Tuesday October 14th 2025

Check In

Registration

Program

Wednesday October 15th 2025 — Day 1

08:30-14:00	Excursion „BMW Welt“		
	Room „München“		
14:00-14:30	**Opening Ceremony** **Stefan Pickl**		**Online broadcast**
14:30-15:15	**Keynote Fei Tao** **Keynote Bernhard Hämmerli**		**Online broadcast**
15:20-16:00	**Honorary Lecture Dieter Budde**		**Online broadcast**
16:00-16:30	Coffee Break		
	Room „München“	Room „Garmisch“	Room „Starnberg“
16:30-17:00	Transfer Learning for Predictive Maintenance in Milling: An Investigation into Domain Adaptation Challenges *Patrick Ruedinger-Flore*	PINN-based Adaptive Toolpath Planning for Freeform Parts in Multi-Axis Machining *Dong He*	Optimal Sensor Placement for Predicting the Load-Carrying Capacity of Composite Laminates with Delamination *Bo Gao*
17:00-17:30	Digital Twin-Enabled Two-Stage Scheduling of Workforce and Cycle Time in Aircraft Assembly *Jun Xu*	Multi-Layered Knowledge Graphs as Enabler for Simultaneous Engineering: An Application for Suspension Systems in the Automotive Industry *Julian Gebhard*	Digital Twin Method for High-Accuracy Structural Strength Assessment *Kuo Tian / Ziyu Xu*
17:30-18:00	From Simulation to Interaction: Enhancing Digital Twins of Production Systems with LLM Agents *Merlin Korth*	Study on a Gradient Algorithm-Based Method for Alignment of Ship Blocks and virtual Blocks in Augmented Reality *Youngsu Kim*	Development of an Experimental Validation System for Digital Twins of Thermal Protection Structures under Service-Relevant Conditions *Boyi Wang*
18:00-18:30	Metatwin: Emergent Architectures for Convergent Cyber-Physical Intelligence *Jinsong Bao*	A Hybrid Digital Twin–Simulation Framework for Real-Time Resilience in Distributed Manufacturing Networks *Ramona Dogea*	Digital Twin for Full-field Deformation Monitoring Under Dynamic Load *Tianhe Gao*
18:30-19:00	Engineering of Industrial Digital Twin, JNI Methodological Framework and Open-Source Platform *Stephen Creff*	A Study on MWD Data Mapping for XR-Based Ship Maintenance Training Content *Youngwook Nam, Kyungho Lee, Youngsoo Han, Youngsu Kim*	Design of the Digital Twin System for Icing Wind Tunnel *Wenqiang Zhang*
19:30	Dinner Dinner Speech Bernhard Hämmerli		

Thursday October 16th 2025 — Day 2

	Room „München“		
08:30-09:30	**Keynote Thomas Lukasiewicz**		**Online broadcast**
	Room „München“	Room „Garmisch“	Room „Starnberg“
09:30-10:00	LLM Agents for Operations and Digital Twins in Manufacturing *Marvin May*	Dynamic Decision-Making and Cooperative Optimization for Multi-Station Shipbuilding Systems Driven by Digital Models *Jinfeng Liu*	In-situ Mechanical Property Identification and Delamination Growth Prediction of Laminates based on a Digital Twin-enabled Framework *Tongxiang Deng*
10:00-10:30	Trusted Data Space for Digitalized Logistics and Supply Chain *Dianjun Fang*	Explainable Reinforcement Learning for Robotic Digital Twins *Rudy Milani*	Flight Parameter-Load-Life Digital Twin Modeling Approach *Lei Huang*
10:30-11:00	Digital Twins for Critical Infrastructure Analysis *Maximilian Moll*	Microservice-based Digital Twin System towards Smart Manufacturing *Hanbo Yang*	Research on Temperature Prediction for Thermal Protection Systems Based on Dynamic Data-Driven Approaches *Ke Li*
11:00-11:15	Coffee Break		
11:15-11:45	Modular based flexible Digital Twin for Distribution Center *Ning Zhao*	A Conceptual Framework for Uncertainty Management in Industrial Digital Twins to Enhance Reliability, Robustness and Resilience *Bouthayna El BouzaidiTiali*	Digital Twin in Action: Case Studies of Operational Platforms for Packaging and Printing Firms *Xiaorong Huang*
11:45-12:15	Comparison of Metaheuristic Algorithms for Solving Facility Layout Optimization Problems *Dirk Rechkemmer*	Digital twin-enabled Fault Diagnosis for Advanced Quality Control in Semiconductor Manufacturing *Wenhan Fu*	MakeTwin: A Reference Architecture for Digital Twin Software Platform *Danning Sun*
12:15-12:45	JNI Program: Towards Digital Twins for the Industry of the Future *Achraf Kallel*	From Infrastructure to Insight: Digital Twins as Strategic Management Support Ecosystems in Higher Education *Ané Wheeler*	Success Criteria for Value-Oriented Digital Twin Development and Implementation: Insights from an Industry Case Study *Christian Kober*
12:45-14:00	Lunch		
	Room „München“		
14:00-15:30	**Keynote Nabil Anwer** **Keynote Gülsüm Üsümez**		**Online broadcast**
15:30-18:30	Group Photo Excursion		
18:30	Meeting at „Klammhaus“		
19:00	Dinner Dinner Speech Robert de Souza		

Friday October 17th 2025 — Day 3

	Room „München“		
08:30-09:30	**Keynote Andrea Matta**		**Online broadcast**
	Room „München“	Room „Garmisch“	Room „Starnberg“
09:30-10:00	Digital Twin Shop-Floor and its Cyber-Physical Fusion *Qinglin Qi*	Efficient Heuristic Generation of Representative Mission Profiles from Field Data *Xiao Ma*	Digital Twin Based Human-Machine Collaboration *Tianyi Sun*
10:00-10:30	Generative Digital Twin Network: AI-Built Relationships between Digital Twins for Automated Driving *Ritu Ahmed*	Digital Twin-enabled Urban Construction and Demolition Waste Trading *Shuaiming Su*	A Quantum Annealing Approach to Energy-efficient Scheduling in flexible Job Shop Manufacturing Systems coupled with renewable Energy Generation System *Xiangqian Wu*
10:30-11:00	Digital Twin based Contour Error Prediction and Compensation for Machine Tool and Robotics *Shuai Ji*	A Study on Constructing Indoor Digital Twins by Merging Multiple Local Point Clouds Captured with LiDAR-Equipped Mobile Devices *Ryō Komiya*	On-line Monitoring and Process Optimization for Aircraft Wing-Fuselage Docking based on traceable Digital Twin Model *Guanyu Sun*
11:00-11:15	Coffee Break		
11:15-11:45	Physics-Informed Generative Adversarial Networks for Thermal Simulation and Anomaly Detection in Laser-Based Powder Bed Fusion *Shradha Gansiyal*	Digital Twin-Enabled Spatial-Temporal Coordination Framework for Supply-Transport-Assembly Synchronization in Modular Integrated Construction *Yi Li*	The V-shaped Digital Twin Modeling Paradigm for Aircraft Assembly Systems *Ruihao Kang*
11:45-12:15	Digital Twin-Based Intelligent Operation and Maintenance for Green Manufacturing *Yuchen Liang*	A Fundamental Study on Detecting Changes in Road Features Using MMS and LiDAR Point Clouds Acquired at Different Times *Jin Yamamoto*	Digital Twin-driven Design and Application Paradigm for Assembly Accuracy Performance Prototype *Feng Lv*
12:15-12:45		Evaluating the Effectiveness of Pattern Projection in SfM-MVS for Measuring the Wear on Train Pantographs *Kota Shoji*	Motor Fault Digital Twin Modeling and Data Generation *Shangyu Li, Laifa Tao*
12:45-14:00	Lunch		

Friday October 17th 2025 — Day 3

	Room „München“		
14:00-15:00	**Keynote Christopher Gibbins** — **Online broadcast**		
	Room „München“	Room „Garmisch“	Room „Starnberg“
15:00-15:30	Digital Twins in CNC Manufacturing *Daniel Krueger*	Digital Twin Framework to Enhance Risk-Based Inspection in Lithium-Brine Pipelines for Sustainable Energy Systems *Christian Barahona*	Key Event Recognition and Product Quality Prediction in Time Varying Digital Twin Systems *Cong Cheng*
15:30-16:00	Full Spatiotemporal Evolution Digital Twin Early Warning and Disaster Control Optimization for Coal Mine Dynamic Disasters *Yuanyuan Pu*	Technical Integration of Digital Twins into Dataspace-enabled Marketplaces: Leveraging AAS, Ontologies, and Eclipse Dataspace Components *Martin Rudolph*	A Multi-objective Optimization Decision-making Method for Information Reorganization Schemes of End-of-Life Mechanical Products *Aojie Xi*
16:00-16:30	Coffee Break		
16:30-17:00	Approach to Digital Twin Design for a Thermal Hydraulic System *Osimone Imhogiemhe*	A Semantic-driven Marketplace for Digital Twins in Energy Data Ecosystems: Architecture, Implementation, Lessons Learned, and Practical Insights *Anna-Lena Peh*	Industrial Small-Target Defect Detection Based on Dual-Domain GAN Data Augmentation *Changxin Zheng*
17:00-17:30	Digital Twins and Sustainability: A Systematic Review of Literature from 2015 to 2025 on Research Gaps, and Future Directions *Atefeh Aali*	The Case of Improving Operational Efficiency through the Digital Twin to Energy Industry *Myung-kyu Kim*	An Integrated Evaluation and Selection Study on Innovation Capability of Digital-Intelligent Empowered Remanufacturing Service Providers *Shiming Zhang*
17:30-18:00	Bidirectional Graphics-based Digital Twin (BiGBDT): Concept and Implementation in Post-Earthquake Structural Assessment *Guanghao Zhai*	Large Language Model Agents Meet Manufacturing: Towards Cognitive and Actionable Digital Twins *Dachuan Shi*	A Study on Splash Suppression in Laser-Dispersed Molten Pools: An Analytical Method Based on Dynamic Thermal Flow Characteristics *Binglei Xue*
	Room „München“		
18:00-19:00	Award Session & Closing Ceremony — **Online broadcast**		
19:30	Dinner Dinner Speech Christian Despres		

Saturday October 18th 2025 — Day 4

Social Event

Closed Meeting