

# Automotive Industry Solutions





**“To the machine,  
give the work.  
To the people, give the  
thrill of creation.”**

Kazuma Tateishi,  
Omron Founder

# Building excellence in automotive manufacturing

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# Smart Manufacturing

## Intelligent, connected and flexible technology

Today's automotive manufacturing environment is complex. Global competition, varying demand, short delivery times, high product variety, increasing design complexity, electrification, skill shortages, regulatory and compliance requirements, have resulted in a challenging cost competitive environment for all manufacturers and their suppliers.

Trusted for over 80 years, Omron is a world leader in automation and safety solutions. We offer a unique mix of general purpose and application specific solutions. We are known for unmatched quality, innovation, reliability, and long-term stability coupled with a global footprint not found at our competitors.

From vehicle component to vehicle assembly, Omron's portfolio includes Input, Output, Logic, Vision, Safety, Motion, and Robotic solutions to meet the most demanding automotive manufacturing environment. Our extensive experience in battery, semiconductor, electrified powertrain, advanced manufacturing, and connected vehicle technology assembly allow us to provide innovative solutions that are scalable for manufacturing of the future vehicle. Combined with our world class customer support, we provide the best possible value while dramatically reducing your cost of ownership.

*Let us show you how we can enhance your manufacturing process.*



# Flexible automation

## Scalable architectures for the Smart Factory

### Enabling the Internet of Everything

At Omron, we are focused on going beyond the factory floor. The future of smart manufacturing is tied closely to the Internet of Everything (IoE) evolution. IoE integrates people-to-people, machine-to-people, and machine-to-machine throughout the product lifecycle creating a seamless environment.

Omron's Sysmac platform delivers built-in support for industry standards while keeping abreast of the latest processes, smart sensing technologies, functional safety tools, and communication protocols. Our solutions are designed to be flexible, with inputs and outputs that greatly simplify stand-alone or complex, networked implementations. By assembling these building blocks, we enable automotive manufacturers and their suppliers to construct scalable intelligent, safe, connected flexible machines, production lines, and factories.

**SYSMAC**

## Connected flexibility in a single platform

### Centralized control, decentralized execution

Our smart technologies help organizations operate with greater safety and efficiency in an increasingly complex product environment. At Omron, we believe the key to creating greater competitive advantage within the smart factory lies in combining people and industrial processes.

Omron's Sysmac Automation Platform: One Controller, One Software, One Connection provides a complete solution for integrated Input, Logic, Output, Vision, Safety, Motion, and Robotic solutions allowing for accurate real-time information from the machine-device layer to the enterprise layer for unparalleled operational and transactional responsiveness.

# Pioneering innovation

## Yesterday, today and for the future

### Our Mission: To improve lives and contribute to a better society

Today's manufacturing environments require solutions capable of exploiting current and future opportunities to create value. Anticipating this need, Omron's founder Kazuma Tateishi developed the SINIC (Seed-Innovation to Need-Impetus Cyclic Evolution) future prediction theory in 1970, a compass that continues to guide Omron today.

The SINIC theory defines how society, science and technology mutually impact and influence each other. Science enables new technology that helps society; while society's needs encourage both technological developments and scientific discovery. It's a dialogue that continues to this

day, underpinning relationships between us and our customers, between engineers and end-users, and between machine-makers and consumers. It fuels our imagination, and enables customer creativity.

Omron continues to successfully anticipate and respond to societal needs, drawing on our proprietary sensing and control technology to produce products and services that contribute to society and create value. Every Omron solution reflects the innovative thinking and technological breakthroughs that have made our systems the benchmark for maximizing returns in modern production processes.

Primitive Society  
COLLABO  
COMPU



# Data is everything

## Real-time scalable logic building blocks

Factory management systems such as Enterprise Resource Planning (ERP) and Manufacturing Execution Systems (MES) depend on transactional and operational data collected from the production floor. Issues with data collection can start ripple effects that have significant negative impacts to your business.

Omron's automatic and seamless data exchange through our machine automation, safety, and proactive maintenance solutions facilitate better business decisions in real-time. Untimeliness, inaccuracies, and biases are removed. Unplanned maintenance is virtually eliminated. Fast and precise response means safer and more operations per cycle. Greater efficiency contributes to higher production and lower operating costs.



# Autonomous intelligent motion

## Motion control and robotic solutions

### Open platforms for safe, precise and reliable performance

Motion control is the key to building flexible manufacturing environments. Robotics is the key to building autonomous manufacturing environments. Combining them under one platform creates the ultimate intelligent solution.

Omron's motion control and robotic solutions enhance performance wherever they are deployed. We strive to offer new innovative solutions to customers all around the globe while decades of experience inform our advanced designs. We engineer scalable solutions capable of integration into your existing architecture. Whether additive, advanced or traditional manufacturing process, we have flexible manufacturing solutions to fit your needs.



## Enabling the flexible factory floor

### Minimizing cost while maximizing performance

At Omron, we believe that flexible manufacturing demands mobile intelligence. Autonomous intelligence is a revolutionary singularity set to dramatically change the manufacturing floor. While logic controls manufacturing processes, it is motion and robotics that bring manufacturing processes to life.

Omron's portfolio includes affordable solutions that increase uptime and throughput while using less space and energy. Whether a collaborative robotic application, an autonomous intelligence vehicle (AIV), or precision motion advanced manufacturing application, our solutions synchronize movement, facilitate part movement, and enable assembly of very intricate designs with speed and precision.

Compliance specialists  
Unparalleled global expertise



# Quality control

## Intelligent sensing

### Product detection, traceability, and identification

The increasing need to meet stricter environmental and safety regulations as well as consumer demand for quality is driving rapid change within the automotive industry. This has challenged automakers and their suppliers to deliver more complex products at higher levels of precision than ever before. Reliable solutions that provide maximal inspection coverage with measured feedback to the production process are demanded.

Omron is your trusted advisor for turnkey vision, automated optical inspection, sensing, and measurement solutions to meet your production goals. Our global reach and local standards expertise coupled with our over

40 years' experience in printed circuit board and digital manufacturing, allow us to offer unparalleled innovative quality control solutions for the rapidly changing vehicle architecture.

Our solutions are able to recognize, track, and measure with incredible speed and accuracy. When integrated with our real-time machine control and database capability, advanced robotics, and motion control; these solutions provide affordable alternatives to time consuming manual-based inspections and error-proofing processes that often miss subtle defects and product variations.

# Proactive safety

## Unparalleled solutions for all environments

### World class reliability without inhibiting production

Today's manufacturing environments require comprehensive measures to safeguard workers, ensure compliance, and maximize efficiency. Omron's smart safety solutions are equally effective in a wide variety of small, medium, or large applications. We have long been committed to products that provide the utmost in operator safety; improving and enhancing well being in both the workplace and everyday life.

We enable you to protect workers even as production lines become faster, more automated, and collaborative. Our safety solutions meet or exceed local and international safety standards as well as industry demands.



## Ensuring functional safety

### Proactively maximizing safety, compliance and uptime

Safety supports uptime by allowing manufacturers to focus on maximizing production. Production processes increasingly demand functional safety as a requirement. Omron's suite of safety solutions enable both operational data and actionable safety intelligence to be displayed remotely on a visual, cloud-based dashboard, giving plant personnel information they can use to anticipate unsafe conditions, participate in proactive diagnostics, predictive maintenance, optimize operation throughput, as well as respond to or prevent dangerous scenarios.

Concerned about risk? Our skilled integration team includes functional safety experts, many of them are TÜV Certified and ready to answer your questions. Our safety solutions specialists are able to complete safety risk assessments upon request.

# Supporting lean operations

## Flexible order management



# Assembly guidance systems

## Intelligent error proofing

### Reliable zero-error solutions

Kit-assembly, modularization, complexity, and customization in automotive vehicle design are driving the need for flexible manufacturing lines. The variety of parts that must be assembled in advance of delivery to the final assembly is rapidly increasing.

Omron's intelligent operator guidance systems ensure error-free production. Our solutions are designed to be simple to integrate or retro-fit into an existing

part selection system as either a standalone unit or fully integrated with your existing systems. Benefits include leaner, cost-effective processes with fewer errors, faster supply, shorter throughput or takt time, and greater production transparency. When paired with our inspection, machine automation control and real-time database connectivity solutions, proactive real-time assembly tracking and compliance traceability is possible.



# Future of emerging technologies

## Solutions for mobility

### Experienced manufacturing technology advisor

Increasing vehicle electrification and connectivity presents automotive manufacturers with formidable challenges. Performance and success rides on best-in-class manufacturing.

Omron's unique history sets us apart. Our knowledge gained by developing world class digital and infrastructure solutions provides the solid foundation for challenging ourselves to continually deliver future innovations.

Omron has unparalleled experience in providing automation components, equipment and systems for a wide variety of semiconductor, electronics, thin film, photovoltaic, energy storage, and infrastructure applications. Our breadth of experience enables us to offer a wide variety of solutions as well as be your trusted advisor and partner in manufacturing the next generation vehicle architecture.

# Advisor for success on the road ahead

## Technologies for today and the future

### Automation solutions to maximize opportunities

Automotive manufacturing in the future will look very different from today, and will be virtually unrecognizable from the past. Adaptability will be critical to success for all aspects of manufacturing, from research and development to innovation, production processes, interdependencies, and lifetime product maintenance and repair. Products and processes will require a strong focus on compliance, safety, sustainability and cognitive intelligence.

Omron continues to pioneer and push boundaries with our collaborative, adaptable, and flexible solutions. We pride ourselves in being an automation technology partner for today and for the future. Our continued focus on Input, Output, Logic, Vision, Safety, Motion, and Robotic solutions enables us to be your trusted global advisor for the road ahead no matter the future form of mobility.





# Omron – Your global partner

Omron helps automotive manufacturers and their suppliers optimize production on a global scale. It is a journey we began more than 50 years ago while introducing the industry's most advanced tools for process automation.

Want to learn more about Omron discover how we:

- Eliminate production bottlenecks to improve productivity.
- Provide data and connected solutions that respond to the challenges of the new economy.
- Support error free manufacturing of complex components.

Contact us at: [800.556.6766](tel:800.556.6766) or visit [omron247.com](http://omron247.com)

OMRON Automation Technical Centers  
and offices across the World

- Automation Technology Center
- Application Engineering
- Channel Partner

# Providing trusted support where you need it



## Design

We understand the complexity in automotive manufacturing. Our world class specialists will help you to select the right automation architecture and products to meet your requirements.



## Committed to improving society

For us, corporate social responsibility extends beyond economic, environmental and social needs. It is intrinsic in our culture and who we are. We believe it is our duty to benefit society, and always demonstrate fairness and integrity while devoting our energies to make the world a better place.



## Development

We understand the demands of 24/7 global automotive manufacturing. Our customer service and support professionals ensure accurate order and delivery coordination across the globe, offering you peace of mind.



## Local presence, global network

Our global service and support network allows for support on-site anywhere across the globe. Our products are designed for a global market and to meet global standards for safety, connectivity, and durability.



## Proof of concept

Supported through our network of global Automation Centers, we assign dedicated application specialists to assist with proof of concept designs to ensure success. Visitors to our Automation Centers are able to see and interact with new technologies first hand prior to purchase and integration.



## Worldwide production support

We offer a comprehensive set of post-sales support services including commissioning, start-up, field maintenance, troubleshooting, technical support coupled with free warranty repair, replacement parts, training, product optimization, and automation optimization services.

## How can we improve your business?

 1-800-556-6766

 [Omron247.com](http://Omron247.com)



## Join our online conversation

Follow Omron on Twitter or Facebook, join us on LinkedIn, and watch the Omron channel on YouTube. And don't miss the Omron blog site on which we share behind the scenes stories about the automation business.

Developing innovative solutions 365 days a year.  
Contact Omron: together, we can create tomorrow.

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