

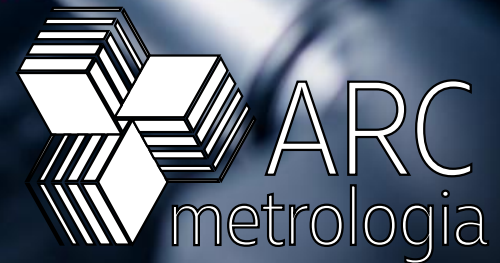
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ARC METROLOGIA

PRECISION SOLUTIONS FOR
INDUSTRIAL METROLOGY

- Consulting
- Delivery
- Installation
- Training
- Service
- Support
- Calibration
- Measurement
- Demonstrations

——— ACCURACY MATTERS!





IN NUMBERS...

39+

of company
experience

250+

installed and
maintained
machines

600+

satisfied
customers

4 x 8 x 3 m

measuring volume of
the largest CMM in
Bulgaria, supplied and
installed by ARC
Metrologia



COMPREHENSIVE METROLOGY SUPPORT

From selecting the right equipment to servicing it throughout its entire life cycle

We provide our customers with:



Consulting



Delivery and
installation



Accuracy
verification and
calibration



Annual
maintenance plans
for measuring
machines and
software



Training



Warranty and
post-warranty
service



Part programming
and measurement
services



Your partner in precision measurement!



CUSTOMER Consulting

Our engineers will help you select the optimal solution for the specific metrology requirements of your production process.

- ✓ Getting acquainted with the customer's production processes;
- ✓ Reviewing the parts to be inspected;
- ✓ Selecting a suitable environment for operating the measuring equipment.





DELIVERY of measuring equipment...

- ✓ ... directly from the manufacturer to the end customer
- ✓ Fast installation and commissioning





ACCURACY VERIFICATION AND CALIBRATION

of the supplied measuring machines in accordance with ISO 10360. We use step gauges, a laser interferometer, reference spheres, gauge blocks and other reference standards with calibration certificates issued by accredited European laboratories.

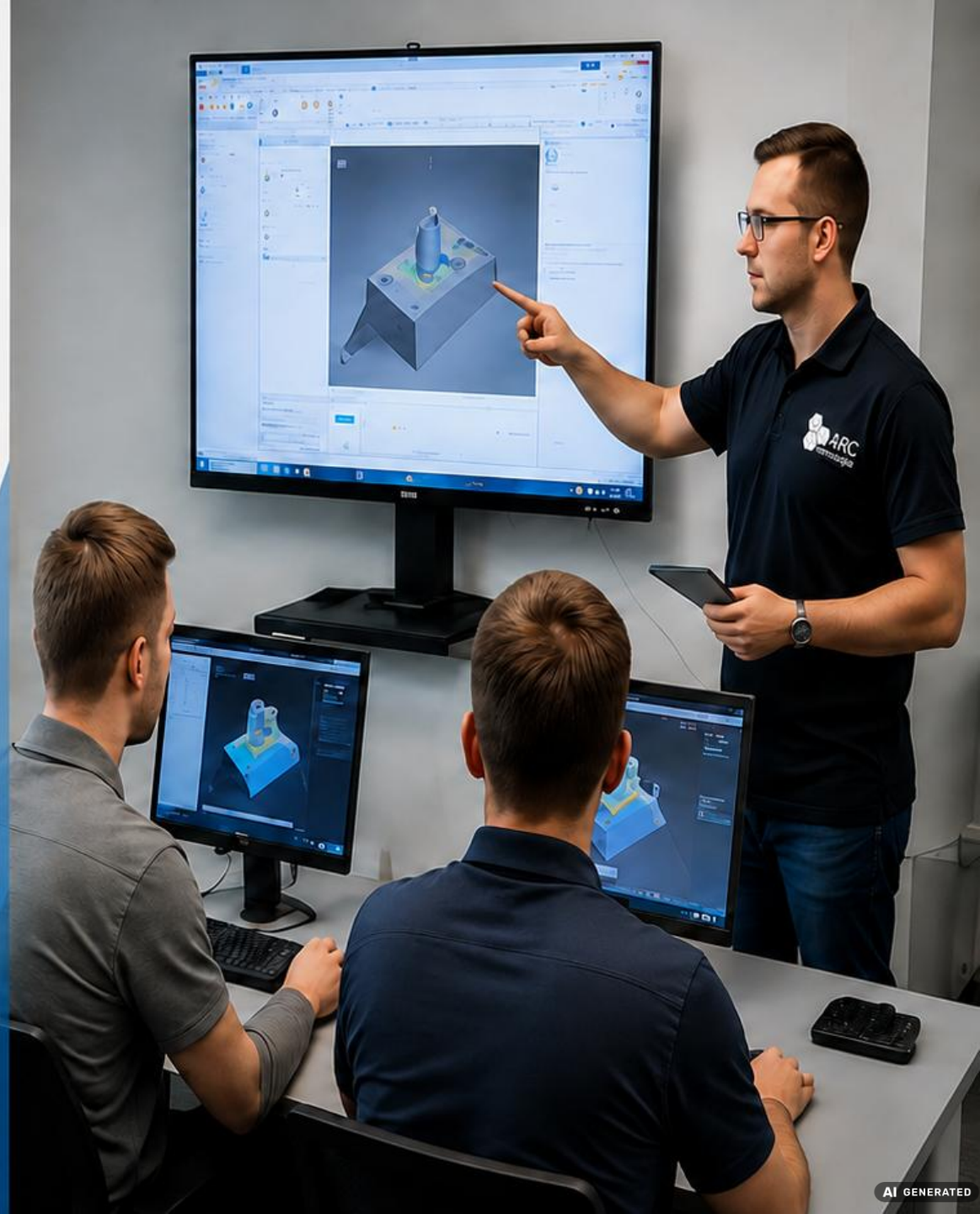
- ✓ Initial calibration following installation;
- ✓ Annual verification and calibration of measuring machines





OPERATORS TRAINING

- ✓ Training is provided on-site at the customer's premises and is conducted in Bulgarian and English.
- ✓ Specialized operators training covering the measuring equipment and software;
- ✓ Creation of part programs and measurement of customer parts;





AUTHORISED SERVICE

Reliable warranty and post-warranty service for measuring machines throughout the country.

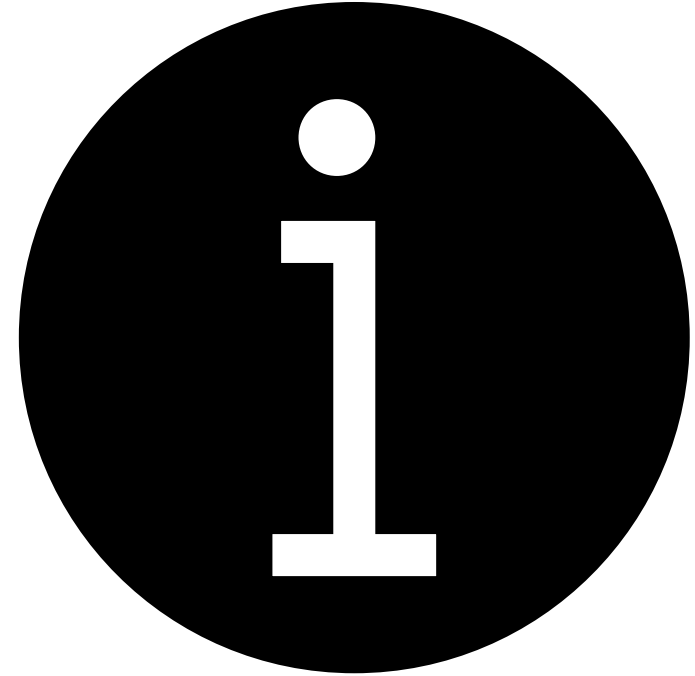
- ✓ Fast response in the event of a technical issue;
- ✓ Reliable spare parts supply;
- ✓ Annual maintenance plans for measuring machines and software.



OUR PARTNERS

RENISHAW
apply innovationdk
FIXIERSYSTEME
TRIMOSTESA
TECHNOLOGYHEXAGONsylvacMICROREPLTF®DEMM

**On the following
slides, use this
button for more
information**





Measuring Equipment from TESA – SWITZERLAND

Quality proven by more than 80 years of
experience!



Swiss precision metrology





Measuring Equipment from SYLVAC – SWITZERLAND

Precision digital measuring instruments!

 **sylvac**
Experts in connected metrology.





OPTICAL MEASURING MACHINES

SYLVAC VISIO 200 V3



HIGH ACCURACY

Measuring range: 200x200x150 and 300x200x150mm



CLEAR VISUALISATION

FULL HD camera, large field of view and motorized Zoom!



EASY TO USE

Installation and training completed in just 3 days!



RELIABILITY

Swiss quality and long service life



sylvac

Experts in connected metrology





SYLVAC SCAN - OPTICAL MEASURING MACHINES FOR CYLINDRICAL PARTS

- Measuring range up to Ø145 mm and lengths up to 1,800 mm!
- Maximum permissible error as low as 0.9 µm
- In automatic mode, all parameters are measured in less than **10 seconds**.
- Models capable of measuring standard and custom threads!
- Installation and commissioning in less than one day!
- Exceptionally easy to operate





Calibration Equipment from MICROREP – ITALY





Measuring Equipment DEMM – GERMANY



Measuring Equipment LTF – Italy



RENISHAW 

MEASURING HEADS PROBES AND ACCESSORIES





Fixtures from dk FIXIERSYSTEME – GERMANY



TRIMOS HEIGHT GAUGES

SWISS PRECISION
Accuracy from 1.2 μm



TRIMOS C-LINE PORTABLE COORDINATE MEASURING MACHINE





TRIMOS – SWITZERLAND MEASURING AND CALIBRATION BENCHES



HEXAGON GLOBAL S Coordinate Measuring Machines

Four series designed for different measurement applications – Touch+ / Scan+ / Optics / Speed+

Measuring range up to 2000mm

Automatic measurement mode available!

Measurement accuracy from 1,4µm;

Resolution - 0,039µm!

High-speed scanning or tactile measurement with a fixed or indexing probe head!

- ✓ Installation, training, calibration and support throughout Bulgaria by ARC Metrologia





Shop floor coordinate measuring machine HEXAGON TIGO

No compressed air supply required!

Designed for direct integration into the production environment

Resistant to dust, moisture, contamination, vibration and temperature fluctuations

Measuring range 500x580x500mm

Resolution - 0,039µm!

Installation, training, calibration and support throughout Bulgaria by ARC Metrologia



HEXAGON



HEXAGON LEITZ HIGH-PRECISION COORDINATE MEASURING MACHINES



Measurement accuracy from $0.3 \mu\text{m} + L/1000!$



HEXAGON Gantry Coordinate Measuring Machines

Measuring ranges

from 2000 x 3300 x 1000mm

to 6000 x 10000 x 4000mm!

Measurement of large-scale parts

Measurement accuracy from $3,7\mu\text{m} + 3,5\text{L}/1000$;

Installation, training, calibration and support throughout Bulgaria by ARC Metrologia





OPTIV Motorised Multisensor Measuring Machines



Measuring range from 300x200x200mm to 600x600x400mm



Accuracy from $1,9\mu\text{m} + L/250$



Optical sensor, colour CCD camera and motorised zoom



In option you can add a tactile or scanning probe head



HEXAGON ABSOLUTE ARM Portable Measuring Arms

- 6-axis and 7-axis models available in three accuracy series: 83, 85 and 87
- Measuring range from 1.2 to 4.5 m
- Automatic probe recognition – no recalibration required!
- **No initialization and no warm-up time**
- Wide range of laser scanners, probes and styli
- Suitable for use in noisy environments and changing operating conditions





Reverse engineering with Absolute Arm

Measurements with HEXAGON ABSOLUTE ARM





Photogrammetry HEXAGON DPA systems

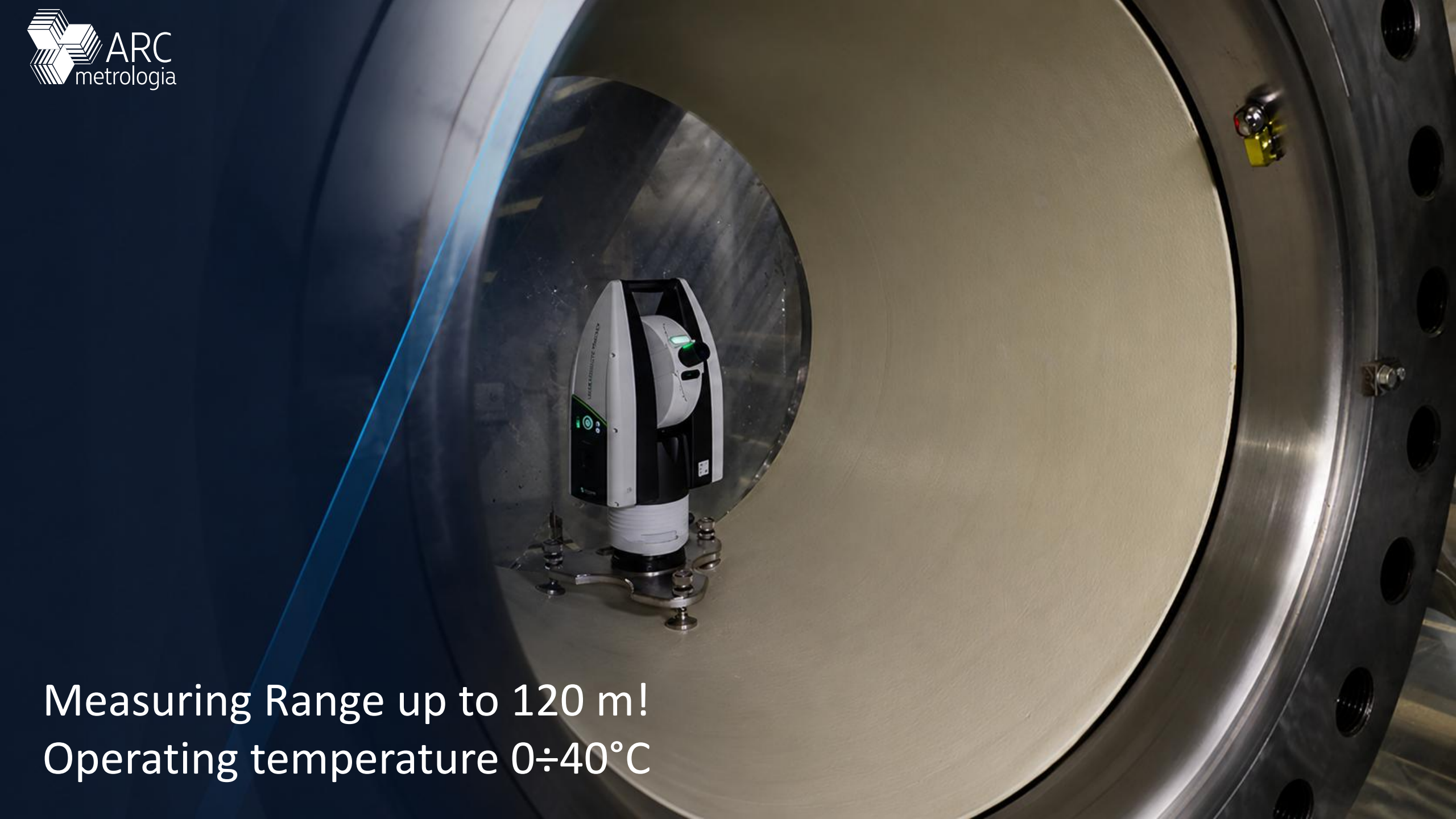




Leica Laser Tracker

- ❑ Powered by an integrated battery for both indoor and outdoor operation!
- ❑ Environmental monitoring, integrated infrared remote control and Wi-Fi access point!
- ❑ Specialised probes for measuring hidden points!
- ❑ Maximum permissible error (MPE): $\pm 15 \mu\text{m} + 6 \mu\text{m/m}$!
- ❑ **Measurement of large-scale parts!**
- ❑ IP54 protection against dust and moisture!
- ❑ Absolute Interferometer (AIFM) on the AT960 model!
- ❑ Wide range of reflectors, probing accessories, laser scanners and structured-light scanners!



A white and black total station surveying instrument is mounted on a metal tripod and positioned inside a large, circular, metallic industrial pipe or tunnel. The instrument is aimed towards the far end of the pipe. The interior of the pipe is metallic and shows some reflections. A blue diagonal line is visible on the left side of the image.

Measuring Range up to 120 m!
Operating temperature 0÷40°C



Measurement with a hexagon LEICA LASER TRACKER



HEXAGON Leica Tracker Applications

- Energy industry;
- Heavy engineering;
- Aerospace industry;
- Other industries manufacturing large-scale parts



Application example: Replacing the stator of a hydroelectric turbine using a laser

- To ensure correct operation, the turbine axis must be accurately centered.
- A laser tracker can be used to determine the precise position of the original stator before it is removed.
- By measuring reference points, the new stator can then be aligned and installed in the same position.





**Thank you for your
attention**

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