



**DR. NIELS HAMMER EXPANDS  
MANAGEMENT TEAM**

COO FORMS TEAM WITH CEO TILL SCHREITER  
AND CFO BERND BARTELHEIMER

**INDUCTION REPLACES CUPOLA**  
ABP'S FOCUS ON TRADE FAIRS AND EVENTS

*ABP Induction  
wishes you a  
Merry Christmas  
and all the best  
for 2024!*

# Dr. Niels Hammer is appointed COO

ABP Induction expands its management team with an experienced manager



**ABP Induction has appointed Dr. Niels Hammer as Chief Operating Officer (COO) effective October 16th, 2023. In his role, Dr. Hammer will be part of ABP's global executive management and, in addition, become managing director of the group's largest entity, the Germany-based ABP Induction Systems GmbH. Dr. Hammer will be directly responsible for the entire operations activities of the group, covering Global Production and Supply Chain Management as well as all areas related to order execution, including engineering, project management, installation, and commissioning.**

Dr. Hammer joins ABP from his former Position as CEO of NIMAK Group, a global supplier of industrial joining technology. His previous career stations were Santasalo / Moventas Gears, where he held the COO and CTO position for three years and Siemens AG (Flender AG), where he started his professional career in project management, production and inhouse consulting. He brings many years of experience in managing and developing project-oriented organizations with multi-national manufacturing sites and global value chains. The board and the executive

management team are delighted to welcome Dr. Niels Hammer into his new role. "With Dr. Hammer we gain an experienced international manager. Having him on board will allow us to follow our growth path and our drive for excellency to serve and support our customers on their way to carbon neutral production and digitalization" says Till Schreiter, President and CEO of ABP Induction LLC and managing director (speaker) of ABP Induction Systems GmbH since 2015. The global executive management team is completed by Bernd Bartelheimer, who has been CFO at ABP since 2006.



# Fit at work with the ABP Health Circle campaigns

Company health management and company sports programs

**Staying fit at work – you have to regularly undertake something to achieve this. It is fortunate that the ABP health circle is available – these are part of the company health management program, but also include traditional company sports activities Jan Erdmann from Mechanical Design has been part of the health circle from the very beginning and explains what is involved.**

„We are a team of five to six employees who are responsible for offers and implementation,“ explains Jan Erdmann. Various measures were carried out this year, including some very unusual offers. „There was water skiing and wakeboarding, but also rowing,“ he says, explaining the activities that could take place nearby thanks to ABP’s proximity to the canal network. A step challenge was also carried out to motivate employees at office workstations in particular to get more exercise. Most recently, a group of employees went climbing in the climbing hall. In the last issue of ABP News, we also reported on the successful participation of an ABP team in the company run at Phoenixsee Lake. „This is a recurring offer, and we will be back again in 2024,“ says Jan Erdmann.

The second area falls more into the category of occupational health management. One important offer was a skin check-up to detect and prevent skin cancer. „The examination was carried out at the ABP site in Dortmund in a very uncomplicated way, so there were no waiting times or trips to a specialist,“ says Jan Erdmann. This should motivate people to have this important check-up done. A seminar on „mindfulness“ was offered for the first time – the topic here was how to deal with stress in a healthy way. „We saw this as a kick-off event and will be offering further dates,“ says the ABP employee.

**Anyone who has questions about the offers or ideas about what else could be offered can contact Jan Erdmann at 0231 / 997-2640 or [jan.erdmann@abpinduction.com](mailto:jan.erdmann@abpinduction.com).**



# Insights on CO2 reduction

ABP Induction sets the tone at the „Inductive Melting and Casting“ conference

**Induction furnace technology as a promising alternative to the cupola furnace – this was the focus of ABP Induction at the „Inductive Melting and Casting“ conference. The digital possibilities were also presented, including the relaunch of myABP 2.0.**

„The topic of this technology change is extremely important for both us and our customers,“ explains Dr. Marco Rische, Director System Business at ABP Induction. The pressure from environmental policy requirements to achieve the climate targets set for industrial consumers is constantly increasing, also driven by the CO2 tax on fossil fuels. All industrial consumers of coke, oil and gas were looking for alternative solutions to meet the medium-term environmental targets for CO2-neutral production.

„When foundries consider converting from a cupola to an induction furnace melting operation, there are two fundamental challenges to consider: First, the conversion from cupola to induction furnace also means a change in operation



**Maik Lagemann from ABP sales team represented the company at the booth.**

– from continuous supply to discontinuous operation, to batch operation. The second challenge is scrap quality. The article describes the strategic approach to the conversion and presents solutions for planning, implementation and commissioning,“ he explains.

## **13th „Inductive Melting and Casting“ conference**

This topic has been explored in

greater depth at events in recent weeks: In October 2023, ABP Induction was represented with several presentations at the three-day conference „Inductive Melting and Casting“ organized by Vulkan-Verlag.

The first day started with the physical basics of induction melting and casting. Prof. Dr.-Ing. Egbert Baake from the Institute of Electroprocess Technology (ETP) at Leibniz Universität Hanover gave the introductory lecture, after which he and Dr. Marco Rische went into depth about the design of inductive melting and casting systems. They presented the advantages of induction furnace technology compared to cupola furnaces and went into the details of a practical application.

On day 2 of the well-established conference, Dr. Marco Rische spoke at the Mercure Tagungs- & Landhotel Krefeld about the alternatives to cupola furnaces in the foundry industry and provided a comparison between cupola and induction furnaces. There were also

**Robin Czarnetzki presented the current status of ABP's digitization portfolio.**





other exciting presentations on the topics of „Current developments in foundry and plant technology“, „The climate-neutral foundry - CO2 reduction in practice“ and a plant tour at Siempelkamp Giesserei GmbH.

Day 3 of the 13th conference was all about digitalization in the melting process. Robin Czarnetzki from the ABP digitalization team spoke about predictive maintenance in the foundry: „The innovative package from ABP, consisting of applications such as the Water Cooling App and an advanced platform for machine data visualization, sets new standards in predictive maintenance,“ he explained. The applications offer essential monitoring functions for cooling systems and safety-relevant system parameters, while the myABP platform displays machine data in real time and integrates a condition-based maintenance log. Complemented by specialized sensor technology, ABP enables plant operators to take a proactive approach to minimizing downtime and increasing efficiency.

Maik Lagemann from the ABP sales team provided information about ABP's solutions at the trade fair stand. Wolfgang Baumgart and Stefan Schmitt from ABP partner Zorc Technology GmbH spoke about digitalization as the key to a climate-neutral foundry.



Dr. Marco Rische (left photo) introduced the discussion. Robin Czarnetzki (middle photo, 2nd from left) discussed the potential of digitalization together with Wolfgang Baumgart from ABP partner ZORC (middle photo, left and left photo below), moderated by Prof. Dr.-Ing. Egbert Baake (photo below).

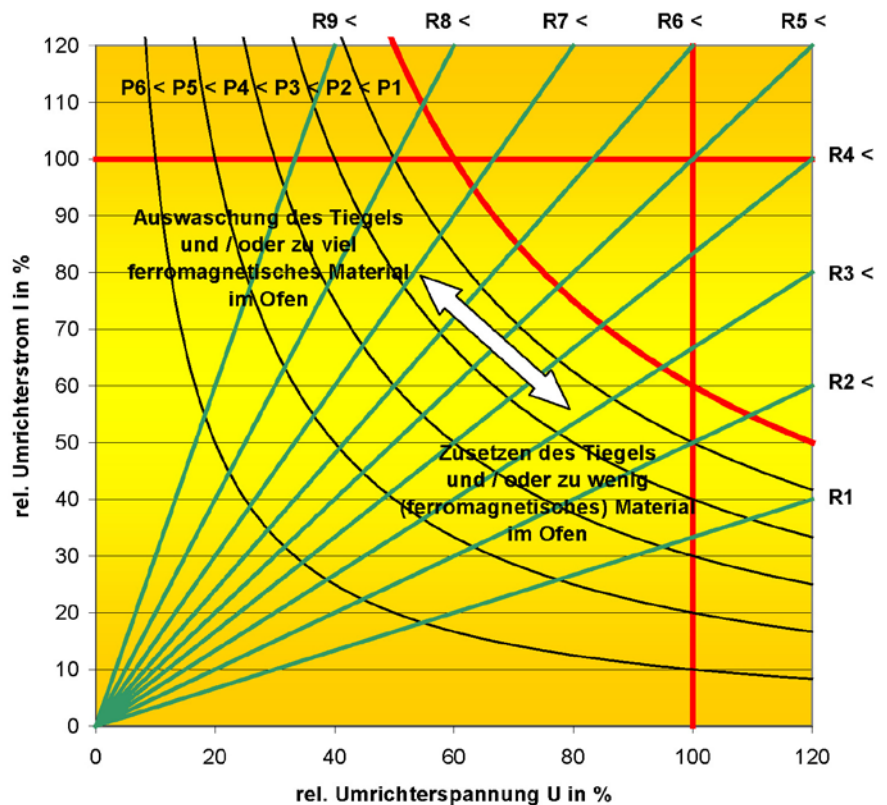


# Conversion from cupola furnace to induction furnace

The ABP solutions OptiCharge and Meltshop Designer are key components

ABP has recognized this paradigm shift to CO2 neutrality and has committed to this goal through its „Your Partner on the Way to Zero Emission“ campaign. In order to meet the demand for decarbonization, ABP sees great potential in replacing fossil fuels with modern induction furnace technology for ecological, economic and technical independence. In this way, users make a significant contribution to implementing the targets for decarbonizing energy-intensive industrial applications.

The inductive heating uses electrical energy. In this process, the heat required for the process is introduced directly into the molten material. The process is effective and, when green energy is used, it is also carbon-neutral. ABP can plan the entire process chain for the replacement of the conventionally heated cupola and accompany the customer along the path to conversion to electrically operated induction furnace technology. This is rounded off by digital tools. When foundries consider converting from a cupola to an induction furnace melting operation, there are two fundamental challenges to consider: First, the conversion from cupola to induction furnace also means a change in operation – from continuous supply to discontinuous operation, to batch operation. The second challenge is scrap quality. In cupola melting operations, it is not uncommon to run even poor scrap grades. The induction furnace operation cannot cope with this because the coupling then becomes significantly worse. This



makes it much more difficult, if not impossible, to achieve a utilization rate of 100 %. Utilization rates of 60 % are more likely. Keeping this gap as small as possible hinges on how the electromagnetic field couples to the scrap. This is strongly dependent on the set scrap quality and the parameters of the electrical power supply.

### OptiCharge: Working in constant power range

The coupling of the induction furnace depends on the load circuit: the power of the equipment adjusts according to the bulk of the

feedstock based on its electrical as well as magnetic properties. Stationary losses due to recharging must therefore be optimized. ABP makes it possible to measure and evaluate these operations and to guide the customer in batching. For this purpose, ABP uses the patented OptiCharge tool it has developed itself. It measures the electrical influencing variables necessary to optimize performance. These parameters are compared to the current weight and the algorithm determines the lowest possible weight necessary to achieve full power consumption. The desired result is controlled batching for

optimum adaptation of the weight to the power consumption over the complete batch duration. Whenever physical conditions permit, re-batching can be performed. This cold material couples optimally due to its ferromagnetic properties until it loses them at the Curie temperature point at 760°C.

**How it works in detail**

The technical furnace parameters for this are recorded by the digital inverter control and converted into recommended actions for energy-efficient loading with the OptiCharge system. When starting up a batch with partial filling of ferromagnetic melting material, small portions of this material are automatically refilled. As a result, measurable energy savings and production increases can be achieved in daily production operations as compared to non-controlled batching. Surveys show that induction furnaces already produce less than half the CO2 emissions to melt one ton of cast iron compared to cupolas in today’s electricity mix. If the share of electricity generated from renewable sources increases, CO2 emissions decrease accordingly.

This system is therefore eminently important for the transition from the cupola to the induction furnace in order to continue to provide a high continuous supply of the molten iron for the process. This is where OptiCharge reduces power dips to a minimum.

**Planning the system with the Meltshop Designer**

In order to be able to perfectly design, scale and plan a melting plant, ABP has developed the Meltshop Designer. This determines which solution is the best when it comes to material flow in the foundry. ABP experts can develop simulations for different foundry situations in close coordination with the customer’s staff involved in the process, present alternatives when setting up the furnace, and include different configurations from the ladles to the filling of the molding system.

While the cupola is still active, measurements of the metallurgical state are performed using thermal analysis, spectrometry and combustion analysis. Here, the precise mapping of the data is important in order to establish

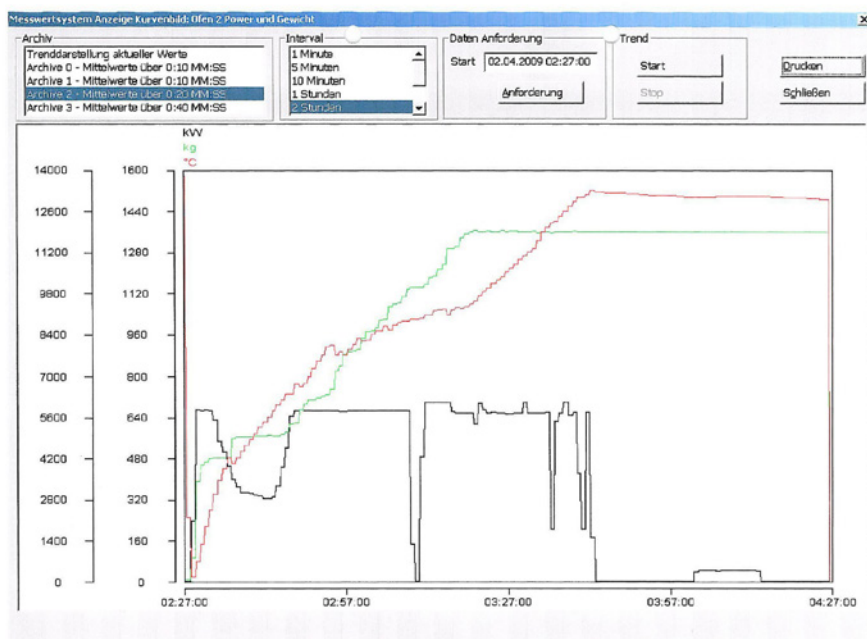
**Whitepaper:  
How the transition  
works in detail**

In our white paper on the topic, we describe how companies can specifically initiate and implement the switch from cupola furnaces to induction furnace technology. It contains detailed information on the metallurgical background, the potential of digitalization and AI as well as the functionality of the Meltshop Designer, which can be used to simulate all processes relating to the planning and operation of an induction furnace system.

**The free white paper can be requested by sending an email to [info@abpinduction.com](mailto:info@abpinduction.com).**

a link to the microstructural and mechanical properties obtained. This is provided by the service-oriented software Foundry Cloud developed by Zorc. Modern thermal analysis uses double-chamber crucibles to simulate the final stream inoculation or casting stone inoculation.

On the one hand, the data obtained during this phase are used to define the target parameters for the new melting process in such a way that the core parameters of the melt remain stable or improve during the conversion in order to ensure the smoothest possible transition during further processing of the components. This phase should last about four weeks to cover all metallurgical conditions. When the induction melting process is ramped up, it usually takes another four weeks for all aspects of the new process to be correctly mapped in the digital twin.





# Digitization with myABP 2.0: leveraging potential in four stages

ABP has further developed its digitalization portfolio for foundries

ABP Induction is taking the next step in digitalization for foundries and metalworking industries: With myABP 2.0, ABP is pursuing a holistic solution approach to digitize foundries and generate sustainable added value for operators, which includes all the megatrends that ABP Induction has identified at GIFA 2023 as challenges for the future.

Decarbonization, deglobalization, digitalization and demographic change are the megatrends that the further development of the myABP concept addresses – for a healthy economy for companies, a good life for people and a healthy environment on earth.

„In the evolution of our digitalization concept, we have developed a four-stage program that systematically engages customers and guides them step by step towards a digitalized operation that delivers significant added value in terms of efficiency, sustainability and productivity,“ explains Albert Miller, responsible for the digitalization division at ABP.



**Imprint**

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**Step 1 - Analyze:** ABP collects and analyzes data from the application processes, e.g. from SPS or other sensors. With ABP:On, the data is brought together in one platform and prepared for the next steps.

**Step 2 - Visualize:** Relevant and important analysis data is brought to life. This makes the processes more accessible and the customer can see all the relevant information at a glance.

**Step 3 - Stabilize:** Conclusions are drawn from the visualized analysis data as to where there is potential for improvement. These can be changes in the operating process or in applications such as charging.

**Step 4 - Optimize:** The identified measures are implemented and monitored. ABP can provide

support, for example through artificial intelligence, digital apps and technology scouts who provide on-site or remote support with process-related advice.

„myABP“ version 2.0 brings with it a very clear consulting approach that allows customers to benefit from ABP’s expertise in everyday operations. We are taking advantage of the digital opportunities and the experience we have gained as a pioneer of digitalization in the foundry environment to help customers move forward,“ explains Albert Miller. „We achieve this by carrying out a sound analysis, a conclusive interpretation and an ongoing evaluation of customer processes,“ says the digitalization expert.