



INTERVIEW SPOTLIGHT



Florian Auer, Director of Technology and Innovation at Plasser & Theurer, discusses how digital technologies are being further integrated into their systems and how this adds a new dimension to their partnerships with the industry.

In what ways has Plasser & Theurer taken advantage of opportunities created by digitalisation?

We are fully dedicated to ballasted track and firmly believe that our machines contribute to the cost-efficiency of the railway system as they produce the best track quality. We are constantly working to reduce the total cost of ownership, and our innovations aim to meet this objective. Our customers appreciate the high level of availability, reliability and robustness of our machines.

Taking advantage of new technologies that come with digitalisation is of huge value for us. Until recently, however, these technologies were not robust enough to be implemented in our machines. We are currently putting great efforts in transferring technologies from a controlled laboratory environment into the daily business of railway maintenance. With the Assistant System we have a product that meets the expectations of daily business. We equipped a machine with laser sensors and some powerful AI computing that calculates where tamping should be performed. Precise tamping recommendations appear in a comprehensible

way to the operator, who then simply confirms with a push of the pedal. The tamping unit executes the actions automatically. This is a great relief for the operator, especially during long night shifts, and prevents errors which can lead to track damage and ultimately the reduction of route availability.

We are also excited about the opportunities that such a digital machine creates for asset managers. As a by-product of the tamping process, it provides a complete scan of the track with an additional layer of information on how tamping was performed. More and better information on the track's condition are key for sustainable operations and can enrich existing systems, such as BIM models.

How will Plasser & Theurer need to evolve to deliver reliable digital solutions in the future?

Our company and staff are fully devoted to building the best machines that produce the best track quality. But when it comes to building big data analytics tools, you need people with different skillsets. In early-2017, we founded a subsidiary start-up called P&T Connected with a goal to build a company around talents in

the big data domain. We are surprised by how much P&T Connected has achieved so far. With the release of Datamatic 2.0, our customers can put data into action to increase productivity and reduce fleet downtime. By connecting the machine to the cloud, a lot of information is provided, helping fleet managers answer questions such as "Where is the machine?", "How much fuel and oil is left?" or "Was the contract finished on time?" It also supports long-term planning and enables predictive maintenance.

Based on the success of this start-up, we will continue to enhance our domain expertise with math, statistics and computer science.

The era of digitalisation is a fantastic opportunity for the railways to increase their competitive advantage over other means of transport. However, to exploit this potential we need to look beyond our own expertise.

What other digital tools does Plasser & Theurer offer to help the industry increase productivity?

Digital technologies are becoming a strong and integral part of our systems. They enable us to add a new dimension to partnerships with infrastructure

operators, contractors and the supply industry. There is a lot of potential in this field, so we gave it a name: PlasserSmartMaintenance. This initiative augments the abilities of the machine in the digital dimension.

At InnoTrans 2018, we will showcase the digital integration of machine, fleet and infrastructure. A truly digital track maintenance process will be demoed on two machines, both packed with cutting-edge technology: The Unimat 09-4x4/4S E³, a hybrid machine, and the EM100VT, our own research measuring vehicle. I am particularly excited about this event and look forward to getting feedback from our partners in the industry. It is really worth checking out how digitalisation integrates into hard rock and heavy metal. 

FLORIAN AUER studied a degree course in Civil Engineering at Graz Technical University, specialising in transport engineering. His doctoral thesis was entitled 'On the reduction of track wear in narrow curves'. Between 2002 and 2012, Florian worked in various positions as a Permanent Way Engineer at ÖBB-Infrastruktur AG, including Head of Life Cycle Management. Florian has collaborated in several international working groups and joined Plasser & Theurer in 2012. Since 2017, he has been Director of Technology and Innovation.