Building an IoT Open Innovation Ecosystem for Connected Smart Objects

AT A GLANCE

Project: **bIoTope** – Building an IoT Open Innovation Ecosystem for Connected Smart Objects

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Partners:
- Aalto University
- BIBA
- BMW Group
- Brussels Region (IRISnet, CIRB, AED)
- Cityzen Data
- ControlThings
- CSIRO
- eccenca
- École Polytechnique Fédérale de Lausanne
- Enervent
- Forum Virium Helsinki
- Fraunhofer IAIS
- Grand Lyon la Métropole
- Holonix
- IS-practice
- ITMO University
- itrust consulting
- Opendatasoft
- The Open Group
- University of Luxembourg

Duration: 41 months

Total cost: 9.13M€

Programme: ICT-30-2015

Further information:
www.bIoTope-project.eu

bIoTope lays the foundation for establishing new open ecosystems that enable companies to innovate in both the creation of software components, and in constructing entire IoT systems for Connected Smart Objects – with minimal investment. Large-scale pilots deployed in major smart cities with open calls for participation will provide social, technical and business proofs-of-concept for creating and evolving new IoT ecosystems.

Scope & Objectives

The Internet of Things (IoT) brings opportunities to create new services and products, reducing costs for societies, and changing how services are sold and consumed. A critical obstacle to further IoT innovation is the **"vertical silos"** that shape today's IoT landscape. These silos impede the creation of cross-industry, cross-platform and cross-organisational services due to their lack of interoperability and openness.

bIoTope lays the foundation for creating open innovation ecosystems by providing a platform that enables companies to easily create new IoT systems and to rapidly harness available information using advanced Systems-of-Systems (SoS) capabilities for Connected Smart Objects – *with minimal investment.*
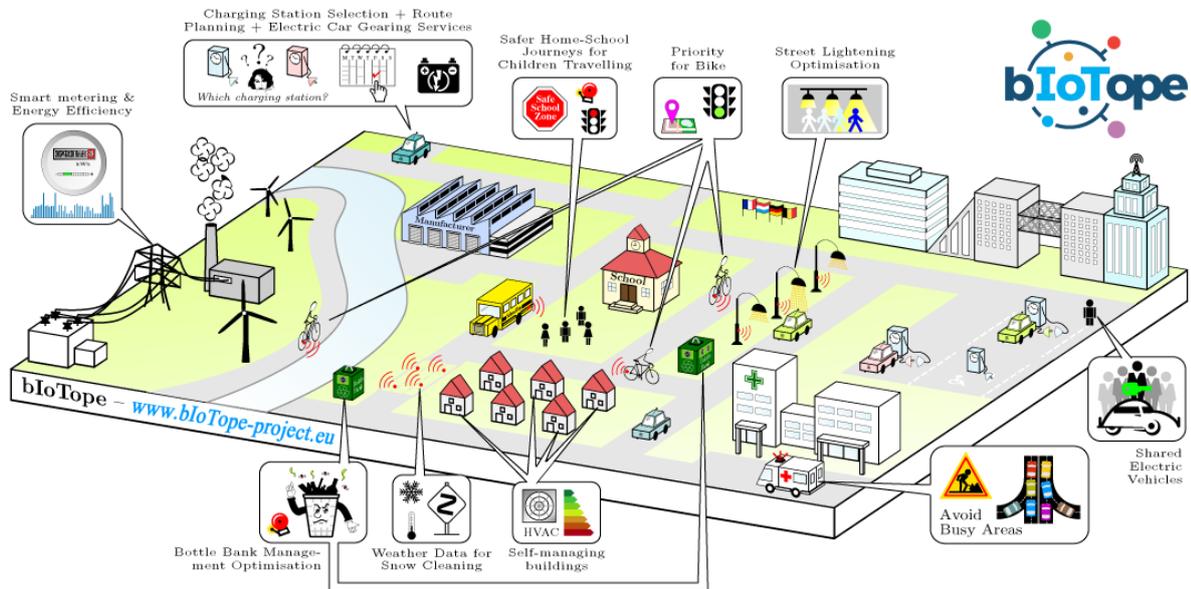
Project Objectives

- Provide the necessary standardised Open APIs to enable interoperability between today's vertical IoT silos
- Enable new forms of co-creation of services ranging from simple data collection and processing, to intelligent, situation aware and self-adaptive support of everyday work and life
- Establish a robust IoT framework for security, privacy & trust that facilitates the responsible access and ownership of data
- Develop large-scale pilots in smart cities to provide proofs-of-concept of bIoTope enabled SoS ecosystems
- Maintain, grow and sustain the socio-technical and business models of bIoTope ecosystems by establishing a governance roadmap for ecosystem evolution

Standards for IoT and Technology Innovations

bIoTope technologies enable the publication, consumption and composition of heterogeneous information sources and services from across multiple systems (OpenIoT, FIWARE, city dashboards…). Full advantage is taken of recent IoT standards, notably the O-MI (Open Messaging Interface) and O-DF (Open Data Format) standards[1], while an **"Everything as a Service"** design enables rapid development of new IoT systems and reduced development costs.

Large-Scale Pilots

A dozen smart city pilots will be deployed in three distinct European cities/regions. Two categories of pilots will be used to validate the effectiveness of the bIoTope SoS platform for IoT:

- **Domain-specific pilots** – ensure industrial impact through the well-established customer networks of bIoTope partners addressing electric car charging stations, self-managing buildings and equipment, smart air quality and others.
- **Cross-domain smart city pilots** – provide concrete proofs-of-concept of IoT system composition and interoperability scenarios in smart city environments including safety around schools, smart parking for disabled, smart public transport, heat wave mitigation, smart recycling and many more.

Benefits for IoT Companies and Projects

The bIoTope platform enables IoT product and service providers to quickly develop and deploy IoT solutions utilising diverse information sources, which are easily integrated to compose more advanced and higher value solutions without substantial development costs. The project will use an open call process to involve IoT companies that want to be the first to exploit these time-to-market and development cost advantages.

For further information:

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[1] www2.opengroup.org/ogsys/catalog/C14A
   www2.opengroup.org/ogsys/catalog/C14B

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