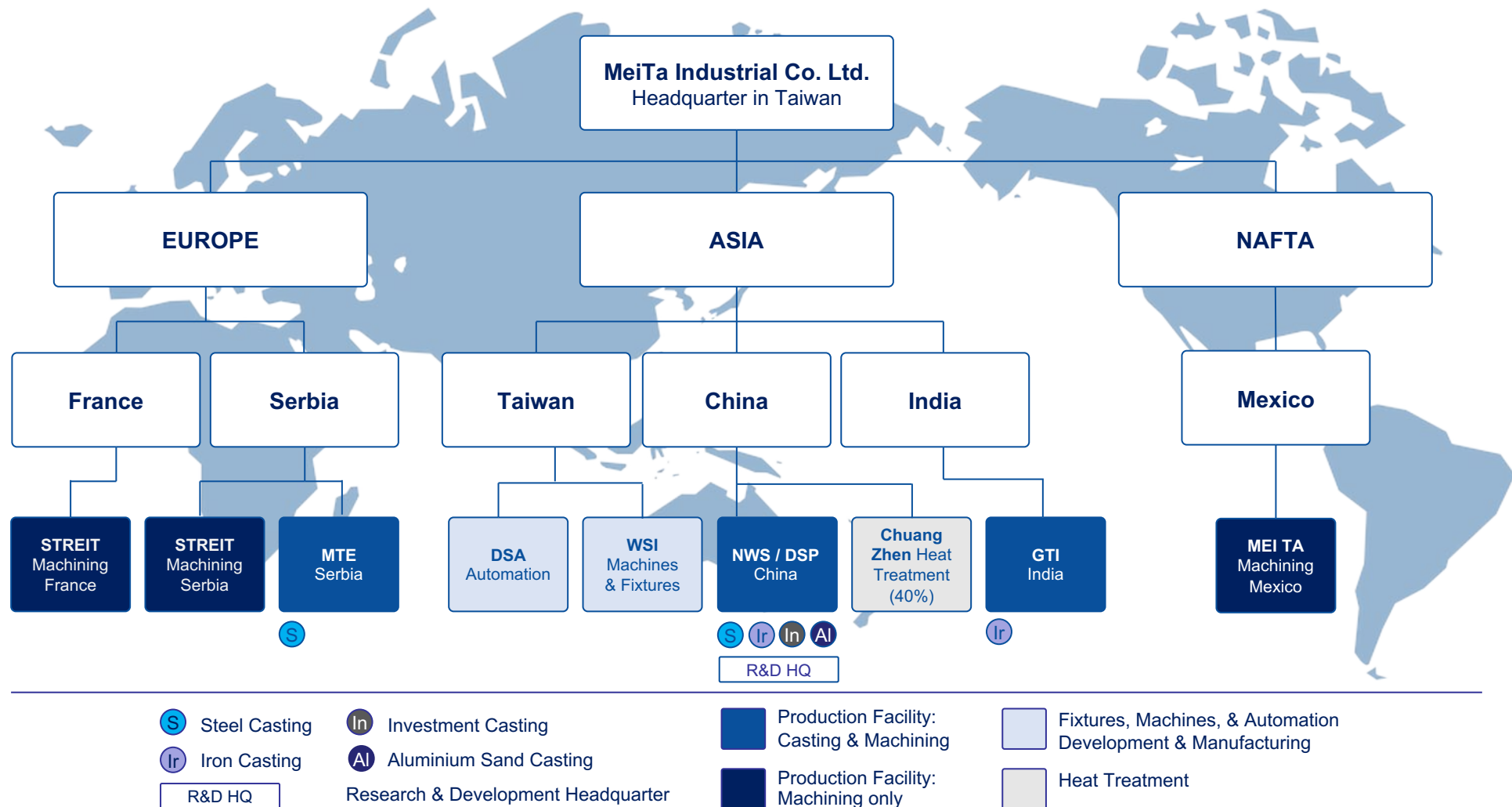


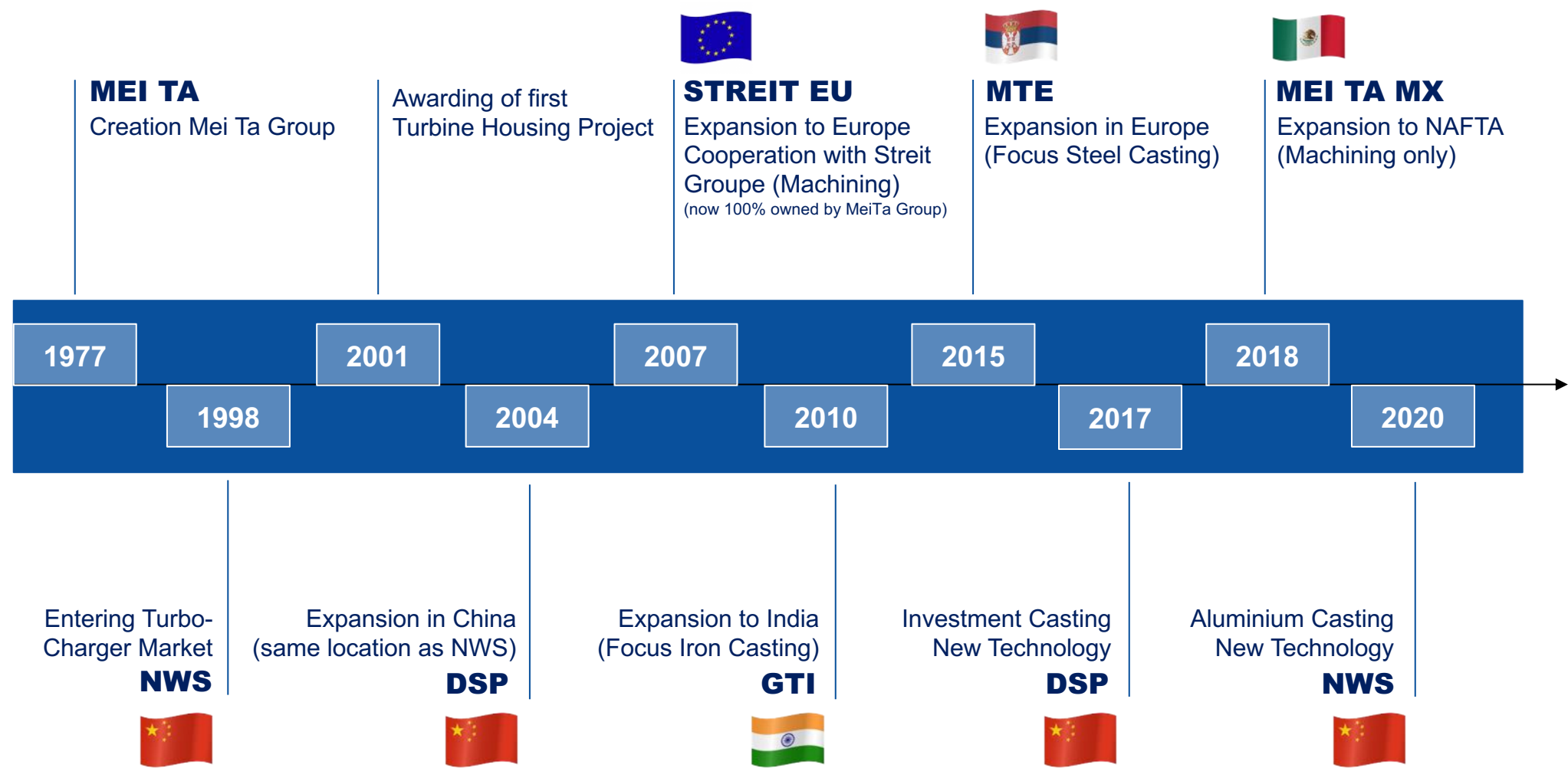


Global CASTING Solutions

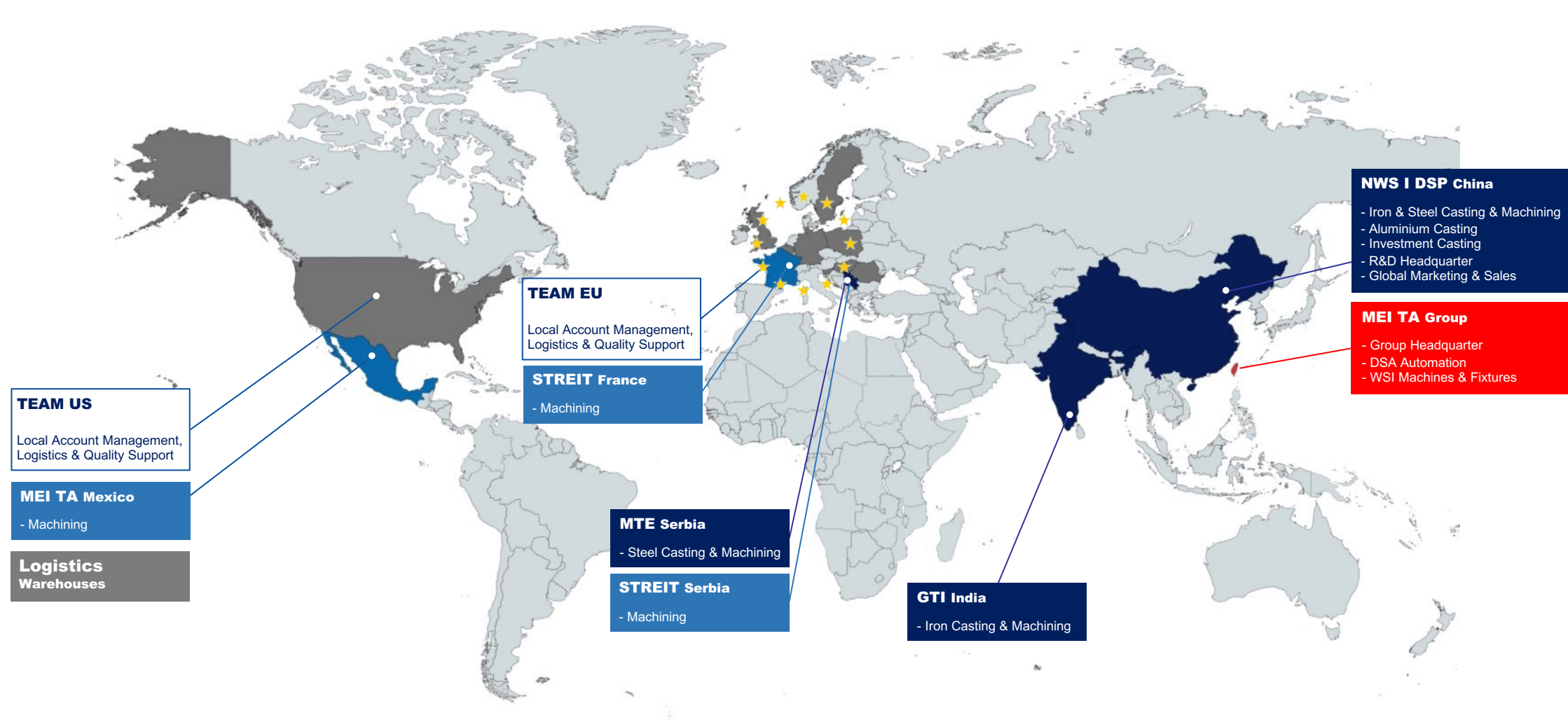
Group Overview



Group Expansion Timeline



Local Contact / Global Footprint



Major Production Locations

Location	NWS - New Wei San Industries Co. Ltd. 	GTI - Greentech Industries Pvt Ltd. 	MTE - MEI TA Europe d.o.o. 
	No.2 Jin Fa Rd., Shangmatai Industrial Area , Wu Chin District, Tianjin, P.R.China	APIIC Multi produt SEZ, Dwarakapuram village, Naidupeta mandal, SPSR Nellore Dist. Andhra pradesh, India 524421	Zeleznicka 44v 11504 Baric, Obrenovac, Serbia
Facility Access	<ul style="list-style-type: none"> Tianjin harbour to NWS – 70km Tianjin airport – 40km Beijing airport– 112km Highway access – 7km 	<ul style="list-style-type: none"> Chennai harbour to GTI – 120km Chennai airport – 130km Railway access in Naiupeta – 13km Highway access NH16 – 13km 	<ul style="list-style-type: none"> Belgrade airport – 26km Highway with adjacent entrance to MTE Railway access in Belgrade – 25km Highway access ring road – 25km
Employees (end 2020)	7090	3900	3180
Available Technologies	<ul style="list-style-type: none"> Iron Casting Heat Resistant Steel Casting Investment Casting Aluminium Casting Machining and Assembly of Sub-Components 	<ul style="list-style-type: none"> Iron Casting Machining and Assembly of Sub-Components 	<ul style="list-style-type: none"> Heat Resistant Steel Casting Machining and Assembly of Sub-Components
Product portfolio	<ul style="list-style-type: none"> Centre / Bearing Housings Turbine Housings & Integrated Manifolds Exhaust Manifolds Other Iron & Steel Castings E-Motor Housings and other AI Castings 	<ul style="list-style-type: none"> Center / Bearing Housings Turbine Housings & Integrated Manifolds Exhaust Manifolds Other Iron Castings 	<ul style="list-style-type: none"> Turbine Housings Integrated Manifolds Exhaust Manifolds Other Steel Castings
Plant Picture			

Production Equipment / Materials / Capacity

NWS/DSP China

- Global R&D Centre
- Prototype Tooling Development & Manufacturing
- Series Foundry Tooling Development & Manufacturing
- Research Material Laboratory

Steel Molding Lines

- 2 X Counter Gravity Vacuum Pouring
- 1 X Gravity Pouring
- 2 X Adjustable Counter Gravity Vacuum & Gravity Pouring

Iron Molding Lines

- 2 X DISA D-230X (Vertical Parting Line)
- 2 X SINTO FCMX III (Horizontal Parting Line)
- 2 X TOKYU AMF III (Horizontal Parting Line)

Investment Casting

- 2 X Lines

Aluminium Casting

- 1 X Line

Machining Equipment

- Ca. 2.000 CNC Machining Centres (in Production)



MTE Serbia

Production Focus: Stainless Steel (Sand Casting)

Steel Molding Lines

- 2 X Counter Gravity Vacuum Pouring
- 2 X Adj. Counter Gravity Vacuum & Gravity Pouring

Machining Equipment

- ca. 408 CNC Machining Centres (in Production)

GTI India

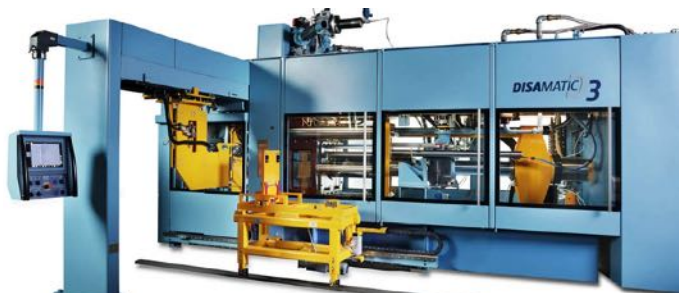
Production Focus: Iron (Sand Casting)

Iron Molding Lines

- 2 X DISA D-230X (Vertical Parting Line)

Machining Equipment

- ca. 670 CNC Machining Centres (in Production)



Materials

Heat Resistant Steels

- 1.4849
- 1.4848 (+Nb)
- 1.4837 (+Nb)
- 1.4826 (+Nb)
- SCH23
- M2528
- 1.4740 (ferritic steel)

Low Alloyed Steels

- 1.6220 modified

Cast Iron

- D-5S
- SiMoCr Ductile
- SiMo GGV
- SiMo+ and SiMo Ductile
- Ductile and Grey Iron

Aluminium Casting

- Al-Si-Mg alloy
- Al-Si alloy
- Al-Cu alloy

Investment Casting

- Heat Resistant Steels
- Stainless Steels
- Low alloyed Steels
- Super Alloys (e.g. Inconel)

Production Capacity & Shipments 2020

Heat Resistant Steels

- NWS/DSP China
 - Available Capacity: 4.500.000 pcs
 - Shipments 2020: 3.560.000 pcs
- MTE Serbia
 - Available Capacity: 2.750.000 pcs
 - Shipments 2020: 1.850.000 pcs

Cast Iron:

- NWS/DSP China
 - Available Capacity: 65,000 MTs
 - Shipments 2020: 37,583 MTs
- GTI India
 - Available Capacity: 20.000 MTs
 - Shipments 2020: 11.951 MTs

Aluminium Casting:

- Available Capacity: 600.000 pcs

Investment Casting:

- Available Capacity: 270.000 pcs
- depending on the part dimensions
- Shipments 2020: 60.000



Research Material Laboratory

Thermal Characteristics Determination



Dilatometer DIL 402C:

- Linear Thermal Expansion Coefficient
- Density



Differential Scanning Calorimeter DSC 404:

- Curie Temperature
- Phase Transformation
- Specific Heat



Thermal Gravimetric Differential Thermal Analyser STA 449:

- Oxidation

Laser Flash LFA 427:

- Thermal Diffusivity



Deep Analysis Equipment

Scanning Electron Microscope S-3400N:

- Failure analysis
- Qualitative Chemical Analysis (EDX)
- Phase analysis (EBSD)



Optical Emission Spectrometer with Inductively-Coupled Plasma Excitation OES-ICP:

- Wet Chemical Analysis



Hydrogen / Nitrogen / Oxygen Determinator TCH 600C:

- Gas Analysis in Melt
- Residual Gas Analysis in Solid Metals



Mechanical Characteristics Determination

Resonant Frequency and Damping Analyzer HTVP 1600:

- Dynamic Young's Modulus, Shear Modulus and Poisson's Ratio



Charpy Impact Tester NI300C:

- Toughness at RT and Low Temperatures



Creep Tester GWT 1304:

- Creep to Rupture at High Temperatures



Tensile Testing Machine AG-X:

- Tensile Properties at High Temperatures



Fatigue Machine 8801:

- Low Cycle Fatigue at High Temperatures



Product Portfolio

Turbo Components – Turbine Housings

Heat Resistant Steel Casting Parts

Iron Casting Parts



Turbo Components – Bearing Housings



Exhaust Manifolds



Other Iron Casting Parts



Aluminium Casting Parts

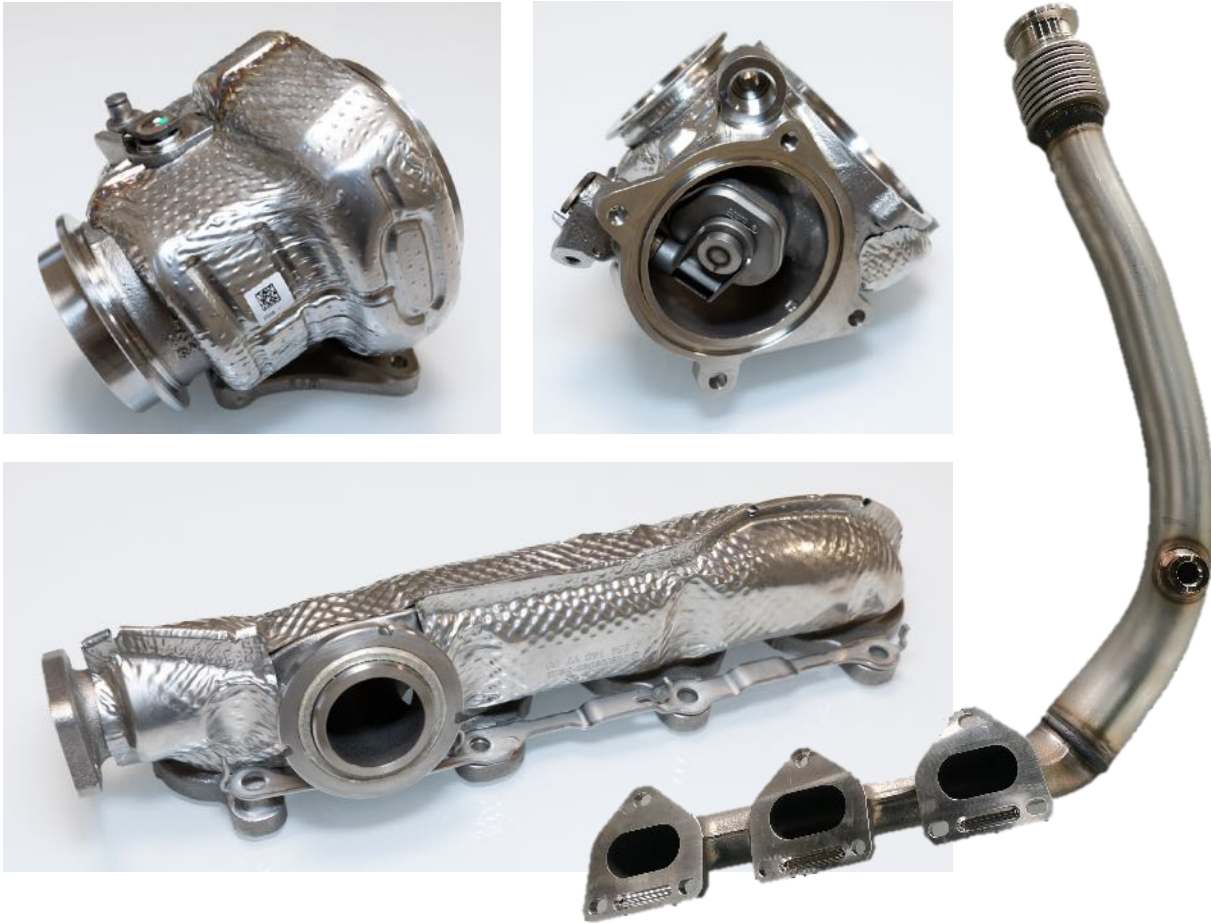


Investment Casting Parts



Assemblies & Systems Provider

Sub-Assemblies / Welding / Thermal Insulation / Systems Manufacturing



Value Added Processes

Sliding Bar Welding.



WG Lever Assy



Pin Assy



Bush Pressing



Value Added Processes

TIG Welding



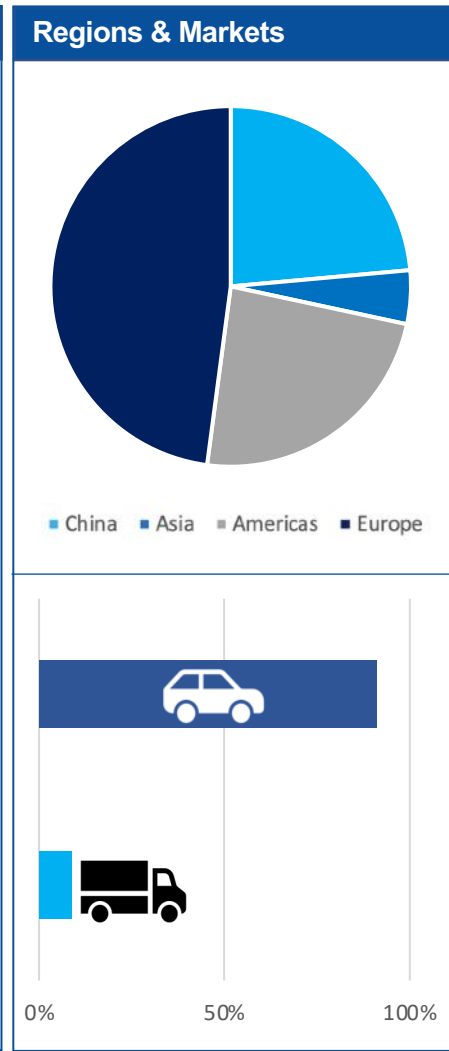
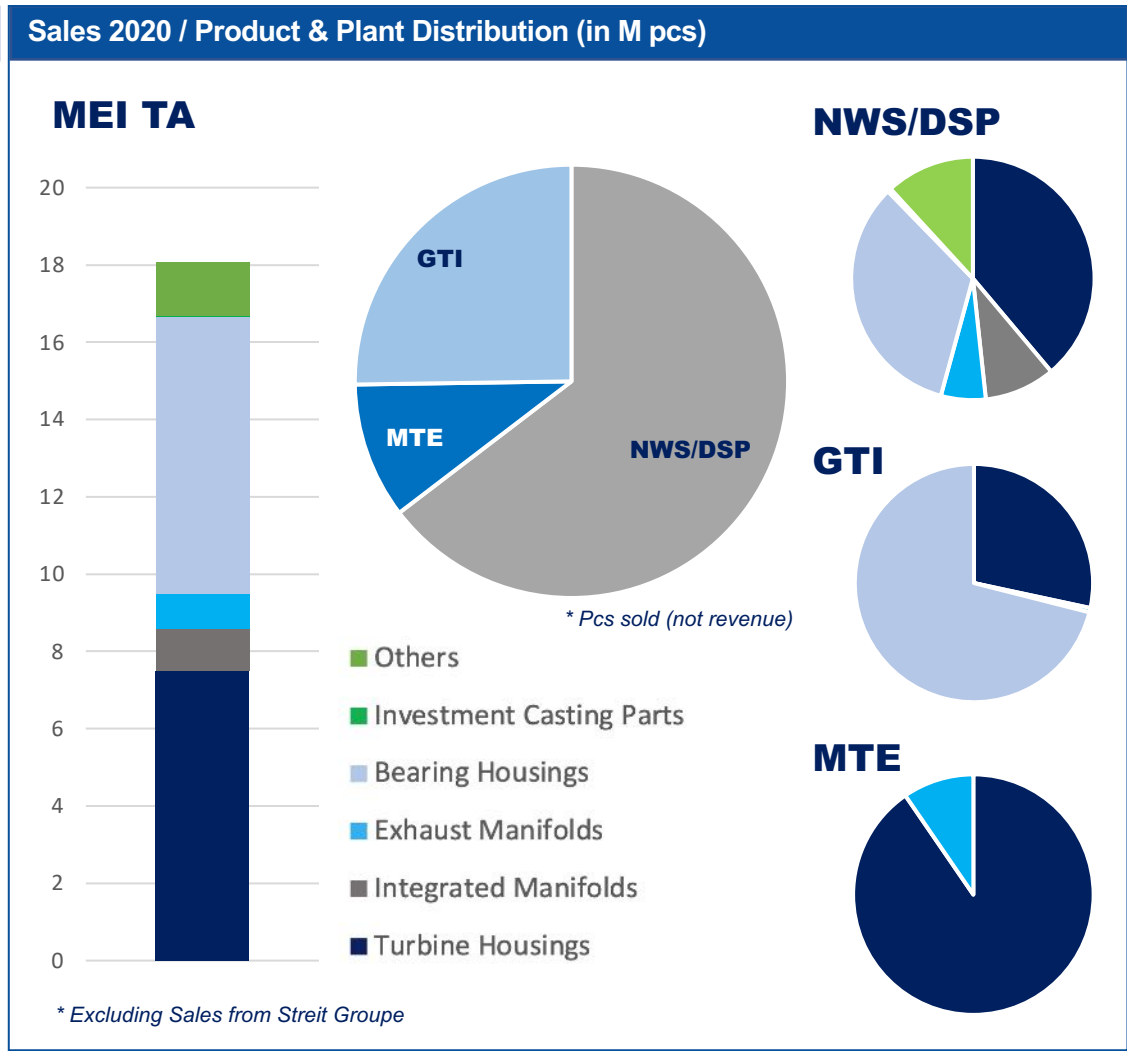
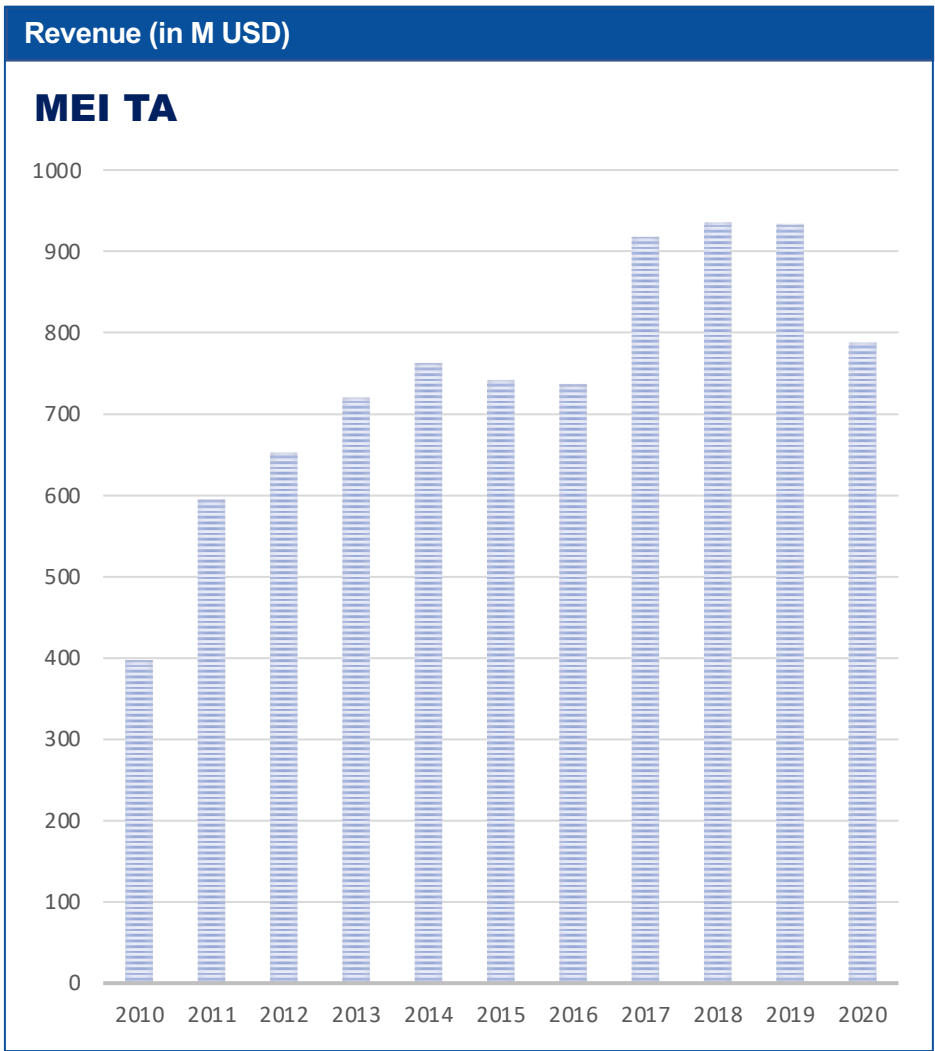
NWS
GTI
MTE

Laser Welding



NWS
MTE

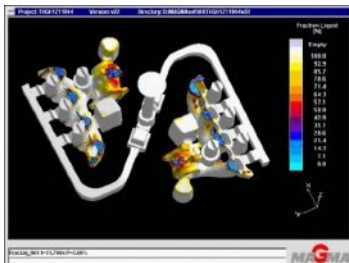
Facts & Figures



Tooling Development & Automation

Foundry Tooling

- Series & Prototype Toolings are manufactured INHOUSE at NWS/ DSP China
- MAGMA Casting Simulation Software for part and tooling design (8 licenses and proprietary material data)



Machining Fixtures

- Prototype Fixtures are manufactured INHOUSE at NWS / DSP China
- Series Fixtures are manufactured INHOUSE at WSI Taiwan



Machining Centres

- Vertical Lathe & Casting After Treatment Machines (Cutting and Grinding) manufactured INHOUSE at WSI Taiwan
- 5 Axis Machining Centres bought from External Companies



Automation / Equipment

- Further production equipment such as conveyor systems, leakage test machines, washing machines, fixtures, gauges as well as automation systems developed and manufactured at WSI & DSA



Cutting Tools

- INHOUSE Production of special cutting tools (with ext. machines)



Automated Deburring

- High volume projects deburred automatically on-line by robots



Non Destructive Quality Analysis

X-Ray, Dye Penetration & Magnetic Particle Inspection

X-Ray Equipment



Dye Penetration Check Equipment



NWS China	3 Machines	2 sets of Equipment
GTI India	1 Machine	2 sets of Equipment
MTE Serbia	1 Machine	1 set of Equipment

Magnetic Particle Inspection for surface crack verification



NWS China	6 sets of Equipment	MTE Serbia	1 set of Equipment
GTI India	2 sets of Equipment		

Computer Tomography

One CT Machine available for development purposes at NWS/DSP China



General	Inspection Type	Digital Radiography Standard Rotation Only Large Field of View Local Field
	Energy Power	4MeV
	Radiography area	400×400mm ²
Detective Size	Equivalent thickness in steel (film)	210mm
	Maximum Diameter	350mm
	Maximum Height	550mm
	Maximum Weight	50kg
Capability for Casting Defect Detection	Gas Hole Detective Capability	≥Φ0.3mm
	Crack Detective Capability	width≥50um
	High density of Slag (Dross)	≥Φ0.1mm

Quality Control Series Production

CMM Equipment

All MeiTa facilities have several CMM machines for tactile 3D measurement available (mainly Zeiss with Calypso)

- NWS: 44 machines
- MTE: 9 machines
- GTI: 16 machines



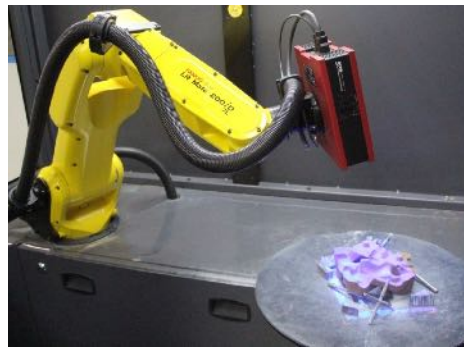
On-Line Tactile Measuring



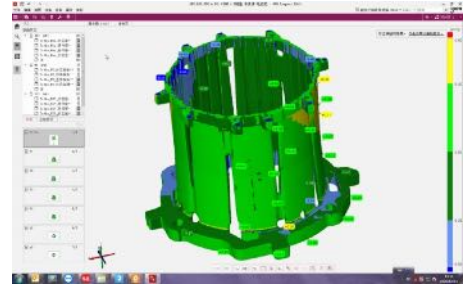
GOM Equipment

Multiple GOM optical measurement devices available in each foundry for scanning parts/tools/core/components:

- NWS: 3 machines
- MTE: 1 machine
- GTI: 1 machine



GOM Scan Result (Core-Scan):



Mechanical Properties

Tensile Test, Hardness Test and Microstructure available at all MeiTa Production Locations

Tensile Test Machine AK-IS 250KN:



Microstructure Testing:



Chemical Composition

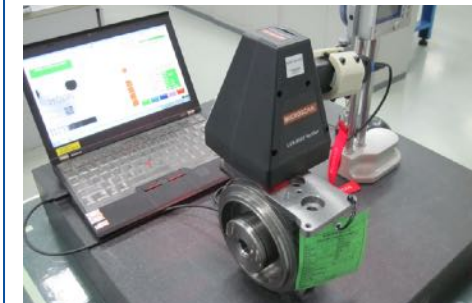
Optical Emission Spectrometers used to analyze chemical composition of the melt prior and after pouring.

- NWS: 7 machines
- MTE: 2 machines
- GTI: 2 machines

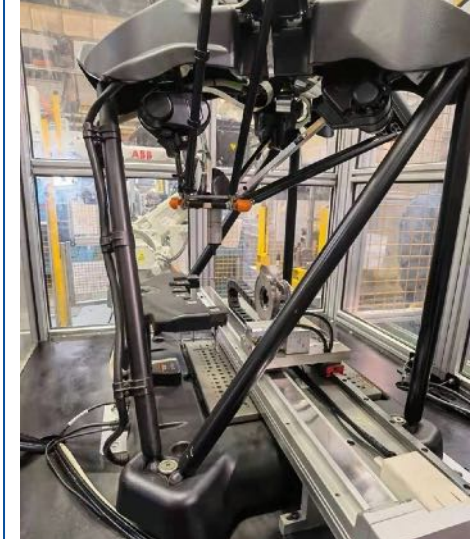


Other Inspection Equipment

DMC & Barcode Quality Check:



Comparative Measurements (on-line):



Customer Base

OEM Automotive Customers



Tier1 Turbocharger Customers



Other Customers (Commercial Diesel, Motorcycles, etc)



Business Philosophy / 經營理念

Customer is top priority
客戶至上

Honesty comes first
誠信第一

Care for each other
相互關懷

Learn actively
積極學習

Quality Philosophy / 品質政策

Excellent quality
質量第一

On-time-delivery
交期準確

Reasonable price
價格合理

Thoughtful service
服務周到

Thank You

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