



Company Portrait

KARL DEUTSCH
Mit Sicherheit geprüft! Definitely Tested!

Agenda

- Testing Methods
- Company History
- KD Manufacturing Facilities
- It's the people ! Competent KD Staff !
- Product Range
- Industrial Sectors, Worldwide Customers & References





Testing Methods

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Detection of defects
on safety-relevant components

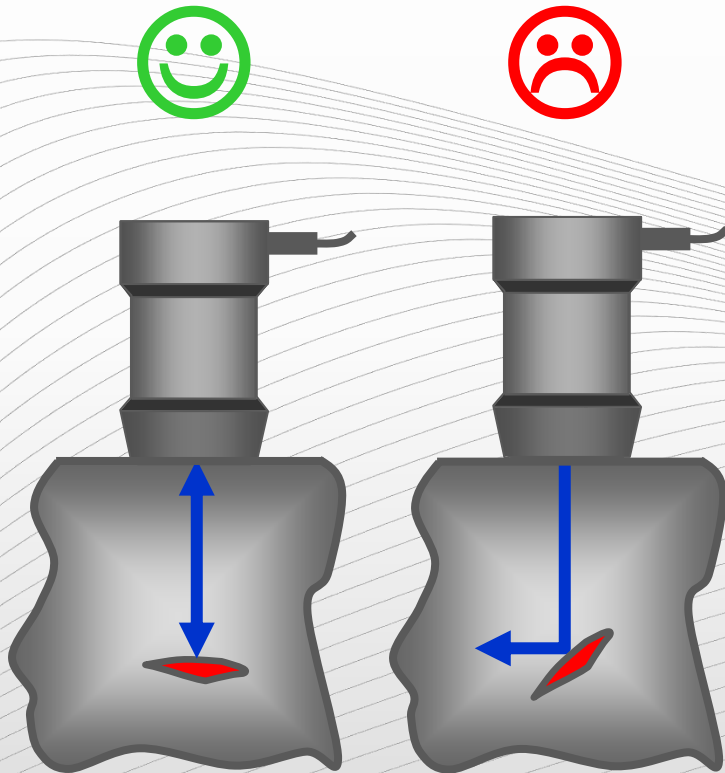
Evaluation of the test results
if components can still be used

Inspection of **new components** during/after production &
regular in-service inspection of **mounted/used components**



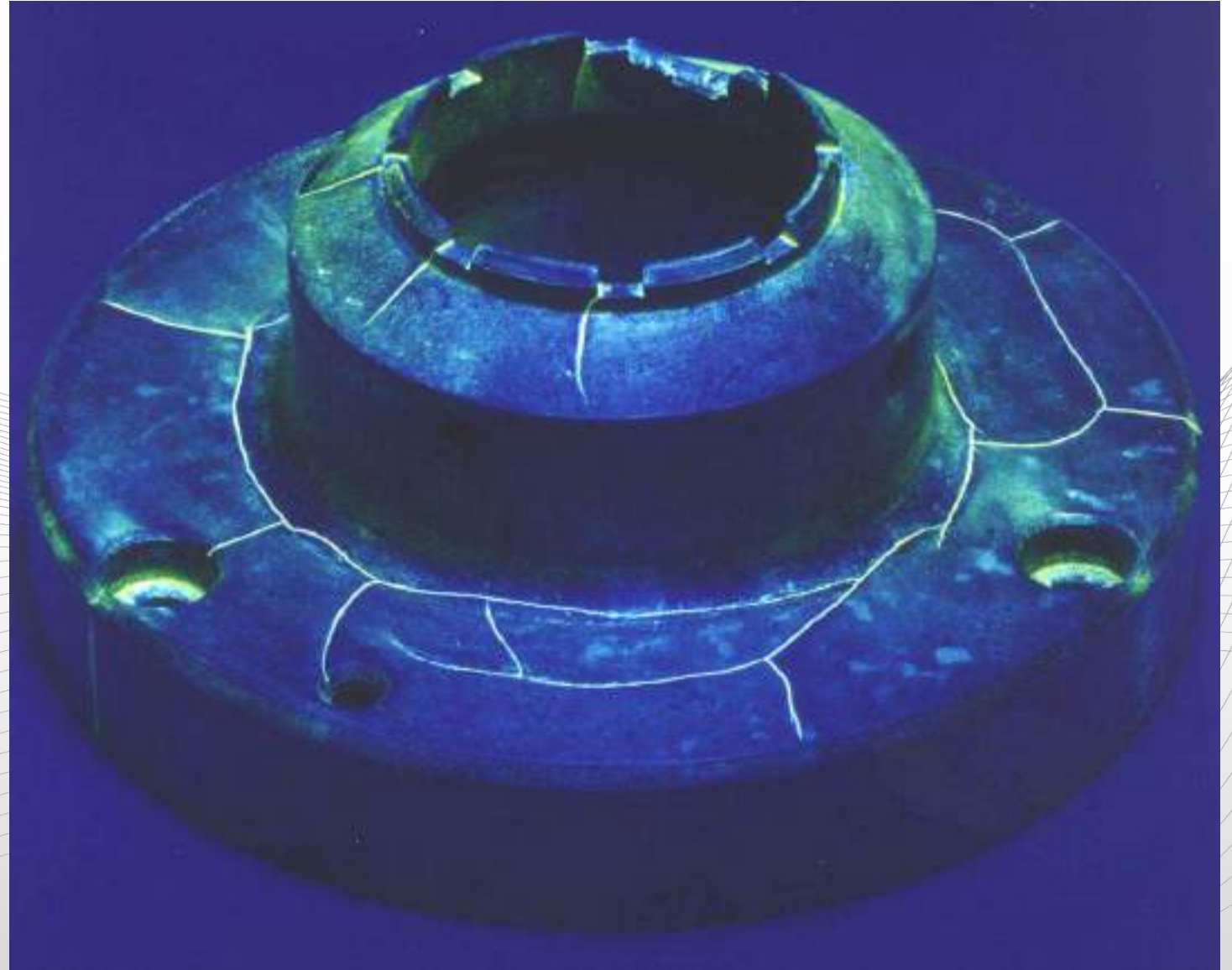
ECHOGRAPH: Ultrasonic Testing (UT) for the Detection of Internal Defects

Principle of the bat !
Collect reflections from defects



DEUTROFLUX: Magnetic Particle Testing (MT) for the Detection of Surface Cracks

- Fluorescent test liquids with coloured magnetic particles
- Magnetic particles stick to surface cracks for magnetized components
- Bright linear indications are formed
- Evaluation under UV light



KD-CHECK: Dye Penetrant Testing (PT) for the Detection of Surface Cracks

Red test liquid forms
crack indications

White background paint
(so-called developer)
for improved contrast



Example: Weld

Fluorescent
test liquid

Evaluation
under
UV light





Company History

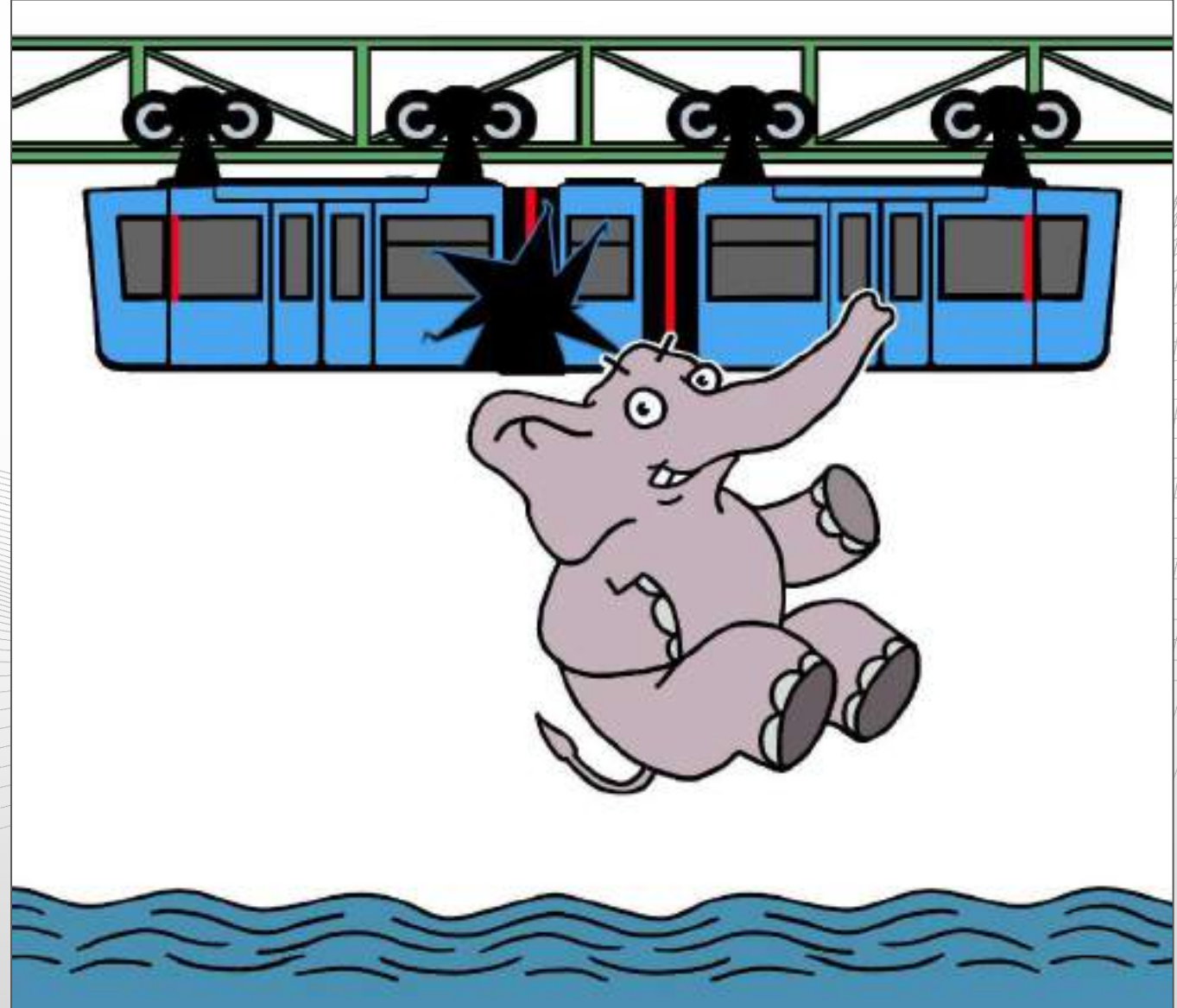
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Wuppertal Skytrain – KARL DEUTSCH is founded in Wuppertal in 1949

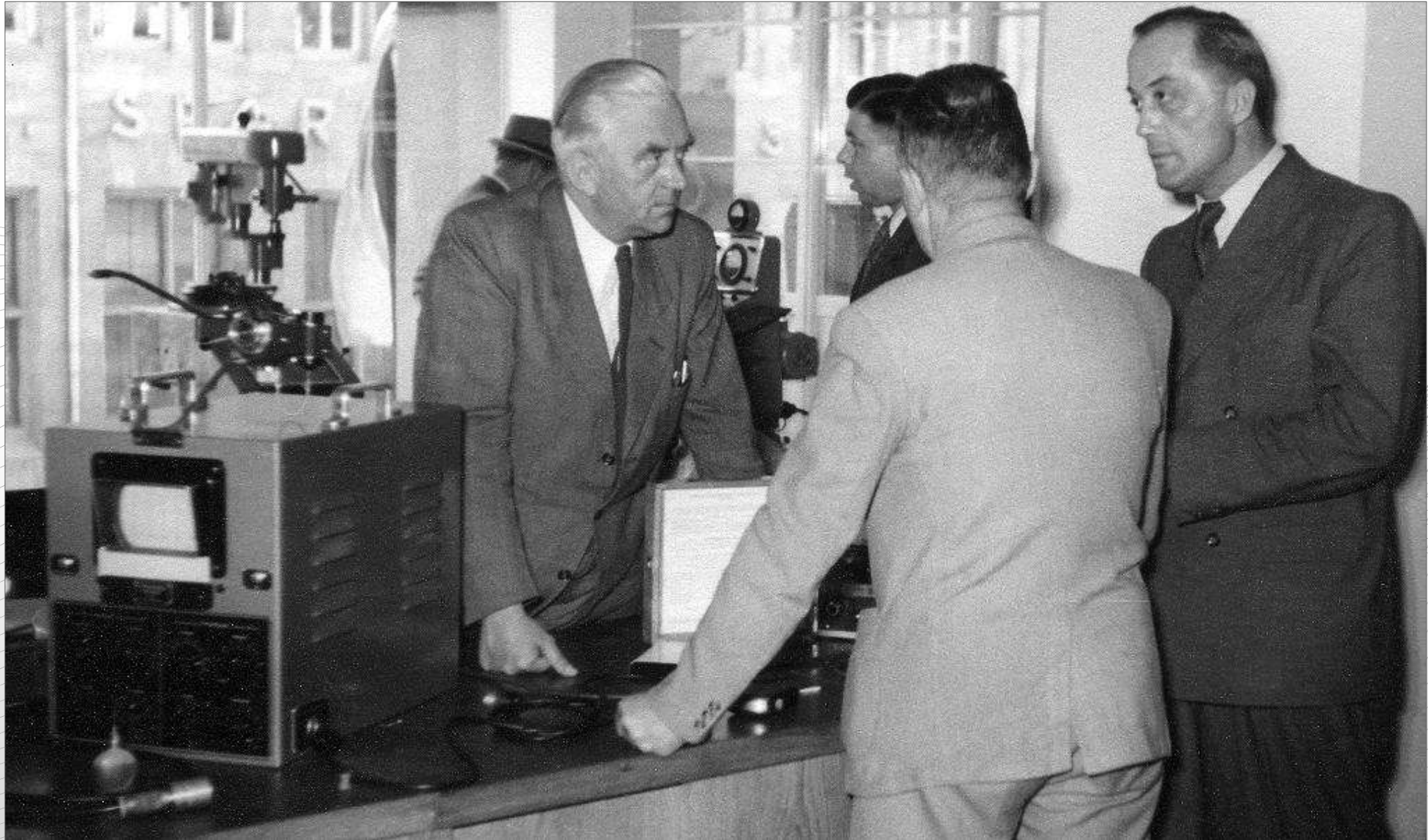


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1950 Circus Elephant Tuffi jumps from Skytrain



1952 Ing. Karl Deutsch with early ECHOGRAPH @ Hanover Fair (Germany)



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It's the People ! Competent KD Staff !

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170 Employees Worldwide, 145 in Wuppertal – Quality Made in Germany

- Very low employee fluctuation
- Average length of employment 15 years
- High level of education (> 60 engineers, 7 PhDs)
- Many employees with Level 1 - 3 NDT certificates



Family Company in Third Generation



Ing. Karl Deutsch
1900 - 1974, @ KD 1949 - 1974



Prof. Dr.-Ing. Volker Deutsch
1932-2023, @ KD 1961 - 2001



Dr.(USA) Wolfram A. Karl Deutsch
*1967, @ KD since 1998



KD Manufacturing Facilities

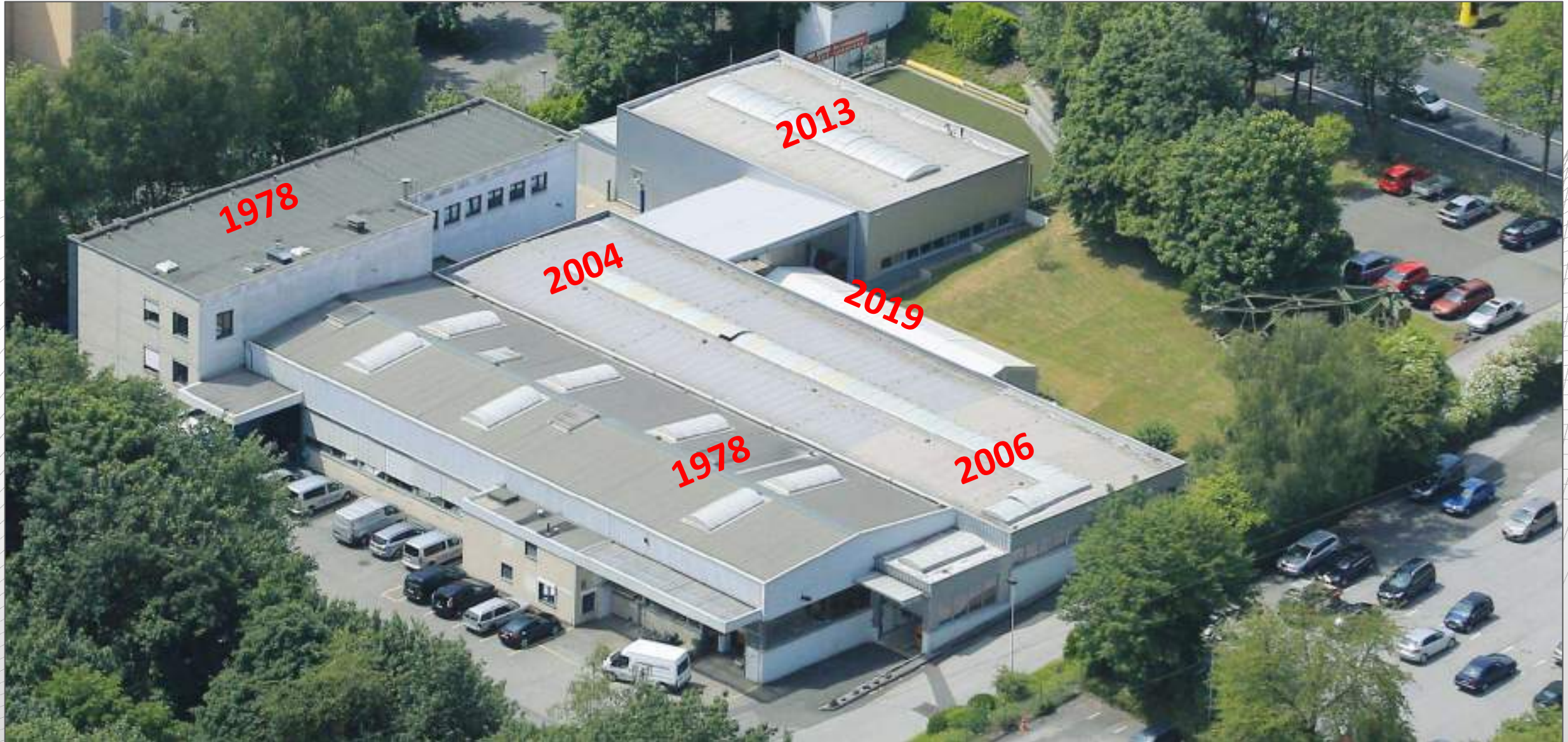
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Works 1: Headquarters, R&D Division, Portables, Sensors & Chemicals



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Works 2: Testing Systems (UT, MT, PT)

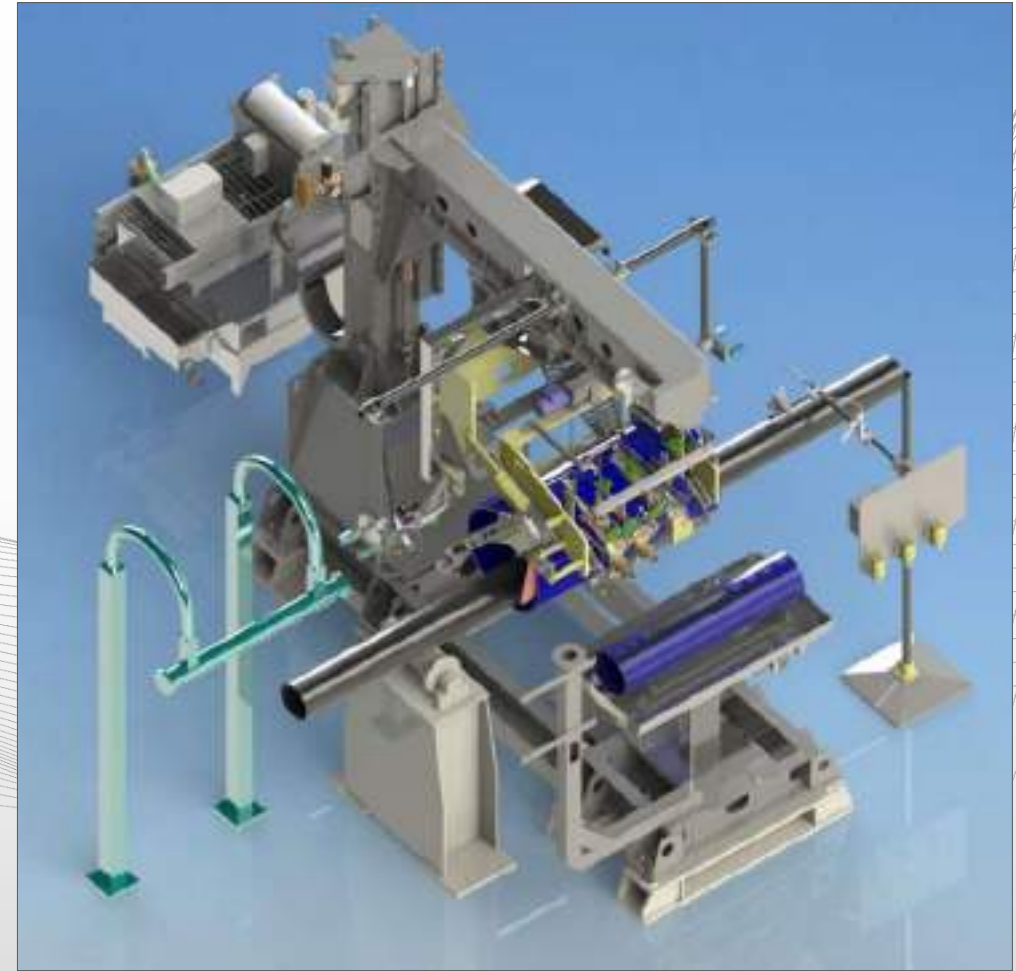
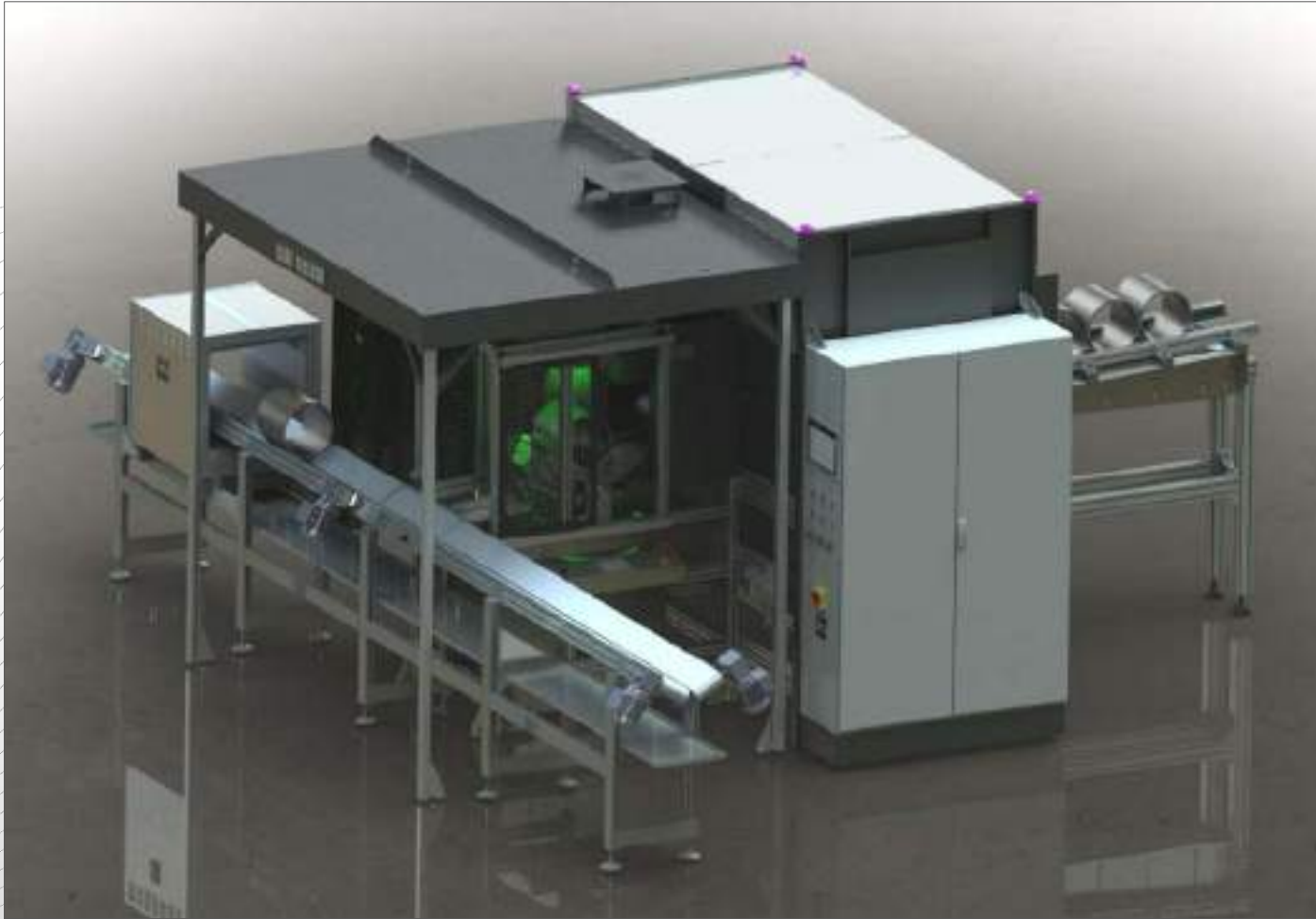


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Testing System Production in Works 2



Works 2: In-House Mechanical Design of Testing Systems (3D CAD Solid Works)



Work 2: High In-House Production Depth at KARL DEUTSCH Systems Workshop

Mechanical machining:
Milling, turning, CNC machine



Design & assembly:
Mechanics, PLC, Electronics



Functional test before shipment ⇒
Short assembly @ customer's plant





KD Product Range

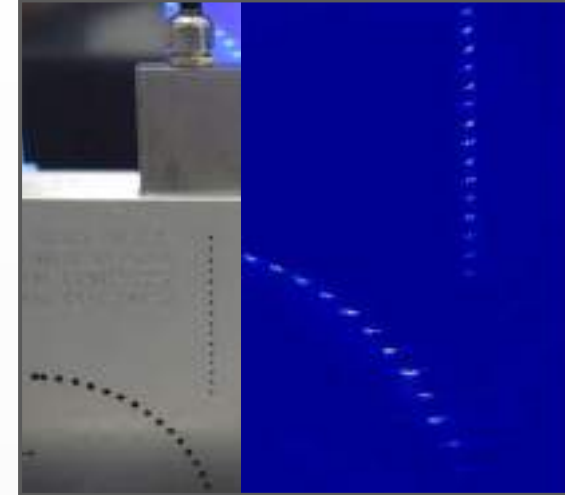
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Portable Ultrasonic Flaw Detectors and Measuring Gauges

ECHOGRAPH – Ultrasonic flaw detectors



Phased Array flaw detectors with TFM (*)



ECHOMETER – Measurement of wall thickness & concentration **SCANMASTER spot weld testing (*)**



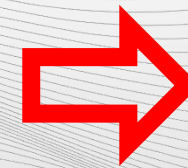
(*)
Partner product
for selected markets

ECHOMETER 1077 Multi-Channel Wall Thickness Measurement on Alu Wheel Carrier

Positioning of Probe and Water Nozzle with Robot



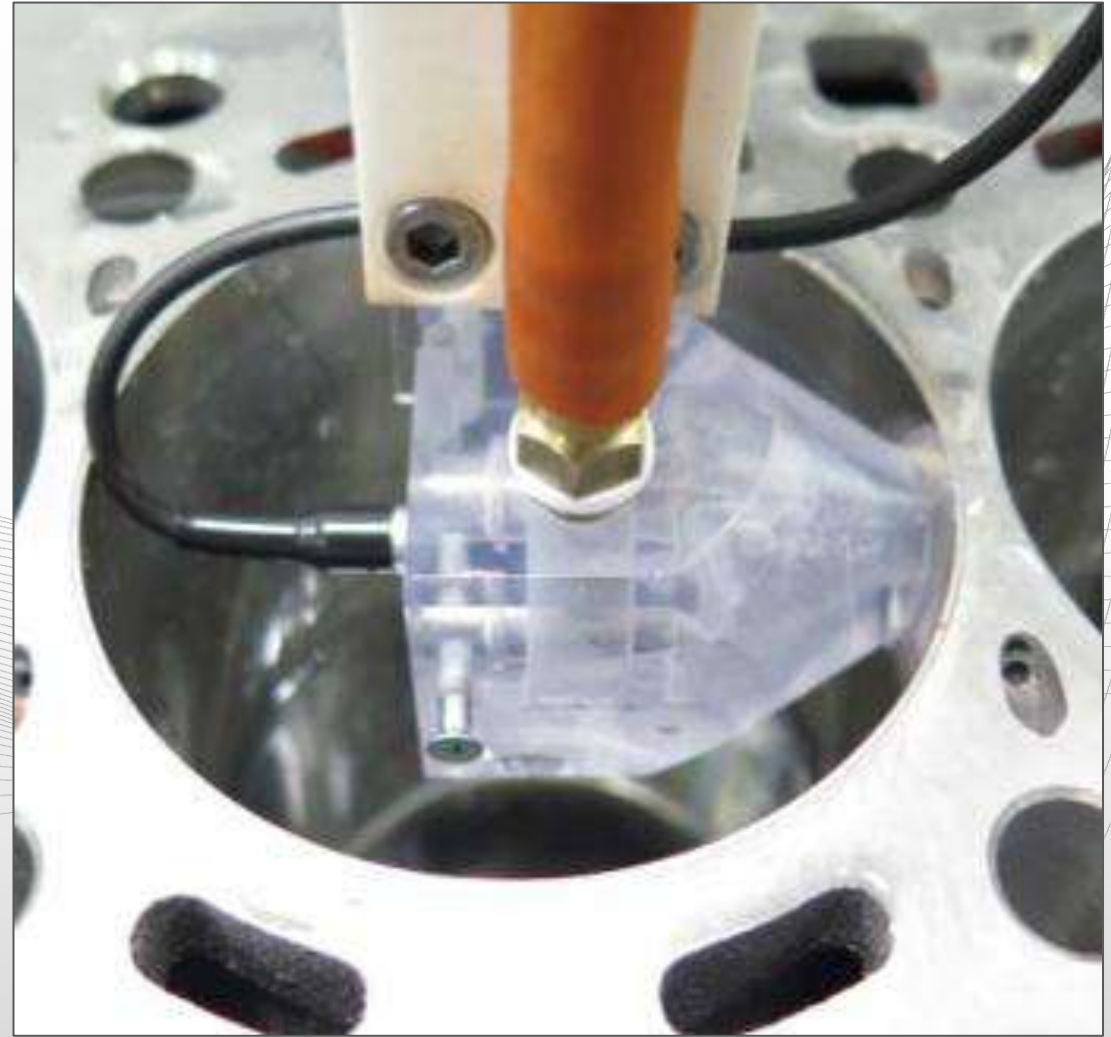
CONFIDENTIAL !



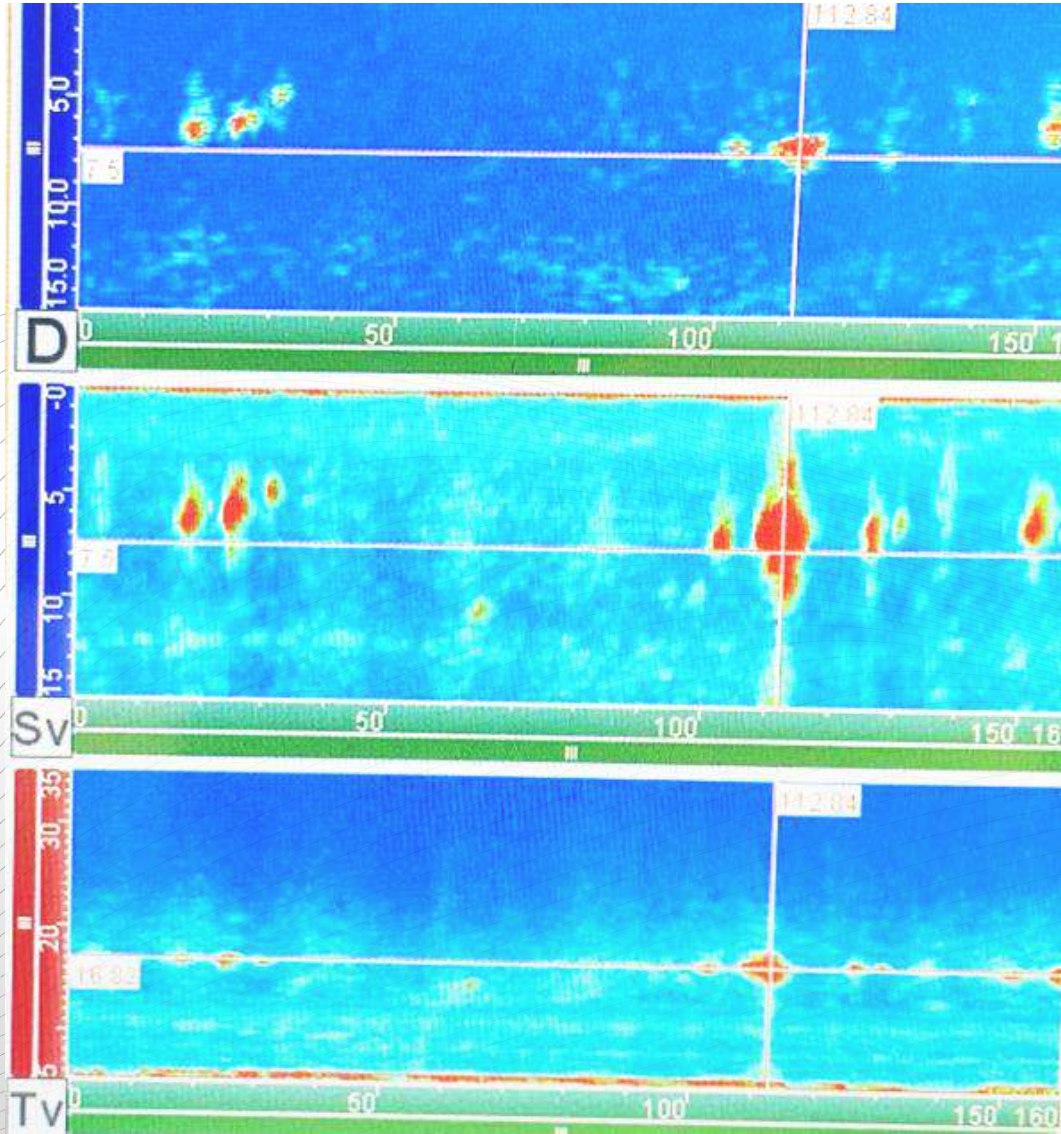
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ECHOMETER Distance Measurement for Cooling Channels in Motor Block

Positioning of Probe and Water Nozzle with Robot



GEKKO & Scanner: Weld Inspection on Thin-Walled Pipes



4 GEKKO & Scanner: Weld Inspection on Offshore Wind Mill Platform



Measuring Gauges

DEUTROMETER Measurement of field strength, UV intensity & white light



RMG Measurement of crack depth



LEPTOSKOP Measurement of coating thickness



ECHOGRAPH Ultrasonic Probes

Mono-element probes



Phased Array probes

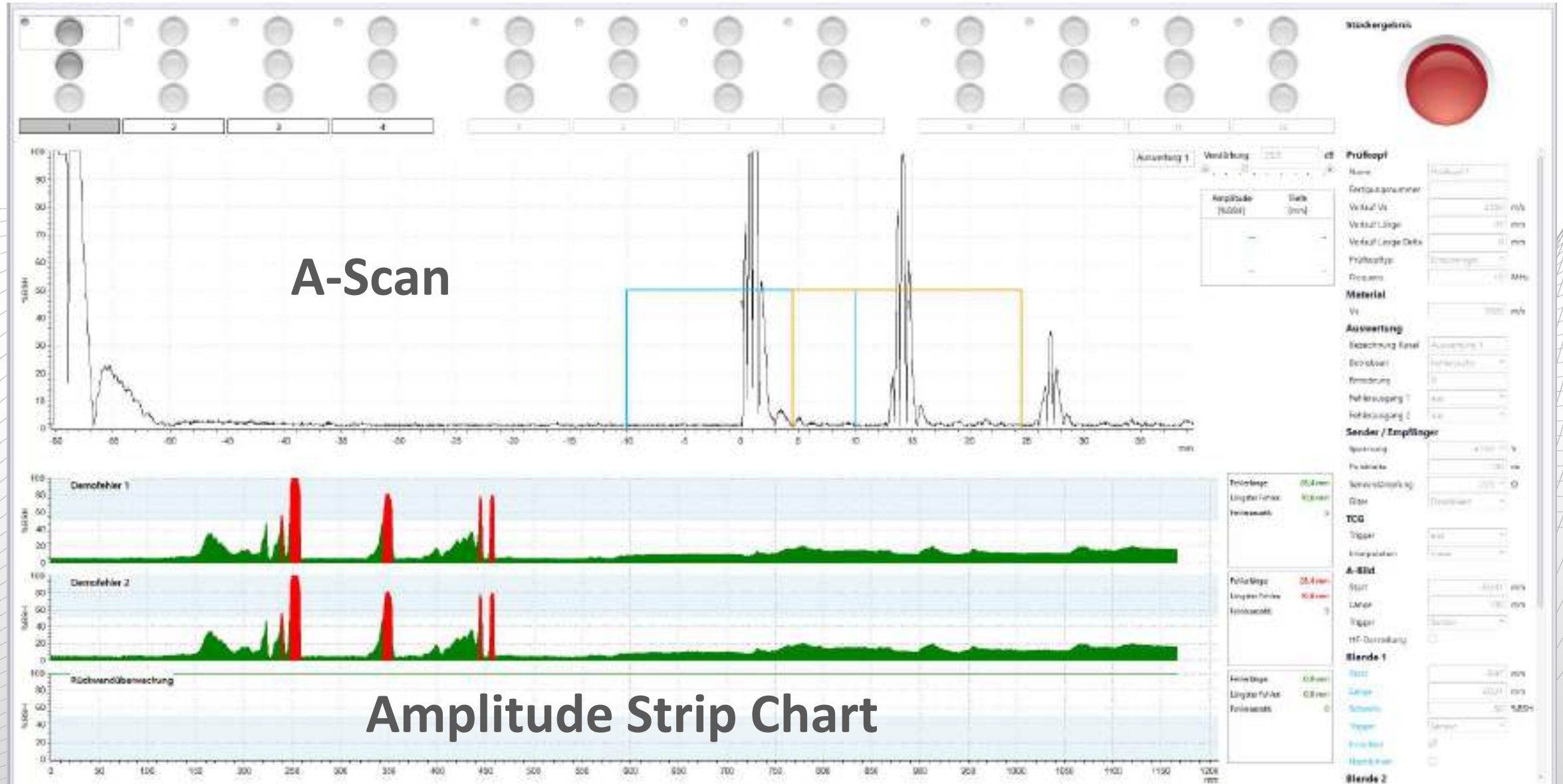


ECHOGRAPH 1170 Multi-Channel Ultrasonic Testing Electronics



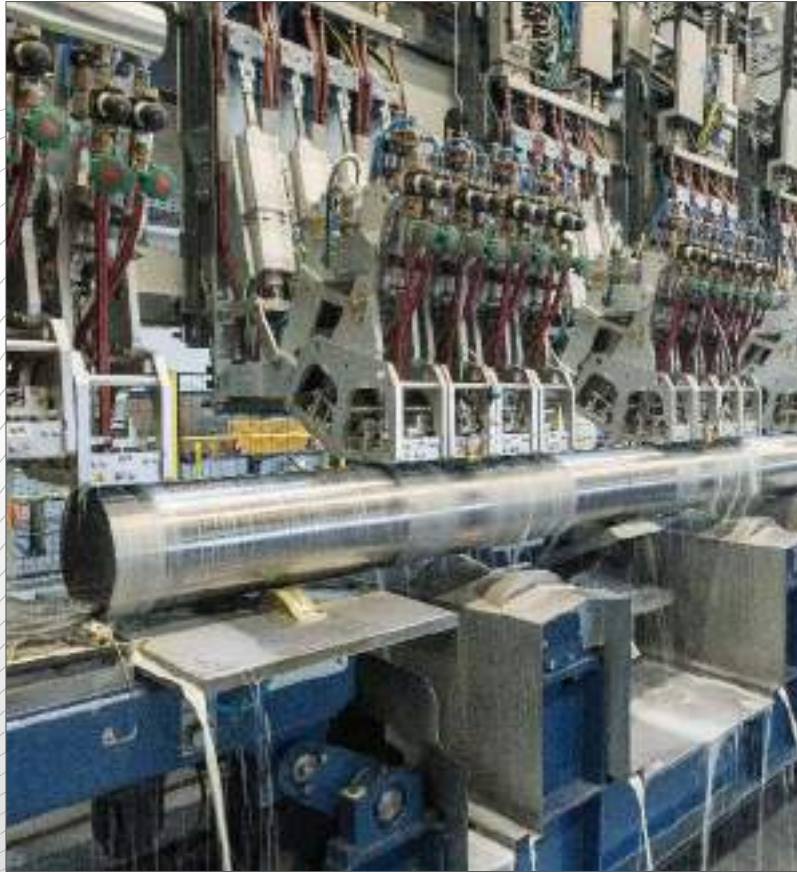
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ECHOVIEW Software for Processing of Ultrasonic Data (UT & PAUT)



Testing Systems (UT, MT, PT)

ECHOGRAPH
Ultrasonic test systems



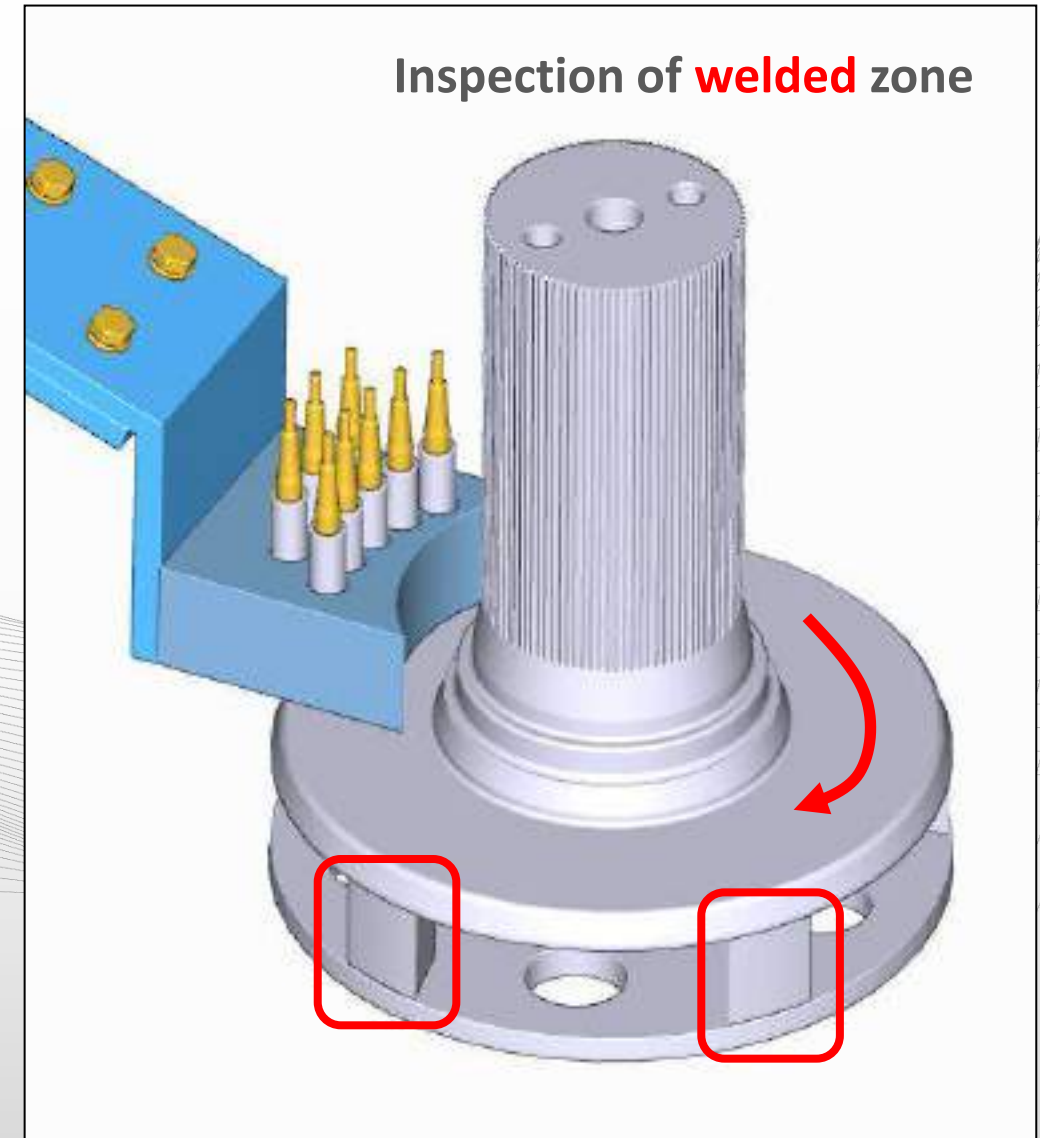
DEUTROFLUX / DEUTROMAT
Magnetic particle testing systems



KD-CHECK-SYSTEMS
Penetrant testing systems



ECHOGRAPH 1093: Inspection of Gear Parts (8 Channels)



ECHOGRAPH SNHF PAUT ROBOT: ERW Pipe Weld Test

Key properties:

- inspection of endless ERW pipes
- Linear transportation
- Ø 85 - 180 mm
- Water path / membrane / water gap coupling
- PAUT Electronics
- Curved PAUT probes for various pipe diameters
- Test tasks:
 - Longitudinal defects (API 5L)
 - Wall thickness measurement







DEUTROMAT Customized High-Speed Magnetic Particle Testing System

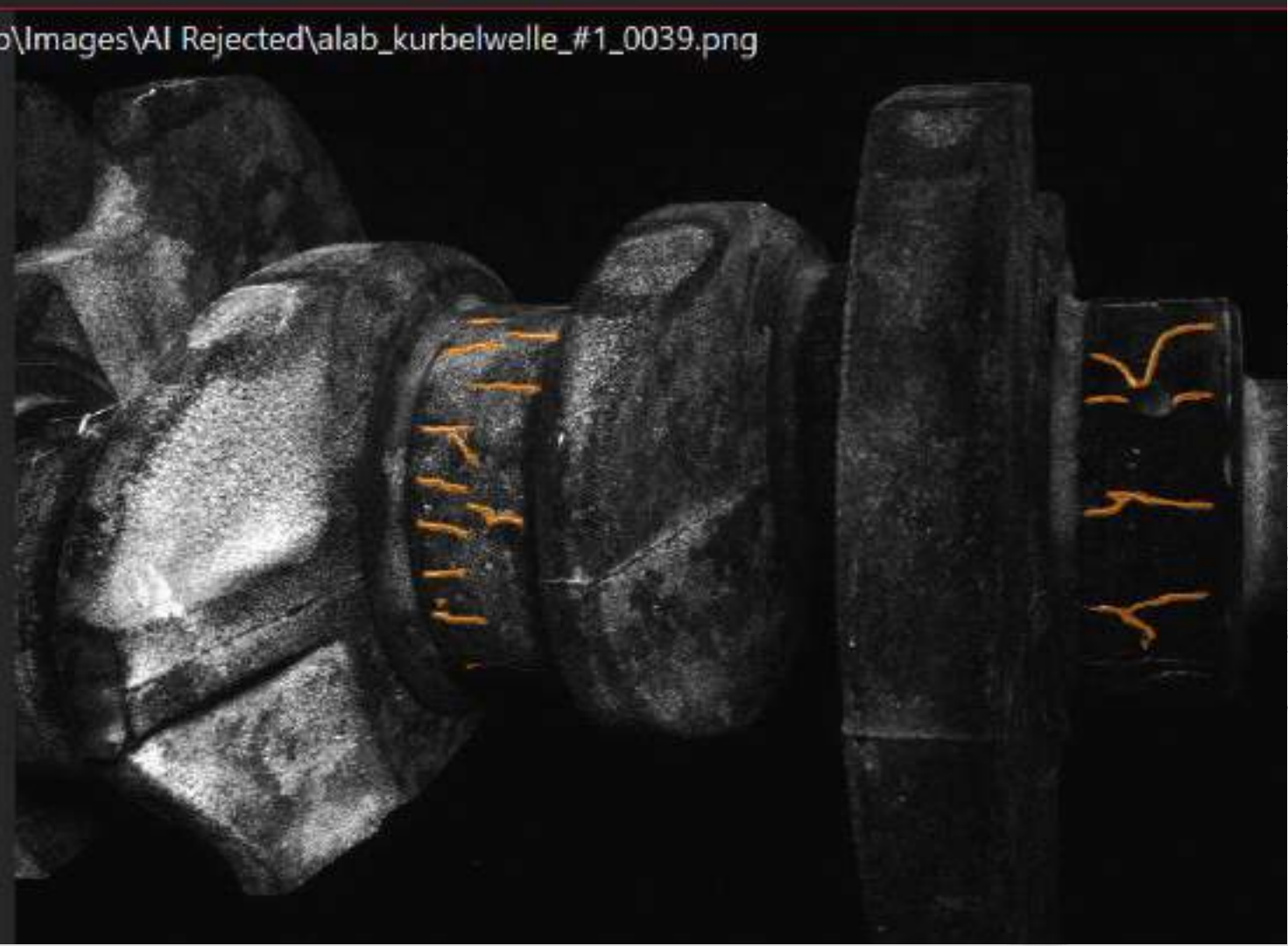


CRACKVIEW AI-Based MT Evaluation Software

Auftrag: alab
Bezeichnung: kurbelwelle_#1

Pfad: C:\Temp\Images\AI Rejected\alab_kurbelwelle_#1_0039.png

Stück i. O.		Stück n. i. O.	
			
Score: 1,00	Score: 1,00	Score: 1,00	
			
Score: 1,00	Score: 1,00	Score: 1,00	
			



CRACKVIEW Test Station for Demonstration & Data Acquisition



- Part Loading (manual / robot)
- Turn table with clamping device
- Flexible multi-camera setup
- Integrated industrial PC
- CRACKVIEW AI-based software module
- Automated, PLC-controlled image acquisition
- Data processing
- Part sorting (OK / NOK)

Chemicals (for MT PT UT): Crack Detection Liquids & Couplants

FLUXA
Magnetic particles



KD-CHECK
Dye penetrants



ECHOTRACE / ECHOFLUID
Ultrasonic couplants





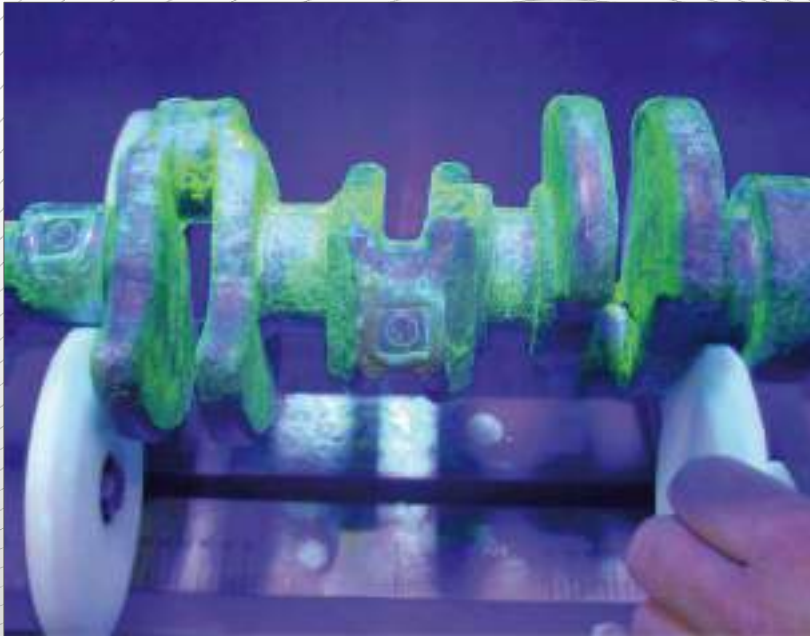
Industrial Sectors, Worldwide Customers & References

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Mit Sicherheit geprüft! Definitely Tested!

Applications, Industrial Sectors: (Mostly Metallic) Safety Parts

- Primary metals (steel, aluminum, ..)
- Steel construction & welds
- Automotive
- Railways & Cable Cars
- Aerospace
- Shipbuilding
- Agricultural machinery

- Power generation
- Chemical industry, apparatus construction
- Mining
- Bearings & gears
- Forgings & castings
- Chemical & paint industries
- Research & laboratories



Global Footprint: Sales via **Subsidiaries** & Longterm Sales Partners

NORTH- & CENTRAL

AMERICA:

Canada
Cuba
Mexico
Panama
USA

LATIN AMERICA:

Argentina
Brasil
Ecuador
Peru

EUROPE:

Austria
Belgium
Bulgaria
Czech Republic
Denmark
GERMANY
Finland
Estonia
France
Greece
Great Britain
Hungary
Italy
Latavia
Lithuania
Poland
Portugal
Romania
(Russia)
Slovakia
Spain
Suisse
Sweden
Ukraine

AFRICA:

Egypt
South Africa
Tunesia

MIDDLE EAST:

Iran
Saudi Arabia
Turkey

ASIA:

Azerbaijan
China
India
Indonesia
Japan
Kasachstan
Korea
Malaysia
Philippines
Singapore
Taiwan
Thailand
Vietnam

AUSTRALIA

KD China – Successful for Decades !

Wolfram & Managing Director of China Office Olaf Deutsch @ NDT trade show in Shanghai

第十一届中国国际质量控制与测试工业设备展览会

The 11th China International Exhibition on Quality Control & Testing Equipment

展览时间: 2006年11月1日—3日

主办单位: 上海材料研究所

承办单位: 上海华亿展览广告有限公司
北京亚西亚机械工业国际

海外代理: P.E. Schall GmbH
香港高威展览促进有限公

支持单位: 中国机械工业联合会

中国国际商会机械行业商会

中国机械工程学会无损检测分会

中国机械工程学会理化检验分会

中国机械工程学会材料分会

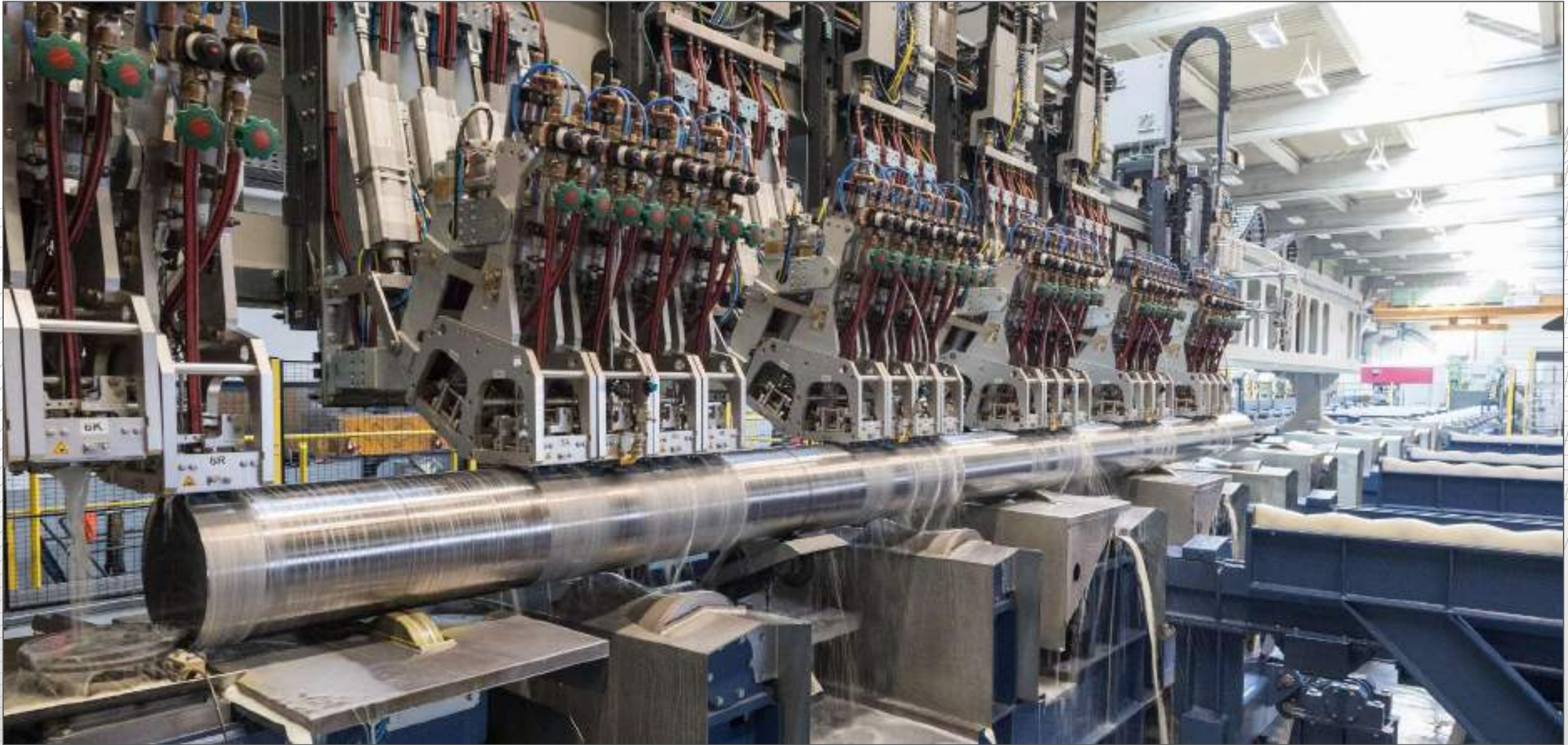
机械工业材料质量检测中心

德国设备制造商协会(VDMA)



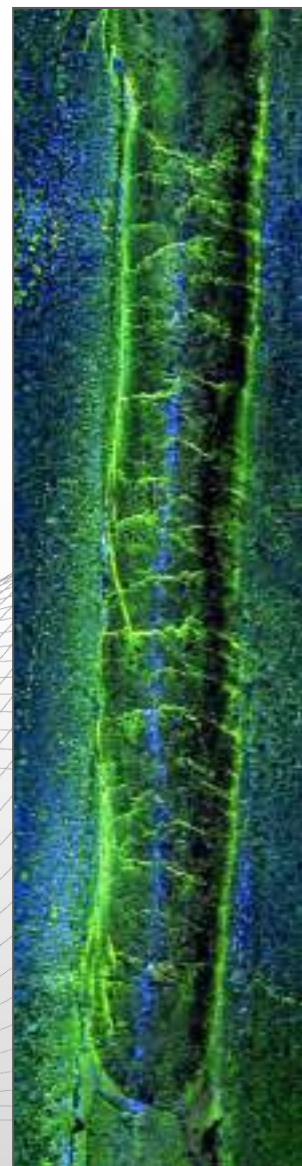
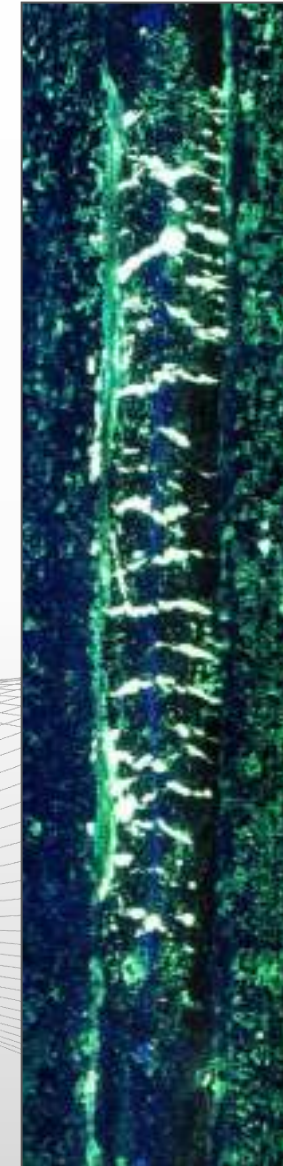
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Primary Metals: Ultrasonic Steel Bar Testing



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Steel Construction & Welds



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Automotive: Forgings & Castings



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Automotive: Aluminum Forgings & Spot Welds



Railways: Hollow Axles



Railways: Solid Axles & Wheels



Railways: Wheels, Axles, Wheelsets



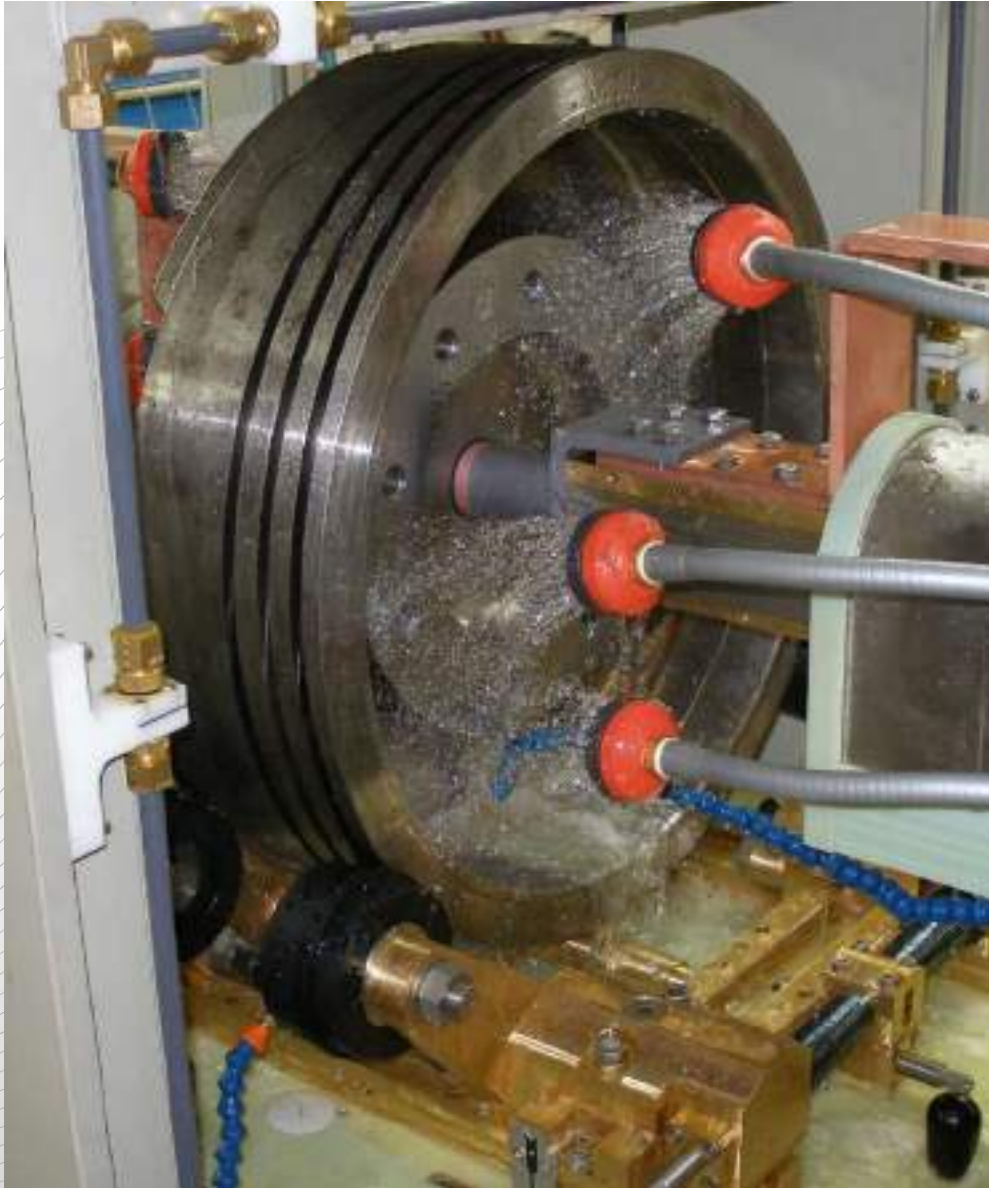
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Shipbuilding: Piston Rods



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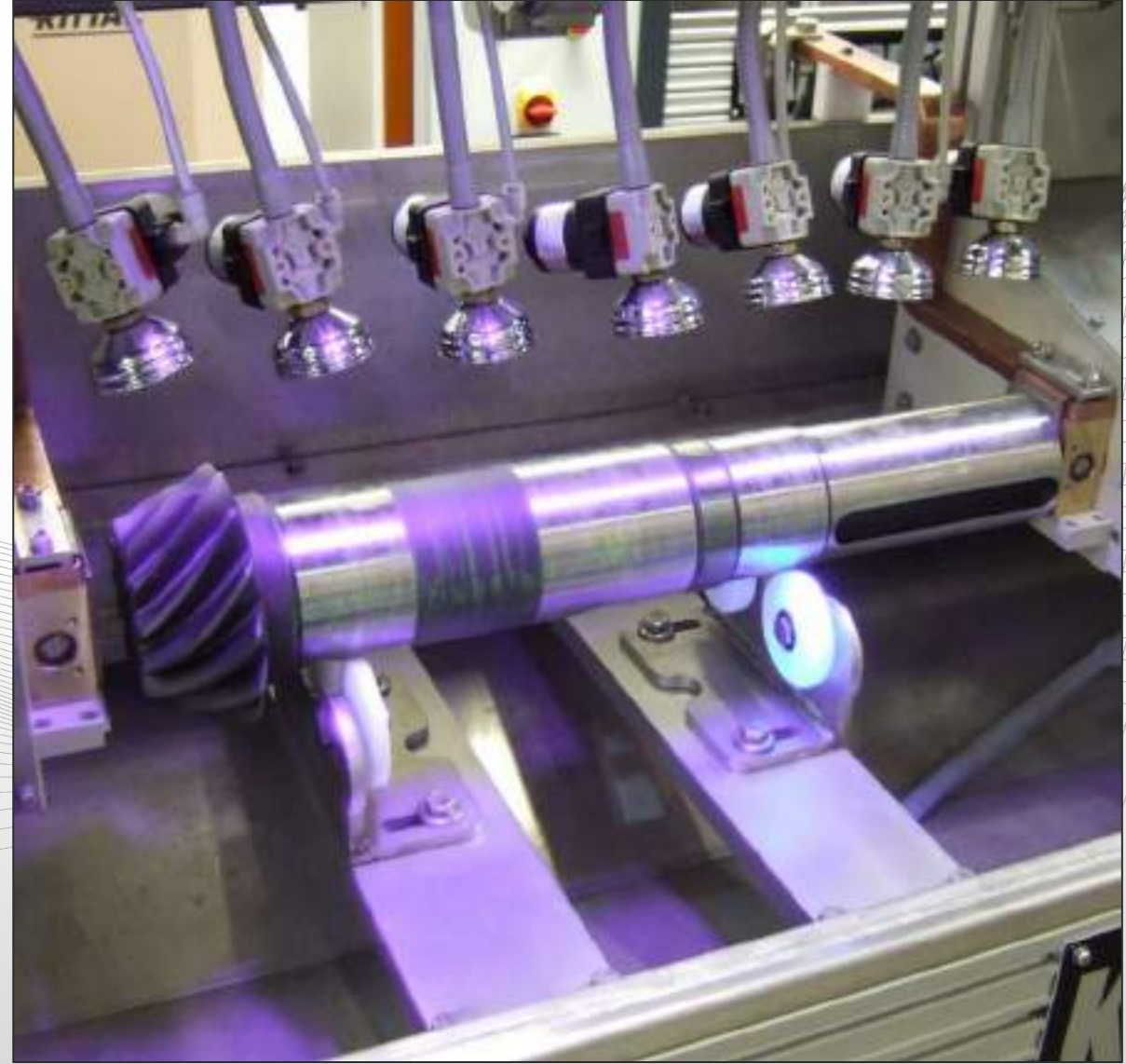
Shipbuilding: Pistons & Crankshafts



Shipbuilding: Welds



Power Generation: Gears



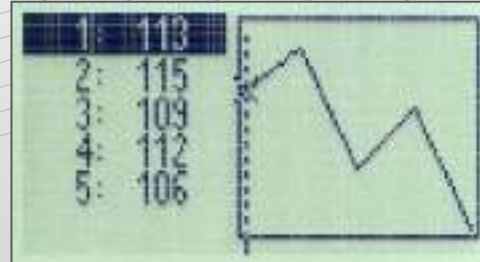
Chemical Industries & Apparatus Manufacturing: Welds, Corrosion, Wall Thickness



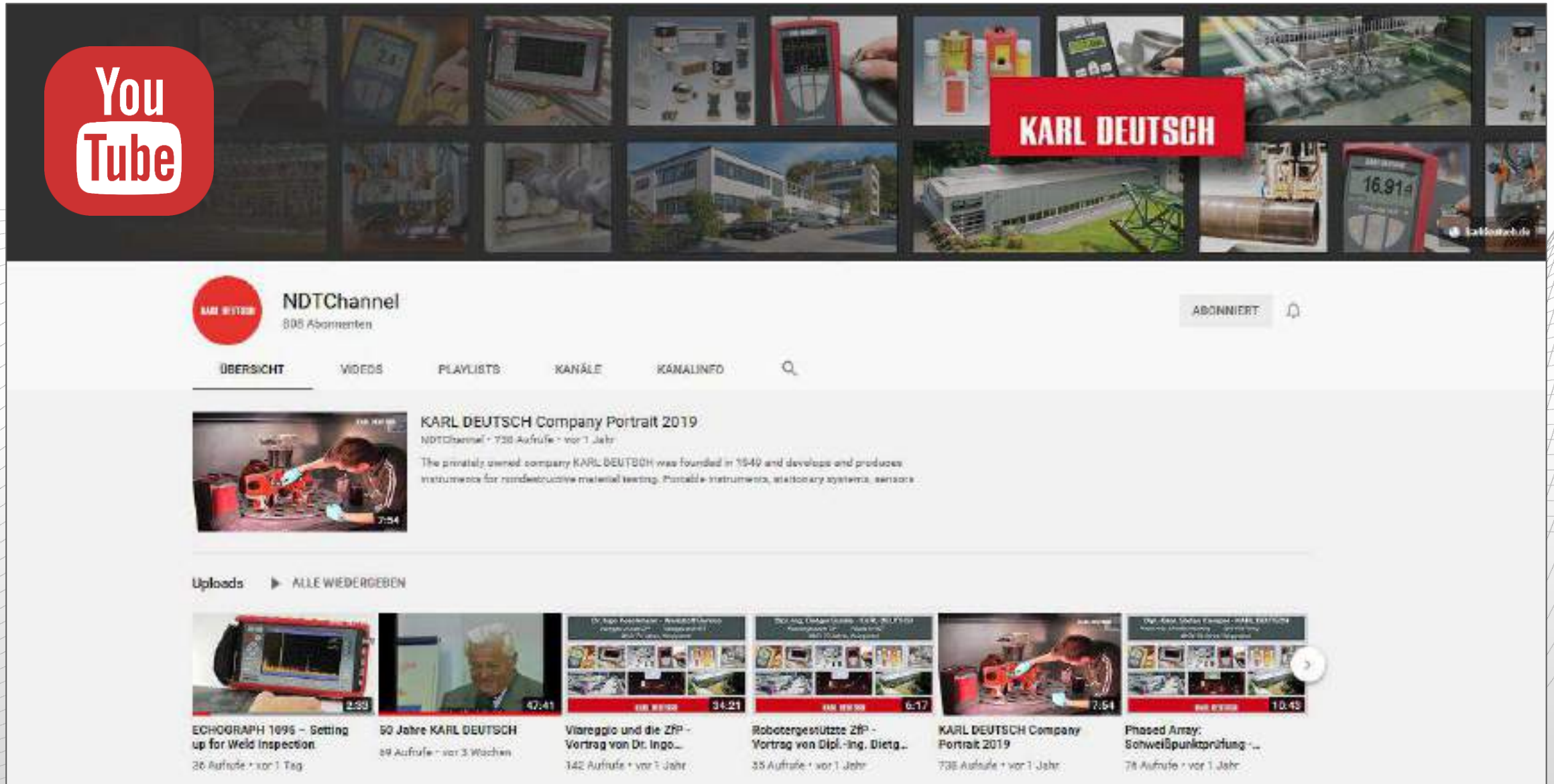
Bearings & Gears



LEPTOSKOP: Coating Thickness Measurement for Paint & Lacquer



Extensive Video Selection on YouTube



The image shows a screenshot of the YouTube channel page for NDTChannel. At the top, there is a banner with a grid of video thumbnails. A red YouTube logo is on the left, and a red box with the text "KARL DEUTSCH" is on the right. Below the banner, the channel name "NDTChannel" is displayed with a red profile picture and "805 Abonnenten". To the right, there is a button that says "ABONNIERT" and a bell icon. Below this, there are tabs for "ÜBERSICHT", "VIDEOS", "PLAYLISTS", "KANÄLE", and "KANALINFO". The main content area shows a video titled "KARL DEUTSCH Company Portrait 2019" with a description: "The privately owned company KARL DEUTSCH was founded in 1949 and develops and produces instruments for nondestructive material testing. Portable instruments, stationary systems, sensors". Below this, there is a section for "Uploads" with a play button icon and the text "ALLE WIEDERGEBEN". This section displays a grid of video thumbnails with their titles and view counts. The videos include: "ECHOGRAPH 1696 - Setting up for Weld Inspection" (2:39, 36 Aufrufe), "50 Jahre KARL DEUTSCH" (47:41, 89 Aufrufe), "Viareggio und die ZfP - Vortrag von Dr. Ingo..." (34:21, 142 Aufrufe), "Robotergetriebene ZfP - Vortrag von Dipl.-Ing. Dietg..." (6:17, 55 Aufrufe), "KARL DEUTSCH Company Portrait 2019" (7:54, 738 Aufrufe), and "Phased Array: Schweißpunktprüfung..." (10:45, 78 Aufrufe).

You Tube

KARL DEUTSCH

NDTChannel
805 Abonnenten

ABONNIERT

ÜBERSICHT VIDEOS PLAYLISTS KANÄLE KANALINFO

KARL DEUTSCH Company Portrait 2019
NDTChannel • 738 Aufrufe • vor 1 Jahr
The privately owned company KARL DEUTSCH was founded in 1949 and develops and produces instruments for nondestructive material testing. Portable instruments, stationary systems, sensors

Uploads ▶ ALLE WIEDERGEBEN

ECHOGRAPH 1696 - Setting up for Weld Inspection
2:39
36 Aufrufe • vor 1 Tag

50 Jahre KARL DEUTSCH
47:41
89 Aufrufe • vor 3 Wochen

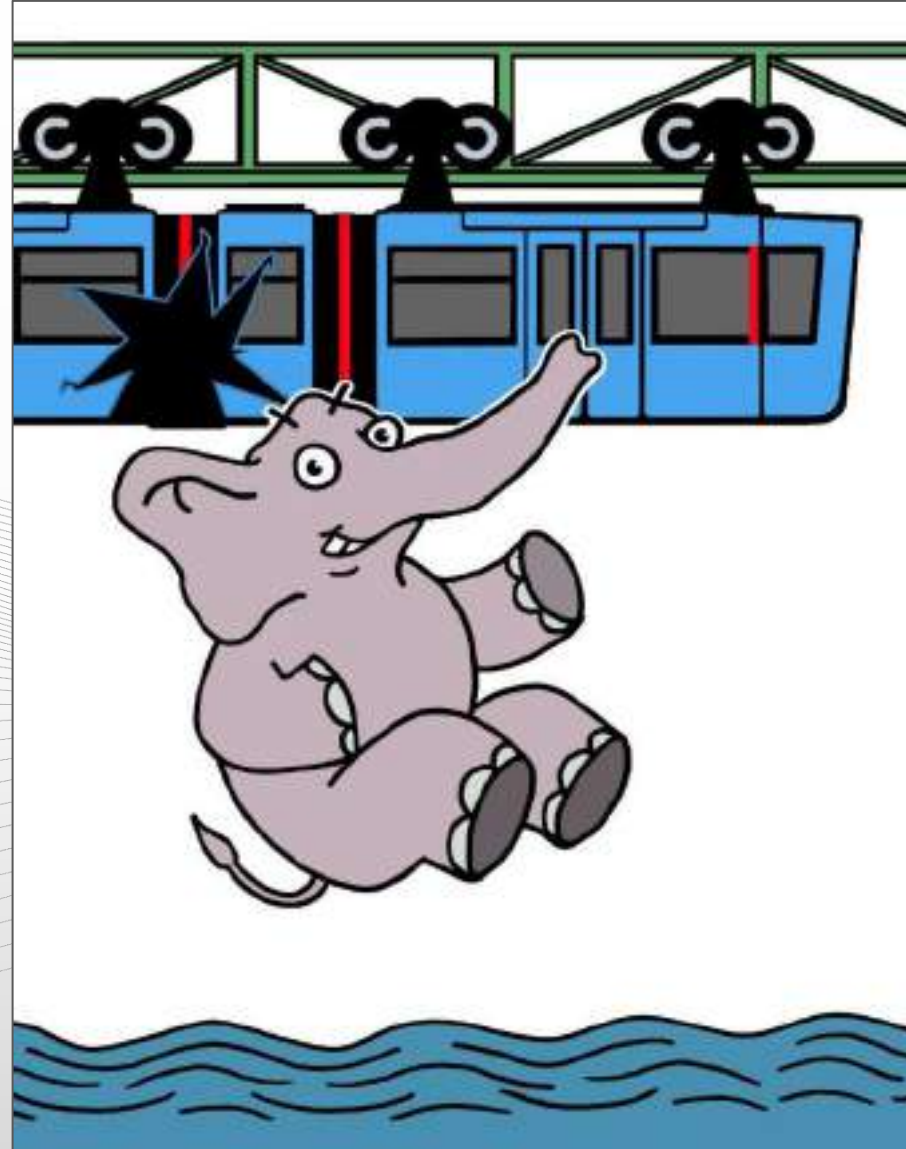
Viareggio und die ZfP - Vortrag von Dr. Ingo...
34:21
142 Aufrufe • vor 1 Jahr

Robotergetriebene ZfP - Vortrag von Dipl.-Ing. Dietg...
6:17
55 Aufrufe • vor 1 Jahr

KARL DEUTSCH Company Portrait 2019
7:54
738 Aufrufe • vor 1 Jahr

Phased Array: Schweißpunktprüfung...
10:45
78 Aufrufe • vor 1 Jahr

Thanks for Listening ! Any Questions ?



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