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Report on Communication Strategy and Liaison Groups

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Summary					
No and name	**D06.01 Report on Communication Strategy and Liaison Groups**				
Status	< Released>	**Due**	m03	**Date**	31-03-2016
Author(s)	O. Vermesan, SINTEF,				
Editor	O. Vermesan, SINTEF				
DoW	Describe and prepare the communication plan addressing target groups and communities as well as identified events through different channels using the communication toolkit. A specific attention will be done to identify relevant events to collocate promotion activities of the platform of different nature (hackathon, conferences, workshop, etc.). Define IoT community liaison groups to facilitate open communication through starting a forum for discussion and exchange of information on topics related to the issues addressed in the project and act as a structured communication link between UNIFIY-IoT the IoT developers/end-users community and other stakeholders. This provide an opportunity to influence the activities of the project by identifying and addressing the issues related to IoT value-creation, business models, innovation and standardisation, while identifying opportunities to cooperate to achieve mutually beneficial outcomes.				
Comments					

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1. EXECUTIVE SUMMARY

Publishable summary

While dissemination is oriented to the spread information related to the project outcomes, communication activities are conceptualized as a two-way process in which the project shares information about its day-to-day life. Efficient communication with the European stakeholders as identified earlier in the proposal, such as end-user and software developer communities, professionals, designers, entrepreneurs, investors, research centres and universities, innovation hubs, and other actors potentially interested to IoT, is one of the key element for proper dissemination, reach out and high impact of the UNIFY-IoT project.

The major objective of the communication strategy is to increase the awareness of the IoT technologies as facilitators for developing new services business driven and user-oriented applications.

In order to be effective, an integrated approach is implemented, defining a tailored strategy using specific messages, means and language for each target audience. The Consortium approach for communicating project's results is in fact an extension of the overall framework provided by the UNIFY-IoT project. The communication strategy and sub-set of activities to reach relevant stakeholders depends on the targeted users' groups.

Non-publishable information

None.

2. INTRODUCTION

The communication activities are supported from an on-line platform for the UNIFY-IoT expanded community, aggregating both IoT experts and also non-IoT experts, for contributing to the overall project activities. The platform includes instruments such as a repository or document management system, and will rely on wiki pages available from partner projects. Particularly support for workshops and hackathons, as well as online surveys, management, common newsfeed, RSS, and registration will be provided.

The UNIFY-IoT communities shares a common effort from all activities, given the different target stakeholders. It will be possible for the actors to give feedback and leave comments, propose new ideas, debate on the different improvements or new functionalities that could be considered by the project.

Furthermore, the project portal is integrated with the IoT European Platforms Initiative (IoT-EPI) site as a community gateway and will be used as aggregations point, both for those who attended the workshops or participated to the online surveys, and for prospective interested participants.

The project website hosted and provided by the project will serve as versatile external information for the project's updates and interaction platform for the wider audience. Among general information about the project status, the project web page shall include regularly updated communication activities and achieved results, the project slide shows, and a project fact sheet.

An overview of the objectives, the partnership and the activities proposed within UNIFY-IoT are presented in the project's web page. In particular, it will highlight the links towards IoT-EPI projects websites and their respective activities, publications, projects events as well as participation in conferences, workshops and exhibition fairs, links to social media and SW and open source communities. It targets to be the central hub for information about IoT in Europe.

2.1 Purpose and target group

The activity focusses to create the project communication strategy and the IoT community liaison groups to facilitate open communication through starting a forum for discussion and exchange of information on topics related to the issues addressed in the UNIFY-IoT project and act as a structured communication link between UNIFIY-IoT, the IoT developers/end-users community and other stakeholders. This provide an opportunity to influence the activities of the project by identifying and addressing the issues related to IoT value-creation, business models, innovation and standardisation, while identifying opportunities to cooperate to achieve mutually beneficial outcomes.

Communication activities are targeted at several groups with different interests:

- SMEs (micro- and nanoelectronic sector + application clusters) that have existed for some years and want to grow using IoT technologies – the distinction "want to grow" had been made based on the experience by the mature clusters that there is a certain share of SME (owners) that is perfectly happy with the current situation, mainly doing business only in the local or a very limited market.
- Young SMEs (start-ups, micro- and nanoelectronic sector due to limited resources) – a very specific target group as usually they offer highly innovative products or solutions but sometimes lack in "basic capacity and skills" such as solid business development using different business models. As they usually also don't have a large client base (yet), they should be dealt differently than "mature" SMEs.

- Large companies (micro- and nanoelectronic sector + application level) that are interested in screening innovation - usually, large companies need cluster or network organisations/projects less than vice versa, but it turned out in the mature clusters that in particular systematic innovation screening might be a valuable service. This one is closely connected also to the target group 2.
- Public authorities (primarily the ones of the regions involved) – as all of the partners work in a real triple helix[1] environment, i.e. there are strong connections to the local and regional public authorities already.
- Research institutes (in particular those involved in the RIAs) – often also are a cradle for innovation and also for start-ups (-> link to target group 2), they form another important, though specific target group.
- Other actors (incubators, start-up initiatives, EEN nodes) - beside the usual actors of the triple helix – companies, research institutes, universities and local/regional authorities – there are usually other established actors or initiatives.

2.2 Contributions of partners

SINTEF coordinates the delivery and has initiated the creation of the IoT community liaison groups to support in the project activities. The selection of the members of the groups is done in cooperation with the IoT European Platforms Initiative (IoT-EPI) projects and in close cooperation with the Alliance for Internet of Things Innovation (AIOTI) workgroups.

DIGICAT contributes to the definition of the communication plan and toolkit with a particular emphasis on promoting adoption of IoT platforms.

INNO contributes with SINTEF to the development of the website, which constitutes the main communication channel for the project. Moreover, INNO makes available the Open Platforms tool and will develop the educational platform. INNO makes available an online tool for web questionnaires, which has been setup for the series of "Internet of Things Online Questionnaire", scheduled to be sent once the project website will be publicly available.

ISMB contributes to the communication strategies with a specific focus on promotion activities especially relevant for (IoT-EPI) projects engaged in value co-creation and on events that can be reached through ISMB network of partners. ISMB is involved as facilitator and promoter of joint initiatives and platforms for the co-creation of new IoT products and services in an open innovation ecosystem.

SISAX-M contributes to the communication strategies with a specific focus on promotion activities especially relevant for the semiconductor/components community and on events that can be reached through "Silicon Europe". SISAX-M contributes to the communication strategies with a specific focus on promotion activities especially relevant for the semiconductor/components community and on events that can be reached through "Silicon Europe". For 2016, relevant events are Semicon Europe (Grenoble) and Smart Systems Summit (Leuven) in autumn. Main means of communication beside event-based presentations and

[1] The concept of the Triple Helix of university-industry-government relationships initiated in the 1990s by Etzkowitz (1993) and Etzkowitz and Leydesdorff (1995), encompassing elements of precursor works by Lowe (1982) and Sábato and Mackenzi (1982), interprets the shift from a dominating industry-government dyad in the Industrial Society to a growing triadic relationship between university-industry-government in the Knowledge Society. The Triple Helix thesis is that the potential for innovation and economic development in a Knowledge Society lies in a more prominent role for the university and in the hybridisation of elements from university, industry and government to generate new institutional and social formats for the production, transfer and application of knowledge.

workshops are the respective websites (www.silicon-europe.eu + www.silicon-saxony.de), a weekly newsletter as well as a Twitter account.

HIT contributes to the communication/dissemination strategy definition and implementation and the liaison, especially towards the IoT adopters (SMEs, SW communities and entrepreneurs) and the education stakeholders.

CEA contributes to the communication strategies and liaisons with CPS CSA (HiPEAC), Artemis-IA (and ECSEL) and international IoT activities.

3. COMMUNICATION STRATEGY

3.1 UNIFY-IoT communication strategy

The communication strategy is designed to provide the framework for the diffusion of the project concept, ideas and results aligned with the common activities developed under the Internet of Things European Platforms Initiative (IoT-EPI). The delivery provides the target groups and actions used to approach them. The document explains the disseminations activities and tools and how they need to be employed during the project life so that the project and it results will be disseminated as widely and effectively as possible.

The communication strategy aims are:

- To ensure that the stakeholders and the wider IoT community are aware of the UNIFY-IoT project and the IoT-EPI, understand why they are necessary and what benefits they will deliver to them.
- To develop a motivation amongst all members of IoT-EPI involved in the impacted process to contribute towards the successful implementation of the objectives of the IoT ecosystems.
- To manage expectations among various stakeholders of IoT platforms. The UNIFY-IoT project team aims to build a reputation as a trusted, quality and innovative information source, which operates as a reference point across IoT community in various applications domains.
- To provide timely and accurate information to the identified IoT platforms stakeholders to support the IoT ecosystems and enabling the delivery of UNIFY-IoT project and the IoT-EPI benefits.
- To ensure that IoT platforms stakeholders have the opportunity to input to and feedback on the IoT technology, applications, interoperability, educational, innovation, raise issues, and use their expertise to contribute to the success of the UNIFY-IoT project and the IoT-EPI.
- To ensure that all members of UNIFY-IoT project and the IoT-EPI are involved in communication process and contribute with their knowledge, skills and understanding to implement the objectives of the UNIFY-IoT effectively and efficiently.

To ensure that new practices are embedded in the process so that the benefit of the changes introduced are sustained long term.

A key success factor of the UNIFY-IoT dissemination strategy relies on the liaison and engagement of IoT stakeholders and communities. Several networks and collaboration initiatives already exist in Europe (and beyond) on IoT and on close topics such as smart systems integration, nanoelectronics, electronic components and systems, cyber-physical systems, software technologies, future network technologies standards, future internet, big data and Cloud computing. The ultimate aim of the UNIFY-IoT is to build on these existing initiatives and ensure bidirectional collaboration by collecting and exchanging information and organizing a good integration, synchronization and alignment among IoT-EPI projects, networks, and other supportive actions, especially the AIOTI working groups. Dissemination activities are thus of paramount importance to guaranty a good achievement of project objectives. To coordinate the various activities of liaison and engagement with stakeholders that the UNIFY-IoT will undertake, the dissemination plan will be designed and implemented taking several approaches into account as key for development of ecosystems and awareness of project activities and integration of value by the major target groups.

The dissemination activities are developed in line with the project progress status. Effective dissemination takes into account the following principles:

- The information is available, accessible, adaptable and diversified. Dissemination activities and tools are adapted to the different purposes, target groups and cultural backgrounds.
- The information is relevant and compatible for the different user and stakeholder groups so as to reach its maximum understanding and impact.
- Interaction with end-users and stakeholders is a priority. Analysing the end-users needs and responses creates links between the project goals and actual achievements. This interaction requires a constant adoption of dissemination activities.

3.2 IoT-EPI Stakeholders

UNIFY-IoT has established of close cooperation with IoT-EPI projects in order to exploit results and ensure liaison and close cooperation among platforms to be developed to exploit synergies and maximize impacts toward ecosystems and IoT adopters. Representatives of the relevant IoT-EPI projects participate and collaborate to UNIFY-IoT activities such as liaison groups, public events, and all of the value co-creation mechanisms developed by the project.

UNIFY-IoT partners will act as facilitators and promoters of joint initiatives and platforms for the co-creation of new IoT products and services in an open innovation ecosystem.

The partners will stimulate the dialogue and support collaboration between the IoT-EPI consortia, and relevant IoT ecosystem stakeholders. The impact is expected through a series of networking and value co-creation activities that will leverage on the very complex and articulated network of relationships that characterize the IoT landscape.

Communication activities include establishing a dedicated channel with IoT-EIP projects to better understand their goals and objectives in order to enable the co-creation of new value in a collaborative way. The IoT-EPI platform site will promote the co-creation initiatives to interested participants including relevant stakeholders participating to the online activities (e.g. online surveys).

UNIFY-IoT partners are using dedicated channels created within the framework of UNIFY-IoT to actively interact with the IoT-EIP projects (i.e. organize and participate in relevant sessions to be held during events SiDO 2016, Connected Conference 2016, hackathon at IoT Week 2016). This allows to create a communication link with relevant FP7/H2020 projects and other relevant stakeholders, as well as to lay down the basis for a first interaction with communities of open APIs developers, to be further exploited in the future. In this context the IoT-EPI projects consortia are engaged as "work partners" in order to implement:

- Day-by-day collaboration on IoT advancements
- Sharing of information (in- and out-ward)
- Sharing views and visions among several IoT-EPI projects better than bilateral dialogue (concentration meetings)
- Offer supporting tasks or tools (e.g., assist in organisation of communication campaigns and events; multiply reach-out).

3.3 IoT-EPI task forces

IoT Task Forces are conceived and developed under IoT European Platforms Initiative. UNIFY-IoT use these task forces in the communication strategy with aim is to:

- Identify new IoT research and innovation mechanisms
- Derive joint exploitation strategies on how to make successful IoT ecosystems emerge
- Involve and coordinate the cooperation with the AIOTI, ECSEL, IoT/CPS stakeholders

- Give input on and support extend the international cooperation
- Respond to the societal challenges for Europe.

The communication towards the task forces can be summarized in the following steps:

- Send the first draft of the task force document to the task force members;
- Receive their feedback and providing explanations to their questions;
- Finalize the draft-document;
- Organize communication channels with task force members to have their final approval on the updated document and address concluding concerns such as the characteristics of the education platform, their contribution and expectations, as well the detailed list of forthcoming activities including the workshop in June 2016;

3.3.1 Innovation

The innovation TF sets the ground for successful open calls that will drive innovation, make sure that APIs are open and applicable by third parties such as start-ups, SMEs and larger companies that will innovation and prepare innovation activities executed together with Be-IoT partners such as idea challenges or hackathons.

3.3.2 Platforms interoperability

Address the IoT platforms interoperability issues, work to standardize IoT technology and solutions and facilitate collaboration. Promote IoT platforms state of the art solutions to provide device agnostic infrastructure using various hybrid cloud/edge solutions to connect and comply with different standards.

3.3.3 IoT Accelerators

The IoT accelerators task force builds the ecosystem of IoT start-up accelerators, understand the needs of IoT projects and the needs of the start-ups, make sure there is a fruitful exchange and adapt technologies developed by IoT projects and their partners to the needs of start-ups.

3.3.4 IoT Business Models

Communication activities related to the sphere of IoT business models are conducted along a two-fold axis. On the one hand, UNIFY-IoT will leverage the thematic task force for creating a debate around the new breed of opportunities ushered-in by interoperable IoT platforms. On the other hand, the project will operate in constant osmosis with other PPPs and think-tanks that may allow to establish (i.e., ‘bridging’) and cultivate (i.e., ‘bonding’) meaningful and qualified connections with other communities interested in the topic.

Regarding the former strand of activities, UNIFY-IoT and target interlocutors (e.g., IoT-EPI consortia but also representatives of other organizations, associations and committees) will establish bi-directional communication patterns.

Whilst high-caliber sectoral interlocutors can provide precious insights related to needs and obstacles faced as well as hints on successful endeavours already in place, UNIFY-IoT will support counterparts by means of top-notch methodological support, neat and up-to-date ‘pictures’ of the IoT market landscape and brand-new frameworks for catalyzing value co-creation on top of IoT platforms.

Channels selected for this purpose encompass primarily EPI-IoT events and other top-tier thematic conferences and exhibitions taking place in Europe, which could be the ideal place for highly-interactive workshops and coaching sessions.

The promotion activities are preparing and executing business model coaching workshops for IoT projects and their stakeholders in Europe by connecting with relevant stakeholders, understanding their needs, finding the right approach to enable business model innovation in the combination of both partners, while prepare business in a very concrete way jump start workshops for interested parties, support the creation of new business based on standard technologies.

3.3.5 Educational Platforms

The task force provides methods to extend the concept of IoT Academy/Institute to the IoT ecosystems and introduce the IoT in schools and universities curriculum, promotes open modules and "how-to guidelines"; their usage will be promoted for current or future IoT developers, adopters and business developers.

Another action will be to evaluate good practices and propose recommendations and roadmaps to ensure the sustainability of the educational platform and of its mechanisms of value co-creation.

Finally, the task force will design and define content for educational platform by identifying the nature and type of content to be included as "framework of dimensions" relevant to promote IoT towards end-users and futures developers, adopters and promoters.

3.3.6 International Cooperation

The task force coordinates the interactions with international initiatives by supporting the European IoT ecosystems to meet global challenges and to be adopted worldwide in order to be successful.

It will establish liaisons with key stakeholders outside the EU. These may comprise Industrial Alliances as well as end-user and IoT technology communities and public administrations, and will target countries that are at the forefront of IoT innovations such as US, Japan, China, and South Korea.

The task force will also analyse and understand markets trends. It will investigate successful IoT Business Model in the forefront markets (US, Korea, Japan, China) and will disseminate locally. Finally, it will promote successful EU stories to international markets.

3.4 Industry networks, other initiatives at EU-level

In order to coordinate the development IoT technologies and applications, UNIFY-IoT engages in liaisons with numerous organizations, IoT projects and initiatives in Europe and globally. The liaisons groups are organised to present and enrich the proposed European IoT dissemination and exploitation framework. These initiatives are addressing a large number of similar challenges; there is therefore an important breeding-ground for developing cross-fertilisation and exploiting synergies, avoiding duplication of efforts and maximizing impact in reciprocal, win-win and cooperative alliances. The members of the consortium have strong links in these "sisters" communities (e.g., cyber-physical systems, smart cities and communities, Future Internet, 5G, etc.) which will facilitate the liaisons. UNIFY-IoT will participate and collocate public events and workshops with the activities under the umbrella of these initiatives. These common activities will pivot the technical implementation of IoT technology towards relevant IoT ecosystems in order to:

- Understand and disseminate successful IoT Business Models in Europe
- Organize workshop and meetings with policy makers
- Align working groups and initiatives with emerging innovations
- Find tactics to strengthen open innovation in IoT

3.4.1 ECSEL

Electronic components and systems are essential for Europe's industrial landscape and they are a key enabler for IoT technologies and integration into the full digital value chain and IoT ecosystems for different applications. ECSEL JTI is part of the EU's research funding programme Horizon 2020. It brings together large companies, world-class European research and technology organisations linked with higher education research labs, and SMEs providing technology and services. Three private industrial associations representing the actors from the areas of micro-/nanoelectronics, smart integrated systems and embedded/cyber-physical systems are involved. UNIFY-IoT is linked to the ECSEL and exchange information with its members, while working together to align the Strategic Research and Innovation Agendas for the micro-/nanoelectronics, smart integrated systems, embedded/cyber-physical systems, communication systems as enabling technologies for IoT

3.4.2 PENTA

PENTA is a new EUREKA Cluster whose purpose is to catalyse research, development and innovation in areas of micro and nanoelectronics enabled systems and applications where there is shared high national and industrial interest. Micro and nanoelectronics has been identified as a Key Enabling Technology for Europe and a cornerstone of key economic and societal developments. At the start of the PENTA programme, the focus of the projects will be on applications in automotive, healthcare and production technologies. SISAX-M is (via its members) involved also in the management board and the knowledge, in particular about processes with regards to effective technology transfer can be leveraged here in another program.

3.4.3 ESPRESSO

ESPRESSO is focusing on the development of a conceptual Smart City Information Framework based on open standards. This framework consists of a Smart City platform (the "Smart City enterprise application") and a number of data provision and processing services to integrate relevant data, workflows, and processes. The project builds this framework by identifying relevant open standards, technologies, and information models that are currently in use or in development in various sectors. The project analyses potential gaps and overlaps among standards developed by the various standardisation organizations and provides guidelines on how to effectively address those shortcomings. UNIFY-IoT cooperates and exchanges information with EXPRESSO through its two partners HIT and ETSI.

3.4.4 EXCELL

EXCELL pursues cross-discipline collaboration of academics in four European countries (Hungary, Germany, UK, Belgium) on different topics including Big Data Applications for Cyber-Physical Systems in Production and Logistics Networks, also addressing business-based Internet of Things and Services. UNIFY-IoT will establish a connection with such CSA, exchanging information and possibly identify synergies in education related initiatives.

3.4.5 BDVA

UNIFY-IoT will work on establishing a win-win synergy with the Big Data Value Association (BDVA), i.e., the industry-led contractual counterpart to the European Commission for the implementation of the Big Data Private Public Partnership (Big Data PPP). Within this association, the key connection will be established with the task force which deals with business implications of Big Data technologies. More in details, the approach adopted by BDVA's task force is two pronged, as both new forms of entrepreneurships (SMEs, start-ups, etc.) and traditional businesses are investigated by a recently-established observatory on Big Data business models. Drawing on findings and experiences provided by the BDVA partners, the observatory focuses on recurring business model patterns ('archetypes') and levers of business

model innovation while shedding light on enabling/inhibiting factors that are favourable/adverse for the sustainability, replicability and scalability of identified business models. Outcomes of such an observatory materialize into actionable insights meant to unlock new private and public investments as well as into policy guidelines for stimulating a thriving EU data economy. In light of the strategic alignment between BDVA's vision and EPI-IoT's one, not to mention the countless interdependencies existing between IoT and Big Data, UNIFY-IoT intends to open up a bidirectional channel that will foster the integration and the harmonization of findings, views and innovation agendas. From the UNIFY-IoT's perspective, BDVA represents a key hub to be harnessed for dissemination and communication purposes given its centrality in the European digital ecosystem: therefore, UNIFY-IoT will evaluate presence (e.g., booths) and active participation (e.g., seminars, workshops) in BDVA summits and/or BDVA-related events (i.e., European Data Forum).

3.4.6 EURO-5G

The primary objective of the Euro-5g project is to facilitate effective and efficient co-operation and integration between all projects of the 5G-PPP, the European Commission, the 5G-Infrastructure Association, Networld2020 ETP, related projects from EUREKA, and related national initiatives to maximize the European momentum towards, and benefits from, the future 5G integrated, ubiquitous and ultra-high capacity networks. The Euro-5g project actively supports the 5G-PPP goal to maintain and enhance the competitiveness of the European ICT industry and to ensure that European society can enjoy the economic and societal benefits these future networks will bring. It is done in collaboration with the European Commission, the 5G Infrastructure Association, the Networld2020 European Technology Platform and the projects of the 5G-PPP. UNIFY-IoT cooperates and exchanges information on the IoT deployment issues and the communication infrastructure and IoT platforms.

3.4.7 Networld2020 ETP

Networld2020 has been founded in 2014 and represents the European Technology Platform for communications networks and services. Within its members there are the most relevant players of the communications networks sector: industry leaders, innovative SMEs, and leading academic institutions. Among its missions, Networld2020 contributes to collaborative research programmes on European and national level in the domain of communication networks and supports the 5G PPP initiative by defining Strategic Research and Innovation Agenda for the 5G domain. UNIFY-IoT will directly exchange information with Networld2020 about IoT technical issues being addressed within IoT-EPI projects.

3.4.8 HiPEAC

HiPEAC was established as a European Network of Excellence (now a CSA) on High Performance and Embedded Architecture and Compilation. Created in 2004, HiPEAC gathers over 440 leading European academic and industrial computing system members from nearly 316 institutions in 39 countries in one virtual centre of excellence gathering 1700 researchers (with affiliated members and PhDs).

HiPEAC's mission is to steer and increase the European research in the area of high-performance and embedded computing systems, and stimulate cooperation between a) academia and industry and b) computer architects and tool builders. HiPEAC produces a bi-annual document, the "HiPEAC vision", which is an important source of information about upcoming challenges in computing systems. This document is the result a wide consultation among the 1700 members of the HiPEAC network.

HiPEAC will collaborate with UNIFY-IoT in the scope of the "HiPEAC vision" to align roadmaps in the context of IoT and CPS domains, and to identify the future challenges in these

fields. It will also promote communication and dissemination between its members and UNIFY-IoT.

3.4.9 NEREID

The objective is to elaborate a new roadmap for Nanoelectronics, focused on the requirements of European semiconductor and applications industry, and the advanced concepts developed by Research centres in order to achieve an early identification of promising novel technologies, and cover the R&D needs all along the innovation chain. The aim is to provide a roadmap for European micro- and nano-electronics, covering all TRL, with a clear identification of short, medium and long term objectives. The roadmap will be divided into main technology sectors and include also cross-functional enabling domains.

As part of the communication and dissemination of results NEREID is cooperating with UNIFY-IoT to align the future roadmaps in the field of micro- and nano-electronics and identify the challenges for future technologies and applications. SINTEF is the contact point for cooperation.

3.5 International actors

European IoT ecosystems need to meet global challenges and need to be adopted worldwide in order to be successful. From this point of view, it is therefore important that UNIFY-IoT establishes liaisons with key stakeholders outside the EU. These may comprise Industrial Alliances as well as end-user (in collaboration with the IoT-EPI projects) and IoT technology communities and public administrations, and will target countries that are at the forefront of IoT innovations such as US, Japan, China, and South Korea. The strategy will favour the internationalisation/uptake of European-based IoT solutions with awareness campaigns. The activity is connected with the international cooperation task force which is focused on the discovery of non-European ecosystem and fostering collaboration with the foreign region/country and to push European technology outside of Europe. More particularly, its aims are:

- Understanding the ecosystem (including market) in each country
- Investigate successful IoT Business Model in the forefront markets (US, Korea, Japan, China) and disseminate locally
- Outline the collaboration challenges, barriers and specificities
- Identifying complementarities and work on reciprocity
- Connecting to Innovation Hubs
- Analysing Strategic Research Agendas, elaborate common roadmaps
- Promote success EU stories to international markets; help foreign countries to adopt European approaches; being inspired by EU technologies
- Discover opportunities for IoT platform adoption; favour the internationalisation/uptake of European-based IoT solutions with awareness campaign.
- Promote standardization.

3.6 . IoT adopters and futures developers

UNIFY-IoT aims to support the IoT-EPI projects to attract ecosystem participant for their IoT platforms and to increase the adoption of these on the market.

Each IoT-EPI project will have a different platform offering and may target different groups of end user and developers. In order to help shaping a clear communication and engagement

strategy of these projects with their end user/developer communities, more background information from these projects is essential. Such information will include:

- Background on IoT-EPI platform technologies to understand legacy developer ecosystem relationships, the timeline of platform release and unique service proposition of the platforms
- Targeted markets audiences in terms of end users and developers
- Any existing developer / adopter engagement plans that the project may already have
- An understanding of measures that the project aims to put in place to stimulate platform adoption.

Therefore, the communication strategy at the initial stages the project will focus on a fact finding exercise with the different IoT-EPI projects. The fact finding phase is broken down into the following activities:

- An initial online survey that captures required information from the IoT-EPI projects about their target audiences, offerings and release schedules
- Follow up with individual project to fill in gaps and gain further clarifications where needed
- Further targeted interactions as part of the IoT-EPI task forces on innovation to develop a common engagement approaches with projects targeting similar/overlapping end user communities.

The UNIFY-IoT project will also undertake a broader survey of existing IoT platforms on the market and analyse their developer engagement strategies. Initial observations on successful models and engagement formats of these will be shared in the form of a deliverable with IoT-EPI projects in month 9. This will allow a better positioning of the developed engagement strategies for the IoT-EPI projects.

Following from this established understanding, an adequate engagement strategy can be developed for the IoT-EPI projects. It is important that all IoT-EPI projects work together on this in order not to confuse other developers and to speak with a more uniform European voice – in particular towards the international end user communities and adopters.

Examples of what such communication and engagement strategy entails towards early adopters and developers:

- Design of developer portals including guidelines on API documentation, usage examples, code distributions, online test environments, tutorials and learning material etc. to lower the barrier of entry to for developers to become productive on the platform
- Attendance of events where possibly interested developers can be reached or opportunities for such event to be organised
- Developer road shows across EU and international to reach out to potential developers
- Competitions and hackathons to stimulate use and uptake
- Where applicable establishment of partnering opportunities with existing IoT developer eco-systems where such collaboration is complementary and facilitates easier access to a developer community – this includes both commercial offerings and open source communities
- Attendance of trade-shows and events where possible end-users can be reached and organisation of platform demonstrations at these
- Support for organisation of focus groups with developers and developer feedback surveys

3.7 . Standardisation entities

The UNIFY-IoT will support consensus building for defining and implementing standard based frameworks of open and interoperable IoT platforms that are essential to facilitate open innovation and low cost application developments. In particular, the project will ensure close liaison with IERC and AIOTI Working Group 3, as well as with global standards bodies and IoT Global Alliances. The activities will be based on a strategy to aggregate EU stakeholders towards shared interfaces and standards in IoT implemented by:

- Organising workshops and meetings with industry groups of interest
- Addressing the emergence of potential IoT standards towards standardisation bodies.

4. ALLIANCE FOR INTERNET OF THINGS INNOVATION

4.1 IoT European Research Cluster (IERC)

4.1.1 Activity chains liaisons

The IERC – IoT European Research Cluster – is bringing together EU-funded projects with the aim of defining a common vision of IoT technology and addressing European research challenges.

The rationale is to target the large potential for IoT-based capabilities; coordinate/encourage the convergence of ongoing work to tackle the most important issues; and build a broadly based consensus for the realization and deployment of the IoT technology in Europe in order to keep the leadership and the competitive advantage on the world market.

The Cluster organisational structure and operational procedures are defined around the activity chains that are aligned with the task force operational units developed under the IoT connected platforms programme IoT-EPI and the work groups defined under the AIOTI.

The activity chains are created to favour close cooperation between the IoT Cluster projects, the IoT connected platforms programme and the AIOTI working groups to form an arena for exchange of ideas and open dialog on important research challenges. The activity chains are defined as work streams that group together partners or specific participants from partners around well-defined technical activities that will result into at least one output or delivery that will be used in addressing the IERC objectives. The activity chains that are part of the communication and dissemination strategy are:

- AC01: IoT Architecture approaches and open platforms
- AC02: IoT Emerging Technologies and Applications
- AC03: IoT Results Exploitation
- AC04: IoT Hyper-connected Society
- AC05: Trusted IoT

UNIFY-IoT partners coordinating cluster activity chains (CEA, ISMB, INNO) are linking their activities for the realization of a knowledge-transfer using workshops during different IoT events. During sessions at these events a dedicated channel among IoT-EIP projects and FP7/H2020 projects are created, that will allow to leverage IoT project's results and networks to further exploit the co-created value that will be generated as a result of the collaboration among the different IoT-EIP consortia and other initiatives.

The web platform is located at the URL http:// www.internet-of-things-research.eu/.

4.2 Alliance for Internet of Things Innovation (AIOTI)

The Alliance for Internet of Things Innovation was initiated as a result of the European and global IoT technology and market developments. AIOTI aims to create and master sustainable innovative European IoT ecosystems in the global context to address the challenges of IoT technology and applications deployment including standardisation, interoperability and policy issues, in order to accelerate sustainable economic development and growth in the new emerging European and global digital markets. The overall goal of the establishment of the AIOTI is the creation of a dynamic European IoT ecosystem to unleash the potentials of the IoT. This also offers an opportunity to discuss policy obstacles to further IoT take up, and to forge consensus.

To date, the AIOTI has focused on making general policy recommendations in relation to topics such as Privacy and Security. The AIOTI should facilitate adoption of such policy recommendation across its members and ensure that it is seen as natural stakeholder for global policymakers who wish to seek industry opinion on the future IoT policy landscape. Since its launch in March 2015, the number of stakeholders participating in AIOTI grew from approximately 30 founding members to more than 450 participants.

AIOTI sees the IoT technologies as enablers of the Digital Single Market (DSM) that will have a significant potential to create jobs and growth and to provide opportunities for AIOTI stakeholders in deploying and commercializing the IoT technologies and applications on the European and global markets. It will be important to scrutinize the DSM package as for opportunities for IoT development and to participate in the consultations of the different single measures to be adopted under the DSM package in 2016. AIOTI could contribute to the implementation of the DSM by collecting the vision and findings of its members, pointing out and advising on elements blocking mass-market deployment (e.g. interoperability, connectivity, security, etc), and promoting early success stories of the incipient IoT market, etc.

UNIFY-IoT is the "working partner" of AIOTI and IERC by coordinating and supporting the activities on innovation ecosystems, IoT standardisation, Policy Issues, Research and Innovation and being actively involved in common events, workshops and conferences.

The web platform is located at the URL http:// www.aioti.eu/.

4.2.1 AIOTI working groups liaisons

UNIFY-IoT communication and promotion strategies will support integration between research and innovation actions and IoT-EPI through alignment and synchronisation with AIOTI and the IERC- AIOTI WG01) and extension of the innovation ecosystems towards other CSAs, EC PPPs and innovation initiatives, ECSEL, FI-WARE ecosystem (in collaboration with IoT-EPI).

Close cooperation with WG02 from AIOTI (Innovation ecosystems) by WP leader SISAX-M. Furthermore, via existing cross-cluster partnerships, good access to various SMEs all over Europe (UK, France, Netherlands, Belgium, Italy, Germany, Spain, Poland, Ireland, Norway, Finland) is being ensured

UNIFY-IoT supports industrial consensus building for implementing pre-normative and standardisation. UNIFY-IoT will coordinate the pre-normative and standardisation activities (landscaping and gap analysis) with the AIOTI WG03 on IoT standardization in collaboration with the SDOs involved in AIOTI WG01 (IERC) and other IoT Global Alliances. The impact of these activities is to better coordinate and align the use and development of IoT standards so all the different devices (or applications/platforms) would interoperate with each other. The activities include the dialog with these stakeholders to ensure granularity of IoT standards in order to avoid any risk of fragmentation at international, national, regional, industry-specific level.

5. WEB COMMUNICATION

5.1 eRoom

The internal web based eRoom and the public web site are established to facilitate communication between the project partners in the UNIFY-IoT project and to provide knowledge to experts and general public respectively. The eRoom is web based collaboration software tool that addresses the requirements for the project and offers the possibility to track information about the project, centralize content within the context of the UNIFY-IoT project. It is extendable, customizable and flexible to do different tasks without requiring special training.

The project internal web based eRoom store the toolkit consisting of the project logo, templates for external project Communication (brochures and leaflets, presentations, and rollups) as well as internal material (reports, minutes, agendas etc.). The internal web space is acting as main information instrument about the project and in addition UNIFY-IoT provides in cooperation with Be-IoT a portal (www.iot-epi.eu) that connects with the other initiatives and projects.

The internal web based eRoom is used for sharing information among IoT-EPI community liaison groups and Task Forces to facilitate open communication through starting a forum for discussion and exchange of information on topics related to the issues addressed in the project and act as a structured communication link between UNIFIY-IoT the IoT community and other stakeholders.

The project eRoom is established to provide a secure workplace on the web for the distributed UNIFY-IoT project team situated all over Europe. Independent of localization the project partners are able to discuss ideas, share information, make decisions and manage the project progress.

5.1.1 Documents management

Document management key features provided by the system include, check-in/check-out and locking, to coordinate the simultaneous editing of a document, version control, roll-back, to "activate" a prior version in case of an error or premature release, audit trail, to permit the reconstruction of who did what to a document during the course of its life in the system, annotation and stamps. The document management system provides a means to incorporate standard physical document filing practices electronically.

5.2 IoT-EPI platform

The IoT-EPI program includes the research and innovation consortia that are working together to deliver an Internet of Things (IoT) extended into a web of platforms for connected devices and objects. The platforms support smart environments, businesses, services and persons with dynamic and adaptive configuration capabilities. The goal is to overcome the fragmentation of vertically-oriented closed systems, architectures and application areas and move towards open systems and platforms that support multiple applications. The initiative is co-coordinated together by UNIFY-IoT and Be-IoT Consortia and the web platform is located at the URL http://www.iot-epi.eu/.

5.3 UNIFY-IoT

While the eRoom is established to provide a secure workplace on the web for the UNIFIY-IoT project team, the UNIFIY-IoT web site is established to provide knowledge to the experts and general public. The UNIFY-IoT portal website, acts as the project's virtual dissemination vehicle

and cooperation platform with the IoT-EPI projects and other IoT initiatives. It provides public access to valuable information, such as: project publications, recommendations, reference to supporting technical papers, useful links to relevant sources such as AIOTI and IERC, etc. The portal will be used to promote the following activities:

- UNIFY-IoT participation in public events targeting IoT communities.
- Public EC-organized IoT events, such as IoT Week and Net Futures, and also flagship international events such as the Internet of Things World event.
- UNIFY-IoT project events, with participants from the IoT Community, including start-up weekend, hackathons (in collaboration with IoT-EPI), etc.
- Participation in international events (e.g. conferences, forums, etc.) for the purposes of the project (e.g. general dissemination, presentation of project assets and outcomes, etc.).
- AIOTI and IERC high-level events.
- Collaboration activities with relevant projects/initiatives of the IoT field (sharing of information, cooperation in events organization, active support to IoT-EPI projects in the development and implementation of Open Calls (in collaboration with IoT-EPI), etc.)
- Participation in SW developer communities and entrepreneurship-related events such as hackathons, start-up fests, app contests, targeting 100+ participants from the IoT and related Communities (in collaboration with IoT-EPI).
- Participation in other social related fairs for engaging complementary end-users (students, professionals, experts, etc.)
- Informal networks of consortium partners, at national and EU level.
- Participation in the activities of IoT projects and other networks such as Meet-Ups.
- Communications via website and social media outreach (LinkedIn; Twitter; demonstration videos and tutorials on YouTube/Vimeo).

The website is located on the URL http://www.unify-iot.eu.

5.4 UNIFY-IoT open platforms

The project will promote the open-platforms.eu portal as a tentative map of the IoT ecosystem and a tool to facilitate technology choices and reuse of project outcomes. This will include presentation to the projects funded under the FP7/H2020 calls and more largely to the IoT community with the objective of attracting contributions to the portal and promoting reuse of project outcomes. Specific interactions will also be put in place to establish connections between the portal and existing catalogue initiatives such as AppHub or the FIWARE catalogue (in collaboration with the IoT-EPI) so as to limit as much as possible the documentation work and maximize the reach (by enabling automatic or semi-automatic publication on several initiatives from a single documentation point).

The open platforms reference open technologies can be used to create Internet of Things applications and to document their interoperability, relationships, and reference to existing use cases, infrastructures and deployments. This platform was created in the context of the IERC activity chain on IoT Architecture approaches and open platforms (under the coordination of the BUTLER FP7 project) and is maintained by INNO. The portal will be improved based on feedback from an ongoing consultation.

5.5 UNIFY-IoT open educational platform and IoT Academy

Principal characteristics of the open educational platform are to:

- Highlight the role of the IoT as the system of systems ensuring a connection with enabling technologies and especially the needs of stakeholders;
- Address different needs including methods to extend the concept of IoT Academy/Institute to the IoT ecosystems and introduce the IoT education programmes in schools and universities curriculum, open modules, "how-to guidelines"; its usage will be promoted for current or future IoT developers, adopters and business developers;
- UNIFY-IoT partners will provide the content for education courses based on the modules they have been already offering in their education programs. Companies/start-ups will provide the most up to date results and specific challenges related to research and carried on technological projects;
- Open educational platform will serve as a repository for the educational content and will be organized around two main pillars considering the potential beneficiaries:
    - Academic pillar, in which are included academic courses directed to tertiary and lifelong learning education (post-master education, PhD and professional learning);
    - IoT Academy (or company/start-up pillar), where they can share with beneficiaries the most updated results and specific challenges;
- IoT Academy pillar includes a Matchmaking Area where companies can share with beneficiaries not only their research outcomes but they can also put forward challenges where beneficiaries can contribute by proposing solutions;
- OEP will have a repository function. The uploaded education content will be originated not only from materials prepared in running Horizon 2020 financed projects, but also in other related projects.

The open educational platform and IoT Academy is a repository with training and learning materials for the IoT. Its specifications are being discussed at the project level.

6. CONCLUSIONS

The UNIFY-IoT dissemination and communication activities will consider the effect that the strategy will have on conveying the message to end-users and will establish a channel of exchange of information and a relationship with users that will provide ongoing feedback through their involvement.

The document provides the framework for the UNIFY-IoT project's external and internal communication, public relations and dissemination of the results as part of the overall communication plan of the IoT-EPI. The document describes the target audience and relevant stakeholders and relevant projects/initiatives/networks to ensure the exchange of the IoT-EPI projects results with other initiatives from the IoT technology and platforms field.

7. REFERENCES

[1] eRoom User Manual, version 7.3, JOINT Collaboration AS.
[2] eRoom 7 Application, EMC Corporation.
[3] UNIFY-IoT, Description of Work.