Innovation Action

D.2.12: Analysis of FIWARE Community Evangelization (Y1)

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Author: Stefano De Panfilis (FF)
Contributors: Fernando Lopez (FF), Juan Marcelo Gaitan (Telefonica)

Executive Summary

One of the main tactical approach to expand the FIWARE Community and even more the FIWARE Ecosystem is evangelisation. In the FIWARE context this means to create and pursue favorable and capillary actions to make FIWARE know at local and concrete level.

This document describes the very positive solution the FIWARE Community gave to this problem by setting up the FIWARE iHubs Initiative.

Table of Content

1. Introduction

One of the main tactical approach to expand the FIWARE Community and even more the FIWARE Ecosystem is evangelisation. In the FIWARE context this means to create and pursue favorable and capillary actions to make FIWARE know at local and concrete level.

Indeed, very often there is good software which becomes misuse or even more significantly under-used simply because it is not put at attention of the people that in the shall use it.

So, it is not enough that a nice and appealing internet landing page does exist, it must be substantiated by concrete and local presence of FIWARE recognised and recognisable experts.

To satisfy the above requirements the FIWARE Community developed the concepts of FIWARE iHubs which basically are local competence centers where FIWARE adopters and/or interested people and organisation find at a very large extent local support.

In the following sections of this document the FIWARE iHubs initiative is described together with a real example of a FIWARE iHub. The document ends with some lessons learnt and future plans.

2. The FIWARE iHubs initiative

2.1. Think globally but act locally

Think globally but act locally is a distinguishing mark of the FIWARE ecosystem. The network of FIWARE iHubs will play a fundamental role in building the community of developers adopting and contributing to FIWARE, acting at local level. The FIWARE iHubs Programme aims at **supporting the creation and the operations of iHubs nodes worldwide.**+

Thr FIWARE iHubs initiative is supported and coordinated by a specific FIWARE Foundation Mission Support Committee. The activities performed by this committee are recognised and approved by the FIWARE Foundation Board of Directors.

2.2. FIWARE iHUBs

Business hubs, determined to incubate and encourage new services, play an important role in the global ecosystem that FIWARE is spinning.

As in webs, all nodes are essential to build a lasting and strong structure; but, in this case the wider the web, the stronger the structure.

To encourage the growth of the digital economy, FIWARE enables local digital hubs to enrich their services, to spin a network of enabling communities and to further support new internet-based business creation at local level.

It is an effort to expand the reach of FIWARE technologies, so that as many companies or even individual developers as possible can have an easy first contact with FIWARE and take full advantage of it.

2.3. FIWARE iHUBs PROGRAMME

Think globally but act locally is a distinguishing mark of the FIWARE ecosystem. The FIWARE iHub Programme is a global initiative to support the FIWARE mission, by building communities of adopters and contributors at a local level.

The Programme aims to support the creation and the operations of iHubs nodes worldwide.

2.3.1. Structure

At this moment, the FIWARE iHubs Programme is being assembled as a crucial part of the FIWARE Community, in collaboration with the FIWARE Open Source Community and the rest of FIWARE programmes. All together, they will continue their contribution to building the FIWARE ecosystem and make it sustainable over time.

Coordination of activities linked to the FIWARE iHubs Programme takes place in the FIWARE iHubs Ecosystem Support Committee whose members are encouraged to work together in:

- Providing them with local training and support.
- Supporting the acceleration of SMEs and Startups locally.
- Strengthening the links with domain stakeholders.
- Connecting with the local academic world and defining action plans.
- Connecting with leaders of R&D programs at a local level.
- Instructing about the Programme and impelling its adoption by more hubs, pushing the Programme a step further.
- Granting the FIWARE principles of openness, transparency and meritocracy through the entire process and for the whole Innovation Hubs community.

2.3.2. Key components of an iHub

- iHub potential
  - Physical venue
  - close to companies
  - close to entrepreneurs
  - close to institutions
  - close to universities and students
  - close to the local market
  - Physical space where the FIWARE community is brought to life
  - Functioning as the headquarters of FIWARE in different places
  - Having FIWARE experts
  - Having the FIWARE technology available for teaching purposes
  - We speak the local language
- Enter point to the European market for companies and SMEs
  - The point to connect local companies to European initiatives

- Groups interested in a FIWARE iHUB
  - **Start-ups and local entrepreneurs** interested in expanding around FIWARE
  - **Companies** that wish to know how to adapt their products and those who are looking for solutions for their companies
  - **Local authorities** and other public institutions that need to learn about FIWARE solutions and market services which can already be applied in their cities, as well as those which are being developed for the immediate future
  - **Universities, educational establishments and secondary schools** that would like to incorporate this technology in their syllabus and therefore need to educate their teachers and pupils about this future technology
  - The mass media, whose purpose is to get to know and popularize the newly created ecosystem, so that society can learn about the solutions offered by FIWARE.

2.4. The FIWARE iHub Mission/Vision

2.4.1. MISSION

Support the growth and consolidation of the FIWARE community by working locally on disseminating and introducing the technology to interested parties: public administration, companies, entrepreneurs, start-ups, educational establishments and citizens.

Support the development of the entrepreneurial ecosystem and work initiatives associated with developing new FIWARE applications and services within the framework of IoT (Internet of Things), as well as all its implementations (Smartcity, SmartAgro, Industry 4.0, e-Health, etc.) in order to facilitate the creation of new FIWARE products and their entrance into the market.

Bring the FIWARE technology and its benefits closer to potential consumers (institutions, big companies, agricultural cooperatives, etc.) so that they learn about its advantages over other solutions.

Build local communities where the position and role of FIWARE would be developed, boosted and consolidated.

2.4.2. VISION

The following points will refer to some of the key concepts that define an iHUB and its functions within the FIWARE ecosystem.

- The iHubs are the physical representations of the FIWARE community
- They will occupy real, physical space thus enabling work with FIWARE teams and learning about FIWARE solutions
- Their purpose will be to spread and promote the benefits of FIWARE
- First and foremost, they should be devoted to instructing and educating, but also to helping and advising the interested parties
- iHub should be a collaborative space for the whole FIWARE community where the cooperative work will boost new projects
- The iHubs will need to understand the needs of companies and institutions in order to establish a good, strong synergy between one another
- The iHubs must be able to match the demands of the local market with the capabilities of the FIWARE community, strengthening both and boosting the growth of the ecosystem
- They should be able to spread the FIWARE message among the local enterprises and get stable local communities to join them
- The fundamental mission is to detect and establish knowledge between the companies, start-ups, entrepreneurs and academic research groups in order to channel them into the FIWARE community, which in turn will make the community grow
- The iHubs are a link between the local and the global; they shall be the eyes and hands of the FIWARE community on its premises. They are the means that allow movement from the global to the local and from the local to the global

Because of all the above reasons, an iHub must exist and evolve alomng the following axis.

- An iHub must be a **FIWARE meeting point** helping that stakeholders interconnect each others locally
- An iHub must be in a possession of a **FIWARE School** with lecture rooms and labs
- An iHub must have a **FIWARE Consultant/Certifier** for the SMEs and the local ecosystem
- An iHub must have a **FIWARE Showroom** with all the FIWARE certified products

For each of the above axis, there will exist concrete “facts to test” that will be considered when evaluating FIWARE iHub applications.

Should a FIWARE iHub run a FIWARE Lab node? Not. But they have to have knowledge on how to use it which bottom line means owning connection to some FIWARE Lab node.

2.5. The FIWARE iHub ecosystem and capabilities

We now describe the agents and entities with which a FIWARE iHub should connect to, indicating, for each one, what is the value proposition that existence of a FIWARE iHub may bring.

- ***FIWARE community***
  - ***FIWARE Foundation***
    - Incorporate the benefits of FIWARE in the local ecosystem
    - Report all the activities of the iHubs
    - Serve as a reference for all the required communication and popularization
    - Identify and evaluate the potential of the SMEs which form the local iHub community
    - Certify and supervise the level of expertise among the companies which form the local iHub ecosystem
    - Make the community grow by reaching out directly to the business sector
    - Increase the knowledge of this technology among the local institutions
    - Reach an agreement with the universities about bringing knowledge of this technology to their classrooms
  - ***FIWARE Accelerator***
    - Help the accelerators find new companies
    - Help the accelerators in the process of identifying companies which are open to reinforcement
    - Support the accelerators in the FIWARE coaching programme
    - Help companies know about calls for acceleration
    - Help the businesses devise their solutions using the FIWARE technology and present them at the acceleration meetings
  - ***Members of the Foundation and the ecosystem in general***
    - Serve as a place of reference for the members of the Foundation
    - Be a place where the members can go, learn and share their experiences
    - Be a place which encourages networking, collaborative projects and the development of the ecosystem
    - A place where the members can present their solutions and achievements

- ***SMEs/ Start-ups/ Entrepreneurs***
  - ***Regarding the training***
    - A physical space which enables working with FIWARE teams and learning about FIWARE solutions
    - A space that offers support and advice concerning FIWARE
    - A training room in FIWARE technology
    - Where help is offered in adapting products to the technology
    - Where it is possible to test the actual platforms
    - Where you can organise workshops which bring you in contact with other solutions
    - A real space where you can receive specialized coaching

        - And receive advice regarding different FIWARE areas
    - **Regarding the community**
        - A site where networking with other businesses can take place
        - The entrance and connection to the FIWARE community
        - Where you see and learn about solutions already existing on the market
        - Where you find information and get assistance in the acceleration processes
        - Where you can get an official certificate regarding the knowledge of the technology
        - And obtain the official certificate for the IoT Ready product
    - **Regarding marketing**
        - A place which allows testing and validating of the services and products in actual systems
        - Where the developed solutions get certified and receive official approval
        - Where displays are organised in real context
        - Where products are presented to the potential clients: businesses, administrative organisations, tech-clusters, etc.
        - Where commercial presentations are made and spread of solutions
        - Marketing product support
        - Support in making it an international company
        - Help in raising funds for its evolution
        - Priority access to fairs and other events organised for this sector
        - Support the spread and commercialisation of the solutions on the market
        - Help in the search for potential clients

- **University and the education sector**
    - A room designated for FIWARE technology training
    - IoT lab
    - Access to the FIWARE platform
    - Contact with the FIWARE community
    - A place to organise workshops, training and informative meetings
    - A place to train teaching staff
    - A place to train students
    - A place to train research groups
    - A place to network with the business sector
    - A place to exchange information between the University and the company
    - A venue for constant growth and innovation

- **Companies**
    - A venue for training and learning about FIWARE technology
    - A place where one can find innovative and approved FIWARE solutions
    - Where one can network with start-ups and entrepreneurs
    - A place where one can try real samples which might be of use for their business
    - Where one can acquaint themselves with various platforms created by FIWARE
    - The entrance to the FIWARE community
    - A place to exchange information between the company and the University
    - Help and advice of the European Funding Programmes associated with FIWARE

- **Institutions (public sector)**
    - A venue for training and learning about FIWARE technology
    - A venue for workshops and specialist events
    - A place where one can receive professional counselling about FIWARE products and solutions of the Smart City world, Industry 4.0, SmartArgo, etc.
    - Where one can see real samples of the approved FIWARE solutions
    - Where one can get to know the existing solutions and learn about the achievements of others
    - Meeting point of the FIWARE community
    - Meeting point with start-ups and entrepreneurs

2.6. Strategic concepts for a FIWARE iHUB

For all the above-mentioned reasons, an iHub must be developed along 5 strategic axes:

- **iHub Centre:** A venue in which the life of the local community is built
- **iHub School:** Specialized labs which enable the development of new FIWARE solutions and services
- **iHub Platform:** Real platforms used to certify and approve final solutions
- **iHub Market:** Actions which aim to help in the popularization of FIWARE solutions
- **iHub Community:** Links the local ecosystems so that the local community can grow and consolidate

2.6.1. iHub Centre

An iHub must be a physical venue with clearly defined premises and which facilitates the creation of the local ecosystem.

A venue of business activity which will help the FIWARE concept to materialize itself; a reference point for all the companies and local institutions which would like to be members of the community

A physical site which will represent home for the FIWARE community where one can turn to in case of any doubts or needs, and where the strengths of FIWARE can be advertised and shared with companies and institutions that come to visit it.

A place for imparting information, holding events, having talks and networking with the businesses

It would be indeed important to provide a physical venue to make all these things happen, but what's even more important is having prepared and qualified staff who would be able to bring the iHub centres to life and achieve the assumed goals.

It should be an indispensable requirement that the people in charge of the centres be members of FIWARE community and the Foundation

Ultimately, the iHub Centre shall be a physical venue in which the life of the local FIWARE community will develop.

2.6.2. iHub School

iHub Centre will widely cover the daily life of the local FIWARE community, however, in many cases certain members of the community, especially SMEs, will require specialized resources to make progress and develop their products and solutions

An iHub will rely on physical venues equipped with the necessary technology to let the SMEs, education sector and institutions organise workshops and participate in professional practices. All of which are essential to the learning process as well as testing and developing new products and market services.

These hubs will run practical training with the real technology which will be fundamental to the evolution of FIWARE products.

The labs will be managed by qualified staff members trained to help companies in the education process and integration of their products with the FIWARE technology

The labs will consist of two fundamental parts - internal space for trainings and an external lab or public areas where the solutions will be tested in an authentic context.

This type of external laboratories is crucial for the development of Hardware solutions as they allow to test the functions of the products in real context.

In order to do that, it’s vital to make agreements with institutions or companies that will permit the use of their equipment.

2.6.3. iHub Platforms, Products and Services

The two previously mentioned concepts concern different phases of education and training in the companies and institutions, with regard to FIWARE technology.

The next step, following education and training, will be using the necessary tools to verify the acquired skills.

In this strategic axis, it is crucial to assist SMEs in obtaining the quality certificates which will allow them to take another step on the way to commercialising their solutions.

For this reason, it will be crucial to have access to at least one real FIWARE platform, similar to the one that will be launched onto the market (Smart Cities, Smart Agro, etc.); where one will be able to run different trials.

It's important that the SMEs, which are a part of the FIWARE ecosystem, have access to a place where they can test their solutions, integrating them and reinforcing existing ones. Not only does it facilitate and enhance the emergence of new solutions, but also creates networks which help in the growth and stability of the community.

Apart from being a validation tool, FIWARE iHub and FIWARE platform will be a repository of certified solutions and models within the iHub framework. By adding a real physical space to the platform, we will have a place at our disposal in which we will store and display, in an informative and educative way, all the existing FIWARE solutions, and most importantly, the solutions which have been developed at a local level.

Once an SME has finalized its training and has a viable product, the iHub must be the place where it can be located and fit into the puzzle of the local and worldwide FIWARE community.

It's in this axis where the SMEs find themselves in an optimal situation to start the acceleration process with the aim of reaching the next level - entering the market.

2.6.4. iHub Market

This is the essential part in the chain and in many cases an ultimate goal because, thanks to it, local SMEs can be incorporated into the FIWARE ecosystem.

Given its vicinity to the companies and institutions, and the formality of the ecosystem which is supported by the Foundation, the iHub becomes the key element and warrantor of the solutions and services. In regard to possible customers and users, it creates confidence and trust in the FIWARE products and solutions.

Because of that, iHubs can become advisers about FIWARE solutions.

The iHubs are in the perfect position to assist in the development of new FIWARE products and solutions which enrich the ecosystem, as they are a node for the SMEs to the commercial world and sales.

All the companies that will create and develop a FIWARE product will want to display it in the FIWARE centre, which on one hand contributes to the consistency and the required certification and, on the other hand, provides a place of passage for many of their future customers.

Furthermore, iHub centres are connected to the local entrepreneurial ecosystem, which allows the SMEs to present their products at fairs and events organised in their area.

Finally, the agreements between iHubs and local authorities will open doors for many products made in the area, deploy them and promote as examples of real success.

The iHubs and the whole ecosystem around them will attract media attention, which will benefit the SMEs.

2.6.5. iHub Community:

The iHubs can and must support the growth and consolidation of FIWARE community by working locally on disseminating and familiarizing the interested parties with the technology.

An iHub has to be able to build a local ecosystem around itself, which will help to promote the technology as well as the benefits of FIWARE and, ultimately, will be fundamental to the consolidation and growth of the FIWARE community.

For this reason it is critical that the FIWARE iHub have access to and interacts with different local agents who can help achieve the mission.

The local FIWARE community relies on three fundamental pillars:

1. Companies
2. Education Sector (universities, secondary schools, training centres)
3. Institutions

With regard to the first pillar, the iHub must establish partnerships with business clusters and various employers that unite the local business world.

This is a perfect way to propagate and reach all the existing and starting companies in the area

With regard to the education sector, reaching agreements with universities and schools is vital for the growth of the community and for the consolidation of FIWARE technology, as they will share the information in classrooms.

This will make the future professionals in this sector enter the work market with the knowledge that is necessary for joining in the FIWARE community and making it grow.

Because of that, it is important to have collaboration agreements with the universities and schools in the surrounding area.

And finally, the key element in the development of economic activity in the area is to count on the support of the local institutions.

Very often, it is this type of support that makes a difference between what we wish for and reality

Both the institutional and economic involvement of the public administration will provide FIWARE projects with credibility as well as lever many SMEs up to this type of technology.

2.7. Status of the FIWARE iHubs Initiative

The following table lists all the existing and forthcoming FIWARE iHubs according to the level of services they offer.

IHUB NAME	CITY	COUNTRY	EVALUATION
FIWARE ZONE	SEVILLE/MÁLAGA	SPAIN	★★★
FIWARE RIOJA	LOGROÑO	SPAIN	★★
APLIS HUB	PRAGUE	CZECH REPUBLIC	★
IHUB UMBRIA	PERUGIA	ITALY	★
IOT BOOSTER	SAINT-QUENTIN	FRANCE	★
UBERHUB FIWARE IHUB	UBERLÂNDIA	BRAZIL	★
CIEMSA MONTEVIDEO	MONTEVIDEO	URUGUAY	☆
FIWAREMAC (FIMAC) IHUB	AZORES - MADEIRA - CANARY ISLANDS	SPAIN/PORTUGAL	☆
FUTURE CITY IHUB	AMERSFOORT	NETHERLANDS	☆
LABORATORIO NACIONAL DE INTERNET DEL FUTURO – LANIF (NATIONAL FUTURE INTERNET LABORATORY)	MEXICO CITY	MEXICO	☆
UDG-FIWARE-IHUB-WESTERN-SWITZERLAND	GENEVA	SWITZERLAND	☆
FUTURE MOBILITY FIHUB THESSALONIKI	THESSALONIKI	GREECE	PENDING
SPRINTPOINT	CLUJ-NAPOCA	ROMANIA	PENDING

★★★ 3 STARS ★★ 2 STARS ★ 1 STAR ☆ BASIC ● INCUBATED

It is important to notice that whoever in the world can organize and operate a FIWARE iHub under the only condition that it has to follow the above described principles sharing the same culture of the other iHubs.

The classification of each FIWARE Lab, as explained in the "Guide for Applicants", which can be found here https://www.fiware.org/community/fiware-ihubs/. Such classification is briefly discussed in the following.

A FIWARE **Basic iHub** offers teaching and training through dissemination events and it is active at fairs and congresses promoting FIWARE technology where it facilitates the presence of startups and SMEs. Liaising with local industry, it organizes workshops with businesses and associations. It should be a physical venue capable to host and to support presentations and hold technical equipment. There should be a dedicated FIWARE-branded space with promotion material like brochures, flyers and t-shirts available to visitors.

A FIWARE **1 Star iHub** will offer all the basic services above but at an advanced level . It runs the iHub platform which offers workshops and testing of Powered by FIWARE solutions and FIWARE Ready technologies. It organizes FIWARE dissemination events and collaborates with local universities. It runs basic workshops for trainers, research groups and public staff, collaborates with other iHubs , promotes FIWARE Accelerator programs and manages community user accounts for the FIWARE Lab. The iHub school gives access to dedicated iHub staff for FIWARE training/coaching and FIWARE testing/certification activities. The iHub should connect to local industry and public authorities through agreements with technology parks and city councils.

A FIWARE **2 Star iHub** has the characteristics of a 1 Star iHub but offers training workshops for teachers, students, research groups and even municipal staff at advanced or expert level , as well as online or on-site business mentoring. It features an iHub School with a physical space for running workshops, hackathons, training courses and a Smart Lab open to the public. This iHub can operate environments for testing and holds a showroom for Powered by FIWARE solutions and FIWARE-ready technologies in demo phase. It should create FIWARE working groups with local industry, academia and public authorities, associations and clusters of enterprises.

Furthermore, the iHub should connect to the rest of the FIWARE Community, and actively participate in the FIWARE Summit and other FIWARE community events. A 2 star iHub should also promote products and solutions through other iHubs, get involved in FIWARE Accelerator programs, and actively collaborate with FIWARE Mundus . The iHub should have at least one member of its staff fully devoted to the iHubs' activities. It should contribute to the FIWARE website , post in the FIWARE blog and connect to local events. Finally, this type of iHub should liaise through agreements with local industry, academia and research institutions as well as public authorities.

A FIWARE **3 Star iHub** is the highest and most complete level of proficiency of all FIWARE iHubs . In this category, the iHub should offer training and workshop events, company mentoring, SMEs or startups incubation and bring support to development of FIWARE pilots and prototypes. The iHub should meet the requirements to certify developers and trainers of Powered by FIWARE solutions, FIWARE-Ready IoT devices and software enablers. It should support the deployment of FIWARE pilots in the market, create promotion events for FIWARE solutions and technologies, help SMEs to reach clients or customers, grow business for companies, and communicate and disseminate activities in local or regional media.

FIWARE dissemination events and training workshops should be at expert level. The iHub should feature a showroom where products in pilot and production/commercial phases are showcased. The iHub should have a dedicated social network manager who posts regularly in popular blogs, is connected to fairs and press media and collaborates with FIWARE Foundation Community Managers in Social Media activities.

Finally, a 3 Star iHub should connect with the rest of the FIWARE Community, actively participate in the FIWARE iHub Committee and in DevRel programs and provide certification services to other FIWARE iHubs. It should have agreements with regional Governments and connections to the rest of the FIWARE Community, where part of the staff are members of FIWARE DevRel Team and are certifiers of certifiers.

3. The "Mexico" FIWARE iHub

To exemplifies the concepts described above here are described in detail and reported the activities performed by the Mexico iHub.

3.1. Ecosystem creation

Ecosystem creation for building and supporting an open community of FIWARE innovators and users:

The National Laboratory of the Future Internet (LaNIF), located in the Research Center and Innovation in Information and Communication Technologies (INFOTEC) Data Center, is the first FIWARE node in Latin America. As a result of the FIWARE iHubs open call 2017, LaNIF was selected by the committee, and since November 2017 has become a FIWARE iHub. In this context, the LaNIF is the only one in Mexico that is part of the 11 FIWARE's iHubs network worldwide, and it has been providing training and support in the national context.

In this way, the LaNIF plays a fundamental role in the growth of the global community of developers, companies and cities that adopt and contribute to FIWARE, providing the best technological infrastructure based on FIWARE so that universities, research centers, entrepreneurs and Mexican organizations and over the world, can experiment with cloud computing technology, Internet of Things and Big Data.

3.2. Acceleration activities scheme

Acceleration activities for development of Future Internet applications and services into concrete business and market take up

In order to collaborate with this task, a set of activities were carried out by the INFOTEC iHub. This activities match the common set of objectives of iHubs supported by the FIWARE Foundation:

Local training and support	**iHub school** Training events and workshops Tutorials to SMEs New pilots and prototypes

Acceleration of SMEs and startups locally	**iHub platforms, products and services** Workshops for testing solutions, technologies and FIWARE apps
Connect local academy and define action plans	**iHub Community** Connection with academy and research institutions Connection with local public authorities Active participation with the FIWARE iHub Committee Dissemination of FIWARE Technologies in universities
Instruct on the FIWARE Technologies and promote their adoption	**iHub Center** Dissemination events **iHub Market** Promotion in congresses Local communication and dissemination actions Events to promote solutions based on FIWARE

3.3. Promotion activities

The INFOTEC IHub Center put in place an intense activity to promote FIWARE ecosystem in government, academy and industry institutions. Some of the most representatives evangelization activities of INFOTEC iHub are the following:

1.- **FIWARE Lab introduction to software developers**

DESCRIPTION: A FIWARE Lab introduction conference was carried out in INFOTEC to a group of developers of the project "National Repositories of the Government of Mexico" interested in using the FIWARE infrastructure, and to obtain a FIWARE Lab community account.

DATE: 18/01/17

TARGET AUDIENCE: software developers

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, the FIWARE Cloud, how to get a FIWARE account, creation of instances in FIWARE Lab.

NUMBER OF PARTICIPANTS: 7

2.- **FIWARE conference to software developers**

DESCRIPTION: A FIWARE conference was carried out in INFOTEC to a group of developers, which are members of the software development area of a research centre of the National Council of Science and Technology of Mexico (CONACYT) in charge of developing governmental software projects.

DATE: 06/04/17

TARGET AUDIENCE: software developers

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, the FIWARE Cloud, Context information management and Orion Context Broker.

NUMBER OF PARTICIPANTS: 21

3.- FIWARE talk to students of the Polytechnic University from Morelos (UPEMOR).

DESCRIPTION: FIWARE talk was carried out in INFOTEC to software engineering students from a Mexican university called Polytechnic University from Morelos, interested in the FIWARE technology.

DATE: 11/07/17

TARGET AUDIENCE: software engineering students

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, the FIWARE Cloud, Context information management and Orion Context Broker.

NUMBER OF PARTICIPANTS: 23

4.- FIWARE talk about Green route, an application based

on FIWARE developed by INFOTEC

DESCRIPTION: FIWARE talk was carried out in INFOTEC to software developers coming from different institutions interested in the FIWARE technology.

DATE: 26/07/17

TARGET AUDIENCE: software developers

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world and Green Route, an application that aims to help the final user to determine the best route to follow to reach a destination, taking into account the user profile (e.g. age, health conditions, disabilities, etc.), and the user preferences, such as transport type.

NUMBER OF PARTICIPANTS: 16

5.- FIWARE talk to students of the Autonomous University of the State of Hidalgo (UAEH)

DESCRIPTION: FIWARE talk was carried out in INFOTEC to software engineering students from a Mexican university called Autonomous University of the State of Hidalgo (UAEH), interested in the FIWARE technology.

DATE: 28/09/17

TARGET AUDIENCE: software engineering students

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, the FIWARE Cloud, Context information management, Orion Context Broker and Internet of things paradigm.

NUMBER OF PARTICIPANTS: 17

6 .- FIWARE talk about SEKC, an application based on FIWARE developed by INFOTEC

DESCRIPTION: FIWARE talk was carried out in INFOTEC to software developers of the requirement engineering area interested in the FIWARE technology. We presented the Software Engineering Knowledge Composer developed using FIWARE and some examples of Internet of Things.

DATE: 04/10/17

TARGET AUDIENCE: software developers

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, the Software Engineering Knowledge Composer (SEKC) developed using FIWARE, for the adoption of better practices in the software engineering area and some examples of Internet of Things.

NUMBER OF PARTICIPANTS: 14

7.- FIWARE talk to students of the "Universidad de la Cascada"

DESCRIPTION: FIWARE talk was carried out in INFOTEC to software students from a Mexican university called "Universidad de la Cascada" interested in the FIWARE Technology.

DATE: 16/11/17

TARGET AUDIENCE: software students

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, the FIWARE Cloud, Context information management and Orion Context Broker.

NUMBER OF PARTICIPANTS: 14

3.4. iHub School

1.- FIWARE training in INFOTEC January 2017

DESCRIPTION: this FIWARE training was carried out in order to have a group of experts in FIWARE in INFOTEC, which can later provide support to other FIWARE experts in the country. The trainers assisted to the FIWARE Summit 2016.

DATE: 16/01/17 - 20/01/17

TARGET AUDIENCE: developers and software architects

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, the FIWARE Cloud, Context information management, Orion Context Broker, Installation of an experimentation environment that includes the following tools: VirtualBox, Vagrant, Git,

Insomnia REST client, the paradigm of the Internet of things, connect sensors with FIWARE, send and receive data and notifications from FIWARE, real time processing in with Kurento and creation of Web applications with WireCloud.

NUMBER OF PARTICIPANTS: 10

2.- FIWARE training for universities, research centres, companies and the Government of Mexico.

DESCRIPTION: The FIWARE training was carried out in the INFOTEC facilities, to developers of 9 institutions in Mexico, including universities, research centres, companies and the Government of Mexico: CENIDET, CentroGEO, Morelos government, Grupo Plenum, ITAM, ITSA, UAEMex, UAM, UNAM. Participants are propagating the knowledge acquired to members of their institutions and other stakeholders interested in knowing and utilizing FIWARE technology.

FIWARE program:

https://drive.google.com/file/d/1N-ng_cgOIDYOTwgb-DJwsmGlRN3bTNDt/view?usp=sharing

Training material:

https://drive.google.com/drive/folders/0B29-6XWZXu7Rcm9BdnpyUE5oR0U?usp=sharing

DATE: 15,16/02/17 – 8,9/03/17

TARGET AUDIENCE: software developers and academics of 9 institutions in Mexico. **TOPICS AND FIWARE TECHNOLOGIES:** FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, the FIWARE Cloud, Context information management, Orion Context Broker, Installation of an experimentation environment that includes the following tools: VirtualBox, Vagrant, Git, Insomnia REST client, the paradigm of the Internet of things, connect sensors with FIWARE, send and receive data and notifications from FIWARE, real time processing in with Kurento and creation of Web applications with WireCloud.

NUMBER OF PARTICIPANTS: 25

3.- FIWARE training with Cloudino in INFOTEC

DESCRIPTION: FIWARE training with Cloudino was carried out in INFOTEC to developers of 7 Mexican institutions interested in developing hardware and software projects using FIWARE.

DATE: 27/04/17 – 28/04/17

TARGET AUDIENCE: software and hardware developers

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, Orion Context Broker, Internet of things paradigm and Cloudino (http://cloudino.io/) a FIWARE IoT-ready device.

NUMBER OF PARTICIPANTS: 21

4.- Training Cloudino + FIWARE

DESCRIPTION: FIWARE training with Cloudino was carried out in INFOTEC to developers of 4 Mexican institutions interested in developing hardware and software projects using

FIWARE.

DATE: 01/08/17 – 02/08/17

TARGET AUDIENCE: software and hardware contributors

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, Orion Context Broker, Internet of things paradigm and Cloudino (http://cloudino.io/) a FIWARE IoT-ready device.

NUMBER OF PARTICIPANTS: 20

3.5. iHub Market

1.- Promoting FIWARE in the INAOE

DESCRIPTION:

This FIWARE talk was carried out in the National Institute of Astrophysics, Optics and Electronics (INAOE) in Puebla, Mexico.

DATE: 23/03/2017

TARGET AUDIENCE: Phd and master students

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, GE catalogue, general architecture, success cases around the world, the FIWARE Cloud, Context information management and Orion Context Broker.

NUMBER OF PARTICIPANTS: 8

2.- Annual meeting of National Laboratories CONACYT

DESCRIPTION: CONACYT organized the annual meeting of National Laboratories. The Mexican FIWARE Lab node is hosted by the National Future Internet Laboratory (LaNIF) therefore, INFOTEC attended to this meeting promoting FIWARE during the exhibition of posters.

DATE: 06/10/17 – 08/10/17

TARGET AUDIENCE: researches members of research centres in Mexico.

TOPICS AND FIWARE TECHNOLOGIES: FIWARE ecosystem, FIWARE platform, European projects: FIWARE Mexico and SMARTSDK.

NUMBER OF PARTICIPANTS: ~100

3.- Promoting Hackaton Tecnoayuda19s

DESCRIPTION: Tecnoayuda19s "Technology That Saves Lives" is the first hackaton organized by the "Asociación Lationamericana de Cibercivismo A.C" together with other civil society organizations, companies, academic institutions, governments and professionals, including INFOTEC. The objective was to develop innovative hardware and software proposals able to give solutions to problems related with affectations in disaster situations or emergencies. The event had a category about Internet of Things solutions and Smart Cities.

We have invited our Cloudino and FIWARE community in Mexico to be part of this event proposing solutions using FIWARE.

Links of interest:

- https://www.facebook.com/INFOTECMexico/posts/1953500431333068

- http://tecnoayuda19s.org.mx/convocatorias/

DATE: 17/11/17 - 18/11/17

TARGET AUDIENCE: hardware and software developers

TOPICS AND FIWARE TECHNOLOGIES: Internet of Things, Smart Cities

4 .- National award "Technological innovation for social inclusion"

DESCRIPTION: the national award "Technological innovation for social inclusion" is an initiative developed jointly by the National Council of Science and Technology (CONACYT), the Secretariat of Social Development (SEDESOL), the Centre for Research and Innovation in Information Technology and Communication (INFOTEC), the Economic Research and Teaching Centre (CIDE), the Autonomous Metropolitan University (UAM) and Banco Santander. It seeks to identify, analyse and disseminate those ideas and experiences that

show a positive and outstanding benefit in the use of technology to reduce poverty and social exclusion. We have invited our Cloudino and FIWARE community in Mexico to be part of this event proposing solutions using FIWARE in the different categories of the event, especially in those related to smart cities.

Links of interest:

- https://www.facebook.com/INFOTECMexico/posts/1959930170690094
- http://www.innovatis.org.mx/

DATE: 30/11/17

TARGET AUDIENCE: Innovative entrepreneurs

TOPICS AND FIWARE TECHNOLOGIES: Internet of Things, Smart Cities

5.- National videogame competition MX 2017

DESCRIPTION: It is an initiative to gather and reward the creators of national videogames, be they entrepreneurs, entrepreneurs and students, including young people with ideas to produce new products. They can enter video games designed on technology platforms of any preference, including open source. We have invited our FIWARE community in Mexico to be part of this event using FIWARE for their developments.

DATE: 30/11/17

TARGET AUDIENCE: professional developers, students and creative children and adolescents.

TOPICS AND FIWARE TECHNOLOGIES: videogames, 3D scenes.

6.- CREARE program

DESCRIPTION: The CREARE program is an initiative of INFOTEC where companies are invited to participate in the detection and structuring of innovation projects in order to be presented to the CONACYT Innovation Stimulus Program (PEI), in order to obtain funds for its execution. This program is executed by the knowledge transfer office of INFOTEC, with which our National Future Internet Laboratory (LaNIF) collaborates to identify innovative projects that can be implemented with FIWARE.

Links of interest:

- https://www.infotec.mx/en_de/infotec/programas_apoyo_innovacion

- https://www.conacyt.gob.mx/index.php/fondos-y-apoyos/programa-de-estimulos-a-lainnovacion
- https://www.facebook.com/INFOTECMexico/photos/a.128092917207171.22329.125527644130365/1826631434019969/?type=3

DATE: 31/08/17

TARGET AUDIENCE: Mexican companies

TOPICS AND FIWARE TECHNOLOGIES: Internet of Things, Smart Cities

3.6. A project carried out

Activities are being carried out in Mexico to develop smart applications that give solution to relevant problems in cities. One of the most representative examples of this is the creation of an application for smart mobility. The purpose of the application is to help the citizen determining the best route to follow in order to reach a specific destination considering the user's profile; such as health conditions and personal preferences; such as transportation type. This application is able to trace the ideal route for the user avoiding routes with: high levels of pollution, traffic jam, bad weather or pollen saturated areas. The ideal route could prevent possible health crisis or asthma attacks due to the elevated pollution concentration levels at certain areas. In addition, it could avoid to the citizen being stuck in a traffic zone. Finally, the development of the application is based on FIWARE technologies, such as Generic Enablers and Data Models.

All resources of the project (source code, data models and architectural designs) are available in the FIWARE ecosystem to be used by entrepreneurs or universities to create new mobility applications for other cities in Mexico.

4. Lessons Learnt and Future Steps

The FIWARE iHubs initiative see the number of applications submitted by organisation wanting to establish a FIWARE iHub continuously increasing. However, setting-up and than running a FIWARE iHub requires a significant amount of investments which not necessarily everybody can afford.

To this extent the FIWARE Foundation is planning a more fine grain initiative based of empowering individuals as recognised and recognisable FIWARE Evangelists. Indeed, **technology evangelis**t is a person who builds a mass of support for a given technology, and then establishes it as a technical standard in a market that is subject to network effects. An evangelist promotes the use of a particular product or technology through talks, articles, blogging, user demonstrations, recorded demonstrations, or the creation of sample projects.

Based on the above definition the FIWARE Foundation plans to set up openly a group of people wanting to act as FIWARE Evangelist. The idea is to launch an open call worldwide for individuals from which select a first set of persons which will be then properly trained and provided with adequate instruments such as presentations, videos promotion material eventually in the language those evangelist plan to address.