



ALUMINIUMWERK UNNA AG  
A member of Zhongwang-Group



# COMPANY PRESENTATION

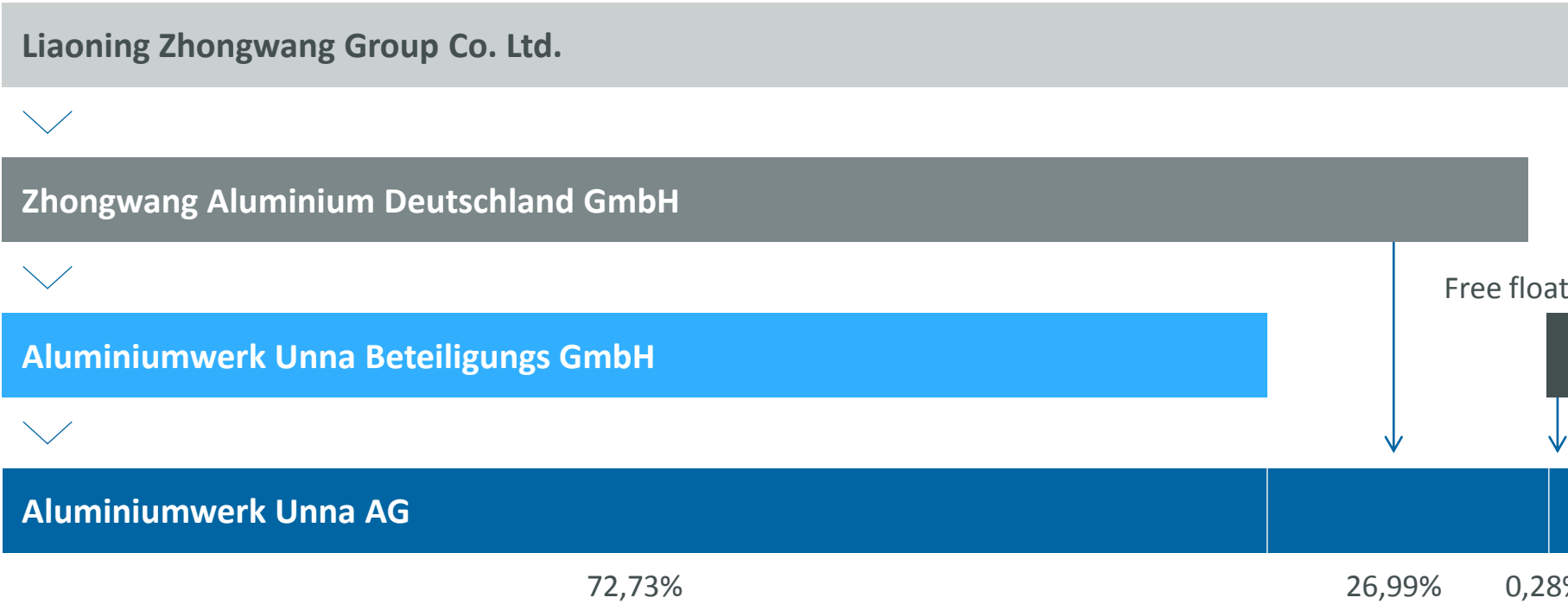
Version: May 2020

# AGENDA

- I. The company
- II. Products & markets
- III. Key figures and sales
- IV. Plant tour

# I. THE COMPANY

# SHARE HOLDER STRUCTURE



# ALUMINIUMWERK UNNA AKTIENGESELLSCHAFT

**1914**

founded

**390**

employees

**1,075,000**

square feet  
(approx. 25 acres)

**60%**

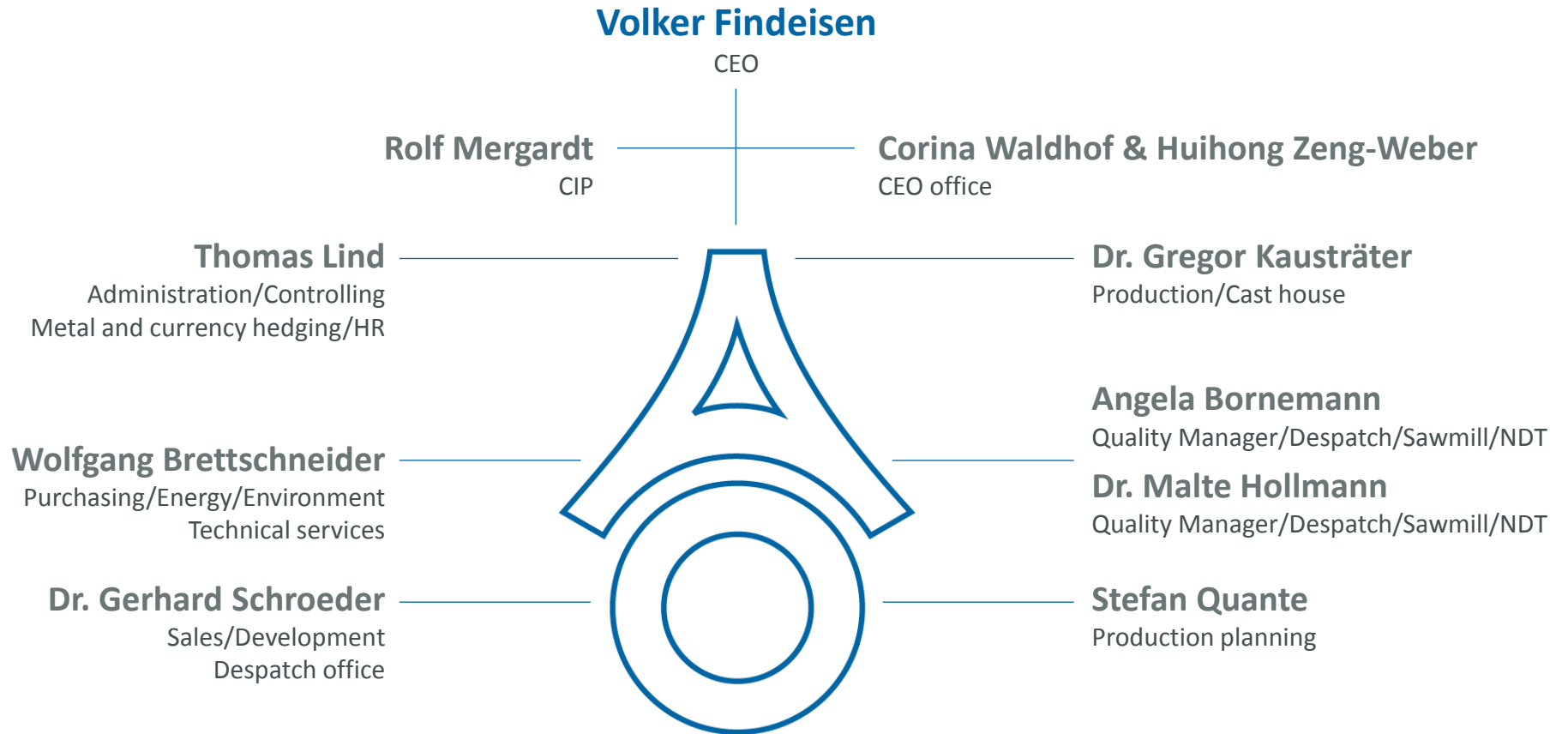
under roof

## Fully integrated:

- Cast house
- Extrusion plant
- Drawing plant
- Heat treatment
- Straightening
- Cut to length shop



# ORGANISATION LEADERSHIP



# II.

## PRODUCTS & MARKETS

# PRODUCTS

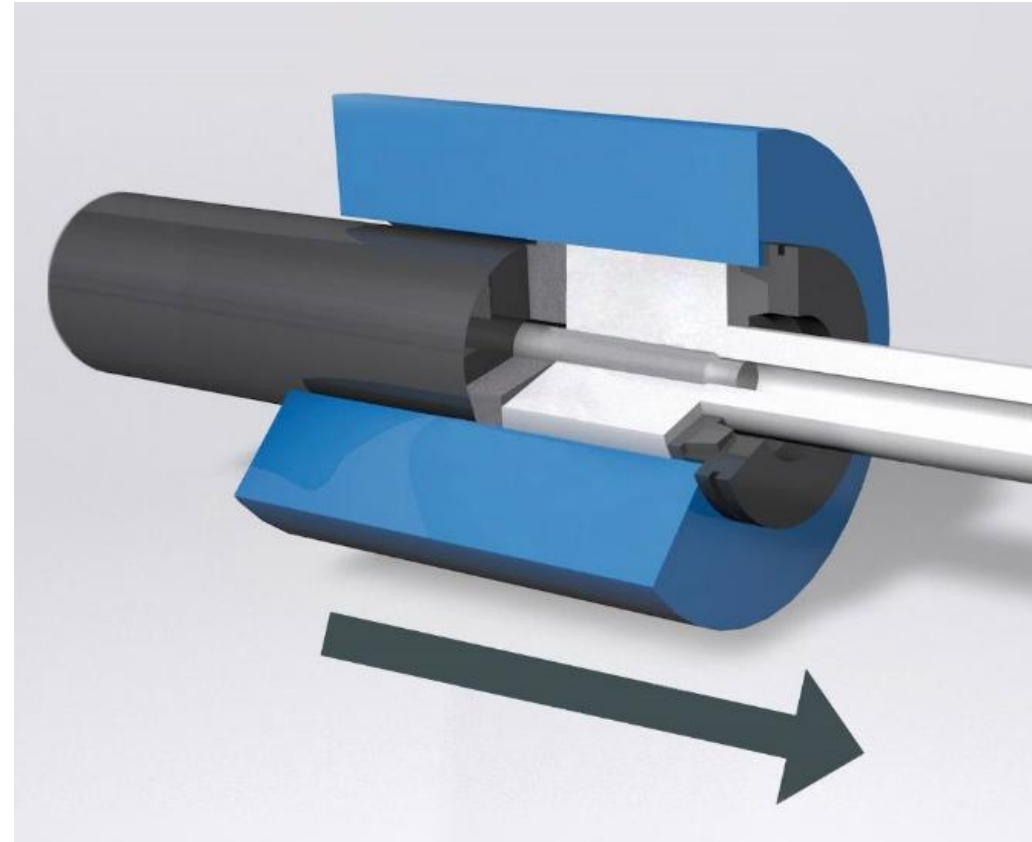
## Seamless extruded tubes

- Extruded
- Extruded and drawn
- 3/16" to 12" OD
- All alloys

## Porthole extruded tubes

- Extruded
- Extruded and drawn
- 3/16" to 14" OD
- Alloy 6xxx, 3xxx, 1xxx

## Profiles and bars for special applications





# INDUSTRIES AND MARKETS

## Aerospace/Defense

- Tubing for liquids or air
  - Air condition tubing
  - Hydraulic tubing
  - Fuel lines
- Mechanical application
  - Mechanical control rods
  - Landing skids for helicopters
  - Seats
  - Struts
- Rocket components
- Ammunition housings



*This certificate is granted and awarded by the authority of the Nadcap Management Council to:*

**Aluminiumwerk Unna AG**

*Uelzener Weg 36  
Unna, 59425  
Germany*

*This certificate demonstrates conformance and recognition of accreditation for specific services, as listed in [www.eAuditNet.com](http://www.eAuditNet.com) on the Qualified Manufacturers List (QML), to the revision in effect at the time of the audit for:*

**Heat Treating**

A handwritten signature in black ink, reading "Michael J. Hayward", is placed above a horizontal line.

Michael J. Hayward  
Vice President and Chief Operating Officer

Certificate Number: 15676189950  
Expiration Date: 31 October 2020

Performance Review Institute (PRI) | 161 Thorn Hill Road | Warrendale, PA 15086-7527

# INDUSTRIES AND MARKETS

## Mechanical and process engineering

- Roller tubes
- Textile industry
- Air cylinder tubing
- Casings for hydraulic pumps
- Ferrules
- Heat exchanger components
- Air separation plant
- Connectors
- Waterways for fire ladders
- Masts for mobile lighting



# INDUSTRIES AND MARKETS

## Automotive

- Casing for stators
- Driveshafts
- Anti-vibration bushings
- Air springs

## Electrical industry

- Heavy duty switches
- Busbars
- Copier drums
- Antennas
- Consumer electronics

## Bicycle or motorcycle

- Shock absorber
- Handle Bars

## Others

- Orthopedic technology
- Targets for Sputtering



Source: KTM homepage,Media Library, Mitterbauer H.

III.

## KEY FIGURES & SALES

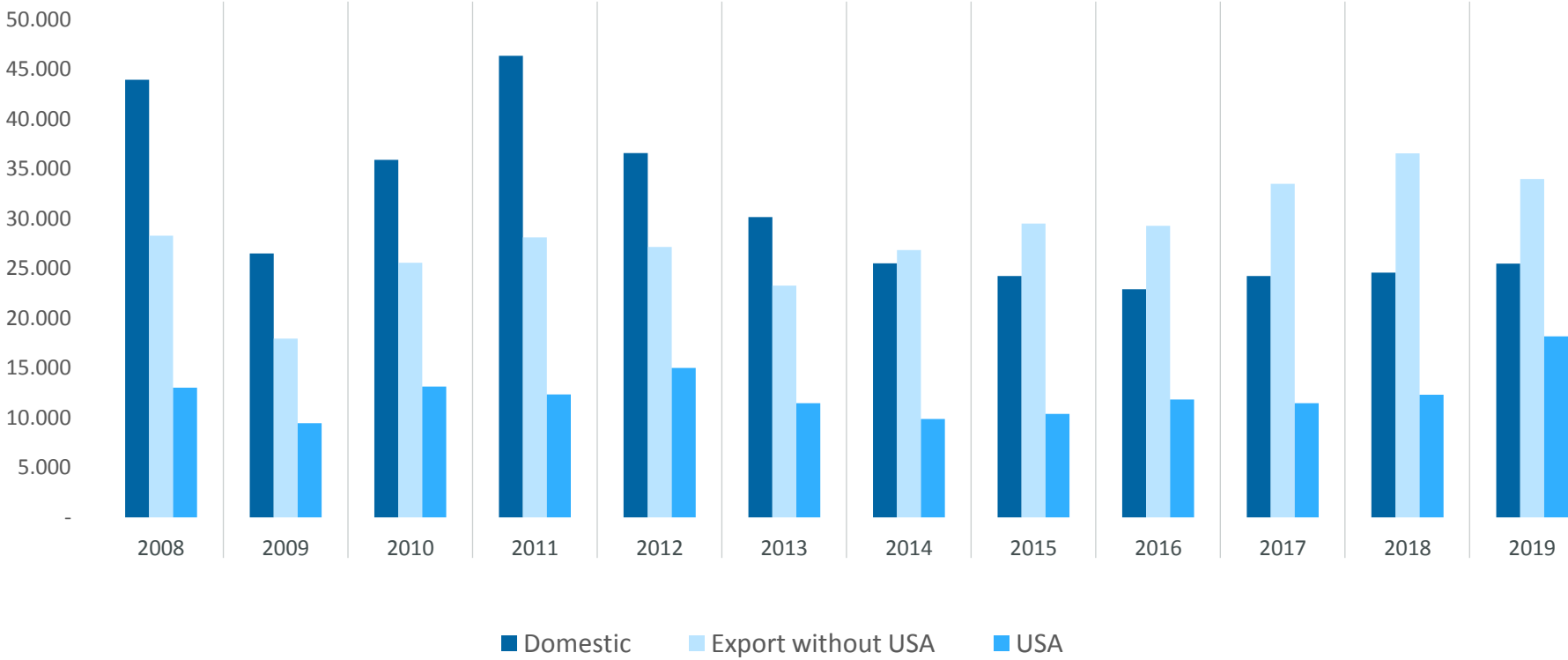
# KEY FIGURES

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*
Production	t	15.815	7.786	12.807	13.569	11.414	9.613	9.535	9.559	9.185	10.137	10.303	10.824
Sales	T €	85.319	53.942	74.643	86.850	78.792	64.937	62.274	64.176	64.059	69.247	73.454	84.322
Profit	T €	2.279	922	3.778	6.335	6.409	3.681	1.429	1.059	81	1.418	-1.150	2.334
Expenditure	T €	5.812	7.694	2.992	3.833	8.577	3.676	3.544	1.381	938	1.420	3.618	2.019
Equity ratio	%	45,29	41,68	43,06	42,60	50,09	53,03	52,17	56,41	57,01	65,03	65,48	66,84

2008-AO Exceptional expense: 6,5 Mio. €

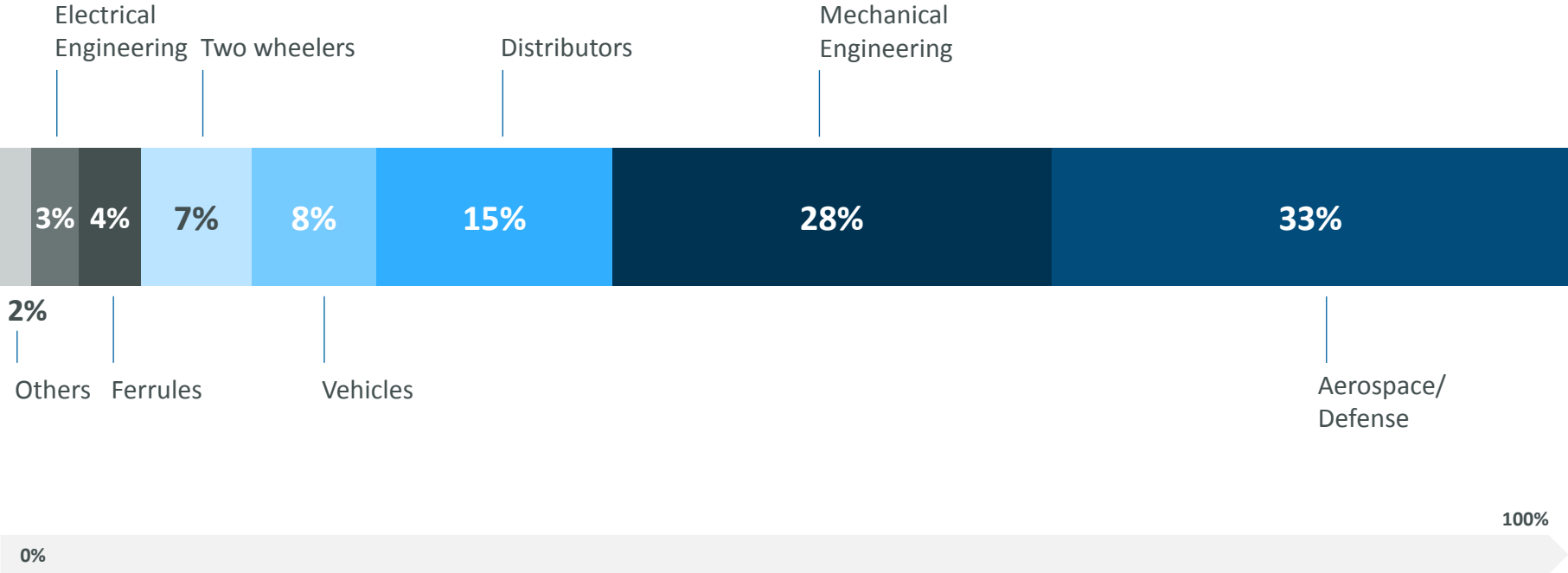
\*preliminary

# SALES IN REGIONAL MARKETS (2008-2019)

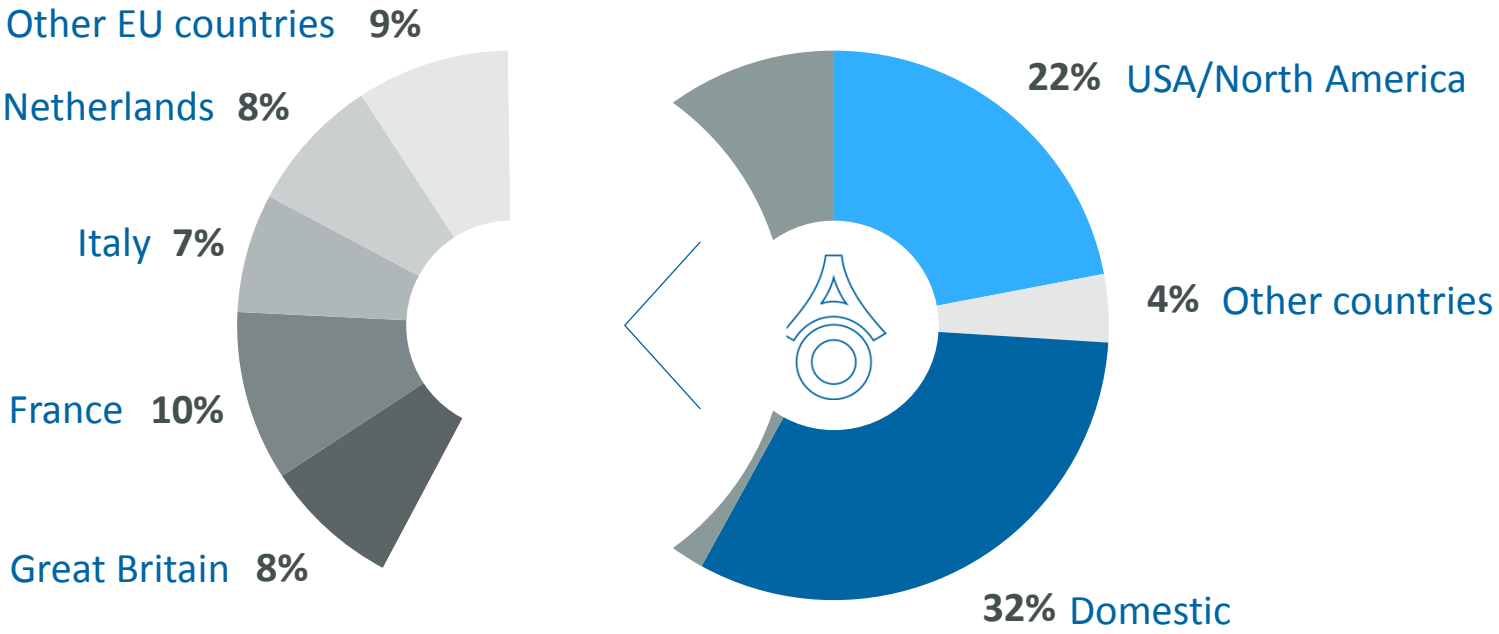


Mio. €

# SALES BUSINESS SECTORS 2019



# SALES COUNTRIES 2019





# SALES COUNTRIES 2019

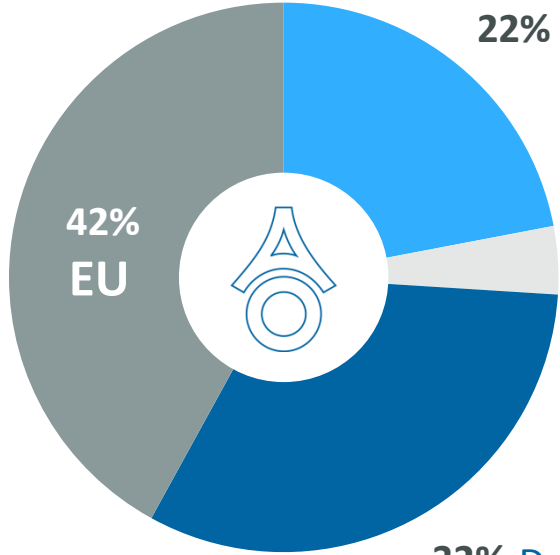
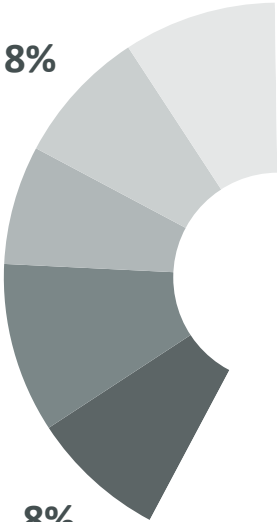
Other EU countries 9%

Netherlands 8%

Italy 7%

France 10%

Great Britain 8%



22% USA/North America

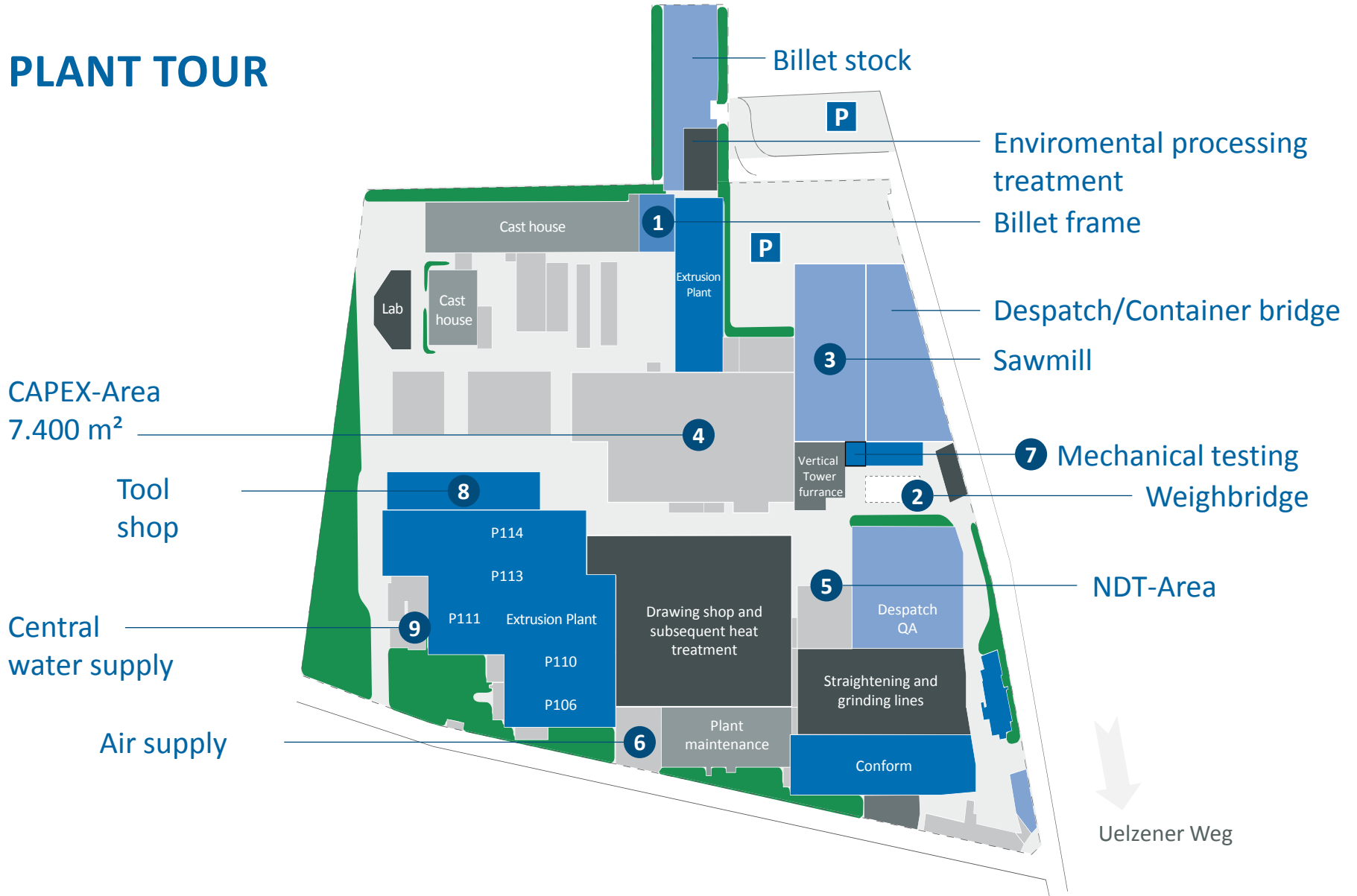
4% Other countries

32% Domestic

# IV.

## PLANT TOUR

# PLANT TOUR



# PROCESS EQUIPMENT

## Cast house

- Two 13,5 tn. sh. smelters
- Two 6,7 tn. sh. smelters
- SNIF filter system and ceramic foam filter
- 18,675 tn. sh. annual production

## Homogenization

Two batch furnaces of 34 tn. sh. each



# PROCESS EQUIPMENT

## Extrusion presses with piercer

	Container diameter
9 MN indirect	5 ¾" (P113)
24 MN direct	8" and 10" (P106)
25 MN direct	8" and 10" (P110)
35 MN direct/ 40 MN indirect	10" (P114)
50 MN direct	14" and 16" (P111)

## Extrusion press without piercer

18 MN direct	8" (P108)
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# PROCESS EQUIPMENT

## Subsequent | Processing

- 60 metric tons tube draw bench
- 30 metric tons tube draw bench
- 10 metric tons double tube draw
- Chain drawing bench
- 4 metric tons double tube draw bench
- 4 straighteners
- 2 degreasing equipments
- 2 polishing lines
- Honing machine



# PROCESS EQUIPMENT

## Heat treatment

- Annealing and artificial ageing of up to 72 feet long material
- Solution heat treatment with subsequent water quench
- Vertical tower furnace for material up to 42 feet length



# PROCESS EQUIPMENT

## Conform

- Conform-Extrusion press (10 MN)
- Schumag-Continuous drawing bench
- Circumscribing circle diameter from .200" to 1.180" for solid and hollow profiles





# PROCESS EQUIPMENT

## Cut to length shop

- 6 semi-automatic cutting machines
- Deburring with brushes
- Automatic TIR measurement



# TESTING EQUIPMENT

## Laboratory & Metallurgy

- Optical microscope
- Scanning electron microscope
- Microanalysis
- Spectroscopy
- Macro etching
- 3D optical microscope
- DSC analysis



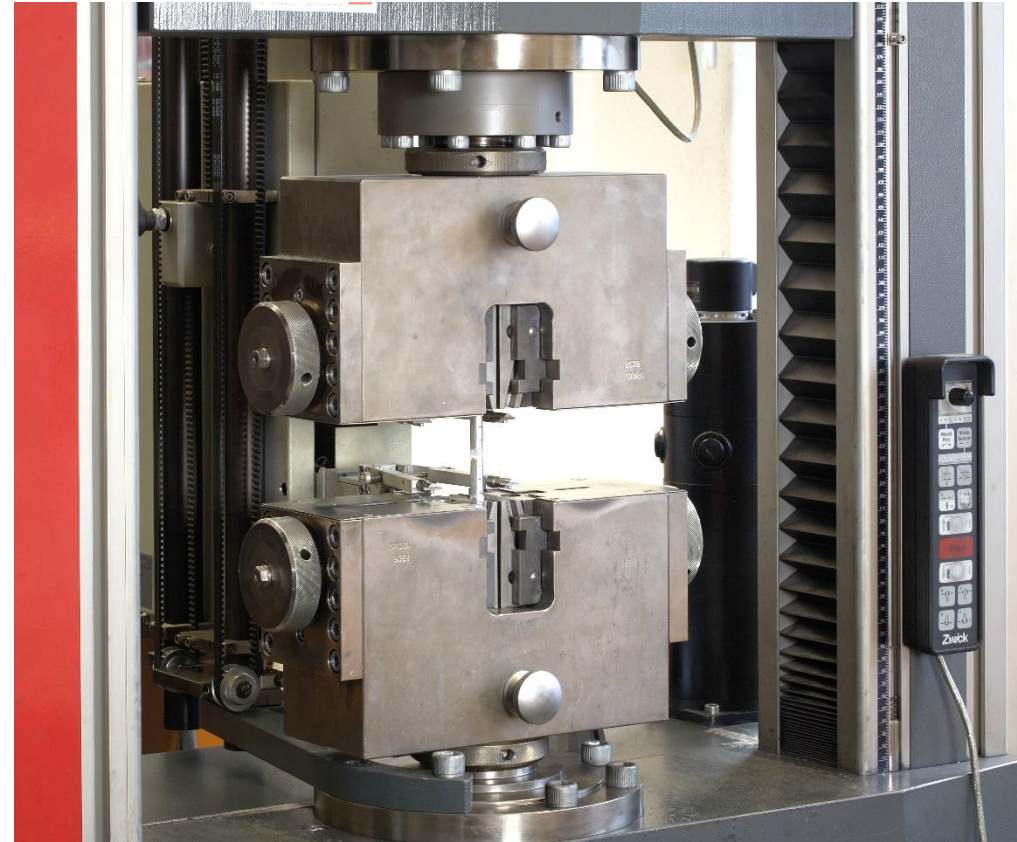
# TESTING EQUIPMENT

## Testing equipment

- Automatic tensile testing machine
- Different hardness testing

### Non destructive testing (NDT):

- Ultrasonic inspection
- Eddy current inspection
- Electrical conductivity



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