

## GMTN 2019 – Specialist article no. 7 / March 2019

### The Bright World of Metals 2019

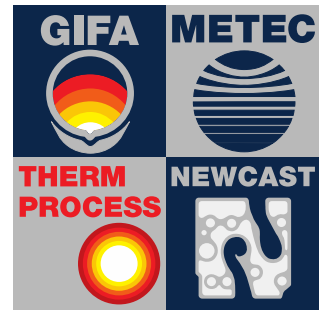
**Established companies and start-ups – stronger together:**

**Digitisation is dematerialisation**

*Established companies offer the greatest potential for digital transformation. However, traditional industrial companies are too focussed in the concentration of their digitisation strategy on optimisation of the processes used in their existing business. Experts are noticing that established companies are still targeting new growth through new services too rarely. It is precisely here that traditional companies and start-ups can learn from each other successfully, as examples from the metal industry demonstrate convincingly. Such examples of successful digital transformation are being presented at the metallurgical trade fair METEC in the context of the “The Bright World of Metals” from 25. to 29. June 2019 by, for instance, the VDMA Metallurgy trade association.*

In the digital transformation age, established companies are starting to take new approaches from the start-up community seriously too. A current example of this is design thinking, which is considered to be the epitome of creativity, e.g. at SMS group, the metallurgical plant manufacturer.

The long-established company is well known all over the world for the technical perfection of its machines and equipment for the production and processing of iron, steel and non-ferrous metals. For a long time now, technologies like virtual reality, augmented reality or digital twins have been proven instruments in the planning, design and construction of new steel mills, with which



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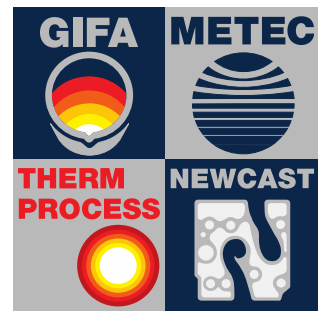
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SMS applies German engineering skills to create machine technology of the highest quality, including electrics and automation – more recently with the help of such innovative production methods as additive manufacturing too. What is new, however, is that the machine and plant manufacturer is developing digital products and services to an increasing extent. When it launched SMD Digital in May 2016, the technology company provided itself with a start-up that gives customers from the steel and non-ferrous metal industry the appropriate tools for digital transformation. Such as software for “Industry 4.0” solutions and apps for the metal industry, which are made available via the in-house platform mySMS group. SMS group is planning to present new digital services and products at the forthcoming metallurgical trade fair METEC 2019.

As software developers with a digital mindset, the staff of SMS Digital in Düsseldorf, the city on the Rhine, are keen, entitled (and required) to live a different corporate culture than the technicians in the SMS mechanical workshop in the Siegerland, where regular working hours, time clocks and works councils are standard features of everyday operations in the industrial age. The approach adopted by the software developers is very different from the classic method of operation used by the engineers. In design thinking, development starts with the customer and his problem rather than with a meticulously compiled set of specifications. A user-based approach involves validation of ideas interactively between the digital unit and the customer, before a prototype is selected to be optimised for large-scale introduction. Once the idea has been turned into a marketable solution, it can be included in the parent company’s programme. The digital unit was not established on an exclusively internal basis, however. The Munich business consultants etventure (see interview) helped to structure



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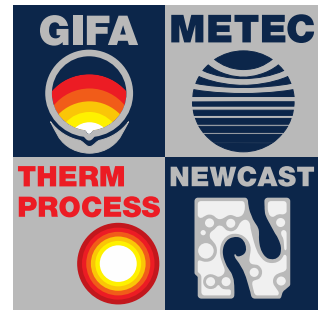


SMS Digital and acted as a kind of “matchmaker” in the successful marriage between the “old” and “new” economies.

### **VDMA Metallurgy: focus on companies’ overall digital strategy**

Kathrin Delcuve is the expert responsible for innovation and technology development at the VDMA Metallurgy trade association. When she talks about “Industry 4.0” and IoT, what she means are instruments for digital transformation of (and in) industrial production. She explains: “For process-based metallurgical production technologies, it was crucial first of all to be able to improve process and quality control by taking advantage of big data methods”. The clear objective was to be in a position to offer customers energy and cost savings in the production process and this continues to be the case now too. As an example, the VDMA expert mentions the use of data mining processes to improve the correlation of machine data and process parameters. This enables prediction models to be developed – in metal industries, for example, for temperature regulation, more precise loading or the prediction of melting endpoints.

Delcuve goes on to specify: whereas the initial emphasis in “Industry 4.0” activities was mainly on process optimisation projects, the entire company is now becoming the focal point to an increasing extent. The VDMA expert says: “In the meantime, successful corporate exploitation of “Industry 4.0” potential is no longer determined by product and application optimisation in the production process alone; what is decisive instead is how individual, data-based innovations are incorporated in the company’s overall digital strategy”. Solutions for controlling and optimising production processes, such as sensor technology, data analytics, VR or AR technologies, make smart operations – and, as a result, data-based services and distinctive products – possible. According to Delcuve, implementation is frequently carried out in-



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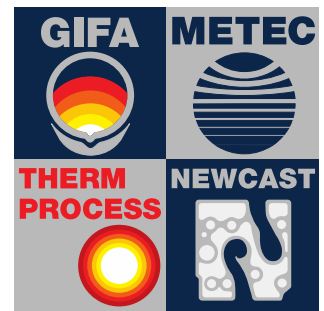
house and along the lines of product development processes at start-ups. But also in co-operation with start-ups, which have based their business models on Internet-based applications and software services. In September 2018, for example, VDMA brought selected start-ups together with companies from the metallurgical machine and plant manufacturing field at the Dortmund Technology Centre.

Kathrin Delcuve summarises the progress made: “In the meantime, digitisation encompasses all levels of production and value creation – product development, customer relations and the competitive positions in supply chains and B2B business”. Her conclusion: “In the meantime, successful corporate exploitation of “Industry 4.0” potential is no longer determined by product and application optimisation in the production process alone; what is decisive instead is how individual, data-based innovations are incorporated in the company’s overall digital strategy”.

At GIFA, METEC, THERMPROCESS, NEWCAST, the VDMA Metallurgy trade association will be highlighting numerous examples of applications from its corporate members, including a new edition of the brochure “Industry 4.0 in metallurgical plant manufacturing”.

### **Klöckner: pioneer that has had to overcome initial difficulties**

The steel distributor Klöckner & Co. is considered to be one of the digitisation pioneers in metal industries. CEO Gisbert Rühl studied the successful models adopted in the platform economy in detail and visited start-ups on-site in Silicon Valley. A particularly close examination was made of Amazon. Back in Germany, the steel distributor established the digital unit kloeckner.i in Berlin. Rühl recalls the initial difficulties that were experienced when implementation of the digital strategy began: “A major obstacle proved to be the necessary change in our corporate culture. Because our aim right from the start was to win all our staff over



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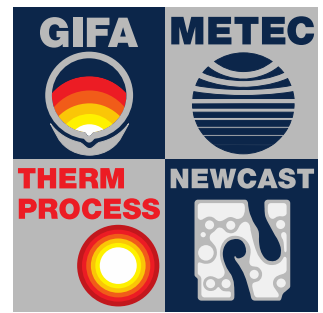
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and motivate them to support the process of change. This is the only way for digital transformation to be carried out successfully.” Rühl eliminated the internal communication barriers and ended the hierarchically organised information flow. According to Rühl, staff and their superiors now communicate non-hierarchically via the internal social network Yammer. “Another of the bigger problems was most definitely initial scepticism about the digital tools developed by the digital unit in Berlin. This meant that we needed to integrate kloeckner.i in the group more effectively, so that the classic side of our company gives active support to introduction of the digital tools. Our exchange programmes between staff from the classic operations and our digital unit have proved to be thoroughly effective here and have helped to establish a digital mindset in the core organisation”.

Rühl stresses that the digitisation strategy has reached all areas of the group in the meantime. “We are digitising not only the front ends to customers but also to an increasing extent the internal processes of Klöckner & Co., in order to become even faster and even more efficient. It is, however, also correct that our digital unit kloeckner.i in Berlin is the ‘hotbed’ of digitisation within the group. Digital natives work there on our solutions for digitisation of the entire Klöckner & Co. supply and service chain – on behalf of all the company’s locations and in close liaison with group colleagues and customers.”

The strategy has proved successful: “Klöckner & Co. currently generates about a quarter of sales via digital channels. This corresponds to annual digital sales of some EUR 1.5 billion”, as Christian Pokropp, Managing Director of kloeckner.i, adds. Although this is already a large percentage compared with competitors and companies in other industries, Klöckner does not intend to rest on its laurels. Pokropp promises: “We aim to increase the figure to 60 per cent by 2022”.



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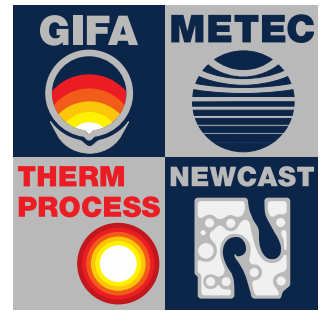
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Digitisation has become an area of operation of its own with digital consultancy services. New digitisation projects are also on the agenda. “We are currently expanding the Klöckner & Co. online shops, which are available in six countries in the meantime, into marketplaces”, says Pokropp. He adds that Klöckner has convinced distributors of complementary products about the benefits of its platforms. These companies now distribute products that supplement the Klöckner & Co. product portfolio via Klöckner’s own online shops with marketplace functions. Pokropp explains: “In view of the good progress made in the digitisation of Klöckner & Co. and increasing numbers of inquiries, kloeckner.i will also be providing digital consultancy services to external companies in future. We are in addition enabling consultancy customers to start e-commerce operations simply via integration in Klöckner & Co.’s proprietary B2B marketplace”.

**Digitisation means dematerialisation**

What traditional companies often get wrong or misunderstand: “Digitisation does not mean abandoning old strengths that have made the company great”, as Philipp Depiereux, founder and director of the digital consulting company etventure points out. In his opinion, at German companies these strengths are, above all, engineering skills, precision, perfection, many years of industry experience and an established customer base. The digital expert says: “The ‘Made in Germany’ quality slogan still applies in the digital age too”. He emphasises that companies need, however, to continue developing and to adopt the successful formulas implemented by digital players too: speed, data expertise and an uncompromising focus on the customer and user. The conclusion drawn by the expert for digital transformation, who is very familiar with heavy industry due to the consulting services he has provided to Klöckner and SMS: “Whoever manages to combine old strengths with new ones will be successful in the digital age too”.



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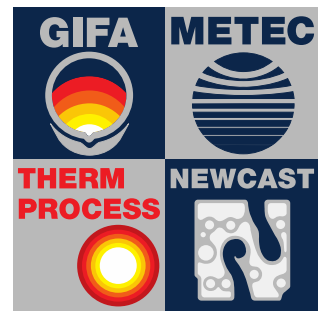
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With the systematic implementation of their digital strategy, companies like Klöckner and SMS can be considered to be something like the digital avant-garde in the metal industry. The example of the foundry industry demonstrates how reluctantly many industrial companies are still tackling the issue of digital transformation. “Most foundries are focussing too much on production”, says Franz-Josef Wöstmann, foundry technology and lightweight structure departmental manager at the Fraunhofer Institute IFAM in Bremen. He adds that it is of course right to strengthen one’s own processes with the help of new technologies. The potential and opportunities offered by digitisation are, however, neglected when there is too narrow a focus on improving process operations. The focus needs to change if the aim is to use “Industry 4.0” as the basis for further new activities. The foundry expert stresses: “Industry 4.0 means digitisation”. And he adds that digitisation means dematerialisation. “Digitisation creates the opportunity to earn money and extend the value chain with the data about components”.

Most foundries make the mistake, however, that they still think too much in terms of the material, the casting. The foundry expert Wöstmann considers this a worrying way of looking at things: “In the next few years, success will be achieved via function rather than via kilos”.

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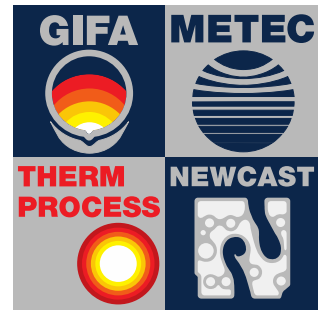
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