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For T.I.G., trained worker shortage drives interest in Industry 4.0

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York, Pa. — The biggest trend driving interest in Industry 4.0 in North America is the shortage of trained labor, according to Gerold Brunner, CEO of T.I.G. USA LLC.

"It's very difficult nowadays to get qualified, educated labor. So this is one of the main challenges. Injection molders have less people who need to manage more machines," Brunner said.

"And the fact is, many people in this industry have been working for decades and are close to retirement. So they are now going into their well-deserved retirement, but then you have to somehow extract the know-how from these people and bring it into standardized processes or solutions like ours, where we can help them replace certain manual tasks," he said.

T.I.G. makes manufacturing execution system software, which Brunner called "the foundation of Industry 4.0." When Austria-based injection press maker Engel Holding GmbH bought T.I.G. (Technische Informationssysteme GmbH) in 2016, it said the acquisition was an important step in its Industry 4.0 strategy.

Brunner has a degree in business informatics from Johannes Kepler University in Linz, Austria, and has been with T.I.G. since February 2018. He was interviewed at T.I.G.'s regional headquarters, which is located at Engel Machinery Inc.

While Industry 4.0 in the plastics injection molding sector started in Europe, Brunner talked about how molders in North America are using the technology.

Q: How did you get started with T.I.G., and how did you end up in North America?

Brunner: I started in 2015 at Engel Austria, in the E-factory department. So at the time Engel was already cooperating with T.I.G., and T.I.G. was already a partner supplier, providing the MES software as a white-label product. We had a small department in Austria solely responsible for whatever was necessary to support our clients in the customer service department.

In 2016, Engel announced the decision to integrate T.I.G. into the group; it was announced just before the K show. Then the T.I.G. and E-factory departments were blended together.

For the past two years, I was responsible for building up our subsidiary in the south of China. However, we knew that our core market was always Europe, and we knew that the North American market was probably the most suitable market for us after Europe. So, our focus was on determining the best direction for America, and finally we achieved that. We have been able to

establish a local service team, and on April 1 I took over the CEO position here.

Q: Are you focused on service for your European-based customers who have plants here? Or are you introducing T.I.G. to North American companies?

Brunner: We're definitely focusing on new customers. We're focusing on these SMEs [small- and medium-sized enterprises] who have very similar challenges to our customers in Europe.

Q: So you're here because you've identified problems that are universal. But do your customers understand how software solutions can help them?

Brunner: It helps that our software is only for plastics, not for other industries. That separates us from the rest of the market. We focus on that, and our cooperation with Engel helps us to understand the challenges to meet.

We also understand that this is a client journey. We need to work with them from the beginning, because they don't know exactly what kind of purchase is required because they may be doing this for the first time.

We support them in scoping what are your targets? What are the challenges you're facing right now? What do we need to achieve? Going into pre-engineering work with them, I think define what's required on the IT side, on the personnel side, on the machinery side. Especially the machinery side is quite complicated. There is a high diversity of machines, standards, interfaces, everything.

And then, in the next step, we identify what is required from our solution portfolio, we implement that, bring them in for training and so on. A whole journey, not just you buy a license from us, you get a maintenance contract and that's it.

Q: Who do you deal with at your customers? The chief financial officer? The head of manufacturing?

Brunner: Sometimes, when you have an owner with a really hands-on mentality, they will be involved in the very beginning. They have different ideas and different targets, and most probably they want more transparency in their production because they're relying heavily on people there, and they

know that maybe it's been good for the past 20 years, but they know the production manager will leave the company soon, and they know that somehow they need to ensure that everything can continue.

Besides that, we always try to work with production management. Sometimes also the process engineers, if they have experienced some problems in the production line and they want to make more good parts and reduce their scrap rate.

Q: Do companies implement this companywide, or do they start when they're buying some new machines?

Brunner: For many SMEs, they like to go into a pilot project first, pick out two or three machines. And hopefully we can help them address a particular problem, and if it really works out well, then they'll roll it out into the entire plant, usually in the next fiscal year.

Q: Where does this fit in with Industry 4.0?

Brunner: From our point of view, it's the foundation. Without the data, whatever Industry 4.0 approach that you might find suitable won't work. However, Industry 4.0 is still very confusing for many SMEs. Maybe they don't go to trade shows and they don't know how this might be relevant for them, to bring this knowledge into the company.

But there's still a lot of confusion about what Industry 4.0 is. I was at a trade show and I saw one stand where they put a sticker on a machine that read "Industry 4.0 interface." What does that mean, exactly? That really explains the problem that we have. People don't know.

Q: So how do you make sure that it's not just a buzzword, but something tangible that they can use to improve their system?

Brunner: What Engel is trying to achieve is building up success stories with their clients and to use that so customers can identify themselves with in a scenario and say, "That is exactly what I want to achieve. So help me to get there."

We really try to set the expectation, because with talk about big data and artificial intelligence, clients may feel that, OK, are there solutions on the market where you can just implement a system and it will automatically recognize everything that's going on, and it will give you a perfect

recommendation, and the next step will be to automatically fix the process? And that's not the case at all. I mean, we are going in that direction, but first we need to do the groundwork with the basic stuff. We're still at that level.

At T.I.G., we have systems in place where, based on streaming analytics, where we see, OK, when there is a drift in a process — when there are certain outliers in the process — we automatically identify them and give out the notification to the operator who is responsible. It's a really helpful thing, instead of monitoring the system all the time, or to, in retrospect, check the data from the past shift. This is doing it continuously for you. This is bringing real value.

But still, it's not like having AI technology that automatically has adjustments happening on the machines. It's not quite there yet. I have a more honest approach on that. I focus on the groundwork of getting proper information from the machine.

Q: How is the North American market different from what you saw in China?

Brunner: Here, companies are very good at maintaining their machinery. In China, you can't find 20-year-old presses, 25-year-old presses; they're all gone. So here we have a huge diversity of machine brands, controller types, interfaces. Everything talking in different languages, I would say. So we know how to interpret information coming from machines and store it in a harmonious way.

Q: What kind of customers are most demanding?

Brunner: We are very much focusing on automotive because they had the highest requirements in the past, besides medical. Also, with all the technical molders out there, they may be coming up with new requirements, and we're happy to work with them.

Q: Do you plan on living in York for a long time?

Brunner: At least for the next three years. I think we have a great team here. The perfect environment, due to the economic situation. I think molders need to improve themselves to be ready for the next step. Usually when the order books are full, they don't spend much time on that. So it's just about the right time now for us to be here.

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