



Project Profile

PARFAIT

A framework for security and interoperability

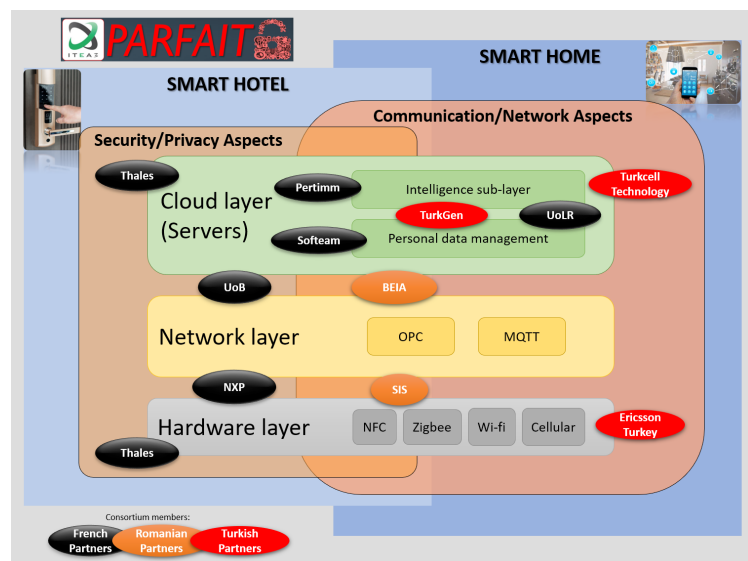
The ITEA project PARFAIT aims to develop a platform for protecting personal data in IoT applications, opening the way to connected ecosystems. It will also define indistinct aspects of the IoT domain, such as interoperability and privacy, by creating rules, guidelines and methodologies.

ADDRESSING THE CHALLENGE

Internet of Things (IoT) has the potential to revolutionise interactions between humans and machines. IoT-based applications, however, are a double-edged sword: while they provide daily solutions in fields such as healthcare, transport and home automation, data security issues often undermine privacy and trust. Interoperability – the proliferation of different devices, networks, platforms and applications – increases the complexity of services and costs of production, while also multiplying vulnerabilities and security needs. Currently, interoperability, privacy and security have no accepted standards in the IoT domain. For IoT to provide better communication, reduced costs and more access to services, a global security framework and defined best practices are necessary.

PROPOSED SOLUTIONS

As IoT applications are currently isolated from one another, PARFAIT (Personal dAta pRotection FrAmework for IoT) will define and model an IoT domain based on standardised policies and methodologies. A flexible and backward compatible architecture will be designed, including software libraries and tools, while IoT-specific security tools will also be developed. With this framework as a foundation, infrastructure providers can build domain-specific frameworks that share its interoperability and security. Headed by industry leaders of the project consortium,



PARFAIT architecture

PARFAIT will be tested with two use cases in emerging domains. For the Personal Information Management domain, the SmartHotel scenario will create a system in which data is treated as a valuable object and stored with a software system. For the Smart Home Services domain, intelligent voicebots and chatbots will be used to improve access to connected objects in the home using spoken or typed commands.

PROJECTED RESULTS AND IMPACT

PARFAIT will define new business models and applications for service providers in the IoT domain. Guidelines, best practices

and compatibility-measuring software will be created, helping to develop communities around PARFAIT outputs. Given that interoperability and security issues currently limit the deployment of large-scale, global business applications, and that the estimated market value for IoT applications in general by 2025 is up to USD 11.1 trillion, huge business potential lies in the standardisation of frameworks and practices.

**Project start**

January 2018

Project leader

Isil Ozkan, Turkcell Teknoloji

Project website<http://itea3-parfait.com/>**Project end**

December 2020

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ITEA is a transnational and industry-driven R&D&I programme in the domain of software innovation. ITEA is a EUREKA Cluster programme, enabling a global and knowledgeable community of large industry, SMEs, start-ups, academia and customer organisations, to collaborate in funded projects that turn innovative ideas into new businesses, jobs, economic growth and benefits for society.