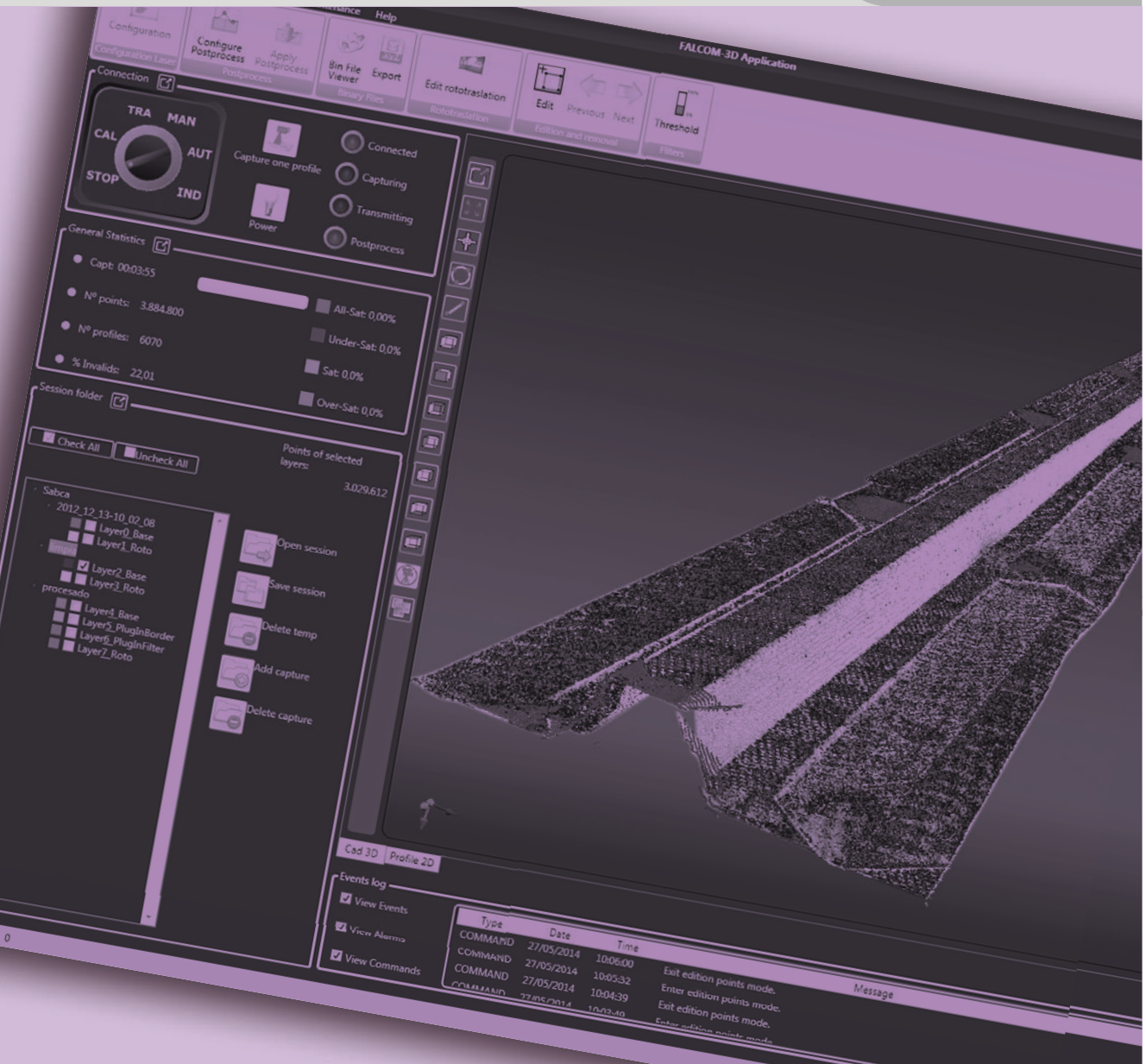
Ready for the future,
caring for the customer



Advanced NDT Technology

FALCOM-3D®

Laser Teaching

tecnatom

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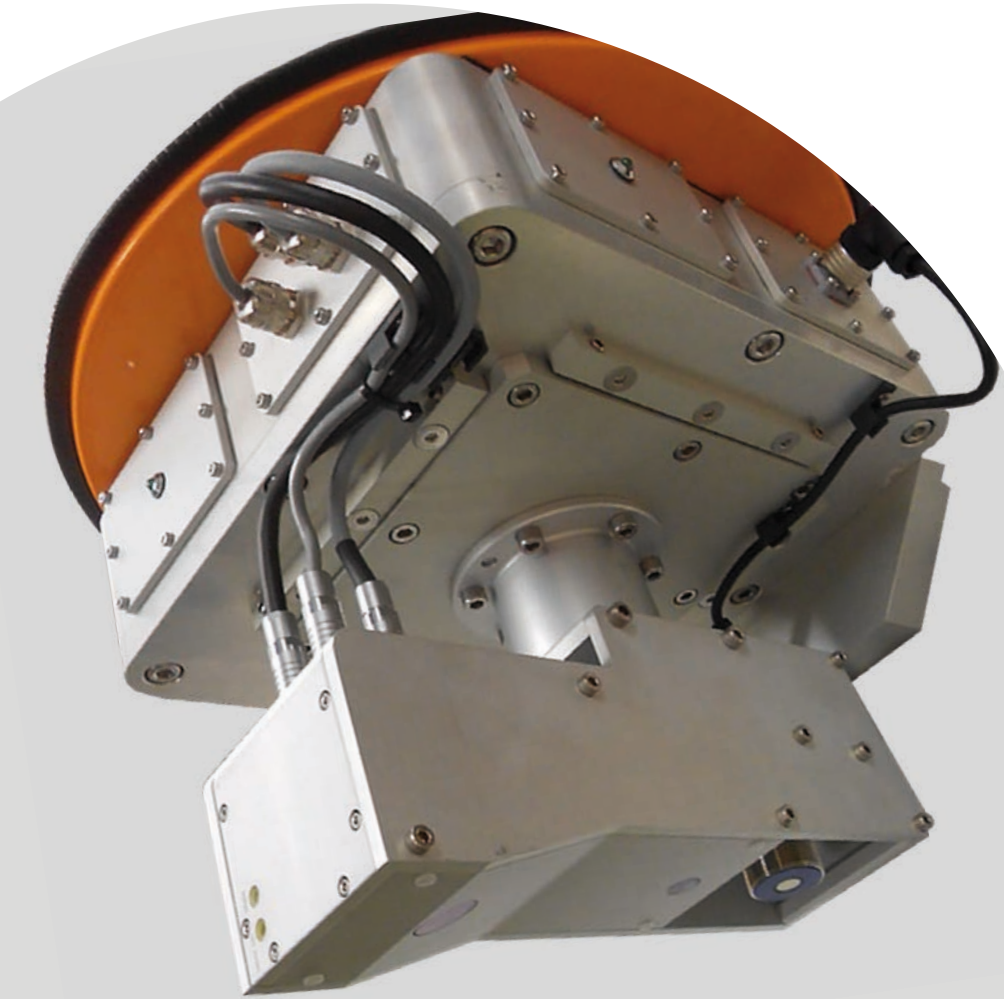
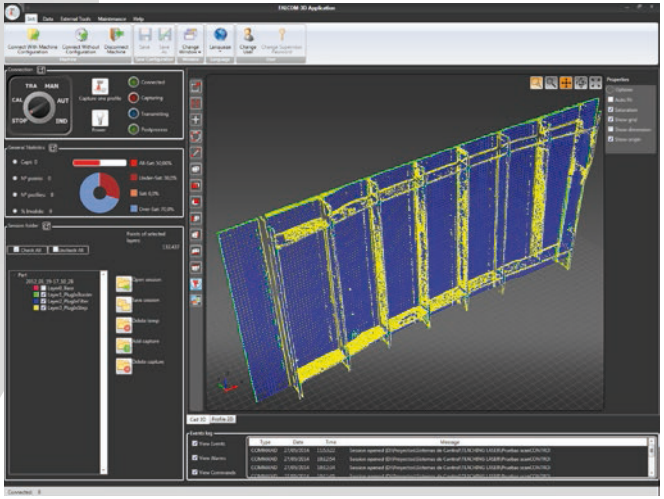
CE

FALCOM-3D® Laser Teaching



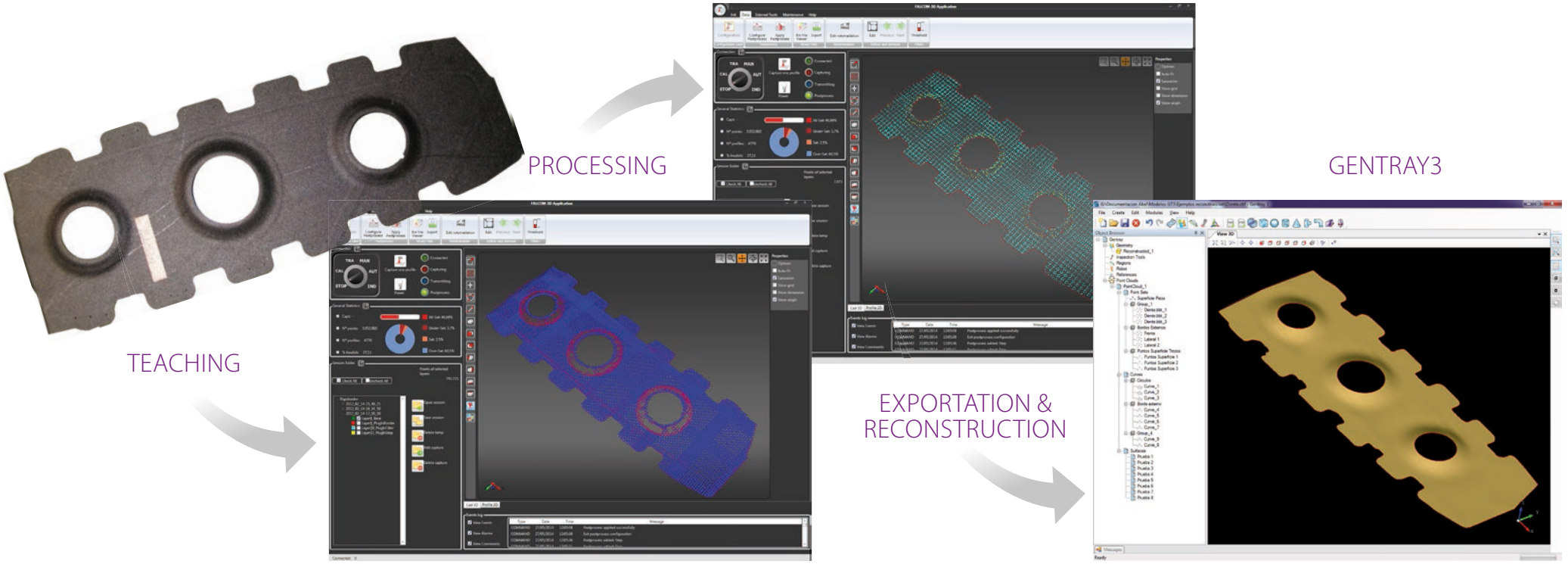
OVERVIEW

- FALCOM-3D is a laser teaching system allowing complex geometry capture with high accuracy in a fast and easy way.
- Additionally allows capturing and identifying three-point correction for establishing the part position within the workspace.
- Particularly useful in cases where the part CAD file is not available and/or is not representative of the geometry to be tested (strains,…).
- Greatly reduced teaching times. Scanning speeds up to 500 mm/s.
- High measuring frequency and point/profile resolution.
- Provides high resolution point clouds with geometric information of interest (edges, surfaces, windows…) for designing NDT inspection paths.
- Includes processing, measurement and manual editing tools.
- Measuring ranges, resolution and frequencies adaptable to application requirements.
- Full integration with reconstruction and trajectory generation software for NDT path programming.



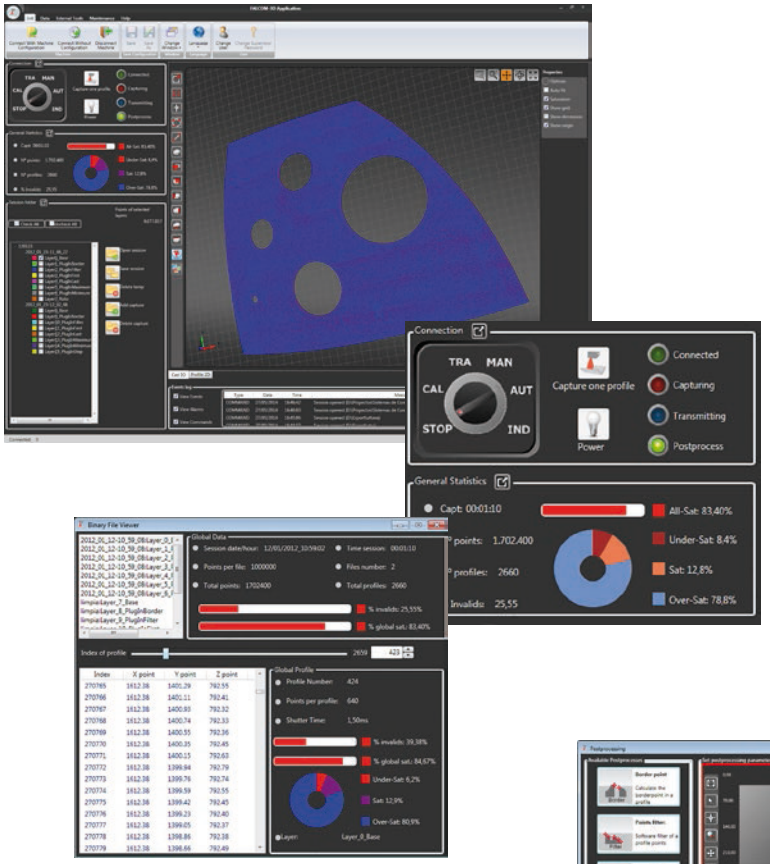
PRODUCT FEATURES

- Process parameterization and configuration depending on part characteristics (surface finish, color, brightness) and ambient light.
- Real-time information about quality of acquired points.
- Real time measurement and synchronization.
- 2D and 3D display of acquired geometry.
- Programmable filters and on-line / off-line plug-ins.
- Detection and identification of relevant geometrical information of the part for NDT path programming: Borders, windows, surface, stiffeners…
- Tree hierarchy. Acquired and processed information structured in layers.
- Point clouds measuring, selection and manual edition tools.
- Open exportation file formats (XYZ).
- Trigger by position (µm) or time (ms).
- Laser device selection according to the measuring range, resolution and triggering frequency required by the application.
- Manual and automatic operation modes.

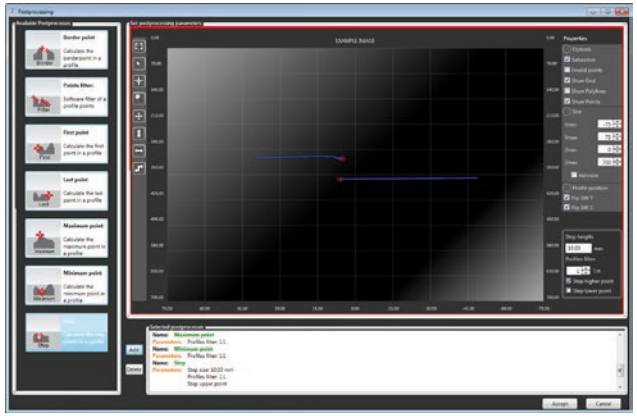


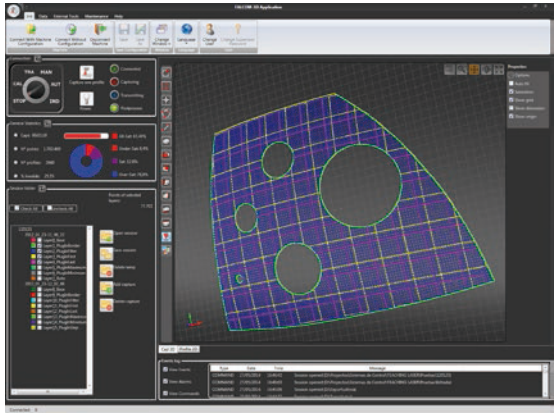
FALCOM-3D® Laser Teaching

ACQUISITION SOFTWARE



TECHNICAL DATA	MID-RANGE	LONG-RANGE
Supply	24Vdc (11-30Vdc), 500mA	24Vdc (8-30Vdc), 500mA
Operating Temperature	0°C to 45°C	0°C to 50°C
Weight	380g	850g
Size	96 x 85 x 33mm	170 x 69 x 73mm
Protection Class	IP65	IP64
Laser Power	8mW, Class 2M	10mW, Class 2M
Light Source	Semiconductor laser 658nm	Semiconductor laser 658nm
Communications	Ethernet 100/1000BaseT	Ethernet 100/1000BaseT
Trigger Modes	Internal, External (pulse, encoder)	Internal, External (pulse, encoder)
Aperture angle laser line	25°	20°
Z-axis measuring range	125-390mm (265mm range)	300-600mm (300mm range)
Z-axis resolution	12µm	15µm
X-axis measuring range	58.5-143.5mm	76-148mm
X-axis resolution	640 / 1280 points/profile	640 points/profile
Profile Frequency	200Hz / 1.000Hz at full resolution	100Hz / 1.000Hz at full resolution
Measurement Rate	128.000 / 640.000 points/sec 256.000 / 1.28Mio. points/sec	64.000 / 640.000 points/sec

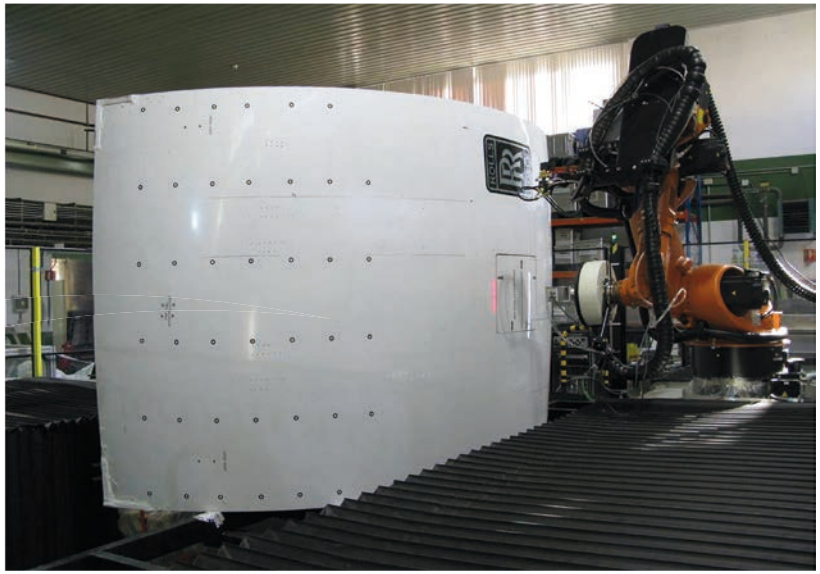


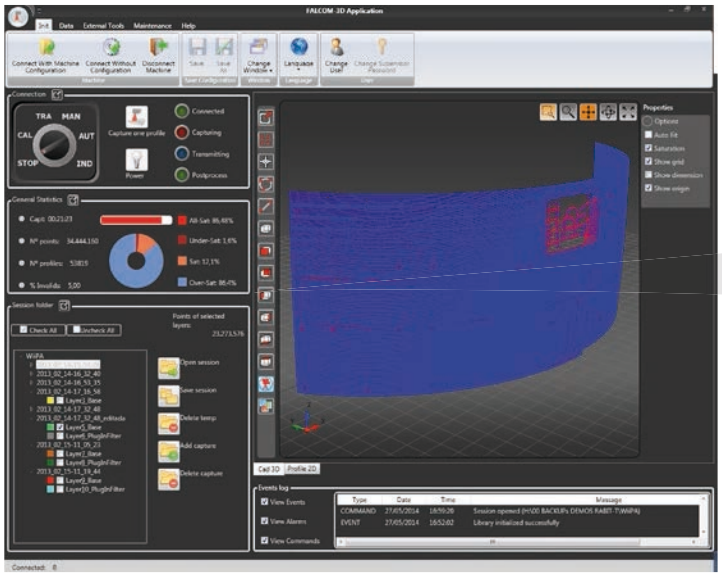


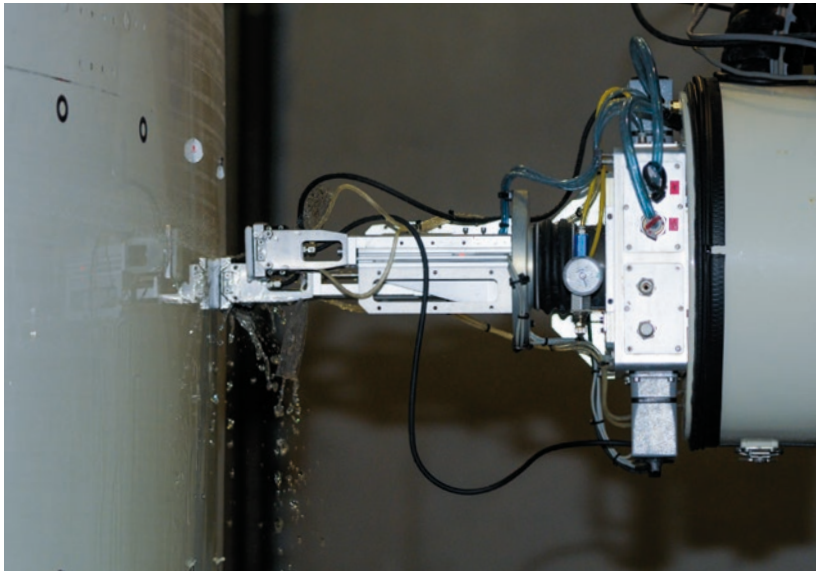
FALCOM-3D SW: SUMMARY

Functions

- Calibration
- Acquisition and on-line processing
- Manual edition and off-line processing
- Filtering
- Geometrical measuring
- Selection of reference points
- Exportation







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