FIWARE FOUNDATION

Your first choice for building the smart digital future
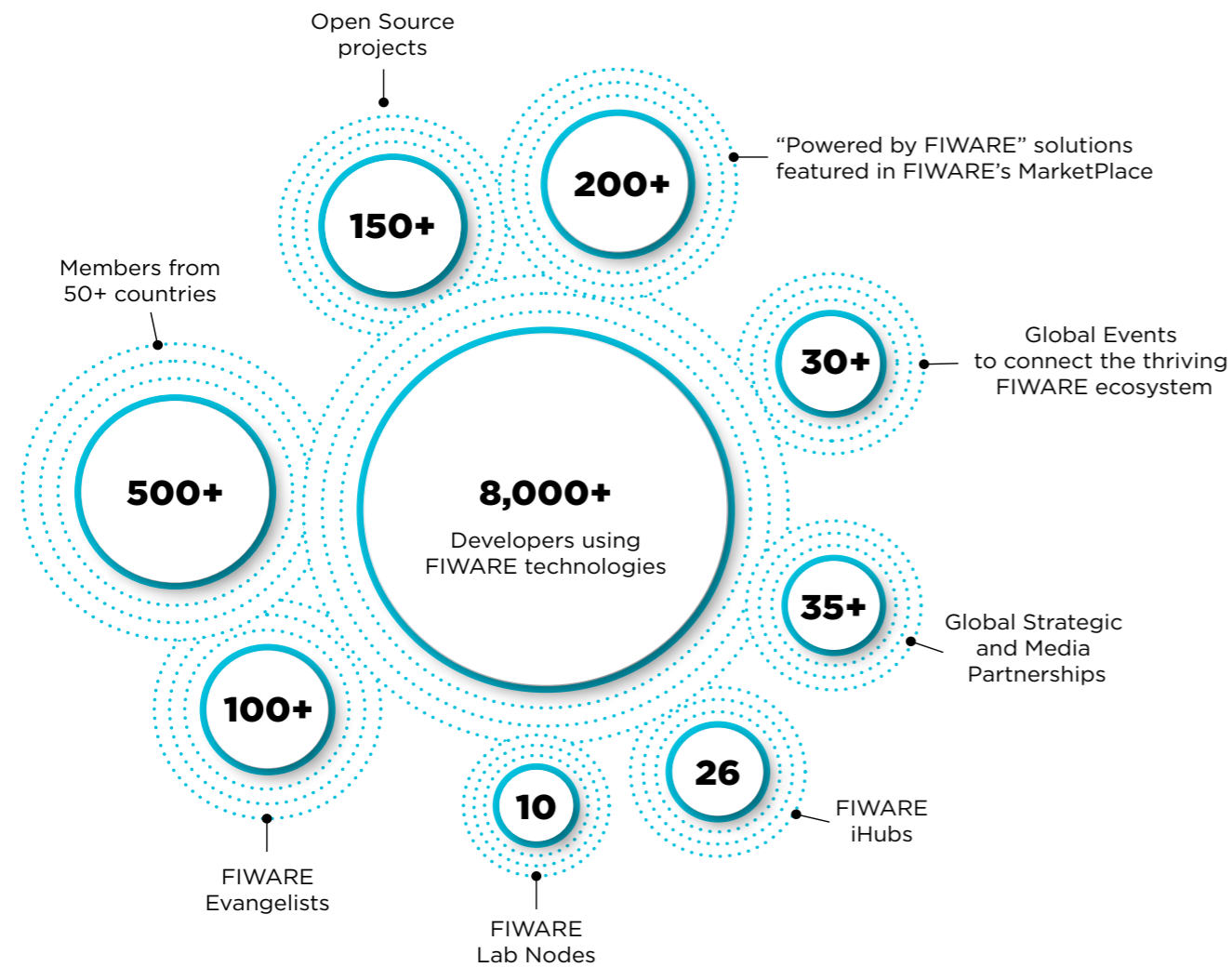
PRESS KIT

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+

200+

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

Members from 50+ countries

30+

Global Events to connect the thriving FIWARE ecosystem

500+

8,000+

Developers using FIWARE technologies

35+

Global Strategic and Media Partnerships

100+

26

10

FIWARE iHubs

FIWARE Evangelists

FIWARE Lab Nodes

WHAT WE DO

Together with its 500+ 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, NEC, Red Hat, Telefónica** and **Trigyn Technologies** among its Platinum members.
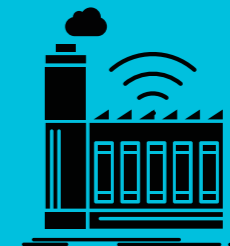
There is more than meets the eye

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.
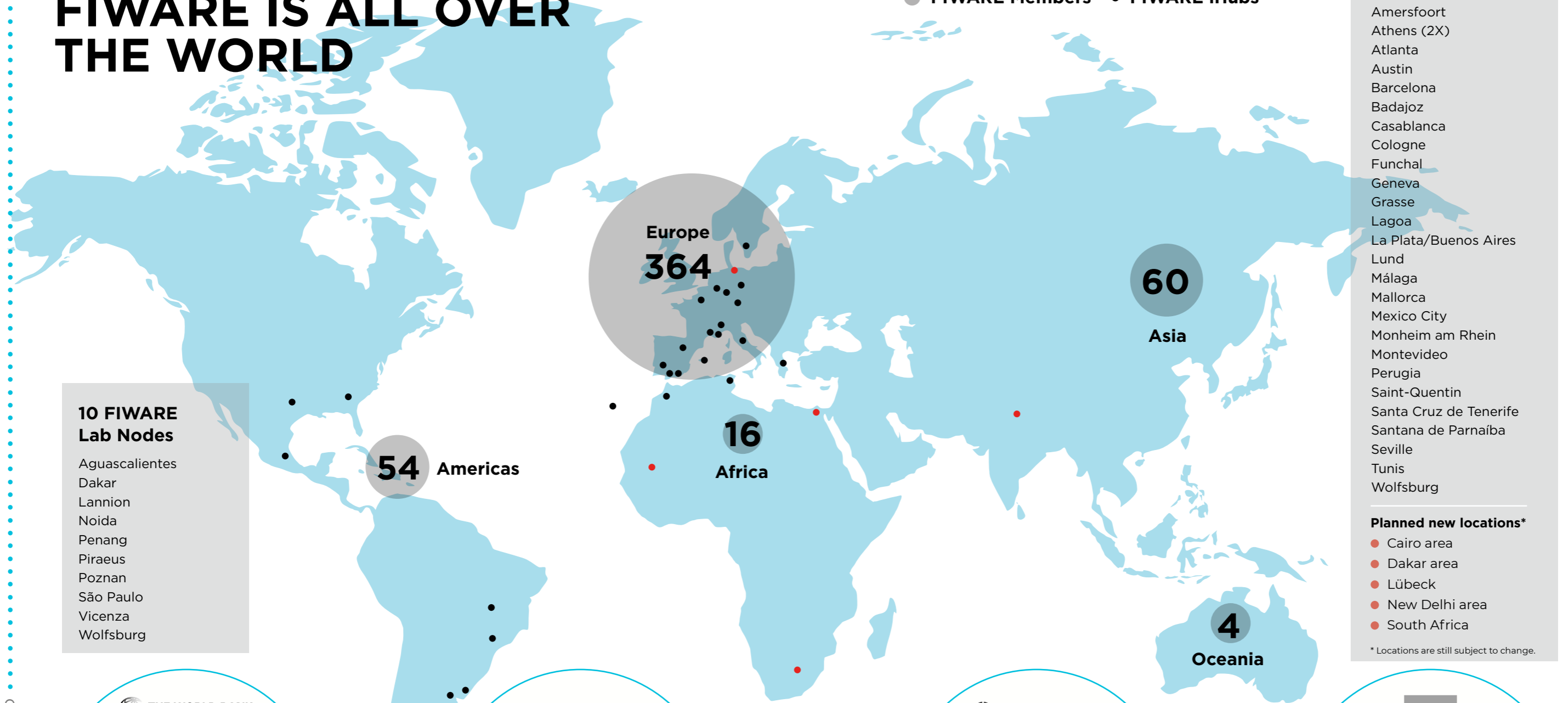
SMART CITIES

SMART INDUSTRY

SMART ENERGY

SMART AGRIFOOD

FIWARE IS ALL OVER THE WORLD

● FIWARE Members   • FIWARE iHubs

iHubs Locations

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

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

* Locations are still subject to change.

Europe
364

60
Asia

54 **Americas**

16
Africa

4
Oceania

10 FIWARE Lab Nodes

Aguascalientes
Dakar
Lannion
Noida
Penang
Piraeus
Poznan
São Paulo
Vicenza
Wolfsburg

SMART CITIES

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP
NEC
Telefónica
VM9
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
FBK
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, under the umbrella of **Horizon2020**, to help build 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

OPEN & AGILE SMART CITIES

ROS

THE WORLD BANK
IBRD · IDA | WORLD BANK GROUP

tmforum

WeGO
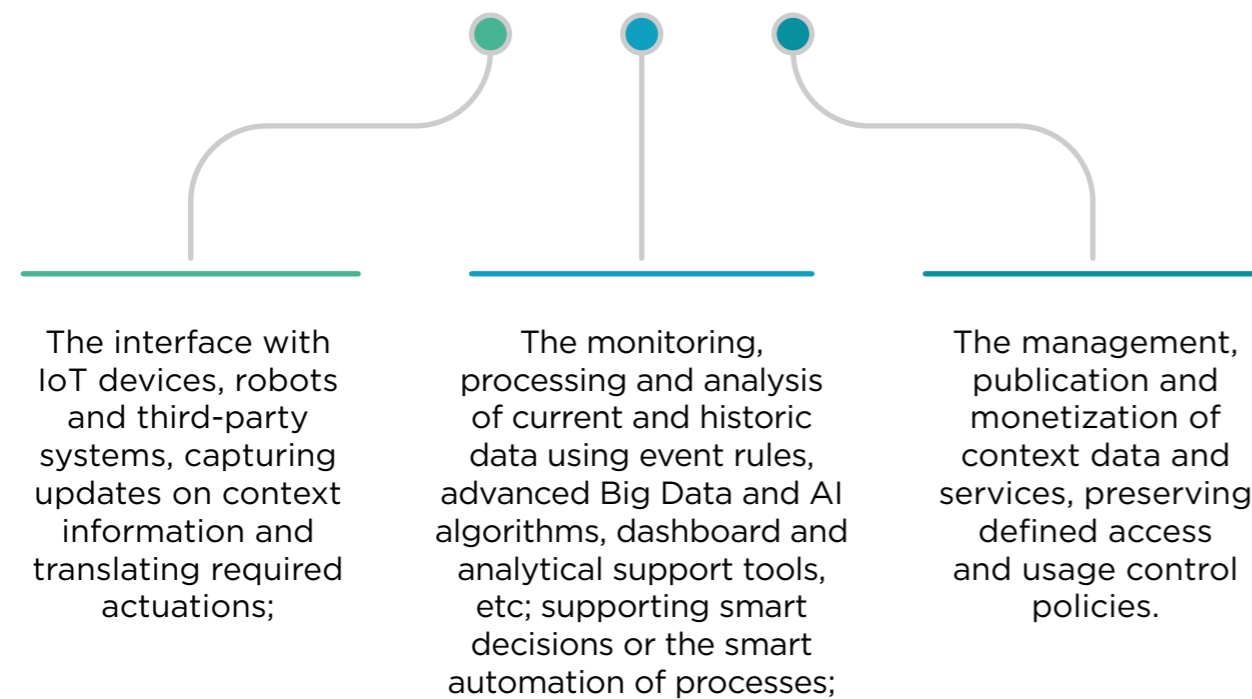World Smart Sustainable Cities Organization

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 a CEF Building Block within their Digital CEF (Connecting Europe Facility) Building Blocks program, under the umbrella of **Horizon2020**. 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.
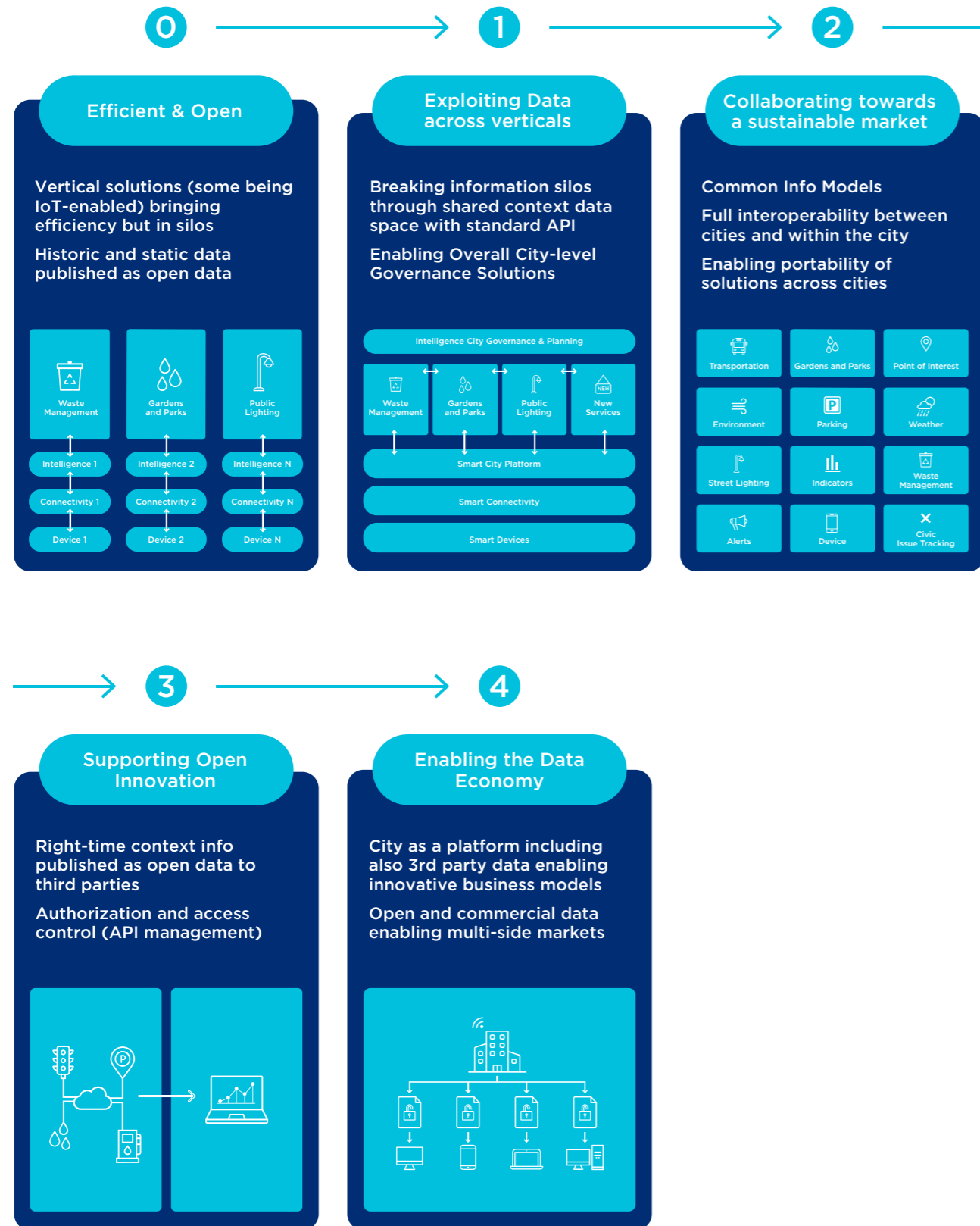
Check out the 200+ global solutions that are already in our Marketplace: **www.marketplace.fiware.org**

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 → 1 → 2

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

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

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 → 4

Supporting Open Innovation

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

Authorization and access control (API management)

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.

MOLINA DE SEGURA *Moderna por tradición*

Molina de Segura (Spain) has deployed its Smart City platform based on high-quality data and the FIWA-RE open source approach, using the Orion Context Broker as a central part of the platform. The platform integrates the city's smart services, based on contextual municipality information to support decision making.

The city of Herne (Germany) has developed its urban development vision that focuses equally on social, economic and ecological aspects supporting resource and climate protection with the use of digital technologies.

Stadt Herne

iTTi

Developed by ITTI, a company based in Poland, CONTRA system offers an added value to the manufacturing sector instead of developing custom infrastructure and integration components from scratch. The solution was developed as part of the DIH2 EU project.

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

FIWARE IN THE SPOTLIGHT

> " FIWOO, one of the first IoT-Editor platforms in the market in which IT skills were not a must-have, is a horizontal, open, modular, scalable, robust, secure, interoperable and integrable platform. It is based on the open source platform FIWARE and its main reference standards, which are based on open source technologies, reference architectures and more than 800 Smart Data Models. "

Reuters, UK

> " FIWARE and IUDX have been working closely during the last two years to foster the adoption of open standards and to create a standard architecture for data exchange open source software. IUDX is one of the active contributors to the data models (Smart Data Models) which are providing the basis for interoperable digital platforms and smart solutions on top of it. With this, replicable solutions are created and synergies between cities and regions are made possible. A standard for data exchange interfaces modeled after IUDX and based on ETSI's NGSI-LD was adopted in June 2021 by the Bureau of Indian Standards as a standard API for Indian cities. "

SmartStateIndia, India

> " El Puerto de Huelva dispondrá del primer nodo de innovación Fiware portuario a nivel mundial, que será puesto en marcha por la empresa Telefónica, adjudicataria del concurso de gestión del nodo de innovación tecnológica, que irá ubicado en el edificio de la lonja pesquera. Así lo ha dado a conocer este miércoles la empresa de telecomunicaciones durante la celebración de la II Jornada de Innovación Tecnológica en Las Cocheras del Puerto de Huelva. "

Andalucía Información, Spain

HOT THEMES

SMART WORLD BY FIWARE

Divided into sectors, the **SMART WORLD BY FIWARE** (made entirely with LEGO® bricks) 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 2020, 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.

The SMART WORLD BY FIWARE is constantly being updated with the latest projects and developments from the FIWARE community.

Following its presence at the **Smart City Expo World Congress** (16-18 November 2021, Barcelona, Spain), the model is now in a permanent exhibition at **Forum Digital Technologies** (Berlin), before it heads out to the **IoT Solutions World Congress** (10-12 May 2022, Barcelona) and the **E-world Energy & Water Fair** (21-23 June 2022, Essen, Germany).

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)
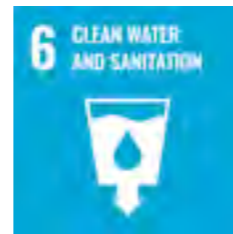
As more and more people move into urban areas, a thorough management of urban growth needs to be in place in order for global issues to be tackled and sustainable development fully achieved. To this end, **B20**, the private sector's voice of the G20 community, addresses the global challenges and priorities 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.

HOT THEMES

The FIWARE Community is powering up cities across the globe

In the last few years, FIWARE adoption has grown considerably among cities worldwide. To showcase how roughly 250 cities (spread across 30 countries worldwide) are benefiting from FIWARE tech on a practical level, in October 2021, FIWARE Foundation launched the second edition of its booklet **FIWARE-4Cities**.

The second edition showcases **62 cities** and **66 solutions** from **18 countries**, and is a footprint of how FIWARE has been helping cities worldwide to understand the potential of open source technology - and open common standards - and get their smart city projects off the ground.

The booklet will soon become a book including 100+ cities showcasing precisely how they have turned to replicable, ready-to-use FIWARE-based solutions to improve the competitiveness of businesses and citizens' participation.

Smart Cities worldwide trust FIWARE technology.

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

#SmartCitiesBooklet
FIWARE 4 CITIES / Ed.2

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:

Located in Bangkok (Thailand), **BlueSharp** is a leading provider of innovative solutions helping businesses ensure that product and service quality is improved or maintained. Its end-to-end digital transformation services speed up the digital transformation process by craft and clear integrated strategy.

Deloitte has approximately 286.000 people working in 150+ countries, and provides audit and assurance, consulting, financial advisory, risk advisory and tax. For Deloitte, business and technology innovation are linked and the need for technology-enabled business transformation services and partners such as FIWARE is fast growing.

The most important technology centre in Catalonia (Spain), **Eurecat** serves the industrial and business sectors. It offers solutions towards boosting the region's innovation and competitiveness as we live through a fast-paced environment. Eurecat integrates more than 450 professionals and participates in over 160 R&D&i high-level strategic projects.

An energy service provider with 20 years+ of experience, **TYF Energy** delivers advanced services for energy management and efficiency, renewables integration and optimization, asset management, and home automation. The company's vision is to lead the energy transition by providing innovative solutions to its customers.

HOT THEMES

FIWARE iHubs Network

Serving as innovation engines, the **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 30 on a global scale. The new joiners to the FIWARE iHubs network span a range of industries and concrete offers:

>> DigiCityConnect FIWARE iHub (U.S): Located in Atlanta, DigiCityConnect is a solutions company providing IoT/5G platforms for smart city applications. It will use the iHub to broker public and private data for application within smart cities to solve problems that only an open community can address. Through its extensive community, the iHub aims to leverage already available smart city infrastructure and IoT capabilities and drive the adoption of FIWARE tech within the region.

>> MOA GLOBAL (Brazil): MOA is an IoT developer of hardware and firmware mainly focused on smart cities, agro, health as well as tracking and logistics. By joining the FIWARE iHubs network, MOA GLOBAL aims to extend the IoT ecosystem that's part of the FIWARE community as well as connect companies, universities and research centers working on IoT projects.

>> Maroc Numeric Cluster (Morocco): A public-private governance association, Maroc Numeric Cluster has been promoting digital innovation in Morocco and internationally since 2010, due to its large network of members and partners (large companies, SMEs, start-ups, academic institutions, research centers). By joining the network, the organization will contribute toward helping entrepreneurs that will, in turn, create jobs and develop innovative solutions to solve African problems.
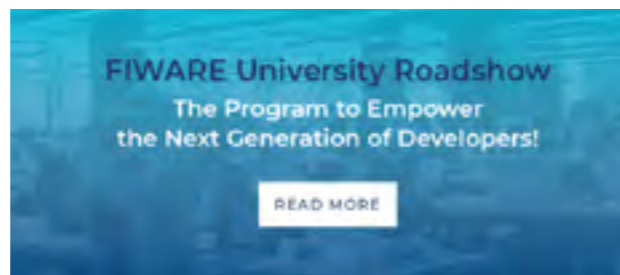
>> ATIO - Advanced Technology and Innovation Organization (Spain): An association aiming to develop the use of digital technologies for the intensive agriculture production systems and the sustainable development, Atio is focused on automated intensive farming systems, and smart water. The iHub will use the FIWARE platform to help and support farmers and practitioners of intensive farming systems in the region of Catalunya through training and technical assistance.

>> Digital Innovation Hub of the Balearic Islands in Artificial Intelligence in Tourism and Agri-food - DIHBAI-TUR (Spain): The Digital Innovation Hub (DIH) of the Balearic Islands for artificial intelligence within tourism and agri-food, DIHBAI-TUR aims to promote digital entrepreneurship, support and boost a digital ecosystem of companies (specially SMEs). By joining the other FIWARE iHubs, DIHBAI-TUR strives to be part of the growing FIWARE ecosystem, learn from successful use cases and generate specialised knowledge within the region.

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.

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.

During the **FIWARE Smart Fest**, Ed. 2 (Jan. 19-20), the **FIWARE Scientific Advisory Board** organized a session to reinforce its commitment to fostering developments and innovations in the field of open source, open data, Big Data, context information management, standardization of interfaces and standard data models, blockchain, AI and Digital Twin. Attendees from the academic community also learned about how these topics are related to Data Spaces.

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.

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 200+ global solutions are already featured in our Marketplace and the number of offerings continues to grow. Check out who the latest joiners are:

>> Snap4City: **Scalable Smart aNalytic APplication Builder for Sentient Cities**, a "powered by FIWARE" solution provides flexible methods for the agile creation of a large range of smart city applications that exploit heterogeneous data, thereby, enabling services for stakeholders across many different areas.

>> SRM Consulting: Created initially for the execution of cartographic production works, the organization went on to become a company with a highly innovative and technological apparatus and solutions. One of these solutions is **MavDrone**, an extension of the solution Ipsilum Aerial Solution (IAS). IAS is a platform developed for the command and control of drone fleets and has already been used in several mapping and mission monitoring projects.

>> Seneco: The sensor-based, connected **Citygrid** solution ensures that street lights/lamps always light up when presence is detected, and dim down after some time. When a lamp fails, the information can be dispatched immediately so maintenance can be planned accordingly. The solution is already being deployed across several European cities.

Apply to be certified and featured in the FIWARE Marketplace here:
https://marketplace.fiware.org/apply

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, 2020.

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 October 2020, 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.
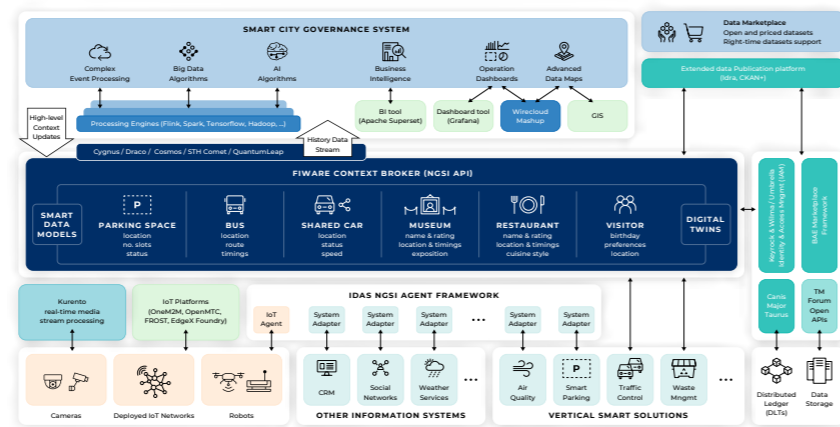
As disruptive technologies such as Blockchain, AI, and Distributed Ledger Technologies (DLTs) - to mention but a few - assume key roles in accelerating the development, governance, and operation of businesses in a more trusted, accountable, and transparent manner, FIWARE has added these technologies 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*, *Business Boost Webinars*, and *Hop-on Sessions* 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.

Visit and stay-up-to-date with our upcoming webinars:
www.fiware.org/community/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, 120+ 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

Smart City Expo World Congress - SCEWC *(November 16 - 18, 2021)*

During **SCEWC 2021**, the FIWARE community met in person to discuss issues around smart cities and regions and the role played by AI, Digital Twin, blockchain, data spaces and much more. Some highlights from the event:

- 14,934 In-person attendees
- 21,210 Online attendees
- 452 Exhibitors
- 350 Speakers
- 120 Countries
- 15 Co-exhibitors present in the FIWARE booth - including 03 iHubs and 03 European Projects
- 30+ Daily live demos and presentations by FIWARE's co-exhibitors and partners
- Dozens of international media outlets covering the FIWARE booth
- The **Smart World by FIWARE** (made with Lego® bricks) became the biggest attraction of the event.

© FIWARE Foundation

On September 14-15, 2022, FIWARE will be hosting its **Global Summit**. The 2-day event will take place in Gran Canaria (Spain) and will be filled with world-class innovation, collaboration, and networking. Open to FIWARE members, partners, enthusiasts and newcomers - from startups to global players, public admin to academia, developers to strategists, project managers to CxOs - the Summit showcases the disruptors that are driving the digital transformation of cities and regions.

Looking into joining the FIWARE community, our global ecosystem, or finding out more about the impact and opportunities presented by open source technology? Then this Summit is for you. Visit **fiware.org/summit**.

FIWARE Smart Fest, Ed. 2 *(January 19 - 20, 2022)*

Held over two-days, this virtual event provided attendees with a 360° view on Data Spaces. From successful available use cases and best practices to hands-on tips to joint discussions on policies, attendees heard it all from a great lineup of featured speakers.

Some highlights from the event:

- +700 Registrations
- +550 Attendees
- +85 Presentations
- 17 Sessions

IoT World Congress 2022 *(May 10 - 12, Barcelona, Spain)*

Once again, FIWARE will be attending the **IoT Solutions World Congress** (IoTSWC), the largest international event devoted to innovation in the industrial internet of things (IIoT). Showcasing solutions around Manufacturing, Healthcare, Energy/Utilities, Buildings/Infrastructure, Connected Transportation and others, dozens of members from the FIWARE Community will get together with leading industry experts to present the trends that are driving this rapidly-expanding market.

E-World Energy & Water 2022 *(June 21 - 23, Essen, Germany)*

FIWARE is returning to the **E-world conference** alongside its Platinum Member Atos to present solutions around Smart Energy and Water. Our booth will also showcase the acclaimed Smart World by FIWARE. The E-world Energy & Water 2022's conference program includes topics such as the digitalization of energy supplier sales, electromobility, legal aspects of rolling out charging infrastructure, and business models for energy efficiency.

Check out the full list of events that FIWARE will be attending or organising within the next few months: **www.fiware.org/event-directory**

WHAT'S HOT & HAPPENING

>> December 16

Ulrich Ahle, FIWARE Foundation CEO, delivers a presentation during the Data Spaces Business Alliance's ***'Brokering Event for European Data Spaces'***. Curated under the umbrella of the European Commission's Digital Europe Programme, the event was designed to build European data spaces across specific sectors, and was driven by an impressive lineup of speakers from the European Commission and beyond.

Event's Highlights:

- **750+** registrations;

- **550+** active participants;

- **300+** matchmaking activities;

- **100+** one-to-one meetings;

- **60+** pitches.

Launched in September 2021, the Data Spaces Business Alliance (DSBA) is a joint venture between the Big Data Value Association (BDVA), FIWARE Foundation, Gaia-X European Association for Data and Cloud AISBL, and the International Data Spaces Association (IDSA) to drive the adoption of data spaces across Europe and beyond.

>> January 2022

FIWARE and the Open Compute Project Foundation join forces to produce a white paper on the role played by open source development and open innovation. In the very collaborative spirit that FIWARE Community members cherish, this White Paper has been written with dozens of members and partners and addresses **how cities can mindfully advance their digital transformation via open source innovation, from a** practical perspective.

This White Paper features some examples of open source-based solutions and projects from **Atos, bee smart city, Data Spaces Business Alliance, FIWOO, ICT Innovation Network - Slovenia, NEC Laboratories Europe, Red Hat, SmartCitiesWorld** and the **TOKEN Project.** Find out how such solutions and projects are tackling the management of smart environments within cities.

Download your copy here.

Smart Data Models Program

Smart Data Models is a global and collaborative program driving the adoption of *"de facto"* standards of data models for digital twin classes across a wide range of domains. The mapping of these data models into concrete JSON/JSON-LD structures - provided under this program - has become a crucial asset for developers looking for means to guarantee interoperability between different internet and cloud solutions, breaking vertical data silos within organizations and enabling data sharing among organizations within data spaces, at a fast speed.

Led by **FIWARE**, **TM Forum**, **IUDX** and **OASC** the program follows a truly open approach and is boosting the creation of a global open data and open source community. Providing roughly 700 new Smart Data Models after its first operational month, it aims to grow the number of new models by at least 20% yearly and extend its community via the many more co-leading organizations and contributors that are yet to join.

You can join this unique and impactful program anytime by simply contacting us on **Github** or **smartdatamodels.org**.

WHAT A YEAR!

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.

November 2021

FIWARE Foundation joins the **Mobility Data Space**, a data sharing community for the mobility sector. With 16 initial use cases (of which two are powered by FIWARE) from multimodal mobility to smart parking management, it aims to facilitate competition around innovative, environmentally friendly, sustainable, and user-friendly mobility concepts by giving all users equal and transparent access to relevant data.

September 2021

FIWARE Foundation signs the **SmartCitiesWorld Open Letter** to COP26 (United Nations' 2021 Climate Change Conference) leaders. The letter asks cities and organisations to pledge their support to 10 major guiding principles that should be reflected in any final agreement following the UN conference in Glasgow (Oct 31, 2021 – Fri, Nov 12, 2021).

January 2022

FIWARE and the India Urban Data Exchange (IUDX) announce the formation of the **International Data Exchange Alliance (IDEA)** to encourage standard-based development of solutions to allow multiple organizations - in different application domains - to exchange data. IUDX is an initiative from the India smart cities mission, spearheaded by the Ministry of Housing and Urban Affairs and is being developed and implemented by the Indian Institute of Science (IISc).

February 2022

Over the past years, FIWARE has not only been part of several European Smart Water projects, rolling out dozens of pilots in this important domain, but also many projects have been realized thanks to FIWARE's know-how within the sector. Hence, it was only natural that Water became FIWARE's fifth core domain, with the respective Mission Support Committee being announced in February. **Franck Le Gall** assumes the Chairman role, with **Aitor Corchero Rodriguez** and **Davide Sergio Storelli** as Vice-Chairs.

MEET OUR BOARD OF OFFICERS

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

Want to be featured here as a Community or Media Partner? Please reach out to:

press.office@fiware.org

◄ Need further media resources? Please access our Press releases, branding guideline, download our Press kit, videos and high resolution pictures of our Board of Officers in our Press Area.

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RM RENEWABLE MATTER

Smart Cities World

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