



## 2<sup>nd</sup> GAMI Newsletter

2021

NEWS | INDUSTRY PROJECT | TRAINING | EVENT | CONTACT



Dear Partners and Friends,

In 2008, the wbk Institute of Production Science of Karlsruhe Institute of Technology (KIT) founded GAMI after years of experience in industry and research projects in China. Ever since, GAMI strengthened its competencies in global production and built up manufacturing knowledge. Today, it offers consulting and training services for international partners in China in the competence fields of supplier development, quality management, production and supply chain management. These fundamentals remain of paramount importance for an efficient value creation. The digitalization of the production and the value chain in the context of smart manufacturing offers enormous potential, which we are happy to unlock with our partners and customers. Furthermore, we serve as an incubator for other KIT activities in China under the roof of the KIT China Branch.

The past few months have once again been a driver for advancing digitalization, along with all its benefits and challenges. Hybrid formats, online and offline, are likely to become an integral part of the working environment. We have also been able to include these concepts in our training portfolio. Alongside digitalization, the topic of sustainability is one of the defining megatrends. We are pleased to be building up important competencies and contacts over the next few years with the TRENT research project and to further expand our product portfolio. Fittingly, we are working together with the wbk Institute of Production Science on the roll out of a new, intelligent remanufacturing line to offer our partners exclusive insights into the latest research activities in the field of "sustainability in production".

With our regular newsletter, we would like to keep you informed about our current industry projects, training services as well as our events. I hope you enjoy reading and discovering new insights in this issue. I look forward to working with you to tackle the exciting challenges of the future in the world of production.

Sincerely,

Lucas Bretz

## Mr. Lucas Bretz is newly appointed General Manager of KIT-GAMI

Mr. Lucas Bretz is the newly appointed General Manager of KIT-GAMI (Suzhou SILU Production Engineering Services Co., Ltd.) since July, 2021.



*Mr. Lucas Bretz as the GM of GAMI*

Mr. Lucas Bretz (M.Sc.) completed his mechanical engineering studies at Karlsruhe Institute of Technology (KIT, Germany) with a master's degree in 2018. He was working as a research associate and project manager at Karlsruhe Institute of Technology (KIT) for more than three years. Mr. Lucas Bretz conducted several research and industry consulting projects in the areas of production, logistics and quality optimization in collaboration with internationally renowned companies. He gained fruitful international experiences not only in Germany and China, but also in Canada and Nicaragua. In his PhD thesis, he focuses on function-oriented quality assurance of hybrid fiber-reinforced polymers using artificial intelligence and digital twins. Since 2021, Mr. Lucas Bretz serves as the General Manager of GAMI, establishing fruitful Sino-German collaborations between industry and research in the field of smart manufacturing. He envisions the enormous potential of product-production co-design, empowered by digitalization, to ensure value creation even with small batch sizes under harsh production environments. He brings the latest research results and future trends from Germany to GAMI in order to establish them on the Chinese market as well.

For more information related to our services or others inquiries, please contact Mr. Lucas Bretz directly ([lucas.bretz@silu.asia](mailto:lucas.bretz@silu.asia)) or visit our website [www.silu.asia](http://www.silu.asia).

## GAMI Ideas Shared in Forums and Networks

Suzhou SIP is exploring the new path of integration of education and industry to advance the connecting of education, talents with industry and innovation. On May 27, 2021, the First Jinji Lake Smart Manufacturing Industry-Education Integration Principal Forum was held. Around 60 heads of relevant schools and companies joined the conference. As one of keynote speakers, Dr. Shun Yang shared his ideas on Industry 4.0 education and training. He pointed out that digitalization has great potential in China and new education and training is very essential to ensure future success.

“CLOUD CONNECT”, a global cloud computing conference founded in 2008 in Silicon Valley by UBM Tech, now is one of the top 10 cloud events in the world. The conference is a combination of professional conference and exhibition, bringing together enterprise IT professionals, developers, infrastructure and server vendors as well as cloud innovation experts to build a blueprint for cloud computing development, and has since expanded around the world. On June 18, 2021, the 9<sup>th</sup> Cloud Connect Conference was held in Ningbo. Dr. Shun YANG was invited to share opinions on digitalization in advanced manufacturing. He highlighted that, handling complexity is and remains necessary, while digitalization is a powerful tool for transformation to create sustainable competitiveness in the future.



*Dr. Yang Shun at both events*

## Mr. Huang Bin acknowledged as experienced Consultant

The Suzhou Smart Manufacturing Industry Alliance launched an open call for consultants at the beginning of this year. The first team of 50 experts was identified in March finally. Mr. Huang Bin, GAMI senior engineer and department manager, was selected as one of the experts in the fields of lean production and production planning to support companies striving for advanced manufacturing.

With the aim of enhancing the automation and intelligence level of industry in Suzhou, consultants of this team will provide free services to help companies in the process of intelligent and digital transformation by "online + offline" activities. A total of 10 relevant topics were defined, such as digital economy development, data and artificial intelligence in future industry, the first application of hybrid cloud.

Mr. Huang Bin completed his first master study in Tongji University in Logistics Engineering, and his second master study in KIT in Production and Operations Management. In the past 7 years, he has been dedicated in serving industry partners with consulting topics including lean production, quality management, production planning and control, as well as smart manufacturing methodologies.



*Mr. Huang Bin, GAMI department manager*

## Continuous Education Program for Chinese Workers

Training offshore workforces with varying cultural backgrounds poses a challenging task in times of advancing globalization. Companies need new ways to further qualify their employees professionally. The INWICA initiative has set out to develop a training program for German production companies with plants in China. The acronym of the research project stands for Innovative technical skill trainings for workers in China<sup>1</sup>.

The INWICA learning program consists of flexibly bookable learning modules. These modules extend specifically needed qualifications for the workforce in the production as well as general education for a continuing digitalization. As the training offer is developed in the course of a public funded project, the superior aim is to gain insights about current training needs and acceptance in production companies to focus on cutting edge topics and contemporary learning formats.

GAMI, as one of the consortium partners with access to Chinese companies and educational institutions, conveys Industry 4.0 skills based on our unique facilities "Industry 4.0 Demonstration and Innovation Center (I4.0 IC)" and "Artificial Intelligence Innovation Factory (AIIF)". The training offering draws on the modular contents, such as Introduction to Industry 4.0 (Part I) and Industry 4.0 for Production and Supply Chain (Part II). All modules are culturally adapted to the needs of the Chinese participants. The learning content are also adapted to the prior knowledge level of the participants, which is collected in a pre-survey prior to the training.

The participants could refresh the knowledge on current challenges in the Industry 4.0 environment and exercise on the practical implementation of technical challenges in production. Furthermore, the training with application-oriented use cases delivers the value for the participants to carry out their own Industry 4.0 implementation roadmaps. So far, two rounds of the pilot program have been finished. If we raised your curiosity in this approach, we would be pleased to hear from you and will be happy to tailor a qualification program to your company's needs.

<sup>1</sup>Sponsored by the German Federal Ministry of Education and Research, project duration from 2019-2022.

## Sino-German Innovation Platform for Intelligent Supply Chains in the Circular Economy

A smooth supply chain is an important prerequisite for promoting collaborative production, organic connection and effective integration of domestic and foreign trade in the industrial chain. It is also an important foundation for realizing the vision of a circular economy. The circular economy model allows for a reuse of old products by reworking them. Thus, the approach makes full use of resources and protects the ecological environment.

Considering the import aspect of sustainability in production, we will research future-oriented smart supply chains based on artificial intelligence technology, and realize intelligent manufacturing systems under the framework of circular economy. Through continuous development and verification of original enabling technologies, we will realize a leading factory of the future and establish a new innovation platform for Intelligent Supply Chains in the Circular Economy.

The new platform will focus on the needs and connections among suppliers, factories and customers. It combines state-of-the-art technologies in logistics 4.0 and intelligent production services, serving as high-level learning factory and training facility. Through in-depth applied research in high-end manufacturing, we will promote the transfer and diffusion of scientific and technological achievements, provide common technical support and services for enterprises to enhance international exchange and cooperation, and cultivate professional R&D and design engineers in the field of intelligent manufacturing and smart supply chains.

## Production Operation Standard Time Management

In April 2021, GAMI successfully closed a first phase of a Production Operation Standard Time Management Project. Our German customer is one of the world's leading manufacturer of agricultural machinery. With more and more new products located to China, our customer faced challenges to define standard working time and line balancing. Based on detailed analysis of the current status, our GAMI project team conducted a REFA Time Study on-site and then defined the optimized production concept by using lean principles ECRS method (Eliminate, Combine, Rearrange, Simplify). Afterwards the GAMI team worked out the implementation roadmap with the customer together. In the second project phase, GAMI will continue to support our customer to implement the improvement potentials into production.



*Workshop at customers site*

## Quality Management Supervision Project for Taizhuang

In July 2021, GAMI started a Quality Management Supervision Project with one-year project duration. Our customer is a secondary unit of the world's top 500 enterprises and provides mining special vehicles. In order to further improve its quality level and respond to the group's call for a quality upgrade, our customer invited us as the quality supervisor to guide and promote the quality improvement work of the whole company.

After on-site research and analysis of the current situation, we have developed a quality gate solution for the customer, and have started the first phase of the quality gate solution introduction. From incoming quality control (IQC), process control to outgoing quality control (OQC), we have established and improved the customer's overall quality system and established quality standards. At the same time, we help the customer to establish and improve the weekly quality meeting system, and introduce and improve the method of continuous improvement. Furthermore, we will conduct several trainings and workshops such as system management, 6S management and Kanban system management based on the customer's demand and on-site situations to improve the on-site management of our customer.



1-Project kick-off meeting in Taizhuang

2- Taizhuang shop-floor

## AVIC Annual Training

AVIC - a state-owned mega-enterprise and a leading company focusing on aviation technology and service in China, finished its annual ME (Mechanical Engineering) intelligence training for its research and development unit at GAMI. The whole training was given by GAMI from July 26 to July 29, 2021, and within 3.5 days, topics from basic lean manufacturing to advanced digital factory were comprehensively shared with the 15 trainees of the middle management.

During the lean line design topic at the first day, smart ways of how to eliminate waste and intelligent tools in designing a real line were shared. During the second day, the lean and smart concepts were continued targeting on logistics management. Scalable automation using human robot collaboration, smart manufacturing and digital factory knowledge was delivered during the last 1.5 days. In this way, key concepts of lean and smart factory developing were shared with AVIC to support them for their future upgrading.



AVIC engineers at GAMI

## Value Stream Mapping Trainings

Value stream mapping is a simple process of observing the information and material flow as they occur currently, summarizing them visually. Then a future state with improved performance can be envisioned. It is a basic, yet efficient, tool of lean production to analyze the current state and design a future state based on lean principles. So far, GAMI has conducted several rounds of VSM trainings for companies such as Witzenmann, Norwex, Heimbach, etc., in and around Jiangsu. The trainings not only included the general concept, but directly integrated the customer's products and processes. Thus, an immediate value was created for each company while training its personnel.



*VSM Training in GAMI Innovation Center*

## Successfully delivered Smart Manufacturing Trainings for 530 Trainees

Since GAMI opened its I4.0 innovation center in 2015, smart manufacturing trainings had been defined as its main services, targeting to develop talents and prepare industrial companies to address challenges of smart manufacturing in China. So far, we have successfully conducted smart manufacturing trainings for around 7000 trainees. These trainings cover a wide range of relevant topics, including roadmap development for Industry 4.0, Industry 4.0 assessment, enabling technologies and smart manufacturing implementation in factories. This year, GAMI has delivered a total of 28 sessions for 530 trainees. Here, we as well shared the knowledge with teachers and students from high schools and universities in Suzhou. Obviously, the young generation understood the national strategy and are getting ready for the future of smart manufacturing.



*Impression of Smart Manufacturing Training*

### Last Round of 2021 GAMI Open Course

The latest open course training topics offered by GAMI in 2021 are given below. All training sessions will take place at GAMI's Smart Manufacturing Labs. A unique learning environment combining theory and practice as well as a platform to exchange knowledge and ideas with experts is offered. Moreover, our coaches' know-how and their industry expertise ensure the most efficient knowledge transfer. The training program consists of ten training sessions related to topics such as production management, quality management, lean logistics and Industry 4.0 application solutions. Please refer to the flyer for details: [<2021 GAMI Training Course>](#)

Overview of GAMI Open Training Courses 2021			
	Training Topics	Days	Date
1	Digital Quality Management	1	2021.9.24
2	Data Analysis in Production	1	2021.10.15
3	Industry 4.0: From Roadmap to Realization	1	2021.10.22
4	Improve Maturity of your Manufacturing Process to 6 Sigma	3	2021.10.27-29
5	Lean & Smart internal Logistics Management	1	2021.11.12
6	Scalable Automation by Human-Robot Collaboration	1	2021.11.19
7	Digital Shop Floor Management	1	2021.11.26
8	Machine Learning in Production	1	2021.12.3

### High-level Event of TRENT

Funded by the Ministry of the Environment, Climate and Energy Sector of Baden-Württemberg, KIT is establishing the "Transnational Competence Center for Environmental Technology and Research Jiangsu and Baden-Württemberg" (TRENT) together with Umwelttechnik Baden-Württemberg (UTBW) and Baden-Württemberg International (bw-i). Insights into the project were given as well as first cooperation possibilities in the framework of TRENT were explored during a "High level event of TRENT", held in KIT China Branch in Suzhou on July 7, 2021.

Due to the impact of the epidemic, the hybrid event was held with more than 80 representatives from governmental institutions, universities and companies joined. Professors and experts from Germany and China shared their opinions on environmental protection technologies, circular economy and eco-industrial parks.

With the TRENT project, the existing technologies, competences and resources in the field of environmental sciences in Baden-Württemberg and Jiangsu Province will be extended. Similar events will follow in the near future to enhance collaborations of research institutes and industry.

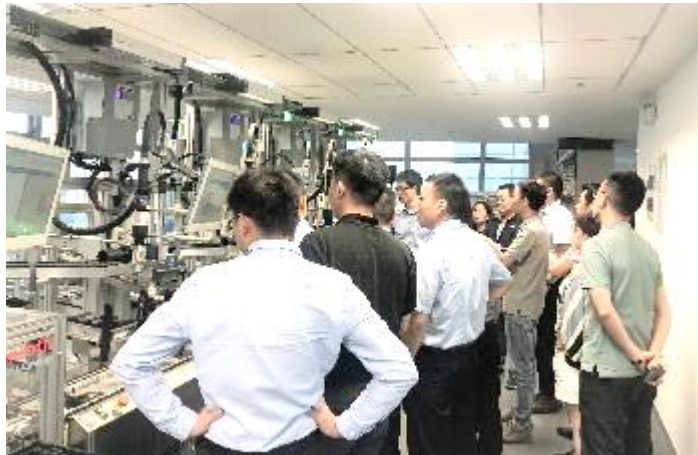


TRENT Event Onsite Session

## Digital Shop Floor Management Event on July 8, 2021

At the shop floor, value-added activities happen. It indicates how well a manufacturing plant is managed. By deploying excellent shop floor management processes, the information transparency can be increased and problems which occur in production are solved more efficiently.

On July 8, 2021, GAMI and DUSA held a joint event entitled “Digital Shop-floor Management for SMEs (Small and medium-sized enterprises)”, Theories and methods to settle a digital shop floor were shared by Dr. Yang Shun. 26 participants from 15 companies were inspired by the latest digital applications. Additionally, by visiting GAMI’s smart manufacturing innovation center, participants were amazed by the advantages of digital shop floor solutions compared with traditional management tools.



*Trainees in GAMI Innovation Center*

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