

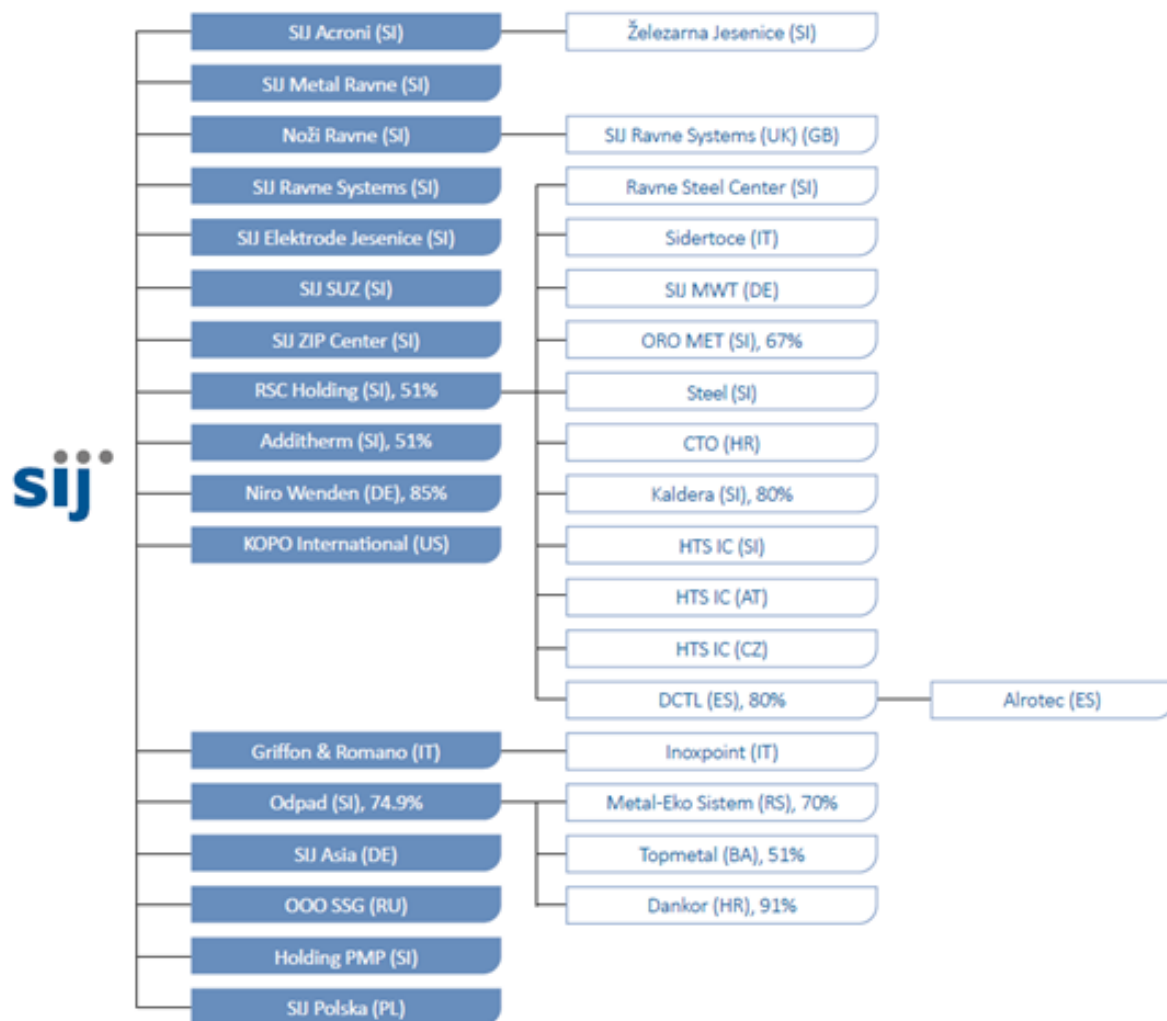
The background of the slide is a photograph of an industrial metal casting facility. In the foreground, several large, dark-colored ladles are filled with bright orange and yellow molten metal. The metal is bubbling and glowing, indicating high temperatures. The ladles are arranged in a row, and the background shows more industrial equipment and structures, slightly out of focus. The overall lighting is dim, with the primary light source being the intense heat of the molten metal.

**sij** | group

January 2021

# SIJ METAL RAVNE

## ABOUT SIJ GROUP



### KEY FACTS

- SIJ Group is the largest Slovenian steel producer and one of the main producers of special steels in Europe.
- Vertical integration provides full control over the value chain from steel scrap to final product.
- SIJ Group comprises 25 companies.
- SIJ Group head-quarters are located in Ljubljana.

Companies where no percentage of ownership is indicated are under 100-percent ownership of either SIJ d.d. or its subsidiaries.

## SIJ METAL RAVNE: TRADITION OF STEELMAKING SINCE 1620

### Key facts about SIJ Metal Ravne

sij | metal ravne

SIJ METAL RAVNE MANUFACTURES HIGH-QUALITY TOOL, HIGH-SPEED, STAINLESS, AND SPECIAL STEELS.

- **Over 200 different grades**
- **400-year tradition in steel making**
- **Focus on strong own R&D**
- **1,000 employees**
- **71,000 tonnes of sales products**
- **Revenues: 155.2 m€**
- **Niche production**
- **Worldwide sales network**
- **Present in more than 50 countries**





**SIJ METAL RAVNE**



**WORLDWIDE SALES NETWORK**



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## TRADITION CAN ONLY BE PRESERVED BY DYNAMIC DEVELOPMENT

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- **Metallurgical researches**, development of **new steel grades and products**, implementation and optimization of **new technologies**.
- Each year a team of **20 developers** develops in average **from 6 to 10 new steel grades** and approx. **100 new products**.
- Equipment for **testing of end products and development**.
- The most important areas of research: **VOD steel, VAR steels, super alloys**.
- **Development supplier** for all industrial sectors.
- Engaged in various international projects.
- Winner of numerous awards.



## LABORATORIES WITH MODERN RESEARCH EQUIPMENT

### OWN LAB FOR:

- **Heat treatment**
- **Mechanical testing**
- **Optical metallography and electronic microscopy**
- **X-ray structural analysis**
- **Dilatometry**
- **Thermal conductivity at ambient and elevated temperatures**
- **Testing of tool steels polishability**
- **Chemical testing**





## OUR STEELS ARE USED IN NUMEROUS INDUSTRIES

**ENERGY**



**AUTOMOTIVE**



**AEROSPACE**



**NUCLEAR**



**OIL & GAS**



**TOOLING**



**Also: MECHANICAL ENGINEERING, MEDICINE, INDUSTRIAL ROLLS, INDUSTRIAL KNIVES**



SIJ METAL RAVNE: THE NAME YOU CAN TRUST

WE ARE TRUSTED BY:



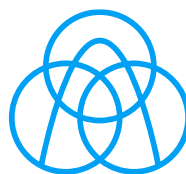
Supplier  
GE Lighting



DEVELOPMENT SUPPLIER FOR:

**SCHOELLER  
BLECKMANN**

**TUBACEX**  
GROUP



thyssenkrupp

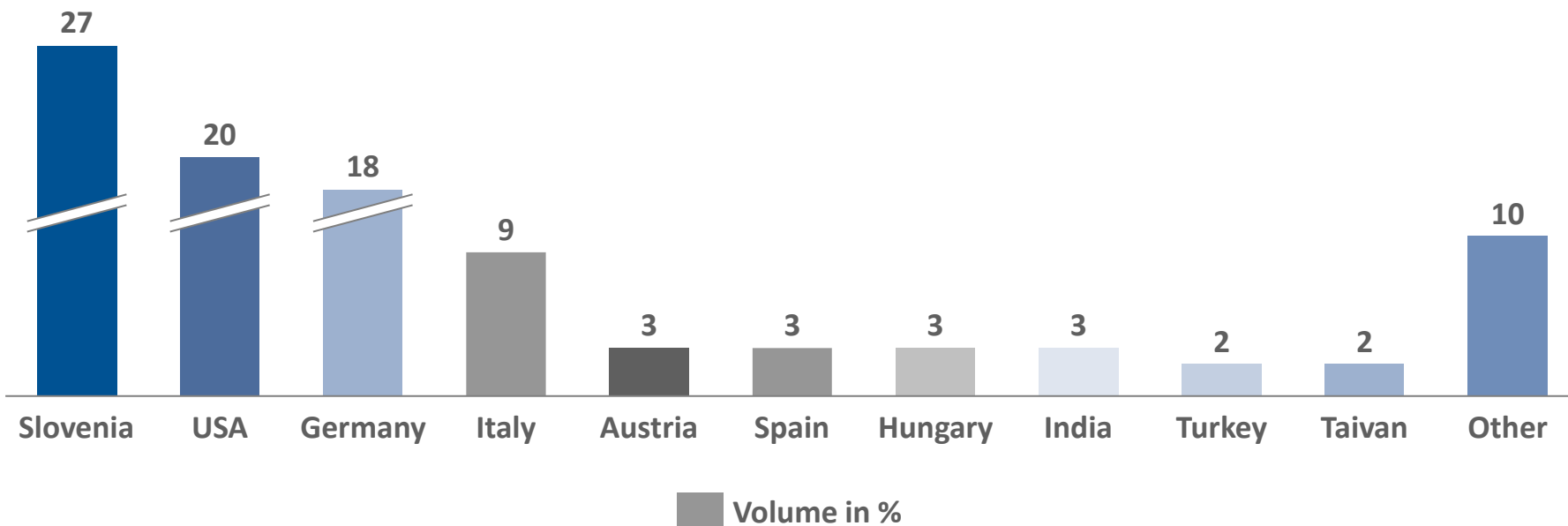


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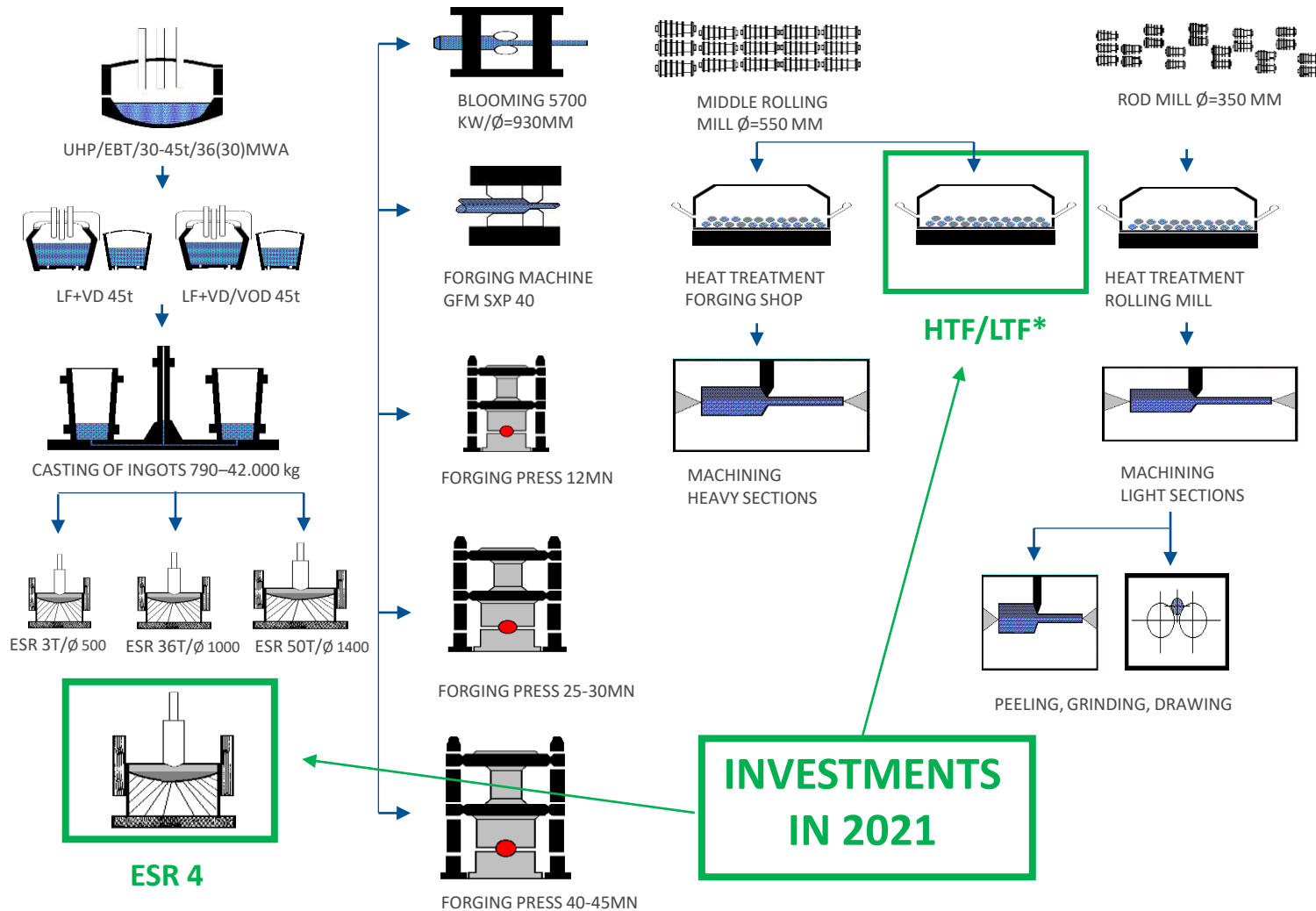


## SALES BY MARKETS

In % (for 2020)



# PRODUCTION SCHEME AND 2021 INVESTMENTS



\*High Temperature Furnace – Low Temperature Furnace

**THE POWER OF OUR BRANDS**

**SINOXX**<sup>...</sup>

**STAINLESS AND SPECIAL  
STEEL**

**SIRAPID**<sup>...</sup>

**HIGH-SPEED STEELS**

**SIQUAL**<sup>...</sup>

**ENGINEERING STEEL**

- UNALLOYED STRUCTURAL STEEL
- ALLOYED STRUCTURAL STEEL

**SITHERM**<sup>...</sup>



**SIHARD**<sup>...</sup>



**SIMOLD**<sup>...</sup>



**ALLOYED TOOL STEELS**

- HOT WORK TOOL STEEL
- COLD WORK TOOL STEEL
- LOW ALLOYED TOOL STEELS





## DIMENSIONAL RANGE

### ROLLING PROGRAM

#### BILLETS WITH ROUNDED EDGES

- square: 85–220 mm
- flat: 151–320 mm x 70–130 mm
- length: 2000–5500 mm

#### WIDE FLAT SECTIONS

- width milled: tolerance  $+2/-0$  mm, thickness rolled: tolerance  $+4/-0$  mm
- width and thickness milled: tolerance  $+2/-0$  mm
- length: 1600–4500 mm

#### WIDTH x THICKNESS

- 85–150 mm x 70–130 mm
- 151–250 mm x 70–90 mm
- 251–505 mm x 25–90 mm

#### ROUND SECTIONS

(acc. to EN 10060 standard)

- bars:  $\varnothing$  15–105 mm
- length: 3000–6000 mm

#### SQUARE SECTIONS

(acc. to EN 10059 standard)

- square: 25–75 mm
- length: 3000–6000 mm

#### FLAT SECTIONS

(acc. to EN 10059 and EN 59200 standards)

- width 40–150 mm with thickness 7–65 mm
- width 150–255 mm with thickness 7–50 mm
- length: 3000–6000 mm

#### PEELED AND PEELED & POLISHED BARS

(acc. to EN 10278 standard)

- bars:  $\varnothing$  16–80 mm
- length: 2500–6000 mm

#### GROUND AND GROUND & POLISHED BARS

(acc. to EN 10278 standard)

- bars:  $\varnothing$  6–80 mm
- length: 2000–4000 mm

## DIMENSIONAL RANGE

### FORGING PROGRAM

#### BILLETS

(PRODUCT USED FOR FURTHER HOT FORMING):

- round:  $\varnothing$  90–1000 mm
- square: sq. 90–900 mm
- length: 2000–10000 mm



#### FORGED BARS

(acc. to DIN 7527/6 standard):

##### ROUND FORGED BARS

- $\varnothing$  90–950 mm
- length: 2000–10000 mm
- surface finish: unmachined, peeled or turned

##### FLAT FORGED BARS:

- from 80 x 70 mm to 260 x 120 mm or from 261 x 80 mm to 1600 x 550 mm
- length: 2000–7000 mm
- surface finish: unmachined or milled
- max. width: 1200 mm; max. weight of forging: 10000 kg

##### SQUARE FORGED BARS:

- 80–850 mm
- length: 2000–7000 mm
- surface finish: unmachined or milled
- max. width: 1200 mm; max. weight of forging: 10000 kg

## MACHINED FORGINGS

### DIMENSIONS

#### ROLLS, EXLES, SHAFTS

max. dia.	1000 mm
max. length	10000 mm
max. weight	20000 kg



#### RINGS, DISCS

max. external dia.	2000 mm
max. weight	15000 kg



#### BUSHES

max. dia.	1400 mm
max. length	2200 mm
max. weight	15000 kg



#### MECHANICAL ENGINEERING

(rolls, shafts)

#### HOT-FORMING ROLLS

(for steel, aluminum foil)

#### MINING INDUSTRY

(shafts, gears)

#### AUTOMOTIVE

(dies, frames)

#### SHIPBUILDING INDUSTRY

(shafts, stabilizers)

#### METALLURGICAL INDUSTRY

(tools, mandrels, extrusion sleeves)

#### METALWORKING INDUSTRY

(sleeves, rings for cutting dies)

#### ENERGY INDUSTRY

(turbine shaft housing, sealing rings, shafts)

#### OIL & GAS INDUSTRY

(tubes, connectors)

#### GRAPHIC INDUSTRY

(rolls for newspaper printing)



## APPLICATION AREAS

### OIL & GAS

OIL FIELD PUMP  
SHAFTS



VALE TRIMS



SCREWS



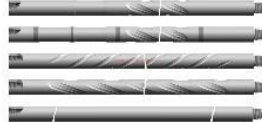
VALVE PARTS



FASTENERS



DRILLING  
EQUIPMENT PARTS



### MACHINE BUILDING

SPECIAL KNIVES



CUTTING TOOLS



AXLES



NUTS AND BOLTS



GEARS



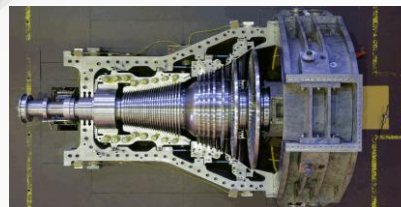
### AEROSPACE INDUSTRY

LANDING GEAR  
FASTENERS  
LUG PARTS  
SLAT TRACK  
ENGINE PARTS



### ENERGY

TURBINE PARTS



### MEDICINE

SURGICAL INSTRUMENTS





**APPLICATION AREAS**

**TOOLS**

STANDARD TOOL PLATES



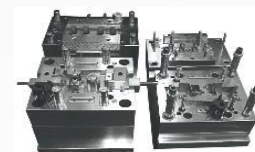
TOOLING FOR FORGING



MILLING CUTTERS FOR METAL



TOOLING FOR PLASTIC PROCESSING



DRILLS FOR METAL



TWIST DRILLS FOR METAL



THREAD CUTTING TOOLS



TOOLS FOR SCREW MANUFACTURE



DIE CASTING UNITS



COLD-FORMING ROLLS



ALUMINIUM EXTRUSION DIES



PRESSURE DIE CASTING TOOLS



**ROLLS**

ROLLS FOR CLUSTER MILLS



ROLLS FOR SENDZIMIR MILLS



**KNIVES**

KNIVES FOR PAPER



SHEARS FOR PAPER



PUNCHES



CUTTING PARTS



HOT-CUTTING SHEARS



**QUALITY ASSURANCE**

**CERTIFICATIONS**

**EN 9100**



**ISO 14001**



**OHSAS 18001**



**ISO/IEC 17025**



**MEMBER OF ASSOCIATIONS**

- TÜV SUD**
- LLOYD'S REGISTER**
- GET NORSE VERITAS GERMANISHER LLOYD**
- NADCA (North American Die Cast Association)**
- ABS MATERIALS**
- BUREAU VERITAS – MARINE & OFFSHORE DIVISON**
- RoHS – RADIOACTIVITY DECLARATION**
- AEO CERTIFICATION**
- DNV GL rules for classification–Ships**
- ASSDA (Australian Stainless Steel Development Association)**





**sij**

**We shift boundaries**

**Thank you for your attention.**



## VIDEO

VIDEO – SIJ GROUP



**SIMOLD** <sup>•••</sup> Video



**SITHERM** <sup>•••</sup> Video

