



**COOPER STANDARD
AUTOMOTIVE FLUID HANDLING**

OUR INNOVATION. YOUR ADVANTAGE.

CREATING SUSTAINABLE SOLUTIONS TOGETHER

About Cooper Standard

For over 60 years, we have been the global manufacturing leader who designs, develops and delivers world-class sealing and fluid handling systems to diverse markets. As an industry-leading supplier in mobility, you can count on us to be the reliable partner providing you with award-winning lightweight solutions. Every day, we live by our mission to *Be the First Choice of Stakeholders We Serve*.

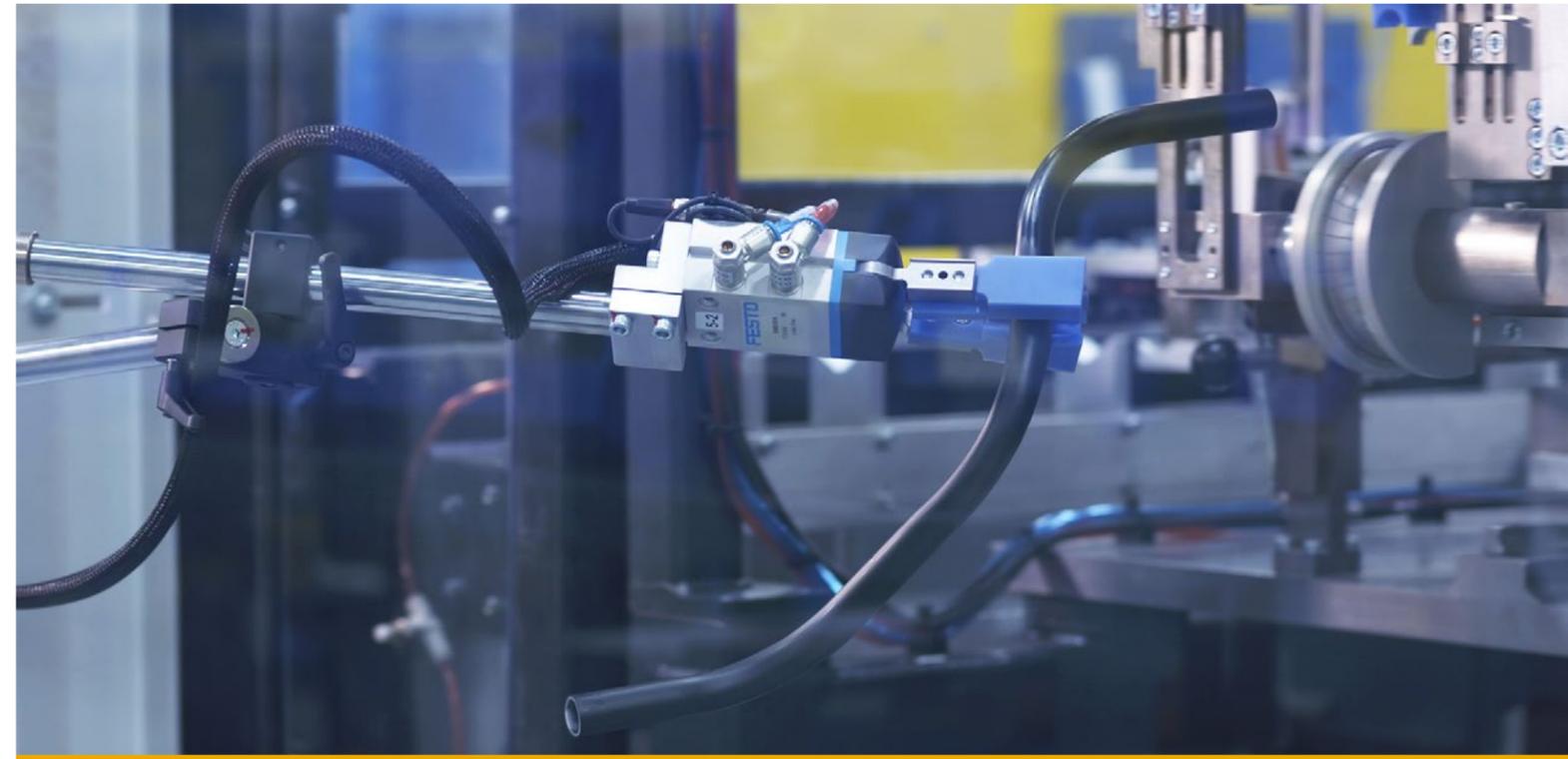
Cooper Standard is leading the way in lightweight fluid handling solutions with superior product performance that help optimize vehicle efficiencies. Advanced materials science and engineering paired with our best talent creates a relentless force helping customers achieve their goals. We have 23,000 diverse employees across 21 countries at the heart of our success globally. If you work with us, we promise to be your reliable partner to provide complete full-system solutions, customized for your unique needs.

Sustainability in Everything We Do

The Company's purpose statement, *Creating Sustainable Solutions Together* reflects the Company's desire to have a positive impact and added value in the industries and communities we support. Our annual [Corporate Responsibility Report](#) offers insight about long-term goals on key topics considered important by the Company's stakeholders. Throughout this report, we share how Cooper Standard is preparing to meet the challenges of the future, while staying true to our values by addressing environmental, social and governance topics that are most relevant to the success of our Company.

Aligning with our Sustainability Goals

We are dedicated to being good corporate citizens for our people and the communities where we work and live. Our sustainability goals are aligned with our strategic objectives and priorities. Our commitment to addressing ESG issues makes our team, partnerships and business stronger. Effective ESG processes and practices are critical to attracting the best talent, maintaining a robust supply base and developing innovative, cost-effective solutions that meet our customers' evolving needs.



BUILDING A CULTURE OF INNOVATION



A 60+ Year History of Technology Innovation

Cooper Standard fosters a [culture of innovation](#) and manufacturing excellence which differentiates us from our competitors. We exceed our customers' expectations by leveraging our knowledge of advanced materials science, polymer processing technology, digital simulation, testing and artificial intelligence.

With more than 60 years of design and manufacturing expertise, our team offers many advanced solutions to connect, convey, communicate and control vehicle fluids. We partner closely with our customers to provide advance design and analytics to both develop fluid handling components and optimize fluid handling systems to improve vehicle efficiencies.

Our Global Technology Center located in Livonia, Michigan is supported by a network of technical centers around the world. Utilizing our global i³ innovation process, our employees imagine, initiate and innovate the next "big thing". In addition, we continue to expand our relationship with other leading companies through partnerships and consortiums while also partnering with several universities around the world to accelerate key developments.

We are always striving to be better, so that we can *Be the First Choice of the Stakeholders We Serve*. It's not just what we do, it is part of our DNA.



MOVING BEYOND TRADITIONAL SOLUTIONS FOR AN ELECTRIFIED FUTURE

The mobility industry is shifting from internal combustion engines to electrified vehicles at an astounding rate. This shift is impacting not only the architecture of vehicles, but also the timelines associated with developing them. Cooper Standard is adapting to new changes to meet the needs of today and tomorrow. Our experts stay ahead of these trends by partnering with our customers to provide differentiating innovations that optimized solutions and enhanced vehicle range while also helping reduce the time to market.

Our 4C Product Strategy

Cooper Standard has broadened our fluid handling portfolio to offer expanded engineered systems for an electrified future. We provide solutions across all vehicle architectures from traditional internal combustion engines (ICE) to hybrid electric vehicles (HEV) and battery electric vehicles (BEV).

Our 4C fluid handling strategy is comprised of products that Connect, Convey, Control, and Communicate. We leverage our innovation expertise and vertically integrated manufacturing processes with strong standardization to support customers throughout the world.

Mass Reduction

To improve vehicle efficiency and performance, we are developing revolutionary thermoplastic solutions that offer significant mass reduction. These lightweight solutions are integral to improving sustainability of manufacturing by reducing waste, use of materials and emissions.

Lightweight products created with less materials and resources help lower our overall carbon footprint and those of our customers. Lighter products contribute to lighter freight, lower weight vehicles and extended vehicle range, while also supporting our Company's global sustainability objectives.

Green and Sustainable Solutions

We recognize the global trend towards sustainable solutions and are working on solutions to introduce materials that are either from recycled and/or bio-based sources.

We constantly strive to reduce our overall carbon footprint throughout the entire product lifecycle to reduce the impact of our products on the environment.



FLUID HANDLING SYSTEM SOLUTIONS

Fluid Transfer Systems

Our portfolio of [fluid transfer products](#) address the fluid handling needs for glycol coolants, transmission fluids, oils and air/vacuum systems. We offer a full spectrum of powertrain and temperature requirements including electrified vehicles. These next generation products also offer game-changing weight reduction, abrasion resistance, corrosion protection and finished assembly aesthetics.

Fuel and Brake Delivery

Our [fuel and brake delivery systems](#) efficiently support the transfer of critical fluids in various types of transportation, specialty and industrial markets. By integrating plastic molded components, we create more efficient assemblies for fuel and brake bundles and reduce installation labor through our quick connect and joint solutions.



ADDING VALUE THROUGH DESIGN AND VALIDATION

Design Targets Towards Next Generation Innovation

Our experienced team will work with you to identify next-generation design targets while considering what we see as global market trends.

Through this “voice-of-customer” activity, we will create a collective list, including stretch goals.

Our collaborative value proposition will be mutually beneficial for our OEM customers and end users.

Design Concepts for Geometry and Materials

Our engineering discipline is evident through our innovation development process. We use common tools such as DFMEA and advanced CAD, but we have also developed computer aided engineering

(CAE) tools for virtual validation. This entails FEA for structural integrity, CFD for flow characteristics and Moldflow for manufacturing reflection in plastic part design.

Design Validation

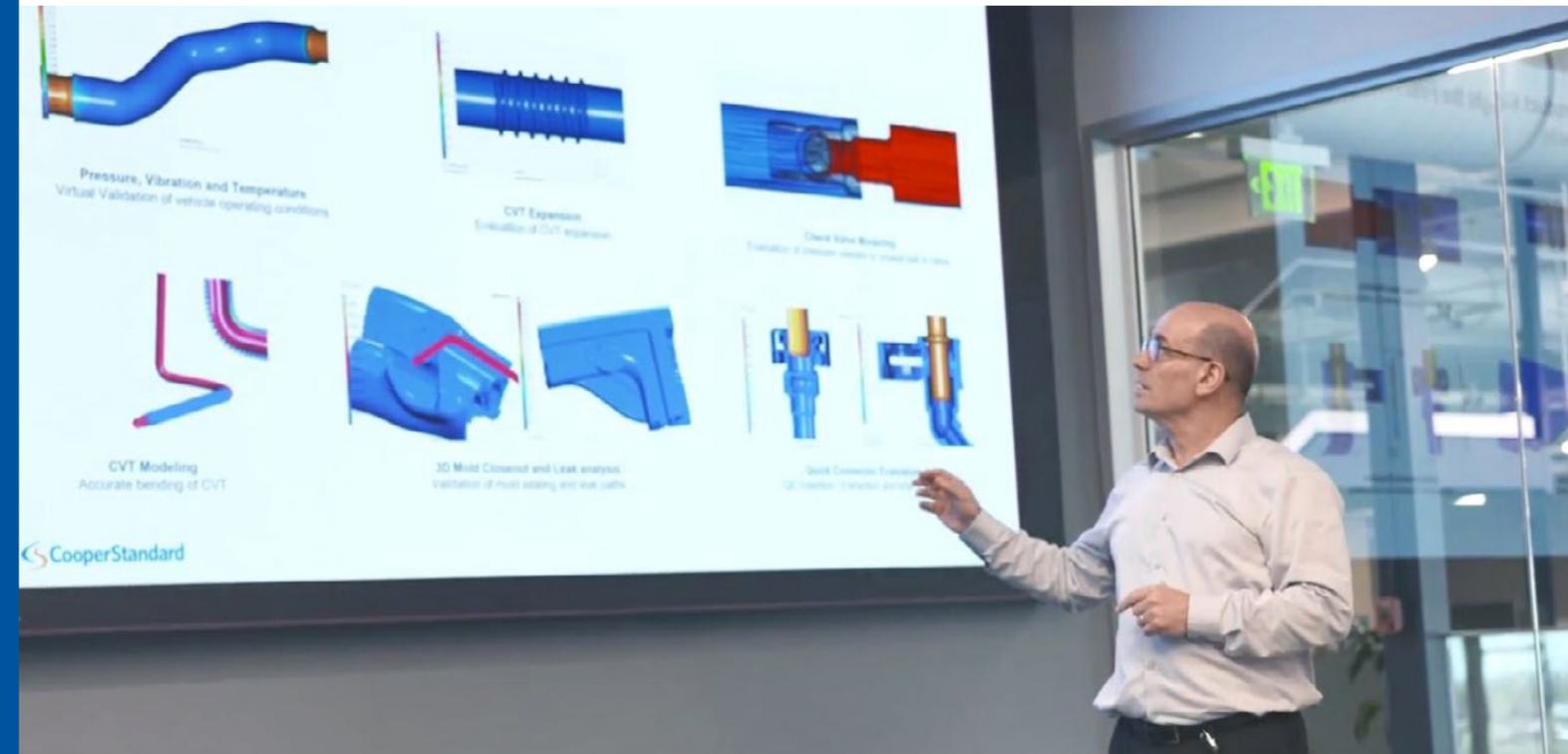
We employ our global CAE, rapid prototype and lab capabilities to prove our design concepts are ready for production, accelerating the development cycle.

Our advanced methods for rapid prototyping generate fast real-time feedback toward the screening of design concepts. This is followed by rigorous simulation and testing to optimize the design.

Process Validation

With design collaboration and validation complete, we will now work together towards serial production of our new product.

Leveraging our rich manufacturing history, we follow precise product launch processes (CLauS) and IATF ISO 16949 certified global quality systems to generate high quality, robust and high-value solutions.



STRATEGICALLY INTEGRATING DIGITAL TOOLS AND ADVANCED ANALYTICS

Cooper Standard's development team drives innovation using digital tools and advanced analytics for CAE and virtual validation to ensure we produce the best products to meet our customers' specific requirements. Our global laboratories conduct all necessary testing to validate our products. While physical testing still plays an important role in validating our safety-critical parts, we continue to develop and leverage digital tools to replace traditional testing, reducing cost and increasing speed to market.

Design by Analysis

Design by analysis plays an important part of the development process, increasingly moving from part-level analysis toward the simulation of complex systems. These tools have dramatically reduced our development cycle time and increase our customer responsiveness and overall design quality.

We have developed custom libraries of material characterizations, drawing and other information to better equip engineers and CAE experts and help increase standardization and reduce time spent on routine tasks.

Virtual Validation

Using digital tools, Cooper Standard can efficiently evaluate designs without the historical cost and timing associated with physical testing.

We have developed a strong foundation of virtual analysis for many of our key product lines and continue to expand these tools to accelerate their development.





CONNECT | CONVEY | COMMUNICATE | CONTROL

BUILDING ON OUR LEGACY WITH NEXT-GEN SOLUTIONS

A Diverse Connection Portfolio

Cooper Standard offers over 30 years of experience in designing and manufacturing robust connectors for fuel, vapor and coolant applications including offerings for both SAE and VDA compliant end-forms. Our diverse [portfolio of connectors](#) meets the needs of today's vehicle architectures with a strong focus of development of key solutions and components for electrified vehicles. Connect with Cooper Standard to realize improved ergonomics and safety.

Customer Benefits

- Exceeds performance specifications and preferences
- SAE and VDA compliant solutions
- Addresses customer specific requirements across multiple mediums and end-form specifications
- Low assembly efforts for improved ergonomics and connection assurance
- Easy disassembly and reassembly during service events



CONNECT | **CONVEY** | COMMUNICATE | CONTROL

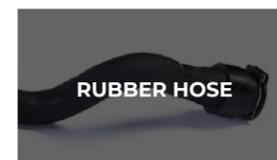
CONTINUING TO EXPAND OUR STRONG PORTFOLIO

Wide Range of Tube and Hose Solutions for All Vehicle Architectures

Cooper Standard has over 40 years of experience in the development and production of tube and hose solutions for the automotive market and beyond. Our portfolio is unmatched in the industry; metal tubing for fuel and brake applications, rubber hoses for glycol and oil, and thermoplastic tubing solutions for both fuel, fuel vapor and glycol BEV applications. Regardless of the vehicle, Cooper Standard has a robust, innovative solution to carry fluids within the vehicle.

Customer Benefits

- Solutions to meet all vehicle architecture needs (ICE/HEV/BEV)
- Optimized sizing and routings for maximum efficiency on vehicle
- Robust performance in application and vehicle environment
- Able to be combined with Cooper Standard's connection portfolio for complete system solutions





CONNECT | CONVEY | **COMMUNICATE** | CONTROL

LEVERAGING EXPERTISE FOR INTEGRATED SOLUTIONS

Electric vehicles present new challenges for fluid handling. While there is no heat from an internal combustion engine, there is a need for battery thermal conditioning, waste heat management and cabin comfort. Overall thermal management for EVs can be more complicated than ICE vehicles.

Communicate

The complex fluid architecture of electric vehicles is creating the need for increased integration to simplify systems and improve efficiencies.

Space requirements, complexity and cost can be reduced by integrating temperature sensing directly into existing connectors and engineered tubing and reducing the number of separable joints. These integrated temperature sensors monitor critical operating conditions to assure accurate control and system efficiency.

Control

We see a future where efficiency and vehicle range improvements are tied to integrated fluid control and management solutions. Fluid control manifolds and modules, containing electro-mechanical pumping and flow control components, are delivered in space-saving integrated assemblies. These devices are marketed under our eCoFlow™ Fluid Control Technology portfolio, providing optimized fluid flow and control within vehicle thermal management systems.

WORLD-CLASS OPERATIONS

Safety First

Total safety is our top priority and we are committed to our employees' safety, safe production and safe products. As a global manufacturing company, our core ability is to produce innovative products in a safe and highly efficient manner to serve our customers in all regions. We strive to have zero incidents, and many of our plants hit this milestone regularly and on a recurring basis.

Engineering Support

It is important to us to find ways to solve customer challenges and fulfill functional requirements. Our engineers work to stay ahead of the latest technology trends to deliver customers cutting-edge solutions. Our focus remains on building towards the future of electrification all while further enhancing our engineering processes to become faster and more efficient with higher accuracy.

World-class Quality in All We Do

Across the organization, we conduct regular evaluation of global KPIs to ensure we deliver quality products and services that meet or exceed customer expectations.

We adhere to global regulations, including: APQP, FMEA, PPAP, ISO 9001 w/Design, ISO 14001, ISO 9100, ISO 50001 and IATF 16949 (ISO and IATF certifications vary by location)

Manufacturing Excellence

Cooper Standard achieves world-class quality and engineering through standardization. Optimization of digital tools allows us to apply the same processes across global operations and convert systems based on project requirements. Each year many of our facilities received recognition as Diamond Plants, Cooper Standard's internal recognition for facilities hitting or outperforming our global manufacturing standards.

CONTACT OUR EXPERTS

We are committed to providing customers with high-quality solutions, and continuously building future vehicles. We will work with you to help take your project to the next level.



Scan to
learn more

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www.cooperstandard.com