FIWARE FOUNDATION

Your first choice for building the smart digital future

PRESS KIT

LATEST EDITION

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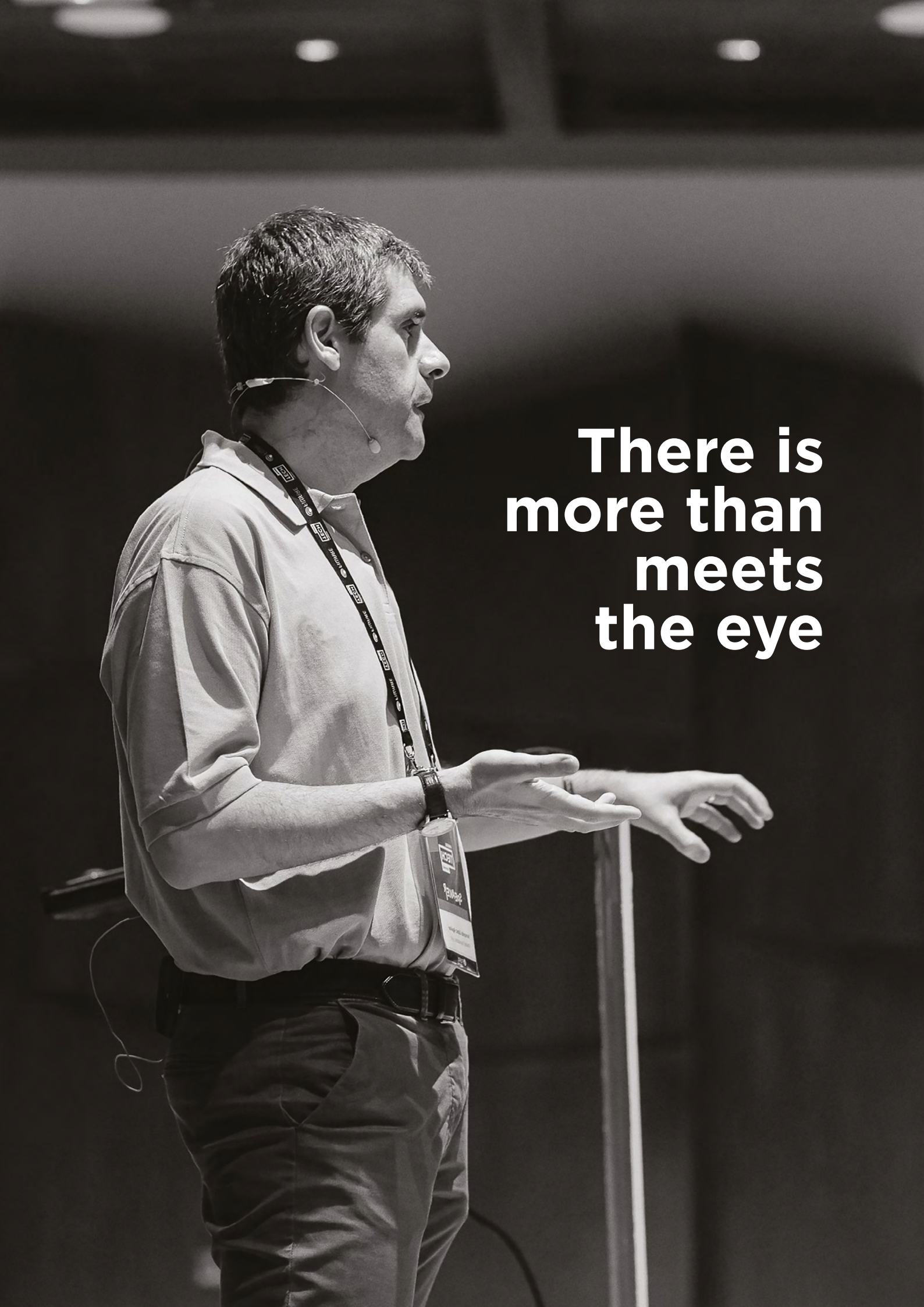
FIWARE is for free,
for all, forever.

ABOUT US

FIWARE Foundation is a non-profit organization that drives the definition and encourages the adoption of **open standards — implemented using Open Source technologies and reference architectures** — to ease the development of smart digital solutions across multiple domains, based on FIWARE technology.

Open Source projects

150+

180+

"Powered by FIWARE" solutions featured in FIWARE's MarketPlace

Members from 45+ countries

30+

Global Events to connect the thriving FIWARE ecosystem

415+

8,000+
Developers using FIWARE technologies

35+

Global Strategic and Media Partnerships

100+

21

FIWARE iHubs

10

FIWARE Evangelists

FIWARE Lab Nodes
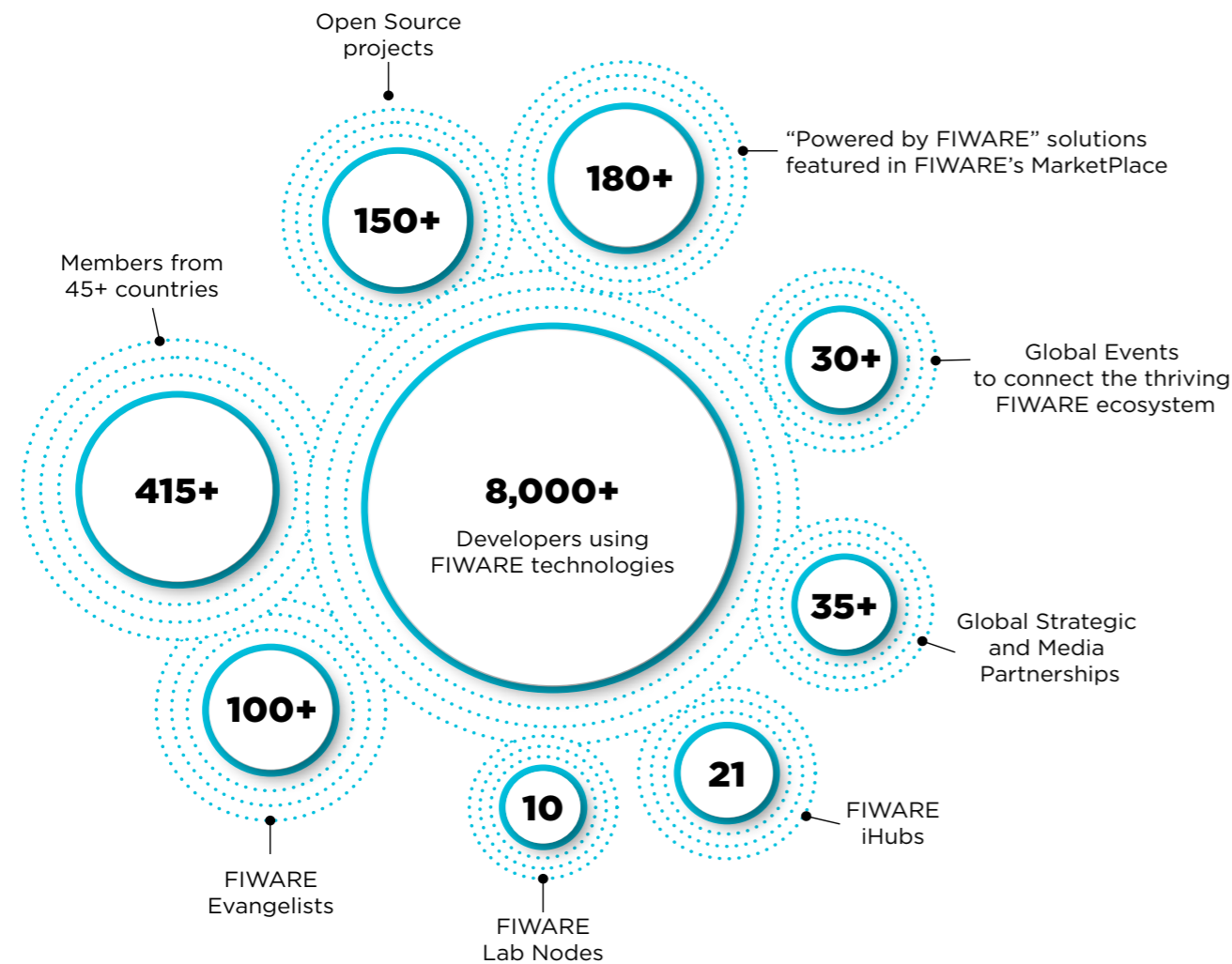
WHAT WE DO

Together with its 415+ global members and partners, FIWARE Foundation drives the definition, and the Open Source implementation, of key open standards that enable the development of portable and interoperable smart digital solutions, in a faster, easier, interoperable and affordable way, following an Open Source approach that avoids vendor lock-in, whilst also nurturing FIWARE as a sustainable and innovation-driven business ecosystem.

The foundation achieves that through the support of a fast-growing global community that shares a common vision and combines their efforts toward making FIWARE the Open Source technology of choice for industries, governments, universities and associations to reach their full potential and scale up their activities, thereby, entering new markets and growing their businesses. Founded in 2016, the foundation has **Atos, Engineering, Red Hat, NEC, Telefónica** and **Trigyn Technologies** among its Platinum members.
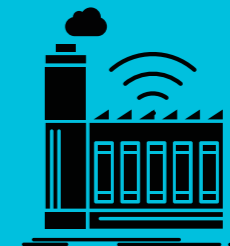
There is more than meets the eye

We accelerate the emergence of innovative marketplaces of **smart portable** and **interoperable solutions**, guiding industries, governments, universities, and civil society to develop their smart vision.
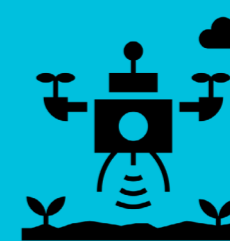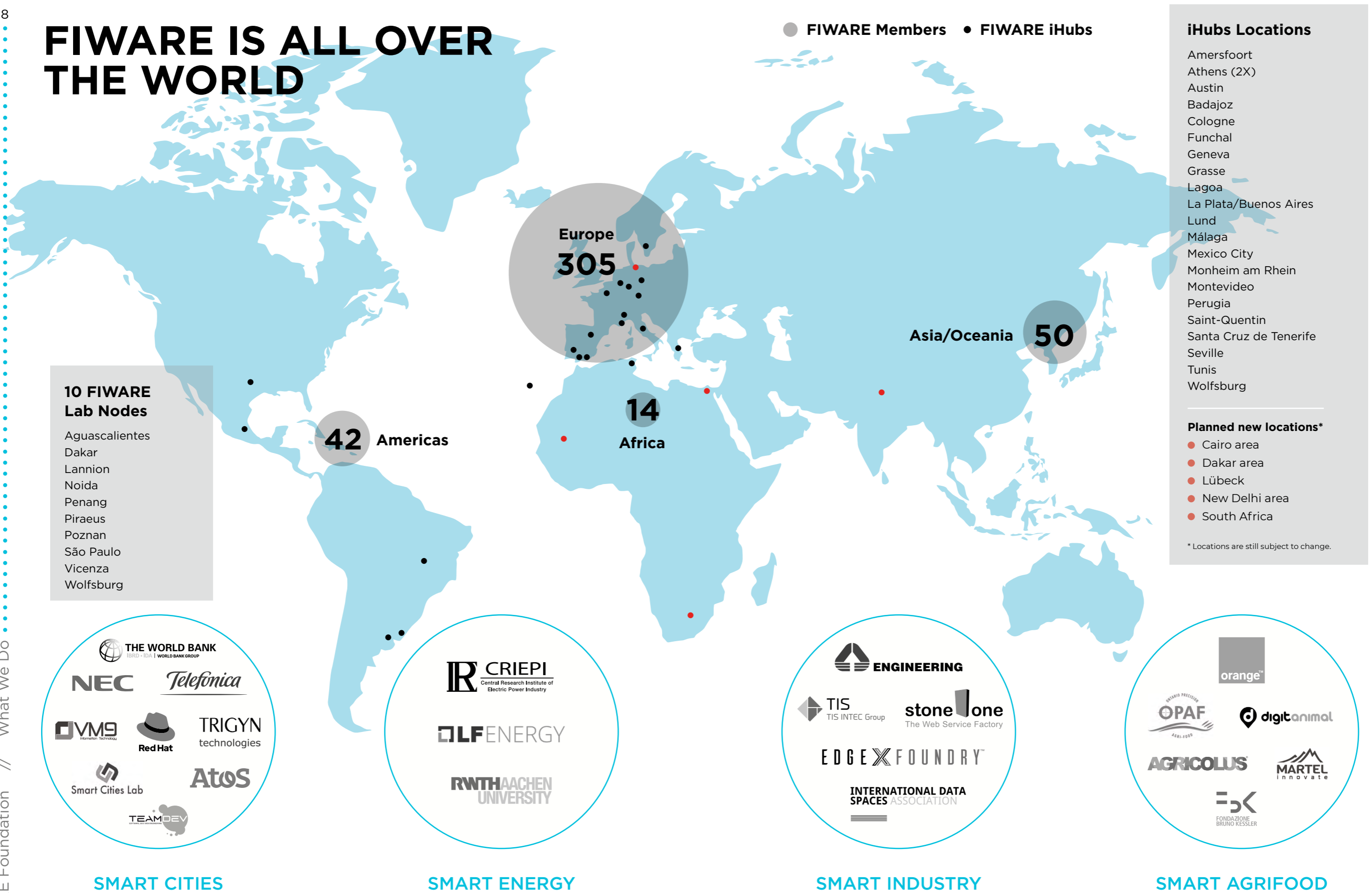

SMART CITIES

SMART INDUSTRY

SMART ENERGY

SMART AGRIFOOD

FIWARE IS ALL OVER THE WORLD

● FIWARE Members   • FIWARE iHubs

iHubs Locations

Amersfoort
Athens (2X)
Austin
Badajoz
Cologne
Funchal
Geneva
Grasse
Lagoa
La Plata/Buenos Aires
Lund
Málaga
Mexico City
Monheim am Rhein
Montevideo
Perugia
Saint-Quentin
Santa Cruz de Tenerife
Seville
Tunis
Wolfsburg

Planned new locations*
● Cairo area
● Dakar area
● Lübeck
● New Delhi area
● South Africa

* Locations are still subject to change.

Europe 305

Asia/Oceania 50

42 Americas

14 Africa

10 FIWARE Lab Nodes

Aguascalientes
Dakar
Lannion
Noida
Penang
Piraeus
Poznan
São Paulo
Vicenza
Wolfsburg

FIWARE Foundation // What We Do

FIWARE Foundation // What We Do

SMART CITIES

THE WORLD BANK
IBRD · IDA | WORLD BANK GROUP
NEC
Telefónica
VM9 Information Technology
Red Hat
TRIGYN technologies
Smart Cities Lab
AtoS
TEAMDEV

SMART ENERGY

CRIEPI
Central Research Institute of Electric Power Industry
LF ENERGY
RWTH AACHEN UNIVERSITY

SMART INDUSTRY

ENGINEERING
TIS
TIS INTEC Group
stone one
The Web Service Factory
EDGE X FOUNDRY
INTERNATIONAL DATA SPACES ASSOCIATION

SMART AGRIFOOD

orange
OPAF
digitanimal
AGRICOLUS
MARTEL innovate
FONDAZIONE BRUNO KESSLER

For further information on our members*, visit: **www.fiware.org/about-us/join**

*The companies featured here are some examples and do not represent the overall number of FIWARE Foundation members and strategic partners.

WHAT DOES IT MEAN TO BE "SMART"?

With the world's **population rising at an unparalleled speed**, a lack of natural resources and more automated services are just the tip of the iceberg concerning issues that public administrations are dealing with. In an attempt to tackle contemporary problems stemming from large crowds living in relatively small spaces, **smart solution providers step in by introducing innovative technology**, such as waste management, intelligent industrial LED lightings, smart irrigation systems, to name but a few, that can be taken up by public service providers to improve citizens' daily life.

FIWARE sees **smart environments as an ecosystem** driven by an efficient administration of public services. ICT-based solutions, with technologies such as big data, Internet of Things (IoT), artificial intelligence (AI), and robotics fuse into every single industry and become the backbone of our social sphere. **Being smart goes beyond technology**: it requires public administrations to move away from inward, fragmentary-oriented organizational structures towards **highly collaborative frameworks** (that include private businesses, not-for-profit organizations, social enterprises and citizens) in order to deliver seamless public services and, thus, **drive the advancement of an information society**.

Each country surely has its own goals and challenges (the word 'smart' itself may mean different things across continents), but by **establishing sustainable structures and offering new approaches** to citizens, authorities, local companies, and other stakeholders to engage within the management of services, public service providers can pave the way for economic development, ultimately increasing the quality of life for their citizens and visitors.

PRODUCT INFORMATION

The future will gravitate around the management of **context data**. Context data describes what is going on, who is involved, where, when, why. Context is meaningful in farms, describing the state of the crops and soil. In the industry field, it can help factory managers improve efficiency in industrial systems. At energy plants, it can be helpful to describe the status of the plant and the predicted energy demand. Finally, in cities, **data collection generates valuable insights** that help public administrations and businesses to improve the way we live, work and engage with one another.

The processing of context data will drive **smart decisions in the future**. Smart decisions will ultimately improve daily processes, raising the productivity of people, and businesses. Capturing, managing, processing, analysing and visualizing context data will be at the core of solutions in **Smart Cities**, **Smart Industry**, **Smart Agrifood** and **Smart Energy**.

Context data is a blend of **information coming from multiple sources**. But the data owners are at the driver's seat when deciding **who can access their data, when, how, where and what for**. This means that they can exercise full sovereignty over their data, eventually deciding whether they want to monetize their data or not and who will have to pay for it. That's why context information management provides the basis for the **new Data Economy**.

FIWARE lays out the fundamental context management standards needed for the creation of interoperable platforms and digital infrastructures. By enabling the blending of tools for integrating multiple context data sources and helping to process and analyze context management at a large scale, **FIWARE stands out as your first choice for building the smart digital future**.

Standards are driving the smarter tomorrow

Common open standards are an important element of data infrastructure worldwide. They help technology users and providers publish and use data in ways that can drive new business models, create open ecosystems and help public administrations to implement policy goals to deliver more effective public services and hence, boost citizens' living standards. A long-established champion of open standards, FIWARE will always strive to ensure that standards drive the open source technology market, that data is available to the widest range of users, for the widest range of purposes. Anytime. Anyday. Anywhere.

Some highlights from our work with our long-standing partners:

○ In 2016, the **European Commission** published the 2016 Rolling Plan for ICT Standardisation in which **ETSI** was requested to create an ISG (Industry Specification Group) aimed at the definition of a standard Context Information Management (CIM) API with FIWARE NGSI as a candidate. In the beginning of 2017, ETSI created the CIM ISG which was successfully brought to market with the so called ETSI NGSI-LD API specifications in January 2019.

○ FIWARE Foundation has (together with its members) actively participated in standardization activities within **ETSI** (NGSI-LD API specifications), **W3C** (Web of Things), **GSMA** (IoT Big Data Ecosystem project) and **TM Forum** (via the Front-runner Smart Cities program).

○ In 2018, FIWARE **Context Broker** was selected as the new **Connecting Europe Facility (CEF) Building Block**, help building the next generation of European digital public services.

○ FIWARE Foundation and its Community have been actively contributing to the development of **the International Data Spaces Association Reference Architecture Model (IDS-RAM 3.0)**.

Here are some of our global partnerships, collaborations and references:

DIGITAL arabia network

European Commission

INTERNATIONAL DATA SPACES ASSOCIATION

IOTA

IVI Industrial Value Chain Initiative

OASC OPEN & AGILE SMART CITIES

ROS

THE WORLD BANK IBRD • IDA | WORLD BANK GROUP

tmforum

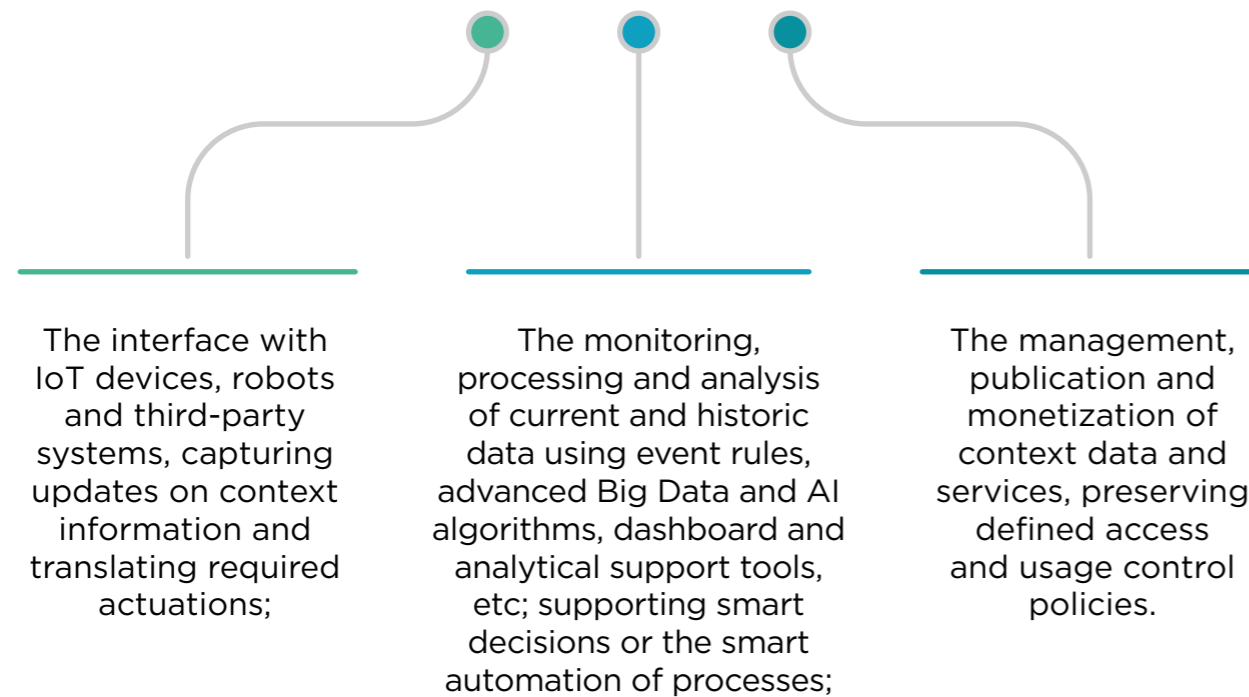WeGO World Smart Sustainable Cities Organization

Developing and integrating smart solutions

FIWARE brings a curated framework of open source software platform components which can be assembled together and with other third-party components to build "Powered by FIWARE" platforms that support the development of smart solutions in a faster, easier and affordable way.

The core component of any "Powered by FIWARE" platform is the so-called **Context Broker**, which supports the FIWARE NGSI API, a simple yet powerful API for solving a basic need in any smart solution: how to gather, manage and provide access to context information. The **FIWARE NGSI API** enables the integration of FIWARE platform components, the interoperability of smart solutions/services running on top of "Powered by FIWARE" platforms as well as their portability (replicability) across different "Powered by FIWARE" platforms.

The FIWARE NGSI API has evolved over time, following inputs from the global community of developers that have long been supporting the technology. The NGSIv2 version has been widely used in multiple scenarios and has served as the basis for the NGSI-LD API specifications, recently published by the European Telecommunications Standards Institute (ETSI). The Orion Context Broker provides an open source reference implementation of the NGSIv2 API specifications and will soon also provide a reference implementation of the ETSI NGSI-LD API specifications.

Building around the FIWARE Context Broker, a rich suite of complementary FIWARE components facilitate (among other things):

The interface with IoT devices, robots and third-party systems, capturing updates on context information and translating required actuations;

The monitoring, processing and analysis of current and historic data using event rules, advanced Big Data and AI algorithms, dashboard and analytical support tools, etc; supporting smart decisions or the smart automation of processes;

The management, publication and monetization of context data and services, preserving defined access and usage control policies.

The FIWARE Context Broker technology can easily be integrated with blockchain technologies to provide a trustworthy and immutable tracing of certain updates on context.

FIWARE Context Broker technology: a building block for connecting Europe

The European Commission (EC) has formally adopted FIWARE Context Broker technology as CEF Building Block within their Digital CEF (Connecting Europe Facility) Building Blocks program, part of the CEF Telecom program. This means that the EC officially recommends public administrations as well as industrial players within the European Union (EU) member states to adopt this technology in order to foster the development of digital services, which can be replicated (ported) across the EU.

FIWARE Marketplace

The **FIWARE Marketplace** is a one-stop-shop, providing entrepreneurs with first-hand access to a wide range of "Powered by FIWARE" solutions and platforms, FIWARE-ready technologies as well as related training, coaching, consultancy, integration and support services. The "Powered by FIWARE" and "FIWARE-ready" labels help entrepreneurs to gain visibility and credibility, essential to building partnerships and gaining market traction.
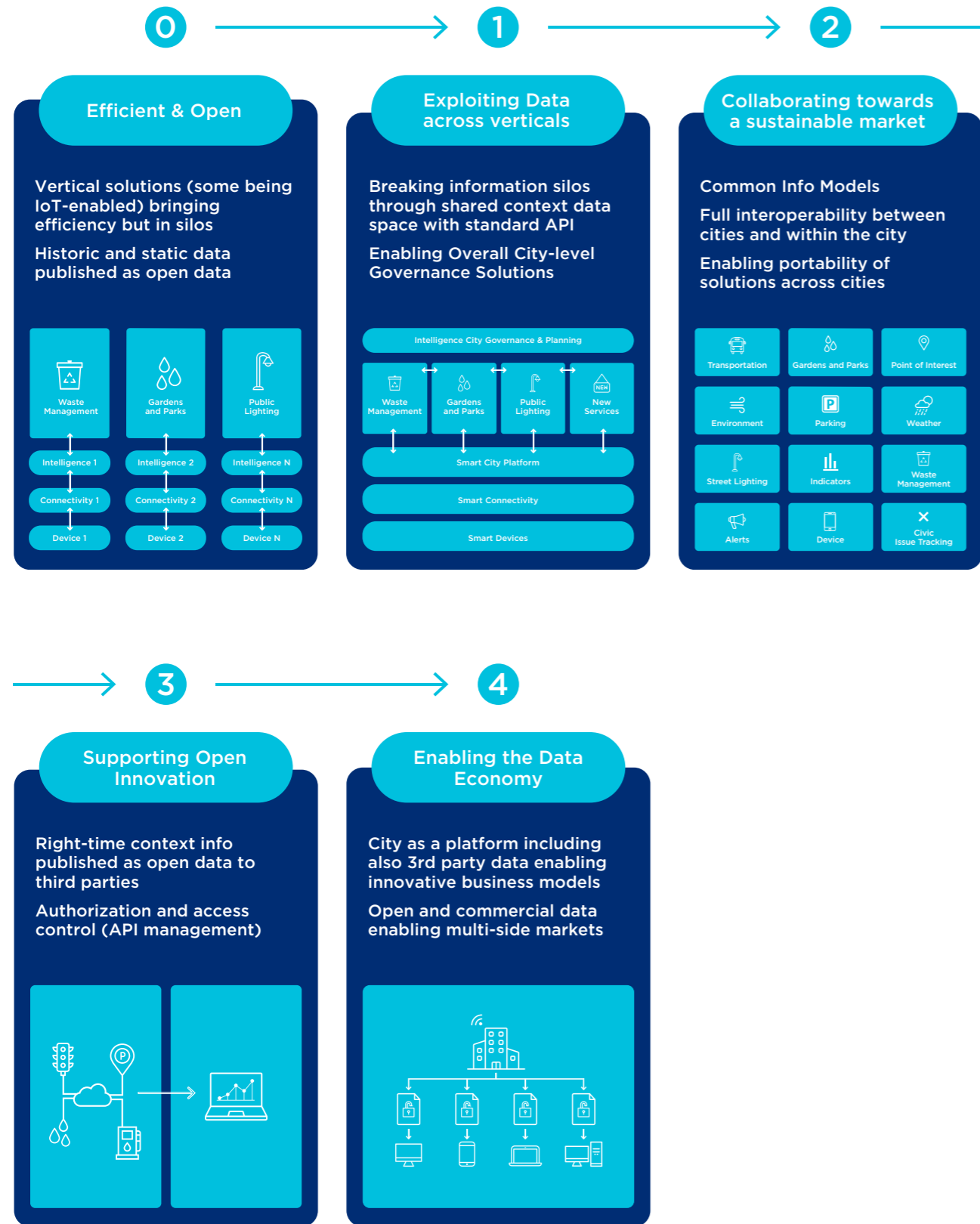
Check out the 180+ global solutions that are already in our Marketplace: **www.marketplace.fiware.org**

FIWARE - Paving the way

In the future digital sphere, context data must be pervasive and accessible in right-time. It creates a digital continuum, blurring the frontiers between application domains. FIWARE is bringing the standards of reference at every step to be taken by organizations in their transformation journey towards:

○ Becoming truly smart, breaking the silos;
○ Collaborating with other organizations towards a sustainable market;
○ Fostering open innovation;
○ Enabling the Data Economy.

The Open Source platform of choice for building Smart Solutions

0

Efficient & Open

Vertical solutions (some being IoT-enabled) bringing efficiency but in silos

Historic and static data published as open data

Waste Management — Gardens and Parks — Public Lighting

Intelligence 1 — Intelligence 2 — Intelligence N

Connectivity 1 — Connectivity 2 — Connectivity N

Device 1 — Device 2 — Device N

1

Exploiting Data across verticals

Breaking information silos through shared context data space with standard API

Enabling Overall City-level Governance Solutions

Intelligence City Governance & Planning

Waste Management — Gardens and Parks — Public Lighting — New Services

Smart City Platform

Smart Connectivity

Smart Devices

2

Collaborating towards a sustainable market

Common Info Models

Full interoperability between cities and within the city

Enabling portability of solutions across cities

Transportation — Gardens and Parks — Point of Interest

Environment — Parking — Weather

Street Lighting — Indicators — Waste Management

Alerts — Device — Civic Issue Tracking

3

Supporting Open Innovation

Right-time context info published as open data to third parties

Authorization and access control (API management)

4

Enabling the Data Economy

City as a platform including also 3rd party data enabling innovative business models

Open and commercial data enabling multi-side markets

IMPACT STORIES

Check out some of the Impact Stories published in the past few months.

POLITÉCNICA

Powered by FIWARE, A/RporTWIN 1 provides a powerful data visualization and analytical tool to be used by managers and operators of various mobility systems (airports, seaports, roads, railways, etc). It not only allows the user to visualize the infrastructure itself but it also integrates data from different sources and derived insights that are useful during day-to-day operations.

The second-largest city in the Murcia region (Spain), Cartagena has been investing in new technologies and smart development to create human-oriented products and solutions to improve its citizens' quality of life. One of these solutions is the Smart Irrigation Management System. Implanted in parks and gardens around the city, it enables an autonomous and real-time management of water resources allowing control of the irrigation schedule and adapted to both the water needs of the garden and the weather forecast.

Ayuntamiento Cartagena
www.cartagena.es

OPEN MOVE

The digital transformation of the outdated transportation sector is crucial for an improved mobility model, able to add real value to people's lives. To that note, OpenMove's mission is clear: to help people and goods to move freely and to do this in a sustainable and efficient way. Its Mobility-as-a-Service (MaaS), aims to provide users with the best traveling experience.

For more impact stories, visit: **www.fiware.org/impact_stories**

FIWARE IN THE SPOTLIGHT

" At FIWARE Foundation, guiding cities and organizations toward innovative approaches to a greener, smarter, more sustainable and resilient tomorrow is at the forefront of our mission. To realize the smart future, we rely on a pool of thousands of talented and committed individuals and organizations that comprise our thriving community. **Bloomberg - U.S.** "

Bloomberg

" Ähnliche Initiativen seien in Japan im Gange, in den USA gehe Fiware gerade mit Red Hat als Partner an den Start. In der EU setzt etwa Wien auf die offenen Softwaremodule der Allianz, die sich auf ihrem Heimatkontinent nun über Gaia-X neue Einsatzbereiche erschließen will.
heise online - Germany "

heise online

" The aim was to support officers on the ground with more information when responding to incidents. Throughout the project, Atos – a FIWARE Foundation founding and platinum member – has worked on smart cities projects with multiple partners and cities in the Netherlands, where the PS-Crimson platform first came to life.
SCW - UK "

Smart Cities World

" Open standards, transparency and scalability are key to building smart city solutions. FIWARE's open-source platform components breathe reliability and, when combined with N-Smart, result in a wide scope for the development of smart solutions.
BR - UK "

BR

HOT THEMES

SMART WORLD BY FIWARE

Divided into sectors, the **SMART WORLD BY FIWARE** showcases how FIWARE is powering up Smart Cities with connected mobility, highlighting various domains and their interactions. The **SMART WORLD BY FIWARE** was introduced, for the very first time, in June 2019 at **Aarhus's IoT Week**, in Denmark. Ever since, it has been present at major smart mobility events across the globe, featuring FIWARE's solutions and achievements represented in this model.

In spite of the limitations brought on by COVID-19 with regards to showcasing the gigantic model at global leading events, activities related to the **SMART WORLD BY FIWARE** have not come to a stand still. On the contrary, a video storytelling has been created, explaining how each sector interacts with - and complements the other - in order to create smart environments and how Open Source technology facilitates the process.

Also, in December, the Smart MaaS **stop motion video** was released and features the Smart World by FIWARE and the infinite possibilities of 'Powered by FIWARE' solutions, based on a protagonist living and working in a Smart City. With this brand new video, people of all ages are able to enjoy FIWARE's vision of a modern, smart digital future, from a safe distance. The goal of Smart MaaS is to build an open source, standardised mobility service platform, and reference architecture for the creation of new innovative mobility services. The Smart MaaS platform uses FIWARE infrastructures and technologies.

As more modules are currently being introduced, the **SMART WORLD BY FIWARE** is getting bigger and bolder. Over the coming months, the gigantic model can be seen at major smart mobility events across Europe and beyond.

Smart MaaS

Supported by

Federal Ministry for Economic Affairs and Energy

on the basis of a decision by German Bundestag

INDUSTRY
This sector features examples of "Digital Twin" and "Supply Chain" and shows the different robots, which are controlled by a FIWARE-based platform. "StoneOne" presents an example from the field of "Maintenance". Besides, NEC Lab, Linz Center for Mechatronics and Engineering show how FIWARE's reference architecture is successfully used in the "Industry 4.0" area.

URBAN MEDIASPACE
The building is part of an effort to reshape former industrial areas of the Port of Aarhus into residential and commercial areas. It includes future-ready public housing, a library, culture center with an underground parking facility and a station and light rail system with trains running through and under the building.

MOBILITY HUB
The sector demonstrates how various intelligent transport concepts are interlinked. FIWARE members across the world provide feasible and smart solutions for these types of implementation.

TOURIST CITY – MOUNTAIN AREA
The sector illustrates Werfenweng, a small community in Upper Austria, as a part of the "Samo" initiative – Soft Mobility. This is an example of fully integrated green and sustainable mobility – a role model for smart mobility of the future.

RED CITY HALL
The Red City Hall shows the relation to the current political situation, the relationship between the energy change and the traffic change, in the backdrop of international movements such as "Fridays for Future." Topics such as "traffic avoidance," "alternative fuels," or "ecological footprint" are discussed globally today.

CITY HALL
The sector represents the city hall of Aarhus. Aarhus is among the smartest and most innovative cities in Europe today. It has been awarded the accolade of the city of culture and innovation on several occasions.
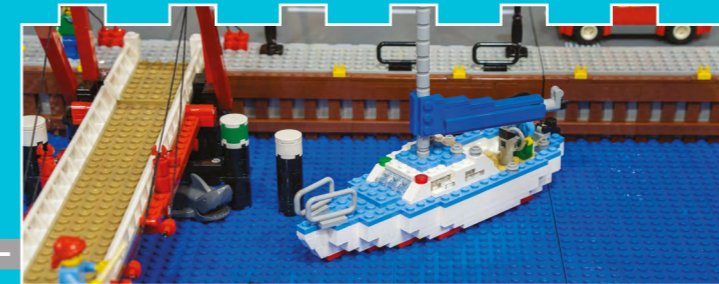
FARMING
This sector shows examples from the project "Internet of Food and Farming" (IoF2020), one of the largest EU projects to date. "City Agriculture" is an important component for the optimization of supply chains, i.e. the avoidance of long transport distances and production and consumption as close as possible to the consumer.

ENERGY
The sector represents the concept of a funded project in North Germany, showing how the energy sector can support future green mobility. The gas is produced from the sun and wind, then stored and provided to the gas fuel station to support a local bus, running between the cities of Niebüll and Husum in Northern Germany.

KIEL HARBOUR
This sector showcases mobility developments around Kiel (Schleswig-Holstein, Germany), including technology for water level monitoring in coastal cities, data for the water warning systems, water storage in the streets in case of flood. It also features sensors detecting the occupancy and punctuality rate of naval vehicles in real-time, as well as opening and closing process automatization of movable bridges.

SMART HOUSE
The Smart House is supported by the IoT sensor hub, which combines and evaluates various data sources and environmental sensors. This model shows that air pollution measured on the ground changes road usage in urban areas.

HOT THEMES

FIWARE is committed to the Sustainable Development Goals (SDGs)

As more and more people move into urban areas, a thorough management of urban growth needs to be in place in order for global issues to be tackled and sustainable development fully achieved. To this end, **B20**, the private sector's voice of the G20 community, addresses the global challenges and priorities defined by the G20 countries, by building solid consensus amongst business leaders, international organizations and civil society.

A recent recommendation from the B20 has been towards making Smart Cities the main focus of the G20's efforts to implement Society 5.0 (Japan's smart vision of the future) for SDGs. In line with its commitment from public administrations and private businesses towards the SDGs, FIWARE has been guiding cities and industries to deliver their digital vision, with the active involvement of all the relevant actors.

The FIWARE Community fully endorses the SDGs and is working hard to help deliver them. For instance, **the Fighting Climate Change with FIWARE booklet** features 30+ game-changing solutions that have become vital to the fight against climate change and are, ultimately, setting common standards for Smart Cities. Such solutions are based on FIWARE's Open Source technology and fully aligned with the SDGs.

Additionally, with the **Front-runner Smart Cities Program** - jointly launched with **TM Forum** and aimed at defining a Common Reference Architecture and Data Models for Smart Cities - FIWARE Foundation engages in the global coalition that promotes the adoption of appropriate regulatory frameworks in data sharing and encourages cities to share experiences and best practices.

Together with its members, FIWARE strives to promote transparency, sustainability, accountability, and economic development led by smart, user-centric digital technologies. Going forward, the FIWARE Community plans to establish new sustainability targets that demonstrate its contribution to the achievement of the SDGs. This way, cities can take advantage of highly collaborative frameworks (private businesses, not-for-profit organizations, social enterprises, citizens, etc.) in order to deliver seamless public services and, thus, drive the advancement of an information society.

SUSTAINABLE DEVELOPMENT GOALS

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

15 LIFE ON LAND

17 PARTNERSHIPS FOR THE GOALS

HOT THEMES

The FIWARE Community is powering up cities across the globe

Whilst the COVID-19 pandemic has imposed cuts on many businesses, it has also brought to light the need for further investment in digital transformation. The FIWARE Community has been quick to lend a helping hand to cities to transform big data into knowledge.

In the last few years, FIWARE adoption has grown considerably among cities worldwide. To showcase how 200+ cities (spread across 30 countries worldwide) are benefiting from FIWARE tech on a practical level, in June 2021, FIWARE Foundation launched the booklet **FIWARE4Cities**.

The first edition showcases **36 cities** and **41 solutions** from **13 countries**, and is a footprint of how FIWARE has been helping cities worldwide to get their smart city projects off the ground. It aims to help cities understand the potential of open source technology and open common standards toward creating sustainable, greener living space for their citizens. It also strives to help private-sector companies and citizens prepare for the coming wave of change.

With forewords from **Ulrich Ahle** (FIWARE Foundation), **Dario Avallone** (Chairman, FIWARE Foundation Board of Directors), **Renato De Castro** (author of "City SmartUp"), **Bettina Tratz-Ryan** (Gartner), **Kyong-yul Lee** (WeGO), **Jason Whittet** (Amazon Web Services), and J**aime Ruiz Huescar** (CITIES FORUM), the booklet highlights the need for interoperability and standardization and acts as inspiration for cities and private companies aiming to speed up the digital transformation process.

In the upcoming FIWARE4Cities booklet editions, an additional 150+ global cities will be added showing how cities have turned to replicable, ready-to-use FIWARE-based solutions to improve the competitiveness of businesses and the participation of citizens.

Smart Cities worldwide trust FIWARE technology.

Find out more
in the world's top
Smart Cities
reference catalogue

FIWARE
Open APIs for Open Minds

#FIWAREBooklets
FIWARE 4 CITIES / Ed.1

HOT THEMES

The FIWARE Community is growing (& counting)

FIWARE Foundation is a growing global community with a common effort of achieving a solid headway towards making FIWARE Open Source technology the best instrument for companies to scale their activities, enter new markets and grow their businesses.

Ever since COVID-19 hit the world, FIWARE has grown roughly 30% in terms of membership, a reflection of how important digitalization is for cities and the overall economy. Check out who our new joiners are:

With decades of experience in complex enterprise business and technology design, development, deployment, and management, BluSky's "BluSky Thinking" is the first step towards the digital transformation journey of its clients. BluSky is headquartered in the Denver area, Colorado, U.S.

The ICT Innovation Network Cluster is a partnership among companies, knowledge institutions, state and facilitators which pools investment and intellectual potentials and sets up a comprehensive innovation ecosystem in S$ priority domains. It strives to make Slovenia (Europe) a green reference country in digital Europe by providing support to the developmental activities of all strategic partnerships in Slovenia in the ICT field, above all in the preparation of foundations for the use and integration of ICT as enabling technologies and its development.

HOT THEMES

FIWARE Digital Innovation Hubs (iHubs)

Serving as innovation engines, the **FIWARE Digital Innovation Hubs** (FIWARE iHubs) focus on building communities that will, in turn, enable local digital businesses to thrive not only at a regional but on a global level. The **FIWARE iHubs network is growing bigger** and reaching roughly 25 on a global scale. The new joiners to the FIWARE iHubs network span a range of industries and concrete offers:

>> Ideas Forum Innovation Hub (Monheim am Rhein, Germany): Initially created as an association of different companies, the iHub will be coordinated by Umagine GmbH, a FIWARE member, and will focus on Smart Cities, Smart Energy, CEF Building Blocks, and Smart Mobility. Driven by a firm belief in an Open Source culture, the iHub aims to provide developers with useful knowledge and information on how to use FIWARE technology when planning and developing their applications;

>> Centifo Hub (Grasse, France): Set up by SCIC Tetris - a not for profit cooperative that brings together local actors involved in the ecological transition, with roots in the social innovation-based economy - the new iHub is looking to build and help others (local authorities, SMEs, education and citizen) create demonstrators for sustainable solutions, and integrate FIWARE technologies into sustainable development initiatives that are related to circular economy, and the optimization of short circuit networks.

>> FIWARE OIL iHub (Lund, Sweden): Focused on the domains of Smart Cities, Smart Building, Smart Energy, Smart Water, Smart Agrifood, Smart Shipping, Smart Transport, Smart Industry, and Smart Health, the iHub aims to - among other objectives - leverage on the existing open smart city network in Lund (LOSC) operated by FIWARE member Sensative and powered by the FIWARE compliant IoT platform Yggio as a living lab for smart research and innovation projects.

FIWARE IHUBS

Think Globally, Act Locally

HOT THEMES

FIWARE University Roadshow

Launched in 2020, the FIWARE University Roadshow aims to mobilize universities - specially professors, lecturers and researchers - offering Computer Science or Software Engineering courses to incorporate FIWARE technology and workshops within their curriculum. Over 35 universities are currently planning to integrate FIWARE modules into their lectures, whilst the **University of Messina**, **the University of Murcia, the Electronic Technologies Department at the University of Seville** and **the University of Milano-Bicocca** have already launched the FIWARE University Roadshow within their curriculum.
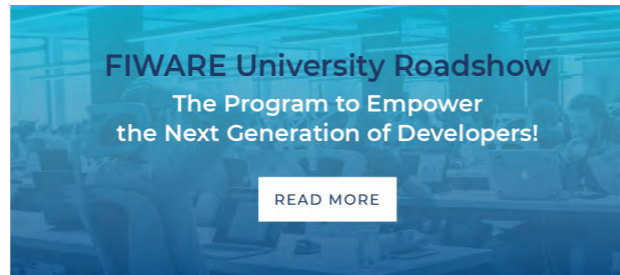
In April, **Angelo Marguglio** (Engineering) and **Ernoe Kovacs** (NEC) - members of the FIWARE Smart Industry Mission Support Committee (MSC) - presented some of the FIWARE use cases within Smart Industry at the workshop "The Relevance of Open-Source Technologies for a Smarter Industry 4.0." Both presented some job opportunities within NEC and Engineering, followed by FIWARE Foundation's Project Manager **Tonia Sapia**, who also presented current job opportunities at FIWARE Foundation. Organised by Trento University's Department of Engineering and Information Science, the workshop allowed Masters and PhD students to learn about concrete case studies applied to innovative technologies and methodologies in the ICT field.

The FIWARE Scientific Advisory Board

In March 2021, the FIWARE Scientific Advisory Board (FISAB) was officially launched to provide support and advice to the FIWARE Foundation **Board of Directors**. The objective of FISAB is to continuously explore developments and innovations in the field of open source, open data, big data, context information management, standardization of interfaces and standard data models, blockchain, artificial intelligence, and digital twin. The following experts and renowned academics from universities, research centers and institutes, technical academies and foundations have been elected to advise the Board on upcoming trends in cutting-edge technologies.

Antonello Monti, RWTH Aachen University; **Antonio Skarmeta**, University of Murcia; **Joaquín Salvachúa**, Universidad Politécnica de Madrid; **Luis Muñoz**, University of Cantabria; **Néjib Moalla**, Université Lumière Lyon 2; **Niall Aughney**, Irish Manufacturing Research; **Paolo Traverso**, Fondazione Bruno Kessler.

Want to know more about FISAB, and the FIWARE University Roadshow? Contact **Tonia Sapia**.

HOT THEMES

FIWARE is on the front line in the fight against climate change

The "Fighting Climate Change with FIWARE" booklet continues to grow as the world is positively responding to it. **Edition 5.0** is now out and features **40+ 'off-the-shelf' game-changing solutions** from the FIWARE Community that have become vital to the fight against climate change and are, ultimately, setting common standards for Smart Cities.

The booklet also brings forewords from book writers **Mike Barlow, Cornelia Levy-Bencheton** as well as author and water thought leader **Monica A. Altamirano**. Additionally, it includes Voices from the Industry featuring **Emanuele Bompan** (Environmental Journalist and author), **Robert Brears** (Editor-in-Chief, The Palgrave Handbook of Climate Resilient Societies) and **Ana Torralba Barallat** (Urban Mobility & Sustainable Cities Consultant), who are, in one way or another, experts in climate change adaptation.

Click **here** to learn about these FIWARE-based solutions that are tackling or minimizing the devastating effects of climate change.

LET'S DO IT TOGETHER!

FIGHTING CLIMATE CHANGE WITH FIWARE

HOT THEMES

FIWARE's Ever-Growing Marketplace

With the purpose of disseminating existing commercial offerings around FIWARE, the FIWARE Marketplace provides access to a wide range of "Powered by FIWARE" solutions/platforms, "FIWARE-ready technologies" as well as training, coaching, consultancy, and support services. The "Powered by FIWARE" and "FIWARE-ready" labels help entrepreneurs to gain visibility and credibility, essential to building partnerships and gaining market traction.

FIWARE MARKET PLACE

◎ FIWARE

Besides acting as a single one-stop-shop for companies to learn about and purchase 'off-the-shelf' solutions, platforms, IoT devices, software enablers centered around IoT and Open Source - and based on or supported by FIWARE technologies - the FIWARE Marketplace is the ideal starting point for technology enthusiasts to find up-to-date information on disruptive technologies. Over 180+ global solutions are already featured in our Marketplace and the number of offerings continues to grow. Check out who the latest joiners are:

>> GECOR: To help address the costly and time-consuming task of maintaining public spaces, GECOR has established a multidirectional communication channel that integrates technicians, managers, service companies and citizens. The company helps save response times up to 80% with immediate actions. The result is a far more transparent and positive relationship between municipalities and their citizens.

>> Dashram: An open source tool for advanced data visualization, Dashram provides all the tools necessary to manage data acquisition, the display of numerous charts, and the composition and sharing of dashboards. Dashram implements a layered architecture composed of different components that allow data to be imported from heterogeneous data sources, and the management and share of dashboards in an easy manner.

>> RESPIRA: An open IoT platform created for the Spanish Province of Badajoz, the platform hosts any type of environmental-related IoT information, including information coming from RESPIRA stations, official AEMET stations and the air quality stations coordinated by the European Environment Agency.

>> eProsima: an SME focused on networking middleware - with special attention to the Object Management Group's standard called Data Distribution Service for real time systems - the company's DDS middleware solutions find special interest in the robotic, IoT and automotive sector, being Fast DDS a middleware implementation for larger robotic systems like ROS 2, among others.

Apply **here** to be certified and featured in the FIWARE Marketplace.

HOT THEMES

Open Source-based 'off the shelf' and ready-to-use solutions to fight COVID-19

FIWARE is known for its ability and speed to address urgent challenges and the needs of society, companies, and public administrations. The need for ready-to-use solutions, based on Open Source and open standards principles, to help automate data sharing continues to grow rapidly.

This has, once again, become evident during the current COVID-19 pandemic as Open Source solutions have enabled health authorities to better track patients and scientists to better evaluate the scientific validity of available data worldwide. One of these outstanding solutions is the biosurveillance system **Eng-DE4Bios**. Based on FIWARE technology, the ready-to-use system has been successfully deployed in the Veneto region (Northeast Italy) and is currently rolled-out in further regions and countries. The success of this solution can be witnessed by its constant participation in dozens of online events, including the **FIWARE Healthcare DAY**, on October 8.

◎ FIWARE

LET'S DO IT TOGETHER!

FIWARE 4HEALTH

For years, FIWARE has been harnessing the Open Source's model ability to deliver innovation at faster and less costly rates. This has never been needed more than these days when time, technology and innovation are the most critical elements to save lives. It is now all about helping public services and the suffering health institutions to find ways to cope and adapt smoothly, while quickly saving the lives of infected people. On that note, the **FIWARE4Health Booklet**, launched in late October, addresses how Open Source technology is contributing to addressing urgent challenges and the needs of society.

HOT THEMES

FIWARE Incorporates Disruptive Technologies into its Tech Roadmap

Reference architectures are tangible proof points that combine partner technology with **FIWARE technology** to create an innovative design to simplify the process of creating solid, ready-to-use environments for smart applications to be run on.

As disruptive technologies such as Blockchain, AI, and Distributed Ledger Technologies (DLTs) - to mention but a few - assume key roles in accelerating the development, governance, and operation of businesses in a more trusted, accountable, and transparent manner, FIWARE has added these technologies to its **'Powered by FIWARE' architectures**, allowing users to learn how to design applications using the latest technologies and experience its benefits on a practical level.

For instance, DLTs bring value to FIWARE because they can be used to store transaction logs managed in any 'Powered by FIWARE' solution. Therefore, these logs cannot be manipulated and can hence, provide the basis for auditing processes: **warranting transparency** in Smart Cities and animal welfare in livestock farming, and **certifying quality** in Smart Factories, for instance. Additionally, FIWARE brings great value to DLTs by being able to address one crucial question: how to ensure that the data stored in a Distributed Ledger (e.g., the IOTA Tangle) is not fake data? FIWARE can guarantee that between the time that such data is generated by a sensor, robotic system or information system and is stored into a Distributed Ledger: no human intervention takes place and, therefore, **the data cannot be manipulated**.

Finally, the **FIWARE Tech Roadmap** contemplates the evolution of some of its components, by leveraging on some of the advantages that DLTs have to offer:

- The components supporting the **monetization of APIs and data resources** are relying on DLTs such as IOTA Tangle to log usage records, which are later the basis for a trustworthy process and payment to API/data providers;

- The components dealing with **Identity Management and Access Control** can use DLTs to manage access control policies so that they cannot be manipulated and can then be stored and handled in a distributed manner.

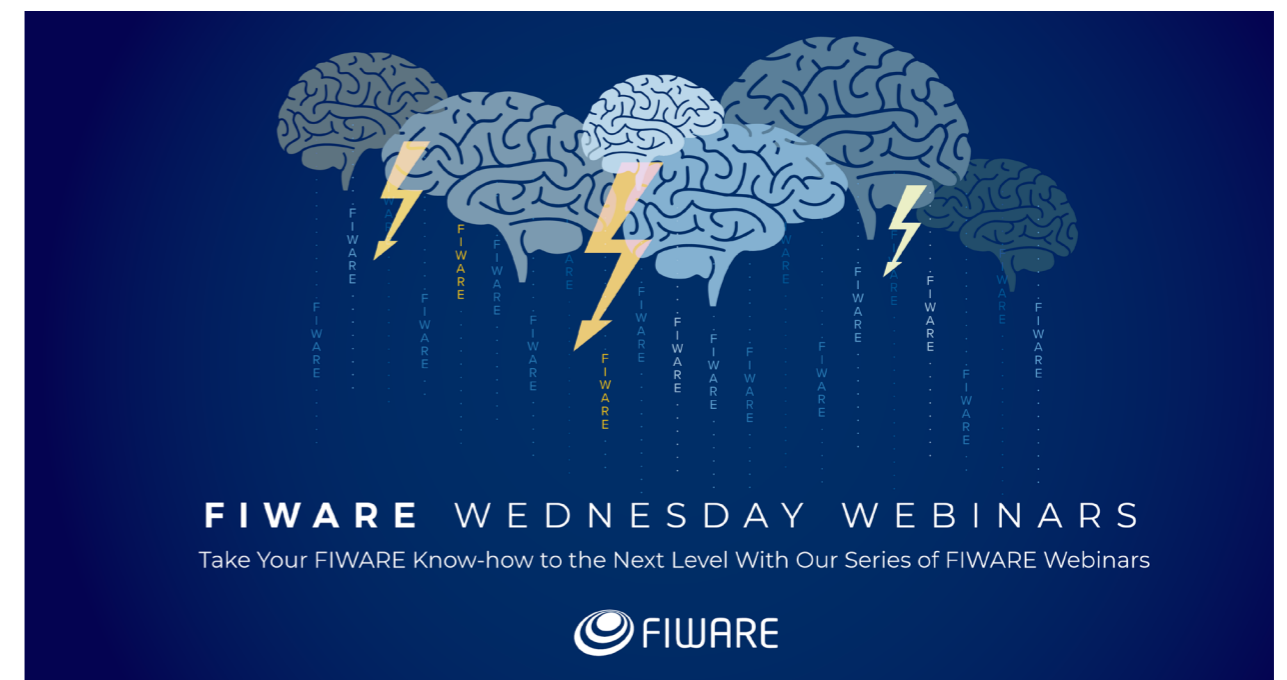The FIWARE Smart Cities Reference Architecture
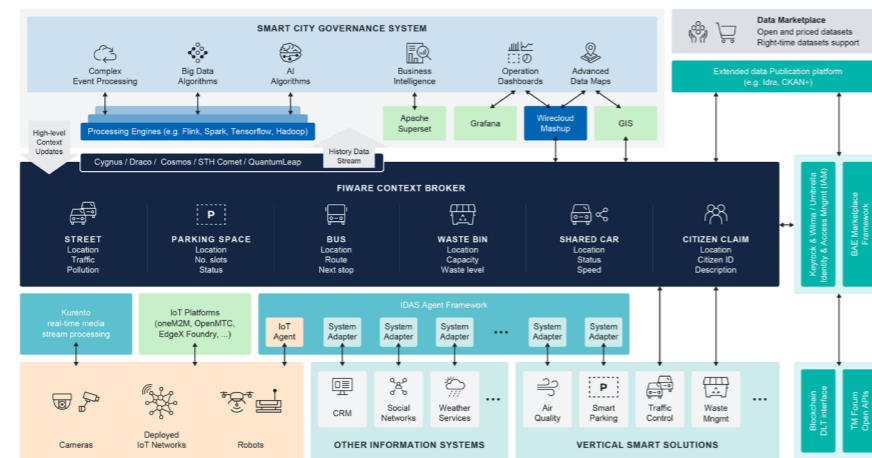
HOT THEMES

Boosting the FIWARE Know-How and Technical Skills

FIWARE Foundation offers a series of training workshops in the form of online webinars. These are designed to appeal to a variety of audiences and are ranked according to their level of expertise. Wrapped under the umbrella of *#WednesdayWebinars* and *Business Boost Webinars*, these virtual experiences cover all there is to know about FIWARE from a technical and a business standpoint. They hereby look at what each of the FIWARE components brings and how apps can be developed using them. They also explain the vision and value proposition of FIWARE in the domains of **Smart Cities, Smart Agrifood, Smart Energy**, and **Smart Industry** as well as showcasing the kind of initiatives members of the **FIWARE Community** are carrying out beyond the development of the technology.

Catered to audiences from Asia to North America, these **live knowledge-sharing sessions cover a broad range of topics** by industry experts on latest and trending skills and technologies. Besides learning about the components present in solutions, platforms, IoT devices, and software enablers based on - or supported by - FIWARE technologies, participants can also stay up-to-date with the leading technologies and trends in digitization for the coming years and hear how they can navigate the economic, political and social elements brought on by the current digital revolution.

Click **here** and stay-up-to-date with our upcoming webinars.

FIWARE WEDNESDAY WEBINARS
Take Your FIWARE Know-how to the Next Level With Our Series of FIWARE Webinars

HOT THEMES

FIWARE Accelerator Welcomes its Newest Partners on Board

Having supported startups and SMEs since 2014 with the FIWARE Accelerate Program — in which over 1,000 startups received €80 million in funding from the European Commission — in April 2020, FIWARE began a new chapter with the **FIWARE Accelerator**. Recognized as an important matching unit between venture capitalists and entrepreneurs, the program focuses on driving high-potential startups and enterprises to develop and bring onto the market innovative smart solutions, based on FIWARE technology.

By offering tailored funding and open call opportunities, business development guidance, global visibility and network, prototype testing within the global FIWARE Community, and access to a global portfolio of relevant industry players, VCs, standardization and research institutions, private and public entities, FIWARE Accelerator strives to bring SMEs and startups to the forefront of innovation, based on Open Source development models.

Different skills put to work for to the greater good

The program works closely with major accelerators and incubators to create business opportunities and deliver technical training for startups and SMEs. Check out who the newest partners are:

The company was established in 1986 and currently operates as an international innovation management consultant with offices in France, Belgium, the UK and Colombia. With over 30 years of experience in the preparation of European research and innovation (R&I) project proposals, Zabala has been a long-term partner of FIWARE and is currently managing over 31 million EUR in cascade funding opportunities. The synergies with FIWARE's work and what it means for the startups enrolled in the FIWARE Accelerator is of great dimension;

Following its early involvement with the accelerator "SpeedUP Europe" — in which FIWARE Open Source was deployed to create solutions for clean tech, Smart Cities and Smart AgriFood — Gateway49 has been created in cooperation with **Lübeck's Chamber of Commerce and Industry** and **Glocal Consult**. The company supports early stage startups working in the fields of life science, food, Smart Cities, logistics and new digital technologies;

The company is a regional internet service provider in Wolfsburg. It is building a fibre optics network in Wolfsburg, together with Stadtwerke Wolfsburg AG. With a strong focus on Smart Cities and Mobility topics, WOBCOM will work with

FIWARE to increase the number of startups and users of smart digital solutions, like FIWARE. Investors day and pitches will be co-organized. During the 3 year collaboration, coaching and training activities will be organized as well as hackathons and challenges;

This is a leading business initiative for the promotion of Baden-Württemberg (Germany) as a hub for innovation and high-tech. As a partner of the programme, bwcon will be promoting the use of FIWARE technology, stimulating the creation of innovative smart solutions, as well as collaborating on virtual events, technical workshops and mentoring for startups and SMEs.

Designed to stimulate networking and facilitate fruitful relationships between companies, research institutions, and centers of excellence, Polo Tecnologico (Italy) aims to set up a group of hi-tech enterprises. A structured and integrated system, it offers several services to its members, including scouting, brand visibility, investors' searches, identification of calls for proposals and funding, and much more. Via the collaboration with Polo Tecnologico, FIWARE will further help high-potential startups and enterprises to develop and bring to the market innovative smart solutions.

In June, the 6th FIWARE Accelerator Partner was welcomed on board. Innoloft is building a B2B tech ecosystem empowered by a network of different organizations. Together with other partners, Innoloft helps boost business and cutting-edge smart solutions from startups to global players.

Since the launch of the FIWARE Accelerator, 100+ open calls have been promoted by the initiative, culminating in several dozen opportunities for funding, partners introductions and tender processes within European-led projects. Other similar agreements with international accelerator initiatives are currently under analysis and will soon be materialized.

FIWARE PRESENCE AT GLOBAL EVENTS

As part of FIWARE's offerings, members and partners have the opportunity to join FIWARE Foundation (as co-exhibitors at FIWARE booths or as keynote speakers) at some of the world's leading conferences.

As face-to-face conferences have been cancelled right and left following the CO-VID-19 pandemic, the FIWARE Community has been heavily present in global digital events instead. In fact, as most meetings have become virtual, allowing participants from all over the world to join in, the FIWARE Community members have been exposed to broader visibility, and network opportunities with new contacts.

FIWARE DAYS

Guided by our Open Source thriving community, we are constantly adapting and harnessing the knowledge, content, and collaboration experiences that our community deserves. On that front, in June 2020 we launched the **FIWARE DAYS**, to cover the main domain focus areas of FIWARE. In just under 6 months, 13 successful virtual events were held and brought together 1.500+ participants and 100+ international speakers from private, public businesses, academia, and associations to learn about how standards are driving the development and integration of smart solutions and platforms. The latest virtual FIWARE DAYS to have taken place were the **FIWARE Energy DAY (Edition 2),** the **FIWARE Mobility DAY (Edition 3)**, the **FIWARE DLT4GOV DAY,** and the **FIWARE Cybersecurity DAY.**

Here is what is coming up next:

>> 8-9 June: FIWARE SMART FEST
>> 10 June: FIWARE Accelerators DAY (as a part of the FIWARE SMART FEST)
>> 21 - 25 June: FIWARE and i4Trust Training

FIWARE Smart Fest

The FIWARE Community is missing meeting fellow community members and partners in person, networking, planning joint strategies and activities, and supporting cities and organizations to become smarter, more resilient, and sustainable.

That's exactly what the **FIWARE Smart Fest** is about. The biggest virtual FIWARE event of the season will take place over 3 days. On **June 08-09**, attendees from all over the globe will listen to deep dive sessions on FIWARE's focus domains, including Smart Cities, Smart Industry, Smart AgriFood, and Smart Energy.

Additionally, interesting use cases using FIWARE open source tech from various fields will be shown, including digital twin, robotics, smart data models, and more. Attendees will also listen to the latest and greatest in tech, including updates regarding GAIA-X, data sovereignty, data spaces, and of course, FIWARE tech.

FIWARE Accelerator DAY

On **June 10**, the **FIWARE Accelerator DAY** takes place. Moderated by **Stephanie WU Qiong**, CEO & Founder, at **CompassList**, a FIWARE media partner, it will bring together the whole FIWARE Community, as well as startups and SMEs from all over Europe.

Attendees will have access to the latest developments in the tech industry and brand-new business opportunities, including some insights on how to monetize with FIWARE.

During the event, FIWARE Accelerator's partners and investors will present their ideas for a smarter and more sustainable future as well as their accelerator programs. At the end of the day, attendees will have the chance to meet up with startups and SMEs in the Airmeet Lounge.

Every year, we also host our very own **FIWARE Global Summit.** It has so far been attended by founders and CEOs of global technology companies, developers, inspiring startups, researchers, policymakers, to mention but a few. Our Summit's attendees and speakers are among the movers and shakers from the field of smart innovative technologies that are driving the digital future.

For further information about the Summit, visit fiware.org/summit.

WHAT'S HOT & HAPPENING

>> May 11 - 12

FIWARE Foundation CTO **Juanjo Hierro** delivers an online presentation as part of the *IOT Solutions World Congress*, to be held between October 5-7, in Barcelona. During the presentation, he reviewed how a Digital Twin approach enables data integration at different levels: architecting vertical smart solutions, within smart organizations and across organizations.

>> May 21

FIWARE Foundation CTO **Juanjo Hierro** opens the Data Spaces Synergy Group Kick-off Meeting, which was co-organized with the Big Data Value Association (BDVA). The Data Spaces Synergy Group brings together a number of EU funded projects (i4Trust, EUH4Data, BD4NRG, PLATOON, Synergy and DataPorts) that have expressed their willingness to collaborate towards accelerating the materialization of open source, standard-based, CEF-compatible Data Spaces in the EU. This partnership will be enlarged with additional participants and also supported by the International Data Spaces Association (IDSA), a FIWARE Foundation member.

>> May 25

FIWARE Foundation CEO Ulrich Ahle presents at BDVA Data WEEK. The event highlighted Horizon Europe and Digital Europe Programme funding possibilities and gives visibility to a large number of European research and innovation initiatives and projects throughout the field. Co-organised by DAIRO/BDVA in collaboration with key members of the Portuguese R&I ecosystem including DECSIS, valuedate.io and **Ubiwhere** - a FIWARE Foundation Gold member - the event addressed how secure data sharing is underpinned by some innovative technologies that need to provide certain guarantees to fully support stakeholders' sovereignty while sharing assets even sensitive ones.

>> May 26

Cristina Brandtstetter, FIWARE Foundation CMO hosts FIWARE's first member matchmaking event. Organized with FIWARE Foundation Platinum member **Red Hat**, the event welcomed 40+ attendees and provided them with an exclusive chance to learn more about Red Hat's initiatives, discover how to develop new offerings together, and create business growth. The next installment of this new format will take place in the next few months with another Platinum Member.

>> May 27

Cristina Brandtstetter moderates the virtual event the *AI Marketplace meets FIWARE*. Part of the FIWARE AI DAY, it focuses on how open source-based AI marketplaces can unlock benefits for AI offerings, especially in the area of product development. The event provides insights on how to bridge the gap between product development and AI and exploit the enormous potential created by an innovative marketplace based on FIWARE technology. FIWARE Foundation is part of the consortium of 19 renewed research institutions, networks, companies and non-for-profit that are driving the AI Marketplace project.

>> June 02

FIWARE Foundation CEO **Ulrich Ahle** joins Alexander Süssemilch (from "Kaffee mit Süssemilch") for a live session to discuss his personal and European view of smart cities. Ulrich provided viewers with interesting insights into "data platforms powered by FIWARE" and explained why they are so important. In addition, they both discussed how cities can achieve their transformation to Smart City and which steps are necessary to achieve this. As a sought-after expert for digital services, Ulrich showcased the benefits of FIWARE by featuring concrete use cases.

Meet FIWARE next at:

Digital Twin Consortium General Assembly meeting
(June 8)

FIWARE Smart Fest
(June 08-10)

FIWARE Camp
(June 16)

Digital.Herne.Business
(June 23)

Check out the **full list** of events that FIWARE will be attending.

WHAT A YEAR!

MEET OUR BOARD OF OFFICERS

October 2020

FIWARE, iSHARE and FundingBox team up for the I4trust Initiative, which will provide small and medium-sized enterprises (SMEs) across various sectors and locations in Europe with the tools, coaching, mentoring and financial support needed for the creation of Data Spaces, thereby facilitating trustworthy and effective data sharing.

November 2020

FIWARE Foundation announces collaboration with the India Urban Data Exchange (IUDX) Program, toward building an Open Source platform that facilitates secure, authenticated, and managed exchange of data amongst various data sources and consumers. The collaboration is a major milestone in the globalization of the standards and technologies developed by the FIWARE ecosystem.

March 2021

The AI-Marketplace platform is officially launched to connect AI experts, providers, and manufacturers to jointly develop AI solutions for more efficient product creation. FIWARE, with its experience in building digital and open source-based platforms, is contributing its expertise in building a marketplace for digital services that deploy FIWARE components and TM Forum APIs.

February 2021

FIWARE Foundation and Digital Twin Consortium® enter into a collaborative agreement to accelerate the development, deployment, and wide-scale adoption of open digital twin technologies. Together, the organizations will drive interoperability, based on information exchange by harmonizing technology components and other elements.

May 2021

FIWARE Foundation joins forces with international publication Renewable Matter to further drive coverage of its initiatives around urban challenges, smarter living and secure data exchange. As part of the partnership, the FIWARE Community will access insightful content on the latest cutting-edge innovations and visions for development that puts people and respect for the planet first.

June 2021

FIWARE Foundation joins living-in.eu, the global movement supporting public authorities, cities and communities in their digital transformation. Given FIWARE's long-lasting commitment to guiding cities to understand the potential of open source technology and open common standards toward creating sustainable, greener living space for their citizens, the partnership is a natural step towards fostering a cohesive and digital Europe.

Ulrich Ahle - CEO

Following his extensive experience in the industrial sector (including Vice President and leader of Manufacturing, Retail & Transportation Consulting & Systems Integration at Atos Germany), helping clients to digitize their business, Ulrich joined the foundation in September 2016. He is on the Board of the International Data Spaces Association and was also on the Board of prostep ivip Association for 16 years, before becoming an Honorary Member in 2019.

Stefano De Panfilis - COO

Stefano joined Engineering Ingegneria Informatica S.p.A. in 1984 and went from Director of R&D Laboratories Department (overseeing 100+ researchers in Europe and beyond) to Chief Innovation Officer of the Engineering Group in 2011. He joined FIWARE Foundation in 2017. Besides his role as COO, he is responsible for the FIWARE Lab Nodes and is also a member of the FIWARE Technical Steering Committee.

Juanjo Hierro - CTO

After a thriving trajectory at Telefónica Spain's R&D Labs (including Industrial IoT Unit's CTO), Juanjo joined the foundation in 2017. His involvement with FIWARE dates back to 2011, when he was already coordinating activities related to the FIWARE platform. He has been heavily involved in the launch of the OASC initiative, contributing to the definition of technical mechanisms adopted by cities joining the initiative.

Cristina Brandtstetter - CMO

With a strong track record of success over her 20+ years international career in Operations, Change Management, Strategy, M&A, Marketing & PR, Product Management, Consulting, build-up organisations of industry/vertical teams and diversified go-to-market channels (among many other areas), Cristina joined the foundation in June 2019 to lead the organization's Marketing, Press and PR teams, with a strong focus on corporate portfolio and partner activities.

PRESS CONTACT

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or for interview requests, please contact:

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Want to be featured here as a Community or Media Partner? Please contact **Val De Oliveira**.