Intelligent, AI-supported, optimised production

Jacqueline and Michael Peintinger outline their plans to develop and build an American subsidiary of Smart Steel Technologies

Q. Which area are you responsible for at Smart Steel Technologies (SST)?

Jacqueline: I am taking over the sales manager role for North America at Smart Steel Technologies and I will be mainly responsible for the NAFTA area (US, Canada and Mexico).

Michael: I joined SST as managing director for North America and will focus on setting up our operations in the United States and Canada. This includes everything from incorporation to building up a local operations team and winning new customers.

Q. What was your role before joining SST?

Jacqueline: With my background in business administration I joined QuinLogic/SMS group in 2015 supporting the North American metals industry with data integration and rule-based quality assurance solutions. When I joined the SMS Pittsburgh team after QuinLogic's integration, I was responsible for digitalisation solutions in the areas of production planning, asset health, quality and energy.

Michael: I earned my PhD in Theoretical Chemistry from the University of Bonn and spent some time researching quantum chemical methods at the Max-Planck-Institute for chemical energy conversion during my Postdoc, before switching to the steel industry. In 2015, I joined QuinLogic and soon relocated to the United States to develop the business in North America and had various roles, from technical sales manager and senior customer consultant to managing director.

QuinLogic develops rule-based quality management systems as well as data integration and warehousing solutions. Together with Jacqueline, I analysed customer needs and how these solutions could help steel companies improve their product quality and increase their yield. I built up a local team of engineers that implemented these software solutions at our customer's facilities.

> *"I have a track record of building up a subsidiary for a German company in the USA"*

QuinLogic was acquired by SMS group in 2019 and early in 2021, we started integrating the American QuinLogic subsidiary into the SMS digital division in Pittsburgh. I then led the joint teams of SMS digital and QuinLogic for quality applications, as well as data integration and management as general manager. I have a track record of building up a subsidiary for a German company in the US.

Q. What achievement are you particularly proud of?

Michael: From an academic point of view, it is the full scholarship I received from the Max-Planck-Society and that a few of my publications were on the cover of scientific journals. But, I am most proud of what we had built in the US, a well-organised subsidiary that allowed us to win the trust of our customers and establish long-term relationships. This carries over to our new roles at SST. The feedback from everyone in the industry has been great and we immediately started talking about how AI solutions can improve the production process.

Q. How does your new role at SST and its AI product portfolio relate to what you have been doing in the past?

Michael: Big data is the basis for all data-driven applications. QuinLogic

had developed an excellent product in that regard, the Production Data Warehouse. QuinLogic's rule-based quality management software uses a data aggregated system to evaluate the product quality and make decisions to automatically hold or release coils.

We have spent the last few years getting our customers AI ready. And now is the time to deliver on that promise. SST has a fantastic data platform that features specific modules tailored for real-time AI applications, and it easily integrates with the solutions we brought to the market in our previous roles. Plus, the grading results from the quality management system can be used as a target signal. No investment is lost, the value can even be increased by extending it with SST's time series database components. Then the process improvements gained by applying the ready-to-use AI solutions can quickly be turned into savings. Instead of managing the defects, it is now all about eliminating the possibility of defects in the first place. So it is a continuation of the steel industry's journey to digitalisation.

Q. How do you perceive acceptance of digitalisation and AI, in particular, on the North American market?

Jacqueline: Over the past decades, digitalisation has more and more become a crucial component of the steel industry. While a part of the industry is still facing data silos making data access and understanding this data difficult, some companies have understood its value and have already taken important steps towards digitalisation.

Trust in artificial intelligence and machine learning solutions might not be as established as it could be – yet – due to existing use cases that haven't been able to convince, as well as the complexity of the matter. However, there will be hardly any possibility to exclude the technology in order to stay competitive in the market.

Q. What convinced you to move to Smart Steel Technologies?

Jacqueline: There were two key aspects. First, convincing references. These days, all vendors in the industry are claiming to apply ML/AI algorithms to steel production processes but clearly lack actual use cases as industry conferences have shown. SST convinced me with impressive references achieving tremendous process and quality improvements as a result of a robust knowledge of steelmaking and AI technology. Secondly, right from the beginning I'm proud to have joined a company with an amazing start-up team culture and room to grow.

Michael: Technology! I saw a presentation held by Dr Falk-Florian Henrich, our CEO and founder. I was impressed by the results he showed: a 50% improvement in defect reduction at ArcelorMittal. And this could only be achieved by having a correct target signal to train the neural network on. The Surface AI offered by SST is a critical factor in making artificial intelligence algorithms succeed in improving the steel manufacturing process. That really caught my attention. This is unique in the market, there is no competing product available.

> *"The Surface AI offered by SST is a critical factor in making artificial intelligence algorithms succeed in improving the steel manufacturing process"*

Every one of our customers who runs automated surface inspection systems needs this. It is the perfect target signal for neural networks so they can reduce the number of slivers, for example. That is exactly what ArcelorMittal did with this system.

Q. What do you want to achieve with SST in the near future?

Jacqueline: Over the next few years, my goal is to build up a satisfied customer base in North America introducing proven ML and AI solutions and its capabilities as the next level of technology. My goal is to jointly achieve measurable improvements that not only save money but also have a positive impact on the environment by reducing CO_2 emissions.

Michael: My immediate goal is to quickly set up Smart Steel Technologies' operations in North America. Our customers will have a team located here in the USA that will design, implement and maintain the deployment of our AI products. We are already working with potential customers to identify where we can show a quick return on investment and help to improve the production process to get our first US projects started very soon.

www.smart-steel-technologies.com