2025

INTECO

WE ARE INTECO

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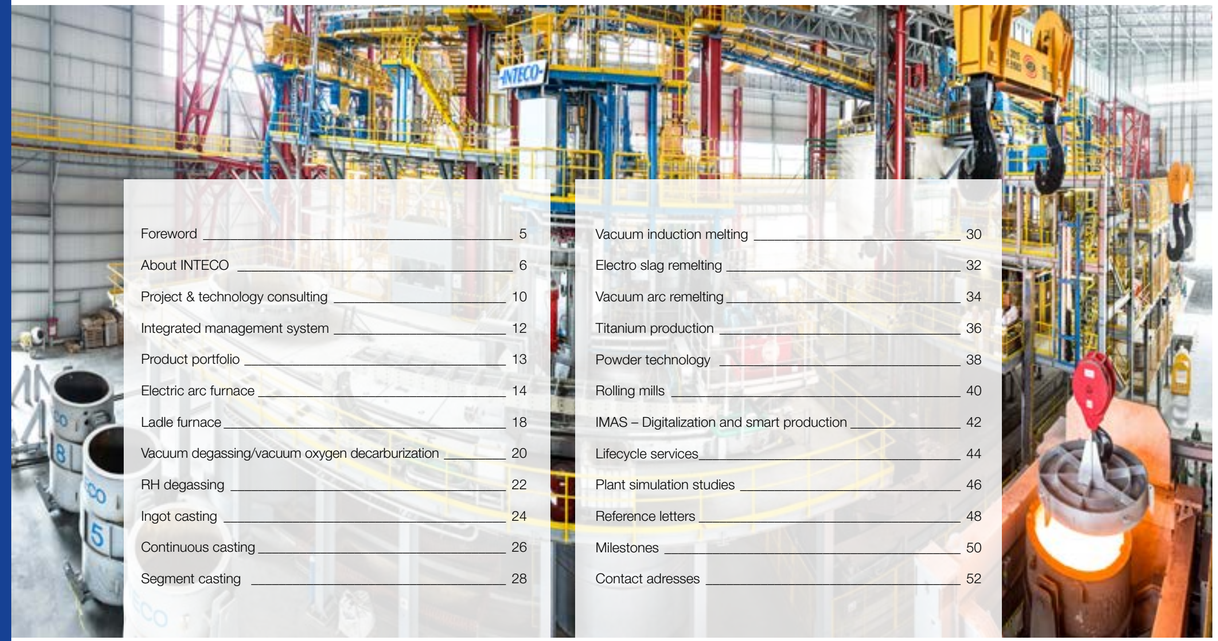

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DEAR READER!

Thank you for your interest in INTECO – on the following pages we tried to compile an overview of our most important milestones in 50 years, achievements and innovations as well as project highlights, which together with our esteemed customers, we were able to execute. Being a supplier and partner to the steel and general melting industry since 1973, INTECO is proud to be until today the only single source supplier worldwide who offers and has already put into operation all production processes for the treatment of steel, ferroalloys and super alloys such as…

- Melting & refining
- Casting
- Rolling mills
- Special melting & remelting
- Automation and production management systems (IMAS)
- Powder technology
- Titanium technology

In the last decade we have built-up a network of companies – the INTECO Group – which allows us to dispose of the expertise and know-how of several competence centers, each of them a specialist in their field located all over the world.

You already know or will find out that INTECO Fuchs is able to offer innovative melting & refining as well as scrap preheating technology. INTECO PTI is one of the world-class leaders in regards to chemical packages in particular for EAF operation. INTECO TBR provides you a variety of casting plants and our office in Graz is our competence center for automation, digitalization and Industry 4.0 ...

... but in the end, it all boils down to the same name – INTECO – which stands for common values and the one and only mission all of us share: No matter if only a part of the production process or an entire process line – we want to serve you with our know-how and the best tailor-made technology possible.

We cordially thank you, our clients and customers, who – with their trust and confidence in the competence of INTECO – have helped to pave the way to achieve what you will read in this brochure and more.

Dr. Harald Holzgruber
- INTECO Holding -

Ing. Roland Kristl
- Managing Director -

Patrick Mild
- Managing Director -

ABOUT INTECO

WHO WE ARE...

Starting out as a consulting company for the specialty steel industry, INTECO has grown to the only single source supplier worldwide that offers all production processes for liquid metal processing. Since more than 90% of our equipment and services are exported, INTECO is a global player represented by local agents and/or subsidiaries who market and service the products worldwide. Together, we form a fully dedicated team of highly skilled employees eager to plan or modernize a steel plant according to our customers' requirements.

WHAT WE DO...

Over the last decades, INTECO has grown to a reputable provider of customer-specific solutions for the specialty steel industry. The competence in engineering, management services, and technology transfer as well as strong customer dedication was and is the key to success for our customers. This in turn is the driver for INTECO to continue to develop the service and product portfolio in the future. The goal is to further strengthen the leadership in metallurgical process technology and equipment for melting, refining, casting, remelting, solidification, and atomization for high performance steels, super alloys, and titanium.

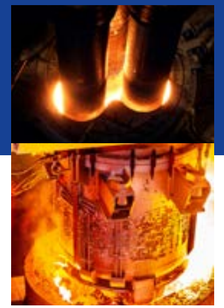
WHAT WE AIM FOR...

We continuously aim to improve the quality of the final product and to make metal production safer, easier, and more efficient. Research and development in process technology and plant design is therefore the key to success. In our opinion, success means providing excellent service for our customers. Continuous improvements of processes and operating techniques as well as design of systems and components are the result of our comprehensive R&D activities. Within our R&D process, we make sure that customer requirements as well as innovations triggered by our experienced staff will be pursued in a structured way.

Leadership in metallurgical process technology and equipment for ...

Melting

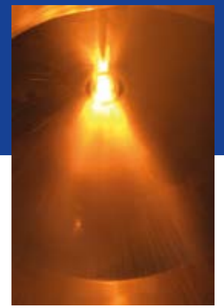
Refining



Casting

Remelting

Atomization



... high performance steels, superalloys and titanium.

Fair play and long-term customer relations as the ultimate stratigic goal.

PROJECT AND TECHNOLOGY CONSULTING

_Pre-investment studies

Such consultancy assignments may involve greenfield projects, plant expansions or retrofit programs, process route evaluation as well as independent assessments and ratings for financing purposes. Typically, INTECO's consultancy starts with a conceptual study and may be expanded to full range investigations including FEED or basic engineering.

_Engineering

INTECO provides basic, and detailed design for entire plants including mechanical and electrical engineering as well as automation. All mechanical engineering is is carried out by experienced engineers using modern and state-of-the-art 3D CAD systems. All engineering services are executed in-house at INTECO.

_Project & construction management

During 50 years of operation, INTECO has executed several EPCM, or process turnkey projects worldwide. INTECO's engineers are specialized in assisting its customers with project management for new plants as well as revamping existing operations.

_Technology transfer

INTECO supplies the relevant know-how and technology, from raw material to the finished products with a focus on productivity and efficiency increase as well as quality improvement. During fact finding studies, we identify areas for improvement, evaluate cost reduction potentials, and mutually agree to specific targets. By preparing the know-how documentation, the relevant technology is documented in detail and later implemented on site during technical assistance by INTECO's experts. They also train the operating staff.

_Lifecycle services

INTECO provides all major lifecycle services for our client's equipment, such as:

- Remote support and service level agreements
- Preventive maintenance packages
- Spare parts supply
- System upgrades and retrofits

INTEGRATED MANAGEMENT SYSTEM

Since its foundation, INTECO has always focused on the quality aspects of its products and services. The quality management system of INTECO has been continuously and progressively developed and since many years we are ISO 9001 certified by an internationally recognized organization.

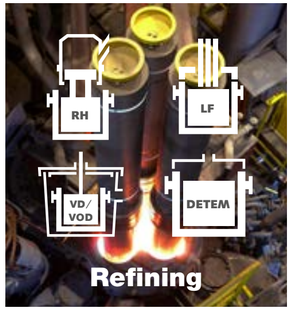
In this context our quality management system covers all business processes like (but not limited to):

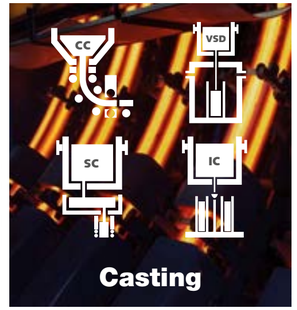
- Preparation of commercial and technical proposals
- Contract management
- All kind of engineering
- Procurement
- Marking and traceability
- Manufacturing
- Inspection, testing and corrective actions, if neccessary
- Quality inspection of components to be supplied by the buyer
- Packaging and expediting
- Erection and commissioning
- Performance testing
- Training and after sales services

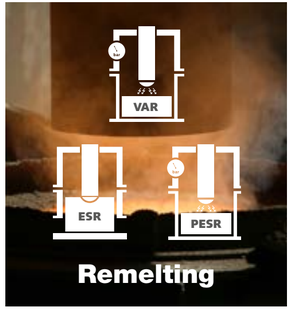
All these processes are performed according to standard procedures and regulations as well as are subject to various systematic and random inspections, testing, controls and internal audits. The quality management (QM) department is responsible for the documentation of the QM-system and its effectiveness.

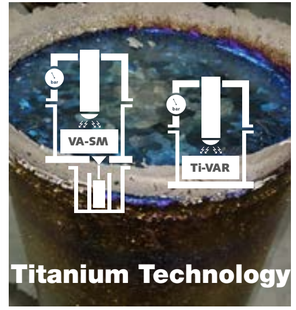
INTECO has been certified in the areas of safety and health in accordance with the standard DIN ISO 45001:2023 since 2013. The aim of this certification is to guarantee each employee a healthy and safe working environment, no matter if the employee is at the office or at a customer's plant site.

IMAS DIGITALIZATION AND INDUSTRY 4.0









PROCESS KNOW-HOW & CONSULTING

ELECTRIC ARC FURNACE (EAF)

INTECO Fuchs' electric arc furnace technology unites the history and capabilities of Fuchs Technology with the metallurgical competence and innovation of INTECO. The EAF design focuses on developing heavy-duty equipment, which is capable of withstanding both a high electrical and chemical melting power density without impairing the quality of steel, reliability of equipment, environment, and overall safety of all furnace operations.

Each INTECO EAF is tailored to achieve production and quality targets with the raw materials available, such as various mixtures of scrap, HBI/DRI and hot metal. As such, continuous feeding of DRI/HBI as well as single-bucket charging of scrap can be realised.

INTECO's EAF technology is available for virtually all heat sizes (starting from lab-scale furnaces all the way to furnaces with a tapping weight of several hundred tons).

Variations

- All heat sizes possible (from lab scale to over 300t)
- Various panel designs (steel, steel-copper, copper)
- Different roof lifting systems
- Various gantry designs (cone type, roller bearing or king pin)
- Flexible raw material input (scrap, DRI/HBI, hot metal)
- Continuous feeding (zero bucket), one-bucket and multi-bucket charging
- Tapping systems with EBT tap hole or tapping spout
- Tailor-made design and process technology dimensioning in function of raw materials mix

Our technology – Your advantage

- INTECO as a single supplier of all technology packages and in-house design of furnace auxiliaries
- Telescope EAF – the standard for one bucket charging
- ISMELT – advanced scrap preheating based on COSS technology
- INTECO PTI chemical package with oxygen, carbon and solid material injection
- INTECO PTI SwingDoor™
- Enhanced design of water-cooled components for increased safety and service life
- INTECO smart electrode control (ISEC)
- Integrated melting process control
- INTECO process management system (IMAS)

References

Customer	Type	Features
TianMa China	60t	EAF with EBT installation together with a PTI chemical package, PTI SwingDoor™, ISEC electrode control
Bastug Metallurgy Turkey	140t	Telescope EAF, largest single bucket furnace worldwide
Metal Ravne Slovenia	45t	Major revamping with new PTI chemical package, PTI SwingDoor™, ISEC electrode control
Grupo FRISA Mexico	50t	Green field EAF installation, part of a complete melt shop supplied by INTECO
Taewoong Special Steel South Korea	150t	Green field EAF installation, part of a complete melt shop supplied by INTECO

TELESCOPE EAF

This furnace concept benefits from the scrap preheating effect of the burner gas, which is generated during the melting process due to the high scrap column in the shell. The Telescope EAF stands out thanks to a special gantry design with an additional stroke. This design eliminates the need for longer or/and thicker electrodes to avoid electrode breakage, which is an inherent problem with other single-bucket furnaces.

Our technology

- Rigid, reliable and proven INTECO FUCHS-design
- Electrode stroke is the same than for conventional (multi-bucket) EAF
- Additional required electrode stroke for the high shell is realized by a gantry stroke, thus is minimizing the risk of electrode breakages

Your advantage

- Innovative EAF concept for single bucket application, even with scrap density down to 0.5t/m³
- Telescope principle for gantry & roof lifting minimized electrode length
- Minimized power-off time
- Highest operational safety and productivity
- High electrical & chemical energy input leads to shortest power-on time

SWINGDOOR

The INTECO PTI SwingDoor™ is designed for modern EAF operations to ensure operator safety and profitability. The PTI SwingDoorTM increases operator safety by eliminating the need for the operator to approach the open slag door during furnace operations. The INTECO PTI SwingDoor™ is directly responsible for reducing carbon consumption and consequently reducing CO_2 emissions while increasing yield. The fact that a greater amount of slag can be retained for a longer period of power on-time, allows the SwingDoor™ to have positive impacts on power consumption.

The SwingDoor™ is designed to behave like a valve: it remains closed during smelting and refining and retains the slag in the EAF. As a result, greater control over the amount of slag discharged from the furnace can be achieved at the same time. The SwingDoor™'s design has also eliminated the slag tunnel and scrap pushing procedure, and it also stops air from entering the furnace when the slag door is opened.

References

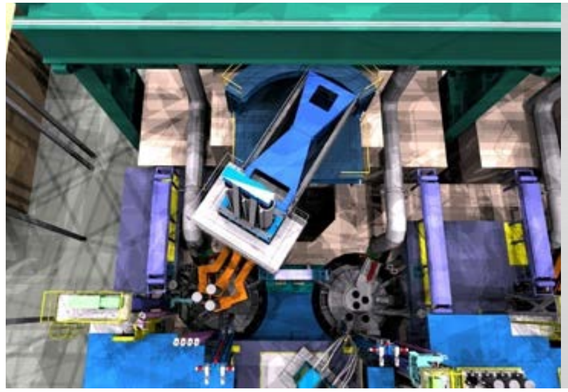
Customer	Type	Features
CMC South Carolina South Carolina, USA	SwingDoor™	100t AC EAF
Hoeganaes Corporation Gallatin, Tennessee, USA	SwingDoor™	70t AC EAF
Jindal Steel Shadeed Sohar, Oman	SwingDoor™	265t AC EAF
Ternium Puebla Mexico	SwingDoor™	200t DC EAF
Marienhütte Austria	SwingDoor™	35t AC EAF

Effective savings

- CO_2 reduction up to 7 kg/t
- Reduced Injection Carbon up to 10%
- Improved Yield +0.6% up to 1.5%
- Electrical consumption -2kWh/t up to 15kWh/t
- Power on time -0.4min

LADLE FURNACE (LF)

Ladle furnaces are increasingly being installed in basic oxygen plants as well as in electric arc furnace melt shops. INTECO offers solutions for every ladle furnace application. Thanks to its tailor-made design, INTECO's ladle furnaces fit into even the tightest spaces and fulfil both the requirements of special steel plants with long and intensive metallurgical treatments and BOF steel plants with high-performance, short treatment cycles. In any case, easy and low maintenance requirements have been taken into consideration in order to guarantee trouble-free operation over the long term.



Variations

- Single or twin stand (with swivelling portal)
- Wide range of heat sizes (typically from 5t up to 350t)
- Different roof designs available (pipe-to-pipe, flat inner surface, copper cladded)
- Standard or hanging portal system
- Ladle transfer car with optional tilting stool and weighing device
- Designed with gas or electromagnetic stirring system
- For steel plants, foundries and ferroalloy plants

Our technology – Your advantage

- Furnace roof with flat inner surface (steel plates or copper plated)
- Fast exchangeable guide blocks
- Automatic gas coupling system
- INTECO ISEC electrode control
- Easy access and maintenance
- All auxiliary equipment out of one hand

References

Customer	Type	Features
thyssenkrupp Steel Europe Germany	265t twin ladle furnace	Twin ladle furnace with material handling system and all complementary auxiliaries
Columbus Stainless South Africa	110t ladle furnace	Flat inner surface roof, material handling system and all complementary auxiliaries
Deutsche Edelstahlwerke Germany	130t ladle furnace	Hanging portal, roof with flat inner surface, material handling system an all complementary auxiliaries
Aperam France	6-15t ladle furnace	Suitable for different ladle sizes, DETEM degassing plant and all complementary auxiliaries
Anglo America Brazil	Two 50t ladle furnace	Ladle furnace for ferro-nickel refining with material handling system and all complementary auxiliaries

VACUUM DEGASSING (VD)
VACUUM OXYGEN DECARBURIZATION (VOD)

The vacuum degasser (VD) is one of the most commonly used commercial degassing systems. This system places a ladle inside a vacuum tank that is closed with a vacuum cover for operation under vacuum conditions. The ladle is equipped with an argon brick for inert gas stirring. A vacuum is created by the steam ejector or by dry mechanical vacuum pumps. During vacuum treatment, carbon, oxygen, nitrogen and hydrogen are reduced to the required limit values. The VD system can also be equipped with vacuum alloy hoppers so that an analysis correction and adjustments can be made. Further advantages of this system are good homogenisation and higher alloy yields.

Due to its wide range of metallurgical applications, the VD process is widely used in special steel mills.

Under vacuum conditions, the flow of oxygen allows decarburisation to take place before chromium oxidation. As such, a very low content of carbon with only a slight loss of chromium can be achieved. An oxygen blowing lance is installed on top of the vacuum cover for vacuum oxygen decarburisation (VOD).

Overall, VD/VOD treatment offers the following process advantages:

- Utilisation of cheaper materials with high carbon content (e.g. charge chromium)
- Reduction of production costs
- Improvement of quality
- Ability to produce ELC qualities with minimum chromium loss
- Achievability of strict analysis tolerances

Variations

- Tank degassers: Single or twin operation stand
- Heat sizes up to 350t
- Ladle degassing unit: DETEM for small heat sizes
- Steam ejector and dry mechanical vacuum pumps
- Alloying under vacuum conditions

Our technology – Your advantage

- Complete in house design
- VOD-ladle cover with flat inner surface (steel plates or copper plated)
- Automatic gas coupling system
- Wire feeding machines
- All auxiliary equipment out of one hand

References

Customer	Type	Features
Nucor Darlington USA	120t VD	Single-tank unit with moveable cover, alloy lock system and all complementary auxiliaries
Taewoong Special Steel South Korea	150t VD/VOD	Twin stand, fixed vessels, steam ejector vacuum pump system
Grupo FRISA Mexico	50t VD	Twin stand, fixed vessels, mechanical vacuum pump system
Deutsche Edelstahlwerke Germany	130t VD/VOD	Single stand, moveable vessel, steam ejector vacuum pump system
Taigang Stainless Steel China	45t VD/VOD	Twin stand, moveable vessels, steam ejector vacuum pump system

RH DEGASSING (RH)

Since the introduction of Ruhrstahl-Heraeus (RH) degassing technology in the late 1950s, the RH degassing process has become an important tool in modern steel plants. Over the years, the RH process has been continuously developed to satisfy the demands of steel producers. In the early days of RH degassing, the aim was to achieve a low level of hydrogen in the liquid steel. Today, the RH degasser is mainly used to produce low and ultra-low carbon steel grades using oxygen blowing, as well as to produce steel grades with a very low hydrogen content.

The RH degassing process has proven itself particularly well suited to operations requiring short tap-to-tap times. It is thus the unit of choice in many BOF shops with very short converter tapping times.

Specific features of the RH recirculation degassing process include:

- Favourable degassing conditions thanks to lift-gas kinetic
- High analysis hitting rate
- Lower temperature losses
- Continuous process sequence during vacuum treatment and alloy addition
- No additional freeboard required
- Reproducible metallurgical results

The following results can thus be achieved:

- Short treatment time
- Vacuum degassing
- Decarburisation to very low levels
- Addition of alloys, such as large amounts of silicon for the production of electrical sheets
- Melt homogenisation
- Alloy trimming

Variations

- Single or twin operation stand
- RH-vessel fast exchange system
- Steam ejector vacuum pumps
- Dry mechanical vacuum pumps

Our technology – Your advantage

- Complete in house design
- Variable ladle / vessel lifting systems
- Top-burner & O_2-blowing lance system
- Variable dust separating / cooling system

References

Customer	Type	Features
voestalpine Stahl Linz Austria	175t RH	Single stand, hydr. RH-vessel lifting, steam ejector vacuum pump system
Saarstahl AG Germany	200t RH	Single stand, fixed RH-vessel, hydr. ladle lifting design, steam ejector vacuum pump system
Isdemir Turkey	200t RH	Twin stand, fixed RH-vessel, hydr. ladle lifting design, steam ejector vacuum pump system, top lance
voestalpine Stahl Donawitz Austria	67t RH	Single stand, hydr. RH-vessel lifting, steam ejector vacuum pump system
Saarstahl AG Germany	200t RH	Single stand, mechanical vacuum pump system

INGOT CASTING (IC)

Ingot casting is used nowadays to produce all types of high alloy steels (e.g. tool steels), special alloys and all kinds of forging and rolling ingots. Ingots are produced in a large variety of weights, starting from 500kg up to 700t or even more. Virtually all ingot geometries (square, flat, round, polygonal) can be cast.

In principle, two different methods of ingot castings exist:

- Bottom pouring
- Vacuum ingot casting

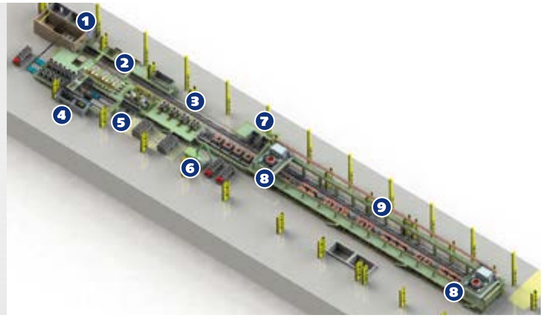
During bottom pouring, ingots are teemed via a trumpet from the bottom into the mould. This technology is used for all types of ingots weighing up to 160t. For bigger ingots weighing up to 700t, vacuum ingot casting (VIC) is usually better because it prevents hydrogen pick-up during casting. This is essential for the elimination of flaking tendencies.

With our focus on continuous improvement and development of the technologies offered, INTECO has developed the Advanced Teeming System (ATS). This state-of-the-art system for ingot casting can reach an annual production volume of up to 500 000t in an almost fully automated operation. Manual operation is reduced to a minimum, thus, working conditions are greatly improved. The ATS is an outstanding concept in terms of ingot yield and quality, workplace safety and improved productivity by maintaining a steady material flow throughout the casting area. This is achieved by combining modern system components, an elaborated design and a high degree of metallurgical process know-how of INTECO's experts.

Our technology – Your advantage

- Advanced Teeming System (ATS)
- Design of mould and casting set-ups
- Automatic casting flow control
- Metallurgical and process consulting
- INTECO casting rate control (ICAST)

1. Plate cleaning station
2. Bottom plate preparation (optional brick laying robot)
3. Mould preparation
4. Mould cleaning unit
5. Trumpet erection
6. Stripping
7. Hot-top cleaning
8. Ingot casting car (portal, semi-portal) with ICAST
9. Casting station



References

Customer	Type	Features
Ovako Sweden	Two 100t ingot casting cars	ICAST, highest safety standarts
Buderus Edelstahl Germany	Two 200t ingot casting cars & ATS (Advanced Teeming System)	Most modern automated casting system
Breitenfeld Edelstahl Austria	Two 65t ingot casting cars	Multiple ladle casting for ingots up to 130t
Taewoong Korea	700t vacuum ingot casting	Biggest vacuum ingot cast in the world
Grupo FRISA Mexico	Complete ingot casting area	50t ingot casting car, mould washing unit, plate transfer and tilting device
Metal Ravne Slovenia	Advanced Teeming System	Mould & plate cleaning units, plate & trumpet preparation transfer cars

CONTINUOUS CASTING (CCM)

Billet, Bloom and Slab Casters

The continuous casting of billets, blooms, beam blanks and slabs is a well established technology for the production of semis for high-quality applications. Likewise, continuous casting of billets is the basis for highly productive steelmaking. INTECO TBR – INTECOs competence center for casting – supplies robust continuous casting machines with highest quality of the final product, low maintenance requirements and high operator friendliness.

Special Casting Applications

Demanding steel grades with highest quality expectations require special casting technologies and solutions, such as horizontal or vertical continuous casting for round and slab formats. A set of technological control packages to ensure safety of casting and quality is provided. In order to minimize the occurrence of casting accidents an anti-breakout system using AI algorithms can be offered.

Variations

- Bow type or vertical bending/unbending machines
- Vertical casting machine
- Horizontal casting machine
- Segment casters

Our technology – Your advantage

- Modular design
- Operator friendly casting floor
- Advanced and in-house developed solutions for mould level control
- High precision mould oscillator with innovative drives
- Dynamically controllable spray cooling coupled with online solidification model
- Dynamic mechanical soft reduction (MSR) coupled with on line solidificastion model
- Continuous straightener concept for lowest strain rates
- Rigid cooling bed
- Tertiary cooling and hot charging solutions
- Production safety through integrated automation
- Best possible end product quality based on metallurgical model

References

Customer	Type / Format
Shagang Group China	5-strand vertical bending bloom CCM, radius 9m, heat size 120t and section size 300x390mm
OEMK Russia	Bow type bloom CCM for blooms with mechanical soft reduction (MSR), section size 300x390mm
voestalpine Böhler Edelstahl Austria	Horizontal casting machine, billet and round bloom
Arcelor Mittal Belval Luxembourg	Beam blank caster for section sizes up to 483x384x110mm, radius 9m vertical bending, heat size 140t
voestalpine Stahl Donawitz Austria	Several Revamping projects on vertical bending/unbending CCM
Confidential Customer Asia	Engineering for a new state-of-the-art slab caster for section sizes of 2000x250mm

SEGMENT CASTING (SC)

Segment casting in semi-continuous operation (SC) and continuous operation (VCC)

Segment Casting (SC) is a semi-continuous vertical casting process, which is widely used for the production of nonferrous alloys. In the field of steel metallurgy, the application of this process can be found in some special niche applications.

INTECO has further developed this idea in the last years targeting an improved production of round blooms with various diameters up to Ø1 500mm, special sized slabs as well as special steel grades that cannot be casted on a bow-type caster.

Additionally, the segment casting process has the potential to replace many applications of ingot casting thanks to its excellent performance regarding productivity, yield and quality. Because of some patent pending features like a powerful stirrer in combination with a special hot top treatment device and a ladle heating system for ultra-low casting speeds, Segment Casting represents one of the most promising new products of INTECO for special steel producers worldwide.

Our technology – Your advantage

- Inductive feeder for maximum hot top yield
- Dynamic electromagnetic stirring system (EMS)
- Retractable heat insulation system
- EPH-system for ladle heating at ultra-low casting speeds
- Liquid steel protection from ladle to mould
- Servo drive oscillation
- Fully automatic dummy bar system
- Fully automatic discharge system

Variations

Sections:	round, polygonal, rectangular, square, hollow
Sizes:	up to Ø1500 or comparable for other geometries
Length:	up to 13-15m with cutting to final product size
Grades:	no limitations
Yield:	highest, more than 90-95% from liquid in ladle to cut ingot
Design:	Semi-continuous (SC) to ingots from 1 to 4 strands in parallel and subsequent offline cutting Continuous (VCC) in sequences of multiple ladles with inline cutting and subsequent ingot manipulation

References

Customer	Type / Format
TianMA Bearings China	Two-strand Segment Caster for section sizes Ø500mm, 650mm-octogonal, Ø1000mm, maximum bloom length 13m, heat size 60t
Gloria Material Technology Taiwan	Two Segment Casters with in total 4 strands for section sizes Ø410, Ø550, Ø700, Ø850, Ø1000, Ø1200mm, maximum bloom length 13m, heat size 55t
voestalpine Stahl Donawitz Austria	One-strand Segment Caster for section sizes 270x360mm, 230mm round, maximum bloom length 12m as a part of a complete R&D steel plant supplied by INTECO
Confidential Customer Europe	Segment Caster for section sizes 850x235mm, 500mm round, 140mm square, maximum bloom length 3,5m, maximum weight 10t

VACUUM INDUCTION MELTING (VIM)

The vacuum induction melting (VIM) process has been established as the most important primary vacuum melting technique for today´s industrial production of high performance special steels and superalloys for most demanding applications. Depending on the final application, VIM produced ingots are often used as electrodes in electro slag remelting (ESR) and/or vacuum arc remelting (VAR) processes.

Melting in vacuum has a long history of over 100 years, beginning in the 1920's after induction furnaces were introduced. During the early sixties larger industrial VIM furnaces were designed for melting increasing quantities of high-temperature superalloys and ultra-high strength steels required by rapidly growing aerospace programs. The subsequent decades have led to a consolidation of the vacuum melting industry with different furnace designs and technical advances in operation for economic production of high-performance materials.

Today, the VIM process is carried out entirely under vacuum or controlled inert gas atmosphere including all operation sequences of charging, melting, alloying, sampling, temperature control, pouring and solidification.

The INTECO VIM furnace has been developed as a multi-chamber design, providing innovative advantages in terms of vacuum performance, melting procedure, casting method and plant ergonomics which enables our customers to reliably produce high end materials in a most modern and economic way.

Our technology – Your advantage

- Modular multi-chamber design with small chamber volumes for highest operational flexibility and reliability
- Diagonal split design for melting and casting chamber for best access and safety
- Movable melt chamber bottom for open slag removal as well as accessibility for crucible cleaning, cold charging, relining and maintenance
- Highly efficient vacuum system adjustable to process needs (reduced pump-down time)
- All process related vacuum valves are of vertical design (unaffected by dirt and heat radiation)
- Shortest tundish design for reduced heat losses and risk of nozzle freezing as well as low operational costs for tundish relining
- Automated tilt pouring system for smaller sized systems
- Tailor-made ergonomic design to meet customer specific requirements
- Holistic process and production management system (IMAS) including cost optimized alloy calculation

Variations

- Single- or multi-chamber design
- Modular side charging chamber, trace alloy chamber and temperature and sampling manipulator
- Casting chamber in mould tunnel or turn table design for ingots and barstick production
- Bottom and/or top pouring
- Casting under vacuum, inert gas and atmosphere
- Hot crucible exchange and transfer
- Separate sintering position
- Casting speed control
- Heat sizes from lab scale up to 30t

References

Customer	Type	Features
voestalpine Stahl Donawitz Austria	Lab-scale VIM furnace	Design and supply of a 45kg laboratory VIM featuring all characteristics of an industrial-scale VIM
SeAH CSS South Korea	8t multi chamber VIM furnace	Engineering and supply of an 8t VIM including viibratory feeder, crucible exchange, turn table design, T&S manipulator
BGH Lippendorf Germany	11t multi chamber VIM furnace	Modernization of the existing VIM furnace supplied by INTECO in the nineties, increasing of the melt capacity to 10t, equipped with a new control system and implementation of a production management system (IMAS)
Ruspolymet Russia	2 x 5t multi chamber VIM furnace	Engineering and supply of two 5t VIM furnaces, most modern design for an optimized production of ingots/electrodes either to be forged or processed in subsequent remelting processes

ELECTRO SLAG REMELTING (ESR)

Electro slag remelting (ESR) is still one of the most important technologies in the production of steels and super alloys of highest demand for various applications. Starting from the very beginning when ESR was used only as a desulphurization step in the late sixties, the ESR process gained increased popularity for achieving superior ingot quality with respect to segregation level, cleanliness and solidification structure.

Nowadays, the ESR process has already reached industrial maturity and is used for the refinement and quality enhancement of ingots with a variety of different plant concepts. Due to the nature of the ESR process and its complexity, a lot of research and new developments has been carried out over the last decades, resulting in newly developed technologies, plant concepts and designs.

Based on INTECO's long term experience in electro slag remelting and our continuous focus on further developments, a wide range of remelting technologies has been developed satisfying todays market requirements. Today, INTECO is in the position to offer tailor-made solutions with the related production technologies for all applications, meeting our customers expectations with respect to product quality and process stability.

Our technology – Your advantage

- Newly developed protective gas system for lowest gas consumption (N_2, Ar)
- Coaxial high current loop to achieve superior ingot quality
- Weighing system and XY-adjustment for precise control of the remelting parameters
- In-depth process know-how and highly sophisticated process control for superior product quality
- Highest yield due to optimized starting and hot topping procedures
- Comprehensive process simulation model exclusively developed with the Montanuniversity of Leoben
- All necessary auxiliary equipment (stub welding, mould cleaning, alloy and slag dosing) available from one single supplier
- Tailor-made ergonomic design for best accessibility and easy maintenance
- Holistic process and production management system (IMAS) for overall recipe management, data storage and definition of key performance parameters

Variations

- Short collar mould plants with retractable base plate
- Static mould plants with or without electrode exchange technology
- Combined static / collar mould plants
- Pressure ESR plants (up to 40 bar)
- ESR plants for hollow and rectangular ingot production
- Patented Electro Slag Rapid Remelting (ESRR®) for billet production
- Labscale ESR furnace
- Large sized ESR furnaces (ingot weight up to 250t)
- Patented Current Conductive Mould (CCM®) technology for segregation prone alloys

References

Customer	Type	Features
Saarstahl AG Germany	145t combined ESR furnace	Engineering and supply of one ESR plant with four melt stations to be operated by three fully equipped furnace heads, maximum ingot size 1900mm diameter, 6500mm in length resulting in 145t
Uddeholms AB Sweden	30t static mould ESR furnace	Engineering and supply of four static mould ESR furnaces for the production of 30t ingots up to a diameter of 1250mm
Fomas Italy	125t static mould ESR furnace	Engineering and supply of one ESR plant with three static mould melt stations to be operated by four fully equipped furnace heads. Maximum ingot size 2000mm diameter, 5200mm in length resulting in 125t
Ugitech France	ESRR furnace	Design and delivery of ESRR furnaces for the production of near net shaped billets with ESR quality in a semi-continuous rapid remelting process
BGH Lippendorf Germany	25t combined ESR furnace	Engineering and supply of one combined ESR plant equipped with two furnace heads for electrode change technology and three melt stations for the production of ingots with a diameter of 1250mm and a max. ingot weight of 25t.
China First Heavy Ind. China	160t static mould ESR furnace	Engineering and supply of a 160t static mould protective gas ESR furnace consisting of two furnace heads, one central melt station capable of producing 160t ESR ingots with a diameter of 2200mm applying electrode change.

VACUUM ARC REMELTING (VAR)

The strict quality requirements of end users such as the air and space industry calls for a metallurgical refining process that enhances the product quality to the highest level. The vacuum arc remelting (VAR) process has been developed in the 1950's with the aim of satisfying these increased demands on certain material properties of the final product. Today, the VAR process is used for refining a broad variety of materials such as various steels as well as different nickel or cobalt base super alloys. Because the VAR process is carried out under inert conditions (i.e. vacuum) and with controlled solidification conditions, the remelted ingot is of superior cleanliness and lowest residual gas content.

Based on INTECO's long-term experience and know how in the field of vacuum metallurgy as well as sophisticated control systems for remelting systems, a wide range of well-proven and specialized solutions in VAR technology can be offered to our customers meeting the highest standards.

Variations

- VAR for steels, super alloys and reactive materials
- From lab-scale to 30t ingot weight and more
- Partial pressure remelting for minimization of evaporation losses
- Helium cooling system for improved heat transfer between mould wall and ingot
- Patented combined ESR/VAR concept

Our technology – Your advantage

- Coaxial furnace design with defined current path for highest reproducibility
- Sophisticated drip short analysis functionality (IDRIP®)
- Horizontal XY adjustment of the electrode in the crucible for maintaining a constant gap
- Optimized weighing system for accurate control of the remelting parameter
- Tailor-made ergonomic design for best accessibility and easy maintenance
- Comprehensive process simulation model developed with the University of Leoben
- Holistic process and production management system (IMAS) for overall recipe management, data storage and definition of key performance parameters

References

Customer	Type	Features
BGH Lippendorf Germany	12t VAR furnace	Engineering and supply of a 12t VAR furnace for ingots up to 2750mm length and 860mm with an optimized configuration for double and triple melting (VIM–ESR–VAR)
Deutsche Edelstahlwerke Germany	20t VAR & 20t multifunctional furnace (ESR/VAR)	First industrial scale multifunctional remelting furnace worldwide featuring ESR and VAR operation maximum flexibility in production, maximum ingot diameter 1000mm and maximum weight 20t
SeAH CSS South Korea	2 x 8t VAR furnace	Engineering and Supply of two 8t VAR furnace for ingots up to 2500mm length and 720mm diameter as well as an overall process and production management system for VIM, VAR and ESR
Daye Special Steel China	6t & 25t VAR furnace	Engineering and supply of a 6t/25t VAR furnace for the production of ingots with a max. dia. of 600/1200mm and a max. weight of approx. 6/25t equipped with all state-of-the-art features such as He-cooling, partial pressure remelting and INTECO's self-developed drip short controller I-DRIP

TITANIUM PRODUCTION (Ti)

Titanium is the fourth most abundant metal making up about 0.62% of the earth's crust. Rarely found in its pure form, titanium typically exists in minerals such as ilmenite, rutile, etc. and continues to be expensive because of its complex isolation process compared to other metals.

Starting in the 1950s, titanium came into use primarily in the aerospace industry for the construction of aircrafts due to its low density, high specific strength and high temperature properties. Since then, the titanium industry has had several cycles of high and low demand with numerous new applications and industries over the years. Today, about 80% of titanium is used by the aerospace industry and 20% by non-aerospace industries such as metal finishing, chemical processing, consumer products and medical implants due to its good compatibility with the human body.

The start of INTECOs activities in titanium production technologies reach back to the year 2008. At that time, INTECO has been awarded with an engineering contract for a large scale VAR titanium ingot production line dedicated to an annual capacity of approx. 12 000t. Based on INTECO's history and experience in complex production processes, INTECO now offers various technologies as well as the complete production know-how for different titanium production lines.

Our technology – Your advantage

- Know-how and experience for each pocessing step and technology along the complete production route
- Long term operational experience and management of full scale titanium production plants including successful certification for the aerospace industry
- Experience in the engineering and commissioning of entire titanium production shops from raw material to finished ingots
- Newly developed titanium VAR (I-Ti VAR) based on well proven and in-house developed VAR technology

Available equipment & technology

- VAR and cold hearth production routes
- Entire production lines or single units
- VAR design concepts from lab scale up to 30t ingot weight
- Large scale VAR skull melting casting systems for high recycling rates (> 40 %) for ingot, slab and investment casting products

INTECOs Ti-VAR (*I-Ti*)

- Advanced arc centralization system for homogeneous distribution of the magnetic field from the bottom to the top including visualisation in the control system for highest safety and improved metallurgical performance
- Optimized cool down period with advanced lock valve design
- Comprehensive process simulation model exclusively developed with the Montanuniversity Leoben
- Holistic process and production management system (IMAS) for overall data management, data storage and definition of key performance parameters

References

Customer	Type	Features
Chongqing Kingsley Titanium Technology China	6t & 17t Ti-VAR furnace	Engineering and supply of one 6t titanium-VAR plant for ingots up to 816mm diameter, existing 17t furnace was equipped with an additional melt station and two lock valves
Ruspolymet Russia	4t Ti-VAR	Engineering and supply of one 4t titanium-VAR plant for ingots up to 600mm diameter, consultancy services to set-up a completely new titanium production shop
Shaanxi Tiancheng Aerospace China	Two 10t, one 12t & one 17t Ti-VAR	Engineering and supply of two 10t, one 12t and another 17t titanium-VAR plant for ingots up to 1130mm diameter to one of the most modern Ti-production plants in China
Baoji Yaguang Machinery China	Vacuum Arc Cold Hearth Skull Melting and Casting	Titanium VAR skull-melting furnace designed for melting and subsequent casting of max. 1200kg of Titanium and Titanium alloys, newly developed furnace concept combines static casting with investment cast products (dynamic casting) with high recycling rates of scrap

METAL POWDER TECHNOLOGY (PM)

Over the last century, commercial production of various metal powders has seen exceptional growth with wide ranging applications in a myriad of different industries such as the press- and sinter (P&S) industry, the hot isostatic pressing (HIP) industry as well as in newly emerging and high demanding industries like metal injection molding (MIM) and metal additive manufacturing (AM).

All of these industries have different requirements on the metal powders and in turn on the powder production technology. Today's commercially available gas atomization systems were developed in the 1980's and mainly intended for use in industries such as HIP or P&S. The originally intended process for these powder batches may not require the same high quality as powders used in newer processes and as such their performance in an AM process may not be adequate or as expected. Focusing on these newly emerging powder specifications and requirements, INTECO has developed the „next generation" gas atomization system, combining innovative developments in atomization technology and in-depth process know-how. Today, INTECO offers a wide range of newly developed technologies for the production of metal powders for various steels, nickel and cobalt superalloys as well as titanium and its alloys, meeting today's requirements with respect to cost, quality and yield.

Our technology – Your advantage

- „Next-Generation" gas atomization technology for steels, superalloys and titanium
- Melting under vacuum, inert gas or atmospheric conditions
- Automated tilt pouring for optimized atomization conditions
- Anti-Satelliting technology for high powder flowability and sphericity
- t Powder recycling system for utilization of revert and used powders
- Multifunctional charging system for late charging, alloying, sampling and temperature measurement enabling sophisticated alloy development
- Highly effective tundish, nozzle and gas heating systems for highest process consistency and flexibility
- Optimized tundish and gas nozzle design for highest powder cleanliness and production yield
- Easy maintenance and cleaning for quick and reliable change of grades
- Industry's first holistic process and production management system (IMAS) covering the complete powder production process

Tool Steel Powder

Since the development of the patented Electro Slag Heating (ESH) process in the 1980's INTECO has played a major role in the development of today's state of the art production process for tool steel powder. The trend towards an increasing tundish size to accommodate the whole liquid metal before atomization creates the necessity for a suitable tundish heating system in order to maintain constant metal temperature over a long period of time. The result of this process is powder of highest cleanliness (e.g. low non-metallic inclusions) with constant properties throughout the whole atomization process.

Specialty Powder

For the production of specialty powder such as nickel and cobalt base powder as well as titanium and its alloys the gas atomization method has been recognized as the predominant technology. INTECO's design solutions are focussed on highest powder quality and powder yield in order to satisfy the requirements of the highest demanding industries such as additive manufacturing. This is realized by enhancing common gas atomization by the latest technology and know-how in atomization theory, therefore creating the next generation gas atomization systems.

References

Customer	Type	Features
Tiangong China	8t IGA (ESH/EPH)	China's first PM production line for HIP powders
Ruspolymet Russia	3t IGA (ESH/EPH)	Metal powder production line incl. encapsulation line and powder handling
MIMETE S.r.l. Italy	VIGA	Automated tilt-pouring, gas heating, tundish heating, powder recycling, IMAS system
Ruspolymet Russia	VIGA	Automated tilt-pouring, gas heating, tundish heating, powder recycling, IMAS system
Böhler Edelstahl Austria	8t ESH	Electromagnetic Stirring System
Erasteel Sweden	7t & 14t ESH	Argon Stirring System

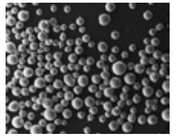
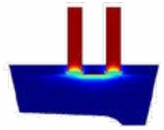
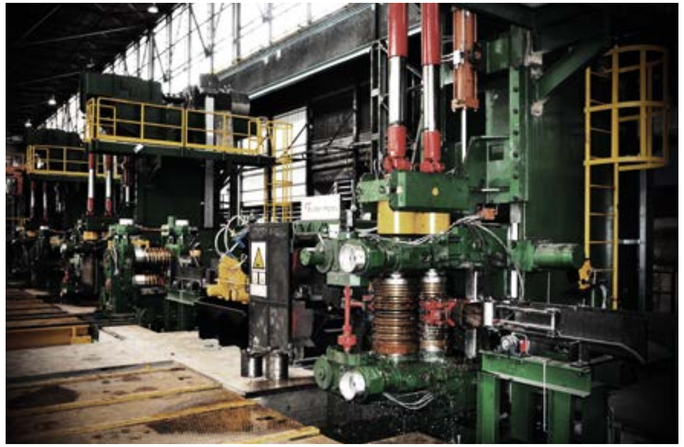


Image courtesy of MIMETE S.r.l



Simultaion of the ESH process

ROLLING MILLS (RM)



With decades of experience and constant efforts to exceed the costumers' requirements worldwide, INTECO Rolling Mill Technologies is the competence center as provider for rebar mills, wire rod mills, SBQ mills and light section mills within the INTECO Group.

Nowadays, the demand for flexible and economical production of long products can be achieved by innovative production processes, modern solutions for electric and automation as well as an eye for the snallest possible detail. Thanks to the profound knowledge and several years of experience in R&D as well as process modelling, INTECO Rolling Mill Technologies has reached a high level of competence.

All of the designing is done by using 3D software tools, taking into account the most efficient materials and thermal treatments in order to produce devices that will last for decades. Moreover, to shorten the erection and commissioning time a pre-shipment running test is performed.

Pre-configured solutions are not always satisfactory for end users since each customer has different demands. In order to meet these requirements INTECO Rolling Mill Technologies is able to offer tailor-made solutions. It is one of INTECO Rolling Mill Technologies' greatest goals to establish long-term partnerships with the major players in the steel industry.

Variations

- Rebar mills
- Special bar quality mills
- Bar & wire rod mills
- Light section mills
- Super flexible mills
- Ball making plants
- Garret lines
- Vertical compact coils

References

Customer	Type
Elektrostomana Bulgaria	50 000t/year ball making plant
Kuwait Steel Kuwait	400 000t/year rebar mill
Store Steel Slovenia	350 000t/year SBQ mill
Peoples Steel Mill Pakistan	Descaler for special steel plate mill
AFV Acciaierie Beltrame Italy	Stacker and unloading device

IMAS - DIGITALISATION AND SMART PRODUCTION

IMAS INTECO Metals Application Suite

Modern plant automation requires vertical and horizontal integration of all equipment and production processes and shall cover not only fully-automatic machine operation, process tracking and reporting but also planning and optimization for the entire production route, which are necessary to meet customer and end-user specific requirements. Further it must seamlessly integrate in a smart manner into the overall IT/OT architecture philosophy whether existing or new. Finally, it must provide stability and compatibility over the complete lifecycle that is in steel making rather measured in decades than years.

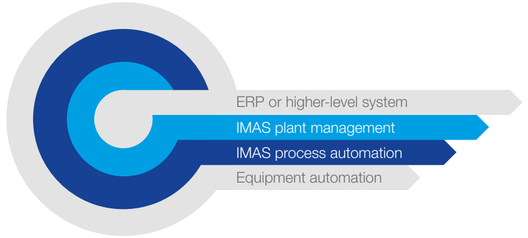
INTECO as a world leading supplier for specialized production technologies offers powerful digital solutions and components for machine and process operation as well as production management called “INTECO Metals Application Suite (IMAS)”. IMAS was developed to integrated several levels of automation and is intended to cover all levels between equipment operation (Level 1) and shop floor automation (Level 3) and delivering a clean interface to enterprise IT (Level 4). State-of-the-art software development combined with the process know-how of INTECO are the fundamentals of IMAS.

IMAS covers the entire steelmaking production process, from scrap yard over primary- and secondary metallurgy up to ingot- or continuous casting, including ingot tracking. Accordingly, the different units of special melting and remelting (VIM, ESR and VAR) are included. Furthermore, innovative developments of IMAS for the titanium industry and for powder metallurgy complete the product portfolio of our software system.

The main functions of the shop floor applications represent: (1) the determination of the present situation, (2) the calculation of the optimal path to reach the target values and (3) operation guidance considering the dynamic process (unforeseeable events). Thus, the system includes metallurgical process models developed by INTECO. Fundamentals of physics and chemistry are the basis of all included models. Finally, all process optimization models consider different criteria in order to ensure high product quality and minimize operation costs.

Variations

- IMAS process automation for EAF, LF, AOD, VOD, VD, RH, IC, CC, SC
- IMAS production management for steel making
- IMAS production management for remelting and alloys



STEELMAKING REMELTING TITANIUM POWDER

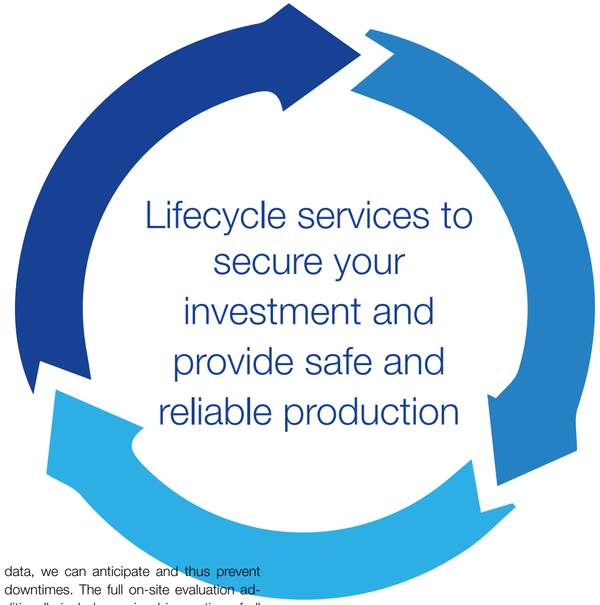
Our Technology – Your advantage

- Quality improvement due to fundamental-based process models
- Quality improvement due to standardized treatment practices
- Quality improvement due to data monitoring, analysis and reporting
- Productivity improvement due to guided process treatment
- Productivity improvement due to automatic set-point control
- High flexibility due to modular and state-of-the-art software development
- Easy-to-use operation interfaces due to dedicated designs for office and control room
- Modern software architecture for plug and play extensibility

References

Customer	Type	Features
Grupo FRISA Mexico	IMAS Steelmaking	Holistic digital plant integration up to ingot tracking
Nucor Darlington USA	IMAS Steelmaking	IMAS process automation for VD including degassing model and cost optimized alloy addition
BGH Freital Germany	IMAS Remelting	IMAS production management for remelting and alloys including ingot tracking
UKTMP Kazakhstan	IIMAS Titanium	Titanium production and plant management system
MIMETE s.r.l Italy	IMAS Powder Metallurgy	Know-how data management and process automation for Powder Metallurgy
NPO Russia	IMAS Steelmaking	Overall plant integration of EAF, LF and DETEM including IMAS process automation and IMAS plant management

LIFECYCLE **SERVICES**



The successful production ramp up and the final acceptance is an important milestone for us. This milestone marks the end of the project, but it is also the beginning of our lifecycle services. The basis is already delivered at this point. Based on our spare parts list, TECTRADE is your ideal partner when it comes to spare parts delivery. Our service conditions, issued automatically at the end of your warranty period provide a clear and easy framework for a needless continuation of our support. Our clear commitment here is: we will never leave you alone if you are in trouble. But our offered services provide more, they help you to ensure a healthy and working machine of software throughout the whole lifetime that typically exceeds 30 years.

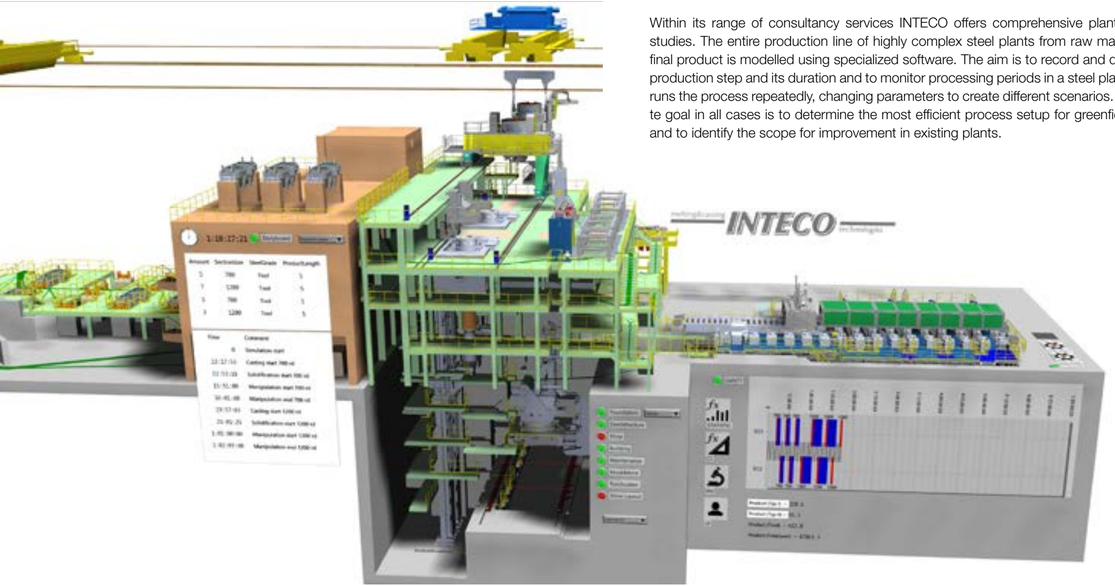
At a fixed price we are offering, what we call "system health check" in two different variations. The remote check consists of an analysis of your automation and software to ensure proper operation of both. In cyber-physical systems small things can sometimes accumulate to major issues if they are not witnessed or even ignored. Besides software and hardware diagnosis, we also check machine and alarm logs in order to identify potential risks. With our structured analysis of alarm messages and machine data, we can anticipate and thus prevent downtimes. The full on-site evaluation additionally includes a visual inspection of all electrical and mechanical components, a checkup of safety functions and emergency features and necessary metering like earthing or short circuit test. This holistic evaluation of the machine allows us to identify issues that cannot be detected by the automation. The result of both is a detailed action plan for keeping your plant healthy and up-to date.

For our software solutions we are offering service level agreements up to next business day support. This type of contract does not only cover incident. It also covers minor modifications that are related to normal software lifetime, for example an additional information at a certain place in the software. Per request it can also include an update agreement making sure that your software stays compliant with external technological evolution such as new operating systems. Ultimately, selected solutions also available as software as a service.

High sophisticated technological components also rely on periodical maintenance. For sure our products, such as the smart electrode controller ISEC, offer all the features to adjust or auto-adjust all the parameters related to furnace wear, instrument change or a changed production mix. But if you are busy with other work, we will offer you such service at a fixed price. This includes a performance evaluation of our furnace operation, readjustment of valve scaling and electrical parameters. Optionally we can also offer optimization of power profiles by one of our process experts or a fine tuning of the rule-based optimization.

And for sure we are always happy to help you realizing larger retrofit projects such as version upgrade of the automation system or increasing the machines capability by use of our smart components or our powerful engineering services

PLANT **SIMULATION** STUDIES



Within its range of consultancy services INTECO offers comprehensive plant simulation studies. The entire production line of highly complex steel plants from raw material to the final product is modelled using specialized software. The aim is to record and display each production step and its duration and to monitor processing periods in a steel plant. INTECO runs the process repeatedly, changing parameters to create different scenarios. The ultimate goal in all cases is to determine the most efficient process setup for greenfield projects and to identify the scope for improvement in existing plants.

The ability to evaluate the feasibility by considering all possible scenarios up-front of any new investment, prevents the customer from unpleasant surprises in retrospect, like unplanned expenses. As you can simulate numerous different scenarios, it is also the perfect tool to compare concepts and subsequently facilitates to choose among them. INTECO not only conducts plant simulation studies for greenfield projects but also for plants in operation to optimize material flow, performance, or cycle times, to only mention some. Moreover, such study can detect bottlenecks and can help to find a solution to eliminate those. Therefore, it can be seen as a tool to improve the throughput in general.

Benefits in advance of investments, either greenfield or brownfield:

- Digital twin provides a better understanding of requirements and feasibility
- Material flow optimization
- Detecting and eliminating bottlenecks
- Identifying measures to improve throughput
- Easy comparison of different concepts
- Production planning and optimization

REFERENCE LETTERS

INTECO loves them: Its clients for life. It always starts with the first step, the first order: The parties get to know and trust each other. They keep their promises and in the best case, exceed each other's expectations. At the end of the project, there is a satisfied client and, only then, a satisfied supplier: The perfect basis for further cooperation.

Customized ideas, top quality and excellent service turn these satisfied clients into lifelong INTECO partners and build partnerships based on mutual trust and sincerity. Commitment and know-how of every single INTECO employee as well as the motivation to make each customer a customer for life, form the basis for building a strong bond. In particular, commitment is the most important quality for successful and smooth project execution. For this reason, INTECO values the positive feedback of its customers more than ever. Please find selected extracs on the these two pages.

CARPENTER

Carpenter Technology Corporation
P.O. Box 14662
Reading, PA 19612-4662

Tel.: 610.208.2000

October 14, 2014

To whom it may concern:

This is to certify that INTECO Special Melting Technologies is a qualified company for the delivery and commissioning of Pressure Electro Slag Remelting Furnaces (PESR). INTECO Special Melting Technologies delivered a 12 ton PESR furnace for remelting premium quality stainless steel grades to Carpenter Technology Corporation in Reading, PA, USA. The furnace was designed for the production of ESR ingots with a maximum diameter of 760mm (30 inch).

Carpenter Technology Corporation confirms that INTECO is not only a supplier for high quality equipment, but also a reliable partner regarding the respectively Know-how and technology transfer. We are very pleased with our long term relationship with INTECO and strongly recommend them for similar projects because their support will continue long after the project is completed.

Sincerely,

Hans Eddinger

FRISA

FRISA Forjados S.A.
Attn.: Mr. Eduardo Garza T. Junco
Valentín G Rivero 127
66150 Santa Catarina, NL
MEXICO
E-Mail: egarza@frisa.com / Web: www.frisa.com

Reference Letter

To whom it may concern:

FRISA Forjados S.A. is proud to confirm that INTECO proved to be a highly qualified supplier of equipment and related process technology for the engineering, manufacturing, delivery, supervision of erection, commissioning and training of Greenfield special steel plant.

INTECO timely delivered the complete key equipment for our SDT meltshop consisting of an electric arc furnace, ladle furnace, vacuum plant and ingot casting. Additionally, INTECO also was responsible for the scrap yard equipment, material handling system as well as the Basic Engineering for all auxiliary units (such as fume treatment plant, water treatment plant, gas plant, etc.).

This investment enhanced FRISA's capabilities to a fully integrated forging company with its own melt shop that guarantees the high quality steel, flexibility and competitiveness. We can supply free forged parts, seamless welded rings, round bars, hollow forgings, step and flange shafts as well as blocks and plates made of carbon, alloy and stainless steel in highest quality in reliable and short delivery times.

ECHOLOT+ BOHEMIA GROUP

UGITECH
Providing special steel solutions

Ugine, the 23rd of May 2014

Object : Recommandation letter for INTECO
Diffusion : to whom it may concern

Madam, Sir,

We want to assess that Ugitech, as a major stainless steel long product producer, uses with success it's INTECO's ESRR® equipment on a daily base.

We already regulary supply one part of our niche markets with material which has been ESRR® remelted.

We would like to add here that INTECO's team has always supported us to master and develop this new concept equipment even if of course some metallurgical process parameter have to be tuned by the user of the equipment.

Sincerely yours

D. FERRIERE
Business Development and R&D Director
Former ESRR Project leader

NOTHING MAKES US MORE PROUD THAN A SMOOTHLY EXECUTED PROJECT AND A SATISFIED CUSTOMER

MILESTONES

1973

INTECO was founded by Dr. Wolfgang Holzgruber

1979

First order ESR by Metal Ravne, Slovenia

1994

First INTECO VIM furnace for BGH Lippendorf, Germany

1995

First ESRR® at Valbruna, Italy

1998

Dr. Harald Holzgruber becomes Managing Director of INTECO

2001

First turnkey project for a melting and casting plant, HFF, Iran

2003

First static mould ESR plant, DEW Krefeld, Germany

Grand opening of the new office building in Bruck/Mur, Austria

2005

Secondary metallurgical plant, voestalpine Stahl Linz, Austria

2009

World's biggest ESR ingot at INTECO's ESR at Forgiatura Vienna, Italy

2013

Special steel plant, Taewoong, Korea

First INTECO Telescope EAF at Bastug Metallurgy, Turkey

2014

ATS for Buderus, Germany

2015

Bloom CCM with MSR at Shagang, China

2016

Contract for a small complete meltshop was signed with voestalpine Stahl Donawitz, Austria

First INTECO Ti-VAR at Ruspolymet, Russia

2017

New product: Powder Metallurgy

2018

First heat at the very first INTECO Segment Caster at TianMa, China

2021

Contract for the first INTECO Slab Caster

2024

Record breaking order – Saarstahl orders a 200t RH and a 200t Twin LF plant

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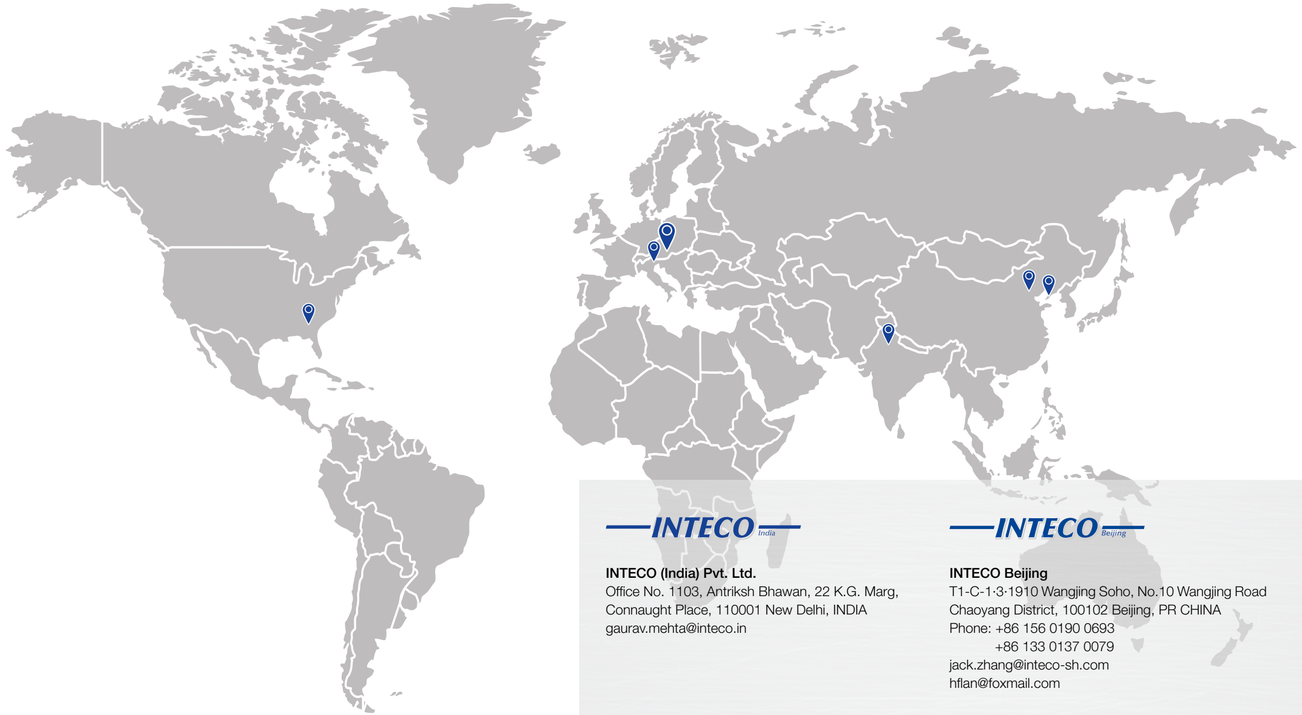

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