

ASIS GmbH

Automation Systems &
Intelligent Solutions





THE COMPANY

ASIS Automation Systems & Intelligent Solutions

ASIS



from left to right: Alexander Schmunk and Hans-Jürgen Multhammer

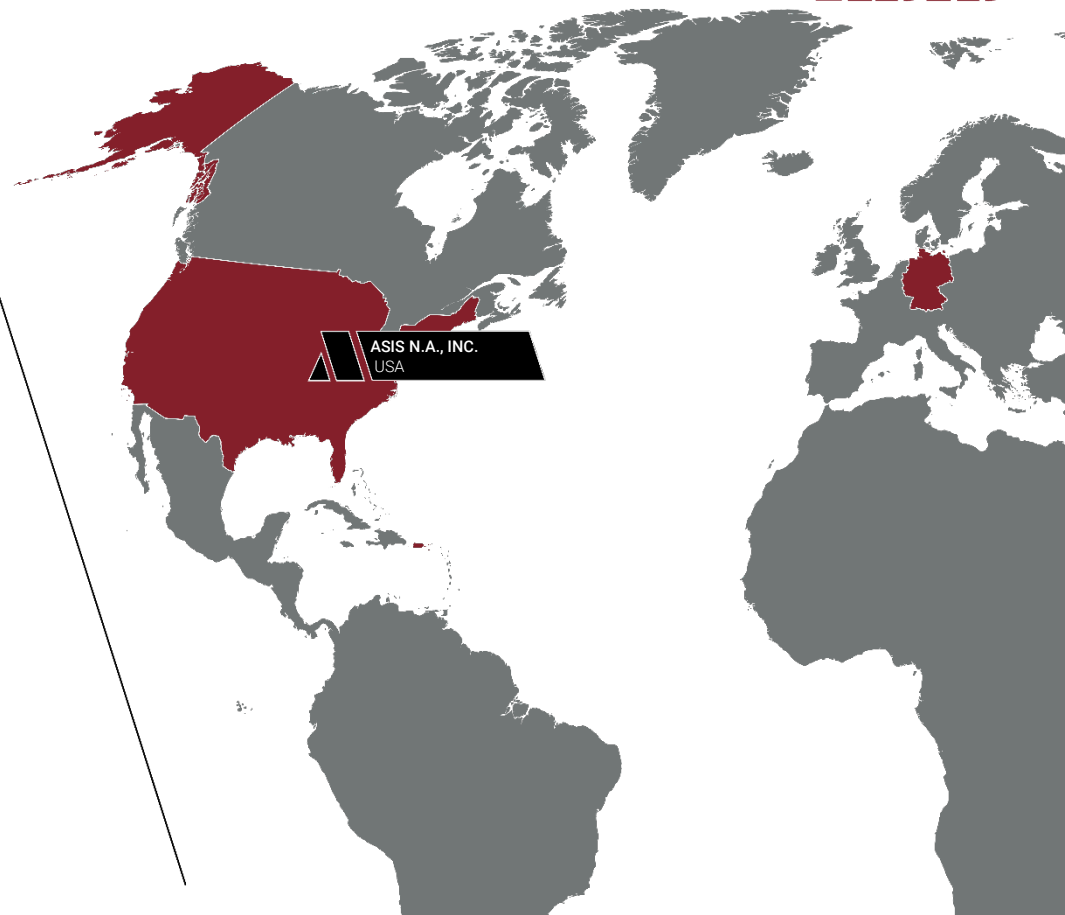
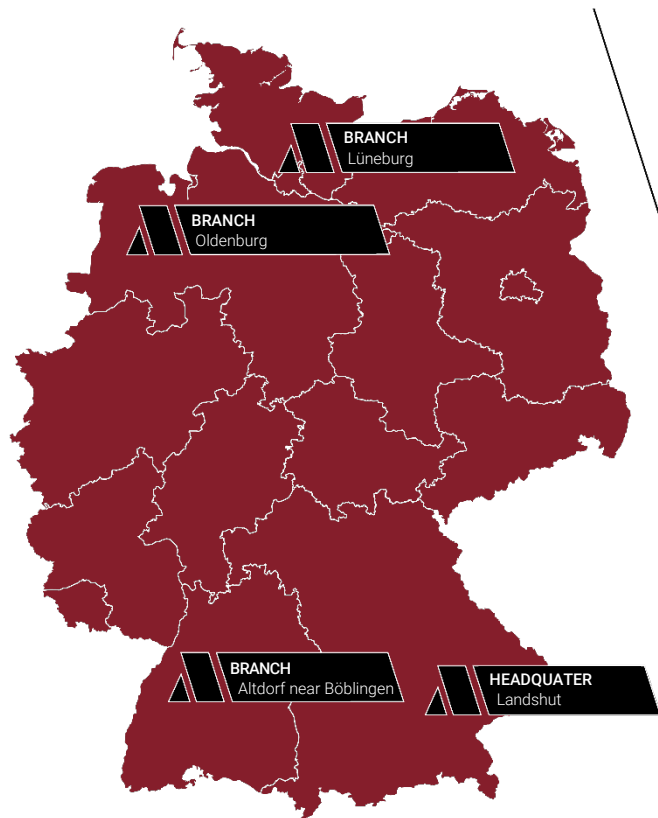
ASIS in numbers

- 200 employees at 5 branches
- Founded: on 01.05.1998 by Hans-Jürgen Multhammer
- CEO: Alexander Schmunk
- Quality management acc. to ISO 9001
- Environmental management acc. to ISO 14001
- Information security acc. to TISAX



OUR LOCATIONS

ASIS



PORTFOLIO

The automation experts in surface technology



Turnkey
Coating
Systems

- Wet painting systems
- Enamelling systems
- Powder coating systems



Application
Technology

- Flaming
- Paint supply
- Paint application
- Atomizer cleaning



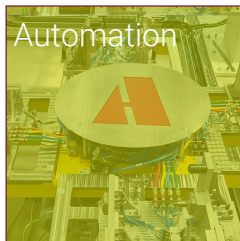
Quality
Assurance

- EOL
End of Line
- Measuring tables



Surface
Treatment

- Automatic finish
- Sanding systems



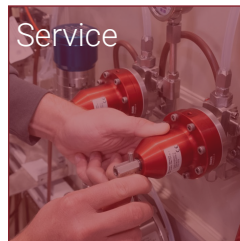
Automation

- Factory automation
- Robotics
- Control technology



Analysis &
Planning

- Plant concepts
- Virtual factory
- Software
- 3D-scanning



Service

- Operation
- Recurring tests
- Training

AUTOMATIC FINISH

Reliable and repeatable:
perfect surface quality in
process and finish



CURRENT SITUATION

Manual process is prone to error



After painting, visible defects appear in the paint.

They are removed in a **manual process.**



- Quality fluctuates
- Not repeatable
- Difficult working conditions

Automation of the Process

The processing quality depends on the daily form of the employee.

AUTOMATIC FINISH

High quality and consistent results

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Automatic finish cell with polishing & sanding

Fully automatic reworking process system



- High precision
- Repeatability of results
- Treatment matched to the severity of the defect

Perfect Quality in Process and Finish

PROCESS

Automatic Finish

ASIS

Surface Inspection



Autom. Sanding System



Autom. Polishing System

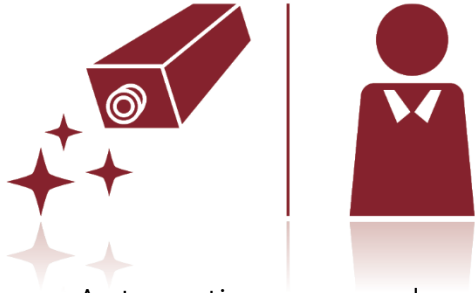


Scheme Automatic Finish

PROCESS

Automatic Finish

Surface Inspection



- Automatic or manual defect detection

Autom. Sanding System



- Application of sanding medium
- Sanding
- Autom. sanding disc change

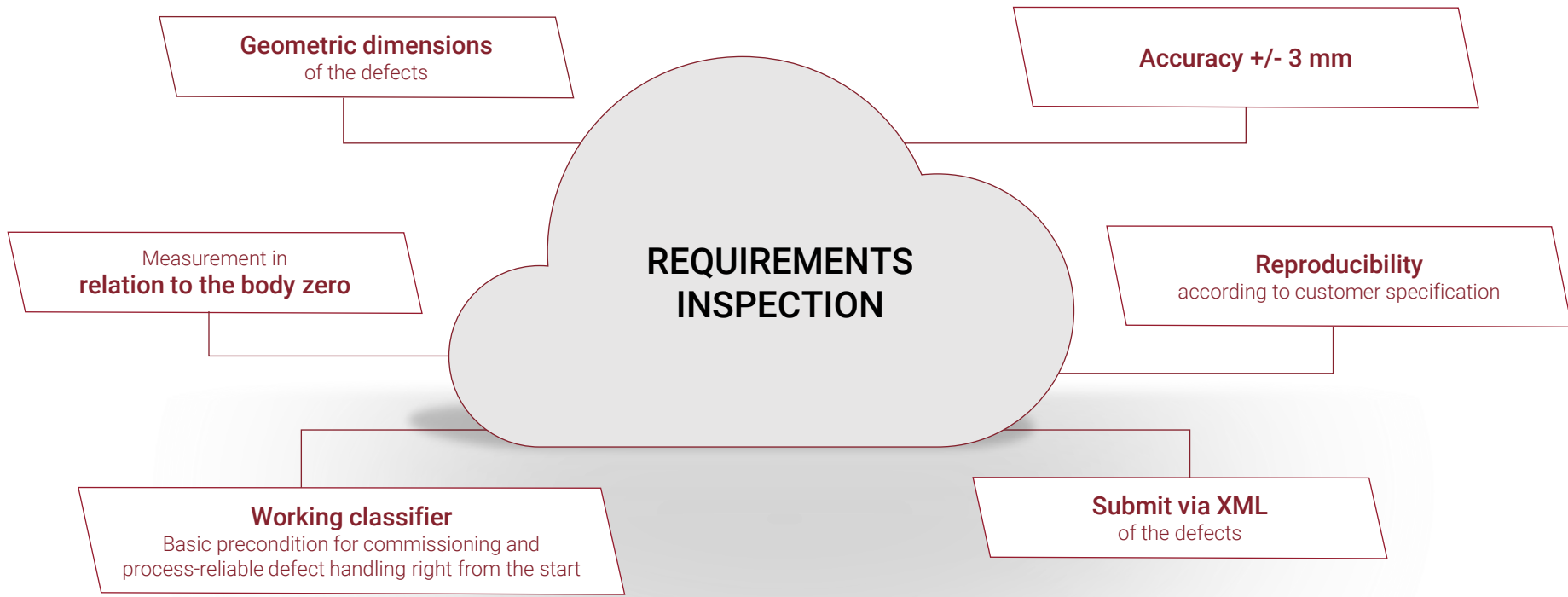
Autom. Polishing System



- Application of polishing paste
- Polishing
- Autom. polishing pad change

REQUIREMENTS

th the surface inspection





AUTOM. SURFACE INSPECTION

Example systems

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SMARTInspect (Inovision)



REFLECT CONTROL (MicroEpsilon)

Bild: Inovision

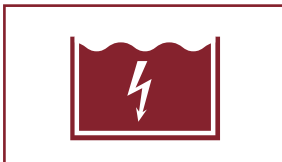
INTEGRATION E-COAT & PRIMER

Possible timing of automatic sanding in the painting process

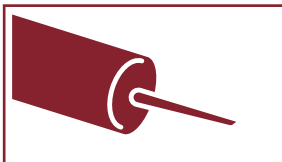
PRETREATMENT



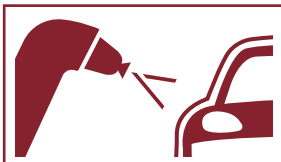
E-COAT



SEALING



PRIMER



TOP COAT



MAN. QUALITY CONTROL



POSSIBLE APPLICATION TIMES



INSPECTION



AUTOMATIC FINISH

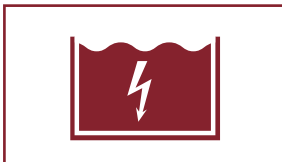
INTEGRATION CLEARCOAT

Possible timing of the automatic finish in the painting process

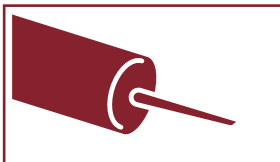
PRETREATMENT



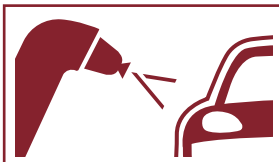
E-COAT



SEALING



PRIMER



TOP COAT



MAN. QUALTY CONTROL



APPLICATION TIME



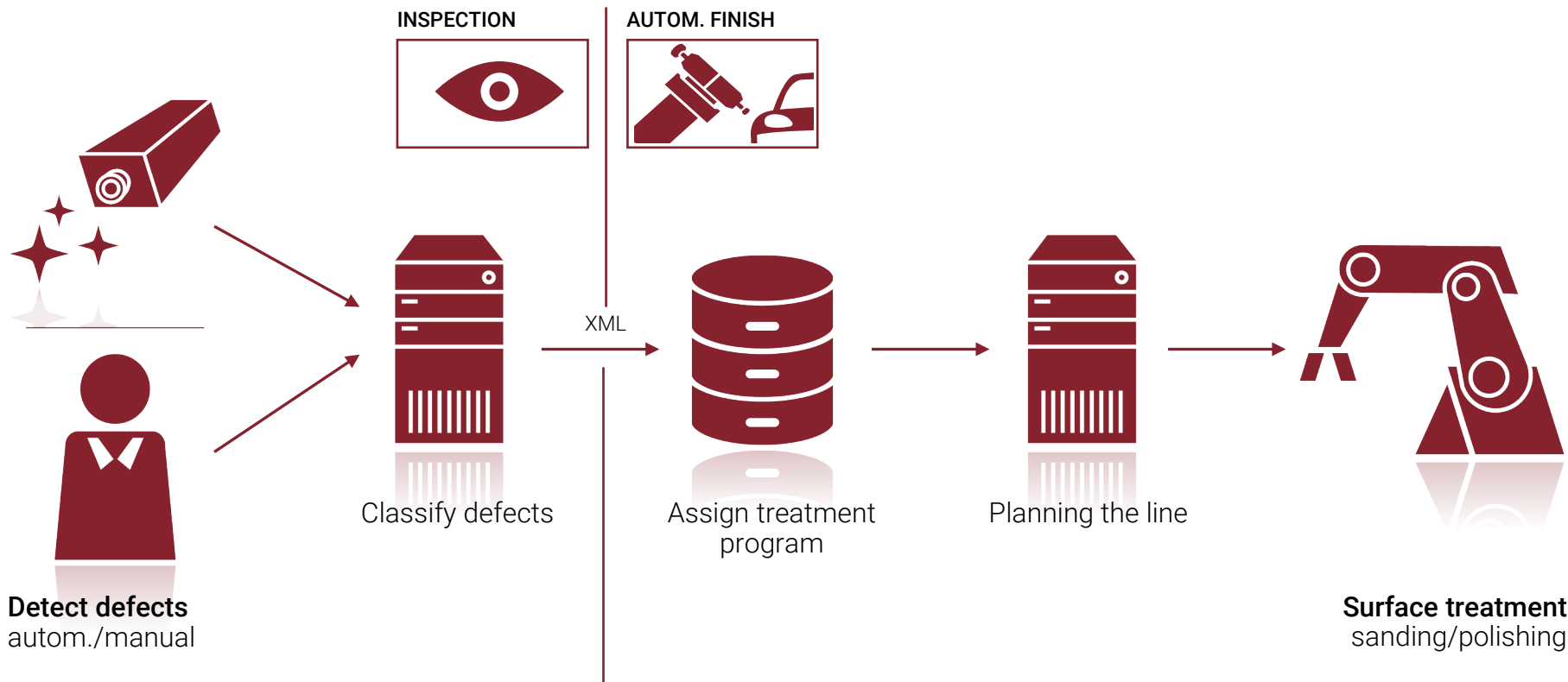
INSPECTION



AUTOMATIC FINISH

SCHEME AUTOMATIC FINISH

Detect and classify defects reliably



Scheme defect detection and classification



ADVANTAGES MANUAL INSPECTION

Fast integration of the automatic finish

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Fine localisation with tracking tool

Good defect detection is always necessary for the automatic finish.

Operation is only possible with **highly precise data**



- Low-cost system, high precision
- Parallel commissioning of the automatic inspection and the automatic finish
- Statistical analysis right from the start
- The quality of the previous system can be evaluated

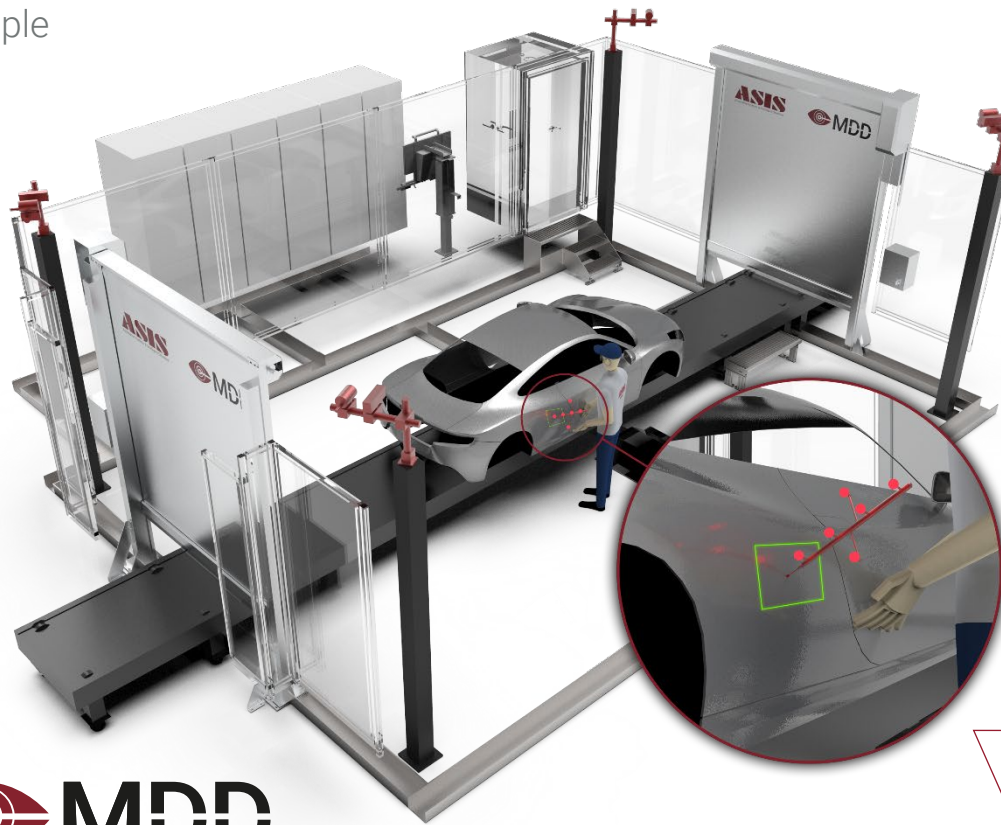


MDD Manual Defect Detection

MDD Manual Defect Detection

Principle

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- **Pre-marking** of the defects with AR-laser system (EXTEND3D Werklicht)
- **Fine localisation** with the tracking tool and classification of the worker
- **Detection** of the room coordinates with at least 4 IR cams
- **Transfer** of the room coordinates to the automatic finish cell

Accuracy at +/- 2,9 mm



EXISTING SYSTEM
with unprecise data



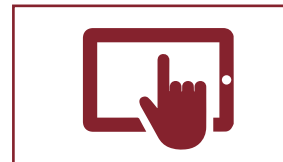
PRE-MARKING
with EXTEND3D Werklicht



FINE LOCALISATION
with tracking tool



MAN. CLASSIFICATION
with tablet/input device



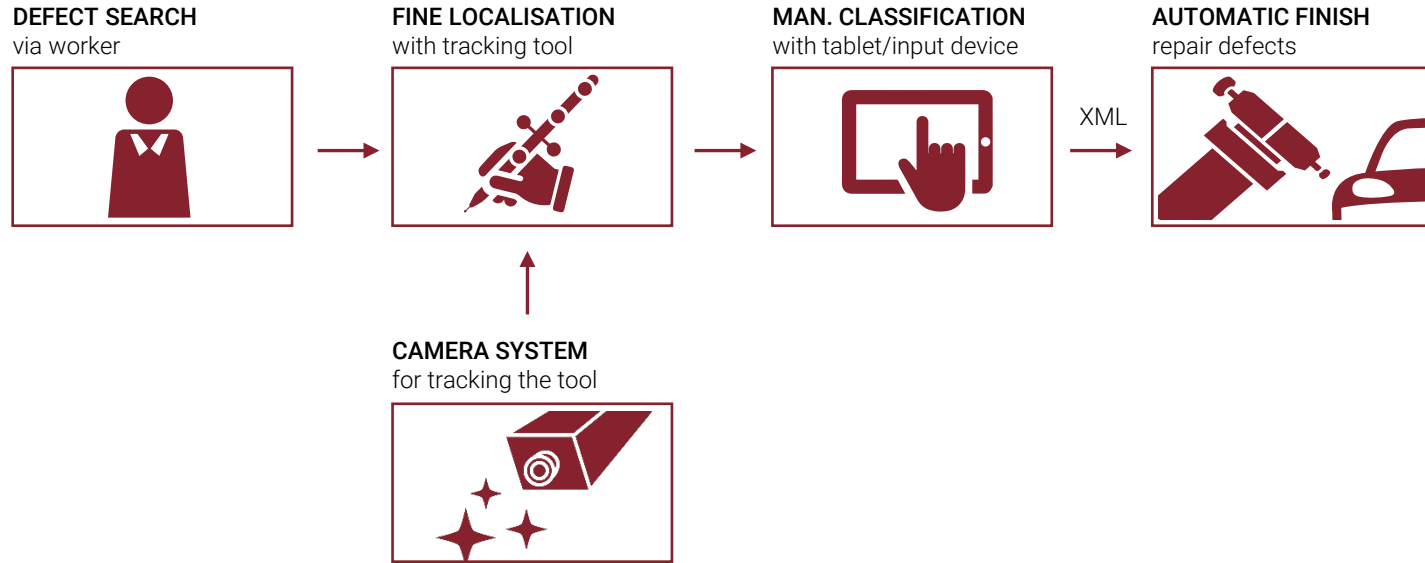
AUTOMATIC FINISH
repair defects



XML

CAMERA SYSTEM
for tracking the tool





OVERVIEW

Automatic finish cell for OEM customer

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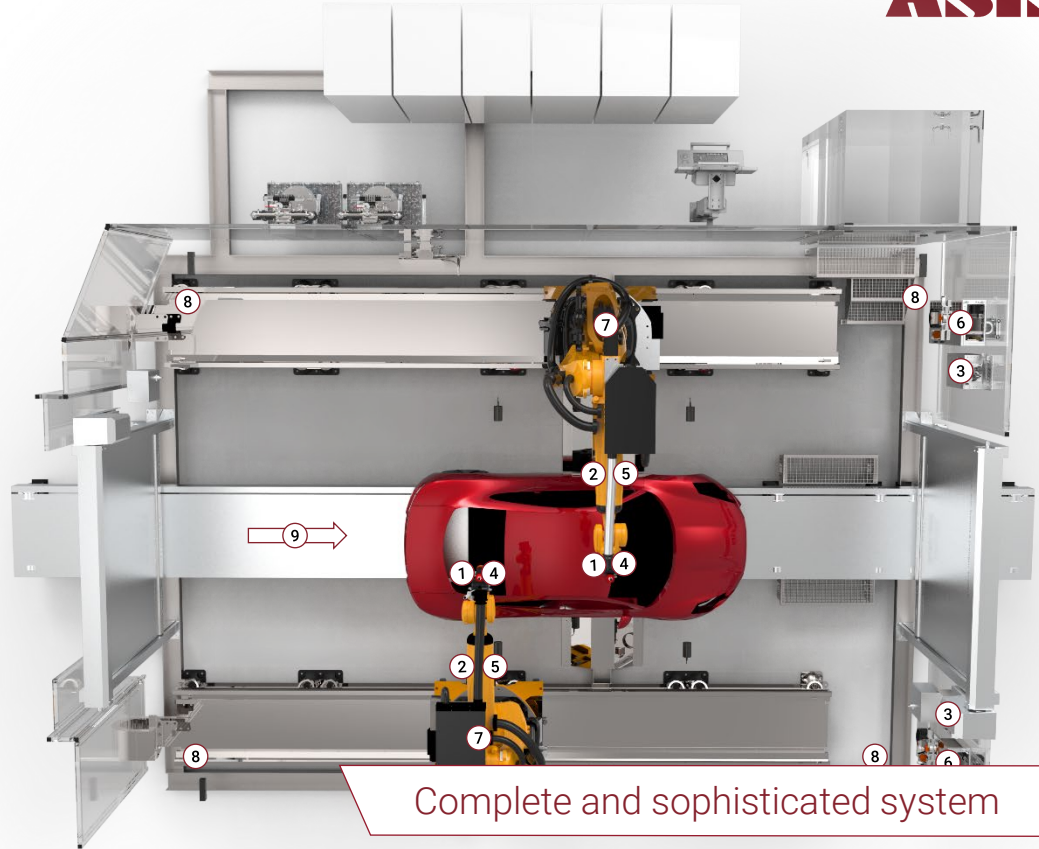
1. Sanding application
2. Dispensing the sanding media
3. Exchange of sanding discs



4. Polishing application
5. Dispensing of polish
6. Exchange of buff pads



7. Robot on 7th axis
8. 3D-position detection
9. Automatic path planning



Automatic finish cell: serial use since 02/2020 in 3-shift operation



SANDING E-COAT & PRIMER

Components

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Application



3M™ Active Compliant Tool

ASIS Rob-E-Unit

ASIS Interfacepad holder

Exchange



Operation side



Plant side

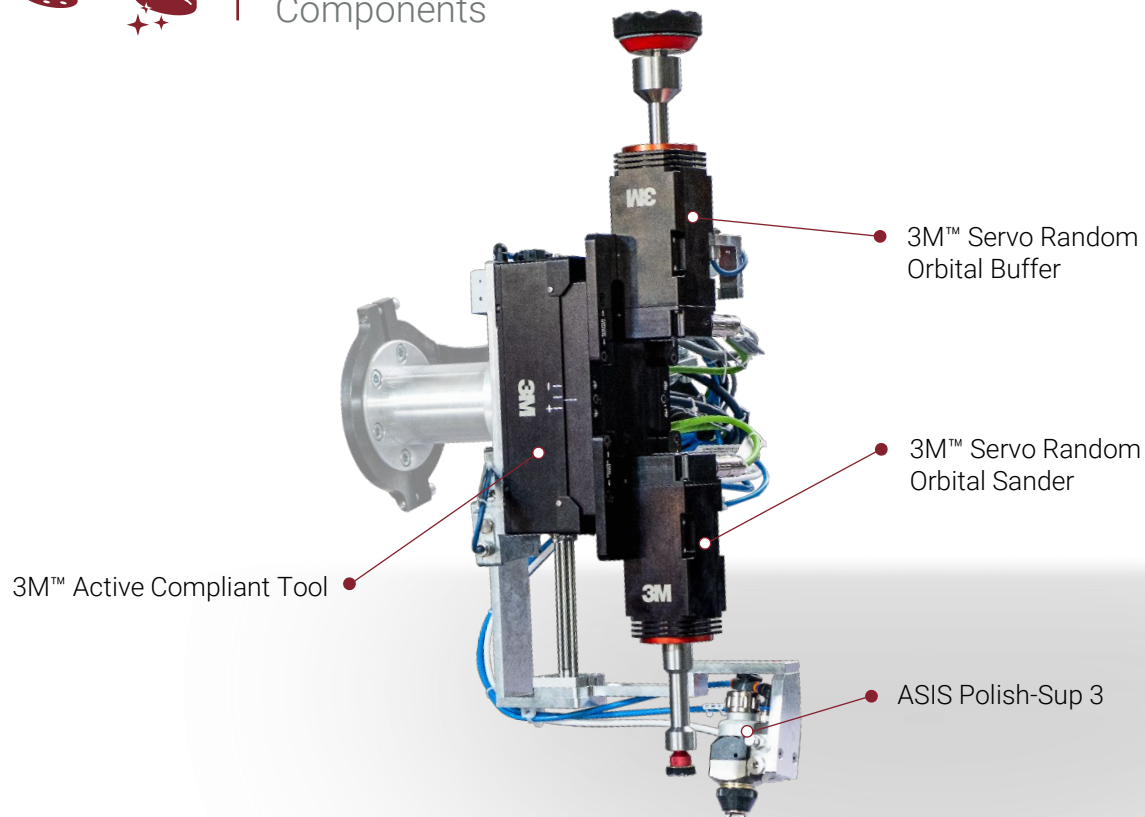
ASIS X-Change 3



APPLIKATION CLEARCOAT

Components

ASIS



ASIS Polish-Sup 3

- Decentralized system
- Precise dosing and application
- Cartridge supply

3M™ Active Compliant Tool

- Offers high accuracy
- Active force control with gravity compensation
- Works at any angle

3M™ Servo Random Orbital Sander & 3M™ Servo Random Orbital Buffer

- Electric servo motor
- Compact design for dual mounting on 3M™ Active Compliant Tool

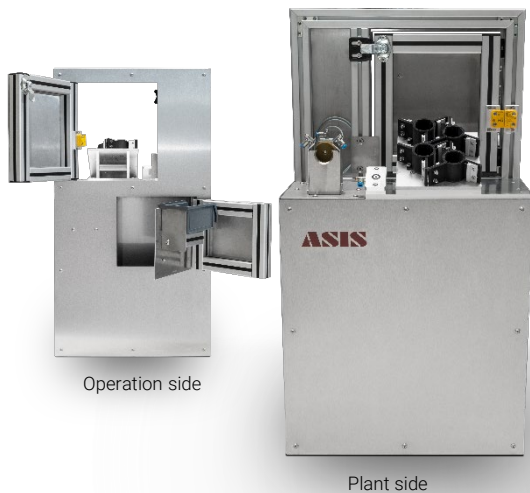


MEDIA EXCHANGE CLEARCOAT

Components

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Sanding



Sanding discs

ASIS Disc-X-Change

Polishing



Polishing pads

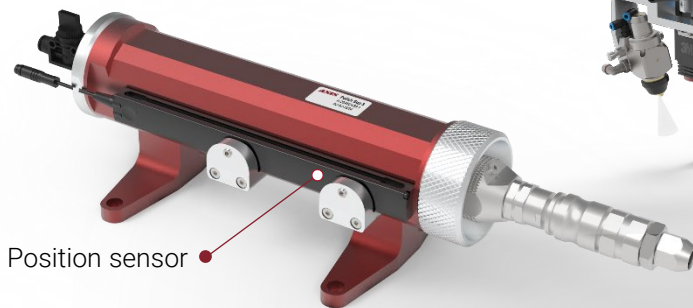
ASIS Pad-X-Change



DISPENSING CLEARCOAT

Components

ASIS

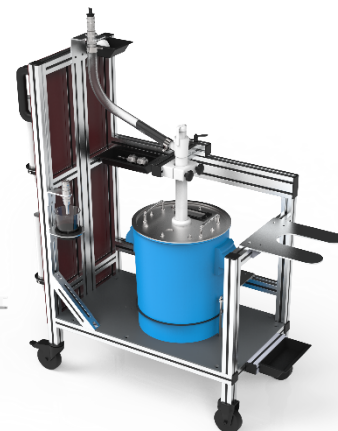


Position sensor

ASIS Polish-Sup 3



ASIS Polish-Pump-M



Polishing medium

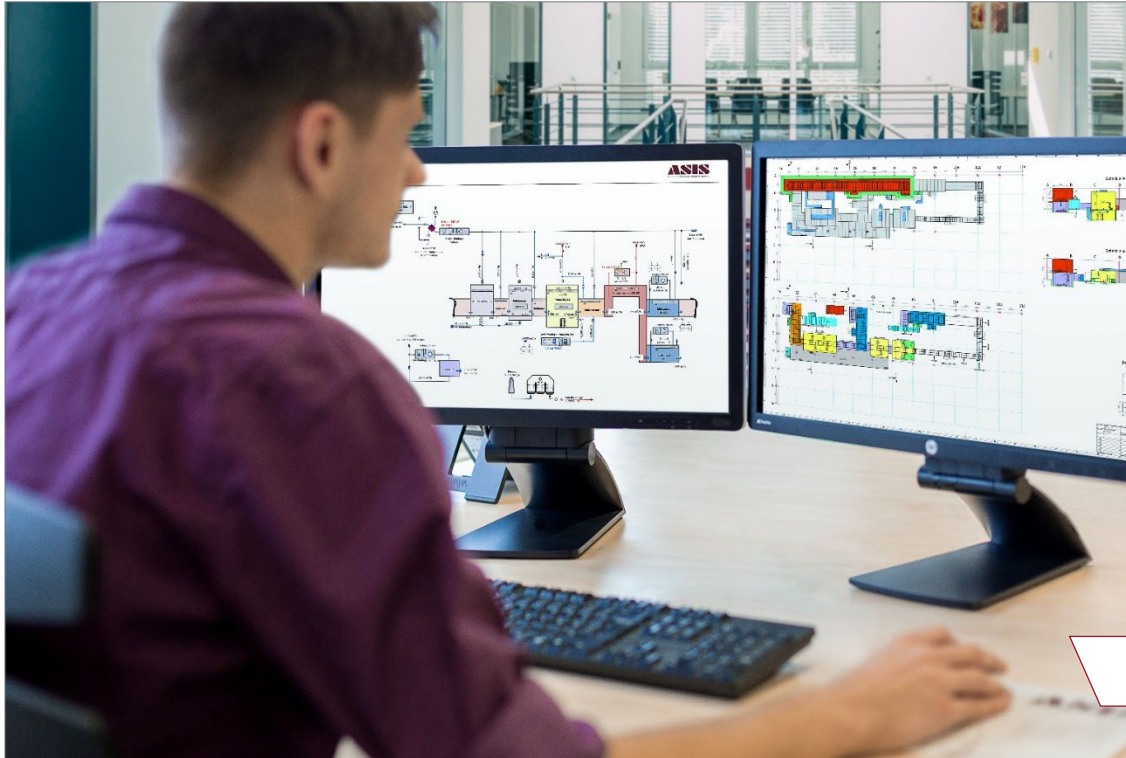
ANALYSIS & PLANNING

Economic even before the ground-breaking ceremony



PLANT CONCEPTS

Optimally planned, reliably executed



Services:

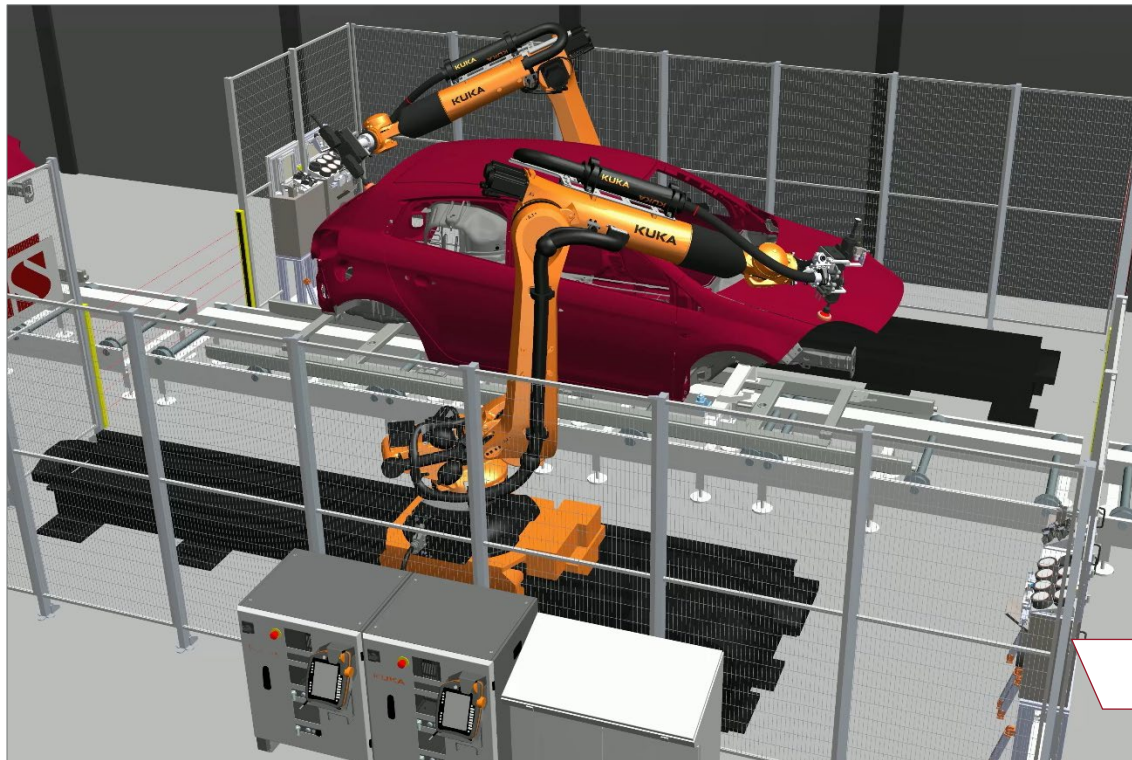
- Consulting for automatic surface engineering
- Practical concepts for automatic surface engineering

Competent planning phase

Individual planning tailored exactly to your needs.

VIRTUAL FACTORY

Wide range of simulations for validation in advance



Reachability study for the automatic finish

Comprehensive simulation, precise data with 3D scanning, up to the real installation of the system

- Reachability studies
- Cycle time studies
- Material flow studies
- Offline-programming
- Virtual commissioning

Perfectly planned, reliable results

3D SCANNING

Speed up and simplify the planning process

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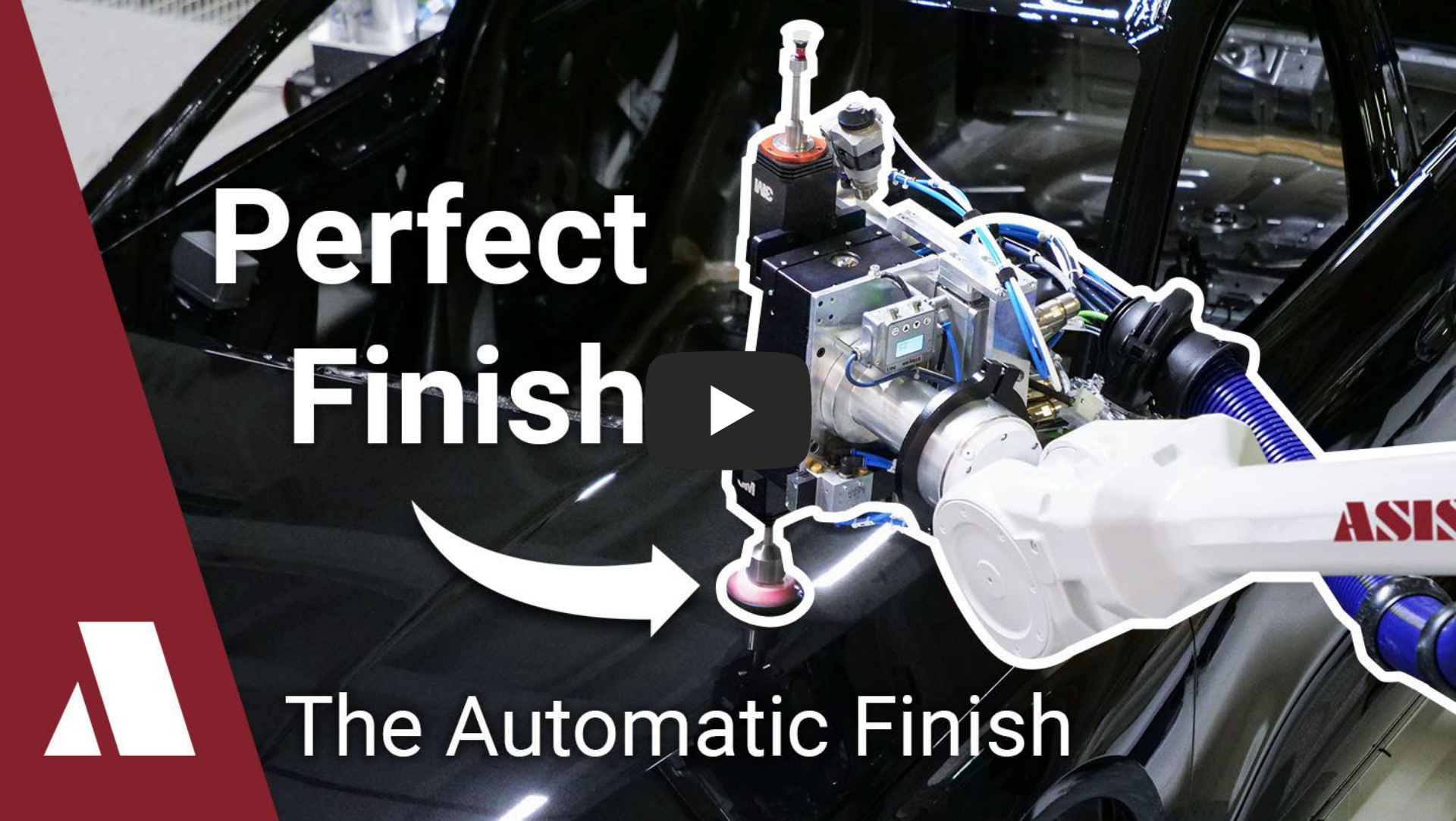
3D scanning captures all dimensions of the overall environment

One-time 3D digitalization of the entire site

- Capture all data in one appointment
- Generates precise 3D volume data, for import and further processing
- Powerful software for customers (Scan Explorer Viewer)

LaserScanPRO

Save time, reduce costs

A white industrial robotic arm with blue hoses is shown in the process of finishing a dark-colored car body. The arm is equipped with a complex assembly of pneumatic cylinders and wiring. A white outline highlights the arm and its tool head. A white arrow points from the text 'Perfect Finish' towards the tool head, which is currently in contact with the car's surface. The background shows the interior of the car's body, including the door frame and window area.

Perfect Finish



The Automatic Finish

SERVICE

Great support for all cases



OPERATION

Comprehensive service for your systems during operation

ASIS



Authorized Service Center for 3M™ products

Full-service during plant operation

- Maintenance, repair
- Maintenance contracts, service contracts
- On-site troubleshooting and fault elimination
- Spare and wear parts supply
- Remote support

 | **Genuine Parts**

Reduce downtimes

RECURRING TESTS

Important tests at regular intervals



Bus measurement

Prescribed tests according to the Machinery Directive.

- Parameter check
- Life cycle check
- Bus measurement
- Firmware updates
- Inspection

Increase service life

TRAININGS

Operation, optimization and troubleshooting with our own employees



Application technology training

Qualify your specialist personnel for safe operation

- Plant operation training
- Robotics training
- Application technology training

Increase system availability

TECHNICAL CENTER

Test your process

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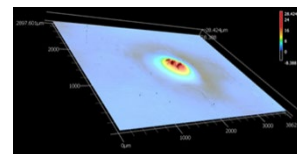


ASIS Technical Center

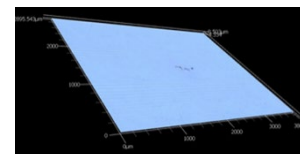
Interested?



Tests are possible at the
ASIS Technical Center



Before sanding



After sanding

Test your own workpieces



www.asis-gmbh.de
mail@asis-gmbh.de

Follow us on:





Do it Easy:

[https://www.youtube.com/
watch?v=IdMvljUrrvI](https://www.youtube.com/watch?v=IdMvljUrrvI)



Automatic Finish:

[https://www.youtube.com/
watch?v=SFunhQ_zNzQ](https://www.youtube.com/watch?v=SFunhQ_zNzQ)



Topcoat Simulation:

[https://www.youtube.com/
watch?v=hkclWUuD928](https://www.youtube.com/watch?v=hkclWUuD928)



Enamelling at V-ZUG AG:

[https://www.youtube.com/
watch?v=bGe4szGSelw](https://www.youtube.com/watch?v=bGe4szGSelw)