EUREKAITEA4-GenerIoT

EUREKA ITEA4 GenerIoT Lightweight, Secure & Zero Overhead Software for Multipurpose Devices

Programm / Ausschreibung	IWI, IWI, Basisprogramm Ausschreibung 2023	**Status**	laufend
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Keywords			

Projektbeschreibung

The Internet of Things (IoT) is a promising paradigm that brings enormous benefits through the provided interaction and cooperation among smart heterogenous objects. However, the engineering of IoT systems is very challenging due to the enormous heterogeneity and dynamicity of this kind environments, which integrate various hardware, software, and communication technologies. To design a reliable IoT device, it is required to find the right combination of hardware and software to collect and process the data as well as to provide all the necessary functions. DevOps (Development and Operation) is a software engineering methodology, which can successfully be applied for the development of IoT systems. Nevertheless, there is very limited information about the adaptation of DevOps for hardware development.
Based on our core competences and our company’s focus, the particular focus of our contribution to the project GenerIoT will be to use this kind of methodology to accompany the hardware life cycle. In this context, we will particularly concentrate on electronics systems modeling issues considering the enormous complexity and various challenges in this process. The key idea is to decompose and digitalize the knowledge about IoT systems as well as their integrated components and provided functionalities. In this context, the most important electronic/hardware factors have to be represented such as components, layout characteristics including also regulations as well as interfaces. Further work is focused on data collection to integrate the extraction and aggregation of data from various engineering disciplines. The envisaged model-driven framework will address various phases in the product development and deployment process. Finally, our aim is the integration of the GenerIoT engineering services into the BEE cloud manufacturing ecosystem. These engineering services should provide support for comprehensive design and development as well as testing and validation of complex IoT products for various stakeholders, such as IoT product-oriented companies, start-ups and makers, as well as electronic manufacturing service providers and engineering service companies.

Projektpartner

- bee produced GmbH