## Connectivity and interoperability as necessities to leverage the internet of things

**Daniel Burkhardt**
Das Ferdinand-Steinbeis-Institut, Germany

The fusion of the physical and digital world is of the main focus for the Internet of Things (IoT). In order to support human beings comprehensively, standards are required on the layers of the edge, platform and enterprise. Thus, a profound picture of the physical world can be created based on which actions can be triggered that provide ideal support for connectivity. Currently, such common standards are lacking and a heterogeneous landscape of standards can be identified. An essential step is the creation of connectivity and interoperability to guarantee an analysis that provides a solution close to the physical world problem. The paper explores the described problem space by the analysis of a project with multiple companies in the industrial domain. The project has the goal to develop a prototype that uses sensors in machines of different vendors to transfer data to platforms. Data analytics based on the gathered data will provide insights and enable actions on the edge tier. The design and implementation of the prototype, as well as its evaluation, will foster the identification of challenges in the IoT. Furthermore, a procedure for the creation of such a prototype in a project of a company network will be an additional result. The demonstration and evaluation of the design and prototype will provide insights to its practicability and makes requirements for a standardization of the component communication in an ecosystem transparent.