Company or by themselves with good reason within 6 months prior to or 24 months following such a change in control, they would also have been entitled to receive, by the tenth day following their termination, lump-sum cash payments from the Company in the following amounts:

- Mr. Laubacker would have received a lump-sum payment of \$1,165,179;
- Mr. Niehaus would have received a lump-sum payment of \$1,060,936; and
- Mr. Radetich would have received a lump-sum payment of \$991,152.

These payments equal two (2) times the sum of each individual's current annual salary, which as of December 31, 2019 were \$355,000 for Mr. Laubacker, \$325,000 for Mr. Niehaus, and \$283,000 for Mr. Radetich. It also includes their average annual Incentive payment from the last three years and an amount equal to twenty-five percent (25%) of each

individual's current base salary and the highest annual Incentive payment from the last three years. This amount is intended to cover fringe benefits such as 401(k), health, medical, dental, disability and similar benefits for a period of twenty-four months.

2019 DIRECTOR COMPENSATION

Name of Director	Ear Pa Ca	ees ned or aid in sh (\$) (b)	Stock Awards (\$) (c) (1)	Option Awards (\$) (d)	Inc	Ion-Equity centive Plan mpensation (\$) (e)	Pens Nor D Com	nange in sion Value and nqualified eferred epensation ings (\$)	All Other mpensation (\$) (g)	7	Гotal (\$) (h)
James R. Helvey III	\$	_	\$ 165,000	\$ _	\$	_	\$	_	\$ _	\$	165,000
David H. Klein	\$	_	\$ 160,000	\$ _	\$	_	\$	_	\$ _	\$	160,000
Valerie Rahmani	\$	_	\$ 160,000	\$ _	\$	_	\$	_	\$ _	\$	160,000
Daniel J. Sullivan	\$	_	\$ 250,000	\$ _	\$	_	\$	_	\$ _	\$	250,000
Owen J. Sullivan	\$	_	\$ 150,000	\$ _	\$	_	\$	_	\$ _	\$	150,000

⁽¹⁾ At the election of the directors, the director fees for 2019 were paid in the form of deferred stock units granted under the 2010 Equity Award Plan and deposited into the Director Deferred Compensation Plan.

As of December 31, 2019, Mr. Daniel J. Sullivan had been granted 40,000 shares of Company restricted stock. This restricted stock vests upon retirement from the Board. Mr. Klein, who was appointed to the Board in September 2012, Mr. Helvey and Ms. Rahmani, who were appointed to the board in November 2015, and Mr. Owen Sullivan, who was appointed in February 2017, have not received any grants of restricted shares.

As of December 31, 2019, the directors had the following number of stock options outstanding: Helvey (0), Klein (33,096), Rahmani (0), Daniel J. Sullivan (140,000), and Owen J. Sullivan (0).

In 2010, the Company's shareholders approved the Non-Employee Director Deferred Compensation Plan ("Director Deferred Compensation Plan"). Although no set benefits or amounts were granted under this Plan in 2019, the Director Deferred Compensation Plan allows non-employee directors the ability to defer up to 100% of their total director compensation. Beginning January 1, 2018, the Board elected to eliminate cash payments and take their compensation wholly in deferred stock units, which are granted under the 2010 Equity Award Plan and deposited into the Director Deferred Compensation Plan. Grants were made at the beginning of 2019, and vested quarterly throughout the year, each equal to one-quarter of the total fees due to each director.

For 2019, base compensation for each board member totaled \$150,000. The chairman of the Board of Directors (Mr. Daniel J. Sullivan) also received a \$100,000 annual fee. The chairman of the Audit Committee (Mr. Helvey) received a \$15,000 annual fee, and the Chairman of the Compensation Committee (Ms. Rahmani) received a \$10,000 annual fee, while the Chairman of the Nominating and Governance Committee (Mr. Klein) received an annual fee of \$10,000. Directors are reimbursed for expenses they incur while attending Board and committee meetings. As previously noted, all fees for 2019 were paid in the form of deferred stock units. Mr. Crumlish and Mr. Gydé did not receive any additional compensation for their services as a director.

The Company has adopted stock ownership guidelines requiring each independent director to own Company shares valued at five (5) times the director's base annual fee.

The Director Deferred Compensation Plan is administered by the Compensation Committee in accordance with Section 409A of the Internal Revenue Code. All amounts credited to the participant are invested, as approved by the Compensation Committee, and the participant is credited with the actual earnings of the investments. Company contributions, including investment earnings, may be in cash or the stock of the Company. Plan participants have an immediate 100% non-forfeitable right to the value of their contributions. If a participant does not make an election in the time and manner specified in the Plan, payment of the vested value of his or her account will be paid in shares for share units owned, and in cash for the cash balance in their account. A participant's eligibility terminates upon retirement or resignation from service.

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

As of March 1, 2020, the following persons were beneficial owners of more than five percent of the Company's common stock. The beneficial ownership information presented is based upon information furnished by each person or contained in filings made with the Securities and Exchange Commission. Except as otherwise indicated, each holder has sole voting and investment power with respect to the shares indicated. The following table shows the nature and amount of their beneficial ownership.

Title of Class	Name and Address of Beneficial Owner	Amount and Nature of Ownership	Percent of Class
Common Stock	Minerva Advisors LLC, and related parties 50 Monument Road, Suite 201 Bala Cynwyd, PA 19004	1,172,933 (1)	8.0%
Common Stock	Renaissance Technologies LLC, and related parties 800 Third Avenue New York, NY 10022	1,079,146 (2)	7.3%
Common Stock	Dimensional Fund Advisors LP Building One 6300 Bee Cave Road Austin, TX 78746	978,954 (3)	6.7%
Common Stock	AGS SPV I, LLC and related parties 330 Railroad Ave., 2nd Floor Greenwich, CT 06830 Wax Asset Management, LLC 44 Cherry Lane Madison, CT 06443	976,602 (4)	6.6%
Common Stock	The Vanguard Group 100 Vanguard Blvd. Malvern, PA 19355	934,562 (5)	6.4%
Common Stock	Vanguard Index Funds - Vanguard Total Stock Market Index Fund 100 Vanguard Blvd. Malvern, PA 19355	746,502 (6)	5.1%

- (1) Based solely on information contained in a Schedule 13G filed on February 13, 2020, indicating that Minerva Advisors LLC, Minerva Group, LP, Minerva GP, LP, Minerva GP, Inc. and David P. Cohen have sole voting power and sole dispositive power over 871,799 shares; and that Minerva Advisors LLC and David P. Cohen have shared voting power and share dispositive power over 301,134 shares.
- (2) Based solely on information contained in a Schedule 13G filed February 13, 2020, indicating that Renaissance Technologies LLC and Renaissance Technologies Holdings Corporation beneficially own 1,079,146 shares, have sole voting power over 959,012 shares, sole dispositive power over 1,076,991 shares, and shared dispositive power over 2,155 shares.
- (3) Based solely on information contained in a Schedule 13G filed February 12, 2020, indicating that Dimensional Fund Advisors LP has sole voting power over 927,544 shares and sole dispositive power over 978,954 shares.
- (4) Based solely on information contained in a Schedule 13D filed January 14, 2020, indicating that AGS SPV I, LLC, Assurance Global Services LLC, and James M. Lindstrom have shared voting power and shared dispositive power over 624,907 shares; and that Wax Asset Management, LLC has sole voting power and sole dispositive power over 351,695 shares. Together AGS SPV I, LLC, Assurance Global Services LLC, James M. Lindstrom, and Wax Asset Management, LLC, are deemed to constitute a "group."
- (5) Based solely on information contained in a Schedule 13G filed February 11, 2020, indicating that The Vanguard Group has sole voting power over 2,786 shares, sole dispositive power over 931,776 shares, and shared dispositive power over 2,786 shares.
- (6) Based solely on information contained in a Schedule 13G filed February 12, 2020, indicating that Vanguard Index Funds Vanguard Total Stock Market Index Fund has sole voting power over 746,502 shares.

Security Ownership by Management

The table below sets forth, as of March 9, 2020, the beneficial ownership of the Company's common stock by (i) each director and nominee for director individually, (ii) each executive officer named in the summary compensation table individually, and (iii) all directors and executive officers of the Company as a group.

		Shares Beneficially	Total Ownership	Percent of
Name of Individual or Number in Group	Shares Owned	Owned (1)	(2)	Class
Filip J.L. Gydé	309,900	70,600	380,500	2.5%
James R. Helvey III	130,280	_	130,280	0.9%
David H. Klein	141,948	33,096	175,044	1.2%
Valerie Rahmani	127,431	_	127,431	0.8%
Daniel J. Sullivan	336,804	140,000	476,804	3.2%
Owen J. Sullivan	102,833	_	102,833	0.7%
John M. Laubacker	178,649	56,350	234,999	1.6%
Thomas J. Niehaus	55,901	_	55,901	0.4%
Peter P. Radetich	170,963	66,500	237,463	1.6%
All directors and executive officers as a group (9 persons)	1,554,709	366,546	1,921,255	12.9%

(1) Amounts represent number of shares available to purchase through the exercise of options that were exercisable on or within 60 days after March 9, 2020.

The following table sets forth, as of December 31, 2019, certain information related to the Company's compensation plans under which shares of its common stock are authorized for issuance:

	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities listed in column (a) (c)
Equity compensation plans approved by security holders:			
2010 Equity Award Plan	731,234	\$ 12.69	1,350,000
2000 Equity Award Plan	295,425	\$ 5.89	_
1991 Restricted Stock Plan	_	\$	18,000
Equity compensation plans not approved by security holders:			
None			
Total	1,026,659		1,368,000

At December 31, 2019, the Company did not have any outstanding rights or warrants. All outstanding awards are either stock options or restricted stock.

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

The Board of Directors affirmatively determined in February 2020 that each of the Company's five non-management directors, which include James R. Helvey III, David H. Klein, Valerie Rahmani, Daniel J. Sullivan, and Owen J. Sullivan, is an independent director in accordance with our corporate governance policies and the standards of the NASDAQ Stock Market ("NASDAQ"). Messrs. Daniel J. Sullivan and Owen J. Sullivan are not related. As these five directors are independent, a majority of our Company's Board of Directors is currently independent as so defined. The Board of Directors has determined that there are no relationships between the Company and the directors classified as independent other than service on our Company's Board of Directors.

⁽²⁾ The beneficial ownership information presented is based upon information furnished by each person or contained in filings made with the Securities and Exchange Commission. Except as otherwise indicated, each holder has sole voting and investment power with respect to the shares indicated.

The foregoing independence determination also included the conclusions of the Board of Directors that:

- each member of the Audit Committee, Nominating and Corporate Governance Committee, and Compensation Committee described in this annual report on Form 10-K is respectively independent under the standards listed above for purposes of membership on each of these committees; and
- each of the members of the Audit Committee also meets the additional independence requirements under Rule 10A-3(b) of the Securities and Exchange Act of 1934, as amended (the "Exchange Act").

Mr. Daniel J. Sullivan serves as the Chairman of the Board of Directors and is responsible for scheduling and setting the agenda for the executive sessions of the independent directors. Such executive sessions are expected to occur at regularly scheduled times during the fiscal year ending December 31, 2020, typically in conjunction with a regularly scheduled Board meeting, in addition to the separate meetings of the standing committees of the Board of Directors.

In accordance with the charter of the Audit Committee, the Audit Committee reviews related person transactions. It is the Company's policy that it will not enter into transactions that are considered related person transactions that are required to be disclosed under Item 404 of Regulation S-K unless the Audit Committee or another independent body of the Board of Directors first reviews and approves the transactions.

Item 14. Principal Accounting Fees and Services

Appointment of Auditors and Fees

The Audit Committee appointed Grant Thornton LLP as the independent registered public accounting firm to audit the Company's financial statements for fiscal 2019. Previously, in 2018, KPMG LLP was the independent registered public accounting firm for the Company.

To the best of the Company's knowledge, no member of that firm has any past or present interest, financial or otherwise, direct or indirect, in the Company or any of its subsidiaries. Matters involving auditing and related functions are considered and acted upon by the Audit Committee.

Audit Fees — The aggregate fees billed for professional services rendered by Grant Thornton LLP for the audit of the Company's annual financial statements for the last fiscal year, including the Company's foreign subsidiaries, the reviews of the financial statements included in the Company's Form 10-K and 10-Qs, and services rendered in connection with the Company's obligations under Section 404 of the Sarbanes-Oxley Act of 2002 and related regulations were approximately \$640,326 in 2019. Similarly, in 2018, fees billed by KPMG LLP totaled \$752,691.

Audit-Related Fees —There were no fees billed for assurance and related services rendered by Grant Thornton LLP in 2019 or by KPMG LLP in 2018 that are reasonably related to the performance of the audit or review of the Company's financial statements.

Tax Fees — There were a total of \$20,315 of tax fees for compliance, tax advice and tax planning provided by Grant Thornton LLP in 2019, and none by KPMG in 2018.

All Other Fees — No other fees were paid to Grant Thornton LLP in 2019 or KPMG LLP in 2018.

The Audit Committee pre-approves all fees paid to and all services performed by the Company's independent registered public accounting firm, including the nature, type and scope of service to be performed during the year. Any services to be performed during the year that are outside the scope of the initial services and fees approved by the Audit Committee must be approved prior to being performed. In addition, the independent registered public accounting firm is required to confirm that such services does not impair its independence.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) (1)	Index to Consolidated Financial Statements and Financial Statement Schedule Financial Statements:	
	Consolidated Statements of Operations	33
	Consolidated Statements of Comprehensive Income (Loss)	34
	Consolidated Balance Sheets	35
	Consolidated Statements of Cash Flows	36
	Consolidated Statements of Shareholders' Equity	37
	Notes to Consolidated Financial Statements	39
(2)	Index to Consolidated Financial Statement Schedule	
` '	Financial statement schedule:	
	Schedule II—Valuation and Qualifying Accounts	91
(b)	Exhibits	
(-)	The Exhibits to this annual report on Form 10-K are listed on the attached Exhibit Index	

EXHIBIT INDEX

Exhi	<u>bit</u>		Description	Reference
	2.	(a)	Share Purchase Agreement, dated as of February 15, 2018, by and between Computer	(8)
		(b)	Task Group IT Solutions S.A. and Soft Company SAS	(10)
		(b)	Share Purchase Agreement, dated as of January 3, 2019, by and between Computer	(12)
	3.	(a)	Task Group PSF S.A. and Mr. Hamid Kaddour and Karp-Kneip Participations S.A. Restated Certificate of Incorporation of Registrant	(2)
	٥.	(a) (b)	Restated By-laws of Registrant	(2) #
	4.	(a)	Restated Certificate of Incorporation of Registrant	(2)
	٦.	(b)	Restated By-laws of Registrant	#
		(c)	Specimen Common Stock Certificate	(2)
	10.	(a)	Computer Task Group, Incorporated Non-Qualified Key Employee Deferred Compensation Plan 2007 Restatement	(1) +
		(b)	Computer Task Group, Incorporated Executive Supplemental Benefit Plan 1997 Restatement	(2) +
		(c)	First Amendment to the Computer Task Group, Incorporated Executive Supplemental Benefit Plan 1997 Restatement	(2) +
		(d)	Compensation Arrangements for the Named Executive Officers	(14) +
		(e)	Employment Agreement, signed March 12, 2020, between the Registrant and John M. Laubacker	# +
		(f)	Computer Task Group, Incorporated First Employee Stock Purchase Plan (Ninth Amendment and Restatement)	(4) +
		(g)	Restated Computer Task Group, Incorporated 2010 Equity Award Plan	(6) +
		(h)	Computer Task Group, Incorporated Non-Employee Director Deferred Compensation Plan	(3) +
		(i)	Computer Task Group, Incorporated Indemnification Agreement (Directors)	(5) +
		(j)	Computer Task Group, Incorporated Indemnification Agreement (Executive Officers)	(5) +
		(k)	Officer Change in Control Agreement	# + (7)
		(1)	Credit Agreement, dated as of December 21, 2017, among Computer Task Group, Incorporated as Borrower, with KeyBank National Association as Administrative Agent, Swing Line Lender and Issuing Lender and KeyBanc Capital Markets Inc. as Lead Arranger and Sole Book Runner	(7)
		(m)	First Amendment Agreement dated as of April 13, 2018 to the Credit Agreement dated as of December 21, 2017 by and among Computer Task Group, Incorporated as Borrower, with KeyBank National Association as Administrative Agent, Swing Line Lender and Issuing Lender and KeyBanc Capital Markets Inc. as Lead Arranger and Sole Book Runner	(9)
		(n)	Second Amendment Agreement dated as of October 10, 2018 to the Credit Agreement dated as of December 21, 2017 by and among Computer Task Group, Incorporated as Borrower, with KeyBank National Association as Administrative Agent, Swing Line Lender and Issuing Lender and KeyBanc Capital Markets Inc. as Lead Arranger and Sole Book Runner	(10)
		(o)	Retirement Agreement dated December 19, 2018 between Computer Task Group, Incorporated and Arthur Crumlish	(11)
		(p)	Employment Agreement, dated March 1, 2019, between Computer Task Group, Incorporated, Computer Task Group Belgium NV and Filip J.L. Gydé	(13) +
		(q)	Annex to Employment Agreement dated March 1, 2019, between Computer Task Group, Incorporated, Computer Task Group Belgium NV and Filip J.L. Gydé	(13) +
		(r)	Third Amendment Agreement dated as of December 23, 2019 to the Credit Agreement dated as of December 21, 2017 by and among Computer Task Group, Incorporated as Borrower, with KeyBank National Association as Administrative Agent, Swing Line Lender and Issuing Lender and KeyBanc Capital Markets Inc. as Lead Arranger and Sole Book Runner	(15)
	21.		Subsidiaries of the Registrant	#
	23.	(a)	Consent of Experts and Counsel	#
	_	(b)	Consent of Experts and Counsel	#
	31.	(a)	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	#
	00	(b)	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	#
	32.		Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	##

101.INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL	#
	document.	
101.SCH	Inline XBRL Taxonomy Extension Schema Document	#
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase	#
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase	#
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase	#
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	#
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)	

References

- # Filed herewith
- ## Furnished herewith
- + Management contract or compensatory plan or arrangement
- (1) Filed as an Exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2006, and incorporated herein by reference (file No. 001-09410 filed on March 7, 2007)
- (2) Filed as an Exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2007, and incorporated herein by reference (file No. 001-09410 filed on March 10, 2008)
- (3) Filed as Exhibit A to the Registrant's Proxy Statement on Schedule 14A, dated April 2, 2010, for its Annual Meeting of Shareholders held on May 12, 2010 (file No. 001-09410 filed on March 31, 2010)
- (4) Filed as Exhibit A to the Registrant's Proxy Statement on Schedule 14A dated April 4, 2012, for its Annual Meeting of Shareholders held on May 9, 2012 (file No. 001-09410 filed on April 4, 2012)
- (5) Filed as an Exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016, and incorporated herein by reference (file No. 001-09410 filed on February 24, 2017)
- (6) Filed as an Exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended September 29, 2017, and incorporated herein by reference (file No. 001-09410 filed on October 26, 2017)
- (7) Filed as an Exhibit to the Registrant's Form 8-K on December 26, 2017, and incorporated herein by reference (file No. 001-09410)
- (8) Filed as an Exhibit to the Registrant's Form 8-K on February 15, 2018, and incorporated herein by reference (file No. 001-09410)
- (9) Filed as an Exhibit to the Registrant's Form 8-K on April 13, 2018, and incorporated herein by reference (file No. 001-09410).
- (10) Filed as an Exhibit to the Registrant's Form 8-K on October 15, 2018, and incorporated herein by reference (file No. 001-09410).
- (11) Filed as an Exhibit to the Registrant's Form 8-K on December 20, 2018, and incorporated herein by reference (file No. 001-09410).
- (12) Filed as an Exhibit to the Registrant's Form 8-K on January 3, 2019, and incorporated herein by reference (file No. 001-09410).
- (13) Filed as an Exhibit to the Registrant's Form 8-K on March 4, 2019, and incorporated herein by reference (file No. 001-09410).
- (14) Filed as an Exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018, and incorporated herein by reference (file No. 001-09410 filed on March 15, 2019)
- (15) Filed as an Exhibit to the Registrant's Form 8-K on December 26, 2019, and incorporated herein by reference (file No. 001-09410).

Item 16. Form 10-K Summary

None.

COMPUTER TASK GROUP, INCORPORATED SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS

(amounts in thousands)

	Balance at January 1		Additions Deductions		Deductions	Balance at December 31	
2019							
Accounts deducted from accounts receivable -							
Allowance for doubtful accounts	\$	104	15 A	4	(35) ^A	\$	84
Accounts deducted from deferred tax assets -							
Deferred tax asset valuation allowance	\$	5,590	886 ^B	3	(781) ^B	\$	5,695
2018							
Accounts deducted from accounts receivable -							
Allowance for doubtful accounts	\$	133	91 A	4	(120) ^A	\$	104
Accounts deducted from deferred tax assets -							
Deferred tax asset valuation allowance	\$	2,505	4,118 ^E	3	(1,033) B	\$	5,590
2017							
Accounts deducted from accounts receivable -							
Allowance for doubtful accounts	\$	469	96 A	4	(432) ^A	\$	133
Accounts deducted from deferred tax assets -							
Deferred tax asset valuation allowance	\$	2,650	469 ^B	3	(614) ^B	\$	2,505

A These balances primarily reflect additions to the allowance charged to expense resulting from the normal course of business, less deductions for recovery of accounts that were previously reserved, and additions and deductions for foreign currency translation

B These balances primarily reflect additions or deductions to the valuation allowance associated with the U.S. deferred tax assets, reversal of the valuation allowance against the U.K. and India deferred tax assets, changes in foreign currency exchange rates, and deductions for expiring net operating loss carryforwards

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

COMPUTER TASK GROUP, INCORPORATED

Ву	/s/ Filip J.L. Gydé
	Filip J.L. Gydé
	President and Chief Executive Officer

Dated: March 13, 2020

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

	Signature	Title	Date
(i)	Principal Executive Officer	President and Chief Executive Officer	March 13, 2020
	/s/ Filip J.L. Gydé		
	Filip J.L. Gydé		
/::\	Dringing Association and Dringing Financial Officer	Chief Financial Officer	Marsh 10, 0000
(ii)	Principal Accounting and Principal Financial Officer	Chief Financial Officer	March 13, 2020
	/s/ John M. Laubacker		
	John M. Laubacker		
(iii)	Directors		
	/s/ Filip J.L. Gydé	Director	March 13, 2020
	Filip J.L. Gydé		
	/s/ James R. Helvey III	Director	March 13, 2020
	James R. Helvey III		
	(15)	5.	
	/s/ David H. Klein David H. Klein	Director	March 13, 2020
	Savia II. Ricili		
	/s/ Valerie Rahmani	Director	March 13, 2020
	Valerie Rahmani	- Director	Water 13, 2020
	/s/ Daniel J. Sullivan	Chairman of the Board of Directors	March 13, 2020
	Daniel J. Sullivan		
	/s/ Owen J. Sullivan	Director	March 13, 2020
	Owen J. Sullivan	-	

State/Country

COMPUTER TASK GROUP, INCORPORATED

SUBSIDIARIES OF COMPUTER TASK GROUP, INCORPORATED

The following is a list of all of the subsidiaries of the Registrant as of December 31, 2019. All financial statements of such subsidiaries are included in the consolidated financial statements of the Registrant, and all of the voting securities of each subsidiary are wholly-owned by the Registrant:

or Jurisdiction of Incorporation
Delaware New York United Kingdom Canada
Delaware The Netherlands United Kingdom
Belgium India
Belgium France
Luxembourg Luxembourg Belgium Luxembourg New York New York

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated March 13, 2020, with respect to the consolidated financial statements and internal control over financial reporting included in the Annual Report of Computer Task Group, Incorporated on Form 10-K for the year ended December 31, 2019. We consent to the incorporation by reference of said report in the Registration Statements of Computer Task Group, Incorporated on Forms S-8 (File No. 333-51162, 333-143080, 333-167461, 333-183206, 333-206219, and 333-219911).

/s/ GRANT THORNTON LLP

Cleveland, Ohio March 13, 2020

Consent of Independent Registered Public Accounting Firm

The Board of Directors

Computer Task Group, Incorporated:

We consent to the incorporation by reference in the registration statements No. 333-51162, 333-143080, 333-167461, 333-183206, 333-206219, and 333-219911 on Form S-8 of Computer Task Group, Incorporated of our report dated March 15, 2019, with respect to the consolidated balance sheet of Computer Task Group, Incorporated and subsidiaries as of December 31, 2018, the related consolidated statements of operations, comprehensive income (loss), cash flows, and shareholders' equity for each of the years in the two-year period ended December 31, 2018, and the related notes and financial statement schedule (collectively, the consolidated financial statements), which report appears in the December 31, 2019 annual report on Form 10-K of Computer Task Group, Incorporated.

/s/ KPMG LLP

Buffalo, New York

March 13, 2020

CERTIFICATION

I, Filip J.L. Gydé, certify that:

- 1. I have reviewed this report on Form 10-K of Computer Task Group, Incorporated;
- 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - 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. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. 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
 - d. 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 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 the internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - 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: March 13, 2020	/s/ Filip J.L. Gydé	
	Filip J.L. Gydé	
	Chief Executive Officer	

CERTIFICATION

I, John M. Laubacker, certify that:

- 1. I have reviewed this report on Form 10-K of Computer Task Group, Incorporated;
- 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - 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. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. 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
 - d. 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 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 the internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - 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: March 13, 2020	/s/ John M. Laubacker	
	John M. Laubacker	
	Chief Financial Officer	

CERTIFICATION

PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), each of the undersigned officers of Computer Task Group, Incorporated, a New York corporation (the "Company"), does hereby certify with respect to the Annual Report of the Company on Form 10-K for the year ended December 31, 2019 as filed with the Securities and Exchange Commission (the "Form 10-K") that:

- (1) the Form 10-K fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) the information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement required by Section 906 has been provided to Computer Task Group, Incorporated and will be retained by Computer Task Group, Incorporated and furnished to the Securities and Exchange Commission or its staff upon request.

Date: March 13, 2020	/s/ Filip J.L. Gydé		
	Filip J.L. Gydé		
	Chief Executive Officer		
Date: March 13, 2020	/s/ John M. Laubacker		
	John M. Laubacker		
	Chief Financial Officer		

Corporate Information

Stock Market Information

The Company's common stock is traded on The NASDAQ Stock Market LLC under the symbol CTG.

Annual Meeting

The annual meeting of shareholders has been scheduled for September 17, 2020 in Buffalo, New York, for shareholders of record on August 7, 2020.

Corporate Headquarters

CTG 800 Delaware Avenue Buffalo, NY 14209-2094 (716) 882-8000 (800) 992-5350

CTG Europe Headquarters

CTG Europe BV c/o Culliganlaan 1D 1831 Diegem, Belgium +32 (0)2 720 51 70

Company Certifications

The Company's executive officers have filed all certifications required by the Sarbanes-Oxley Act of 2002.

Independent Registered Public Accounting Firm

Grant Thornton LLP 1375 E, Ninth Street, Suite 1500 Cleveland. OH 44114

Transfer Agent and Registrar

Computershare is CTG's transfer agent and registrar, responsible for the Company's shareholder records, issuance of stock certificates, and distribution of dividends, if any are paid, and the IRS Form 1099.

Your requests, as shareholders, concerning these matters are most efficiently answered by corresponding directly with Computershare:

Shareholder Services Number: (800) 730-4001 Investor Center portal: www.computershare.com/investor

U.S. mail: Overnight delivery:

Computershare Investor Services Serv P.O. Box 505000 462 Louisville, KY Suite 40233-5000 Loui

Computershare Investor Services 462 South 4th Street Suite 1600 Louisville, KY 40202

Form 10-K and Company Code of Ethics, Committee Charters, and Governance Policies Available

Copies of the Company's Form 10-K Annual Report, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports including the Company's code of ethics, committee charters, and governance policies, which are filed with the Securities and Exchange Commission, may be obtained without charge either through its website at www.ctg.com/investors or upon written or verbal request to:

Computer Task Group, Incorporated Investor Relations Department 800 Delaware Avenue Buffalo, NY 14209-2094 (716) 882-8000

Forward-looking Statements

This annual report contains forward-looking statements made by the management of Computer Task Group, Incorporated (CTG, the Company or the Registrant) that are subject to a number of risks and uncertainties. These forward-looking statements are based on information as of June 17, 2020, the approximate date this report was mailed to shareholders. The Company assumes no obligation to update these statements based on information from and after the date of this report. Generally, forward looking statements include words or phrases such as "anticipates," "believes," "estimates," "expects," "intends," "plans," "projects," "could," "may," "might," "should," "will" and words and phrases of similar impact. The forward-looking statements include, but are not limited to, statements regarding future operations, industry trends or conditions and the business environment, and statements regarding future levels of or trends in business strategy and expectations, new business opportunities, cost control initiatives, business wins, market demand, revenue, operating expenses, capital expenditures, and financing. The forward-looking statements are made pursuant to safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Numerous factors could cause actual results to differ materially from those in the forward-looking statements, including the following: (i) the availability to CTG of qualified professional staff, (ii) domestic and foreign industry competition for clients and talent, including technical, sales and management personnel, (iii) increased bargaining power of large clients, (iv) the Company's ability to protect confidential client data, (v) the partial or complete loss of the revenue the Company generates from International Business Machines Corporation (IBM) and other significant clients, (vi) the uncertainty of clients implementations of cost reduction projects, (vii) the effect of healthcare reform and initiatives, (viii) the mix of revenue between staffing and solutions, (ix) currency exchange risks, (x) risks associated with operating in foreign jurisdictions, (xi) renegotiations, nullification, or breaches of contracts with clients, vendors, subcontractors or other parties, (xii) the impact of current and future laws and government regulation, as well as repeal or modification of such, affecting the information technology (IT) solutions and staffing industry, taxes and the Company's operations in particular, (xiii) industry and economic conditions, including fluctuations in demand for IT services, (xiv) consolidation among the Company's competitors or clients. (xv) the need to supplement or change our IT services in response to new offerings in the industry or changes in client requirements for IT products and solutions, (xvi) the risks associated with acquisitions, (xvii) actions of activist shareholders, and (xviii) the risks described in Item 1A of this annual report on Form 10-K and from time to time in the Company's reports filed with the Securities and Exchange Commission (SEC).

Board of Directors and Officers

Directors

Daniel J. Sullivan

Chairman and Independent Director

Filip J.L. Gydé

President and Chief Executive Officer, CTG

James R. Helvey III

Independent Director

David H. Klein

Independent Director

Valerie Rahmani

Independent Director

Owen J. Sullivan

Independent Director

Officers

Filip J.L. Gydé

President and Chief Executive Officer

John M. Laubacker

Executive Vice President, Chief Financial Officer and Treasurer

Thomas J. Niehaus

Executive Vice President Operations, North America

Peter P. Radetich

Senior Vice President, Secretary and General Counsel

Rénald Wauthier

Senior Vice President, Europe

Robert Barras

Vice President, Sales, North America

Bob Daelman

Vice President, Belgium and U.K., Europe

Guido Helsloot

Vice President, Finance, Administration and Compliance, Europe

Amanda LeBlanc

Vice President and Chief Marketing Officer

Elizabeth Martin Savino

Vice President, Human Resources

Computer Task Group, Incorporated 800 Delaware Avenue Buffalo, New York 14209-2094 (716) 882-8000 I (800) 992-5350 www.ctg.com NASDAQ: CTG