Michael Fraede

What drives him and how did he become a robotics expert? He explains why cooperation between companies is more important than ever.
Southwest Germany is characterised by successful SMEs, hidden champions with a global reputation, leading universities, start-up culture and global corporations in the automotive sector. These players generate healthy and lasting prosperity in the southwest. But this is not a law of nature. Innovative strength, competitiveness, vertical integration, research and global market orientation must be constantly defended and further developed.

In this context, targeted and task-appropriate automation "in the Ländle" secures precisely these locational advantages. In this way, increased economic automation can keep value-adding production companies in the state to secure prosperity and services. To ensure this, a constant exchange between the actors is necessary to enable joint further development. In this context, it is important to network different disciplines such as robot applications, robot technologies with accessories such as sensors and cloud connectivity, integration possibilities, processes, mobile and stationary applications as well as research and teaching.

The "Robotics" Specials Interest Group (SIG) will provide a suitable framework for this.

VISION
To establish SIG Robotics as the recognised platform for networking all relevant stakeholders for the automation and robotics sector in Southwest Germany.

MISSION
The SIG Robotics sees itself as a platform for networking, exchanging interests and linking respective expertise. Multi-layered companies are addressed. bwcon members and non-members, robotics and automation companies, as well as SMEs from the user perspective and also interested private individuals. Collaboration from and networking with the 14 or so neighbouring SIGs is desired and welcomed through invitations. Within the SIG, these parties will be able to meet and exchange ideas on common robotics and automation topics without being shy.

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"IT IS ALWAYS VERY IMPORTANT TO ME TO DELIVER TECHNICALLY VALUABLE AND ETHICALLY CORRECT CONTRIBUTIONS. [...] I WOULD ALSO LIKE TO PASS THIS ON TO THE YOUNGER GENERATION. THAT'S WHY I LIKE TO GET INVOLVED WITH BWCON SO MUCH"

Michael Fraede
"Robotics is not a single discipline. A robot as a component does not provide any benefit. It is the sensible and process-safe integration that gives the robot its benefit."

Michael Fraede is CSO WEISS Group worldwide and heads the Special Interest Group Robotics. With 32 years of experience in industrial automation and robotics, he is considered a robotics expert. He also has the expertise and many years of experience in complex sales, strategic business development and entering new markets and business fields. He revealed to us what drives him and how he discovered his passion for robotics.

How did you become a robotics expert? What fascinates you about it?

Michael Fraede: After my vocational training, I ended up in technical sales for medical precision laboratory technology. There I had received a fairly solid technical foundation "on the job". From there, I was placed in robotics by a personnel consultant in 1988. Since I was not in the industry at the time and had no engineering degree, I had to prove myself every day for years. This had spurred my ambition and I learned like a sponge in all areas of robotics and systems integration. This had turned into lifelong learning with enthusiasm as this technology has rapidly evolved in its applications. After my first career successes, I had devoted a lot of time to public relations and association work. Among other things, I was a member of the VDMA robotics board for many years, wrote countless technical reports, gave international lectures, and assigned diploma theses.

A key point of the SIG Robotics is to promote cooperation between companies. In your opinion, what is the importance of cooperation today?

Michael Fraede: Robotics is not a single discipline. A robot as a component does not provide any benefit. It is the sensible and process-safe integration that gives the robot its benefit. Thus, many synchronised disciplines are needed to achieve this desired benefit: Robot, gripper, sensor technology, programming, higher-level controls, process, system integration. All parties involved must not only contribute their knowledge but also listen carefully to others. This is exactly how wonderful solutions are created that keep companies competitive and secure jobs through economic automation. It is precisely for this exchange that the SIG Robotics at bwcon would like to offer a platform.

Where do you see the greatest opportunities for companies from the bwcon network and where do you see obstacles?

Michael Fraede: It is precisely the SMEs with production companies that would benefit the most from this. Technical salespeople live from sales. The focus is more on individual components and less on the overall interests of the customer. To this end, we would like to offer the bwcon network of SME users and suppliers a neutral platform for a holistic exchange. We have to communicate this to the market in a recognisable way.

The southwest of Germany stands for prosperity and numerous successful companies. Would you, therefore, describe Baden-Württemberg as an innovation driver?

Michael Fraede: 80% of the employees in the southwest work in small and medium-sized businesses. They have almost always been very bright people who have conquered a local and global market through strong developments. Among them are many "hidden champions" with a global reputation. Many of these businesses have their challenges in the generational change as well as in the technological change of digitalisation and globalisation. We must not leave them alone with these challenges. Otherwise, the prosperity we have built up over decades will be at risk.
About your social media activities, one could call you a social media influencer - how do you see that? What role does social media play for you and what influence does it have on your network engagement at bwcon?

Michael Fraede: Thank you very much for this friendly “title” (laughs). I now have around 11,000 digital professional contacts online. Over the last decades, this has resulted in wonderful contacts in the worldwide activity of the automation landscape. It is always very important to me to deliver technically valuable and ethically correct contributions. That's how you build a reputation and give a positive orientation.

I would also like to pass this on to the younger generation. That’s why I like to get involved with bwcon and give expert lectures at three universities for robotics in the southwest.

"Great people once said: If you find what you love to do, you won't have to work anymore."

You are the CSO of the Weiss Group worldwide, head of SIG Robotics, are involved in the bwcon network and share your knowledge in various events. Where do you get the energy from and what is your advice for a good work-life balance?

Michael Fraede: Great people once said: If you find what you love to do, you won’t have to work anymore. In fact, I get involved every day and do it with full conviction, with high ethical standards and technical and economic sense. Good automation ensures competitiveness in a high-wage location, good jobs and social prosperity. That’s what I stand for, and I’m happy to devote a large part of my free time to it. I am very lucky to have a wonderful family that gives me the necessary freedom and support for this. I am very grateful for that.

Thank you very much for the great insights. We are looking forward to more exciting projects with you!

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www.robotics.consulting
The International Federation of Robotics (IFR.ORG) shows the top 5 trends shaping industries around the globe.

1. Robots learn new tricks
AI software in combination with vision and other sensing systems, allow robots to master difficult tasks. New generations of robots are easier to install and program and they are connectable.

2. Robots work in smart factories
Autonomous mobile robots (AMRs) are much more flexible compared to traditional production lines. E.g. when models are changed completely, it is only necessary to reprogram the robots and AMRs rather than to dismantle the entire production line.

3. Robots enter new markets
Robots are being introduced in more and more manufacturing sectors, such as food and beverages, textiles, wood products and plastics. The ongoing digital transformation will lead to completely new business models, as producers can diversify more easily than ever.

4. Robots reduce the carbon footprint
Modern robots are energy-efficient, thus directly reducing the energy consumption of production. Through higher precision, they produce fewer rejections and substandard goods. Besides, robots help in the cost-efficient production of renewable energy equipment, such as photovoltaics or hydrogen fuel cells.

5. Robots help to secure supply chains
When productivity is levelled through automation, manufacturers have increased flexibility, productivity and security.

**THE GLOBAL TREND OF FUTURE IN AUTOMATION AND ROBOTICS**

Industry 4.0 has extensive implications for the capital goods industry and has brought the Integrated Assembly Solutions segment more into investor focus. One of the first and still largest customers for IAS is the automotive industry. But industries such as mechanical engineering, medical technology or renewable energies also offer a wide range of possible applications. The IAS segment has achieved an annual growth rate of about 6.5 per cent since the beginning of the 2000s. Major growth drivers were the standardisation and automation of simple production processes. The automation of increasingly complex processes was made possible from 2010 onwards by new technologies, e.g. IIoT and flexible robots. Since then, the customer spectrum for IAS has also gradually expanded and the market volume has increased. The most important growth drivers here are the use of big data analytics and the application of AI. An annual growth rate of 10 to 15 per cent is forecast.

Source: sps-magazin/markt-trends-technik
73% OF GLOBAL ROBOT INSTALLATIONS IN FIVE COUNTRIES

CHINA
China has been the world’s largest industrial robot market since 2013 and accounted for 38% of total installations in 2017 and 2018.

JAPAN
In 2019, robot installations in Japan dropped by 10% to 49,908 units. The average annual growth rate of 11% since 2014 had been remarkable for a country that already has a high level of automation in industrial production.

UNITED STATES
After eight years of growth, robot installations in the United States dropped by 17% to 33,339 units in 2019. The United States leapfrogged the Republic of Korea into third place in 2018 and maintained this position in 2019.

REPUBLIC OF KOREA
In the Republic of Korea, annual robot installations had been declining since they reached a peak level of 41,373 units in 2016. Installation figures for this country strongly depend on the electronics industry, which experienced a tough time in 2018 and 2019.

GERMANY
Germany is the fifth largest robot market in the world. In 2019, robot installations dropped by 23% to 20,473 units. Installation figures in this country are mainly driven by the automotive industry, which installed a large number of robots in 2018.

ANNUAL INSTALLATIONS OF INDUSTRIAL ROBOTS (‘000 OF UNITS)

Source: International Federation of Robotics IFR
DECLINING ROBOT INSTALLATIONS IN THE AUTOMOTIVE INDUSTRY

Almost 28% of all industrial robot installations take place in the automotive industry. While the automotive industry needs to invest in the transition from combustion engines to electric drives, decreasing demand limits the need for capacity expansion. Since 2010, investments in new production capacities in emerging markets and investments in production modernization in major car-producing countries have driven the demand for robots. The use of new materials, the development of energy-efficient drive systems and the high competition in all major car markets pushed the demand for investments despite the existing overcapacities. Automotive part suppliers needed to follow suit.

Robot installations in the electrical/electronics industry (including computers and equipment, radio, TV and communication devices, medical equipment, precision and optical instruments) increased by 24% on average each year from 2013 to 2018. In 2017, they were about to replace the automotive industry as the most important customer industry. However, since 2018, global demand for electronic devices and components has been substantially decreasing. This customer industry is probably the one most affected by the China-US trade conflict as Asian countries are leaders in manufacturing electronic products and components.

Declining unemployment rate

The more companies and countries invest in new robot installations, the more the unemployment rate declines. This is proven worldwide and can be well justified.

Source: German Federal Labour Office
International Federation of Robotics

Labour costs are rising, robot costs are falling.

Labour is again increasingly used in flexibility, complexity and value creation. Robots are taking over the three classic fields of "ddd" (dull, dirty, dangerous). Companies with a high degree of automation produce high-value goods at manageable labour costs. This makes them more competitive, and they hire more employees for growth.
About bwcon

Baden-Württemberg: Connected e.V. (bwcon) is the leading business initiative for the promotion of high-tech industries in Baden-Württemberg with offices in Stuttgart, Freiburg, Horb and Villingen-Schwenningen. bwcon was founded in 1997 and has around 700 members. The main objective of bwcon is to promote key technologies to strengthen the economic development of the region. The focus is on information and communication technologies (ICT) as drivers of innovation in the areas of mobility, production, health and energy. bwcon creates a unique platform for cross-sector cooperation between developers, users and investors.

For more information, please visit www.bwcon.de

The latest events can be found at www.events.bwcon.de

Credit: Baden-Württemberg: Connected (bwcon)

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