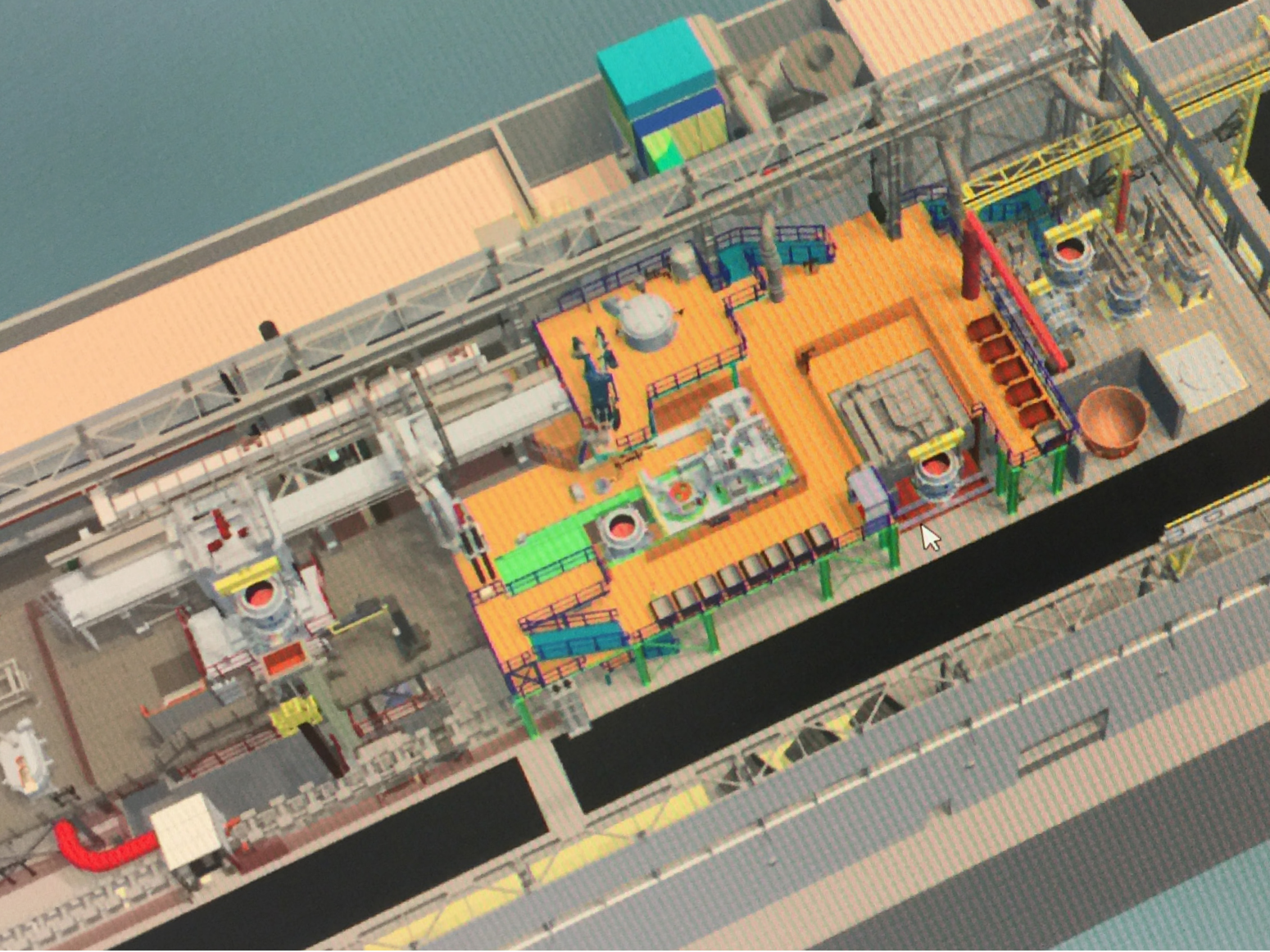




METALLURGY TECHNICAL CENTER  
RESEARCH & DEVELOPMENT  
WITH CUTTING EDGE TECHNOLOGY



## KEY FIGURES: METALLURGY TECHNICAL CENTER AND METALLURGY LAB

### TECHMET

- » 5 ton induction furnace
- » Combined plasma ladle furnace and VD plant
- » Vertical segment caster (230 mm or 270 x 360 mm)
- » 3 plasma-heated tundishes
- » Complete infrastructure for measurement and test engineering

### METLAB

- » Vacuum induction furnace 50 kg
- » Divisible onto rotary tables in max. 6 individual ingot moulds
- » Ingot dimensions of 100 x 100 x 500 mm
- » Vacuum of approx. 0.05 mbar
- » Protective gas Ar or N<sub>2</sub>
- » Sampling and alloy addition in a vacuum



# ONE-OF-A-KIND WORLDWIDE: METALLURGY TECHNICAL CENTER AND METALLURGY LAB

## INVESTING IN RESEARCH AND DEVELOPMENT

Steelmaking has a tradition in Donawitz. With its more than 125 years of technical expertise, voestalpine Stahl Donawitz GmbH is a sought-after supplier in premium product segments. We stand for a value chain that is geared towards the manufacture of premium steel products. Our aim is to create products that ensure superb results in processing. In order to satisfy the future needs of our customers, and to meet the demands of future markets, we have devoted ourselves to product and materials development.

We have established a new research facility with our metallurgy technical center TechMet, and the MetLab metallurgy lab. In addition to our large-scale technical plants, we are now able to be quite

flexible on a small-scale, developing new products and materials along with our customers for a more efficient time to market.

In the large-scale technical sector, product and materials development, being time-consuming and complex, often has several obstacles to overcome. What is needed in order to break new ground is the opportunity to be able to do research on small quantities swiftly and flexibly. At the same time, the results absolutely need to be able to be transferred to large-scale facilities. These are the advantages of the voestalpine Stahl Donawitz GmbH TechMet and MetLab, where research and development are innovative, flexible and application oriented.

# TECHMET

# METLAB



## INNOVATIVE

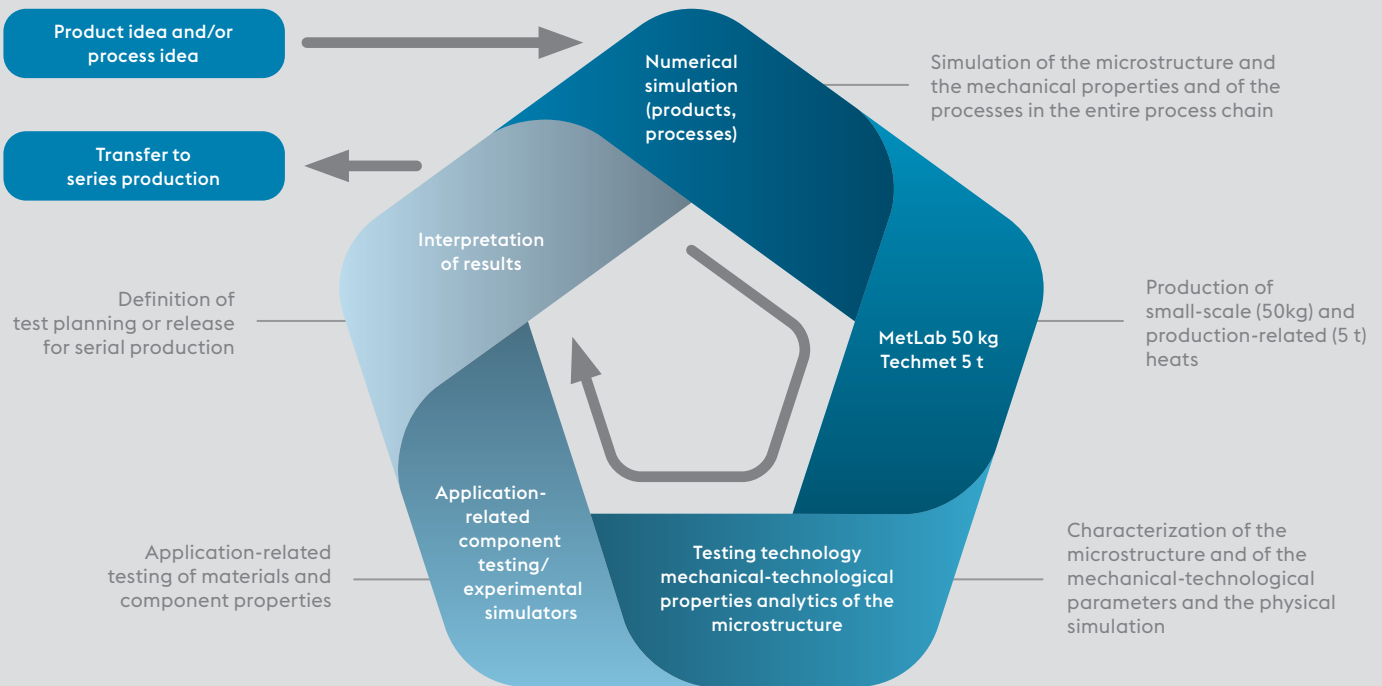
Global mega-trends also have an impact on steel production. Innovative steel concepts are one possibility to break new ground, utilizing components with alternative or unconventional materials.

The TechMet and the MetLab at voestalpine Stahl Donawitz GmbH are one-of-a-kind worldwide and allow for both thinking outside the box and non-standard testing. The heats are cast on a vertical segment caster, which allows the casting properties of a large-scale facility—think scale-up—to be perfectly simulated. We have established a research and development facility here from which steel processors in any industry can benefit.

## FLEXIBLE

Small quantities are needed in order to be able to try out new approaches. Using our concept, we are able to deliver individual analyses in a short time at the customer's request. Pre-tests of amounts starting from 50kg are possible in the MetLab and cost-effective lab samples can be produced for analyses. Following that, further tests on the steel can be conducted in the TechMet with near-production heats of 5 tons, prior to going into series production.

In order to be able to present customers with alternative materials for various components, we conduct experiments, testing and developing ourselves, thereby introducing new products and materials concepts to the market. Our data supports our customers' developers during simulation, allowing them to react flexibly to the market demands.



## NEW PRODUCT AND PROCESS DEVELOPMENT

In the beginning there was simulation. Analysis concepts are calculated, and the most promising are then tested on a small-scale in the MetLab. In the vacuum induction melting lab (VIM) 50kg of test material can be produced in different highly purified alloy variants. If the results are satisfactory, the next step is to produce a melt of 5 tons at TechMet. The new steel resulting can then be made into products and presented to customers as utility models. The production is equivalent to that of a large-scale series, allowing a scale-up to run quickly and smoothly.

## APPLICATION ORIENTED

Together with our customers, and benefiting from additional resources for research and development, we are creating new materials concepts and new products. We provide utility models with which steelmakers are able to gain experience and with which they can simulate and test developments.

We attach great importance to an ongoing exchange of experience with our customers. We have made ourselves known as a development partner, readily available to share our decades of know-how and research expertise with you.

### THE BENEFITS

- » Expanding the product portfolio
- » Enhancing material development
- » Individual analysis layers
- » Accelerating time to market for product developments
- » The same casting formats as with large-scale facilities
- » Scale-up is possible without complication
- » Utility models as customer samplings

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ONE STEP AHEAD.