TU Clausthal

Kolloquiums-Reihe des Instituts für Informatik

Freitag, 11.10.2019, 14:00 Uhr
Institut für Informatik (D5), Albrecht-von-Groddeck-Str 7,
Seminarraum 105 (T1)

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The Digital Twin Paradigm for Aircraft - Review and Outlook

Wouldn't it be great to simulate what-if scenarios and drive the evolution of a product in a simulated environment? Digital Twin brings that opportunity. The concept of a virtual, digital equivalent to a physical product or the Digital Twin was introduced in 2003 by University of Michigan at the Executive Course on Product Lifecycle Management (PLM). But at the time the concept was introduced, the supportive technologies were not mature. After its importance is understood, improvement of related technologies became important. The main source of Digital Twin is data. Collecting data, processing data, data storage are major catalyzers. As the simulation model is fed with real-life and real-time data, the model is connected to reality better and the predictions get more accurate. Thereby the Digital Twin improve the feedback loop in product life cycle.

As in many other technical systems domains, Digital Twin became also very popular in aeronautics. The colloquium will introduce Digital Twin in general, currently available technologies and infrastructures as well as the recent Digital Twin literature in aeronautics.

Hakan Aydemir is working as an Integrated Product Team Lead for embedded training and simulation for aircraft projects at Turkish Aerospace. He got his BS and MS degrees in Electronics Engineering and is currently a PhD student at Informatics Department of TU Clausthal. He has been working in various fields of aerospace industry for more than 14 years. He is managing integrated project teams and designing software architectures and developing systems and tools. His expertise on topic is Amazon Web Services, Docker, On-Premise Cloud Solutions, Pivotal Cloud Foundry, IOT peer to peer and scalable architectures.