European Commission | IoT European Platforms Initiative

BIG IoT

Bridging the Interoperability Gap of the Internet of Things

Project Overview

BIG IoT - Bridging the Interoperability Gap of the Internet of Things

The goal of the **BIG IoT** project is to remove technological market entry barriers of service and application providers of the Internet of Things by exploiting the capabilities of **smart object platforms** through establishing *syntactic* and *semantic* **interoperability**.

Challenge

Despite various research and innovation projects working on the Internet of Things, no broadly accepted professional IoT ecosystems exists. The reason for that are high market entry barriers for developers and service providers due to a fragmentation of IoT platforms. Developers who want to make use of smart objects hosted by various providers need to negotiate access to their platforms individually and implement specific adapters. Since the efforts to negotiate individual contracts often outweigh the possible gains, platform providers do not see strong incentives to open their platforms to third parties.

Goal

The goal of this project is to overcome these hurdles by Bridging the Interoperability Gap of the IoT and by creating marketplaces for service and application providers as well as platform operators. We will address the interoperability gap by defining a generic, unified Web API for smart object platforms, called the **BIG IoT API**. The establishment of a **marketplace** where platform, application, and service providers can monetize their assets will introduce an incentive to grant access to formerly closed systems and lower market entry barriers for developers.

Approach

The number of connected smart objects will exceed the number of humans using the Internet in the near future. With the here proposed approach based on the generic BIG IoT API, an **IoT ecosystem** will come to life, as it will offer a functionally rich but at the same time easy way to discover, access, control, manage, and secure smart objects. The API will be designed in an open community process and the project consortium will engage with current standardization initiatives to receive input and deliver contributions to specifications. The BIG IoT API will be implemented by overall 8 smart object platforms. To foster the external implementation of the BIG IoT API the project will conduct focused dissemination

and exploitation activities to leverage the developer community. Further, two Open Calls will be conducted as part of the project to engage SMEs in the implementation of the services, applications, and platforms conforming with the BIG IoT approach. Following an evolutionary and agile approach, the developed technologies will be concurrently demonstrated in three regional pilots involving partners with strong relation to public authorities. Under a common theme of 'smart mobility and smart road infrastructure', various use cases within the pilots will validate the developed technologies.