Dr Matthias Kümmerle’s role is to oversee all aspects of R&D and Product Management at Bucher Emhart Glass - from the feeder to the forming machine as well as ware handling and cold end inspection.

“If you are in R&D in the glass industry you realise it’s extremely broad.

“It is high in technical complexity and comprises a wide range of different engineering disciplines. At the same time it’s exactly the breadth of the technology which is fascinating and is a paradigm I enjoy a lot” says Matthias Kümmerle.

Engineering disciplines include mechanical engineering, material science, thermodynamics or fluid dynamics, while in recent years software, controls, and data analysis have also become critical topics to the industry and to Emhart.

While the introduction of a completely new type of IS machine is rare – once every 10 years – software products, such as new closed loop controls, and other developments such as new sensor systems or mechanical modules represent the more frequent product launches.

As glassmakers are under pressure to be more flexible, are facing increased competition from rival packaging materials, are confronted with environmental challenges as well as cost pressures Mr Kümmerle is convinced that the glass industry can remain successful only through continuous innovation.

“The need for innovation has never been higher and we have to come up with safe, flexible and effective solutions,” continues Mr Kümmerle.

Emhart invests up to €18 million a year on R&D and maintains its own research centre in Windsor, Connecticut, USA. The centre has its own fully functional glass plant with a 40t furnace and the full Emhart range of forming and inspection technologies.

“This allows us to drive R&D, which would be difficult to do in parallel with on-going production at our customers.”

As a whole Emhart has about 80 people that work in the research and the development of new technologies.

End to End

The company will be present once again at this year’s glasstec event, where it will highlight the achievements as well as the next steps of its End to End journey.

End to End Technology is a unique set of solutions and automation technologies designed to make glass production easier, safer and more efficient.

It takes a holistic view of the production process and unifies forming and inspection technology.

Emhart launched its End to End concept at the previous glasstec in 2016. End to End also aims to address the problem of acquiring and retaining young talent to the glassmaking sector.

Mr Kümmerle said: “This is probably one of the largest motivators for the
Mr Kümmerle outlines how a new item of technology is created at Emhart Glass

“It all starts with a customer need and we try to understand what the customers want. Before we start doing anything we have meetings at the very early stages with our customers. We have a culture where we involve our customers in the R&D process from day one. In the past, R&D people were not comfortable to share early ideas with external customers. But we have changed this completely. Once we have confidence that a new solution addresses a market need and that there is a business case, we have a relatively conventional development process where we follow a stage-stage methodology, from concept to prototype and then go step by step. We have a strategic product platform in our organisation, where we act as a funnel, evaluating market needs and ranking development ideas and try to answer two questions: One, does a proposal fulfil a customer need and result in a favourable business case for it and two is our organisation capable of driving such development? The trick in product development is to make the right choices, to prioritise, since there are always more ideas than available resources.”

Customer Feedback

Initial developments of the End to End journey have already been implemented in several glass plants in recent years and the response has been good. “We have been overwhelmed by the feedback we are getting on End to End. It seems we are hitting a nerve and the feedback from pretty much all our customers is that this is exactly what the industry needs.”

End to End is a 10 year roadmap and is staged in a way where there are many intermediate steps and several product launches rather than a whole package which is completed in a couple of years. It combines several solutions on topics such as process control, safety and ergonomics. The company has also received positive feedback about the concept’s scalable approach, where customers can add on elements as they become available. Such feedback is one of the perks of Mr Kümmerle’s job. “One of the best things that can happen for somebody working in product...
development is if there is positive feedback from the users and market. It confirms that your initiatives are going in the right direction and that you’re working on solutions that are recognised, that is very motivating.”

More of the roadmap will be unveiled at this year’s glasstec, where Emhart will unveil more innovations towards its dream of a glass plant of the future.

“In 10 years time it will be much more hands off and a very stable process. It will require less interaction of people and will be simpler for glass plants that struggle today with low efficiency rates to produce at a much higher rate.”

Bucher Emhart Glass, Cham, Switzerland
www.bucheremhartglass.com