

URB GROUP

GENERAL PRESENTATION

URB



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CONTENT



Who we are: History & Facilities & Sales Info



Design Capabilities & Applications



Manufacturing Processes & Controls



Quality Control & Certificates

WHO WE ARE



1953

Barlad Factory started production



1973

The Forging technology from Haterbur and Wagner Germany was applied successfully



1975
–
1982

Modernization of turning and grinding workshops



1992
–
1996

Continuous modernization of various machinery and equipment



2000

Finalization of privatization process



2001
–
2005

A period of big investments in machine technologies



2006

Founding Anadolu Rulman factory (ART) in Turkey



2007

Acquisition of MGM factory in Hungary



2011

Established URB India organization with dedicated sales and aftermarket team



2020

Continued investment



RULMENTI S.A. (Romania)



Established in **1953**
Total Area: **1.300.000 m²**
Covered Area: **400.000 m²**

BEARING TYPES	SIZE RANGE (MM)	
Radial Ball Bearings	$150 \leq d \leq 400$	$300 \leq D \leq 600$
Thrust Bearings	$10 \leq d \leq 320$	$24 \leq D \leq 420$
Cylindrical Roller Bearings	$15 \leq d \leq 750$	$30 \leq D \leq 910$
Spherical Roller Bearings	$40 \leq d \leq 450$	$80 \leq D \leq 650$

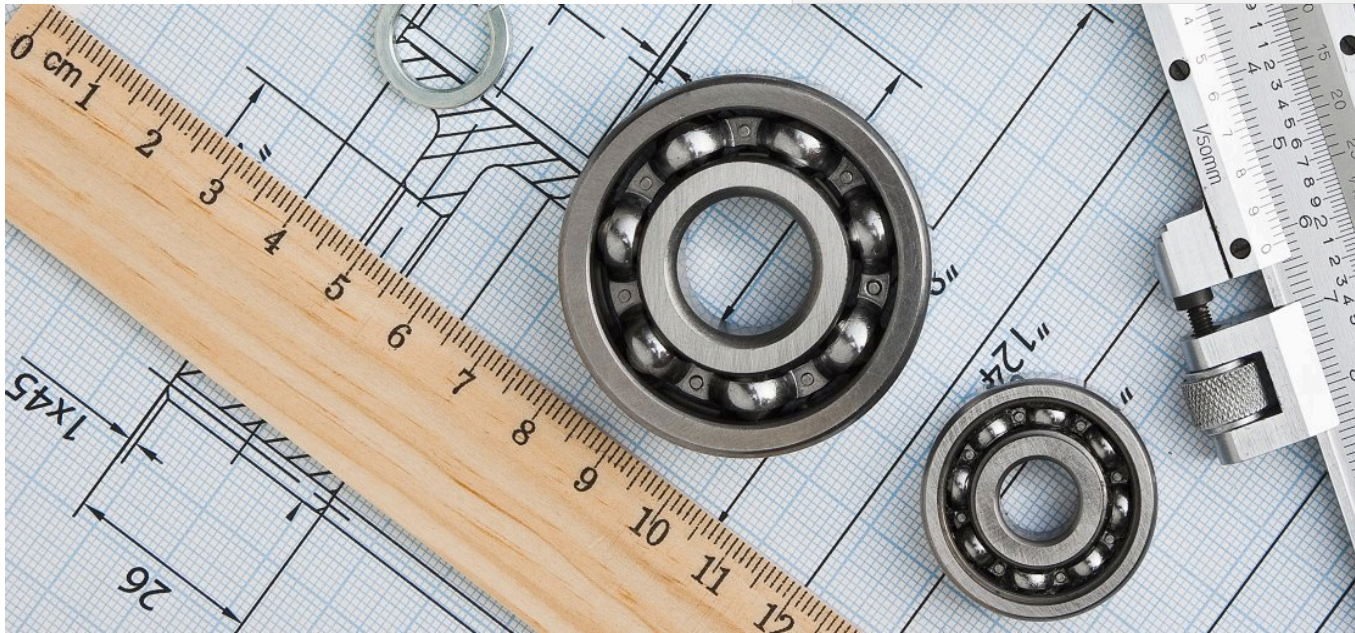


Anadolu Rulman (Turkey)



Established in **2005**
Total Area: **125.000 m²**
Covered Area: **10.000 m²**

BEARING TYPES	SIZE RANGE (MM)	
Single Row Deep Groove Ball Bearings	$10 \leq d \leq 250$	$50 \leq D \leq 300$
Tapered Roller Bearings	$10 \leq d \leq 160$	$100 \leq D \leq 250$
Induction Coated Shaft	$8 \leq d \leq 70$	



MGM (Hungary)



Established in **1950**
Total Area: **64.000 m²**
Covered Area: **40.000 m²**

BEARING TYPES	SIZE RANGE (MM)	
Single Row Tapered Roller Bearings	$50 \leq d \leq 160$	$100 \leq D \leq 300$
Paired or Double Row Tapered Roller Bearings	$50 \leq d \leq 160$	$100 \leq D \leq 300$
Single Row Deep Groove Ball Bearings	$50 \leq d \leq 130$	$100 \leq D \leq 200$



MAIN CUSTOMERS - RAILWAY



ROMANIAN Railways



POLISH Railways



TURKISH Railways



BULGARIAN Railways



GREEK Railways



VIETNAMESE Railways

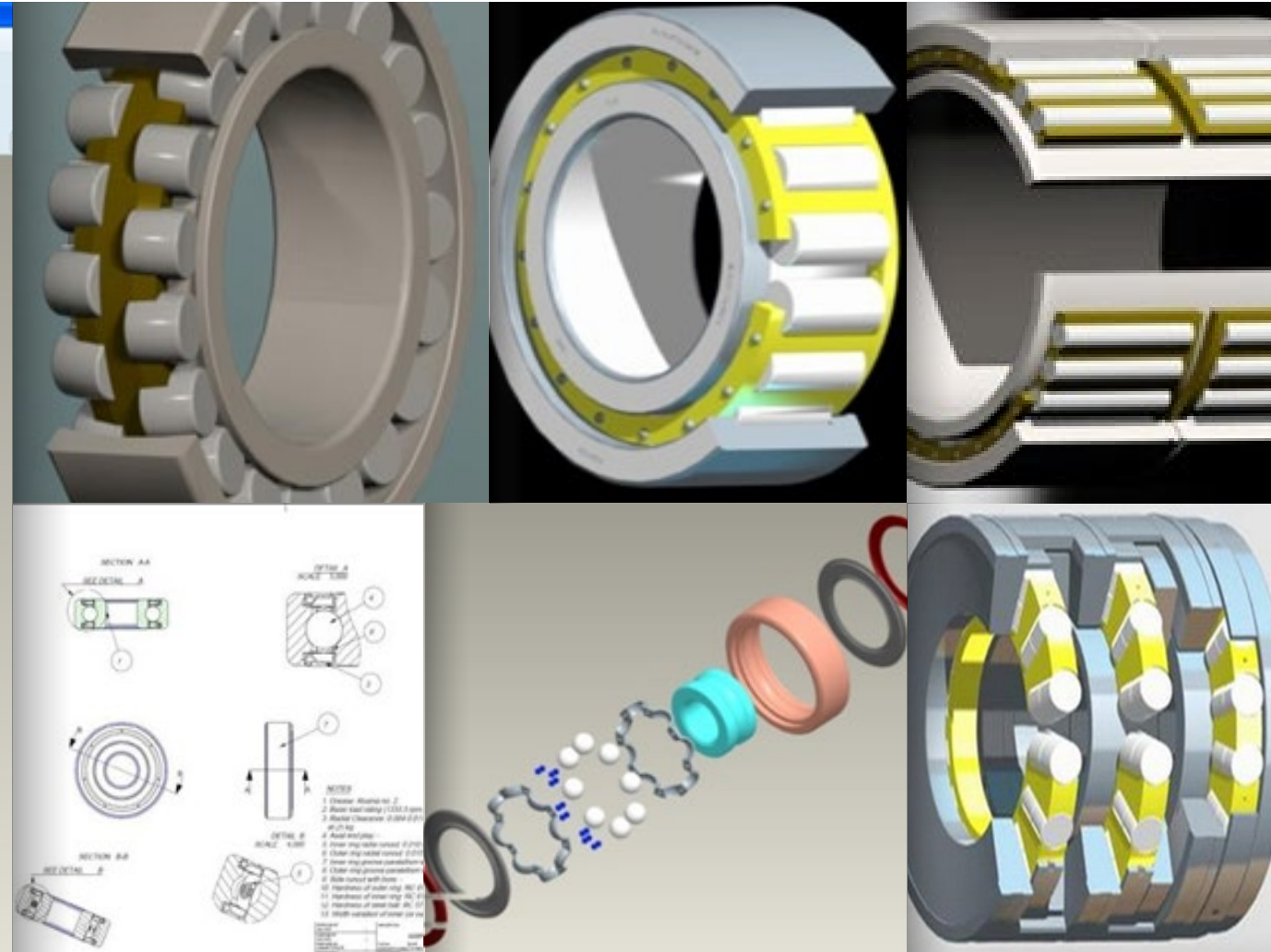
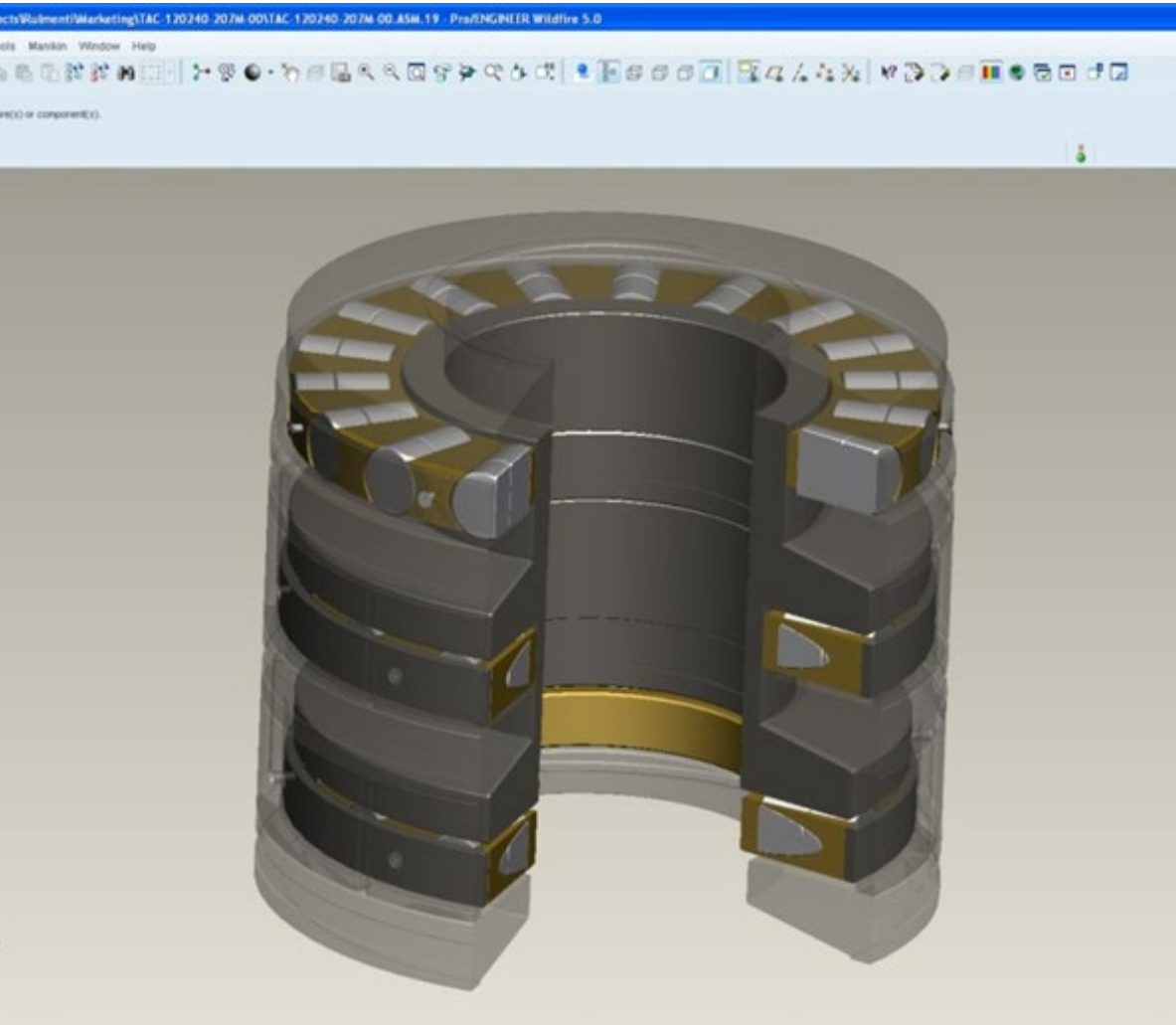
REFERENCES



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2. DESIGN CAPABILITIES & APPLICATIONS

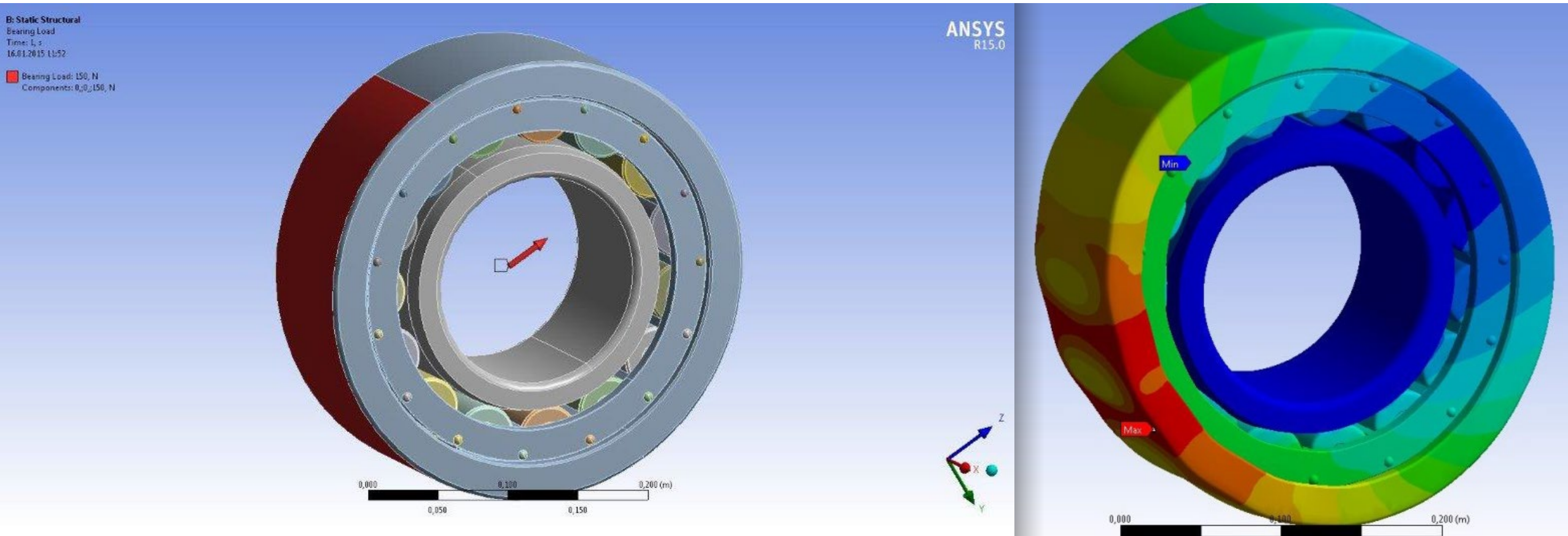
COMPUTER AIDED DESIGN PROENGINEER - URB SOFTWARE



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2. DESIGN CAPABILITIES & APPLICATIONS

COMPUTER AIDED ANALYSIS **ANSYS - URB SOFTWARE**



Dedicated R&D Team

Cooperation with Technical University

More Accurate Analysis

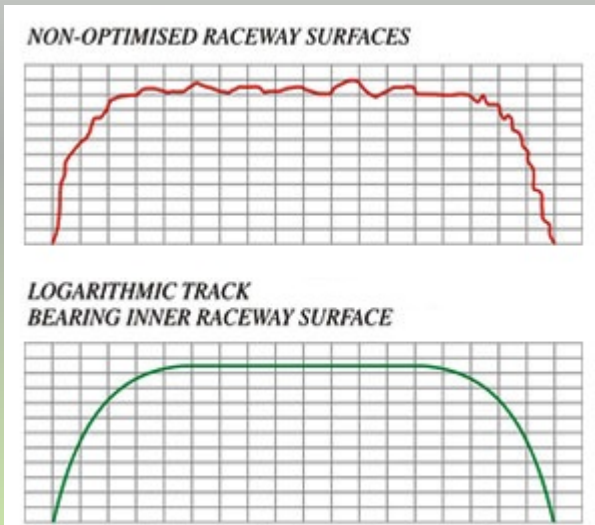


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ENGINEERING SOLUTIONS

Shape and Geometry

Optimized raceway surfaces



Rollers with logarithmic profile



Changes in construction



Drilled rollers



Higher load capacity

ENGINEERING SOLUTIONS

Product Developments

Special Bearings



New cage types



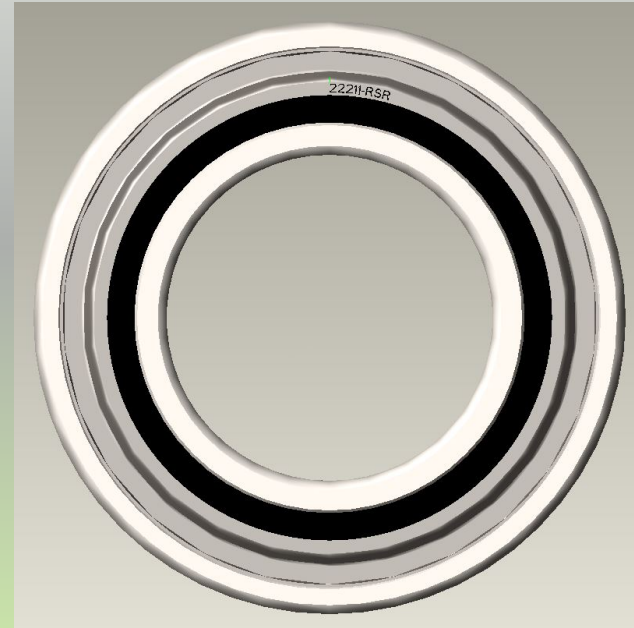
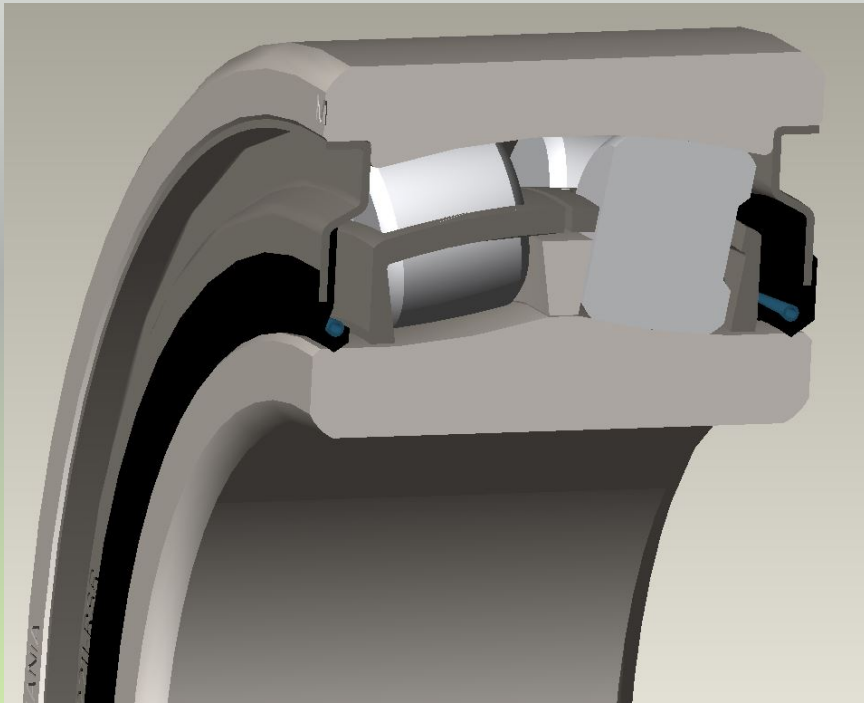
Combined Bearings



ENGINEERING SOLUTIONS

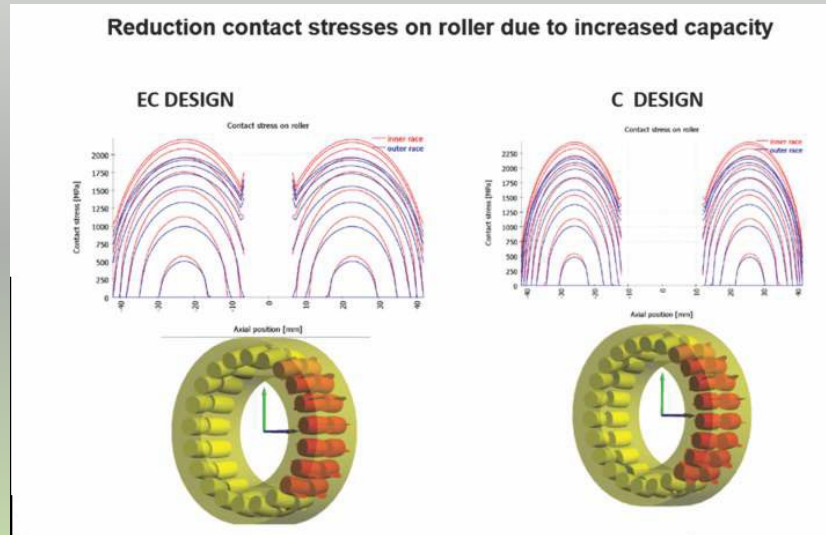
Product Developments

Double Row Spherical Roller Bearings with Rubber Seals



Product Developments

SPHERICAL ROLLER BEARINGS – EC DESIGN

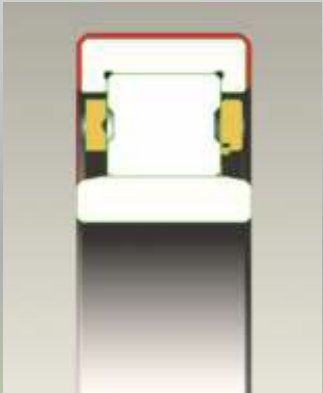


- ✓ Higher load capacity
- ✓ Longer service life
- ✓ Optimized rolling surfaces
- ✓ Low residual austenitic content
- ✓ Reduced contact stress on rollers

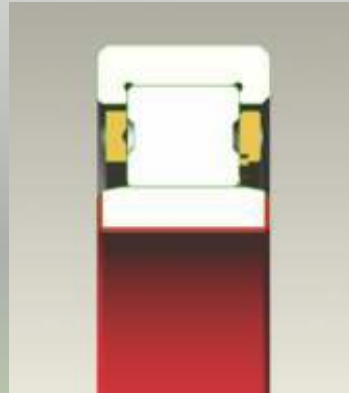
ENGINEERING SOLUTIONS

Product Developments

ELECTRICALLY INSULATED CYLINDRICAL ROLLER BEARINGS



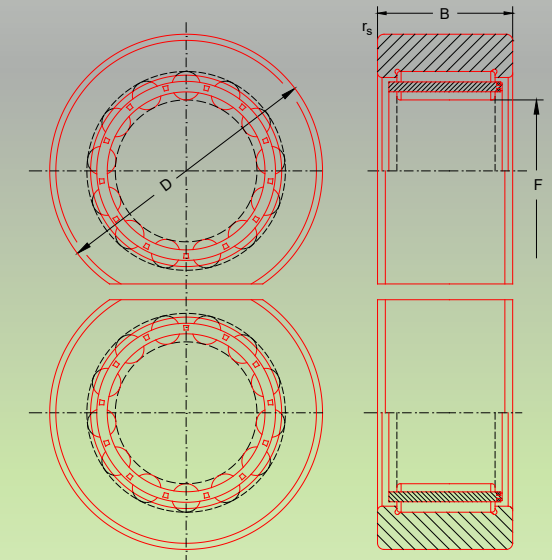
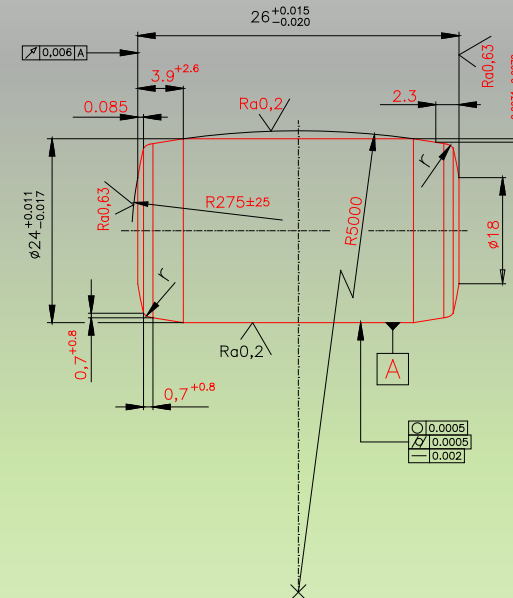
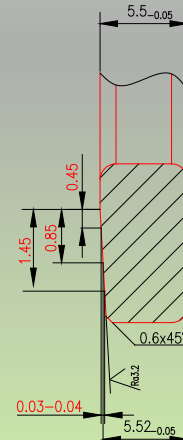
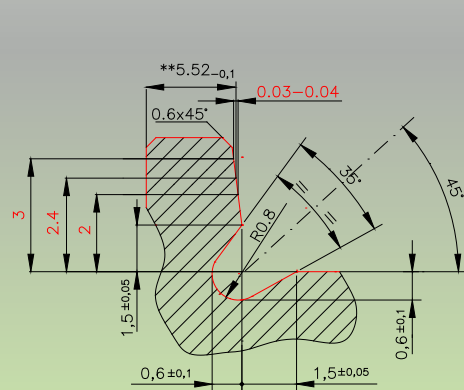
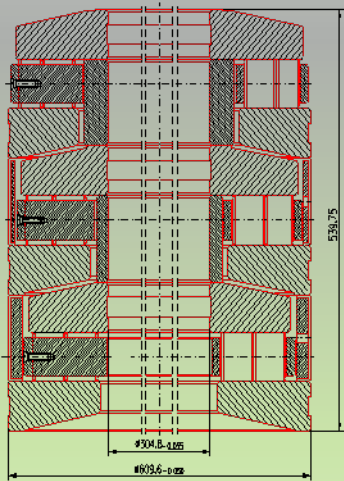
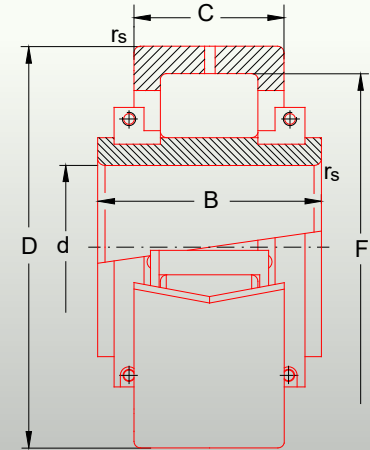
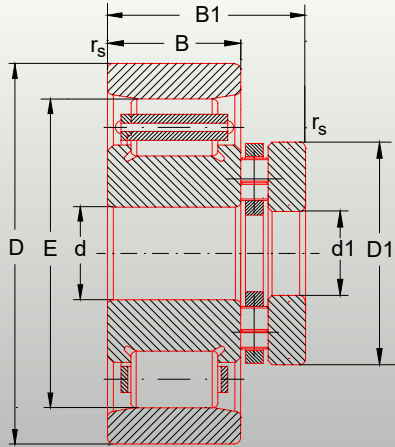
SQ11 – Outer ring coated



SQ11 A – Inner ring coated

- Coating thickness of ~0.1 mm
- Process is done by plasma spraying
- Dielectric breakdown voltage optional up to 500V or 1,000V
- Dimensional range: **Ø110 mm ÷ Ø320 mm** (outer diameter)
- High thermal stability
- Applications:
 - Electric motors
 - Generators
 - Railway axle boxes
 - Traction motors
 - Wind turbines

*** Our dedicated R&D team can provide specially designed products with application and service engineering on non-standard applications**



2. DESIGN CAPABILITIES & APPLICATIONS

Applications



OIL INDUSTRY

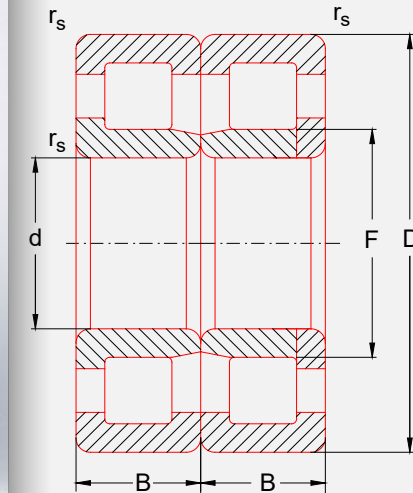


2. DESIGN CAPABILITIES & APPLICATIONS

Applications



RAILWAYS



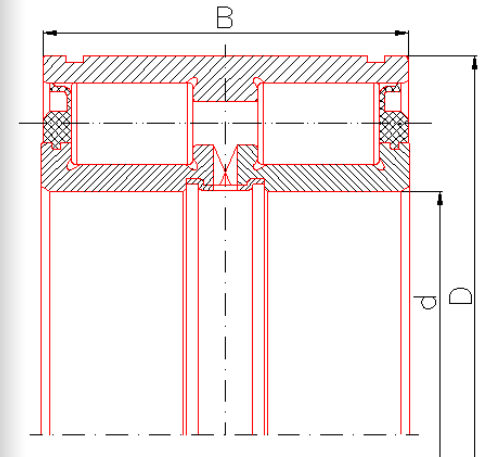
2. DESIGN CAPABILITIES & APPLICATIONS

Applications



WIND ENERGY

- small and medium sizes
- Rotor Pitch / Nacelle Yaw
- Gearbox

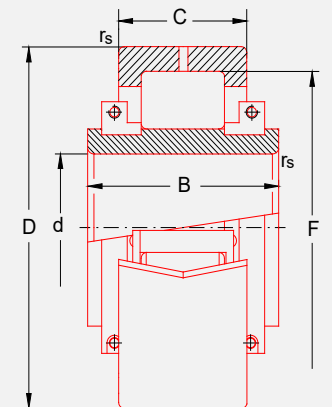


2. DESIGN CAPABILITIES & APPLICATIONS

Applications



METALLURGY

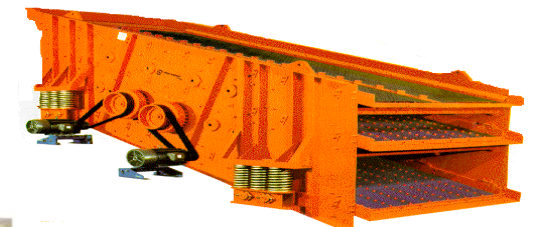
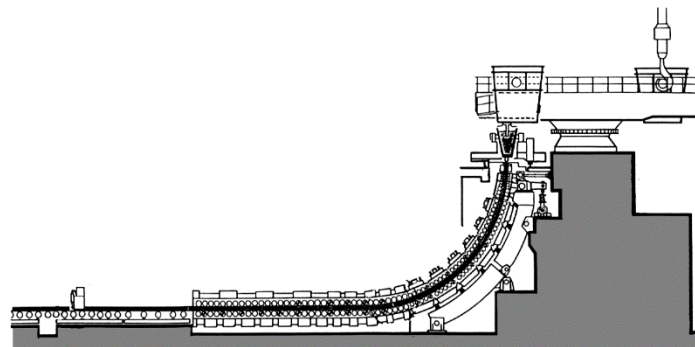


2. DESIGN CAPABILITIES & APPLICATIONS

Applications



AGRICULTURE, MINING, CEMENT, METALS, TRUCKS, CRANES

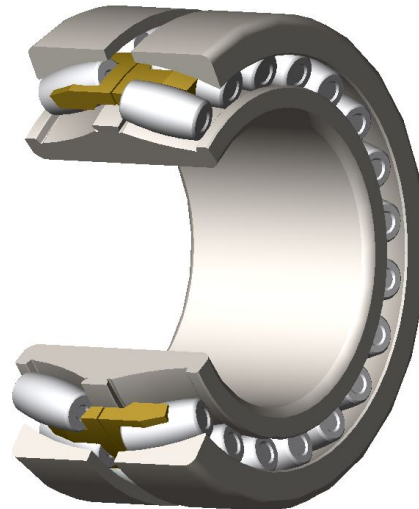


2. DESIGN CAPABILITIES & APPLICATIONS

Applications



ELEVATORS, ROPE SHEAVES



MAIN STEEL SUPPLIERS



Ovako - **Sweden**



Deutsche Edelstahlwerke - **Germany**



OEMK – **Russia**



Kobe Steel – **Japan**



Sanyo – **Japan**



Moravia Steel – **Czech**



BMZ– **Belarus**

3. MANUFACTURING PROCESSES & CONTROLS

1. Material Control

Storage

- Raw material checking
 - According to ISO 683-17
 - According to specific technical requirements by customer



- Raw material pre-production analysis:
 - Hardness (Rockwell, Brinell, Vickers)
 - Microstructure/macrostructure (carbides network, carbides streaks, martensitic structure, decarburized layers)
 - Spectral analysis (chemical composition, % of elements in used steel)

1. Material Control

Incoming Inspection



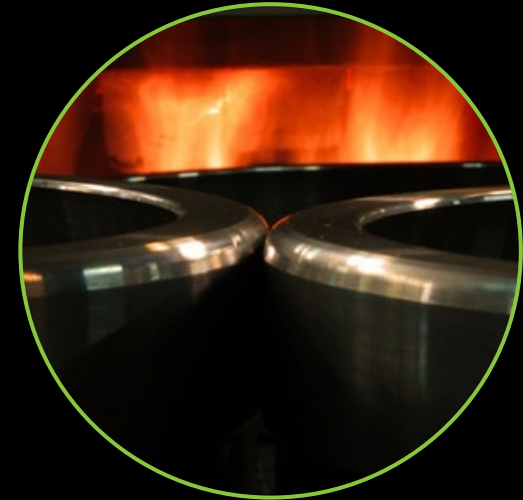
- Outer & inner ring forging equipment's:
 - Wagner 250
 - Wagner 400V, 400N
 - Wagner 630V, 630N
 - AMP 20
 - AMP 30
 - AMP 50
 - Hammers (1&2 tons)
- Primary heat treatment- Annealing equipment:
 - Siemens 1500-1/2
 - Siemens 750-1
 - Uttis
- Sand blasting:
 - TK1/3;
 - Rosler
- Dimensional (ID/OD/H), hardness, microstructure and surface checking

2. Forging



- Outer & inner ring soft turning equipment:
 - CNC machine
 - Automatic lathes
- Quality Control
 - Dimensional (ID/OD/H, angles, raceways, recess, radius)
 - Form deviations (ovality, profile deviation, parallelism, conicity, raceway deviations)
 - Surface checking (surface defects, roughness)
- Secondary heat treatment-
Quenching and tempering equipment's:
 - EBNER 1/2
 - MD318 1/2
- Dimensional, microstructure
Residual austenite, hardness checking

3. Turning & Heat Treatment



- Outer & inner ring grinding equipment's:

- CNC - grinding machines
- Centerless grinding machines
- Classic grinding machines

- Quality Control:
 - Dimensional (ID/OD/H, angles, raceways, recess, radius)
 - Form deviations (ovality, profile deviation, parallelism, conicity, raceway deviations)
 - Surface checking (surface defects, roughness)

4. Grinding



- Coil phosphating
- Cold pressing with Sakamura Presses

- Face & outer grinding

- Quality control:
 - Dimensional
 - Form deviations
 - Surface checking (visual defects)

- Heat treatment (Quenching and Tempering)
 - MD318 1/2

- Rollers grinding
- Vibrosmoothing using Kromas equipment's

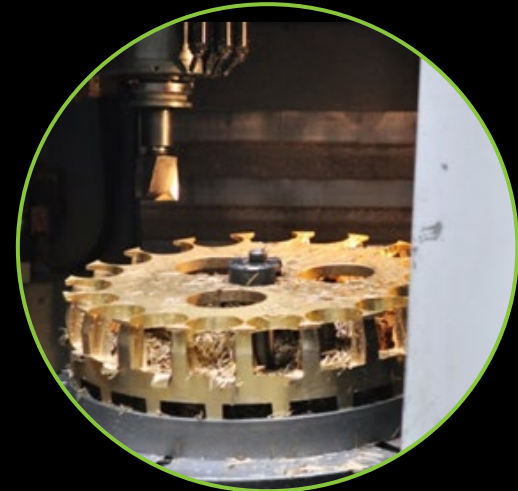
- Sorting of rollers(OD/H) 0,5/1 μm
 - Speedy
 - TRLa
 - GTRS

5. Rollers



6. Cages

- Brass cages:
 - In-house centrifugal casting
 - CNC milling, turning and drilling
 - Chemical bath
- Polyamide cages are produced through injection at the Tooling Dept.
- Steel cages:
 - Cold pressing of steel sheets (deep-drawing, cutting)
 - Turning and vibro-smoothing
 - Sand-blasting



- Non destructive testing for railway industry
 - Ultrasonic testing
 - Magnetic powder inspection
 - Eddy currents
 - Expansion test
- Post-assembly demagnetizing and washing
- Final characteristics checking
- Final assembly
- 3D dimensional testing
- Preserving with conservative for 18 months guarantee

7. Bearing Elements' Reception and Assembly



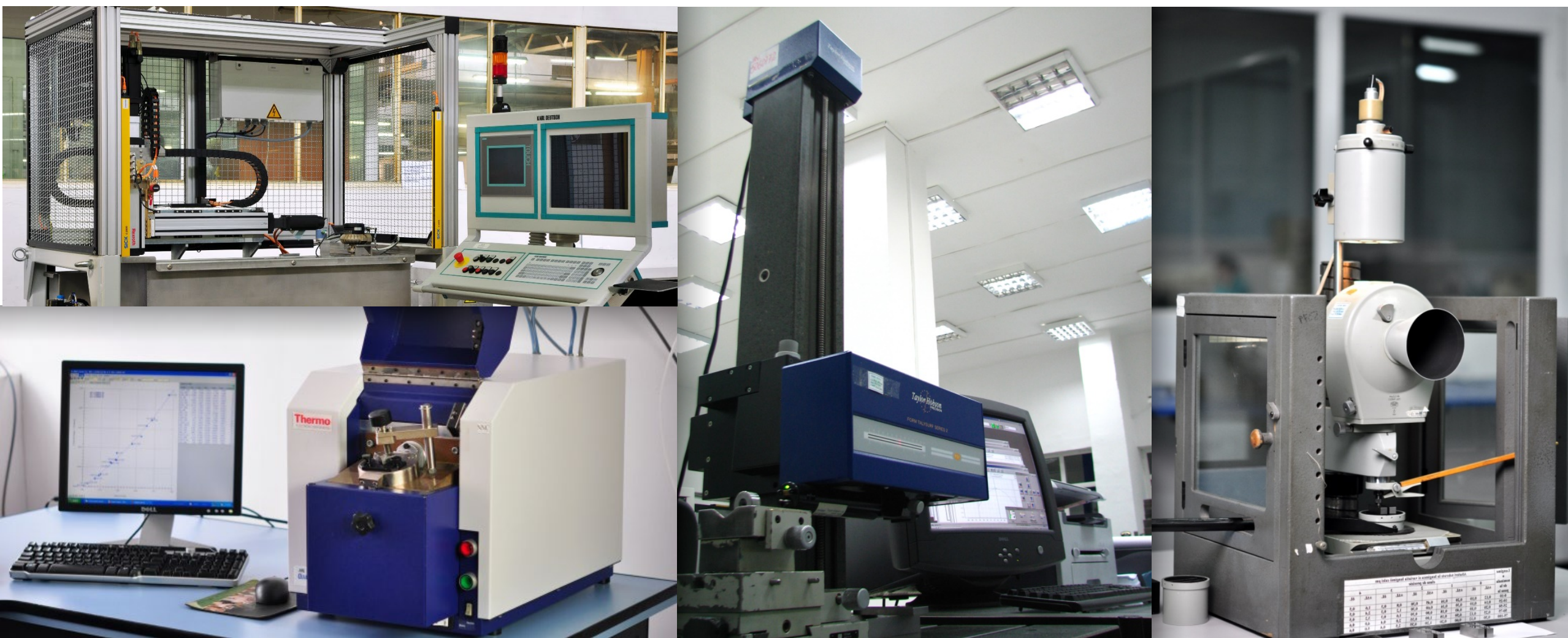
- Total area of 10,900 m²
- 357 direct machines & 114 auxiliary machines
- Capable of:
 - Turning
 - Milling
 - Grinding
 - Metallic structuring (bending, shocking, rolling, welding)
 - Heat treatment
 - Titanium covering
 - Electrical discharging

Tooling Workshop



4. QUALITY CONTROL

Quality & Measurement Laboratories



4. QUALITY CONTROL

3D Testing in Quality & Measurement Laboratories



4. QUALITY CONTROL

Bearing Life Time Testing Lab



4. QUALITY CONTROL

Dynamic Bearing Testing Rig

- Able to test bearings up to Ø500 mm outer diameter
- Axial load simulation



4. QUALITY CONTROL

Packaging



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Certification **QMC- ISO 9001 : 2015 / TUV SUD**

certificate Registration No.: 12 100 52718 TMS from 30.07.2018

Certificate validity: 29.07.2021

Certification **QMC – IATF 16949 : 2016 / TUV SUD**

certificate Registration No.: 12 111 52718 TMS from 30.07.2018/ IATF Certificate No.:0320483

Certificate validity: 29.07.2021

Certification **ISO/TS 22163:2017 / LLOYD'S REGISTER**

certificate –Register -No.: BUC6018759 from 03.10.2018, valid from 30.07.2018

Certificate validity: 15.12.2021

Certification **EMS – ISO 14001:2015/ LLOYD'S REGISTER**

certificate No.:10294582 from original approval 22.09.2011; current certificate: 28.09.2020

Certificate validity: 21.09.2023

Certification **ISO 45001:2018 / LLOYD'S REGISTER**

certificate No.:10294583 from original approval 29.09.2011; current certificate: 28.09.2020

Certificate validity: 28.09.2023

THANK YOU
FOR YOUR ATTENTION

