MOOG

2020 | ANNUAL REPORT

INGENUITY AND GENEROSITY

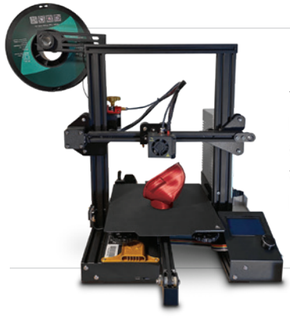
Bill Moog started our company on the notion that people could make a better product if they loved what they were doing and they had the right tools and the freedom to get the job done—even in challenging situations. Fiscal 2020 and the uncertainties tied to the global pandemic brought out the best in our employees as they adapted to working at home or working on-site while following advanced safety protocols.

First responders received masks designed and 3D printed by Moog Aircraft employees Adam Hansen and Jamie Daly. Jamie's husband Brandon, a 3D printing hobbyist, started the effort. Within a few weeks, and after adding a second printer and donated supplies, the three were experts and were producing 40 3D printed masks per week, with donations going to EMTs, police and fire companies, and even the SPCA.

Janette Clark, an attorney working at Moog's East Aurora headquarters, volunteered for a delivery route for Feed More Western New York when COVID concerns led to a need for substitute Meals on Wheels drivers. Her weekly route includes deliveries to homebound seniors and individuals with disabilities who may be unable to drive, safely shop, or prepare their own meals. Janette delivers a hot meal and a quick check-in to the community members on her route two times a week.

In the U.K., donations of face shields and masks designed and produced in Moog's Tewkesbury, Wolverhampton, and Reading operations helped local hospitals, care homes, and clinics manage shortages in protective equipment. Several Moog employees have family working within the U.K. healthcare system, so it was natural that a team from all three sites would design a high-quality face shield solution to share. Their ultra-comfortable design is also in use by employees within all three Moog U.K. facilities.

Space and Defense 36-year employee Jean Winiewicz started sewing masks with her daughter Jenna, a registered nurse in a Buffalo, New York hospital emergency room. In total, they cut out and sewed close to 1,000 non-medical masks and distributed them to co-workers, friends, teachers, and other members of the community who read their story on social media.



Torrance, California-based design and development engineer Eric Berg studied open source mask 3D designs and then went to work. Eric's interest in 3D printing started when he studied electrical and computer engineering at Cornell University. His initial supply of masks and ear savers, each taking four hours to produce, were donated to a local nursing home. Eric also helped coordinate a vendor-produced production run of 30,000 injection-molded face shield frames for Save the Frontline, a not-for-profit that provides PPE to New York's most vulnerable communities.

The culture that Bill established in our early years is the foundation of the Moog that exists today. Investors and customers often comment that they consider our culture to be a unique and powerful competitive advantage. As we enter our 70th year, we note that this culture is Bill's greatest legacy and something that brings people to work in Moog facilities around the world every day.

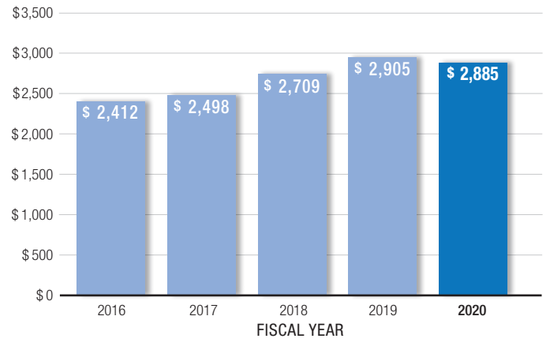
FINANCIAL HIGHLIGHTS

RECENT FINANCIAL PERFORMANCE
(Dollars and shares in millions, except per share data)

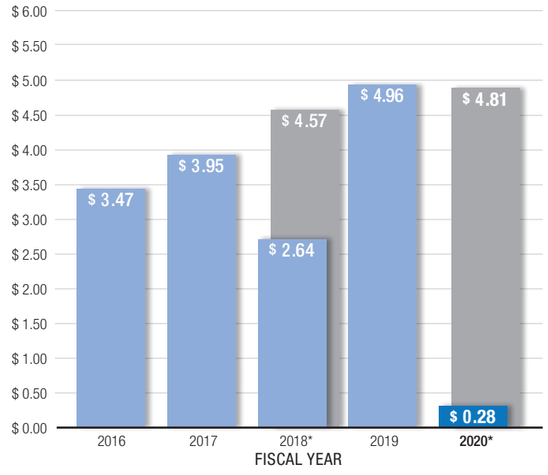
	2020	2019
NET SALES	$ 2,885	$ 2,905
NET EARNINGS	$ 9	$ 175
ADJUSTED NET EARNINGS*	$ 157	N/A
DILUTED EARNINGS PER SHARE	$ 0.28	$ 4.96
ADJUSTED EARNINGS PER SHARE*	$ 4.81	N/A
EQUITY MARKET CAPITALIZATION+	$ 2,142	$ 2,847
AVERAGE SHARES OUTSTANDING	33.4	35.2

+ *Measured as of fiscal year end*

SALES (Dollars in millions)



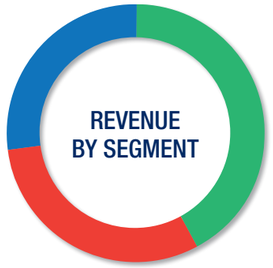
DILUTED EARNINGS PER SHARE (In dollars)



**2018 adjusted EPS of $4.57 excludes the impact of charges associated with exiting the wind pitch control business and special impacts from the U.S. Tax Act.*

**2020 adjusted EPS of $4.81 excludes the impact of charges associated with COVID-19 pandemic ($1.68) and pension settlement accounting ($2.85).*

REVENUE BY SEGMENT



AIRCRAFT CONTROLS	42%
INDUSTRIAL SYSTEMS	31%
SPACE AND DEFENSE	27%

REVENUE BY MARKET

DEFENSE	42%
INDUSTRIAL AUTOMATION	22%
COMMERCIAL AIRCRAFT	17%
SPACE	10%
MEDICAL	9%

REVENUE BY MARKET DISTRIBUTION

INDUSTRIAL AND COMMERCIAL	52%
U.S. MILITARY AND GOVERNMENT FUNDED	41%
FOREIGN GOVERNMENT	7%

Moog's geographic revenue distribution is 65% U.S. and 35% international.

Financial results for fiscal year 2020 are available in Moog's 10-K. The report was filed on November 17, 2020, pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended October 3, 2020. The 10-K can be viewed at www.moog.com/investors/10K.

CHAIRMAN'S LETTER

To Our Shareholders, Employees and Friends,

I'd like to open my annual letter, as I've always done, by paying tribute to the 13,000 Moog employees around the globe for their dedication and commitment. This year in particular, their contribution to our success has been immeasurable. This report is a testimony to their work.

As we all look back on fiscal '20, we'll remember it as a year like no other. For the first half of the year we worried about trade disputes with China and the potential impact of a hard Brexit. Unrest in the Middle East was also on our radar. Then COVID hit, and the second half was dominated by our response to the pandemic.

We set two clear priorities to guide our response. First and foremost was the health and well-being of our employees and their families. And second, to continue to meet the needs of our customers and thereby secure the financial well-being of the company. We asked our employees to work from home where possible and adopted safe practices for production employees working on-site. We set up a task force to monitor the course of the virus and provide regular guidance. We adjusted our approach by country and location in response to local conditions. In times of crisis, leadership comes to the fore, and the Moog leaders around the world did an outstanding job keeping employees safe and keeping our businesses going.

In addition to leadership, strategy matters in challenging times. For decades, our company has followed a simple strategy. We are laser focused on our core technology of high-performance motion control. We bring our technology to a diverse range of end markets and customers. And, we maintain a prudent financial structure.

This strategy served us well this year. In particular, our diversity across end markets, and strong balance sheet, ensured that we could weather the pandemic and look ahead to fiscal '21 with confidence. Across our three operating groups, we serve five major end markets: defense, industrial, commercial, space, and medical. Defense and space combined make up just over half of our business. Both markets are primarily driven by U.S. government spending and remained very strong throughout the year. Medical, at 9% of our business, was also strong as demand for specialty equipment to support the fight against the pandemic buoyed sales. Industrial markets are 22% of our sales. These markets faced slowdowns as we went through the year, although the diversity of end customers across the globe helped alleviate the impact. Our commercial aircraft business was hit very hard with both the OEM and aftermarket customers feeling the brunt of global travel restrictions. In the second half of fiscal '20, our commercial aircraft business made up just 11% of sales, down from 22% of sales in the first half.

"It was a year of records, divided into two halves. The first half was characterized by record sales, record net earnings and record earnings per share. In the second half we generated record free cash flow."

It was a year of records, divided into two halves. The first half was characterized by record sales, record net earnings and record earnings per share. In the second half we generated record free cash flow. In response to the pandemic, we shifted our attention from sales and earnings to leverage and liquidity. We reduced expenses, conserved cash and restructured parts of our business. As a result of these difficult actions, our financial situation at the end of the year was stronger than when the pandemic hit.

We refinanced our balance sheet in our first quarter, extending the term of our revolving credit facility and selling $500 million of high yield bonds at 4.25%. At the time, we were just following our usual strategy of maintaining a strong balance sheet. In hindsight, it was brilliant timing, positioning us perfectly to meet the challenges of the pandemic.

We completed one acquisition early in the year and returned excess capital to our shareholders through our dividend and buyback programs. We paused these activities during the third quarter as we assessed the situation, and then as cash flow improved, we returned to our balanced capital allocation strategy in the fourth quarter. Over the course of the full fiscal year, we repurchased almost three million shares of our stock and returned over $240 million to our shareholders.

"It was definitely not the year we planned for, and to say it was a challenge would be an understatement. However, our employees across the globe rose to the occasion and did an outstanding job managing through an unprecedented crisis."

I believe you see the true strength of a company during times of adversity. On that measure, fiscal '20 was a record year for our company in every way. It was definitely not the year we planned for, and to say it was a challenge would be an understatement. However, our employees across the globe rose to the occasion and did an outstanding job managing through an unprecedented crisis.

As we look to fiscal '21, we're both realistic and optimistic. We're planning that COVID could be with us through the full year. In terms of our major markets, we believe defense and space will remain strong. We also expect our medical business to be strong, but it may soften slightly after the surge of demand seen in the initial stages of COVID. We're not anticipating any recovery in our industrial markets from the level in the second half of fiscal '20. We're hopeful that the commercial aircraft OEM business will stabilize, and that the aftermarket may see a modest recovery toward the second half of the year.

Beyond '21, the future looks very promising. We believe we are well positioned on the key defense programs which will continue to be supported for the long-term. The commercial aircraft business will recover, and the industrial sector will emerge from the present slowdown. Investment in space is growing, both for commercial and defense applications, and we are positioned to capture an increasing share of this market. Our medical business is also poised to continue growing as we introduce new products.

No doubt, the collective experience of COVID will change much of how the world works in the future. However, it will not change our fundamental approach to business. We will continue our strategy of solving our customers' most difficult technical challenges. We will strive to make Moog a great place to work for all of our employees. We will invest for the long-term, seeking acquisitions which complement our organic strategy, and return excess capital to shareholders. We will pursue our three internal initiatives around talent, lean and innovation. We will work to deliver superior returns to all our stakeholders, and we will stay true to our values of trust in one another, and collaboration in everything we do.

It has been a great privilege to lead our organization over the last year. It has also been a humbling experience to understand how little any one leader can do, and how much the collective culture of an organization determines its success.

Respectfully submitted,

John Scannell

John Scannell
Chairman and Chief Executive Officer

OFFICERS AND DIRECTORS

John R. Scannell

Jennifer Walter

Paul Wilkinson

Mark J. Trabert

Maureen M. Athoe

Patrick J. Roche

Officers

John R. Scannell
Chairman of the Board
Chief Executive Officer

Jennifer Walter
Vice President
Chief Financial Officer

Paul Wilkinson
Vice President
Chief Human Resources Officer

Mark J. Trabert
President
Aircraft Controls

Maureen M. Athoe
President
Space and Defense

Patrick J. Roche
President
Industrial Systems

Michael J. Swope
Controller
Principal Accounting Officer

Robert J. Olivieri
Secretary
Partner
Hodgson Russ, LLP

Directors

Janet M. Coletti
Director
Retired Executive Vice President
M&T Bank Corporation

Donald R. Fishback
Director
Retired Vice President
Chief Financial Officer
Moog Inc.

William G. Gisel, Jr.
Director
Executive Vice Chair
Rich Products Corporation

Peter J. Gundermann
Director
Chairman and CEO
Astronics Corporation

Kraig H. Kayser
Director
Retired President and CEO
Seneca Foods Corporation

R. Bradley Lawrence
Director
Retired Chairman and CEO
Esterline Technologies

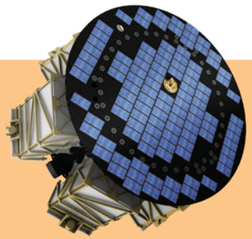
Brian J. Lipke
Director
Retired Chairman and CEO
Gibraltar Industries

Brenda L. Reichelderfer
Director
Retired Group President
ITT Inc.

2020 HIGHLIGHTS

F-35 Lightning II Production Contracts Awarded

Contracts for the primary flight control actuation system, the leading edge flap drive system, and the wingfold actuation system, were awarded to Moog by Lockheed Martin for the F-35 Lightning II 5th generation fighter. The contract value is in excess of $400 million over three years. Moog provides actuators, power drive electronics, control electronics, and software. Beyond its substantial role as a production supplier, Moog is also an established provider of sustainment services for the F-35, both in the U.S. and globally.



Moog U.K. Site Expands for SL-OMV

Moog's Reading U.K. Space and Defense site expanded to add a cleanroom and additional manufacturing capabilities. The location supports new programs, including the integration and testing of the Small Launch-Orbital Maneuvering Vehicle (SL-OMV), Moog's first spacecraft being built for the U.K. Space Agency. The SL-OMV is a lightweight and low-cost propulsive adapter that distributes small satellites and CubeSats, deploying multiple payloads to different orbits. The SL-OMV has its own avionics, power, green propulsion, and communications systems that are configurable for short duration missions.

Strategic Regional Support Center Opened

Moog's Huntsville, Alabama site investment reflects an ongoing commitment to support key space, defense, and industrial customers with research, development and testing activities across the southeastern United States. Located next to the U.S. Army Materiel Command Headquarters, the center offers dedicated engineering resources for new programs and Moog's growing defense sustainment activities. Huntsville is home to Redstone Arsenal, NASA's Marshall Space Flight Center and prime industry customers.

Strengthening the Balance Sheet

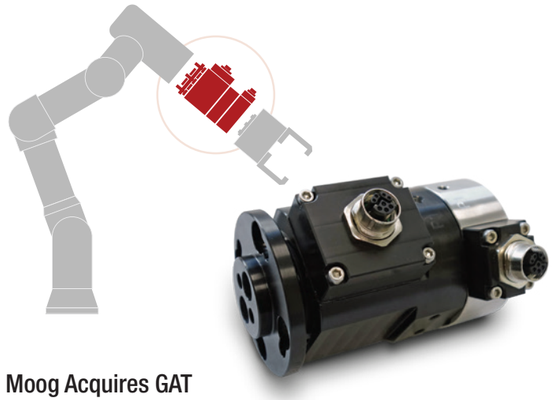
In December 2019, Moog issued $500 million of 4.25% senior notes that mature in December 2027, and then redeemed and retired $300 million of 5.25% senior notes that were set to mature in December 2022. This effort, combined with an October 2019 amendment to Moog's U.S. revolving credit facility, completed the refinancing of debt on the company's balance sheet and strengthened liquidity and financial flexibility.

Embraer First Flight

Embraer celebrated the successful first flight of the third variant of its family of new aircraft. Moog supplies the full fly-by-wire flight control system, consisting of flight control computers and all the hydraulic actuators of primary surfaces, spoilers and ground spoilers. Moog supplies the same hardware for the other E2 variants - the E190-E2 and the E195-E2. With a max speed of Mach 0.82 and a double-digit reduction in fuel burn, the E175-E2 is setting a new standard for fuel efficiency for an aircraft of its size. Embraer expects to introduce the E175-E2 to the marketplace in 2023.

Investor Day 2020

Moog held its first investor day virtually in August 2020. Live presentations, presented in a video format over the internet, were given by Chairman and CEO John Scannell and members of Moog's senior management team. The entire webcast and written transcript are archived at www.moog.com/investors/communications.



Moog Acquires GAT

Moog completed the acquisition of Gesellschaft für Antriebstechnik GmbH and GAT Inc. (GAT), headquartered in Geisenheim, Germany. GAT is a world leader in the design and manufacture of high-end fluid rotating unions and slip rings. The business complements Moog's core slip ring business with its fluid rotary product offering, engineering expertise and manufacturing capabilities that strengthen Moog's market position. GAT products are used in a variety of applications including specialty industrial machinery, machine tools, steel mills, medical products, wind turbines, and precision products used to improve machine and plant engineering worldwide.

SureFly® Assets and Intellectual Property Purchased

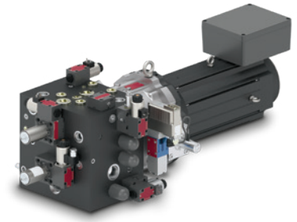
Moog completed the purchase of the SureFly® assets and the intellectual property (IP) associated with the hybrid powered vertical takeoff and landing (eVTOL) aircraft from Workhorse Group Inc. The air vehicle features composite construction, distributed electric propulsion technology, simplified vehicle operator interfaces, and is battery powered. The addition of key technical personnel and the SureFly IP fits into Moog's technology roadmap of offerings, and allows Moog to more rapidly develop and enable safe automation and electrification of vehicles. Moog engineers will continue to develop and refine the vehicle systems, while also examining human factors engineering within the cockpit environment for a whole new class of future vehicles.

Moog Medical Increases Production

Moog's medical pump businesses experienced significant customer demand throughout 2020. The Vilnius, Lithuania and Salt Lake City, Utah sites increased production capacity by 28% for the Infinity® Teal Enteral feeding pumps, and 31% for Curlin 6000 infusion pumps. In Costa Rica, proprietary set production capacity increased by over 30% for enteral feeding sets and I.V. administration sets. Additional production shifts and new manufacturing lines were added to meet the increased demand while following strict health and safety protocols.

Test Lab Controller Program: Upgrade and Recycle

Moog's Nieuw-Vennep, Netherlands test engineers released upgraded software for its recently introduced digital plug-and-play test controller that offers a platform for testing hydraulic or electric systems of any size. The design offers one system for strength, fatigue or noise-vibration-harshness tests and can run complex, months-long automotive tests or simple checks. Moog's trade-in program allows for an easy transition from analog to digital while encouraging safe electronic disposal.



Modular EAS: The Best of Two Worlds

Moog's Industrial Systems segment introduced a new Modular Electrohydrostatic Actuation System (EAS) incorporating Electrohydraulic (EH) and Electromechanical (EM) Actuation. This highly flexible system can be adapted to most types of industrial manufacturing machinery. The EAS is environmentally clean due to its up to 90% lower oil requirement when compared to standard systems and offers low noise emission for quiet machine operation. The EAS is suitable for a wide range of industrial manufacturing machinery, testing and power generation applications.

Lock and Dam Reconstruction

The U.S. Army Corps of Engineers completed a major rehabilitation of the LaGrange Lock and Dam on the Illinois River, a key point for agricultural commodity shipments. The lock was dewatered and reconstructed with a new mitre gate mechanism with Moog Megatork® actuators, a technology solution that had never been used on U.S. locks. The design incorporates rotary actuators with spindle technology from Moog Flo-Tork in Ohio. The Army Corps used a Moog technology that is similar to the technology used to open and close hatches and torpedo bays on submarines.

Balanced Capital Allocation

Moog continued to return excess capital to shareholders through dividends and a share buyback program in fiscal 2020. The quarterly dividend was paused for a quarter, but as cash flow visibility improved in the next quarter, the company returned to its balanced capital allocation strategy. Over the course of the full fiscal year, almost 3 million shares were repurchased. Between dividends and share repurchases, over $240 million was returned to shareholders in fiscal 2020.

Moog Flight Simulation Services

Moog Shanghai is providing repair and maintenance services, on-site technical support, and remote consulting services for China Eastern Airlines' recently opened flight training center. Simulators at the center are supplied by CAE, a leading manufacturer of civil full flight simulators, and are equipped with Moog electromechanical actuators and controls. Full flight simulators provide pilots with the various sensations associated with flying, to simulate an immersive, high fidelity pilot training experience. Since opening in late 2019, Moog's Shanghai-based service technicians have provided aftermarket support to customers across China, where over 90% of Level D flight simulators include Moog products.

AIRCRAFT CONTROLS

Our broad technology portfolio and collaborative customer relationships deliver high value-added, tailored solutions to commercial and military customers.

"We'll continue to leverage our strong market position and decades of experience as a critical systems supplier to seek new wins in the marketplace. We are in this for the really long-term and our 50-plus years of aircraft heritage is evidence of that commitment. We're looking toward the next 50 years as well, working on the products and technologies that will position us to be an industry leader for decades to come."

– Mark Trabert, President,
Aircraft Controls Segment

U.S. Marine Corps F-35B Lightning II
Courtesy of U.S. Marine Corps / Cpl. Patrick Crosley

UH-60 Black Hawk
Courtesy of U.S. Army / Sarah D. Sangster

Commercial Aircraft Flight Control Systems and Components (Shown: Airbus A350-900)
Courtesy of Kazuto Yonemochi

Product Portfolio

- Flight control computers and flight-critical software
- Primary and secondary flight control actuation – all technologies
- High lift/flap actuation systems
- Specialty actuation systems
- Critical control components

Military Aircraft Programs

Lockheed Martin: F-35 Lightning II, F-16 Fighting Falcon
Boeing Military: F/A-18 E/F Super Hornet, F-15 Eagle, KC-46A Pegasus, MQ-25 Stingray
Northrop Grumman: B-2 Spirit
Eurofighter GmbH: EF2000 Typhoon
Airbus Military: A400M Atlas, C295 Transport
BAE Systems: Hawk Trainer
Leonardo Aircraft: M-346 Master, C-27J Spartan
Hindustan Aeronautics Limited/HAL India: Light Combat Aircraft/LCA
Korea Aerospace Industries/KAI South Korea: T-50 Golden Eagle
Aerospace Industrial Development Corporation/AIDC Taiwan: Advanced Jet Trainer/AJT
Mitsubishi Heavy Industries/MHI Japan: F-2 Multirole Fighter
Kawasaki Heavy Industries/KHI Japan: C-2 Military Transport

Military and Commercial Helicopter Programs

Bell-Boeing: V-22 Osprey Tilt-Rotor
Sikorsky: UH-60 Black Hawk, S-76, S-92 / VH-92 Presidential Helicopter, CH-53
Bell Textron: B525 Relentless, V-280 Valor Tilt-Rotor
Boeing Military: CH-47, AH-64 Apache
Leonardo Helicopters: AW159 Lynx, T129 ATAK, AW609 Tilt-Rotor, AW101

Legacy Military Aircraft Sustainment

A-10, AH-64, AMX, B-1B, B-2, B-52, BAE-146, C-5, C-130, CH-46, CH-47, CH-53, E-2C, EA-6B, F-2, F-4, F-100, F/A-18C/D, F/A-22, Hawk, KC-10, KC-135, P-3, T-45, Tornado, U-2

Commercial Aircraft Programs

Airbus: A320, A330, A350, A380
Boeing: 737, 747, 767, 777, 787
COMAC: C919
Embraer: E-Jets E2 Family

Business Jet Programs

Gulfstream: G280, G500, G550, G600, G650, G700
Bombardier: Challenger 350, 605, Global Express

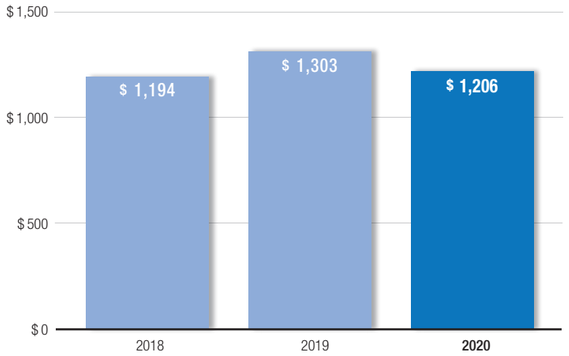
Legacy Commercial Aircraft and Business Jet Aftermarket

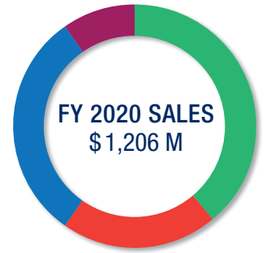
Airbus: A300, A340
Boeing: 757, DC-8, DC-9, DC-10, MD-11, MD-80, MD-90
Gulfstream: G350, G400, G450
Cessna: Citation X, Bombardier Challenger 300, 604

MV-22 Osprey
Courtesy of U.S. Navy, MC Spec. Seaman Askia Collins

The MV-22 Osprey is the primary assault support aircraft for the U.S. Marine Corps. Moog provides manufacturing and support services for the primary flight control actuation system and active vibration suppression controls. The Osprey lands and takes off vertically, but flies like a fixed-wing aircraft. The U.S. Air Force and the Air Force Special Operations Command have utilized the CV-22 variant since 2009. The U.S. Navy began taking delivery of the CMV-22 in 2020.

SEGMENT SALES (Dollars in millions)





MILITARY AIRCRAFT OEM	$ 470 M
MILITARY AIRCRAFT AFTERMARKET	$ 251 M
COMMERCIAL AIRCRAFT OEM	$ 371 M
COMMERCIAL AIRCRAFT AFTERMARKET	$ 114 M

Strategies and Initiatives

- Offer a broad portfolio of product technologies to design optimized control system solutions for our aircraft customers
- Partner with our aftermarket customers to provide world class service and tailored business solutions
- Leverage our global production and supply chain network to deliver high quality, cost competitive products

U.S. Army Future Vertical Lift

The Army is utilizing a pioneering acquisition strategy to develop, procure, field and replace its rotorcraft fleet – light scout to heavy lift. The FVL replacement effort includes the Army's UH-60 Black Hawk, OH-58D Kiowa Warrior, AH-64 Apache attack helicopter, CH-47 Chinook heavy-lift helicopter, and UH-72 Lakota light utility helicopter. Current efforts are focused on the light-scout Future Attack Reconnaissance Aircraft (FARA), and the medium-lift Future Long-Range Assault Aircraft (FLRAA).

360 Invictus

Raider X®

V-280 Valor

FARA: Future Attack Reconnaissance Aircraft

Mission: Scouting out-front and flying into contested environments requires a high-performance aircraft with intelligence. Production by 2028 replaces some AH-64 Apaches and fills a capability gap left by the OH-64 Kiowa retirement. Approximate quantity is 500 aircraft.

In 2020, after assessing five initial designs, the Army chose Textron Bell and Sikorsky, a Lockheed Martin company, to build prototypes to compete in a 2023 fly-off competition for the production award contract.

- Textron Bell's 360 Invictus, a conventional design with small wings for added lift, features Moog hydraulic flight control actuation and a Moog flight control computer.
- Lockheed-Sikorsky's Raider X® is a compound helicopter with coaxial rotors and a pusher propeller for added thrust. Moog content includes the electromechanical tail actuation, and actuator control unit (ACU) electronics, for the rudder, elevator and prop pitch.

FLRAA: Future Long-Range Attack and Assault Aircraft

Mission: Fly fast, fly low, land quickly, and deliver troops and depart tight quarters. Replacement for the UH-60 Black Hawk; approximately 2,500 aircraft to be fielded by 2030 with the aircraft build plan extending to 2053.

In March 2020, Textron Bell and a joint Sikorsky-Boeing team were selected for a competitive demonstration and risk reduction effort. Lessons learned from the ongoing Joint Multi-Role Technology Demonstrator (JMR-TD) program will be incorporated in the Competitive Demonstration and Risk phase to develop a mature design prior to final selection.

- Bell's FLRAA aircraft design, the V-280 Valor, features Moog hydraulic flight control actuation and a Moog flight control computer.

Images courtesy of U.S. Army and Textron Bell

SPACE AND DEFENSE

We provide reliable hardware, integration and launch support to the space industry, and components and systems that are critical to the U.S. warfighter and our global military allies.

"Our Space and Defense business is strong, and we are well-positioned on important and strategic programs for our country. We've seen our space and military markets converge in the past year, where Moog's technologies provide solutions for our traditional and new customers alike."

– Maureen Athoe, President,
Space and Defense Segment

Space Product Portfolio

- Multi-tier provider capable of components, systems and prime level integration
- Flight control actuation, avionics, propulsion controls for missiles and launch vehicles
- Liquid rocket engines, tanks, chemical and electric propulsion systems, subsystems and components for spacecraft and launch vehicles
- Satellite integrated avionics, antenna mechanisms and vibration isolation systems
- Orbital Maneuvering Vehicles (OMV)

Defense Controls Product Portfolio

- Fin and control actuation for tactical, hypersonic and interceptor missiles
- Weapon Stores Management (WSM) systems and launchers
- Actuation, motors and slip rings for ammunition handling and expeditionary radar
- Fully-integrated turreted weapons systems – RIwP®
- Actuation for Naval ships, submarines and Unmanned Underwater Vehicles (UUV)
- Integrated sensor-based security systems and sensor positioning sub-systems

Satellite Controls

MAXAR: 1300-Class and Legion-Class
Airbus: Eurostar
MELCO: DS-1000/2000
European Space Agency/ESA: Spacebus, Galileo
Japan Aerospace Exploration Agency: H2 Transfer Vehicle-ISS
Lockheed Martin: LM2100, GPS III
Millennium Space Systems: ALTAIR Bus
Northrop Grumman: GEOStar
NASA: James Webb Space Telescope, Roman Space Telescope, Mars 2020 Perseverance

Launch Vehicles, Hypersonic Vehicles, Manned Space and Strategic Missile Controls

Boeing: Crew Space Transportation CST-100 Starliner
United Launch Alliance: Atlas V, Delta IV, Vulcan
SpaceX: Falcon 9
Blue Origin: New Glenn
Virgin Orbit: LauncherOne
NASA: Space Launch System and Orion
Lockheed Martin: Trident D-5
U.S. Air Force: Minuteman III

Missile Systems

Lockheed: Terminal High Altitude Area Defense/THAAD, HELLFIRE®
Raytheon: TOW, Tomahawk, Miniature Air-Launched Decoy/MALD®, EKV

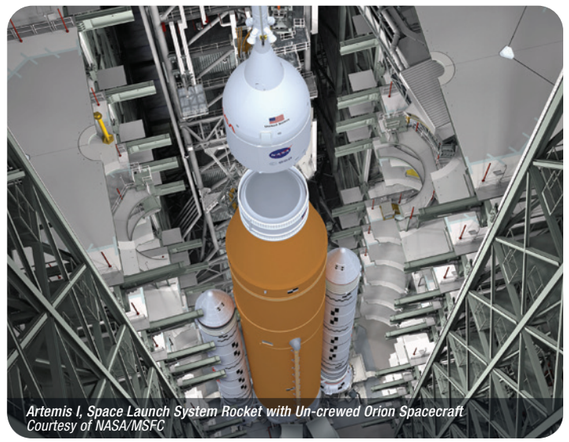
Defense Controls Europe

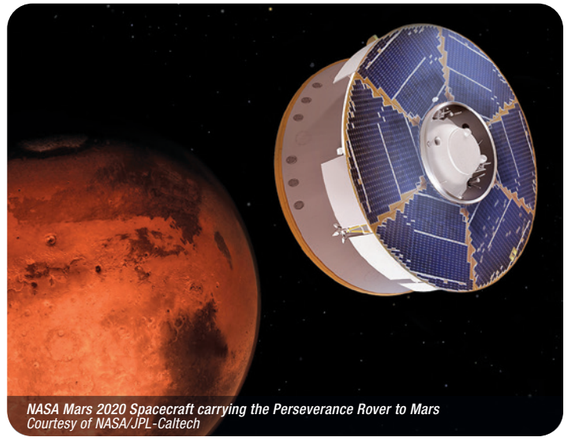
Leonardo: Ariete Main Battle Tank
Nexter: Jaguar IFV
Krauss-Maffei Wegmann: FLW 100/200 RWS, RCH155 and PZH2000 Howitzer

Defense Controls United States

U.S. Army MLIDS and U.S. Marine Corps MADIS c-UAS
General Dynamics: Abrams, LAV-25, IM-SHORAD, Littoral Combat Ship MK46
Lockheed Martin: Aegis Combat System, AC-130J
Northrop Grumman: G/ATOR, Large Aircraft Infrared Counter-Measure System/LAIRCM
Raytheon: LAV-AT, Multi-Spectral Targeting Sys/MTS, Commander's Independent Viewer

Moog Reconfigurable Integrated-weapons Platform – RIwP®

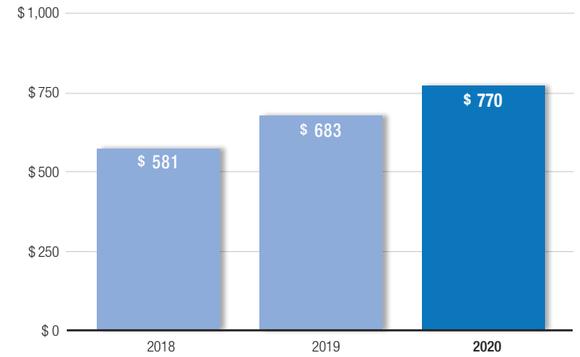

Artemis I, Space Launch System Rocket with Un-crewed Orion Spacecraft
Courtesy of NASA/MSFC

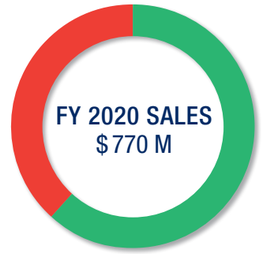

NASA Mars 2020 Spacecraft carrying the Perseverance Rover to Mars
Courtesy of NASA/JPL-Caltech


Virginia-Class Submarine USS Illinois SSN 786
Courtesy of U.S. Navy / General Dynamics Electric Boat

Moog has a long-standing heritage of producing components for the Virginia Class submarine program, including a variety of actuation and valve hardware manufactured in East Aurora, NY and Orrville, OH. The nuclear-powered Virginia Class subs are the third generation of attack submarines in service and are designed to carry out a wide range of missions, including surveillance work and the delivery of Special Operations forces. In 2019, the 20th submarine in the Virginia Class, the Pre-Commissioning Unit USS Oregon (SSN 793), was christened at General Dynamics Electric Boat's shipyard in Groton, CT.

SEGMENT SALES (Dollars in millions)



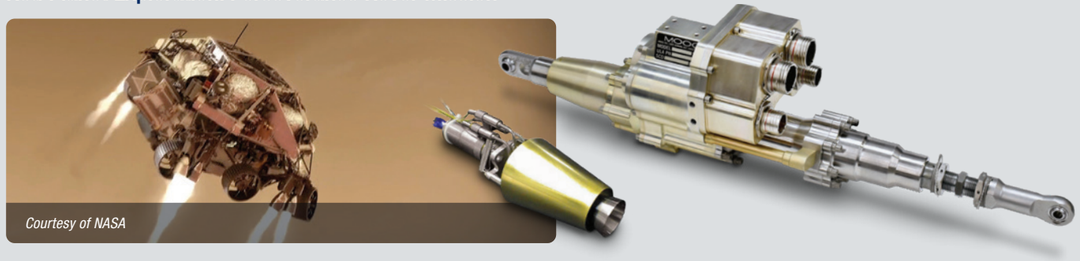


DEFENSE CONTROLS	$ 476 M
SPACE	$ 294 M

Strategies and Initiatives

- We are dedicated to our mission: "Equipping those who defend freedom"
- Our existing portfolio of military programs is aligned with U.S. defense priorities
- Our technologies and capabilities are supporting the return of U.S. human space flight and NASA's deep space exploration programs
- By exploiting our expertise in critical components, we provide extraordinary solutions for our Space and Defense customers
- We are the "Agile Prime" – flexible and responsive to our customers' needs

Red Planet Exploration: Perseverance Rover Mission


Courtesy of NASA

Building on the success of the 2012 Mars Curiosity Rover Mission, the Perseverance Rover Mission is NASA JPL's latest Mars exploration effort. Lift-off was on July 30, 2020 from Cape Canaveral, Florida. A United Launch Alliance (ULA) Atlas V rocket carried the Rover spacecraft into low Earth orbit.

Moog is supporting the mission with critical components and systems. Steering the Atlas V's RL-10 rocket engines is a Moog Thrust Vector Control System. A pair of electromechanical actuators and a digital, radiation-tolerant controller help to aim the thrust of the engine while Moog isolation valves control propellant flow.

Eight MONARC 5 monopropellant rocket engine assemblies maintain and fine-tune the spacecraft's path during its cruise to Mars, to ensure Perseverance completes its seven-month journey to the red planet.

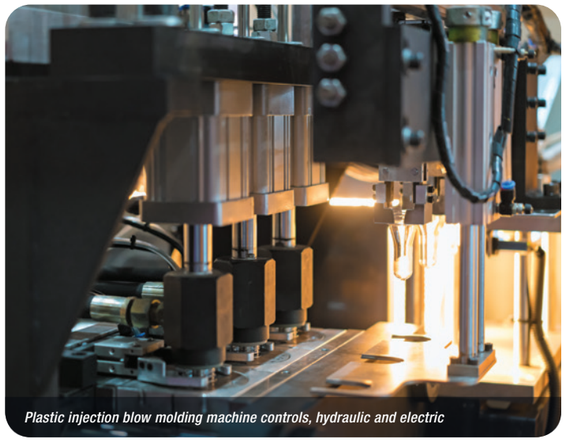
Entry, descent, and landing (EDL) begins when the aeroshell reaches the top of the Martian atmosphere and ends approximately seven minutes later, with Perseverance stationary on the Martian surface, ready to explore. During the EDL phase, Moog's Throttle Valve Assembly plays a critical role, as it provides propellant to the descent engines which facilitate the lowering of the Rover to the Martian surface using the spacecraft's sky-crane. The Perseverance Rover also features Moog control valves for its gas dust removal tool. Look for the arrival and landing on Mars in February 2021.

INDUSTRIAL SYSTEMS

We create a competitive advantage for our customers by providing unique motion control solutions.

"Our business model involves close collaboration with customers to understand how to deliver more value for their business. Solving a technical challenge, increasing productivity, reducing energy consumption or improving quality. Deep engagement gives us a thorough understanding of what our customers are trying to do, and we apply our expertise to customize our products to meet their needs and create greater value for their end users and customers. Our commitment to long-term relationships means they can be confident we will support them through the entire lifecycle of their machine."

– Pat Roche, President,
Industrial Systems Segment



Plastic injection blow molding machine controls, hydraulic and electric

Rotary Transfer Systems for port and mobile cranes and excavators

Oil and gas exploration and production solutions

Product Portfolio

- Hydraulic servovalves, including valves with embedded intelligence
- Controllers, servo drives and software for motion control applications
- High-performance servo pumps for a wide range of high-end industrial applications
- Brushless DC and servo electric motors for material handling and industrial automation
- Ball and roller screws for injection and blow molding machinery and harsh environment industrial systems
- Highly reliable electric, electro-hydrostatic and hydraulic actuation systems for industrial motion control, simulation, and test applications
- Medical OEM air detection sensors, surgical handpieces, ambulatory care infusion pumps and enteral feeding pumps
- Motors and blowers for sleep therapy (CPAP), ventilators and portable oxygen concentrators
- Fiber optic rotary joints, acoustic sensors, sonars, and video cameras for subsea imaging and Remotely Operated Vehicles (ROVs)
- Slip ring, fluid rotary unions and combination units for industrial automation, construction equipment and Floating Production, Storage and Offloading (FPSO) vessels

Industrial Automation Applications

Plastic injection and blow molding machine controls – both hydraulic and electric, steel production, metal forming and presses, packaging, robotics, construction, material handling and industrial automation

Medical Applications

Oxygen therapy, sleep therapy, computed tomography (CAT scan), intravenous (I.V.) pumps, enteral pumps, sensors, surgical handpieces

Simulation and Test Applications

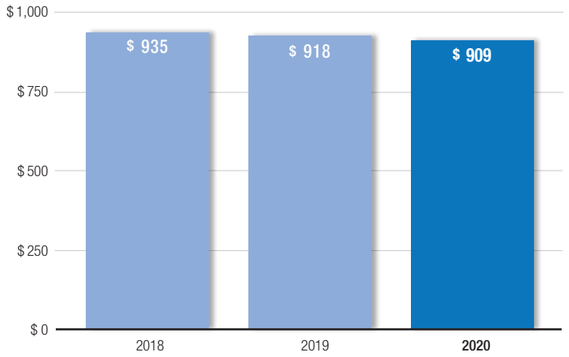
Flight simulation motion systems including Level D certified motion bases and G-seats for realistic pilot training, hydraulic and electric automotive turnkey testing systems for component performance and structural testing, aerospace turnkey testing systems for iron bird, structural and components

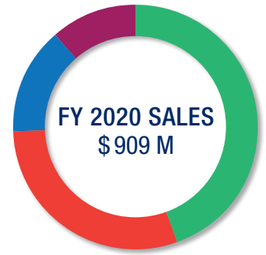
Energy / Marine Applications

Gas and steam turbine solutions, wind energy turbine components, oil and gas exploration and production solutions, Remotely Operated Vehicles (ROVs), Floating Production, Storage and Offloading (FPSO) vessels

Continuous Positive Airway Pressure-CPAP for Sleep Apnea Therapy
Breathing Assist Components: Home/Portable Oxygen Concentrators, Medical Ventilators

SEGMENT SALES (Dollars in millions)





INDUSTRIAL AUTOMATION	$ 405 M
MEDICAL	$ 273 M
ENERGY / MARINE	$ 128 M
SIMULATION AND TEST	$ 103 M

Moog supplies motion control components for life-saving medical equipment featuring advanced proprietary technology and innovative designs. Coronavirus created an increased global demand for critical medical equipment, including I.V. and enteral feeding pumps and breathing equipment. Moog brushless motors and blower units incorporate a motor and integrated fan and electronics to provide air flow to patients using ventilators and Continuous Positive Airway Pressure (CPAP) equipment. Moog also produces ultrasonic sensors and critical OEM components for manufacturers of patient safety systems and life support equipment. These components and subsystems monitor and control fluid systems to protect patients from air bubble infusion and ensure therapeutic accuracy. Moog manufacturing sites scaled production to meet the 2020 virus-related demand for the assembly of OEM components and proprietary pumps.

Strategies and Initiatives

- Expanding our high-end hydraulic valves, pumps and hybrid solutions offering
- Creating differentiated electromechanical components and solutions
- Maintaining slip ring leadership position and building fluid rotary union offerings
- Delivering solutions with a level of performance that our customers believe is impossible and our competitors cannot replicate
- Expanding our homecare medical infusion pump business

Green Construction: Bobcat® T76e Electric Prototype

As electrification becomes more popular in the automotive industry, suppliers to the construction industry are looking to develop zero-emission vehicles. Bobcat customers want a clean, quiet loader that's rugged, indoor-use capable, and performs like the company's popular diesel models. Bobcat contacted Moog and our innovation team responded with components for an all-electric compact loader prototype. The T76e has the potential to replace traditional hydraulics and diesel power on construction vehicles.

Introducing zero-emission construction equipment is a solution for some of the industry's environmental challenges. Electric-powered vehicles stop running the moment an operator completes a function, reducing emissions and jobsite noise.

On the full-electric model, source code controls the horsepower, breakout speed, and lifting capacities. Moog supplies the electric industrial maximum dynamic servo motors, MaxForce electromechanical actuators, DM2020 servodrives and controllers to move the tracks and bucket, offering precise positioning in any construction project environment. The right combination of controls and electronics will someday allow traditional machine owners to digitally tune their equipment, achieving in days what some equipment owners spend years trying to accomplish with mechanical adjustments.

Designed to comply with environmental regulations, the prototype is part of Bobcat's electrification strategy. Production and final rollout to customers is a few years away pending next generation ruggedization of components and extensive jobsite field-testing.

Moog's growth and innovation team is dedicated to finding new ways to make the impossible possible, for customers in a variety of industries using autonomy, digitization and electrification.

FINANCIAL REVIEW

(Dollars and shares in millions, except per share data)

	2020	2019	2018	2017	2016	2015	2014	2013	2012*	2011*	2010*
SEGMENT SALES											
AIRCRAFT CONTROLS	**$ 1,206**	$ 1,303	$ 1,194	$ 1,125	$ 1,064	$ 1,087	$ 1,118	$ 1,060	$ 964	$ 850	$ 757
SPACE AND DEFENSE[1]	**$ 770**	$ 683	$ 581	$ 529	$ 499	$ 381	$ 395	$ 396	$ 359	$ 356	$ 325
INDUSTRIAL SYSTEMS[1]	**$ 909**	$ 918	$ 935	$ 843	$ 849	$ 522	$ 591	$ 592	$ 634	$ 629	$ 546
COMPONENTS[1]	**–**	–	–	–	–	$ 536	$ 545	$ 563	$ 514	$ 495	$ 487
NET SALES	**$ 2,885**	$ 2,905	$ 2,709	$ 2,498	$ 2,412	$ 2,526	$ 2,648	$ 2,610	$ 2,470	$ 2,331	$ 2,114
EARNINGS BEFORE TAXES	**$ 5**	$ 227	$ 184	$ 182	$ 173	$ 184	$ 219	$ 165	$ 209	$ 184	$ 149
ADJUSTED EARNINGS BEFORE TAXES[2]	**$ 197**	N/A	$ 221	–	–	–	–	–	–	–	–
NET EARNINGS	**$ 9**	$ 175	$ 97	$ 141	$ 127	$ 132	$ 158	$ 120	$ 152	$ 136	$ 108
ADJUSTED NET EARNINGS[2]	**$ 157**	N/A	$ 165	–	–	–	–	–	–	–	–
NET RETURN ON SALES	**0.3%**	6.0%	3.5%	5.7%	5.3%	5.2%	6.0%	4.6%	6.2%	5.8%	5.1%
EARNINGS PER SHARE											
BASIC EPS	**$ 0.28**	$ 5.01	$ 2.67	$ 3.99	$ 3.49	$ 3.39	$ 3.57	$ 2.66	$ 3.37	$ 2.99	$ 2.38
DILUTED EPS	**$ 0.28**	$ 4.96	$ 2.64	$ 3.95	$ 3.47	$ 3.35	$ 3.52	$ 2.63	$ 3.33	$ 2.95	$ 2.36
ADJUSTED EPS[2]	**$ 4.81**	N/A	$ 4.57	–	–	–	–	–	–	–	–
DILUTED WEIGHTED-AVERAGE SHARES OUTSTANDING (in millions)	**33.4**	35.2	36.1	36.2	36.5	39.3	45.0	45.8	45.7	46.0	45.7
RESEARCH AND DEVELOPMENT	**$ 111**	$ 126	$ 130	$ 144	$ 147	$ 132	$ 139	$ 135	$ 116	$ 106	$ 103
CAPITAL EXPENDITURES	**$ 88**	$ 118	$ 95	$ 76	$ 67	$ 81	$ 79	$ 93	$ 107	$ 84	$ 66
DEPRECIATION AND AMORTIZATION	**$ 87**	$ 85	$ 89	$ 90	$ 99	$ 104	$ 109	$ 108	$ 101	$ 96	$ 91
AT YEAR END											
TOTAL ASSETS	**$ 3,226**	$ 3,114	$ 2,964	$ 3,091	$ 3,005	$ 3,037	$ 3,140	$ 3,151	$ 3,106	$ 2,843	$ 2,712
WORKING CAPITAL	**$ 903**	$ 901	$ 798	$ 997	$ 938	$ 931	$ 849	$ 834	$ 885	$ 834	$ 813
INDEBTEDNESS	**$ 930**	$ 833	$ 863	$ 957	$ 1,006	$ 1,070	$ 872	$ 706	$ 765	$ 725	$ 765
SHAREHOLDERS' EQUITY	**$ 1,243**	$ 1,322	$ 1,225	$ 1,214	$ 988	$ 995	$ 1,347	$ 1,536	$ 1,305	$ 1,192	$ 1,121
RETURN ON SHAREHOLDERS' EQUITY	**0.7%**	13.4%	7.7%	13.4%	12.6%	11.3%	10.4%	8.6%	12.1%	11.4%	9.8%
SHAREHOLDERS' EQUITY PER COMMON SHARE OUTSTANDING	**$ 38.65**	$ 38.12	$ 35.20	$ 33.94	$ 27.56	$ 27.09	$ 32.51	$ 33.86	$ 28.80	$ 26.38	$ 24.70
BACKLOG (12 month)	**$ 1,658**	$ 1,502	$ 1,481	$ 1,212	$ 1,225	$ 1,273	$ 1,340	$ 1,296	$ 1,279	$ 1,325	$ 1,181
NUMBER OF FULL-TIME EMPLOYEES	**12,623**	12,809	11,787	10,675	10,497	10,691	11,031	11,152	10,976	10,320	10,117

[1] The former Components segment has been divided and merged into the Space and Defense and Industrial Systems segments.
[2] 2018 adjusted EPS of $4.57 excludes the impact of charges associated with exiting the wind pitch controls business and special impacts from the U.S. Tax Act.
[2] 2020 adjusted EPS of $4.81 excludes the impact of per share charges associated with COVID-19 pandemic ($1.68) and pension settlement accounting ($2.85).

** Not restated for Total Assets, Working Capital and Indebtedness.*
Amounts may not equal the total due to rounding.

INVESTOR INFORMATION

Annual Meeting of Shareholders

Our Annual Meeting will be held on February 9, 2021 at 10:00 am ET. For more information go to www.moog.com/proxy.

New York Stock Exchange

Our two classes of common shares are traded on the New York Stock Exchange under the ticker symbols MOG.A and MOG.B.

Reports

Shareholders have electronic access to our annual report / Form 10-K and Proxy Statement. Copies of these and our other public reports are available on our website or by contacting us via email, telephone or letter at:

Investor Relations
Moog Inc.
East Aurora, New York 14052-0018
Phone: 716-687-4225
Email: investorrelations@moog.com

Shareholders who hold Moog stock with a broker or bank nominee and wish to receive press releases via e-mail should contact Investor Relations.

Electronic Information

We have a website for investors which includes:

- Press releases
- Financial results and archived webcasts
- SEC filings
- Corporate governance and ESG information
- Answers to frequently asked questions
- Transfer agent information

Please visit http://www.moog.com/investors

Note that not all information contained on our website is incorporated into this annual overview or our other SEC filings.

Transfer Agent and Registrar

Equiniti (EQ) Shareowner Services is the stock transfer agent and registrar maintaining shareholder accounting and ownership records, dividend history and tax forms.

Please direct inquiries to:
EQ Shareowner Services MAC N9173-010
1110 Centre Pointe Curve, Suite 101
Mendota Heights, MN 55120
Toll Free: 1-800-468-9716

Secure online access is available at www.shareowneronline.com.

Independent Auditors

Ernst & Young LLP

Affirmative Action Program

In recognition of our role as a contributing corporate citizen, we have adopted all programs and procedures in our Affirmative Action Program as a matter of Corporate policy.

Data Privacy

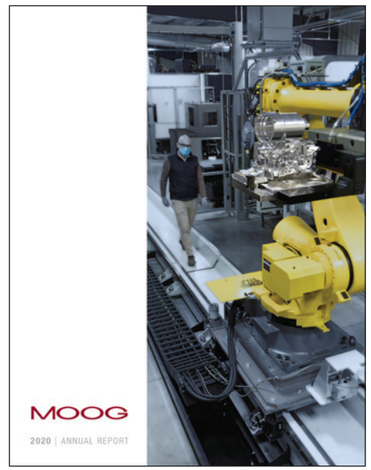
Moog is committed to protecting personal data in accordance with its responsibilities under U.S. and worldwide privacy regulations, including the General Data Protection Regulation (GDPR).

Photographic Images

The appearance of U.S. Department of Defense (DoD) visual information does not imply or constitute DoD endorsement. NASA images incorporated do not imply endorsement by NASA. The Bobcat logo, the colors of the Bobcat T76e, and other Bobcat product names referenced are trademarks of Bobcat Company in the United States and various other countries.

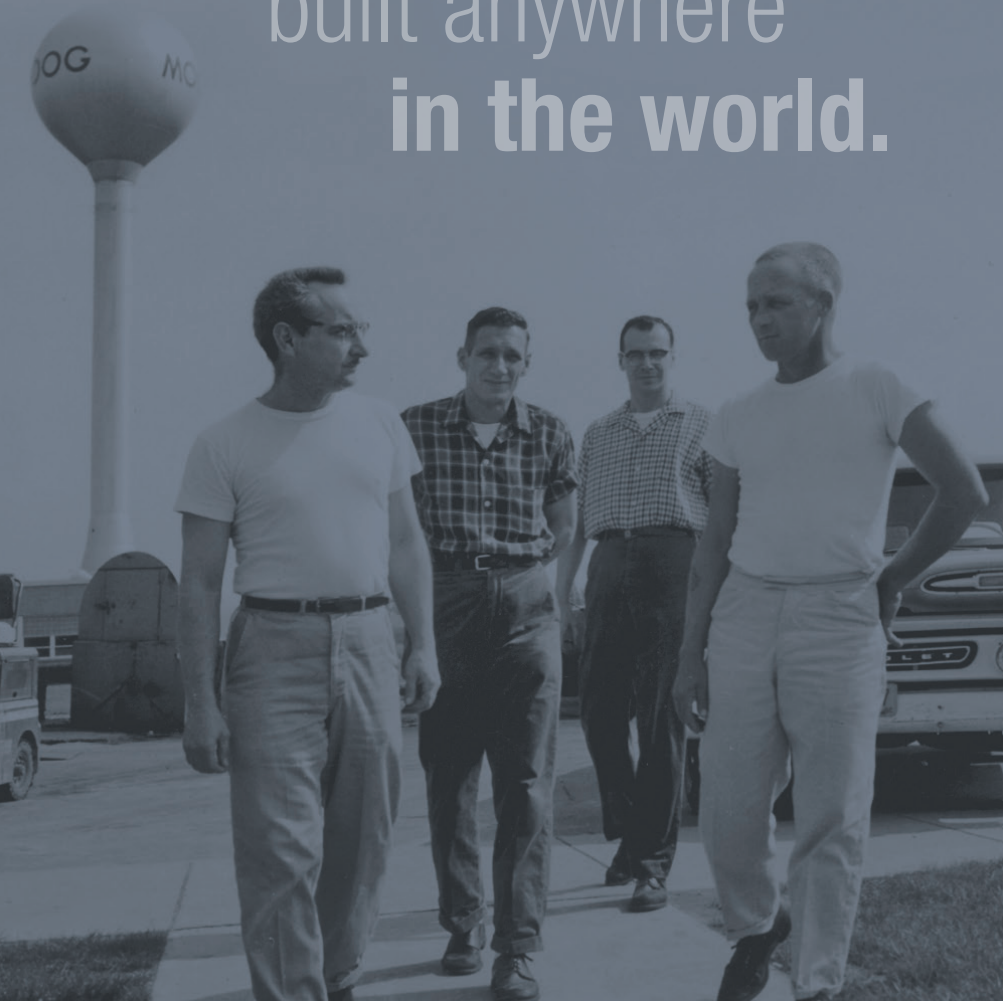
Front Cover:

Moog advanced manufacturing engineering director Lance Johnson is a 16-year Moog employee. He's inspecting the machining cell that produces flight control actuator manifolds in East Aurora, NY.



Design and production by Moog Creative Media

Every day an
EXTRAORDINARY
group of **PEOPLE**
come together
to devote their
TIME AND ENERGY
to build the
BEST PRODUCT
of its type
built anywhere
in the world.



MOOG

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