ABP INDUCTION
NEWS 3
FEBRUARY 2020

TRUE TO DETAIL

STEFAN MARTINI RECONSTRUCTS A HEATER

SOFTWARE

THE MELTSHOP DESIGNER SIMULATES EVERY SYSTEM

EXPERT ON DEMAND

HOW THE AUGMENTED REALITY SOLUTION WORKS

Introduction

If I were to use just one word to describe the process of the past weeks and months, it would be – pride. It fills me with pride to see how magnificently all those involved in the ABP family have come together: With the change of ownership to MHI and Primetals, this applies both to the new partners as well as the employees. Everyone has joined forces to embark upon a new path, and I sense euphoria and motivation everywhere I go in terms of addressing the tasks of the future and thus further developing ABP.

Together with MHI and Primetals, we have developed a promising strategy over the past few months, and I look forward to implementing it in the months ahead. It makes me proud when I see how committed all partners, employees and colleagues are to their work.

With best regards and ‚Glück auf'!
Till Schreiter, CEO

The Meltshop Designer simulates every system

ABP proprietary development can predict the perfect dimensions of a melting plant

„How must our melting plant be dimensioned?" „How can I increase productivity?" „Which extensions pay off fastest in terms of ROI?" – These are questions that foundry operators often ask themselves. And they are important questions, as they often mean high investments or an increase in yield. The Meltshop Designer was developed by ABP to design, dimension and plan a melting plant to perfection.

„With this ABP proprietary development from our system engineering department, we are able to determine which solution is the most effective for our customers when it comes to material flow in the foundry," explains Patrick Lück, Sales Engineer Liquid Metals at ABP Induction. „Our experts can develop simulations for different foundry situations, present variants in terms of furnace design, and include different configurations from the ladles to the filling of the molding plant". No matter whether the current production environment or variants for future melting processes are relevant for the customer – the basic principle is to find the bottleneck in the simulated environment that could disrupt production – in other words, to optimize processes and operating procedures.

Examples from practice

A melting plant is configured for a production of 10 tons per hour, but achieves only 8 tons per hour. „Thanks to the Meltshop Designer, we at ABP were able to simulate the actual situation – and found that the ladle transport did not meet the required production volume. Using the simulation, we were able to give our customer advice on how to improve their production environment," continues Patrick Lück.

Another example: A customer intended to buy three furnaces. „With the help of the Meltshop Designer simulation, we were able to determine that a tandem oven would already enable them to achieve the desired production volume and that it would make more sense to plan the third oven as a potential expansion – this way, they could save this investment for the time being," says the expert.

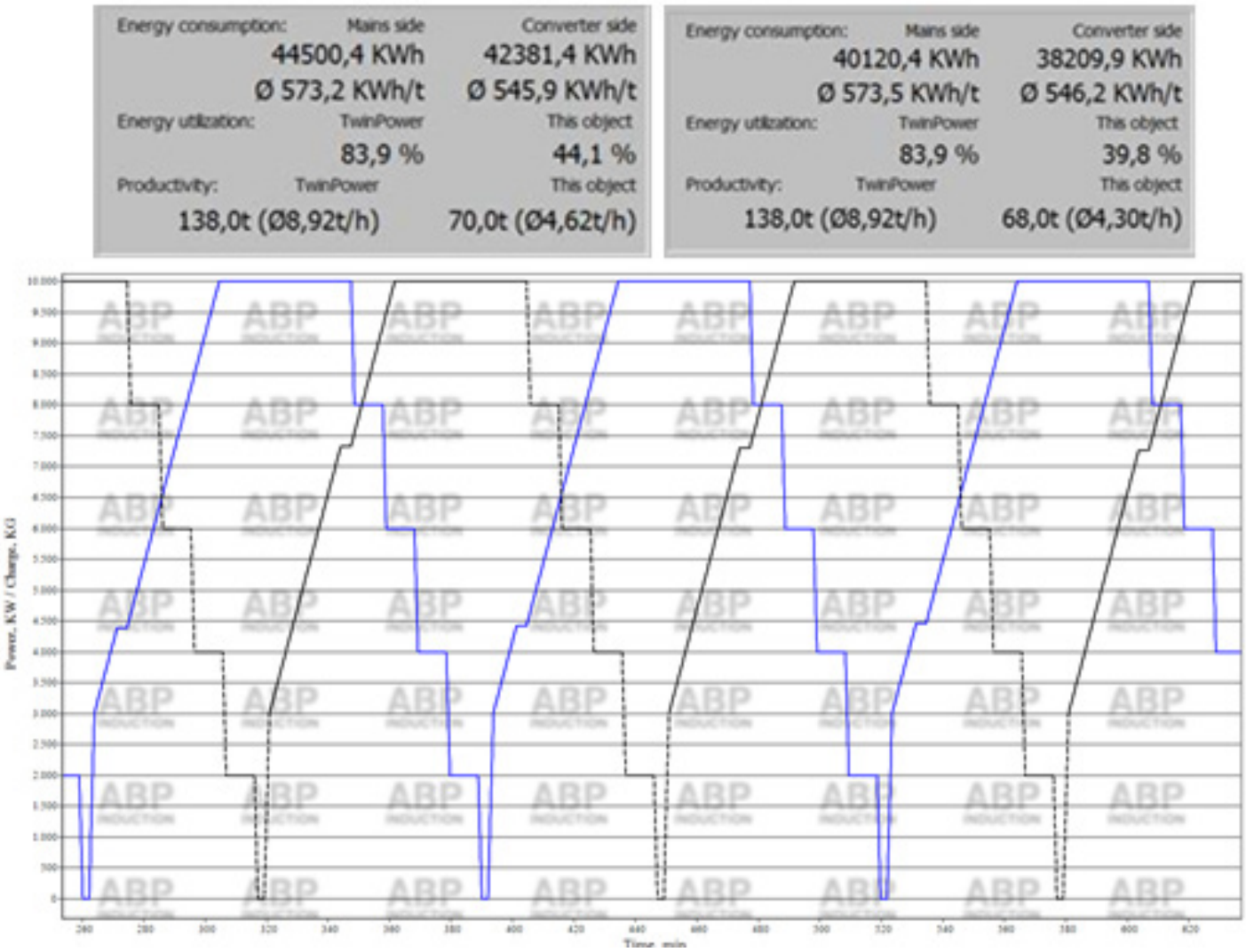
What makes the Meltshop designer so valuable is its variability. „We can simulate all materials by accessing a large database or incorporate new materials." Various one-off or periodic events can also be simu-

lated, such as power supply limitation, a fairly common problem where energy providers reduce the power supply at certain times when more power is being drawn from other parts of the grid.
Initially, the evaluation from our simulations produce lots of figures. How high is the energy consumption? What quantities were produced?
„Of course, we can also simply make these bare figures available to the customer, but the actual added value only arises from the analysis conducted by our ABP experts based on the combination of the information," says Patrick Lück and explains the further procedure: When our experts set up the simulation, they always include a presentation for the customer, based on which recommendations for action are then formulated.
Of course, the Meltshop Designer is constantly being further developed. It is currently available for the foundry industry, but will also be available for the steel market in the future. The adjustments for this are already in progress. Plans are also underway to include other plants in the simulation, even competitor furnaces – always with the best result for the customer in mind.

Information about ABP's own development „Meltshop Designer" can be obtained from Patrick Lück by e-mail at patrick.lueck@abpinduction.com.

Key facts: What I need to know about Meltshop Designer

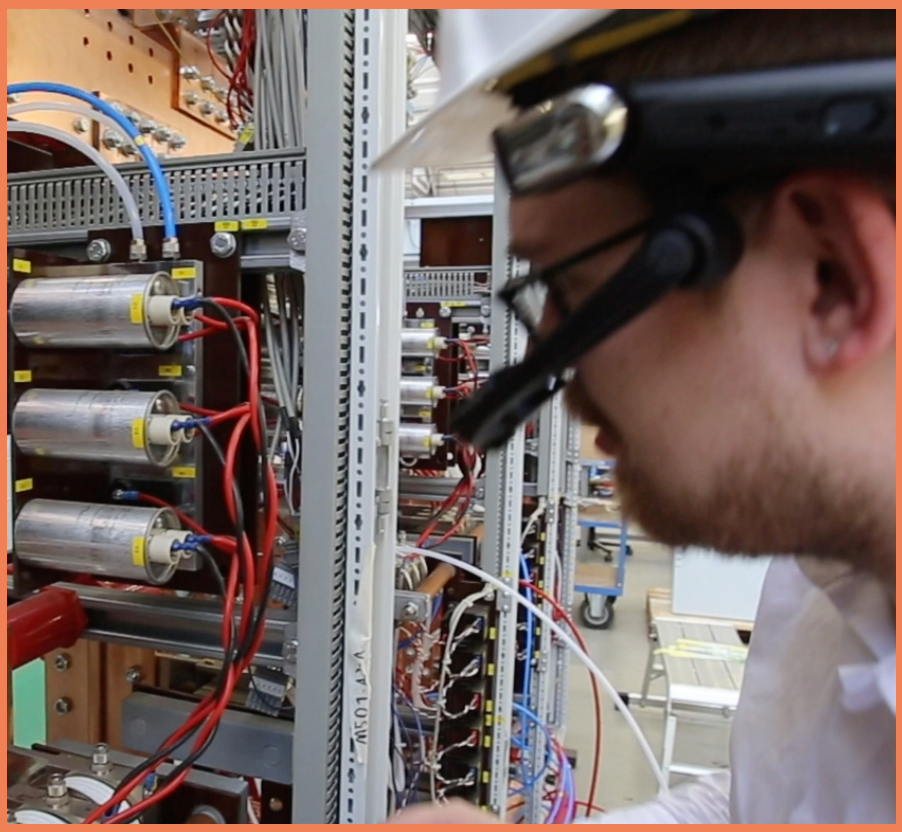
- ABP's proprietary software development to predict dimensions of melting plants
- ABP brings anonymized empirical data into the process
- ABP experts provide recommendations for action in practice
- Find out more about the Meltshop Designer in the ABP expert blog at www.abp-blog.de



Expert on Demand: The digital solution is so simple

Augmented reality is making its way into the foundry industry. Markus Fournell explains how service cases can be solved at the customer's site extremely quickly in future

Foundries generally make use of robust materials, machines and equipment which, provided they are regularly maintained, will perform their duties for a long time. Nevertheless, service cases can still occur – and here, as a plant operator, you naturally want to keep the failures and downtimes as low as possible. Expert on Demand (EoD) is a digital service tool from ABP Induction that uses Augmented Reality (AR) to provide rapid remedy in service cases.



When will Augmented Reality become relevant as a tool? Markus Fournell, Vice President Global Service & Digital Products (IoT) at ABP Induction, explains a typical case scenario: The digital tool ABP Intelligence has been set up at the customer's premises to monitor their machines and systems. If the system detects an error, it triggers an alarm and creates a ticket in the „MyABP" portal. The ticket contains all information concerning the case and the plant. Should the customer's employee require assistance, the ABP expert is just a click away. „A service request is quickly set up and scheduled – if desired, at such short notice that the service case can be solved directly", the expert explains.
During the scheduling process, a virtual connection is established between the employee on site and the ABP expert. „The employee on site can use their smartphone, a tablet or even augmented reality glasses," explains Markus Fournell.

AR in use: Here's how it works

It goes like this: On their monitor, the ABP expert can see what the employee on site sees – thanks to the camera in the smartphone, tablet or AR glasses. This means that they can take a direct look at the faulty system and identify where there could be a problem.
How do employees and ABP experts interact? „Since the ABP expert sees everything, they can guide the employee on site step by step through a repair or maintenance. The employee's hands become the hands of the ABP expert." They can give them audio instructions or provide them with visual cues on the display of the respective device. These can be warnings, work instructions (e.g. in which direction tools are to be turned) or affirmative remarks in the form of common symbols (e.g. a thumbs-up), or text inserts such as operating instructions or sche-

matic drawings.
„As already mentioned, the employee is relatively free to choose the device, but it should be noted that augmented reality glasses in particular allow employees to work hands-free - and this one of the biggest advantages of working with augmented reality in the technical service environment," explains Markus Fournell. „We recommend testing various devices at the beginning in order to find the optimal working environment for employees". But regardless of whether customers choose smartphones, tablets or augmented reality glasses - they will definitely benefit from the advantages of the ABP digital solution „Expert on Demand".
Keyword Knowledge Management: „The ticket system ensures complete documentation of the service case - and this is relevant for similar service cases that may occur in the future". For an ABP technician, there are no travel costs or CO2 pollution caused by a trip to the site, the processing and resolution time is extremely fast, production can be restarted more quickly - all this saves time and is also better for the environment.

A detailed description of „Expert on Demand" service can be found in the ABP Expert Blog abp-blog.de. There you can also find a video that traces the process from alert to the resolution of the request step by step. In our new video section „ABP in 100 Seconds" we have also released an episode on Augmented Reality, which can be found on ABP Induction's YouTube channel.

YouTube

Business Event from Spectaris at ABP

High-tech association will be our guest on March 18th and 19th

On March 18 and 19, 2020, those interested and members of the high-tech association Spectaris will come together at ABP Induction in Dortmund to learn about industrial-based smart services. ABP customers and partners can also participate.

„Driving Business with Smart Services" is the title of the event in March, which is part of the Spectaris conference series „Intelligent Service as a Sales and Profit Generator". During the event, ABP will present its digital solutions and let participants try out technologies such as AR and VR functionalities. One of the workshops on the second day of the event will also take place in ABP's Virtual Classroom – certainly a very special item on the program.
ABP will also be giving presentations on the morning of the second day. Under the title „People. Technology. Success – Transformation from plant manufacturer to digital service provider", ABP CEO & President Till Schreiter will explain how industrial enterprises can generate additional added value for customers with digital solutions. He will also talk about climate responsibility and show how ABP Services help to save energy and reduce emissions.
Markus Fournell, VP Global Service & Digital Products, will follow up on the development of the #ENTERABP campaign and the associated digital solutions around MyABP in his presentation „Digital Services – ready in 6 months!

For further information and registration please go to www.iss-hamburg.de/de/iss-spectaris-service-tagung

The induction heater from the home workshop

Stefan Martini installs heaters – whether on a scale of 1:6 or in the original size

It started out as a set of electronic components for 30 dollars, which Stefan Martini purchased as a kit on the Asian technical portal Aliexpress. He had not imagined that it would become a working, true-to-original 1:6 model of an EBS 230 heater. And it has become truly impressive.

„I know how to assemble a heater – after all, that's my job at ABP. Reconstructing an original heater is of course only possible if I do it with my coworkers," explains the 48-year-old, who has been working at ABP since May 2001. Since he himself is involved in the assembly of original heaters, he is well aware of all the functions that such an EBS entails.

As mentioned, this was not actually something that was planned. „I had the first parts and simply tinkered around a bit at home," he says. In conversations with colleagues, he told them about his little side project at home, and they encouraged him to make a real project out of it and stay as close to the original as possible. „The system then just basically grew," he says, „I just started to build, and at first it wasn't really supposed to be that big, but then I was overcome by ambition." He spent a year building at home, always interrupted by the away-times, during which he traveled the world for ABP to set up and commission real plants.

Before the actual assembly started, there was a lot of work to do on the computer. „First of all, everything had to be measured and designed on the computer," he says. After all, the heater was really supposed to work in the end – i.e. heat metal, be controllable, output information via displays, and much more. The decisive factor, he says, was that he was able to exchange ideas with like-minded people in the „Maker" scene. Thanks to the Internet and easily accessible tools such as laser cutters or 3D printers, more and more people are working on technical solutions within the comfort of their homes. „This is where

hobbyists and model makers get together and give each other tips," he explains. Stefan Martini also has his own 3D printer at home and a CNC milling machine. „That's basically part of the standard equipment used in the scene these days," he says. In the past, for example, he built a model of a casting furnace with his own 3D printer. Easy to program micro-controller modules would do the rest to create models such as the EBS 230 heater. Control panel, mini-displays – „in the past it was much more complicated to get parts and build something." Today, his 1:6 scale model even bears the ABP logo. „I do have to say that many of my colleagues supported me while I was building it – be it with small individual parts or with ideas for the further development of the model".

What's next? Stefan Martini would also like to get started on an induction melting furnace. „But that's not so easy, it's not really suitable. Basically, you would have to reach very high temperatures with it to get the metal liquid. „But the temperatures would probably be too high for the model itself – after all, I don't want the model to melt," he says. Even if this hobby is „pure relaxation" for him – in the end it would be too hot for him.

Tipp: On ABP Induction's YouTube-Channel you can find a video presenting the model in action: www.youtube.com/watch?v=eSnb02lhxkc

The original: The EBS 230

The ABP induction heater for forging

The type EBS 230 system is an induction heater from ABP Induction. A uniform temperature profile of 20 to 100 percent of the nominal flow rate can be achieved via ZONE CONTROL. The temperature profile can be adapted to different metals. It ensures optimum radial and axial temperature distribution; and there is no overtemperature at reduced throughput. The coil design is a robust, fully encapsulated construction. The EBS comes with cooled or uncooled slide rails and also features a specially designed copper profile for high electrical efficiency. One of the highlights is its low energy consumption. Also important: Each zone can be controlled individually, the system is modular and expandable. The THERMPROF® simulation software is an important element in terms of software: It allows users to optimize the temperature curve and thus has various options in terms of optimization: reducing scale, improving energy consumption, optimizing temperature uniformity or reducing block adhesives.

Further information is available at www.abpinduction.com.

First order in Turkey in 18 years

Safety and automation were the prime reasons for ABP Induction's first order in Turkey in 18 years: Silsan A.Ş. in Adana, Turkey, a leading manufacturer of cylinder liners, opted for 3 FS 20 melting furnaces and an OCC 20 pressurized casting furnace from ABP Induction.

Delivery and installation are scheduled for the 2nd and 3rd quarters of 2020, commissioning is scheduled for the 4th quarter of 2020. The customer was very impressed with ABP's overall concept to reduce energy consumption in the plant. The main focus was on the opportunities in terms of automation and energy savings through PRODAPT® and PLC in the melting system.

Coworkers at ABP: Do you know Betty?

Betty has been working in project management at ABP in Shanghai / China since 2008. „As a project manager, I work a lot with customers and colleagues from all over the world, and it is precisely this intercultural cooperation that I value most about my job - and of course, the successful completion of my projects," she says. If you would like to learn more about our colleagues at ABP, take a look at www.abpinduction.com – in the „PEOPLE" section, we introduce many of our employees from all over the world.

Aluminum furnace for recycling smelter delivered to Canada

ABP Induction has received an important order for an aluminum furnace with a capacity of 7 tons and a 2200 kW, 12-pulse power supply. This plant is to become an important part of the aluminum recycling process in the Baie Comeau region of the Canadian province of Quebec, near Lefebvre, as part of the local smelter operation. One of the reasons for placing the order with ABP was the excellent support Lefebvre received during the planning process. It was also important that ABP was able to offer them the opportunity to visit ABP customers in the USA with similar plant configurations so that they could get a genuine impression of the ABP plants in practice. Flexibility was then the decisive factor: ABP met all customer specifications and requirements, offers local service support and CSA certification of the electrical system. Engineering and plant construction will be carried out in the USA. Commissioning is scheduled for March 2020. „We chose ABP due to their high degree of professionalism, competence and know-how, fast response times and, above all, local support," concludes the Canadian customer.

Imprint

ABP editorial staff:
Markus Fournell, Gordon Kersten, Ulrike Szymura, Dr. Marco Rische (verantw.)
Realisation: Michael Braun (Medienhaus Waltrop)

uggestions, contributions and questions to ulrike.szymura@abpinduction.com