



# OTTO JUNKER



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## We understand Metals

Committed to vocational training



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## Dear Reader!

Education is the essential basis for any individual's personal, social and economic success. It is therefore also a key prerequisite for corporate competitiveness, given that any company's output – be it products or services – is shaped by people.

What I have found very impressive in this context, by the way, is the library of our founder, Dr. E.h. Otto Junker, who set up this company in 1924 on the strength of his patented invention and technical realization of the world's first water-cooled metal casting mould.

From the wide range of subjects covered in his books and writings it is evident that he was at all times well aware of the importance of education and training.

It was this awareness which prompted him to embark on a close cooperation with the Technical University of Aachen (RWTH) and to take on apprentices in his own company at an early date.

Not least significantly, OTTO JUNKER's modern high-grade steel foundry emerged,

after the furnace-making operation, from the trial foundry designed to test melting and pouring equipment.

The objectives we are pursuing today in teaching young people a trade have remained unchanged since those days. We aim to promote their general and personal

development and to give them useful technical and commercial skills that will qualify them for a career in industry.

After all, ideas need to be put into practice!

Consistent with this theme, the present edition of OTTO

JUNKER News presents you with innovations and current developments from our three business areas, viz., induction melting equipment, thermal processing equipment and the high-grade steel foundry.

Yours faithfully



Dr. Hans Rinnhofer  
Chairman of the Board



## Mr. Atilla Somuncu joins OTTO JUNKER GmbH as new General Manager for the Thermoprocessing Plants Business Unit

Mr. Somuncu will take the position of General Manager of the Thermoprocessing Plants Business Unit as of 1.10.2010 and will reinforce the existing management team consisting of Dr. Menzler and Mr. Valder.

Mr. Somuncu already worked for OTTO JUNKER for a period of six years after receiving his Masters Degree in Mechanical and Heat Engineering at the Technical University of Aachen.

From 1996 to 2010 Mr. Somuncu worked for Gautschi Engineering, at first as Technical Manager and from 2002 onwards as CEO.

"We are glad to take an excellent manager, professional engineer

and proven expert in the engineering business for the aluminium and metals industry on board OTTO JUNKER and welcome Mr. Somuncu in our Management team", says Dr. Hans Rinnhofer, the CEO of OTTO JUNKER.

OTTO JUNKER supplies heat treatment and melting equipment and services to the aluminium and non ferrous metal industry.

**We look forward to a good and successful cooperation!**



## "Open Day" at JUNKER Industrial Equipment s.r.o. in the Czech Republic a complete Success

The subsidiary JUNKER Industrial Equipment founded in 1995 is both a major design and manufacturing partner of the parent company in Germany and a local sales and service company for the Czech and Slovakian foundry and semi-finished products industries.

On 22.07.2010 the first "Open Day" took place at the company's premises in Boskovice near Brno and provided the visitors with the opportunity of getting to know the company better and familiarizing themselves with its products and services.

The visitors could get an impression of the extensive product range based on various furnaces and assemblies shown. Apart from several coreless medium-frequency furnaces of various sizes as well as pouring furnaces, charging trolleys, gas-fired chamber furnaces and brushing machines for continuous strip annealing lines could be seen.

The company's scope of services was also presented with an emphasis on the repair and modernization as well as the regular maintenance and inspection of existing furnace plants and the main focus on the repair of induction coils and the installation of the optical coil protection system OCP.

Representatives from 23 companies accepted the invitations sent to Czech and Slovakian foundries.

Interest in this event was very high and resulted in many professional discussions and contacts to be cultivated.

In view of the positive response to this event it was decided to have another "Open Day" next year. Invitations will then also go to semi-finished product companies and customers from neighbouring countries.

Antonín Kúzel (+42 516 499 310)



## Internet relaunch

Since February 2010 the new Internet site – [www.otto-junker.de](http://www.otto-junker.de) – has been active.

It offers direct access to our products a) via icons of the individual materials, b) via the header "Products & Technologies" and c) via icons of the three business divisions "High-grade steel foundry", "Induction melting furnaces" and "Thermoprocessing plants". We trust that the new design and the efficient triple navigation to the products on the OTTO JUNKER homepage will enable our business partners to see our product range at a glance.

Please visit our homepage and feel free to send us your feedback.: [www.otto-junker.de](http://www.otto-junker.de)



## Equipment installation is the key final phase in the order handling process

**Good preparation and efficient execution of on-site installation activities is key to successful plant construction and a prerequisite for equipment handover to customer true to schedule.**

This is despite the fact that the conditions for on-site installation are becoming increasingly more difficult. Factory holidays or maintenance shutdowns quite often leave only a very narrow time frame for execution, and erection projects being carried out concurrently with ongoing production are no longer an exception. In some cases, equipment must be installed step by step in parallel with civil engineering work, e.g., in the case of greenfield site projects.

Once the system is in place, the functional trial and subsequent performance tests bring the final moment of truth as the planning, design and installation of the entire system will be put to the acid test. Do all components operate flawlessly and without problems, and are the specified performance data achieved?

For our customers – and, needless to say, for ourselves as well – it is therefore of decisive importance that this final stage should



Maximum precision is required during the installation of a furnace

be prepared in the best possible manner in terms of technology and organization, and that it should be brought to a successful close with the aid of highly skilled personnel.

The workload itself can be subdivided into planning and site preparation, the actual installation phase, and equipment commissioning and acceptance.

The preparation of installation activities and of the specific site is the task of our home office staff, who also see to it that all equipment components and ancillary material will be available in good time and who coordinate the assignment of installation personnel. Throughout the installation phase, the home office remains continuously in touch with the site and provides quick help whenever problems should arise. These important tasks are handled by former supervisors who can draw on their many years of on-site installation experience.

Depending on the purchase order, the customer's contract will stipulate either a turn-key installation service or the dispatch of a supervisor to monitor and coordinate the installation work.

In the case of a turn-key project, our own installation crew may draw on the assistance of selected special contractors with appropriate experience.

Commissioning work is supported, where necessary, by experts from our in-house design and software departments, especially where new developments and innovative system solutions are involved. For special service tasks – e.g., concerning power converter technology or software – we can rely on the know-how of approved cooperation partners.

In-house training, an exchange of experience with design departments and the critical review of each completed installation project ensure constant skill improvement and training of our installation personnel, also in the fields of labour safety and environmental protection.

The dialogue with our in-house design units and other specialized departments is important for translating project experience into installation-optimized design while reducing installation times for future contracts. Not least significantly, these insights have often yielded invaluable input for the further development and improvement of our equipment technology.

**Thanks to the capabilities of our in-house personnel and the potentials available in the form of selected, proven outside contractors, we are in a position to carry out all installation work to a high standard of quality and true to schedule.**

*Jörg Paradies (+49 2473 601 389)*

## Stronger foothold in Belarusian market

**OTTO JUNKER GmbH, Simmerath, Germany, has won a contract from the leading agency of the Polish industry, GUSS-EX of Warsaw, for a complete automatic pouring furnace of type RGD to be delivered to the ultimate user BELVTORMET in Minsk.**

The automatic pouring furnace has a useful capacity of 3,000 kg and is equipped with an advanced IGBT frequency converter system for stepless power

supply to the 200 kW inductor. The proven OTTO JUNKER „Teach-In“ pouring control system and automatic positioning of the pouring furnace ensure smooth, fully automatic operation on the existing mould line – Type DISAMATIK 130.

Special features of the pouring furnace include the PARASTREAM system for automatic input of alloying additives right into the pouring stream.

In 2009 the BELVTORMET group already placed an order with OTTO JUNKER for a coreless medium-frequency induction furnace plant of type MFTGe 6000. This melting furnace system is currently being put into operation.

**The new contract strengthens OTTO JUNKER's position as the leading supplier of complete induction furnace systems in Belarus.**

## Market leadership strengthened in Poland

**OTTO JUNKER GmbH, Simmerath, Germany, was awarded a contract from the leading agency of the Polish industry, GUSS-EX of Warsaw, for a complete automatic melting furnace plant of type MFT to be delivered to the ultimate user METALODLEW in Krakow.**

The induction melting furnace plant comprises two coreless furnaces of 12,000 kg capacity each which are run in

a TANDEM configuration using the highly economical DUOCONTROL system with a 6,000 kW frequency converter.

The melting furnace plant is equipped with the patented OTTO JUNKER water recooling system using "GLYCOL-FREE" air-to-water coolers. This system guarantees trouble-free operation with a minimum of maintenance and without any glycol or anti-freeze heating while using "normal" water even during frost periods.

The proven melt processor, the JOKS computer system, completes the package.

**With more than 30 furnace systems installed over the last ten years OTTO JUNKER, together with GUSS-EX, established an outstanding position as a supplier of complete induction furnace solutions in Poland.**

## 10 steel melting furnaces for the Middle East

**OTTO JUNKER to deliver a total of ten furnaces with capacities from 16 to 20 tonnes to steel works in the Middle East.**

Induction furnaces are a very interesting alternative to electric arc furnaces for micromills. The medium-frequency furnace offers substantial economic benefits with much lower capital cost and very high metal yield. The DUOCONTROL technology, with both furnaces being powered by one common frequency converter system, makes it possible to obtain maximum production even while one furnace is being re-lined.



Tapping from a 12 ton coreless induction furnace

## Melting fine-grained materials – new applications for inductive melting

### Melting of fine-grained ferroalloys

Ferroalloys are produced in electric arc heated low-shaft furnaces using the carbo-thermal process. The finished melt is poured into large pigs. The cooled material is then crushed and screened to separate various grain fractions. This operation produces a lot of fines that cannot be used for metallurgical purposes. Re-melting these fines in the existing low-shaft furnaces does not make sense. This initiated the search for another melting tool.

Initial trials confirmed the basic suitability of the coreless induction furnace technology. This formed the basis of technical discussions resulting in the design and size of a special coreless medium-

frequency induction furnace plant which was then ordered from OTTO JUNKER.

In finding the best technical solution particular attention had to be paid to the fine grain size of the charge material (0 to 3 mm) and to the fact that the ferroalloys to be melted differ significantly in density and energy consumption. For melting and superheating ferrosilicon manganese at 1,350 °C, for example, the estimated power consumption is only 700 to 900 kWh per tonne, whereas it is almost twice (1,180 to 1,400 kWh/t) for melting ferro-silicon 75 at a temperature of 1,450 °C. The density of both alloys also differs by the factor 2.

The system of choice is a custom-designed medium-frequency melting plant

comprising two furnaces and one DUOCONTROL frequency converter system.

The special melting operation is performed with a heel of more than 20 %. The M2F TOUCHCONTROL melt processor is provided for control and monitoring.

The equipment is scheduled to be delivered and installed in February 2011. After that it will be adjusted to meet the specific requirements in joint effort with the customer.

*Dietmar Trauzeddel (+49 2473 601 342)*



Example of a coreless induction furnace plant for the melting of fine-grained material

## SLE Pusher Furnace® (Side Loaded Energy Saving Pusher Furnace®)

### A new generation pusher furnace for re-heating and homogenizing aluminium slabs

The pusher furnace for reheating and homogenizing aluminium rolling slabs is a key product of the OTTO JUNKER range. This is confirmed by three orders currently on hand from Egypt Aluminium (starting manufacture), TLM (being commissioned) and Profilglass (under shop assembly).

The main part of the energy expended on the processes in the pusher furnace comes from the combustion of natural gas, LPG or other energy carriers. The amount of electric power consumed in the above processes is vastly lower, at around 6 – 8%, than the energy derived from the gaseous fuel (92 – 94 %) and shall therefore not be further considered herein.

The specific consumption of natural gas (Nm<sup>3</sup> per tonne of aluminium) varies greatly with furnace size, slab dimensions and process-related parameters such as the target temperature and (if applicable) required soak time. In percentage terms, the portion of specific energy actually fed into the charge per tonne of aluminium may easily vary by as much as 8 % in the same installation, just depending on slab size.

This diagram illustrates the distribution of energy flows associated with heating a medium-sized slab. In our example, the breakdown is as follows: product (rolling slabs) 74 %, dead load (skid shoes) 1 %, idle losses (wall and lead-out losses) 5 %, off-gas losses 16 %, and door losses associated with charging and discharging operations 4 %. The percentage consumed by the product increases for heavier slabs and decreases for lighter slabs.

In this everyday industrial production application, the specific natural gas consumption amounts to less than 20 Nm<sup>3</sup> per tonne of aluminium. Further reductions in energy input – e.g., at the level of the insulation system, combustion technology and other technologies employed – are achievable only at the expense of significantly increased engineering sophistication that can only be recouped over long operating periods.

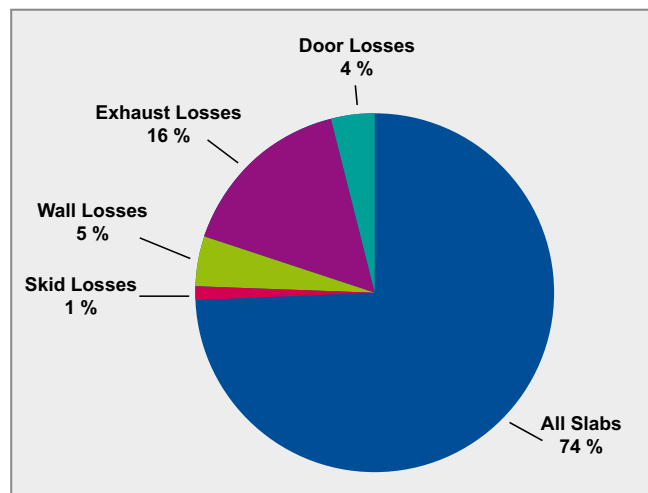
Today's state of the art has been attained via numerous progress steps and individual improvements, but without ever sacrificing the fundamental "pusher furnace" principle: Loading and unloading through the front and rear furnace faces with the slabs in a transverse orientation. OTTO JUNKER has now added an innovative design to the classic pusher furnace concept. In the SLE Pusher Furnace®, additional energy savings are achieved by loading and unloading the furnace via the side walls.

A conventional pusher furnace is loaded and unloaded via its front and rear faces with the slabs in an upright position, standing crosswise on their longitudinal edges.

This necessitates large doors. The furnace door openings are enormous, covering surface areas of as much as 30 m<sup>2</sup> and more. Since the hot furnace operates at temperatures up to 650 °C, substantial amounts of heat will radiate away through these huge door openings – an issue not to be neglected, among other things, from a safety engineering aspect.

The photo below shows the front view of a conventional-type pusher furnace under shop assembly. The picture is dominated by the large door opening and the massive door.

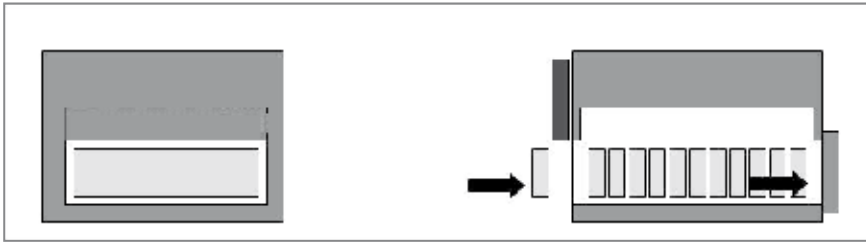
In the SLE Pusher Furnace® the slabs enter and exit the furnace longitudinally (instead of transversely), but still in an upright position, through the furnace doors. The furnace is loaded and unloaded through doors in the sidewall.



The distribution of energy flows associated with heating a medium-sized slab



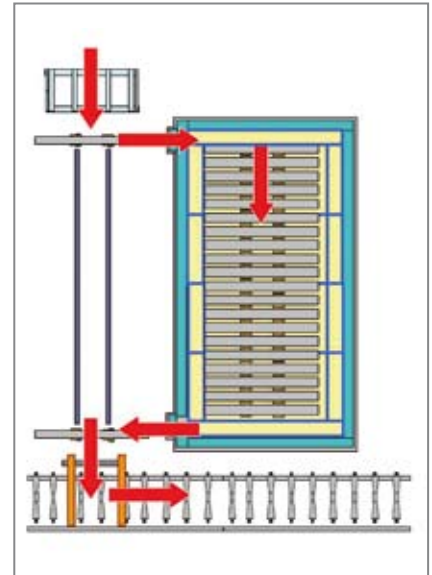
Front view of a conventional-type pusher furnace under shop assembly



Schematic of a standard furnace. Left: front view showing the door opening and slabs inside the furnace. Right: longitudinal section through the furnace with open entry door and closed exit door.



SLE Pusher Furnace®: Left: front view with side door. Right: side view with open entry door and closed exit door.



Schematic of a SLE Pusher Furnace® (top view) with loading station for placing and centering the slabs on the skid shoes

In the upper sketches the open door surface is highlighted in white. A comparison between the standard pusher furnace (above) and the SLE Pusher Furnace® (below) clearly illustrates the size ratio between the doors of both designs.

Depending on the furnace size, which is determined by the dimensions and number of slabs, the door surface area is reduced by a factor of 5 – 10. In addition to their reduced size, the doors are arranged in the side wall and hence, no longer in the main airflow direction. Their position in this low-flow region makes for a further reduction in door losses.

This design reduces the door losses of pusher furnaces to about 20 – 25 % of what was technically feasible so far. The overall specific energy consumption in reheating operation is reduced by around 3 to 6 %, depending on charge dimensions and process to be run.

#### The smaller door openings thus provide for

- a reduction in door losses during loading and unloading,
- higher zone temperatures during loading and unloading, and thus

- slightly reduced heat-up times and somewhat increased throughput rates for an otherwise identically equipped furnace.

The following top view shows an SLE Pusher Furnace® with loading station for placing and centering the slabs on their longitudinal edges as they are pushed laterally into the furnace by the charging machines. At the exit station, they are removed from the furnace on the same principle. A centrally arranged downender places them in the middle of the roller table which conveys them to the mill.

Needless to say, multiple SLE Pusher Furnaces® can be arranged alongside one another. Charging machine solutions have been progressed to production maturity.

For inherent design reasons, the layout of the SLE Pusher Furnace® involves a wider yet shorter footprint, so the overall effect in terms of floor space requirements is a neutral one. Where the equipment is arranged transversely in the mill bay, its reduced length requirement will be found particularly convenient.

Especially in greenfield site projects the new technology is easy to integrate lengthwise, side by side with the long mill roller tables, allowing aluminium manufacturers to benefit effectively from energy savings.

Heat losses via the off-gas account for a much larger part of the gas consumption than door losses and have remained fairly high despite sophisticated recuperative burner technology. OTTO JUNKER addresses this issue via another development in which the rolling slabs are pre-heated in special preheat chambers using heat recovered from the furnace off-gas. Ideally, the slabs can be pre-heated to temperatures in excess of 100 °C.

**By combining the SLE Pusher Furnace® with preheat chambers adapted to this furnace type, further significant gains in energy efficiency can be realized. The reduction in overall reheating energy consumption (electricity plus fuel gas) achievable with this technology is up to 14 %.**

*Bernd Deimann (Tel. +49 2473 601 241)*

## New order for a multi-purpose roller hearth furnace for bright annealing DHP copper tubing from Termomecanica, São Paulo/Brazil

Following the successful commissioning of an OTTO JUNKER strip annealing line in December 2009, one of South America's leading semi-finished copper product manufacturers has placed an order with OTTO JUNKER to supply one of the latest generations of "stacker" type roller hearth furnaces for bright annealing copper tube.

The new OTTO JUNKER multi-purpose "stacker" type roller hearth furnace is designed to process level wound coils (LWCs), pancake coils and straight lengths up to 6 m long on universal work trays. This new concept reduces the number of different trays previously required in multi-purpose furnaces and saves on handling, space and investment costs.

The OTTO JUNKER Copper Tube Purging System (CTP System) has also been improved to accommodate the universal tray. The new system ensures more efficient and effective purging of all sizes of coils.

In copper tubes purged with the OTTO JUNKER CTP system, levels of elemental and potential carbon are reduced by up to 90 % compared with samples not subjected to the purging process. This is very important to refrigeration and air conditioner manufacturers as any oil or carbon in the heat exchangers (copper tubing) could result in equipment failure.

In order to bright anneal the material, the copper tube will be heated up to a maximum temperature of 600 °C and cooled down to below 50 °C in a controlled atmosphere of N<sub>2</sub>/H<sub>2</sub>.

Vacuum chambers are used at the ends of the furnace line to maintain both the quality of the protective atmosphere within the system and keep the consumption of inert gas to a minimum.

The furnace line comprises:

- Entry end vacuum chamber
- Entry vestibule
- High convection furnace
- High convection cooling section
- Exit end vacuum chamber
- Tray handling system

High convection systems are employed in the furnace and the cooling zones. High convection heating, combined with low temperature heads, promote excellent temperature uniformities.

The temperature uniformity experienced at the end of the heating cycle within the processed material is typically better than ± 5 K. This is an important factor when trying to achieve the required mechanical properties of the annealed tube.

Designed to process 2,700 kg/hr, the furnace will be automatically controlled by

a PLC with only one dedicated operator being required to monitor the furnace.

The equipment will be manufactured in Europe and will be delivered in summer 2011.

OTTO JUNKER has to date supplied thirty "stacker" type furnaces, sixteen of which are multi-purpose for LWCs, pancakes and straight lengths. OTTO JUNKER was one of the first companies in the world to supply a copper tube purging system (CTP System) for producing "Super Clean" copper tube for the ACR industry. The company has successfully fitted thirty-one CTP Systems to copper tube annealing roller hearth furnaces.

*Glynn Jones (+49 2473 601 379)*



Exit end of a roller hearth furnace

## INDUGA low-pressure die casting lines in use worldwide

### Interesting orders from India, China and Brazil

#### Innovative compact system to be supplied to India

This autumn, a leading Indian manufacturer of sanitary fittings will receive one of the fully-automatic LDPC1000 compact systems developed only last year.

With its high content of pre-assembled components, the new equipment type is designed for rapid on-site installation and fits in a single marine shipping container due to its compact size.

Installation at the customer's site takes only one week to complete before the system is ready for production service.

The system relies on a rotating robot which indexes the mould in 90-degree rotary steps to the individual stations, i.e.,

the pouring furnace, the core setting position (which is also the de-moulding position), and the blackwash bath.

Before the system is shipped, Indian specialists will undergo one week of theoretical and practical training in Lammersdorf to familiarize themselves with the equipment and casting technology. The training will also include instruction in operating the "cold" functions of the workshop-assembled system.

Delivery of the equipment to the customer's site in India has been agreed for early October.

#### Supply of another system to China

Several low-pressure casting systems made by INDUGA have gone to China in recent years and have demonstrated their merits in day-to-day production service.

Another Chinese customer has now ordered an LPDC 1011 system from INDUGA for the production of sanitary fittings.

This equipment type is characterized by the linear movement of a gantry robot which conveys the mould to the individual stations. The system comprises a robot and an induction furnace, and as with all INDUGA low-pressure casting systems, the sand cores are placed in the mould manually. The channel-type melting and pouring furnace has a capacity of 1,800 kg and a melting rate of 300 kg/h. Based on a cycle time of 45 – 50 seconds, the entire system is designed for an output of 400 castings (depending on size) per 8-hour shift.

The manufacture and workshop assembly of this system will be completed by the end of this year, just in time for delivery in January 2011.

#### Orders from Brazil

Contract negotiations with Brazilian companies regarding the delivery of several low-pressure casting installations were awaiting immediate closure at the time of going to press. These contracts cover various systems of the INDUGA KWC series.

*Ralf Rangl (Tel. +49 2473 601 721)*



Shop assembly of the state-of-the art compact system in Lammersdorf

## Extensive investment in emission control and compliance with maximum workplace concentrations improves efficiency and further strengthens our Lammersdorf operation

The need to comply with environmental protection and occupational health and safety targets, aimed at reconciling economics and ecology, has given rise to a major environmentally-focused investment drive in our high-grade steel foundry

The impetus for these substantial investments in three foundry buildings came from the following main objectives:

- improving production flexibility and efficiency levels;
- creating better workplace ambient conditions through a controlled exhaust air and fresh air supply management;
- reducing odour and noise emissions;
- removing structural deficiencies of the building, e.g. via thermal insulation and noise protection measures.

The proposed solutions to these issues were submitted to the Regional Government in Cologne by public permit application in 2008/2009.

**The approval process has by now been successfully concluded. The permit obtained includes the following modifications:**

- extension of the manufacturing permit to 24 hours on 6 days per week;
- noise abatement steps aimed at compliance with the legal limit of < 42 dB(A) after 10:00 p.m. on workdays;
- installation and operation of an exhaust air evacuation system meeting TA-Luft [Technical Instructions on Air Quality Control] specifications and hence, achieving a reduction in emission levels.

Based on these objectives, a technical solution and time schedule were developed and a cost estimate was prepared which resulted in the definition of a finan-



cing plan. The overall investment volume exceeds EUR 2.0 million, and the project will take at least two years to complete since a number of measures can only be implemented in succession. An important achievement was the award of public subsidies for the intended heat recovery technology in the exhaust air extraction system.

**The extensive investment package essentially comprises the following**

- installation of an exhaust air extraction and fresh air supply system with heat recovery plus an external stack;
- structural strength upgrading of the building structure to meet the requirements of the new exhaust air system and thermal insulation;
- remediation of the building roofs, with installation of sound and heat insulation;
- remediation of the building fronts with sealing of diffuse emission sources.

The new ventilation system will provide cleaner, pre-heated outdoor air for the benefit of all foundry personnel. At the

same time, it will ensure the evacuation and cleaning of contaminated exhaust air from the foundry. More than 85% of the exhaust air heat content will be recovered via rotary heat exchangers and employed to pre-heat the cold outdoor air in counter-current flow.

True to the time schedule, work was commenced in the spring of this year and the structural reinforcements in Building 1 are by now in place. At the time of writing, the foundations are being cast for the 36-m-high stainless steel exhaust stack and for the heat recovery system. This will be followed by the installation of the exhaust air extraction and fresh air supply system in this building in time for the November 2010 commissioning date.

**The aim of the investment project is to strengthen the economic basis of the foundry while achieving a high ecological and occupational safety and health standard. Both will boost the viability of the foundry and make jobs at Lammersdorf more secure, apart from further enhancing the protection of our environment in the region**

*Elmar Westhoff (Tel. +49 2473 601 400)*

## Topic:

# Committed to vocational training

Training young people for diverse industrial trades has a long tradition in our company, and one we have been pursuing with great commitment and success in an effort to uphold high standards.

In this way, we help job starters to find their way into the employment world while also securing our own supply of skilled personnel.

Apprentices are trained in a team, both in our well-equipped teaching workshop under the guidance of qualified supervisors and through hands-on shopfloor training "on the job".

Interdisciplinary projects pursued by our trainees, such as building a fully operable model of an induction billet heater with freely programmable control and converter-based power supply, add depth and weight to the skill-set acquired.

In a project of this type, trainees from various fields collaborate to solve a common task. Working as a team, they must address mechanical, electrical and commercial issues together.

Through cooperation with other companies in the region, especially at the pre-exam level, we enable our apprentices to focus on special skills, "majoring" in a given field of specialization, as it were. At the same time, they are thus given the opportunity to gain insights into different corporate cultures.

OTTO JUNKER's cooperation with regional schools likewise works to the benefit of both partners. For instance, physics lessons may be livened up with practical examples, and interested pupils apply for an apprenticeship or work-experience placement with our company in great numbers.

Our vocational training supervisors also coach them with applications for employment, as a valuable form of practical support.

Vocational training for the following trades is currently provided in Lammersdorf:

- Industrial clerk
- Technical draughtsman (specialty: mechanical engineering and industrial equipment)
- Electronician (specialty: industrial technology)
- Machine tool operator (specialty: turning and milling)
- Foundry mechanic (specialty: hand moulding)
- Patternmaking technician (specialty: foundry technology)
- IT specialist (specialty: system integration)
- Assembly mechanic (specialty: welding technology)
- Industrial mechanic

Upon completion of their examination, all apprentices are given an employment contract for at least one year with OTTO JUNKER GmbH to help them make a smooth transition into working life.

With 25 apprentices currently on the payroll, OTTO JUNKER GmbH is one of the leading vocational training providers in the region. At times we even go out of our way to enable young people to learn a trade. Some of them cannot enter an apprenticeship programme directly because of personal or social factors or for want of meeting educational prerequisites. Especially for them, OTTO JUNKER has created the opportunity to close the gap between school and vocational training standards by setting up a one-year work experience programme. At present we have two school-leavers in this programme. One of them is undergoing a guided internship designed to qualify him for a technical secondary school diploma under a cooperation scheme with a technical senior secondary school in Aachen. The other is completing a qualification year to become eligible for vocational training.

OTTO JUNKER will continue its outreaching, successful training policy in the years to come and is determined to enrich it with new ideas.

*Dietmar Trauzeddel (+49 2473 601 342)*

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