ABOUT AUTIS

AUTIS' industry-leading product portfolio includes:

SVS
SURFACE VERIFICATION SYSTEM

DEFECT DETECTION AND CLASSIFICATION

rSVS
SURFACE VERIFICATION SYSTEM

ROBOTIC DEFECT DETECTION AND CLASSIFICATION

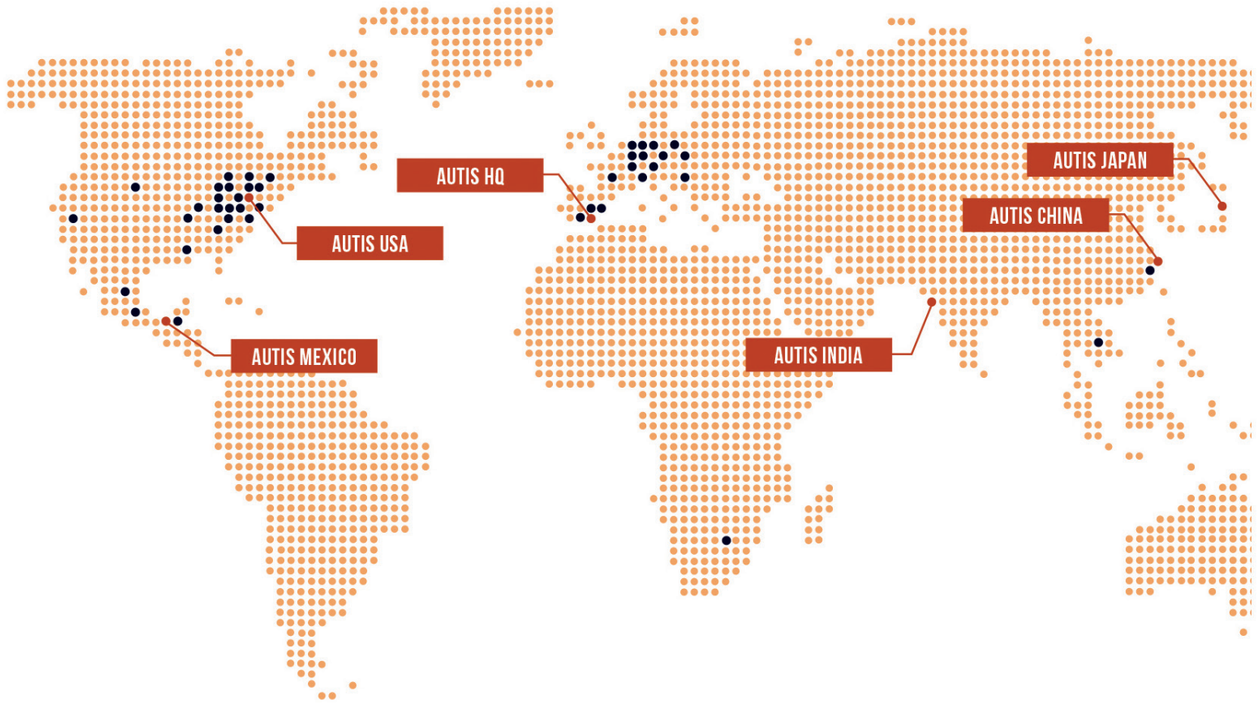
SRS
SURFACE REPAIR SYSTEM

AUTOMATIC REPAIR

QMS
QUALITY MEASUREMENT SYSTEM

COLOR, APPEARANCE & THICKNESS MEASUREMENT

AUTIS AUTOMATED SYSTEMS FOR INSPECTION OF PAINTED SURFACES WORLDWIDE



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rSVS
SURFACE VERIFICATION SYSTEM

ROBOTIC PAINT INSPECTION AND CLASSIFICATION SYSTEM FOR E-COAT, PRIMER, AND CLEAR COAT SURFACES WITH HIGH GEOMETRICAL COMPLEXITY

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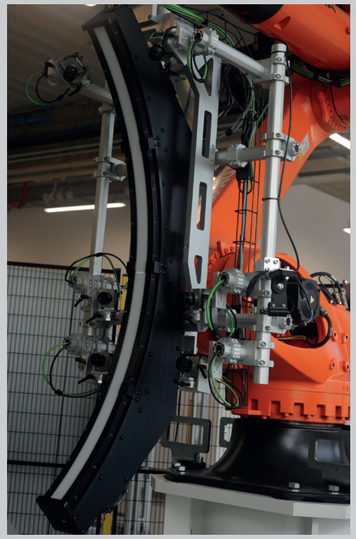
ROBOTIC PAINT INSPECTION AND CLASSIFICATION SYSTEM

The **robotic Surface Verification System** *(rSVS)* is a hi-tech project developed by **AUTIS** as an industrial **solution for the detection and classification of defects on e-coat, primer, and clear coat surfaces. rSVS** evolved directly from the **SVS technology** already deployed worldwide to focus on automotive parts with high geometrical complexity, e.g., bumpers, spoilers, liftgates, complex bodywork, etc.

rSVS technology combines the **precision and flexibility** provided by industrial robots with existing **first class SVS detection features** to carry out automatic inspection on complex geometrical parts within the required cycle time during the flow of production. **rSVS robots** are equipped with **high resolution cameras** that work under a variety of lighting conditions to detect and classify defects. The process takes place while the part is stationary, and the robot follows a customized inspection path for each part.

By applying bespoke algorithms, **rSVS processes** the acquired images and detects various defects on all types of surfaces, including sealer, scratches, dirt, water drops, pops, boils, paint drops, human hair, and others.



rSVS BENEFITS

rSVS helps companies in the automotive industry who want to **improve their paint quality processes** by **increasing the accuracy of detection and classification of defects on curved surfaces** by means of advanced computer vision and artificial intelligence technology.

33%
Higher potential throughput compared to competition.

50%
Improvement in quality after installation of SVS.

$0.7M
Annual savings as a result of reduced warranty claims due to paint defects.

98%
Guaranteed detection rate.

REDUCED
operator fatigue. Increased focus on defect repair.

rSVS FEATURES

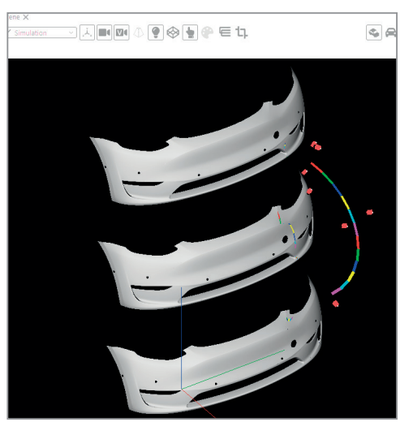
01 The use of a **robotic solution with vision inspection system** allows work on geometrically complex parts, such as bumpers, spoilers, liftgates, etc., that is not possible using only a tunnel application. It can also be easily integrated in the production line without requiring conveyor modifications.

02 **rSVS can inspect e-coat, primer, and clear coat surfaces**. The design of each **rSVS inspection station** takes into account the specific features of the surfaces to be inspected.

03 **rSVS** can inspect up to **98% of the body surface** and is equipped with high resolution cameras able to detect defects as small as 0.1 mm *(0.038 in)*.

04 **rSVS inspection stations** are flexible systems, ready for future changes and new model retrofits enabling the installation of additional equipment and robot reprogramming.

05 **rSVS technology** is assisted by **simulation software** developed by **AUTIS** and customized for each **automatic inspection application** where robot trajectories, vision element design, and expected results are available off-line and prior to the start of the project.



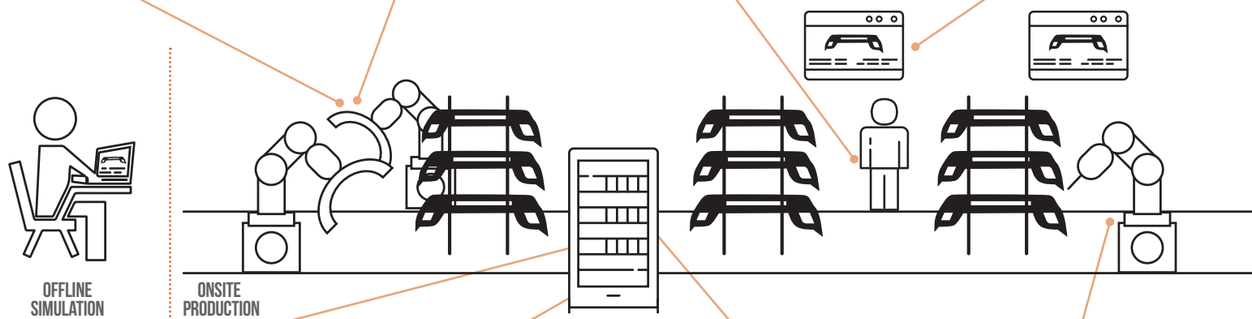
rSVS TECHNOLOGY

Several lighting techniques to properly perform detection and classification.

High resolution cameras around the arch, able to detect defects as small as 0.2 mm *(0.079 in)*.

Information displayed on wearable devices which allows operators to interact with the quality assurance system.

Customized screens which show the information from one or several areas in adaptable formats.



Computational system that integrates the latest generation processors and communication equipment.

Customized defect-specific reporting system allows client-driven advanced data mining.

Machine Learning and Deep Learning algorithms incorporated into the application to perform defect classification.

Ready to communicate with automatic repair system to transmit precise position and type of defect.

24/7 ONLINE SUPPORT AND MAINTENANCE SERVICE BY AUTIS SPECIALIST ENGINEERS

INTEGRATION IN PLANT QUALITY AND CONTROL SYSTEMS TO ALLOW CUSTOMERS TO VERIFY THE STATUS OF THE SVS SYSTEM