

## CU – Innovation Day

### Machine Learning & Smart Factory – How can Composites production be ramped up with AI solutions?

**On January 24 & 25, 2024 at the Solar Hall of the CFK Nord Research Center in Stade**

Address: Ottenbecker Damm 12  
21684 Stade  
Germany

Moderation: Dr. Bastian Brenken

The composite industry has been experiencing a recent increase in demand, but global challenges such as supply chain disruptions and workforce shortages are still holding back. Industry 4.0 solutions based on AI and IIoT technologies are widely addressed and discussed as important tools to helping factories meet production targets, increase productivity, and reduce waste of carbon fiber materials. But how can companies, especially SME, get in touch with these technologies and make the first steps towards the described benefits they have to offer?

**During this Innovation Day, you will learn about:**

- The first steps of implementing AI and IIoT technologies at your factory
- The latest innovations and advancements in data collection, connectivity of data processes and AI for subsequent data analysis.
- How can Industry 4.0 solutions provide a significant contribution to lowering the carbon footprint, leading to higher factory sustainability and circularity.

**Join us in Stade and learn about the latest developments and innovations in the field of Industry 4.0 for composites – and how you can benefit from them!**

#### Agenda Day 1, January 24, 2024, 10:30 am – 05:00 pm plus Evening Event

**10:00 am Registration, Warm-up with Coffee**

**10:30 am Welcome & Updates from Composites United e. V.**

Marc Fette, *CTC GmbH*  
Avner Ben-Bassat, *Plataine*  
Dr. Bastian Brenken, *Composites United e. V.*

**10:45 am Keynote: Opportunities of AI to optimize composite manufacturing: Collaboration of CTC & Plataine**

Joachim Piepenbrock, *CTC GmbH*  
Avner Ben-Bassat, *Plataine*

**11:15 am AI for Material & Product Design**

Prof. Dr. Oliver Niggemann, *HSU*

**11:35 am Potentials of AI to improve composites sustainability**

Dr. Barbara Güttler, *Leibniz-Institut für Verbundwerkstoffe GmbH*

**11:55 am Transforming real-time sensor data with AI**

Dr. Phil Gralla, *sensXpert - NETZSCH Process Intelligence GmbH*

**12:15 pm Lunch Break with Networking**

**1:30 pm AI – From revolution to regulation**

Dr. Sergei Bobrovskiy, *Airbus DMZ*

1:50 pm **Jarvis4Pre: Automation of composite preforming using AI – challenges and approaches**  
Sophia Keller, Fachhochschule Oberösterreich

2:10 pm **AI in lightweight construction: from Data networking to Circular Economy**  
Johann Stöver, Symate GmbH

**2:30 pm Coffee with Networking**

3:00 pm **Marketplace with multiple stations across the CFK Nord building & CTC**  
The participants will tour the CFK Nord research center as well as the CTC and visit several stations to see AI being utilized for several use cases around composites production:

- 1) CTC: Smart production environment for composites manufacturing in aviation
- 2) DLR: Data-Based Leakage Detection in the Manufacturing of Large-Scale CFRP Components
- 3) Fraunhofer IFAM: AI-supported post processing of composites parts
- 4) HPCFK: AI-powered defect detection and evaluation during Automated Fiber Placement

**5:00 pm End of Program for Day 1**

**6:30 pm Evening Event @ Restaurant “Die Insel Stade”**  
Address: Auf der Insel 1, 21680 Stade

**10:00 pm End of Evening Event**

**Agenda Day 2, January 25, 2024, 9:15 am – 1:30 pm**

**8:45 am Registration, Warm up with Coffee**

09:15 am **Welcome**  
Marc Fette, *CTC GmbH*  
Avner Ben-Bassat, *Plataine*  
Dr. Bastian Brenken, *Composites United e. V.*

09:20 am **Industrial data analysis for more efficient CFRP production**  
Jan-Patrick Kalckhoff, Airbus KSMD

09:40 am **AI-powered in-line inspection of composite processes**  
Ingo Schlalos, SWMS Systemtechnik Ingenieurgesellschaft mbH

10:00 am **Training AI with synthetic data for manufacturing applications**  
Parth Rawal, Fraunhofer IFAM

**10:20 am Official Good-bye before Airbus Tour**  
Provision of lunch bags

10:30 am **Group 1: Airbus facility tour Stade**  
Visit of the production site of the A350 upper wing cover, the largest flying CFRP part

**Group 2: Networking**

11:45 am **Group 1: Networking**

**Group 2: Airbus facility tour Stade**  
Visit of the production site of the A350 upper wing cover, the largest flying CFRP part

**1:30 pm End of Event**