

# MOOG

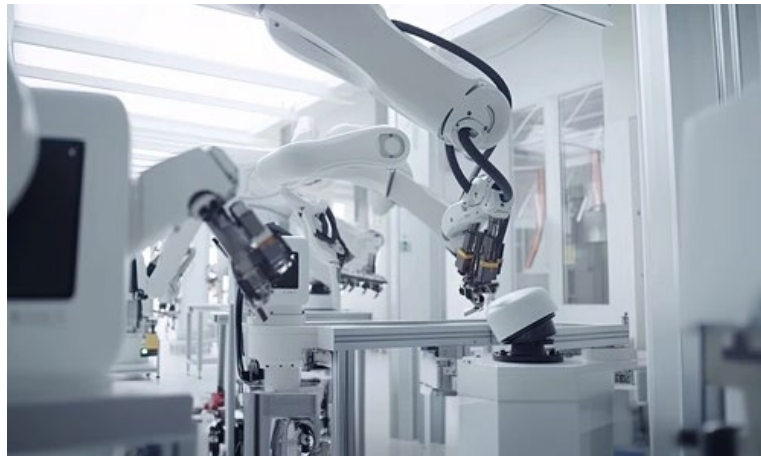
Shaping the way our world moves™

MAKING THE IMPOSSIBLE POSSIBLE IN MOTION CONTROL  
INDUSTRIAL GROUP PRESENTATION

TODAY'S CHALLENGES  
OUR PURPOSE  
OUR CULTURE AND VALUES  
OUR HISTORY  
OUR CONTRIBUTION  
OUR GLOBAL IMPACT  
OUR CAPABILITIES  
OUR MARKETS  
OUR APPROACH  
OUR PRODUCTS  
OUR REACH

# TODAYS CHALLENGES

## MEGATRENDS IN MOTION CONTROL



### | SUSTAINABILITY

We drive the global energy transition and electrification of the industry for a more sustainable future

### | AUTOMATION

Our technology-neutral approach enables us to be a leader in industrial automation to actively address the shortage of labor.

### | DIGITALIZATION

We support our customers in introducing digital technologies to increase efficiency, boost productivity and shorten product lifecycles.



# OUR PURPOSE

## SHAPING THE WAY OUR WORLD MOVES

As global leaders in motion control across land, sea, air, and space, we pioneer advanced solutions, including both hardware and software, to drive innovation in customer products. Our dedication and cutting-edge technology positively impact millions, playing a vital role in creating a healthier, safer and more sustainable world.

We take a collaborative approach to solving our customer's most difficult motion control problems with electric, hydraulic and electro-hydraulic solutions. We seek to develop long term partnerships. We are a global organization, yet we maintain a close customer-focused approach through local support.

*"Our collaborative culture is one of the many reasons customers and partners choose to work with us. "*

*- Pat Roche, CEO Moog Inc.*



# OUR CULTURE AND VALUES

## THE MOOG WAY

Our customers and partners benefit from our unique culture and core values,  
which help us stand out from the other companies:

Communication is crucial    We look for Solutions,  
not Someone to blame

We have to be Adaptable and ready to Change    We try harder    Formality doesn't help

**Trust is a Must**    Your Personal life is Important

Competence is King    Performance and Commitment should be rewarded

Work should be an enjoyable Experience    **It's my Job**

**We're all in this Together**



# OUR HISTORY

## STARTING THE JOURNEY IN 1951



**70+** Years of experience

**20+** Countries we operate in

**Then** In July of 1951, Bill Moog invented the servo valve and, together with Art Moog and Lou Geyer, formed the Moog Valve Company.

**Now** Moog engineers continue to develop and manufacture the world's most advanced motion control products, which have proven themselves a million of times over.

**Tomorrow** Moog continues to grow and innovate by investing in new technologies that will have a great impact on the world we live in.

# OUR PRESENT AND FUTURE CONTRIBUTION

## RESPONSIBILITY IN MOTION

Moog is committed to making meaningful and impactful change through both what we do and how we do it.

**Environmental** We understand that through our operations, it is our duty to take responsibility for the resources we use and the environment around us.

**Social** While advancing and fuelling the cutting-edge technology of today, we know that we must also work to improve the world around us for current and future generations.

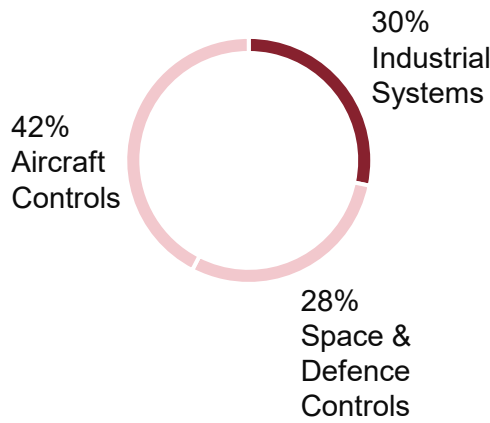
**Ethical** We are committed to strong and dedicated leadership, ethical practices, and responsible oversight.



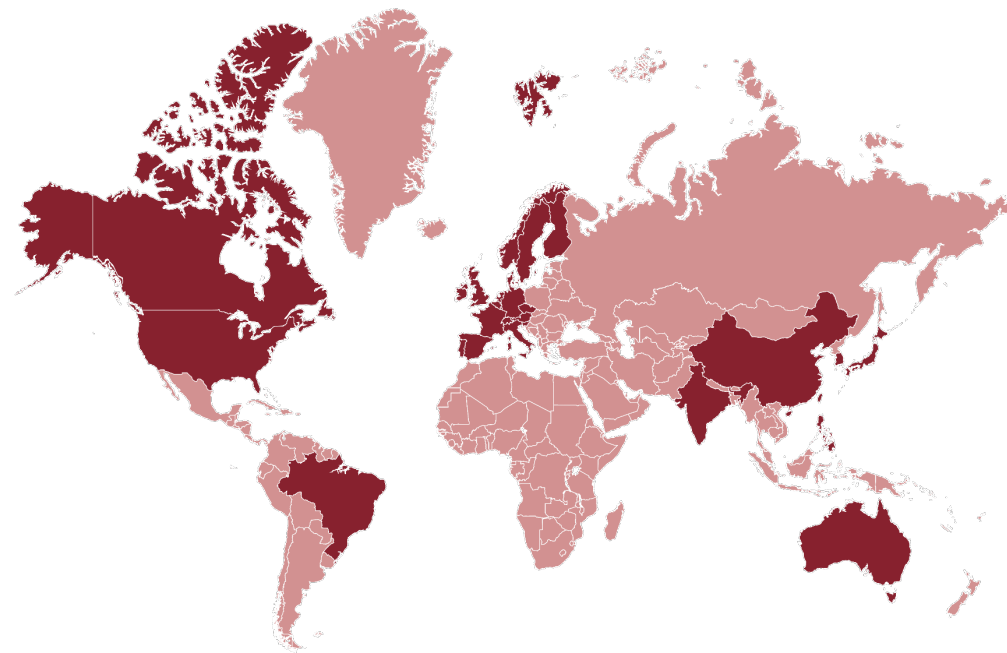
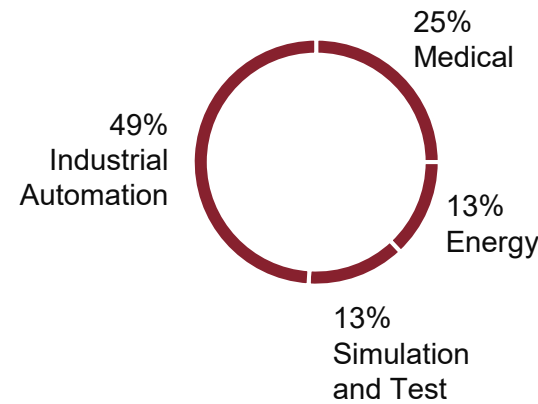
# OUR GLOBAL IMPACT

## MOOG AT A GLANCE

FY23 REVENUE  
MOOG INC.



MARKET SEGMENTS  
MOOG INDUSTRIAL



14,000+ Employees worldwide

\$3.3B FY 2023 Revenue

20+ Countries we serve

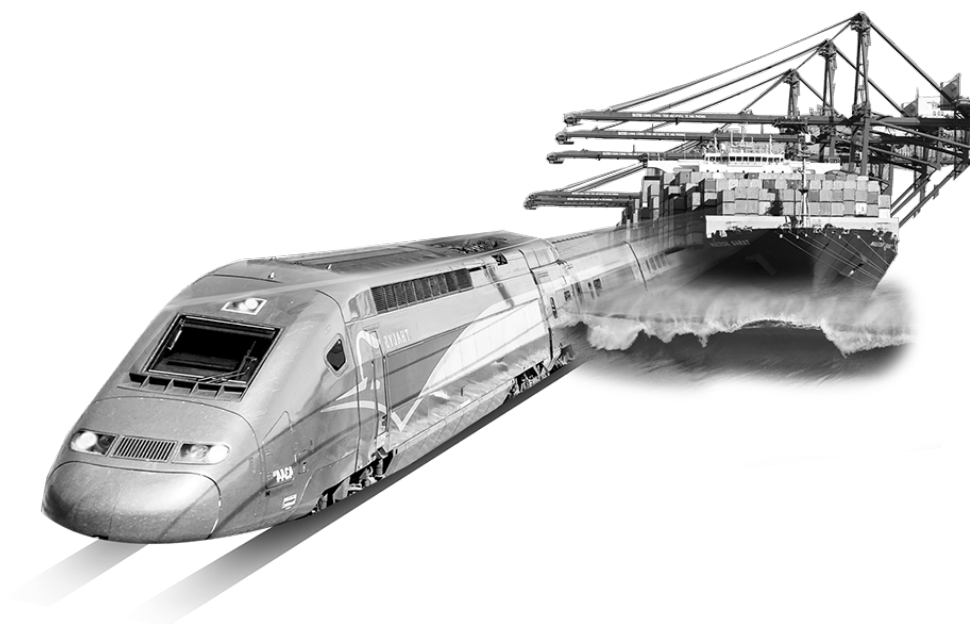


# OUR CAPABILITIES

## WHY CHOOSE MOOG INDUSTRIAL

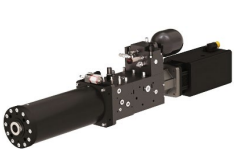
With Moog's extensive expertise in both products and systems, combined with our technology-neutral approach, we are committed to finding the optimal solution for your applications.

- Experience** We have a proven and rich history in motion control and power data applications.
- Performance** Our high-performance products and solutions integrate and configure easily to meet your needs.
- Expertise** Our team of experts are dedicated to assisting you in finding the products that best fit your requirements.
- Adaptability** Our products are highly adaptable and can function flexibly across a range of types and sizes.
- Modularity** Our modular products are designed with sustainability, ease of use and availability in mind.
- Global Support** Our technicians are available globally and ready to provide you with the necessary services.



# OUR MARKET SEGMENTS

## TAILORED SYSTEMS FOR VARIOUS MARKETS



Compact Actuation System



Modular Die Cushion System



Energy Management System



Motion Systems



Control Loading Systems



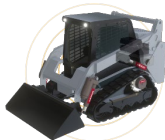
VR Flight Simulator



Zero-Emission BatteryPacks



Automated Solar Panel Assist



Electrification Ecosystem



Medical infusion pumps



Fluid sensors



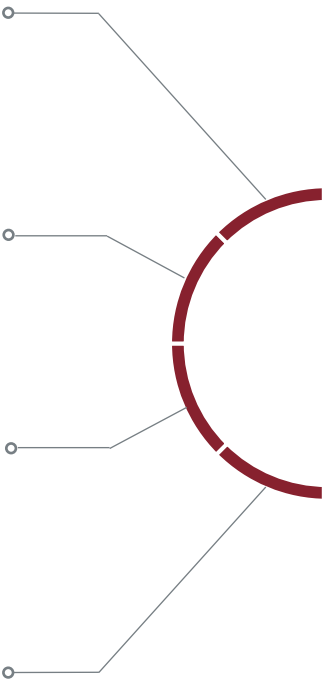
Surgical handpieces

Industrial Automation

Simulation

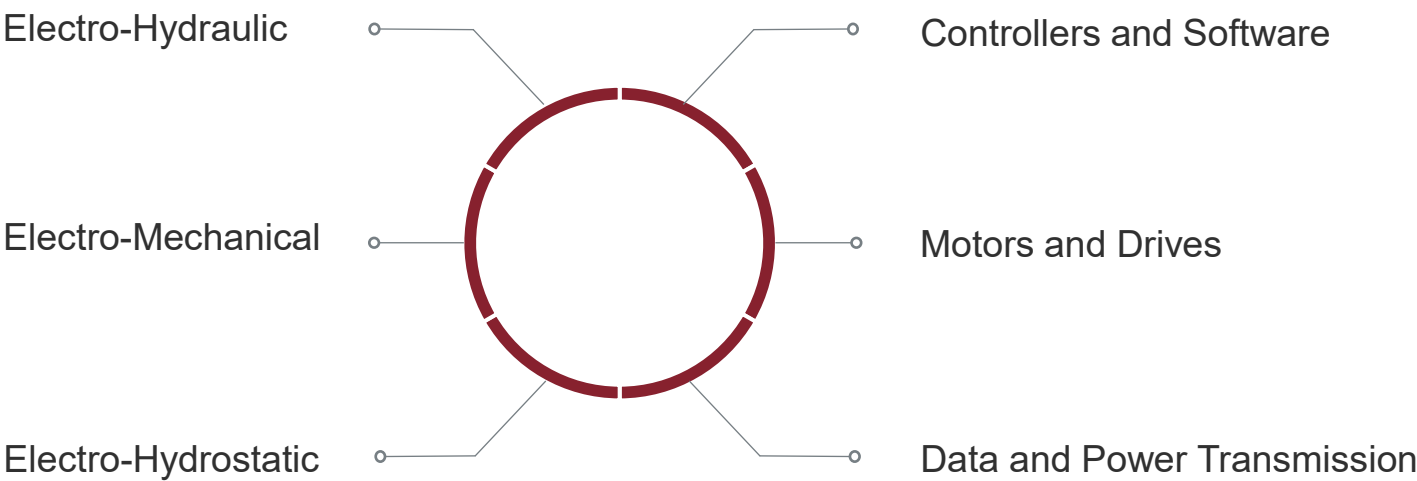
Construction

Medical



# OUR APPROACH

## FINDING THE BEST SOLUTION FOR YOUR APPLICATION



# OUR PRODUCTS

FULFILLING CUSTOMER NEEDS BY A TECHNOLOGY NEUTRAL APPROACH



Servo & proportional valves



Radial piston pumps



Cartridges & servo cartridges



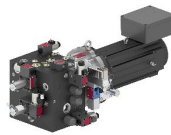
Hydraulic systems



Electro-hydrostatic Pump Unit



Electro-hydrostatic Pump System



Electro-hydrostatic Actuation Systems



Compact Cooling Pumps



Linear Servo Actuators

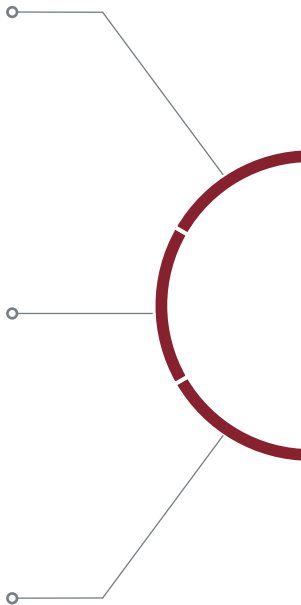


Ball & Roller Screws

Electro-Hydraulic

Electro-Hydrostatic

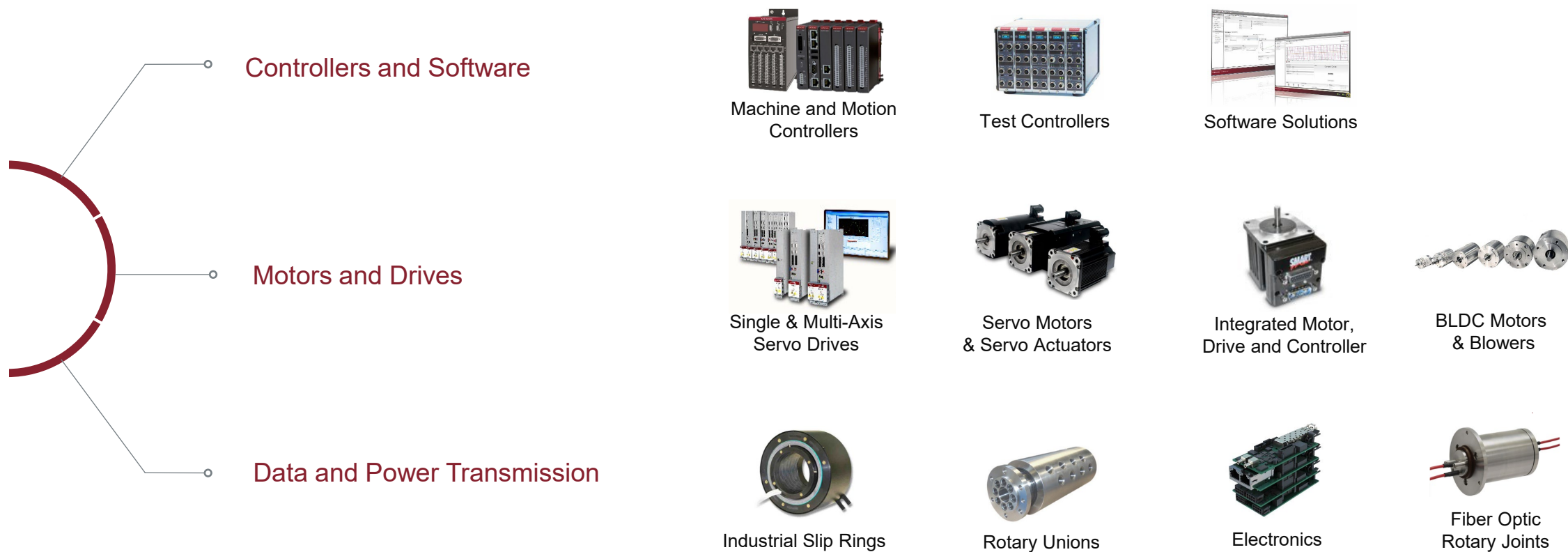
Electro-Mechanical





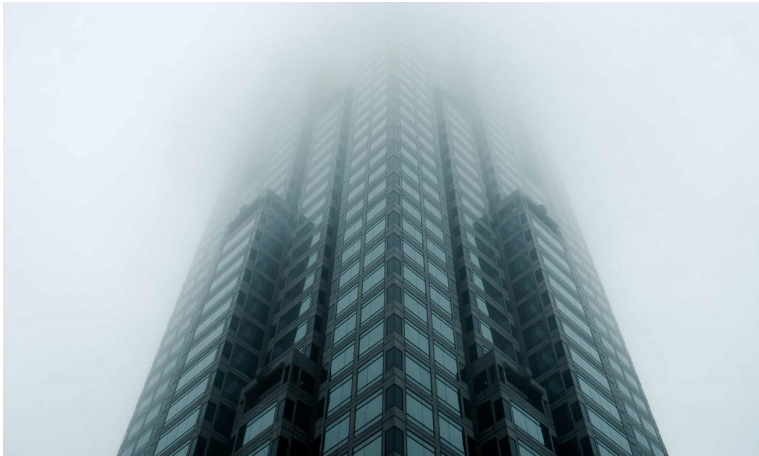
# OUR PRODUCTS

## MODULAR BUILDING BLOCKS FOR EVERY MOTION CONTROL ARCHITECTURE



# OUR REACH

## WHERE WE PLAY



| UPWARD AND ONWARD



| ON LAND AND INTO THE FUTURE



| FROM THE OCEAN'S SURFACE TO ITS DEPTHS

# DELIVERING CARE

## IMPROVED HEALTH

Moog's infusion pump technology provides precise and dependable medication and nutrition delivery in a compact design, allowing patients to move freely.

Their medical products incorporate cutting-edge proprietary technology and inventive designs, resulting in unrivalled accuracy and reliable performance across a variety of applications.



MEDICAL INNOVATION

# IMPROVING HEALTH

## WHEN PERFORMANCE REALLY MATTERS

Technical excellence can save lives in healthcare, and medical companies require reliable, high-performing products.

Moog has extensive experience as a trusted partner, providing components and systems for various applications such as ventilators, sleep and oxygen therapy, COVID-19 rapid test centrifuges, CT scanners, and surgical beds.

Moog goes beyond precision, delivering outstanding compactness and quietness to satisfy customers and end-users with the best solutions.



MEDICAL INNOVATION



# KEEPING THE LIGHTS ON

## SUPPORTING CONTINUOUS POWER GENERATION

For both established and emerging power generation solutions such as hydro-electric, wind and tidal turbines, nuclear and gas and steam turbines.

Moog supplies slip rings to ensure constant and reliable transfer of data, as well as explosion proof valves, pumps and actuators for the precise control of critical components.



# PREDICTING PERFORMANCE

## DELIVERING REALISTIC EXPERIENCES TO HONE AND MAINTAIN SKILLS

For pilot and driver training, vehicle development and even dark rides in theme parks, Moog's high performance motion cueing in conjunction with motion systems and G-Seats enables the delivery of realistic human-in-the-loop simulators.



SIMULATION

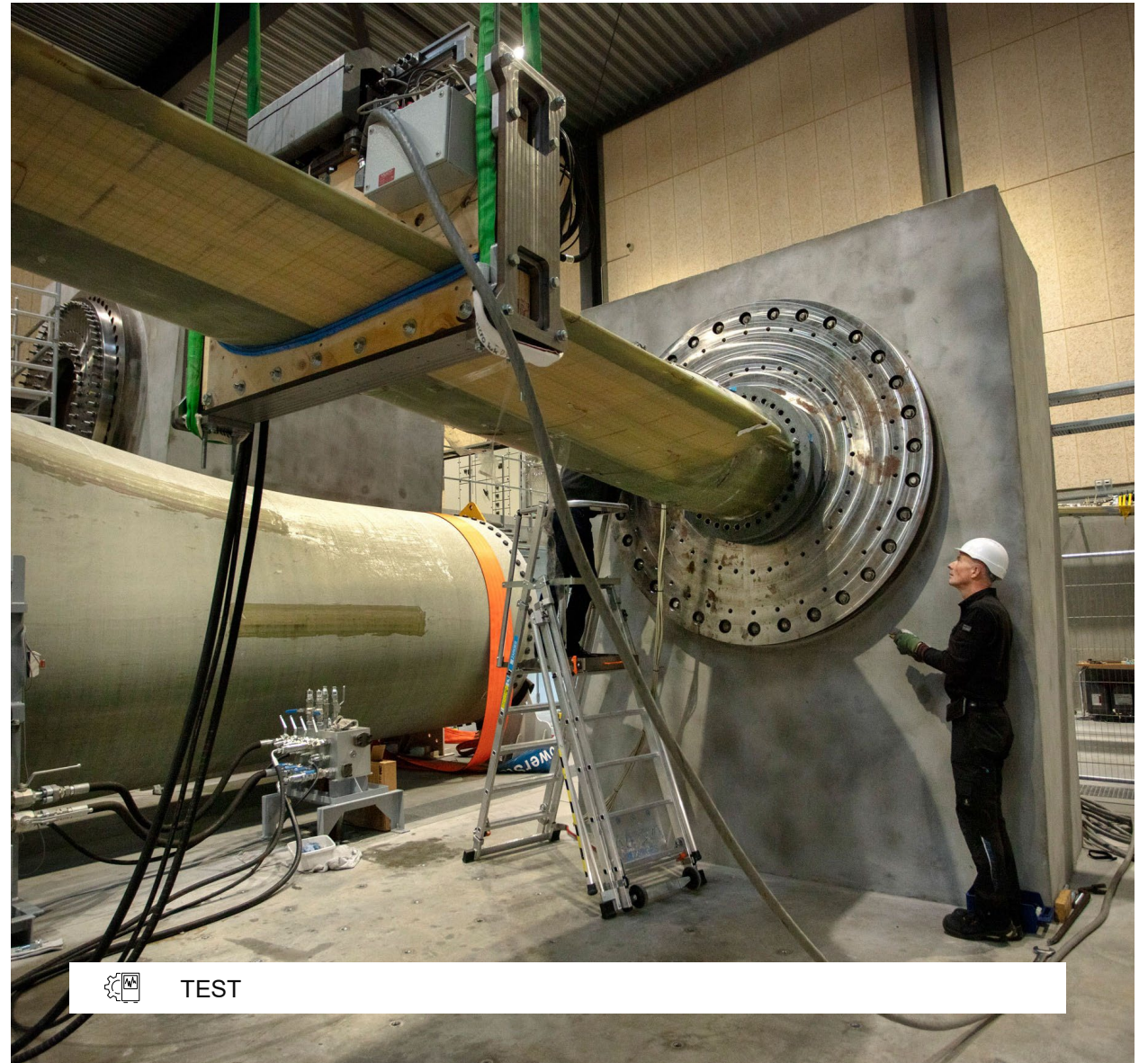


# ENSURING SAFETY

## ENABLING PREDICTIVE MAINTENANCE FOR CRITICAL COMPONENTS

For automotive, aerospace, rail and other applications such as wind turbine blade testing, Moog offers multi-axis test systems, test controllers and simulation tables.

These ensure any potential weaknesses in a critical component's life cycle not immediately apparent are identified before installation.



TEST

# FORMING THE FUTURE

## FACILITATING HIGH PRODUCTIVITY WITH MINIMAL DOWNTIME

Precise control of high force and position, as well as machine reliability are key requirements for metal forming machines.

Moog offers state-of the art motion control solutions, including electro-hydraulic, electro-mechanical and electro-hydrostatic systems as well as software, setting a world class standard in terms of machine efficiency, operational reliability and robustness.



METAL FORMING MACHINERY



# IMPROVING EFFICIENCY

## SUPPORTING SUSTAINABLE PRODUCTION

Manufacturers of plastics machinery are under increasing pressure to add value for their customers by developing machinery capable of higher process repeatability, energy efficiency, higher parts quality and a smaller footprint.

Moog's electro-hydraulic, electro-mechanical and electro-hydrostatic systems as well as software and energy management deliver high reliability, improved productivity, higher sustainability and lower energy consumption.



PLASTIC MACHINERY

# FORGING EXCELLENCE

## OPERATING IN HARSH ENVIRONMENTS

Moog understands the demands facing machinery manufacturers in the iron and steel industries.

To meet these challenges, Moog offers a wide range of hydraulic and electric motion control products, from high-performance servo-valves to machine controllers, providing high precision and productivity in the most extreme operating temperatures.



IRON AND STEEL PRODUCTION



# MAXIMUM RELIABILITY

## ENSURING SAFETY OFFSHORE AND ONSHORE

Moog's internationally certified solutions boost efficiency and reliability in marine, subsea, downhole, and topside operations, reducing waste and energy use.

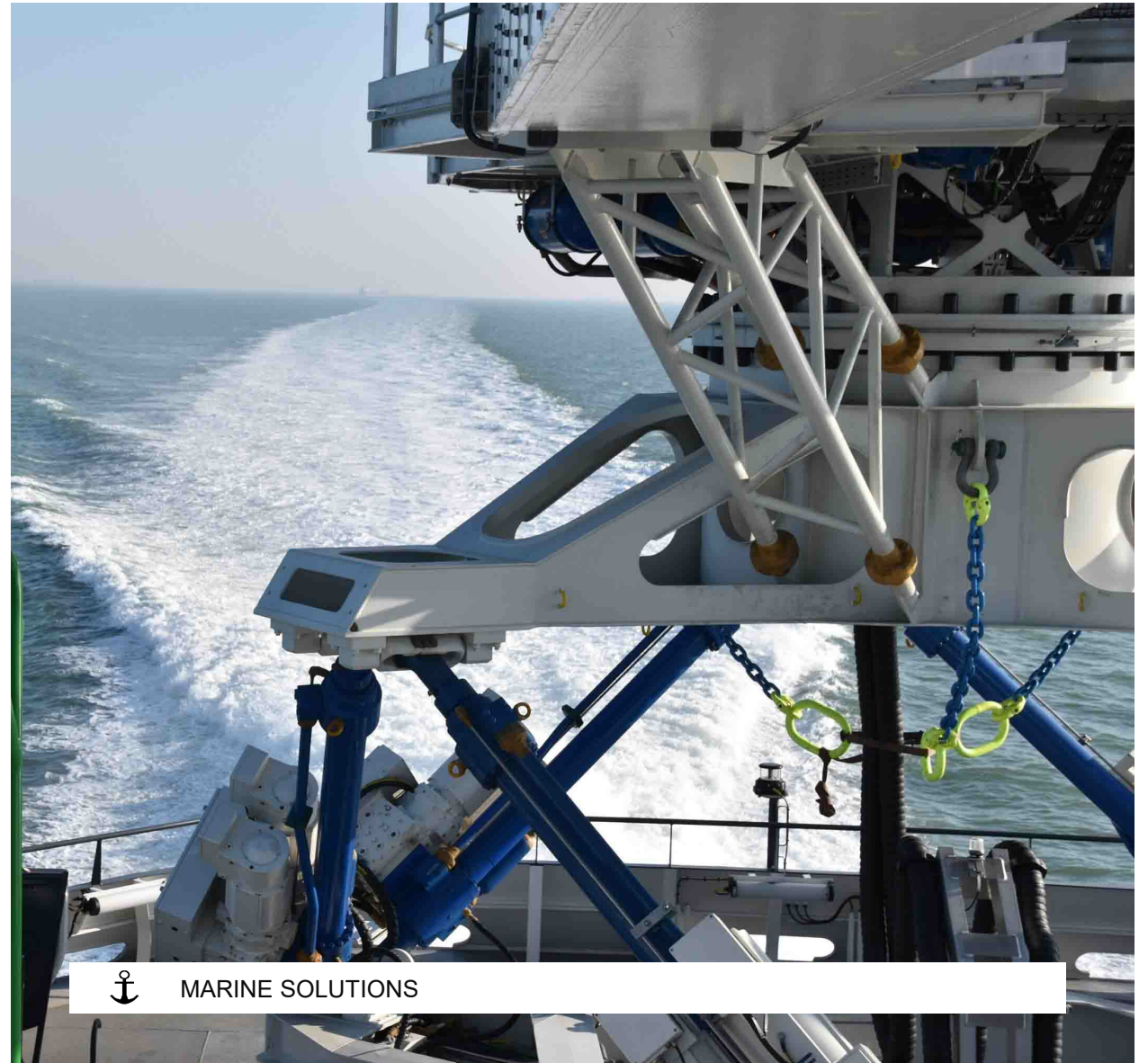
With deep understanding of offshore and onshore equipment needs, we meet harsh environment demands through custom solutions and services.



# INNOVATING OFFSHORE

## ENSURING SECURE TRANSFER

For applications in harsh environments Moog offers a variety of innovative offshore technologies, including electro-hydrostatic actuation systems to deliver active sea state compensation to help cancel out wave motion and high voltage swivels where an asset needs to align with the wind direction and transmit power across long distances.



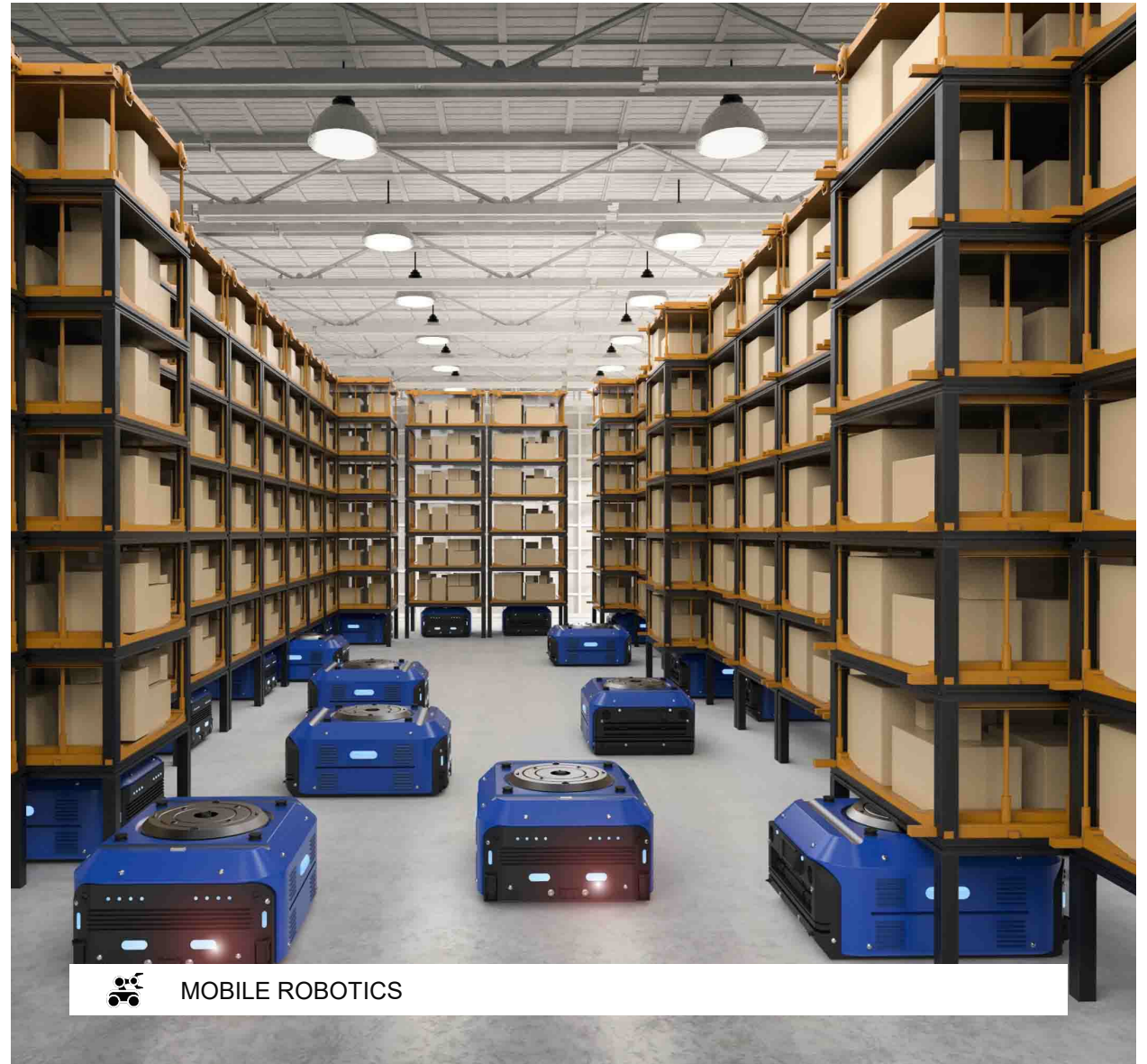


# DELIVERING AUTONOMY

## SMART AND CONSIDERATE ROBOT MOVEMENTS

Integrated systems like the Moog Animatics SmartMotor™ provide the highly compact dimensions necessary for fast and reliable communication between components.

Moog delivers a plug-and-play manufacturer solution that enables the movement of parts around a warehouse or navigate inside a hospital to disinfect rooms, requiring high-end motion control technology.



# COOLING THE FUTURE

## PAVING THE WAY FOR INFORMATION TECHNOLOGY

As technology, artificial intelligence and the internet move at a rapid pace, Moog also looks to the future for technology that is needed for sustainable data infrastructure.

Moog's sealless magnetic pump and controller is designed for pumping coolant through mainframe computing systems for heat removal. These pumps are paving the way for data center cooling solutions.





# SIMPLIFYING ROBOTICS

## MANUFACTURING & AUTOMATION

Moog's robotics technology delivers durable, low-maintenance performance for enhanced productivity and quality output.

They provide customizable assemblies, including motors, slip rings, and fiber optic rotary joints, to meet challenging specifications and simplify procurement.

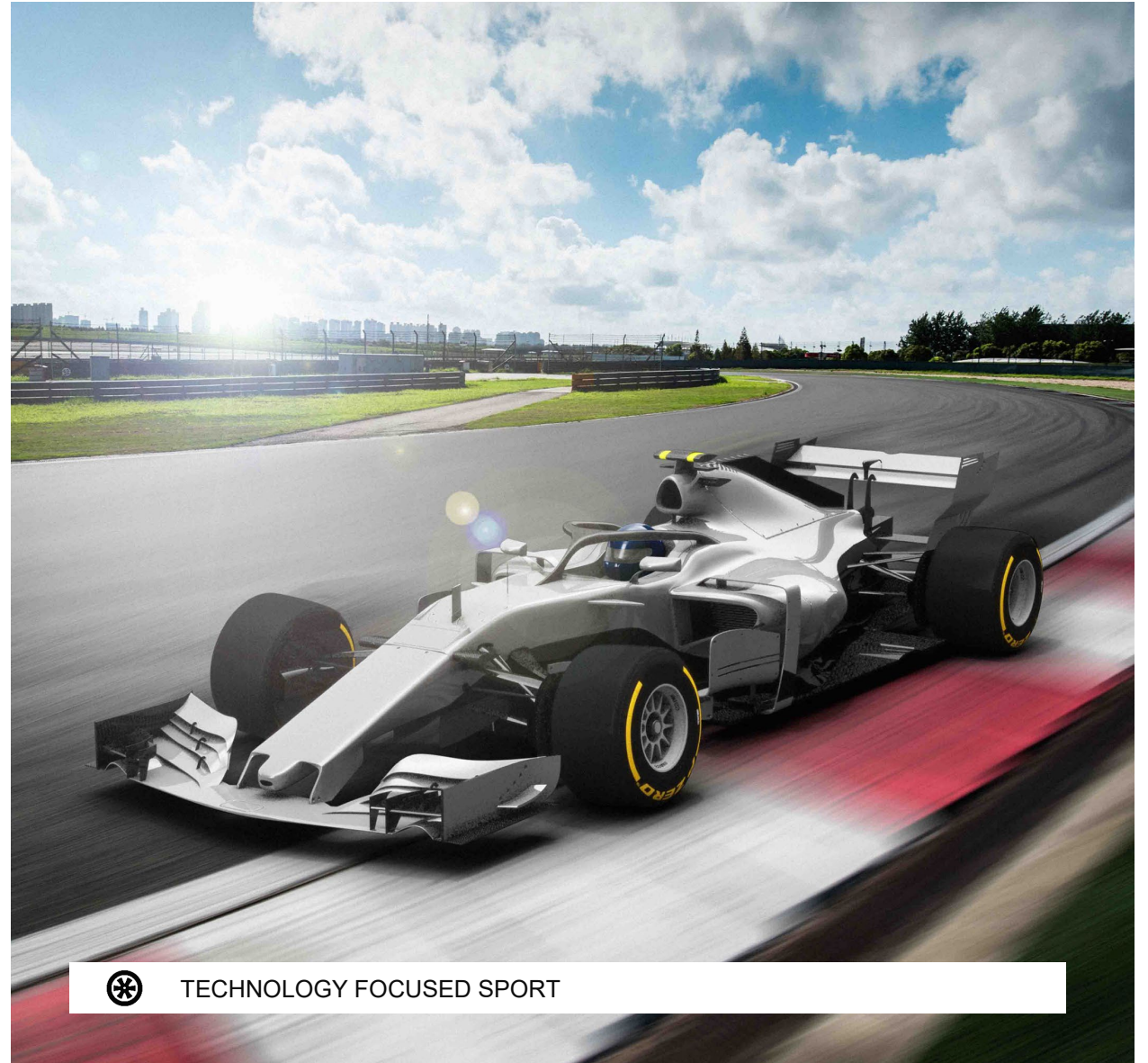


INDUSTRIAL MACHINERY

# STAYING IN CONTROL

## UNPARALLELED LEVELS OF POWER DENSITY

Moog's miniature actuation offering includes servo valves, direct drive valves and actuators which deliver high force capability and are ideally suited to high performance applications such as motorsport, yacht racing and other niche requirements where space and weight are crucial.





# COMFORTING THE RUSH

## PRECISE CONTROLLED MOVEMENT

Moog's technology provides comfort and stability by incorporating a planetary roller screw with an electromechanical actuator improving the ride of the E5 Series Shinkansen, a high-speed Japanese bullet train reaching 198 mph (320 km/h).

Moog planetary roller screws are the backbone of customisable actuators, found in other applications including the precise controlled movement of the two retractable roofs at Wimbledon.



TRANSPORTATION

# PLANNING FOR THE FUTURE

## REDUCING POLLUTION WITH ZERO EMISSION

Moog, Dolomitech and the Public Transport Authority of Venice collaborated to create a fleet of ferries equipped with fully electric and diesel/electric propulsion systems.

The hybrid ferry, featuring Moog's motors and inverters, is particularly notable as it switches off its diesel engine during the most sensitive parts of its journey, carrying hundreds of passengers through crowded historical canals in Venice with low environmental impact.

Moog's hybrid propulsion solution exceeds expectations, reducing exhaust and noise pollution while remaining versatile and flexible.



TRANSPORTATION



# RESHAPING, REBUILDING

## HELPING CONSTRUCTION REDUCE EMISSIONS

At Moog we understand the critical relationships between electrification, connectivity and automation in today's construction and heavy equipment machinery.

Moog offers decades of trusted construction industry experience allowing us to look to the future for zero emissions, sustainability and improved accuracy and safety in autonomous driving assistance.





Shaping the way our world moves™

THANK YOU

LETS MAKE THE IMPOSSIBLE POSSIBLE  
TOGETHER

**John Doe**

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click to connect







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