voestalpine High Performance Metals India Pvt Ltd

Corporate Presentation
ABOUT voestalpine AG

» We are a globally leading technology and capital goods group

» Having a unique combination of material and processing expertise

» With its top-quality products and system solutions using steel and other metals, it is a leading partner to the automotive, consumer goods, aerospace, oil and gas and powergen industries worldwide

» The voestalpine Group is also the world market leader in turnout technology, special rails, tool steel, and special sections
## GLOBAL FIGURES 2018/19

<table>
<thead>
<tr>
<th>Metal Forming</th>
<th>Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal Engineering</td>
<td>High Performance Metals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>51,621</td>
</tr>
<tr>
<td>Revenue</td>
<td>EUR 12,898 million</td>
</tr>
<tr>
<td>EBITDA</td>
<td>EUR 1,954 million</td>
</tr>
<tr>
<td>EBIT</td>
<td>EUR 1,180 million</td>
</tr>
<tr>
<td>EBIT margin</td>
<td>9.1 %</td>
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</tbody>
</table>
voestalpine AG – DIVISIONS

Metal Forming
Revenue (in millions of euros) 2,743.4
EBIT (in millions of euros) 212.8
EBIT margin 7.8%
Employees (full-time equivalent) 12,003

Metal Engineering
Revenue (in millions of euros) 2,989.7
EBIT (in millions of euros) 200.8
EBIT margin 6.4%
Employees (full-time equivalent) 13,481

Steel
Revenue (in millions of euros) 4,772.7
EBIT (in millions of euros) 592.9
EBIT margin 12.4%
Employees (full-time equivalent) 11,020

High Performance Metals
Revenue (in millions of euros) 2,918
EBIT (in millions of euros) 297.6
EBIT margin 10.2%
Employees (full-time equivalent) 14,274
GLOBAL PRESENCE

- Production sites in **Austria** (Kapfenberg, Mürzzuschlag, Bruckbach), **Sweden** (Hagfors), **Germany** (Wetzlar), **USA** (South Boston/Virginia), **Brazil** (Sumaré)

- Worldwide sales and service network with 150 warehouse and service sites in 45 countries
voestalpine High Performance Metals has global leading brands with a long tradition in the special steel sector (multi-brand strategy)

Each brand symbolizes a separate performance profile in the market and generates strong brand loyalty

These brands clearly differentiate us from our competitors

Optimizing and developing its brands creates value
voestalpine High Performance Metals India Pvt. Ltd. was incorporated in 2008

Formerly known as Böhler-Uddeholm India Pvt. Ltd.

Specialized in distributing and processing

» Technologically-sophisticated high performance materials

» Customer-specific services

“One-stop shop” solutions with additional services including vacuum heat treatment, PVD coating and additive manufacturing
GLOBAL FIGURES 2018/19

<table>
<thead>
<tr>
<th>Service</th>
<th>Employees</th>
<th>Revenue (Stock Sales: Steel + VAS)</th>
<th>Delivery (From Stock)</th>
<th>Revenue (Direct Sales)</th>
<th>Delivery (Direct Sales)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel</td>
<td>125</td>
<td>EUR 31.37 Million</td>
<td>3,877 Tons</td>
<td>EUR 5.49 Million</td>
<td>765 Tons</td>
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<tr>
<td>Surface Engineering</td>
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<tr>
<td>Heat Treatment</td>
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<tr>
<td>Additive Manufacturing</td>
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</tbody>
</table>
voestalpine High Performance Metals India Pvt Ltd

vaHPM INDIA - MAP

- **Khopoli, Maharashtra**
  - Warehouse / VHT / Metallurgy Lab / Planned Machining

- **Chakan/Pune, Maharashtra**
  - PVD Coating

- **FTWZ Panvel, Maharashtra**
  - Warehouse for duty free supply

- **Noida, Uttar Pradesh**
  - Warehouse / VHT

- **Hyderabad, Telangana**
  - Warehouse

- **Chennai, Tamil Nadu**
  - Warehouse / VHT
OUR PRODUCTS

**Tool Steel**
Hot Work Tool Steel
Cold Work Tool Steel
Plastic Mould Steel

**High-speed steel**
Conventional Steel
Powder Metallurgy Steel

**Special steel**
Aerospace
Chemical Processing Industry
Oil and Gas
Powergen

**Ready to use Components for Moulds & Dies**

**Others**
Beryllium Copper
Alumec
OUR VALUE ADDED SERVICES (VAS)

- **Heat Treatment**
  - Vacuum Heat Treatment
  - Cryogenic process
  - Stress Relieving

- **Surface Engineering**
  - Physical Vapor Deposition (PVD)
  - Advanced Benefit Process (ABP)
  - Polishing

- **Additive Manufacturing**

- **Metallurgical Laboratory**
Our Products
PRODUCT: TOOL STEEL

Hot Work Tool Steel

Application
» Die Casting
» Hot Forging
» Extrusion
» Compression Moulding

Cold Work Tool Steel

Application
» Cutting / Blanking
» Cold forming
» Coining (Minting)
» Industrial knives
» Deep drawing
» Powder sintering
» Cold / forming rolls

Plastic Mould Steel

Application
» Injection moulding
» Backlight moulding
» Compression moulding
» Poly Vinyl Chloride (PVC)
PRODUCT: HIGH SPEED STEEL

**Conventional Steel**

**Application**
- Drills & Taps
- Milling Cutters
- Hobs
- Broaches
- Cold-forming

**Powder Metallurgy (PM)**

**Application**
- Drills & Taps
- Milling Cutters
- Hobs
- Broaches
- Stamping
# PRODUCT: SPECIAL STEEL

<table>
<thead>
<tr>
<th>Aerospace</th>
<th>Chemical Processing Industry</th>
<th>Powergen</th>
<th>Oil and Gas</th>
</tr>
</thead>
</table>
| » High-performing metals for aerospace  
» Optimization of our capabilities  
» Global supply local focus  
» Reliable and Consistent high quality levels | » Hastelloy sheets of 3, 5 & 6 mm thickness  
» Inconel Sheets  
» Corrosion Resistance | » Turbine Rotors  
» Turbine Blade Material  
» Creep Resistance | » Higher Strength  
» Corrosion Resistance  
» API Approved  
» Drill collars  
» Completion Tools  
» Inconel |
OUR SERVICES
Services: Heat Treatment

- Vacuum Heat Treatment
- High Pressure Vacuum Hardening (10 Bar, 6 Bar, 5 Bar, 2 Bar)
- Furness Size (Max. 1200 x 1000 x 1000)
- Tempering (Vacuum, Atmosphere)
- Annealing (Vacuum, Atmosphere, Bright)
- Precipitation Hardening (Ageing, Solution Annealing)
- Normalizing / Homogenizing
- Specialized Racking / Fixing
- Maximum load 1 ton

- Cryogenic Treatment (Liquid Nitrogen Cryogenic Treatment)
- Stress Relieving (Vacuum, Atmosphere)
Services: Surface Engineering

» Physical Vapor Deposition (PVD)
  » Machines
    » Alpha 900 (Ø 750x880)
    » Alpha 400 (Ø 450x485)
  » Specialised in Ultrafine Coating
  » 7 stage Cleaning Line

» Advanced Benefit Process (ABP)

» Polishing

September 12, 2019
SERVICES: ADDITIVE MANUFACTURING

» Manufacturing Service
   » The additive manufacturing process uses 3D data to manufacture components by adding layer upon layer of metal powder.

» Material expertise in powder metallurgy –
   Particle size 15-45 µm & 45-150 µm
   » Uddeholm COREX
   » Böhler L718 AMPO
   » Böhler L625 AMPO
   » Böhler N700 AMPO
   » Böhler W722 AMPO

» Research competence centre
   » R&D and manufacturing Facilities in GmbH Dusseldorf and Singapore
   » Combines the core competences of
      » powder production
      » design optimization
      » component production
SERVICES: METALLURGICAL LABORATORY

» Tool Design support

» Tool Life performance improvement

» Tool Failure analysis

» Highly experienced Team

» Guidance on right selection of TS according to application

» Close interactions with universities and institutions

» Conducting technical seminars and trainings
WHY vaHPM?

Taking more responsibilities of customer process

Satisfied Customer
VALUE ADDED SERVICE - CONCEPT

Tool Steel
- Poor Mechanical properties
- Inclusions

Machining
- EDM / Wirecut
- Strain Hardening

Heat Treatment
- Poor process control
- Overloading

Surface Treatment
- Poor surface
- Wrong coating selection

Production Process
- Improper process control

Maintenance
- Irregular / improper maintenance

Tool Making Process

Tool Usage
VALUE ADDED SERVICE - CONCEPT

The Tool is as strong as its weakest link

Cheap Steel & Heat Treatment ⇔ Lower Costs
Our Major Customers

- DIETECH INDIA
- BOSCH
- LMT TOOLS
- ZAHORANSKY
- SIEMENS
- ADDISON
- EMERSON
- HAL
- GKN DRIVE LINE
- SIGMA
- HONDA
- EMKAY TOOLS
- GODREJ
- GE ALSTOM
- VOLKSWAGEN
- SANDVIK
- ENDURANCE
- SHIVAM AUTOTECH
- SCHAEFFLER
- VISTEON
“Taking more responsibility of our customer’s processes”

Thank you