



# Catálogo

VT-S1080 / Inspection System



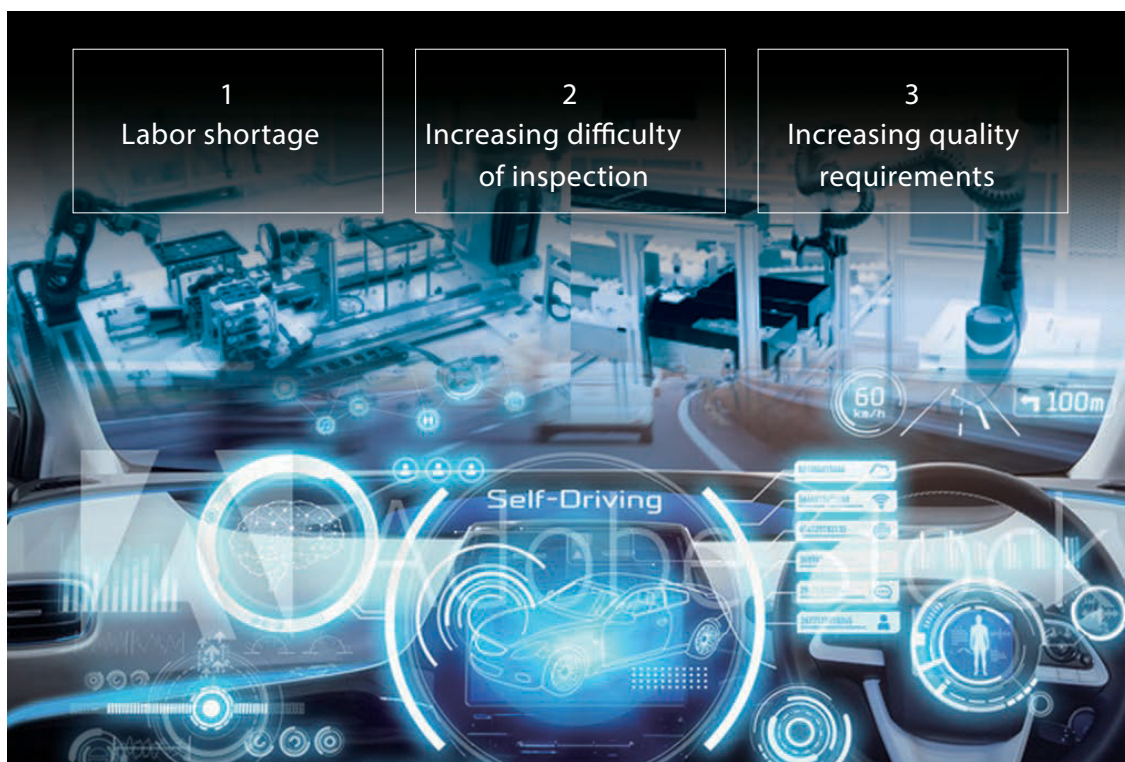
# Working with customers to help create better manufacturing sites

In pursuit of inspection system performance for over 30 years, Omron's Inspection Systems Division has continued contributing to quality, the core element of manufacturing.

Various social issues and trends in business call for transformations in the conditions at the manufacturing site. In addition to performance and quality improvements at the manufacturing site, Omron is working on efficiency related aspects such as man-hour and skill level reductions.

Furthermore, without being limited to inspection solutions, Omron also aims to bring more transparency to the manufacturing process by developing systems to build defect-free products.

## Issues at manufacturing sites



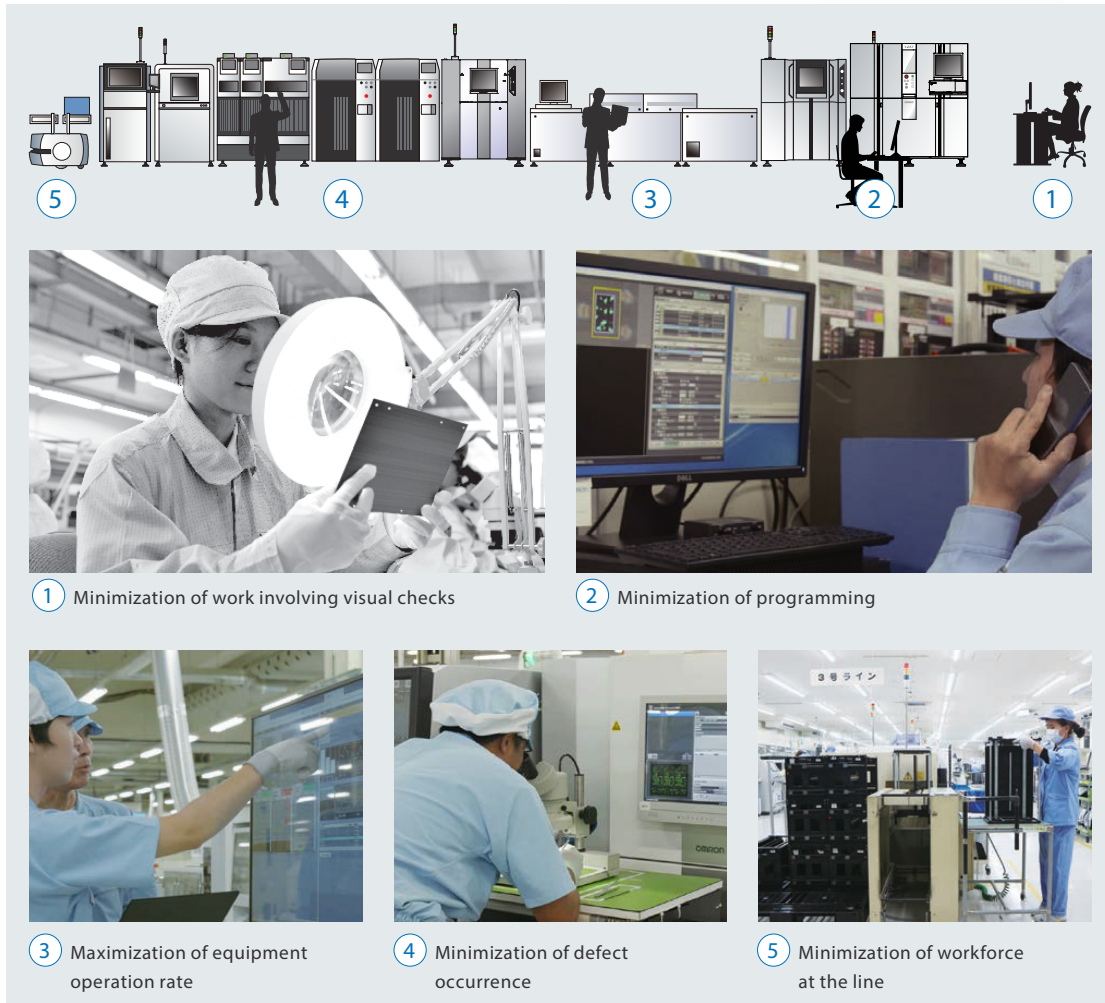
## Omron's proposed solution: unmanned inspection system

Omron's ultimate solution of an unmanned inspection system aims to resolve the social issues and production floor challenges.



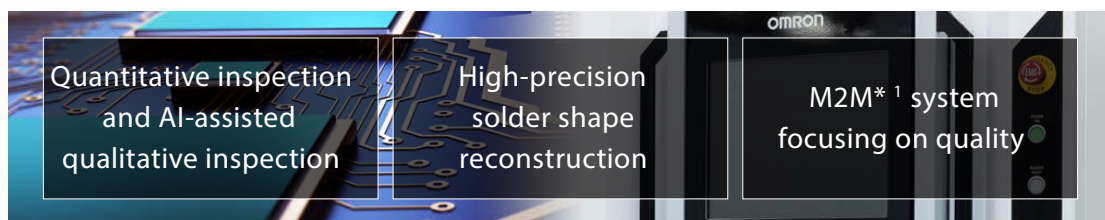
# What is an unmanned inspection system?

It is an initiative to automate the human tasks involved in production, inspection and quality control.



## New technologies that will prevail

Technological evolution of inspection equipment to achieve the unmanned inspection system



\*1: Abbreviation of machine-to-machine.

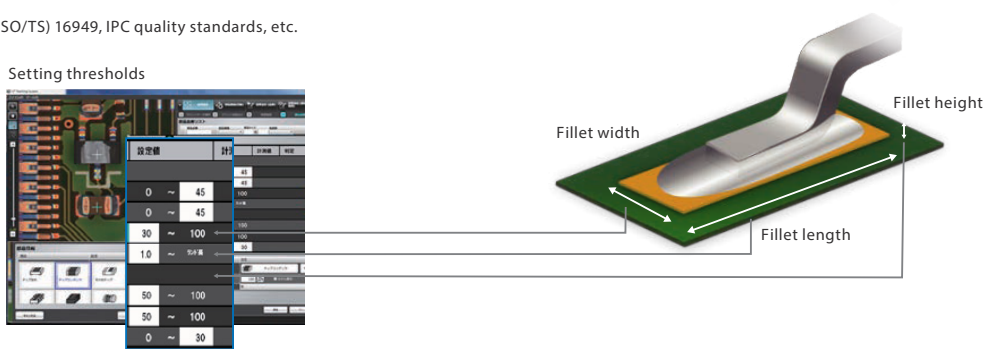
It is a mechanism to optimize the quality and equipment operation status without human intervention, made possible by enabling autonomous communication and exchange of information between various connected, production equipment.

# Minimization of programming efforts by quantitative inspection and AI-assisted qualitative inspection

## Quantitative inspection conforming to international standards\* 1

Since values conforming to the standards are directly applied as inspection criteria, there is no dependency on the skill and expertise of the programmer.

\*1: IATF (ISO/TS) 16949, IPC quality standards, etc.



## Using AI technology to minimize programming and visual inspection efforts

Omron is developing a variety of reliable AI tools to address customer concerns such as defects going undetected and/or managing large amounts of machine learning data when using AI for inspection.

By controlling everything from AI image acquisition to model creation and testing, Omron provides end-to-end support to address all concerns about the introduction of AI that caters to production floor needs.

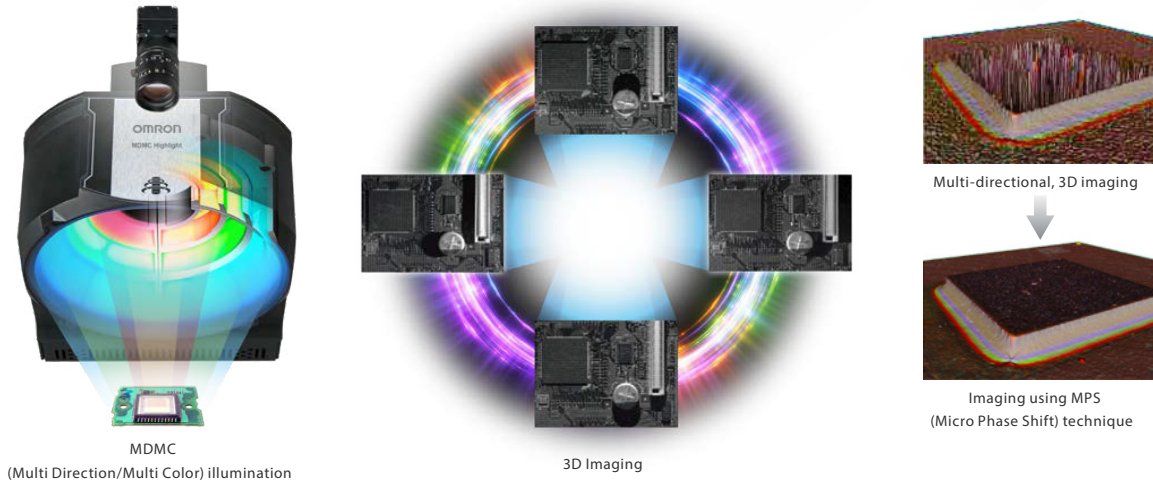


# High-precision solder shape reconstruction helps achieve zero defect products

Equipped with Omron's own MDMC (Multi Direction/Multi Color) illumination and new MPS (Micro Phase Shift) moiré technique, the system achieves highly robust\*2 and reliable inspection performance.

Patented

\*2: Strong against noise that effects the judgement of inspection results such as shadows, secondary reflections, abnormal defect shapes and other uncertain factors.



## Example of high-precision solder shape reconstruction

<p>Standard imaging</p> <p>New imaging technique</p> <p>Reduces the noise caused from secondary reflections</p>	<p>Reduces the effect of shadows from large parts</p>
<p>Allows stable inspection of fine parts</p>	<p>Visibility even at the connector solder joint</p>

Example images from test results of customer products

# Maximizing good-quality throughput by using M2M\* 1 system focusing on quality

**Preventing defects** \*Linking with manufacturing equipment such as chip mounters

Monitoring and reporting fluctuations in the measured values during production

Predictive detection of quality

Visualizing defect trends associated with chip mounter hardware such as heads and nozzles

Process quality trend analysis

Real time reporting of inspection information to the operator or linemanager

Reporting function

**Visualizing the quality** \*Linking SPI/AOI/AXI systems

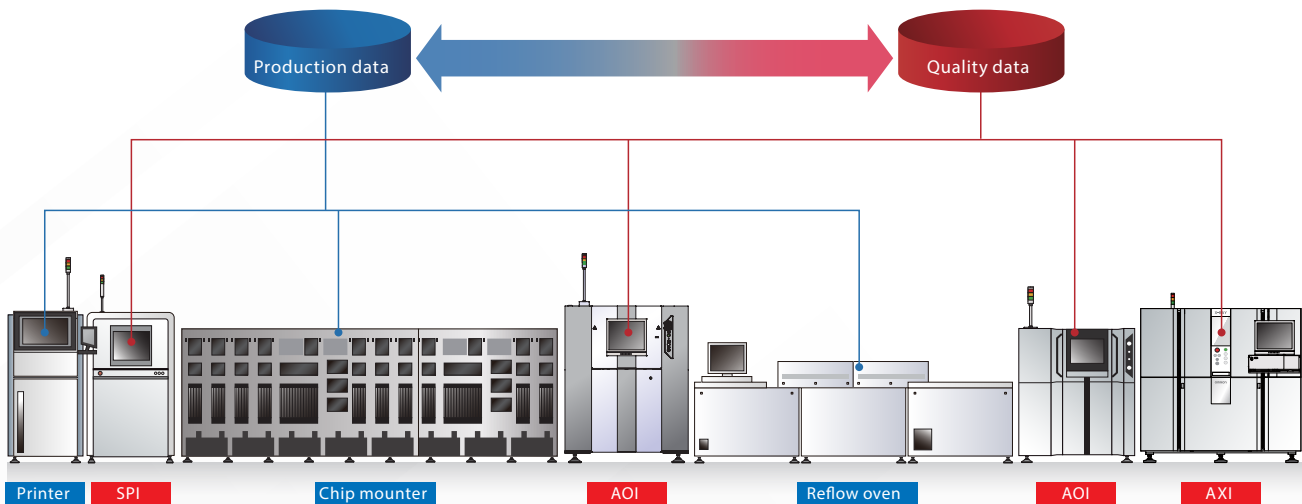
Process comparison

Displaying production status

**Improving the first pass yield rate of the line**

Automatically calculating post-print/post-placement inspection criteria based on the inspection results after the solder reflow process

Optimization of inspection criteria

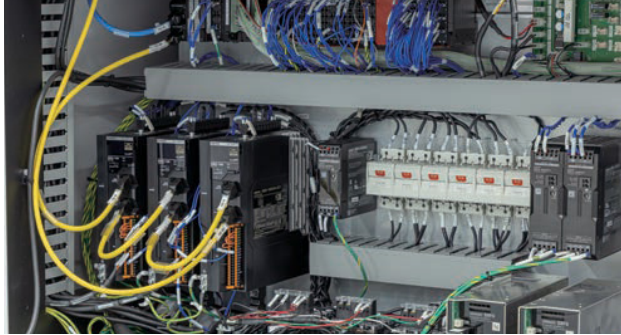


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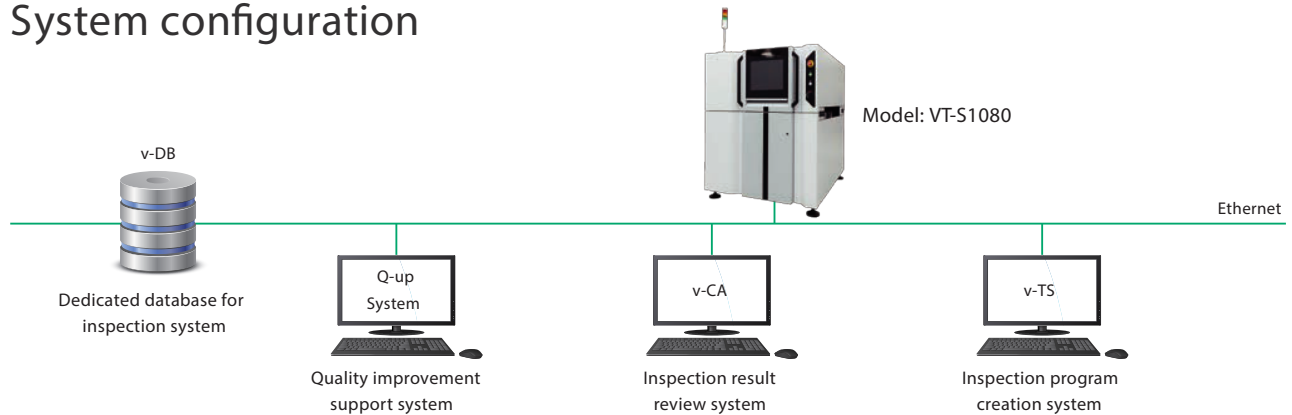
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# Continuous manufacturing made possible by equipment monitoring and predictive maintenance

Equipped with Omron control hardware technology, this system allows real-time collection of information from all the IoT connected devices inside the inspection equipment. It allows the equipment status to be visualized, enabling predictive maintenance and quality traceability.



## System configuration



## VT series product line-up

PCB inspection system (AOI)		High-speed CT automated X-Ray inspection system (AXI)		Dimensional inspection system (AVI)	
					
Model: VT-S530	Model: VT-S730/H	Model: VT-X750	Model: VT-X750	Model: VT-M12 series	Model: VT-M12 series