ITEA Award of Excellence winners with Turkish participation

Status March 2024

ITEA 4

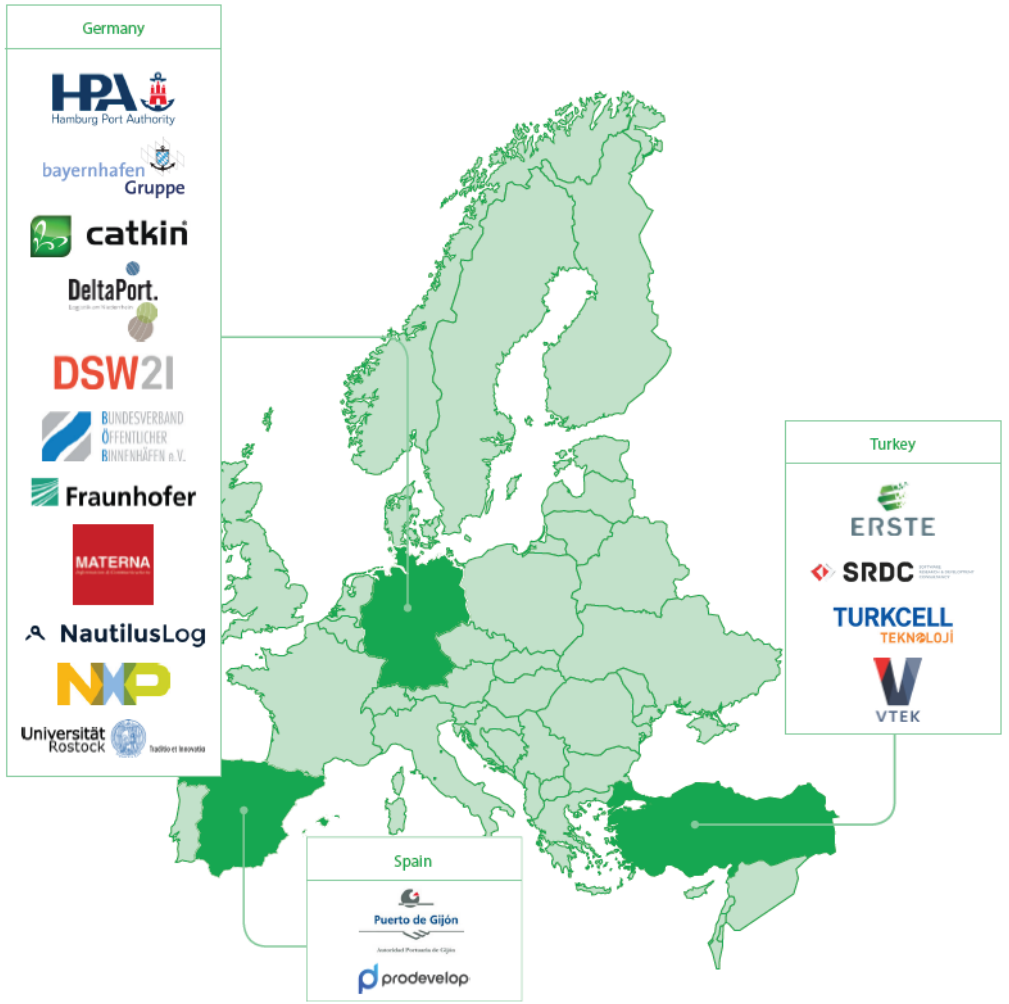
ITEA is the Eureka Cluster on software innovation


Exceptional
Excellence
I2PANEMA

I2PANEMA

Bringing the value of IoT to ports

By bringing Internet of Things (IoT) solutions and added-value services to the world of ports, the ITEA project I2PANEMA (Intelligent IoT-based Port Artefacts Communication, Administration & Maintenance) has made their operations more efficient and sustainable across various business cases.



Start date – End date
Oct 2018 – March 2022

Website
https://itea4.org/project/i2panema.html
https://www.i2panema.eu/

I2PANEMA

Examples of impact highlights

- I2PANEMA has demonstrated that ferry arrival times in Hamburg can be accurately predicted to within 15 seconds, which has resulted in a 100% reduction in average processing time for stop announcements.
- In the Assan port in Türkiye, sensor-based container localisation has enhanced operations by over 10% in a single shift, with completion time reduced by more than 15% and accidents decreased by more than 50%, boost
- Accurate prediction of PM10 emissions in Gijón Port has been demonstrated with 100% reduction in average processing time for environmental alerts and emergency protocol activation.


Exceptional
Excellence
OPTIMUM

OPTIMUM

Offering greater efficiency, safety and usability in future smart factories

In today’s factories, machines such as cranes are typically operated manually using heterogeneous hardware. These are usually not interoperable and diverse control environments are in use; static machine configurations also make evolution hard to achieve. OPTIMUM enables machines of different kinds and from different manufacturers to communicate with each other and their operators, improving the worker's and equipment's safety.

Start date – End date
Nov 2017 – June 2021

Website
https://itea4.org/project/optimum.html

OPTIMUM
Examples of impact highlights

- OPTIMUM's innovative assistance functions will significantly reduce assembly times in semi-autonomous processes; an 18% reduction was already achieved during a Proof of Concept.
- DEMAG sold a crane to the Fraunhofer Institute for Factory Operation and Automation (IFF) in Magdeburg for its new research factory (Elbfabrik), which will be enabled with innovative assistance functions from OPTIMUM. Consortia partners will support the implementation of the OPTIMUM functionalities.
- NXP is developing an integrated hardware solution based on OPTIMUM results to serve an Evaluation Kit for the industrial market.
- TARAKOS has extended their software solutions (taraVRbuilder & taraVRcontrol) and has significantly improved the planning of material handling processes with cranes. The roll-out to the market took place in August 2022 and the extended software is also being sold to the Fraunhofer Institute for the Elbfabrik.
- BEIA has developed its IoT telemetry solution with OPC UA for cranes to be used by NAVROM, the biggest river shipping company in Romania.


SPEEDOMETER v0.1
BOOST
min
max
k-W
Nm
km/h
193
DASHBOARD
Model
Climate-contrpl
INTERIOR
OUTDOOR
Run of Kilometers
Tire Pressure
GLOBAL
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FRONT RIGHT
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BACK RIGHT
PSI
40
41
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39
Standar-
disation
PANORAMA

PANORAMA

Supporting the shift to open source

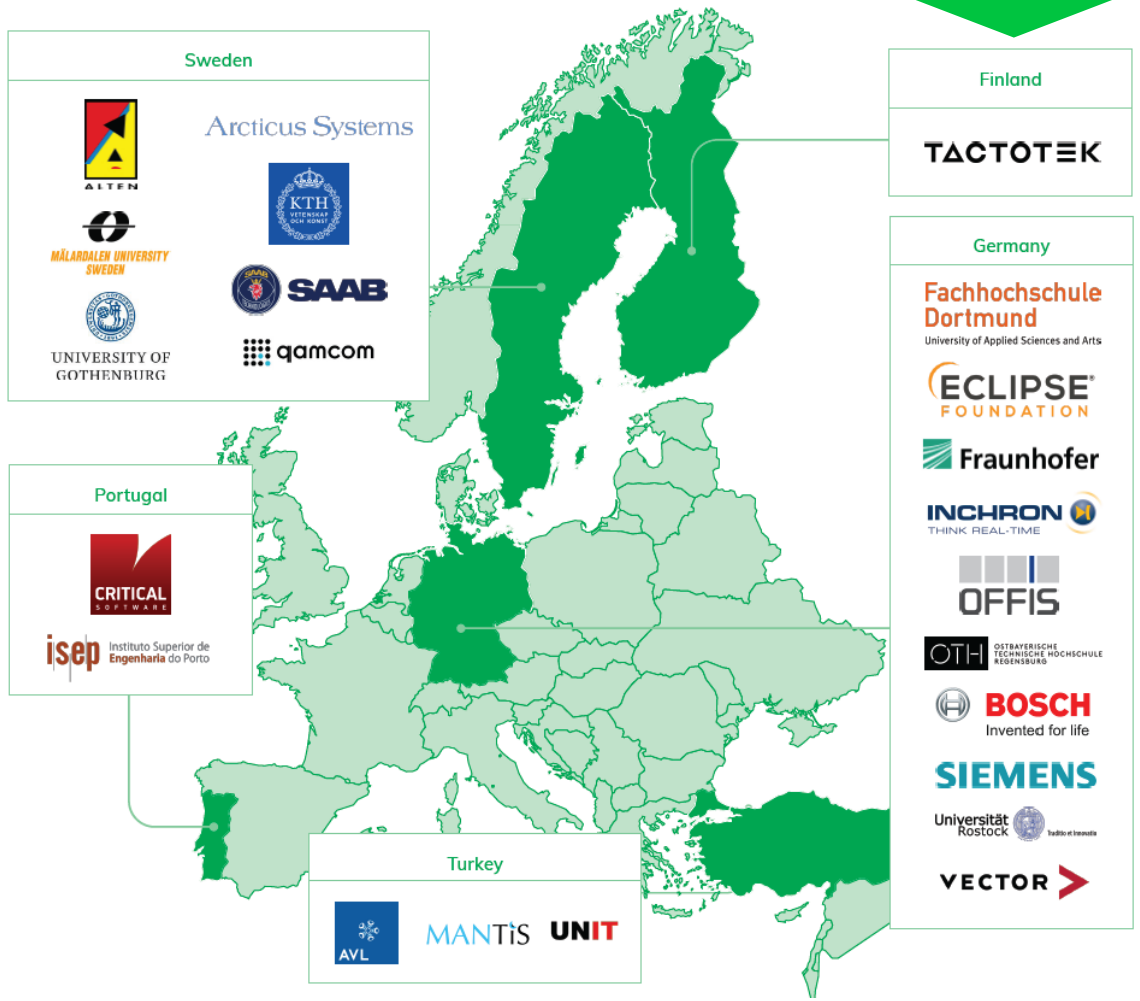
Winner ITEA Award of Excellence ‘Standardisation’ 2022

In the automotive domain, many similar control units are used, but different organisations often use heterogeneous functional domains, hardware and teams. This complicates collaboration, while this is very important as many stakeholders are involved.

PANORAMA has created an open-source meta-model and framework that promotes collaboration on software and hardware development using heterogenous tools and practices and without losing control of one’s own data.

Start date – End date
Apr 2019 - Sep 2022

Website
https://itea4.org/project/panorama.html
https://www.panorama-research.org/



PANORAMA
Examples of impact highlights

- The project focused on open-source collaboration in a business-friendly ecosystem. This approach has resulted in the emergence of a global community: partners in Europe, Asia, Africa and the Americas are already making use of PANORAMA, including the huge automotive and avionics markets of Germany, China and the USA.

- Clear benefits can be seen in maintainability (time reduction from 57 to 12 days), reliability (A grade for code quality from the industry standard SonarQube) and efficiency (reduction of local set-up of the installation and integration of several tools from eight hours to 0.8 hours).


Business
impact
CyberFactory#1

CyberFactory#1

Fostering the optimisation and resilience of the Factory of the Future

To enable the Factory of the Future, optimisation must be reconciled with security. The growing integration of Information Technology into Operational Technology exposes manufacturing systems to a growing number and diversity of threats. The ITEA project CyberFactory#1 has designed, developed, integrated and demonstrated a set of key enabling capabilities to foster the optimisation and resilience of the Factory of the Future.

Start date – End date
Dec 2018 – June 2022

Website
https://itea4.org/project/cyberfactory-1.html

CyberFactory#1

Examples of impact highlights

- Airbus in France is collaborating with Bittium in Finland to deploy CyberRange to simulate and monitor their distributed manufacturing environment. Airbus is also offering Security Operation Centre (SOC) services that monitor a factory's traffic, raise alarms and respond to anomalies. Across the project, commercialisation will target the digital twin, Industry 4.0 and IIoT security markets, with impressive results expected in each: by 2025, partners can expect revenues of EUR 8 million and 82 new jobs in the digital twin domain, EUR 28 million and 114 jobs in Industry 4.0 and EUR 114 million and 256 jobs in IIoT security. This total impact equals EUR 150 million and 452 jobs across the consortium.
- RoboShave has achieved 100% traceability of processes and products from the shop floor and 100% accuracy of (near) real-time information on dashboards, both of which started at zero. By automating machine and manufacturing execution system communication, it has also seen a 100% reduction in the time spent by human operators on manual machine data collection. In turn, this reduces human error while improving worker satisfaction by allowing them to focus on more stimulating tasks.
- The project has been recognised as a pioneer of Industry 5.0, which goes beyond efficiency and productivity and reinforces industry's contribution to societal goals. With its focus on a sustainable, human-centric and resilient industry, CyberFactory#1 has paved the way to the next industrial revolution.


Innovation
BIMy

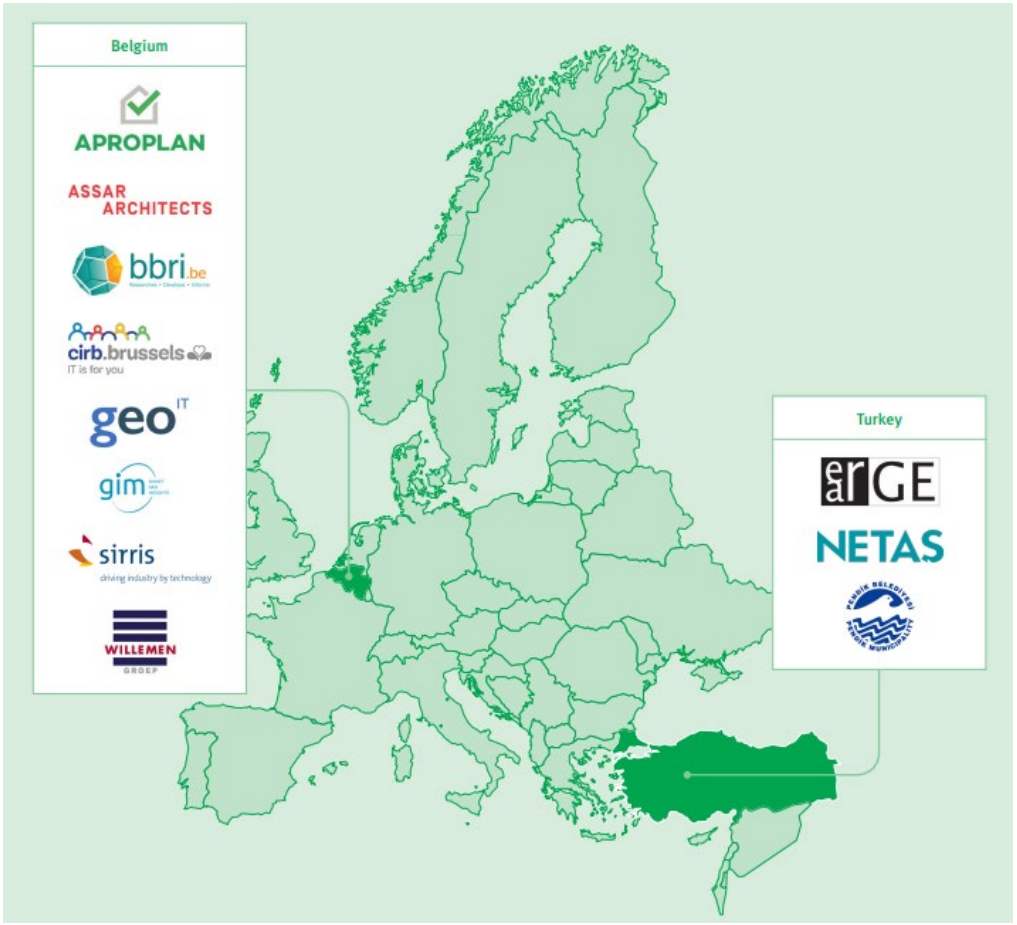
BIMy

An innovation engine for integrated BIM and GIS

BIMy learned how to create a digital model of a city and how to use this model for different purposes. It created a shared space for digital representations of construction projects in their environments, enabling collaboration between multiple stakeholders within the Smart City domain and paving the road for new applications.

Start date – End date
April 2018 – March 2021

Website
https://itea4.org/project/bimy.html



BIMy
Examples of impact highlights

- For building permits, it allows guidelines to be modelled and applied to BIM models, accelerating lead time by avoiding the need to apply for a permit to know whether a building will fit a location and its urban regulations. In addition, fully digital access to building permit data speeds up its approval process. It facilitates reviews and updates in the building lifecycle thanks to centralised information and documentation for permits processing, automated validation and digital update during the permit process and public enquiry.
- For fire safety, BIMy allows inspectors to ensure that a building complies with regulations, for example, by consulting a 3D model for semantic properties or by annotating a 3D model during inspection.
- Similarly, the combined BIM/GIS data (possibly enriched with IoT data) can be used in crisis management to identify evacuation routes and train citizens by using virtual or augmented reality, e.g. to learn how to escape safely during an earthquake. Also, to ensure that the building is tested by simulating earthquake and other disaster scenarios, akin to the ‘digital twin’ paradigm.
- For the circular economy and recycling, the project enables the modelling and mining of reusable materials within a building and the option to design buildings with future circularity in mind.
- Proper account can be taken of hazardous materials and materials that require special attention when handling prior to repurposing, refurbishing or demolishing a building. Quantities and locations can be calculated in advance and appropriate preventative measures can be taken.


Special
Vice-
chairman
Award
MOS2S

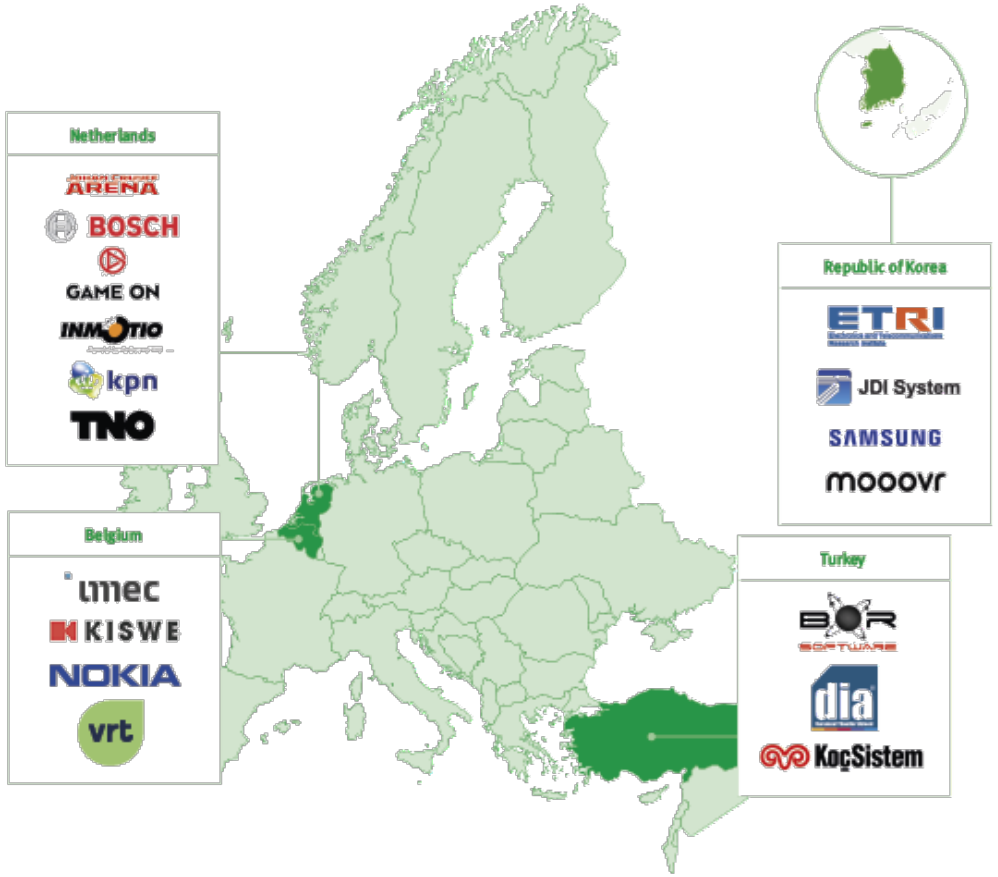
MOS2S

New forms of engagement in entertainment and society

Engagement and personalised experiences are getting increasingly important nowadays. In society, city representatives no longer take decisions by their own and in the entertainment business, everybody can become a producer of content. To bring this engagement MOS2S has created world-first ways to engage citizens and audiences of live events.

Start date – End date
Oct 2016 – Sept 2019

Website
https://itea4.org/project/mos2s.html



MOS2S
Examples of impact highlights

- For the first time in the world, a football match in the Johan Cruijff ArenA was broadcasted in real time, with only 0.3 seconds delay from the pitch in Amsterdam to a viewing area in South Korea.
- Since the MOS2S project, Kiswe has been working with multiple sports leagues, entertainment and media companies worldwide like K-POP group BTS, NBA, Universal Music Group and the Tour of Flanders.
- GameOn's video technology has been licensed to 25 European clubs, with a revenue of almost EUR 700 thousand for GameOn in 2019 (versus roughly EUR 80 thousand in 2016).
- The Inmotio Performance Centre is being rolled out for all 18 teams of the Dutch Eredivisie, potentially leading to millions of users following completion.
- MOS2S's technology was selected, out of 209 applications from 39 countries, to be demonstrated during the Eurovision Song contest of 2020.


Business
impact
C³PO

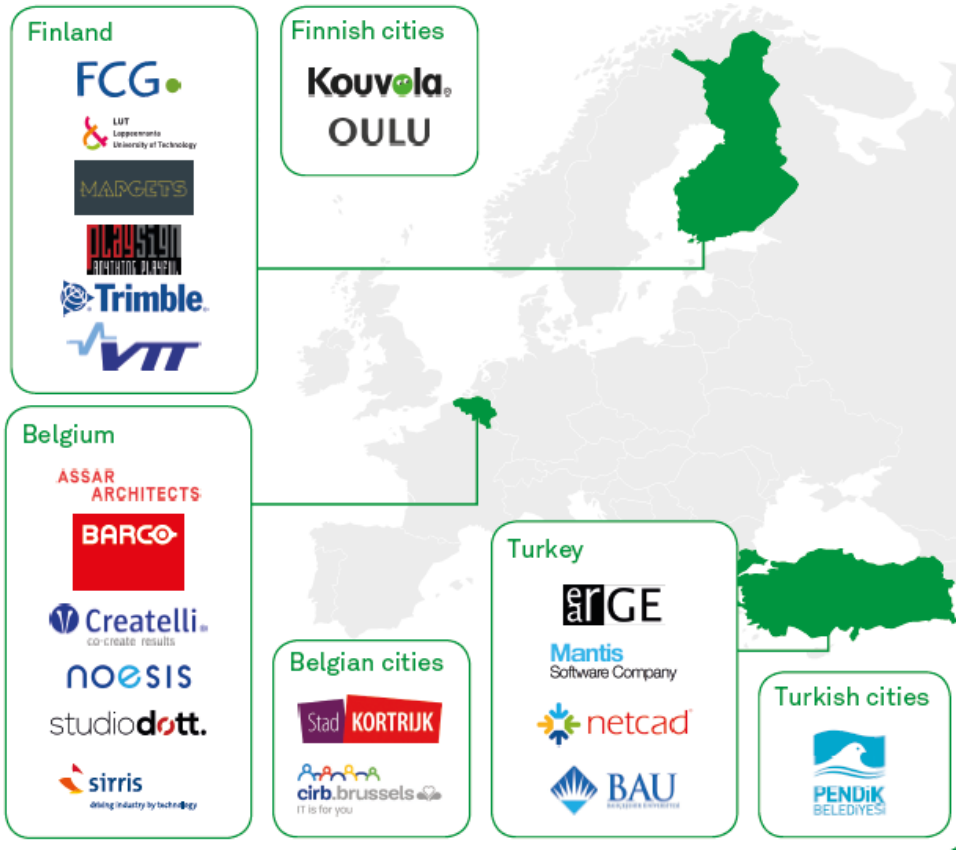
C³PO

Democratising city planning

The ITEA C³PO project has found ways for city planners and designers to consult citizens throughout the urban transformation process and thereby give citizens a better say in urban developments. The aim of the project was to set up a common digital platform that connects all the tools for collaborative urban development.

Start date – End date
Dec 2014 – Nov 2017

Website
https://itea4.org/project/c3po.html



C³PO

Examples of impact highlights

- Thanks to the enhanced collaborative capabilities developed by Noesis in the C³PO project, aerospace and automotive engineers from different teams worldwide benefit from the possibility to share engineering workflows, data and knowledge related to common design projects, enabling them to improve product performance by 10% or more and save on average over 30% in engineering time.
- For Studio Dott, the project gave access to a new market of citizen's involvement and this is reflected in a projected revenue growth of €1.7 m within 5 years.
- The resulting demonstrator TCAVE helps Barco to sell its 'Group VR' solutions to the market. Barco's annual revenue on this type of product is about €20 m. In addition, it will also further help Barco in commercialising other solutions such as PowerWalls and CANVAS, the latter addressing a new market segment, the Architecture, Engineering and Construction industry, where Barco expects annual growth of about 10% in the coming 3-5 years.
- The new solutions developed by Mantis pushed up their annual revenue by almost 15%. The know-how has also been used in other projects after C³PO.
- Netcad developped Netigma and Netcad Digital Universe which are marketed and sold in Turkey and in the Middle East region yielding in a revenue increase of 30%. Netigma is used extensively by local authorities (1000+ municipalities).
- The project also supported FCG's expansion in three channels of its digital business: solution development, platform economy and SDK sharing. Between 2018-2022 this will result in an annual revenue growth of 5%. During C³PO, a computer scientist was hired who finalised his MSc in support of the project.


kW
Data Analysis
Green Energy
225
kW
Data Analysis
Innovation
Water Consumption
5310
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Data Analysis
Data Analysis
8000
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kW/h
Jan
Feb
Mar
Apr
May
FUSE-IT

FUSE-IT

Enhanced connectivity & security for building management at lower costs

FUSE-IT addressed the need for sustainable, reliable, user-friendly, efficient, safe and secure Building Management Systems in the context of smart critical sites, like hospitals. From a site management perspective, it solves the dilemma of efficiency and security in intelligent buildings. At the user level, a smart unified building management interface enables the daily monitoring and control of a building, while a full security management interface enables the supervision of both physical and logical security throughout the premises. And at the end-user level, this can save both energy and lives.

Start date – End date
April 2018 – March 2021

Website
https://itea4.org/project/bimy.html

FUSE-IT
Examples of impact highlights

- A new (and misunderstood) topic when the project idea was first introduced back in 2013 was the protection of smart infrastructures against combined cyber and physical threats. This now appears in the top three areas of investment by public and private actors. From this perspective, FUSE-IT has been a pioneer project, enabling the consortium members to take a strategic lead.
- Since 2017, about €48 million in revenue has been reported in direct relation to the project results. The most striking commercial successes include:
- 17 system integration operation contracts in the field of smart building management and optimisation.
- 25 contracts won in the field of critical infrastructure protection against cyber and physical threats.
- the successful market introduction of a start-up company delivering SaaS platform services for enhanced control and management of sensitive building information.
- The project has led to the acceptance of four patents.
- Airbus CyberSecurity has been awarded a €740,000 contract to fulfil risk assessment surveys on 14 sites of Airbus Defence and Space in Spain, France, the UK and Germany and a contract worth €500,000 to secure a data centre organisation against cyber and physical threats. In addition, Airbus CyberSecurity has been awarded a multimillion-euro contract with an important gas transportation company, an integration contract for the protection of a large data centre's infrastructure and several contracts with large energy production utilities and distribution system operators in the UK, France and Germany.
- The FUSE-IT project allowed Niko to grow faster and to become more attractive to other companies. The team is still growing and has had double-digit growth during the last five years.