ARENA2036

Research campus for the collaboration of the future

An Ecosystem to Foster Innovation

The innovation platform ARENA2036 – **A**ctive **R**esearch **E**nvironment for the **N**ext Generation of **A**utomobiles – stands for entirely novel ways of collaborative R&D by means of interdisciplinary cooperation, thus aspiring to actualize disruptive potentials. As such, it is a platform that allows experts from the sciences as well as from the industry to jointly work on topics such as collaborating robots, autonomous intralogistics, and connected industries. The common goal that all partners are mutually striving to achieve is the joint creation of an innovative ecosystem that allows unlocking the potentials of the "versatile production of the future for intelligent, multi-material lightweight construction with functional integration." Both branches of this research – i.e. regarding production on the one hand and pertaining to the product on the other – are key to the development and finally to the implementation of a sustainable Industry 4.0 along the entire value chain.

The ARENA2036 Research Factory (© Brigida Gonzáles)

Enabler by Nokia

As a partner of ARENA2036, Nokia aims – in a first step – at collaborative 5G layer 1 research for industrial wireless solutions. Beyond that, Nokia enables the ARENA2036-partner network to work with cutting edge 5G technology by providing the necessary 5G infrastructure.

Together, Nokia and the other ARENA2036-partners are working on a variety of use cases that will lastingly change the modii of production.

Accordingly, the 5G research efforts at ARENA2036 are exemplary for the platform approach of the Research Campus, where each enabler profits directly from a constant expert feedback.

A Network Full of Ideas

Four research areas - mobility, production, work, and digitization - combine the competencies of the partners, who are active in the four major collaborative projects "Fluide Production", "FlexCAR", "InnoHub", and "Digital Fingerprint".

The research and development of modern industry 4.0 applications and intuitive technologies that focus on people play an important role in this. The project landscape is broadly based around the collaborative projects presented overleaf and continues to develop. The topics are oriented both directly to the direct research interests of the partners and to long-term, strategic technology trends. The mission of ARENA2036 is to develop a sustainable industry 4.0 and a technology that realizes individual mobility with low energy consumption. The key is provided by adaptable forms of production for innovative vehicle concepts. Sustainability, safety, comfort, individuality and innovation are thought of as a unit.

A view into the ARENA2036 shopfloor where the collaborative research projects take place

Contact

Philipp Weißgraeber, Dr.-Ing., research coordinator ARENA2036

philipp.weissgraeber@arena2036.de

www.arena2036.de

Partners

Industry: Altair Engineering, Automotive Lighting, BÄR Automation, Balluff, BASF, Bosch, Constellium, csi, Daimler, DSM, DYNAmore, DXC, EWS, FARO, HPE, Pilz, KUKA, Nokia, Schunk, Siemens, SPIE, startup-autobahn, TRUMPF, ThingOS

Research: University Stuttgart, Fraunhofer IPA & IAO, DLR, Swinburne University of Technology

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