

CROSS FERTILISATION THROUGH ALIGNMENT, SYNCHRONISATION AND EXCHANGES FOR IoT

H2020 – CREATE-IoT Project

Deliverable 07.03

IoT FA dissemination and collaboration activities report year 1

Revision : 1.00

Due date : 28-02-2018 (m14)

Actual submission date : 19-03-2018

Lead partner : UNP



Dissemination level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Summary					
No and name	D07.03 IoT FA dissemination and collaboration activities report year 1				
Status	Released	Due	m14	Date	28-02-2018
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Editor	Tiago Teixeira (UNP)				
DoW	This outcome is one of three deliverables described in WP7, for reporting the coordination, dissemination and international collaboration activities carried out by CREATE-IoT partners. This deliverable describes the events that have been carried out in Year 1, the synergies in the LSPs and the impact these events have had on the communities affected.				
Comments					
Document history					
Rev.	Date	Author	Description		
0.00	02-10-2017	SINTEF	Template/Initial version.		
0.01	09-10-2017	UNP	Structure of the document.		
0.02	12-10-2017	UNP	Contribution to coordination section		
0.03	17-10-2017	UNP	Contribution to international collaboration and dissemination sections		
0.04	20-10-2017	UNP	Updated content		
0.05	15-12-2017	MI	Proof-reading + new content		
0.06	20-12-2017	UNP	Merged contributions to the dissemination section (BLU, SINTEF, IDATE, FE, ETSI, TL, ERCIM)		
0.07	27-12-2017	TL	Added information on TL activities		
0.08	28-12-2017	UNP	Merged contributions from AL, ARTS and ETSI		
0.09	02-02-2018	SINTEF	Added SINTEFs' additional activities.		
0.10	08-02-2018	UNP, SINTEF	Additional activities.		
0.11	14-03-2018	UNP, SINTEF	Review comments considered.		
1.00	19-03-2018	SINTEF	Final version released.		

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1. EXECUTIVE SUMMARY

1.1. Publishable summary

This document describes the coordination, dissemination and collaboration activities for the CREATE-IoT project and IoT-LSPs Initiative for the period M1 (January 2017) to M12 (December 2017).

This document covers dissemination activities that started in M1 but that will intensify from M12 onwards with joint activities with the LSPs, so as to engage IoT Communities in different areas and raise awareness for the LSP Initiative.

The dissemination activities carried out in the first year are described; these already cover a broad range of activities and communities:

- Participation (and presentation) at relevant (IoT) events, conferences, workshops, meetings.
- Demos and exhibitions.
- Standards community events.

An important aspect, also presented in this deliverable, are the coordination activities, which consist of everything related to Activity Group 8 - Communication, Collaboration Strategy and Liaisons. This includes the coordination of a joint list of relevant events for CREATE-IoT, U4IoT and all LSPs.

1.2. Non-publishable information

This document is public.

2. INTRODUCTION

This deliverable presents all activities carried out in the first year of the project. The deliverable is divided in 3 main areas:

- **Coordination:** reports all coordination actions organised by CREATE-IoT, meant to coordinate dissemination and collaboration activities across the IoT-LSPs initiative (Activity Group 08).
- **Dissemination:** reports all dissemination activities carried out by CREATE-IoT partners.
- **International Collaboration:** reports all International collaboration initiatives.

2.1. Purpose and target group

This document reports on the activities of WP7, as carried out in the first 12 months of the CREATE-IoT project. The WP7 objective is to define a communal collaborative communication strategy for the IoT European Large-Scale Pilots (LSPs) Programme coordinated by CREATE-IoT and U4IoT and aligned with the communication and collaboration strategy of the five LSPs forming the IoT European Large-Scale Pilots Programme.

2.2. Contributions of partners

UNP, who is responsible for the deliverable, worked on the initial structure of the document, and on the integration of all contributions into a final report. All CREATE-IoT partners contributed to the deliverable by providing the report of each activity (coordination, dissemination or collaboration) they executed in the 1st year of the project.

AL, being in the lead of “WP05 on IoT Policy Framework - Trusted, Safe and Legal Environment for IoT”, contributed to this document by producing an overview of the dissemination activities that AL performed in line with the objectives of CREATE-IoT project and, more specifically, of WP05. Arthur’s Legal was invited to give presentations in diverse audiences, including industry, public sector organisations, consumer organizations and other stakeholders with an interest in the IoT ecosystem.

MI has provided details of the Global IoT Summit held in Geneva in June 2017 and collaboration activities with the Horizon 2020 CSA U4IoT.

ETSI has been advertising the results of CREATE-IoT via its role as chair of AIOTI WG3 in a large number of events in a variety of IoT related events. ETSI has also been the leading author of Chapter 6 of the IERC Book 2017.

SINTEF As WP leader of "WP01 Coordination and Support to the IoT Focus Area" as a whole was actively involved in the activities of AG08 and contributed to the CREATE-IoT coordination and project activity meetings, to the FA dissemination and collaboration activities. SINTEF has promoted the programme and the project at European and global events and was invited to give presentations in diverse audiences, including industry, public sector organisations, consumer organizations and other stakeholders with an interest in the IoT European ecosystem. SINTEF used different channels such as IERC and AIOTI to promote the programme.

IDC: As leader of "WP07 Communication and collaboration strategy, dissemination and events management" as a whole and responsible for "Task07.01 Communication and collaboration strategy", IDC was involved in the activities of AG08 together with SINTEF, collected the necessary information to create and maintain a list of relevant events to be targeted and updated by all CREATE-IoT partners and contributed to the dissemination activities by preparing and delivering a presentation on IoT Market Perspectives at the IoT Week 2017. IDC was also responsible of the preparation and delivery of D07.01 Communication Plan.

IDATE: IDATE contributed to the deliverable by a description of the two events organised by IDATE in which the CREATE-IoT project was promoted (expert seminars on Smart Mobility and on eHealth).

TL: participated to a number of dissemination events focusing on transport (FIC), privacy engineering (OASIS workshop), energy (IoT Week), risk management (IoT Week). It also published two papers related to ecosystems issues (C&sar, Trustech).

ARTS, leader of WP3 has been promoting the IoT Large Scale Pilots in the context of STARTS - the Science, Technology and the Arts Initiative of the Digital Single Market. These activities have special relevance for the LSPs and CREATE-IoT at high level policy making. The LSPs initiative was referred in meetings with Commissioners Oettinger, Gabriel, Moedas and Cretu. Also, of special relevance is the exhibition in LABoral, Gijón, Spain of the results of artists in residency in Telefonica R&D. The works of the artists were proofs of concepts of IoT applications. The event had a special coverage by one of the most read newspapers in Spain, El País. Furthermore, a STARTS Learning IoT workshop was run by ARTSHARE, in the context of the kick-off event of the Bulgarian Presidency, in Sofia. It had the participation of Commissioner Gabriel.

BLU provided the relevant details of dissemination events in which it was involved especially through generating the awareness among the SME, start-up and developer communities of the activities of the LSPs and CREATE-IoT relevance.

ERCIM contributed to the CREATE-IoT dissemination and collaboration activities through participation in a variety of IoT related events, and through the W3C Web of Things activities.

FE has been active in the UK, mainland Europe and the Far East in disseminating the opportunities and benefits of arts/science collaborations and giving visibility to the LSP programme in sectors not normally visible to the global IoT domain.

2.3. Relations to other activities in the project

This document reports on all the coordination, dissemination and collaboration activities carried out by CREATE-IoT partners and so it relates to all other project tasks. Of course, each coordination/dissemination/collaboration activity may be focused on some specific activity from one of the projects tasks: this is detailed in each of the coordination/dissemination/collaboration activity individual reports.

3. CREATE-IoT INTERNAL ACTIVITIES

The management and coordination activities in CREATE-IoT were carried out through WP08.

3.1. Project activity meetings

In addition to regular contact through teleconferences and emails, the arranged project activity meetings paved way for the other activities and collaboration in the project. The official project activity meetings are listed and summarized below.

Table 1: CREATE-IoT coordination and activity meetings

Name	Place	Date
Kick-Off meeting	Brussels	09-10 January 2017
Technical Consortium meeting	Berlin	13 March 2017
Technical Consortium meeting	Geneva	09 June 2017
Consortium meeting	Brussels	24 October 2017

3.1.1. Kick-Off meeting.

- **Date:** 09-10 January 2017.
- **Venue:** Brussels.
- **Summary:** Meeting background information: Align and start the activities of each partner. Discuss the objectives, content and deliverables for the activity group. Schedule the meetings and clearly define the action plan for the Consortium and the activities for each partner during the next months.

The main meeting objectives addressed were the introduction of CREATE-IoT, and coordinating the activities within the consortium and with the IoT-LSPs projects under the European IoT Focus Area; communication strategy, internal and external collaboration, partners' roles and responsibilities, activity groups coordination and objectives, alignment with U4IoT on the main events during the next period, deliverables, action plan events, and meetings schedule.

3.1.2. Technical Consortium meeting.

- **Date:** 13 March 2017.
- **Venue:** Berlin.
- **Summary:** Meeting background information: Align and start the activities of each work package and task. Align and discuss the objectives, content and deliverables for the activity group. Schedule the meetings and clearly define the mapping with activity groups, the action plan for the Consortium and the activities for each partner during the next months.

The main technical meeting objectives addressed were starting and aligning the activities of the different WPs and with the IoT-LSPs projects under the European IoT Focus Area, partners' roles and responsibilities, deliverables, activity groups' coordination and objectives, alignment with the WPs and Tasks, web portal, communication strategy, internal and external collaboration, alignment with U4IoT on the main events during the next period, action plan events, and meetings schedule.

3.1.3. Technical Consortium meeting.

- **Date:** 09 June 2017.
- **Venue:** Geneva.
- **Summary:** Meeting background information: Present the activities of each work package and task. Discuss and refine the structure, objectives, content for each deliverable. Define the mapping with activity groups, the action plan for the Consortium and the activities for each partner during the next months.

The main technical meeting objectives addressed were to follow up the activities of the different WPs, partners' progress and tasks/deliverables overview, activity groups' coordination and objectives, alignment with the WPs and Tasks, web portal, communication strategy, internal and external collaboration, alignment with U4IoT on the main events during the next period, action plan, events and meetings schedule.

3.1.4. Consortium meeting.

- **Date:** 24 October 2017.
- **Venue:** Brussels.
- **Summary:** Preparing for the IoT European Large-Scale Pilots Programme Common Technical Review Conference.

4. COORDINATION (AG08)

In order to implement the communications strategy to coordinate and support the IoT European Large-Scale Pilots Programme, activity group 08 on Communication, Collaboration Strategy and Liaisons was created.

4.1. Activity Group 08 activities

This group is representing all IoT European Large-Scale Pilots Programme projects and is coordinated by the CSAs CREATE-IoT and U4IoT who organize regular meetings and activities making it possible to obtain reciprocity and to promote sharing and cooperation with the partners of each project.

Table 2: AG08 Coordination meetings/activities.

Event Name	Place	Date/Time
Activity Group 08 – Telco Meeting	GoToMeeting	Thursday, 19 January – 11:00 AM to 12:00 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Monday, 27 March – 14:00 PM to 16:30 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Thursday, 20 April – 14:00 PM to 15:20 PM
Activity Group 08 - IoT Week F2F meeting	International Conference Centre of Geneva (CICG)	Tuesday, 6 June – 15:00 PM to 17:00 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Thursday, 7 September – 15:30 PM to 17:00 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Thursday, 21 September – 14:00 PM to 15:30 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Tuesday, 10 October – 16:00 PM to 17:30 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Friday, 13 October – 13:00 PM to 14:00 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Thursday, 19 October – 13:00 PM to 14:00 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Thursday, 23 November – 15:00 PM to 16:00 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Friday, 01 December – 16:00 PM to 17:00 PM
Activity Group 08 – Telco Meeting	GoToMeeting	Thursday, 14 December – 15:00 PM to 17:00 PM

In the following subsections, all coordination meetings and activities with the respective summary descriptions are presented:

4.1.1. AG 08 Telco – 19 January

- **Date:** Thursday, 19 January – 11:00 AM to 12:00 PM
- **Venue:** GoToMeeting

- **Summary:** Was stated that the two CSAs (CREATE-IoT and U4IoT) are responsible for developing the European IoT LSPs (Large-Scale Pilots Program) web portal. It was defined how the logo and the presentation model of the program will be, that activity group 08 will act as a communication office for the program performing a synergy related to the communication activities, and how the press releases for each IA project in the EC and in the EU Member States in order to reach the interested parties will be defined.

4.1.2. AG 08 Telco – 27 March

- **Date:** Monday, 27 March – 14:00 PM to 16:30 PM
- **Venue:** GoToMeeting
- **Summary:** At this meeting, the activities and events where the LSPs (Large-Scale Pilots) and the CSAs (Coordination and Support Actions) were planning to be present were discussed. An introduction to the concept of the common web portal eRoom was also addressed.

4.1.3. AG 08 Telco – 20 April

- **Date:** Thursday, 20 April – 14:00 PM to 15:20 PM
- **Venue:** GoToMeeting
- **Summary:** This meeting continued the work started and developed in the previous meeting focussing on the activities and events in which the LSPs and CSAs were predicted to be present as well as the presentation of the eRoom portal.

4.1.4. AG 08 IoT Week F2F – 6 June

- **Date:** Tuesday, 6 June – 15:00 PM to 17:00 PM
- **Venue:** IoT Week 2017 - Centre International de Conférences Genève (CICG)
- **Summary:** This was a face-to-face meeting that took a place during IoT Week 2017 in Geneva, Switzerland, where several members of the two CSAs and of the five LSPs were present with the objective to discuss the next steps of activity group 08.

4.1.5. AG 08 Telco – 7 September

- **Date:** Thursday, 7 September – 15:30 PM to 17:00 PM
- **Venue:** GoToMeeting
- **Summary:** The purpose of this meeting was to prepare and organize the IoT European Large-Scale Pilots Programme Common Technical Review Conference to be held between 25-27 October 2017. Possible places to carry out the review, the agendas of each LSPs technical review meeting, the activity group 08 session, the IoT LSPs common events and the preparation and allocation of the resources for participation in the next autumn 2017 to spring 2018 events were discussed.

4.1.6. AG 08 Telco – 21 September

- **Date:** Thursday, 21 September – 14:00 PM to 15:30 PM
- **Venue:** GoToMeeting
- **Summary:** This meeting continued the work started and developed at the previous meeting focussing on the preparation of the IoT European Large-Scale Pilots Programme Common Technical Review Conference to be held between 25-27 October 2017.

4.1.7. AG 08 Telco – 10 October

- **Date:** Thursday, 10 October – 16:00 PM to 17:30 PM
- **Venue:** GoToMeeting
- **Summary:** This meeting continued the preparation of the IoT European Large-Scale Pilots Programme Common Technical Review Conference to be held between 25-27 October 2017 where logistics, organization and the activity group 08 agenda were discussed.

4.1.8. AG 08 Telco – 13 October

- **Date:** Friday, 13 October – 13:00 PM to 14:00 PM
- **Venue:** GoToMeeting
- **Summary:** At this meeting, activity group 08 presented a summary of the work done, including the progress achieved in terms of collaboration and active participation of the projects and also presented an overview of the work plan for activities in the next 6 months.

4.1.9. AG 08 Telco – 19 October

- **Date:** Thursday, 19 October – 13:00 PM to 14:00 PM
- **Venue:** GoToMeeting
- **Summary:** In this meeting, preparations for the IoT European Large-Scale Pilots Programme Common Technical Review Conference and also the technical review agenda for activity group 08 continued.

4.1.10. AG 08 Telco – 23 November

- **Date:** Thursday, 23 November – 15:00 PM to 16:00 PM
- **Venue:** GoToMeeting
- **Summary:** This meeting addressed the evaluation of the IoT European Large-Scale Pilots Programme Common Technical Review Conference held between 25-27 October 2017. Discussions and opinions on the achievements, the plans for the future and proposed changes to optimise the work.

4.1.11. AG 08 Telco – 01 December

- **Date:** Friday, 01 December – 16:00 PM to 17:00 PM
- **Venue:** GoToMeeting
- **Summary:** The overall communications strategy aligned with the new requirements for the programme should be defined by AG08 in Q1 2018. One contact person per project was assigned to collect and provide the information for the project and to interact with the editorial team for design, graphics and content of the IoT LSPs brochure. Discussions on the priorities for the AG08 after the technical check. The AG08 will focus on closer cooperation between the LSPs and the CSAs, a communication strategy at programme level to promote the programme, organise common activities, learn what the other projects are doing and share information (cross-project activities). Actions were proposed for the recommendations concerning the use of local languages and organisation of common events were considered useful. The LSPs have been focussing on their own projects up to now, but cross-project cooperation will improve the impact of the programme as a whole. Projects/partners with the largest communication budgets need to take a larger role in the AG.

4.1.12. AG 08 Telco – 14 December

- **Date:** Thursday, 14 December – 15:00 PM to 17:00 PM
- **Venue:** GoToMeeting
- **Summary:** Discussions and preparation of the IoT LSPs Brochure. The brochure will follow the previous IoT-EPI brochure format. The same designer will be used. The costs are covered by CREATE-IoT. The brochure includes general and technical information about the projects and is addressed to IoT European stakeholders, potential Open Call applicants (IoF2020, ACTIVAGE and SYNCHRONICITY), public authorities, regional, national bodies, related national and regional projects. The plans for the overall communications strategy were discussed and IoF2020 representative plans to present the strategy Q1 2018. List of relevant events

CREATE-IoT, together with U4IoT and in cooperation with the other LSP projects, intend to be present at multiple events, using the opportunity to meet and engage with the IoT stakeholder community and other relevant actors. For this purpose, CREATE-IoT keeps a list of relevant events, depicted in Table 3, to ensure that the participation and organization of related activities is planned in advance and achieves the maximum impact. The event planning is also for considering in which IoT-related and/or which LSP-specific conferences and workshops they should participate.

Table 3: Main Events targeted in 2017 and 2018

Date	Event	Location	Topic/Audience	Suggested Contribution
22/24 March 2017	The European Robotics Forum 2017 (ERF2017) https://www.eu-robotics.net/robotics_forum/history/erf-2017.html?change-lang=3	Edinburgh, Scotland	Event bringing together leading European experts from industry, business, and top-level academia, as well as relevant European policy makers. At the exhibition, 31 sponsors and exhibitors showcased their prototypes, products, and services, and attendees got to know the most advanced European robotics industry, research institutes and projects.	Attendance, workshop co-organisation, presentation
10-11 May 2017	Digital Innovation Forum https://dif2017.org/	Amsterdam, Netherlands	Industry-driven Digital innovation conference in Europe, showing R&I results and emerging challenges towards a vision of the future for and built by industry.	Attendance, poster, booth
6-9 June 2017	IoT Week http://iot-week.eu/	Geneva, Switzerland	IoT research and innovation community (industry and research). Synchronicity is to leverage on the IoT Week events to promote and disseminate its results.	Attendance
13-14 June 2017	Internet of Things World Europe https://tmt.knect365.com/iot-world-europe/?_ga=2.47313711.981079427.1497012965-170863526.1497012965	London UK	Creating partnerships & ecosystems to ignite the IoT driven enterprise	Attendance

21-22 June 2017	IoT Global Congress http://iotglobalcongress.com/	London, UK	The world's leading Internet of Things Conference 2017 focusing on IoT applications, IoT Solutions and IoT Companies for all verticals including automotive, healthcare, asset and fleet management, manufacturing, security, retail point of sales, smart grid, smart metering, smart home and consumer electronics industry.	Attendance
28-29 June 2017	NetFutures	Brussels, Belgium	Research and innovation European community	Attendance
3-7 July 2017	SenZations, 12 th Summer School on IoT www.senzations.net	Limassol, Cyprus	Summer School on IoT and its Applications	Attendance
29 August – 1 September 2017	OpenLivingLab days 2017 http://www.openlivinglabs.eu/	Krakow, Poland	Four days of co-creating, learning and networking	Attendance, presentation, workshop
18-19 September 2017	Industry of Things World http://industryofthingsworld.com/en/	Berlin, Germany	Industry of Things World is an international knowledge exchange platform bringing together more than 1000 high-level executives who play an active role in the Industrial Internet of Things scene.	Speaking slot
11-15 September 2017	The 21st International Symposium on Wearable Computers (ISWC) http://iswc.net/iswc17/	Maui, Hawaii, USA	The 21st International Symposium on Wearable Computers (ISWC) is the premier event for wearable computing and technology, and issues related to on-body and worn mobile technologies. ISWC brings together researchers, product vendors, fashion designers, textile manufacturers, users, and related professionals to share information and advances in wearable computing.	Attendance
28 September 2017	Rethinking the Urban Environment: The EU Transition Towards Smart Cities	Brussels, Belgium	This international symposium will provide an invaluable opportunity to engage with recent policy developments at EU level and scrutinise the future of smart cities globally.	Attendance
3-5 October 2017	IoT Solutions World Congress http://www.iotsworldcongress.com/	Barcelona, Spain	The event is to focus on IoT solutions for industries and use cases in seven dedicated areas: Manufacturing, Transportation & Logistics, Healthcare, Retail, Smart Cities, Agriculture & Security, and Operability & Standards.	Speaking slot

3-6 October 2017	6 th International Security Fair iSEC and Colocated SMART and Safe Cities' Conference	Belgrade, Serbia	iSEC 2017 brings together importers, Security manufacturers, installers, security distributors, End Users-decision makers and procurement specialists, system integrators, project engineers, State public security authorities, IT specialists, Contractors, Corporate security managers and System administrators.	Attendance and Key note Speech
22-25 October 2017	IoT 2017 - 7th International Conference on Internet of Things http://iot-conference.org/iot2017/	Linz, Austria	With the strong supports from industry and academia the international conference on Internet of Things has become the premier gathering place for visionary, academic researchers and practitioners around IoT. The 7th International Conference on the Internet of Things (IoT 2017), building on the success of its predecessors since 2008, is the premier forum for such efforts, to share, discuss and witness cutting edge research in all areas of development for the Internet of Things.	Speaking slot
24-26 October 2017	ETSI IoT Week 2017	Sophia Antipolis, France	The ETSI IoT Week is an extension of the highly successful M2M Workshop series - has become the must-attend for anyone involved in IoT solutions, who appreciates the power and value of the standards-enabled technologies.	Presentation
15-16 November 2017	Internet of Things World Forum http://iotinternetofthingsconference.com/	London, UK	The Internet of Things World Forum is an exclusive industry event that brings the best and brightest thinkers, practitioners, and innovators from business, government, and academia together to accelerate the Internet of Things.	Speaking slot
6-7 November 2017	TEKK Tour Digital Wallonia 2017	Mons, BE	Industry 4.0, IoT and Cybersecurity: Bringing technologies to the marketplace. Regional initiatives and hubs Conference.	Workshop, attendance, presentation
27-29 November 2017	Public Safety Communication Europe (PSCE), http://www.psc-europe.eu/	Madrid, ES	PSCE provides a common platform for researchers, industry and users to meet and network, learn about technologies used for public safety and influence policy makers at European levels	Workshop, attendance, presentation
27-29 November 2017	Trustech 2017 https://www.trustech-event.com/	Cannes, FR	Ensuring Security and Privacy in IoT-Based Ecosystems	Workshop, attendance, presentations

5-7 December 2017	European Forum for Electronic Components and Systems - EFECS 2017	Brussels, BE	EFECS addresses the key strategic challenges facing our industry. Breakout sessions explored the Strategic Research Agenda, the technology roadmap that must be followed if Europe is to compete effectively in global markets and address societal needs.	Attendance, presentation
21-22 March 2018	Smart IoT London http://www.smartiotlondon.com/	London, UK	IT Directors, Solutions architect, Programme manager, IT Management, R&D Managers, IT Architects, Line of Business Managers & Directors, Security Professionals, Network Professionals, Service Provider Technical and Business Managers	Speaking slot
14-16 February 2018	EWSN International Conference on Embedded Wireless Systems and Networks http://www.ewsn.org/	Madrid, Spain,	(EWSN) is a highly selective single-track international conference focusing on premier research results at the intersection of embedded systems and wireless networking – an area of highest relevance for visionary technologies such as the Internet of Things or Cyber-Physical Systems and application domains such as Smart Production, Smart Cities, or Connected Cars.	Attendance
May-June 2018	ESWC – Extended Semantic Web Conference https://2017.eswc-conferences.org/about	Portoroz, Slovenia	ESWC is a major venue for discussing the latest scientific results and technology innovations around semantic technologies. Building on its past success, ESWC is seeking to broaden its focus to span other relevant related research areas in which Web semantics plays an important role	Attendance
4-7 June 2018	IoT Week 2018	Bilbao, ES	IoT research and innovation community (industry and research). Synchronicity is to leverage on the IoT Week events to promote and disseminate its results.	Attendance
September 2018	UbiComp 2018 – ACM Conference on Pervasive and Ubiquitous Computing, http://ubicomp.org	To be defined	The ACM international joint conference on pervasive and ubiquitous computing (ubicomp) is the result of a merger of the two most renowned conferences in the field: pervasive and ubicomp. while it retains the name of the latter in recognition of the visionary work of Mark Weiser, its long name reflects the dual history of the new event.	Attendance

A list in Excel format is being constantly updated by all of CREATE-IoT's partners as well as by all the participants in the European IoT Large-Scale Pilot Programme. CREATE-IoT collects the inputs from each participant so as to have a comprehensive and up-to-date list of the events' dates, locations, topics, types of attendance and suggest/make sure that an appropriate contribution from the overall programme is maintained.

4.2. Collaboration with U4IoT

CREATE-IoT defined together with U4IoT the mechanisms for cooperation with the LSPs through the activity chains, and a communication strategy for sharing common resources and information for the horizontal activities. The collaboration is following the 4 stages: create awareness (m01-m12) focused on creating awareness and ensure that IoT stakeholders know about the project, its objectives and expected results, through presentations in IoT and the LSP specific conferences and workshops; increase the potential exposure (m13-m24) focused on cooperation, exchange approaches and best practice in business, technological and standardisation know-how arising from the LSP use cases in order to make them more widely known and encourage others to follow, thus increasing the potential impact; show results (m25-m34) by focusing on highlighting the external new partners, beneficiaries of cascade funding and industrial followers of the LSP's use of the IoT platforms, standards and approaches and highlight the results and plans for commercial offerings coming out of the LSPs in order to attract the widest possible internal and external audience to evaluate the LSPs results, common platforms and approaches developed; and valorisation (m34-m36+m>36) for building the bridge to commercial exploitation and financial sustainability.

CREATE-IoT and U4IoT have regular telephone conferences (2 every month) to align the activities, discuss the common tasks, inform each other about the progress and avoid overlapping. The coordination is implemented at the project level and at the activity group level where the responsibilities are shared between the two projects.

MI is involved in both CSA initiatives. MI works directly as part of the communication WP in U4IoT and CREATE-IoT. This has meant a greater alignment of communication strategy and deliverables between the two CSAs in the Horizon 2020 program as a result of MI's work.

MI has been collecting news from all of the LSPs and CSAs and been publishing them on a combined LinkedIn page. These stories have later been tweeted by Martel and U4IoT. The first story was posted on LinkedIn in September 2017.

MI has also arranged for a book to be produced and published by Springer on IoT Security and Privacy. They have personally edited a chapter in this book on end-user engagement which combines and comments on work conducted by both CREATE-IoT and U4IoT. FE made a significant contribution to this chapter on behalf of CREATE-IoT. The book will likely be published in late 2018.

5. DISSEMINATION

This section presents all the events and publications for which CREATE-IoT has carried out dissemination activities so far.

5.1. Events

Table 4 below shows all CREATE-IoT dissemination events carried out so far. These events are detailed in the following subsections with their respective place, date and summary description.

Table 4: CREATE-IoT Dissemination Events.

Event Name	Venue	Partner	Date
Connected Smart Cities Conference 2017	Brussels	AL	12 th January
IoT Security & Privacy Workshop	Brussels	SINTEF, AL	13 th January
FIC2017	Lille	TL	25 th January
Computers, Privacy & Data Protection: The Age of Intelligent Machines	Brussels	AL	25 th – 27 th January
Enabling the Internet of Things	Brussels	AL	1 st February
BEREC Workshop on IoT	Brussels	ETSI	1 st February
Startup Europe After 2 Years	Brussels	BLU	2 nd February
STARTS Prize	Linz	ARTS	6 th – 7 th April
The European Robotics Forum 2017 (ERF2017)	Edinburgh	SINTEF	22 nd -24 th March
K.E.Y. Platform 2017: Trust, Transparency and the Data Commons	Seoul	AL	27 th – 28 th April
EIC OASIS Privacy Engineering Workshop	Munich	TL	9 th May
Digital Innovation Forum	Amsterdam	SINTEF	10 th 11 th May
Creating a standards framework for IoT	Berlin	ERCIM	2 nd June
Global IoT Summit 2017	Geneva	MI	6 th June
Sustainable Digital Multi-Services Smart Cities	Bordeaux	ETSI	6 th – 8 th June
Emerging IoT Researches and Technologies & IoT Standards Ecosystem	Geneva	ERCIM	8 th June
IoT workshop on Energy and Home Comfort	Geneva	SINTEF, TL	8 th June
IoT Risk Management	Geneva	TL	8 th June
IoT Market Perspectives: IoT From Hype to Mature Ecosystems	Geneva	IDC	9 th June

Netfutures 2017	Brussels	BLU, AL, ARTS, ETSI, NGUI, SINTEF	28 th - 29 th June
Avignon Festival: STARTS Residencies Announcement	Avignon	ARTS	11 th July
Digital single market conference on the free movement of data	Tallinn	AL	17 th July
OpenLivingLab days 2017	Krakow, Poland	SINTEF	29 th August – 1 st September
Enabling trust and security for IoT	Sophia Antipolis	AL	12 th September
2017 International Conference on Mobile Brain-Body Imaging (MoBI) and the Neuroscience of Art, Innovation and Creativity	Valencia	ARTS	12 th – 13 th September
IBC2017 Conference: Truth, Trust & Transformation	Amsterdam	AL	14 th – 18 th September
CloudWATCH Europe 2017	Amsterdam	AL	20 th September
Creative Mobility Conference	Grenoble	ARTS	28 th -30 th September
Cybersecurity workshop organised by ENISA and the Dutch Cyber Security Centre	The Hague	AL	4 th October
South Summit 2017	Madrid	BLU	4 th – 6 th October
EBF Cybersecurity Conference	Brussels	AL	10 th October
Workshop on standardization to support digitizing & transforming European Industry	Brussels	ERCIM	17 th October
Internet of Things Security Conference	The Hague	AL	18 th – 19 th October
STARTS INL Braga	Braga, Portugal	ARTS	19 th – 20 th October
Validation workshop for Baseline Security Measures for IoT & first IOTsec meeting	The Hague	AL	20 th October
Autonomy 2017	Paris	BLU	19 th – 21 st October
Dutch Design Week, DATAStudio Conference	Eindhoven	FE	24 th October
IoT European Large-Scale Pilots Programme Common Technical Review Conference.	Brussels	SINTEF	25 th -27 th October 2017
IEEE Global IoT Summit (WINCOM 2017)	Rabat	ERCIM	1 st November
Creativity World Forum, Creative Cities and Neighbourhoods of Opportunity	Aarhus	FE	2 nd November
WebSummit 2017	Lisbon	BLU	6 th – 9 th November

TEKK TOUR DIGITAL WALLONIA 2017	Mons	SINTEF	6 th – 7 th November
ICT Proposers Days	Budapest	SINTEF	10 th – 11 th November
Expert seminar on Smart Mobility – Digiworld Summit	Montpellier	IDATE	15 th November
Expert seminar on investment in eHealth – Digiworld Summit	Montpellier	IDATE	16 th November
C&ESAR 2017 Protection des données face à la menace cyber	Rennes	TL	27 th November
IoT Trustworthiness in the Era of Artificial Intelligence, Robotic Things and Blockchain Technologies – Trustech 2017	Cannes	SINTEF	28 th November
Ensuring Security and Privacy in IoT-Based Ecosystems – Trustech 2017	Cannes	TL	28 th November
ETSI and AIOTI IoT Security Standardisation Status – Trustech 2017	Cannes	ETSI	28 th November
Internet of Things, a brave new world for consumers	Brussels	AL	28 th November
IoT Tribe North Launch	Barnsley	BLU	29 th November
Applying Technology in the Arts – International Arts Leadership Roundtable 2017	Hong Kong	FE	29 th November
Presentation to National Culture and Arts Foundation (NCAF) Taiwan and British Council (BC) representatives	Taiwan	FE	1 st December
European Forum for Electronic Components and Systems (EF ECS 2017)	Brussels	SINTEF; PHILIPS	5 th - 7 th December
Digital Skills and Jobs Coalition Conference	Brussels	AL	7 th December
Next Things Next Starts Exhibition	Gijon	ARTS	15 th December
12th Annual Meeting of the Internet Governance Forum	Geneva	AL	18 th – 21 st December

5.1.1. Connected Smart Cities Conference 2017

- **Date:** 12th January
- **Venue:** Brussels
- **Partner:** AL, SINTEF
- **Summary:** Dissemination activities participated in by AL and SINTEF fall within the scope of WP01 and WP05 on



“IoT Policy Framework - Trusted, Safe and Legal Environment for IoT”. With 370 registered from 32 different countries, the 4th instalment of the Connected Smart Cities conference brought together the Open & Agile Smart Cities community to attend and learn from the keynote speakers and eight parallel sessions¹.

- **Relevance of the event for the IoT-LSP Program:** Focusing on the domain of smart cities, the conference has been relevant for CREATE-IoT LSPs, especially in relation to the scope of Synchronicity project, funded by the IoT- LSP Pro-gram. Featuring presentations by a large number of speakers from a range of initiatives, the Conference hosted discussions on the delivering of a harmonized ecosystem for IoT-enabled smart city solutions where IoT device manufacturers, system integrators and solution providers can innovate and openly compete.

5.1.2. FIC 2017

- **Date:** 25th January
- **Venue:** Lille
- **Partner:** TL
- **Summary:** FIC is the major annual cybersecurity event, attracting the whole French cybersecurity industry. Trialog presented a perspective for intelligent transport systems cybersecurity taking an IoT viewpoint, in particular the work being carried out at standardisation level (privacy engineering, privacy in smart cities, security and privacy guidelines for the IoT).
- **Relevance of the event for the IoT-LSP Program:** The presentation focused on cybersecurity and transport, relevant to AG02 (standardisation and interoperability), AG05 (security, privacy and trust) and Autopilot.



5.1.3. Computers, Privacy & Data Protection: The Age of Intelligent Machines

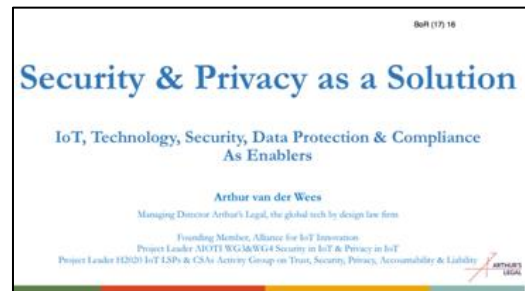
- **Date:** 25th – 27th January
- **Venue:** Brussels
- **Partner:** Arthur’s Legal
- **Summary:** CPDP has grown tremendously since its inception in 2007: from 100 participants coming for two days to one venue to 1000 participants coming for three days to five venues. CPDP stands for good food and drinks, a welcoming and respectful community, a wide selection of public side events and networking opportunities and intense debates about privacy, data protection and new technological evolutions - including artificial intelligence, the main theme of CPDP2017². Topics covered during these activities include (personal) data protection, accountability, liability, safety and cybersecurity, including engagement to ethics, privacy impact assessments and data management.
- **Relevance of the event for the IoT-LSP Program:** The event focused on numerous topics closely linked to privacy and data protection, thus, being relevant for all individual projects funded within the IoT-LSP Program and the coordinated support actions to various extent. Note that this particular event held on annual basis constitutes a well-known forum within the broader community of EU funded projects addressing privacy and data protection related matters from an interdisciplinary view point.

¹ <https://storify.com/oascities/connected-smart-cities-conference-2017>

² <http://www.cdpconferences.org/assets/cdpd2017.pdf>

5.1.4. Enabling the Internet of Things

- **Date:** 1st February
- **Venue:** Brussels
- **Partner:** Arthur's Legal
- **Summary:** Dedicated to the topic “Enabling the Internet of Things”, the event³ brought together experts and stakeholders to discuss the regulatory implications and solutions required to ensure a large-scale and sustainable IoT roll-out, in order to deliver significant benefits to citizens and consumers across different industries. While tel-econ-specific topics (such as scarce resources and interoperability) were tackled, the Workshop also considered broader issues pertaining to innovation and investment, consumer rights and data privacy.
- **Relevance of the event for the IoT-LSP Program:** Bringing together multiple experts and stakeholders in the field, the event contributed to stimulating collaboration between IoT initiatives, fostering the take up of IoT in Europe and supporting the development and growth of IoT ecosystems based on open technologies and platforms.



5.1.5. BEREC Workshop on IoT

- **Date:** 1st February
- **Venue:** Brussels
- **Partner:** ETSI
- **Summary:** An expert Workshop on the IoT dedicated to the topic "Enabling the Internet of Things", the event brought together experts and stakeholders to discuss the regulatory implications and solutions required to ensure a large-scale and sustainable IoT roll-out, in order to deliver significant benefits to citizens and consumers across different industries.
- **Relevance of the event for the IoT-LSP Program:** The workshop was informed of the development and contribution from IoT standardisation in particular on taking into account the societal gaps identified in AIOTI and addressed by the LSPs.

5.1.6. Startup Europe After 2 Years

- **Date:** 2nd February
- **Venue:** Brussels
- **Partner:** BLU
- **Summary:** The conference had the participation of all the Startup Europe projects, experts from the field and those that work within the start-up world across Europe. As part of the session presenting Startup Scaleup, Tanya Suarez (BluSpecs) spoke about CREATE-IoT and the opportunities to become involved in the LSPs through the Open Calls.
- **Relevance of the event for the IoT-LSP Program:** Creating awareness among start-up, SME and developer communities for the Open Calls.



³ http://berec.europa.eu/eng/events/berec_events_2017/151-berec-workshop-on-enabling-the-internet-of-things

5.1.7. The European Robotics Forum 2017 (ERF2017)

- **Date:** 22nd -24th March
- **Venue:** Edinburgh
- **Partner:** SINTEF
- **Summary:** Major European event bringing together leading European experts from industry, business, and top-level academia, as well as relevant European policy makers.
- **Relevance of the event for the IoT-LSP Program:** Presenting the IoT European ecosystem and bridging the IoT activities with AI and robotics.



5.1.8. STARTS Prize

- **Date:** 6th – 7th April
- **Venue:** Linz
- **Partner:** ARTS
- **Summary:** An event promoting the Science, Technology and the Arts (STARTS) initiative of the Digital Single Market (DSM) in which the actions being implemented in the context of the Large-Scale Pilots (LSPs) initiative were referred. The reference included a broad explanation of the LSPs, their area of action and their innovative aims. The principles overarching the ongoing development of the specific STARTS contribution and role in the LSPs was explained.
- **Relevance of the event for the IoT-LSP Program:** Ars Electronica is the worldwide biggest and more significant art, science and technology festival. 33375 people attended it this year. Besides the widening the audience of the IoT Large Scale Pilots new insights on discussions such as privacy, trust and open standards were triggered.

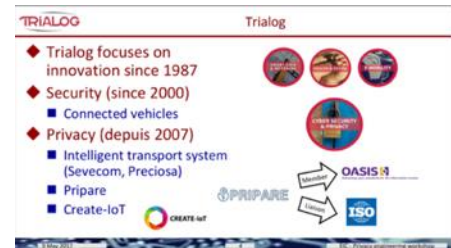
5.1.9. K.E.Y. Platform 2017: Trust, Transparency and the Data Commons

- **Date:** 27th – 28th April
- **Venue:** Seoul
- **Partner:** AL
- **Summary:** K.E.Y. PLATFORM selected ▲ geopolitical environment ▲ global economy (fiscal and exchange rate policies) ▲ Industrial and population structures, and ▲ energy and climate change as core drivers. In addition to this, 70 core signposts were selected after further in-depth discussions with the experts. Our joint research process with the top American think tank, The Heritage Foundation, has added insights at the global level⁴. This activity participated by Arthur's Legal, fall within the scope of Work Package 05 on "IoT Policy Framework - Trusted, Safe and Legal Environment for IoT".
- **Relevance of the event for the IoT-LSP Program:** The topics of trust and transparency form an integral part of any IoT ecosystem, being extensively addressed under WP05 on CREATE-IoT Project on IoT Policy Framework-Trusted, Safe and Legal Environment for IoT led by Arthur's Legal. The event hosting the earlier stated dissemination activity, therefore, expanded on overarching issues of horizontal relevance for all projects funded under the IoT-LSP Program.

⁴ <http://eng.keyplatform.or.kr/speaker.html>

5.1.10. EIC OASIS Privacy Engineering Workshop – EIC 2017

- **Date:** 9th May
- **Venue:** Munich
- **Partner:** TL
- **Summary:** This workshop⁵ was organised by the OASIS standardisation body during the European Identity & Cloud conference. Trialog was invited to present the status on standardisation concerning privacy. The session was recorded and is available on YouTube⁶.
- **Relevance of the event for the IoT-LSP Program:** The workshop focused on privacy engineering, one of the concerns of AG05.



5.1.11. Digital Innovation Forum

- **Date:** 10th -11th May
- **Venue:** Amsterdam
- **Partner:** SINTEF
- **Summary:** Industry-driven Digital innovation conference in Europe, showing R&I results and emerging challenges towards a vision of the future for and built by industry.
- **Relevance of the event for the IoT-LSP Program:** Presenting the IoT European ecosystem in action. IoT European Platforms Initiative (IoT-EPI), IoT European Large-Scale Projects Programme and Alliance for Internet of Things Innovation (AIOTI).



5.1.12. Creating a standards framework for IoT

- **Date:** 2nd June
- **Venue:** Berlin
- **Partner:** ERCIM
- **Summary:** The IoT Tech Expo⁷ is a major industry conference promoting the adoption of IoT technologies, exploring the latest innovations within the Internet of Things and covering the impact it has on many industries including Manufacturing, Transport, Supply Chain, Healthcare, Insurance, Logistics, Government, Energy and Automotive. The event was an opportunity to promote the technical vision for open markets of services for the IoT along with the need for engagement with work on the associated standards.
- **Relevance of the event for the IoT-LSP Program:** Promotion of a shared vision and the role of standards as a key to the success of the IoT in Europe, where the IoT-LSP Program is providing the experience that will help justify work on relevant open standards as a basis for realising the potential of the IoT in Europe.

⁵ <https://www.kuppingercole.com/events/eic2017-oasis>.

⁶ https://www.youtube.com/watch?v=BymNvbmSr2E&feature=youtu.be&list=PLaYKtNo_BitYphf94ctTgJS40-sTDMDCS

⁷ <https://www.iotttechexpo.com/europe/>

5.1.13. Global Internet of Things Summit (GIoTS)

- **Date:** 6th June⁸
- **Venue:** Geneva
- **Partner:** MI
- **Summary:** The GIoTS organized by Mandat International, IEEE, IoT Forum and the IPV6 Forum examined how to nurture and cultivate IoT technologies and applications for the benefit of society. GIoTS invited the submission of academic papers on various topics including: IoT Enabling Technologies, IoT Applications, Services and Real Implementations, IoT Multimedia IoT Societal Impacts, Security and Privacy for Internet of Things, IoT Experimental Results and Deployment Scenarios.
- **Relevance of the event for the IoT-LSP Program:** The summit provided a large gathering of individuals and groups working in the IoT sector, including the five LSPs and two CSAs of the H2020 program, as well as presentations and workshops on a wide range of relevant projects and subjects.



5.1.14. Sustainable Digital Multi-services Smart Cities

- **Date:** 6th – 8th June
- **Venue:** Bordeaux
- **Partner:** ETSI
- **Summary:** ETSI has organized a workshop together with showcases and demonstrations, in partnership with Bordeaux Metropole, eG4u and the Sharing Cities Project, supported by the European Commission and Eurocities (a network of over 140 European cities). The workshop has described trials and field developments in various locations (including the cities of Bordeaux and Milan, ongoing projects in Eurocities, and projects funded by the European Commission). With an overview of urban data platforms: it has addressed IoT and sustainable ICT deployments and how to bring innovation to the eco system level with a focus on smart home, smart buildings and smart cities.
- **Relevance of the event for the IoT-LSP Program:** The workshop has been an occasion to present the recent development in standards, in particular in the context of Smart Cities (of interest to the LSP participants) and the supporting platforms.

5.1.15. Emerging IoT Researches and Technologies & IoT Standards Ecosystem

- **Date:** 8th June
- **Venue:** Geneva
- **Partner:** ERCIM
- **Summary:** The IoT Week is a 4 days event that gathers top experts, innovators and stakeholders in the Internet of Things. This includes people involved in Europe's H2020 IoT research projects, along with representatives from major standards development organisations. The panel session on "Emerging IoT Researches and Technologies" provided an opportunity to report on work by W3C Members on the Web of Things - an abstraction layer for the IoT that focuses on object models for things along with their semantics independently of the underlying platforms, programming languages, IoT technologies and standards suites. The panel session on the "IoT Standards Ecosystem" was an occasion to show how work by the different standards development organisations relates to each other.

⁸ IoT Week 2017. Retrieved from <http://iotweek.org/iot-week-giots-2017-day-4/>

- **Relevance of the event for the IoT-LSP Program:** Promotion of a shared vision and the role of standards as a key to the success of the IoT in Europe, where the IoT-LSP Program is providing the experience that will help justify work on relevant open standards as a basis for realising the potential of the IoT in Europe.

5.1.16. IoT workshop on Energy and Home Comfort – IoT Week 2017

- **Date:** 8th June
- **Venue:** Geneva
- **Partner:** SINTEF and TL
- **Summary:** This workshop was organised by the European Commission to discuss in the integration of energy and home comfort in the IoT large-scale programme. SINTEF presented the Internet of Energy Artemis project, while Trialog presented the Interflex H2020 project.
- **Relevance of the event for the IoT-LSP Program:** The workshop focused on the case of energy as a potential new large-scale pilot



5.1.17. IoT Risk Management – IoT Week 2017

- **Date:** 8th June
- **Venue:** Geneva
- **Partner:** TL
- **Summary:** This workshop was organised to discuss IoT risk management. TL presented the different viewpoints of risk, the policy maker viewpoint, the impact on standards, on the IoT and on engineering.
- **Relevance of the event for the IoT-LSP Program:** The workshop focused on how risk management could be dealt with in LSPs



5.1.18. IoT Market Perspectives: IoT from Hype to Mature Ecosystems – IoT Week 2017

- **Date:** 9th June
- **Venue:** Geneva
- **Partner:** IDC
- **Summary:** IDC's EMEA Research Manager Andrea Siviero (IoT analyst and practice leader) delivered a comprehensive overview of Europe's IoT market size and trends at the IoT Week 2017, within the framework of the Market Perspectives' section (track: IoT Finance, Market and Industry 4.0). The presentation quantified the current ICT spending size of the IoT ecosystem in Europe, its principal drivers and its most significant inhibitors. Most importantly, it focused on the growing number of use cases that are or will be using IoT within a specific industry sector and/or across different industries, with specific reference to the domains and focus areas of the European IoT Large-Scale Pilots' Programme.
- **Relevance of the event for the IoT-LSP Program:** The presentation provided fact-based and research-based evidence on the current IoT market situation and its rapid evolution over the next few years for both CREATE-IoT activities and those of the European IoT Large-Scale Pilot's Programme as a whole.



5.1.19. Netfutures 2017

- **Date:** 28th and 29th June
- **Venue:** Brussels
- **Partner:** BLU, AL, ARTS, NUIG, ETSI and SINTEF
- **Summary:** BLU, AL, ARTS, NUIG, ETSI and SINTEF were present at Netfutures 2017, a conference on internet, economy and society in 2027, where it established relevant conversations and took learnings from other delegates.
- **Relevance of the event for the IoT-LSP Program:** Observing and participating in discussions on current trends and developments (including foreseen and predicted developments), the partners above have had the opportunity to interact with other initiatives and members of the IoT broader IoT community and lawmakers. By addressing issues of long-term importance for economy and society, the aforementioned event held on annual basis mirrored the aspired objectives of the projects funded by the IoT-LSP Program. The STARTS Exhibition, that counted with the participation of one of the LSPs, exposed alternative approaches to IoT and brought some critical approach to some key matters, enhancing human-centred technological applications.



5.1.20. Avignon Festival: STARTS Residencies Announcement

- **Date:** 11th July
- **Venue:** Avignon
- **Partner:** ARTS
- **Summary:** An event⁹ promoting the Science, Technology and the Arts (STARTS) initiative of the Digital Single Market (DSM) in which the actions being implemented in the context of the Large Scale Pilots (LSPs) initiative were referred. The reference included a broad explanation of the LSPs, their area of action and their innovative aims. The principles overarching the ongoing development of the specific STARTS contribution and role in the LSPs was explained.
- **Relevance of the event for the IoT-LSP Program:** The Avignon Festival is the more prestigious theatre festival of France and one of the most important in the world. References to IoT LSPs brought the programme in contact with an audience that typically would not be reached. In return, IoT was discussed from a cultural perspective bringing to the discussions and approach that would also typically not be integrated.

5.1.21. Digital single market conference on the free movement of data

- **Date:** 17th July
- **Venue:** Tallinn
- **Partner:** AL
- **Summary:** The priorities of the Estonian Presidency are actively focused on creating a digital single market within the EU. The digital single market cannot be built without a special emphasis on the free movement of data among member states. The free movement of data provides a visionary framework for



⁹ <https://www.starts.eu/agenda/europe-nouvelle-generation/detail/>

accessing, sharing and (re)using data not only between public authorities and private companies but across all member states' borders. Thus, with the conference, Estonia takes on the complex challenge of steering and providing a platform for this highly important discussion that will shape the future of the EU. During the activities, Arthur's Legal actively engaged in disseminating relevant aspects of forthcoming EU regulation linked to the deployment and expansion of IoT ecosystems.

- **Relevance of the event for the IoT-LSP Program:** Data and its movement form an integral part of any IoT ecosystem, whether in the domain of smart wearables or precision farming. Therefore, this conference has deemed an appropriate forum relevant for the objectives of the IoT-LSP Program and their role with respect to the overall aims of the Digital Single Market.

5.1.22. Enabling trust and security for IoT

- **Date:** 12th September
- **Venue:** Sophia Antipolis
- **Partner:** AL
- **Summary:** The objective of this session was to review (briefly) the key challenges for trust and security for IoT on the basis of the perceptions of different stakeholders (users, integrators, manufacturers), to also review the high-level approaches and tools to address these challenges. Moreover, in the course of these activities – and in line with the role of Arthur's Legal within CREATE-IoT project – it was explained to the respective target audiences in a clear language which new legal instruments will become applicable in the course of 2018.
- **Relevance of the event for the IoT-LSP Program:** The topics of trust and security form an integral part of any IoT ecosystem. To certain extent, the event was, therefore, considered relevant for all individual LSPs, as well as for Activity Group 5 on Privacy and Security, composed by representatives of all LSPs and led by Arthur's Legal.

5.1.23. 2017 International Conference on Mobile Brain-Body Imaging (MoBI) and the Neuroscience of Art, Innovation and Creativity

- **Date:** 12th – 13th September
- **Venue:** Valencia
- **Partner:** ARTS
- **Summary:** ARTS presented the IoT-LSPs initiative, in the session “How disruptive neurotechnologies are changing science, arts and innovation”. This session identified challenges and opportunities of new neurotechnologies in the fields of science, arts and innovation. The reference included a broad explanation of the LSPs, their area of action and their innovative aims. The principles overarching the ongoing development of the specific STARTS contribution and role in the LSPs was explained.
- **Relevance of the event for the IoT-LSP Program:** The IoT LSPs were communicated to a relevant community, of great majority from the USA. The conference was about an aspect that is not contemplated yet in the LSPs - mobile brain body imaging that can be quite useful for instance in autonomous driving.

5.1.24. IBC2017 Conference: Truth, Trust & Transformation

- **Date:** 14th – 18th September
- **Venue:** Amsterdam
- **Partner:** Arthur's Legal

- **Summary:** The IBC2017 Conference¹⁰ excited, entertained and equipped with the knowledge, information and expertise to take businesses to the next level. It provided the chance to meet industry disruptors, chart technological progress and uncover the future roadmap of the industry. With 400+ world-class speakers across 5 tracks, over 5 days, it provided access to unique content covering the entire media value chain from content production to distribution and monetisation and everything in-between. During the activities, Arthur's Legal actively engaged in disseminating relevant aspects of forthcoming EU regulation linked to the deployment and expansion of IoT ecosystems and thereby contributed to the objectives of the collaborative communication strategy of CREATE-IoT.
- **Relevance of the event for the IoT-LSP Program:** Providing an opportunity for various discussions with a wide range of stakeholders, this conference served as appropriate ground for exchanges between organizations encountering in practice issues addressed directly or indirectly by the projects funded under the IoT-LSP Program and its Coordinated Support Actions.

5.1.25. CloudWATCH Europe 2017

- **Date:** 20th September
- **Venue:** Amsterdam
- **Partner:** AL
- **Summary:** This is a unique event¹¹ for policymakers, SMEs and start-ups to come together to understand how cloud computing is an enabler of innovation, growth and jobs in the Digital Single Market. Moreover, in the course of this activity – and in line with the role of Arthur's Legal within CREATE-IoT project – it was explained to the respective target audiences in a clear language which new legal instruments will become applicable in the course of 2018 as, for example, the General Data Protection Regulation (GDPR) and the Directive on security of Network and Information Systems (NIS Directive). By pointing at the regulatory complexities, the ultimate objective of the dissemination activities performed was to highlight the paramount importance for a human-centric, safe and sustainable IoT ecosystem and the necessity to put forward pragmatic and practical solutions.
- **Relevance of the event for the IoT-LSP Program:** Among others, CREATE-IoT Project and, more specifically, WP05 on IoT Policy Framework-Trusted, Safe and Legal Environment for IoT led by Arthur's Legal, addressed requirements for legally accompanying measures that are relevant for the IoT-LSP Program. Taking into account how Internet of Things has been enabled by cloud computing technology, the above-mentioned event was considered to be an opportunity to disseminate knowledge about legal instruments becoming applicable to IoT in the course 2018 between cloud stake-holders.

5.1.26. Creative Mobility Conference

- **Date:** 28th -30th September
- **Venue:** Grenoble
- **Partner:** ARTS
- **Summary:**
- An event¹² promoting the Science, Technology and the Arts (STARTS) initiative of the Digital Single Market (DSM) in which the actions being implemented in the context of the Large-Scale Pilots (LSPs) initiative were referred. The reference included a broad explanation of the

¹⁰ <https://show.ibc.org/ibc-conference/conference-programme>

¹¹ <http://www.cloudwatchhub.eu/summit17>

¹² <http://creative-mobilities.org/en/home/>

LSPs, their area of action and their innovative aims. The principles overarching the ongoing development of the specific STARTS contribution and role in the LSPs was explained.

- **Relevance of the event for the IoT-LSP Program:** The creative mobile conference gave origin to a new foundation on the matter. Cultural aspects of IoT applications will be explored and applied in its projects. The conference took place in Grenoble which is a city where significant experiments on mobility are taking place. The communication of the IoT LSPs opened doors to potential collaborations.

5.1.27. Cybersecurity workshop organised by ENISA and the Dutch Cyber Security Centre

- **Date:** 4th October
- **Venue:** The Hague
- **Partner:** AL
- **Summary:** During this event, ENISA mainly focused on the topics of National Cyber Security Strategies (NCSS), Public Private Partnerships (PPPs) and Information Sharing and Analysis Centers (ISACs) in the EU. Experts from different Member States presented and discussed development approaches, good practices, challenges and opportunities around these topics. During the activities, AL actively engaged in disseminating relevant aspects of forthcoming EU regulation linked to the deployment and expansion of IoT ecosystems and thereby contributed to the objectives of the collaborative communication strategy under CREATE-IoT.
- **Relevance of the event for the IoT-LSP Program:** Cybersecurity plays an essential role in any IoT ecosystem, including within the context of IoT LSP Program. The significance of cybersecurity within the particular context of IoT-LSP Program is, also, reflected on the formation of the previously mentioned Activity Group 5 focused on Privacy and Security matters. Therefore, discussions about the topic and active participation at the event has been found relevant, also, taking into account the high quality of experts attending the event.

5.1.28. South Summit 2017

- **Date:** 4th – 6th October
- **Venue:** Madrid
- **Partner:** BLU
- **Summary:** BLU was present at the leading event in the South that bring together start-ups, investor and companies, South Summit 2017, with the objective of establish connections with new companies. Unfortunately, no start-ups were really in the IoT field, so the open calls were not very relevant.
- **Relevance of the event for the IoT-LSP Program:** Creating awareness among start-up, SME and developer communities for the Open Calls.



5.1.29. EBF Cybersecurity Conference

- **Date:** 10th October
- **Venue:** Brussels
- **Partner:** AL
- **Summary:** In the context of the all-increasing interest in cybersecurity by regulators, policy-making bodies and the broader public, and given the sensitivity of the financial ser-



vices sector for which trust of customers and safeguarding of their data are of critical importance, the EBF Cybersecurity Conference¹³ aims at: Raising awareness on cybersecurity for bank personnel and consumers of financial services; Facilitating the dialogue between banks, regulators and supervisors for a more effective implementation of cybersecurity-related measures; Exchanging on the challenges faced by banks in managing cyber risk, especially in regard to intelligence sharing and incident reporting.

- **Relevance of the event for the IoT-LSP Program:** IoT will undoubtedly have an impact on the domain of financial services. Therefore, discussions about cybersecurity in this domain are relevant for numerous LSPs, including MONICA and SynchroniCity, as well as for interoperability, and standards approaches at technical and semantic levels for object connectivity, protocols, data formats, privacy and open APIs dealt with by CREATE-IoT.

5.1.30. Workshop on standardization to support digitizing & transforming European Industry

- **Date:** 17th October
- **Venue:** Brussels
- **Partner:** ERCIM
- **Summary:** This workshop¹⁴ organised by European Commission's DG CONNECT, DG GROW & DG RTD, brought together leading initiatives from Member States related to Industry 4.0, key standardisation organisations, and industrial players to explore views, common grounds, and possible joint activities on standardisation in order to derive an EU-wide approach to standardisation for Digitising European Industry. Dr. Raggett's presentation focused on the role of metadata for semantic interoperability across heterogeneous platforms and standards suites.
- **Relevance of the event for the IoT-LSP Program:** Promotion of a shared vision and the role of standards as a key to the success of the IoT in Europe, where the IoT-LSP Program is providing the experience that will help justify work on relevant open standards as a basis for realising the potential of the IoT in Europe.

5.1.31. Internet of Things Security Conference

- **Date:** 18th – 19th October
- **Venue:** The Hague
- **Partner:** AL
- **Summary:** During the Internet of Things Security Conference¹⁵, AL actively engaged in disseminating relevant aspects of forthcoming EU regulation linked to the deployment and expansion of IoT ecosystems and thereby contributed to the objectives of the collaborative communication strategy under CREATE-IoT. Topics covered during these activities include data value chains, engagement, (personal) data protection, accountability, liability, safety and cybersecurity, including engagement to ethics, privacy impact assessments and data management. As result, this led to extensive discussions, also, with respect to the rethinking of IoT business models linked to data use and management as well as the potential impact, especially, of security and privacy on data economy and society at large.



¹³ <https://www.ebf.eu/cybersecurityconference/>

¹⁴ <https://ec.europa.eu/digital-single-market/en/news/workshop-standardisation-support-digitising-european-industry>

¹⁵ <https://www.europol.europa.eu/events/europol-enisa-iot-security-conference>

- **Relevance of the event for the IoT-LSP Program:** The focus of the event was on issues of direct horizontal relevance for all LSPs. Furthermore, the event served as an opportunity to disseminate knowledge about legal instruments becoming applicable to IoT in the course 2018.

5.1.32. STARTS INL Braga

- **Date:** 19th - 20th October
- **Venue:** Braga
- **Partner:** ARTS
- **Summary:** An event¹⁶ promoting the Science, Technology and the Arts (STARTS) initiative of the Digital Single Market (DSM) in which the actions being implemented in the context of the Large-Scale Pilots (LSPs) initiative were referred. The reference included a broad explanation of the LSPs, their area of action and their innovative aims. The principles overarching the ongoing development of the specific STARTS contribution and role in the LSPs was explained.
- **Relevance of the event for the IoT-LSP Program:** INL is a large Nano-tech lab. The IoT LSPs were presented in its annual summit that gathered about 450 international participants. The LSPs were disseminated in a context in which there was no knowledge about them.

5.1.33. Validation workshop for Baseline Security Measures for IoT & first IOTsec meeting

- **Date:** 20th October
- **Venue:** The Hague
- **Partner:** AL
- **Summary:** ENISA IoTSEC group is an information exchange platform that brings together experts to ensure security and resilience of the entire Internet of Things ecosystem. To validate the findings of the study and discuss future challenges, ENISA organized a workshop and the first meeting of the ENISA IoT Security Experts Group¹⁷ in The Hague, Netherlands on 20th of October 2017.
- **Relevance of the event for the IoT-LSP Program:** Cybersecurity plays an essential role in any IoT ecosystem, including within the context of CREATE-IoT LSPs. As it was the case for the previously mentioned cybersecurity related events, discussions about the topic and active participation at the event has been found relevant, namely from the perspective of steering the development of standard approaches and common methodologies.

5.1.34. Autonomy 2017

- **Date:** 19th – 21st October
- **Venue:** Paris
- **Partner:** BLU
- **Summary:** BLU was present at the Start-up village to scout for start-ups, in particular those who have solutions enabled for IoT. Discussed the forthcoming Open Calls from the LSPs.
- **Relevance of the event for the IoT-LSP Program:** Creating awareness among start-up, SME and developer communities for the Open Calls.



¹⁶ <https://www.summit2017.inl.int>

¹⁷ <https://www.enisa.europa.eu/events/validation-workshop-for-baseline-security-measures-for-iot-first-iotsec-meeting>

5.1.35. Dutch Design Week, DATAstudio Conference

- **Date:** 24th October
- **Venue:** Eindhoven
- **Partner:** FutureEverything
- **Summary:** The event¹⁸ targeted Organisations & initiatives engaged with citizen driven city development. A key-note focusing on how to connect communities to the ownership of the technologies they use and the data they create, and the value of building on and contributing to the cultural life of the city, its artists and creative industries.
- **Relevance of the event for the IoT-LSP Program:** This is relevant in the context of urban design and placemaking and connects with CREATE-IoT through the D03.01 - Methodology for the Integration of ICT and Art.



5.1.36. IoT European LSPs Programme Common Technical Review Conference.

- **Date:** 25th – 27th October 2017
- **Venue:** Brussels
- **Partner:** SINTEF
- **Summary:** The focus of the IoT European Large-Scale Pilots Programme Common Technical Review Conference was on reviewing the technical progress of IoT large-scale pilot projects (CREATE-IoT, U4IoT, ACTIVAGE, IoF2020, MONICA, SYNCRONICITY, and AUTOPILOT), including the objectives, focus of the pilots, most challenging tasks (i.e. use cases), implementations (i.e. deployment of infrastructure), pilot architecture concepts/approaches with validated IoT reference architectures, interoperability, standardisation, cross-cutting issues inside and outside the project, cross-cutting use cases, common methodologies, KPIs, collaboration, communication with internal and external stakeholders. The review addressed the contribution of the projects to strategic activity groups to foster coherent implementation of the different IoT large-scale pilots.
- **Relevance of the event for the IoT-LSP Program:** The Activity Groups (AGs) presented the summary of the work done and an overview of the work plan for the upcoming six months. The goal was to establish a common knowledge basis among the different IoT large-scale pilot projects, for clustering their results of horizontal nature (interoperability approach, standards, security and privacy approaches, business validation and sustainability, methodologies, metrics, etc.) in order to validate advanced IoT solutions across complete value chains with actual users and proving its socio-economic potential.

5.1.37. IEEE Global IoT Summit (WINCOM 2017)

- **Date:** 1st November
- **Venue:** Rabat
- **Partner:** ERCIM
- **Summary:** This was an invited presentation - Using the Web to unlock the IoT for open markets of services - and an opportunity to exchange ideas relating to networking technologies and the Internet of Things. Dr. Raggett introduced the challenges facing application developers due to the fragmentation caused by a lack of interoperability across platforms, and IoT technologies. This can be addressed through an abstraction layer based upon W3C's Linked Data

¹⁸ <http://www.ddw.nl/en/event/1692>

framework for data and metadata as a means to enable application to bridge the data silos and realise the potential for open markets of services.

- **Relevance of the event for the IoT-LSP Program:** Promotion of a shared vision and the role of standards as a key to the success of the IoT in Europe, where the IoT-LSP Program is providing the experience that will help justify work on relevant open standards as a basis for realising the potential of the IoT in Europe.

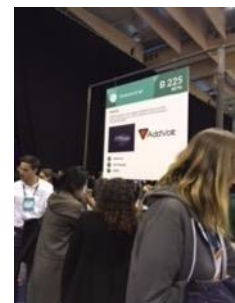
5.1.38. Creativity World Forum, Creative Cities and Neighbourhoods of Opportunity

- **Date:** 2nd November
- **Venue:** Aarhus
- **Partner:** FE
- **Summary:** An academic debate¹⁹, discussing how does research enters society and how creativity can be a driver for viable urban development in a changing world.
- **Relevance of the event for the IoT-LSP Program:** This was attended by several representatives from Synchronicity LSP and is especially relevant to the context of the Methodology for the Integration of ICT and Art in an Urban Context.



5.1.39. WebSummit 2017

- **Date:** 6th – 9th November
- **Venue:** Lisbon
- **Partner:** BLU
- **Summary:** BLU was present at WebSummit 2017 in Lisbon with the intention of connect with the technology community with all industries, established companies that are technology leaders in their field and start-ups. They contacted more than 30 start-ups and met with 10 of them. As part of the conversation, was discussed the CREATE-IoT consortium and the planned Open Calls across the LSPs.
- **Relevance of the event for the IoT-LSP Program:** Creating awareness among start-up, SME and developer communities for the Open Calls.



5.1.40. Expert seminar on Smart Mobility – Digiworld Summit

- **Date:** 15th November
- **Venue:** Montpellier
- **Partner:** IDATE
- **Summary:** Seminar organized by IDATE on Smart Mobility as part of the Digiworld Summit event. In less than 5 years, we will see autonomous vehicles on roads. For the first time in the long automotive history, OEMs will produce a car that will likely disrupt their own business, including the non-purchase of their car. Indeed, the self-driving cars open the way to innovative ways of transportation. This forum will provide an opportunity to answer the many questions being raised about these multimodal transportations and will explore their key challenges in terms of business models and technical requirements but will also investigate the likely impacts of people lives.

¹⁹ <http://cwf2017.com/sessions/creative-cities-and-neighborhoods-of-opportunity/>

- **Relevance of the event for the IoT-LSP Program:** This seminar focused on one of the LSP topic (mobility covered by LSP Autopilot). It focused on identifying successful business models and value chain disruptions for the mobility and automotive markets, gathering potential inputs for the LSPs exploitation strategies (covered in CREATE-IoT WP2). IDATE organized and introduced the seminar regarding CREATE-IoT.

5.1.41. Expert seminar on Investment in eHealth – Digiworld Summit

- **Date:** 16th November
- **Venue:** Montpellier
- **Partner:** IDATE
- **Summary:** Seminar organized by IDATE on eHealth funding as part of the Digiworld Summit event. eHealth is a major issue for the future of the society in that it helps to reduce care delivery costs and serves as catalyst to boost a wealth of new businesses, capitalising on the insights provided by the proliferation of health data. Many eHealth solutions remain at the trial or pilot phase, however, and are struggling to find a sustainable "business" model. Added to which, funders - including social systems and health insurers - are facing uncertainty over future regulations, and the actual value of eHealth solutions remains to be proven. Can personalised care and the silver economy offer new opportunities using different funding models?
- **Relevance of the event for the IoT-LSP Program:** This seminar focused on one of the LSP topic (connected health covered by LSP ACTIV-AGE). It focused on identifying funding models and successful business models for connected health, gathering potential inputs for the LSPs exploitation strategies (covered in CREATE-IoT WP2). IDATE organised and introduced the seminar with reference to CREATE-IoT.

5.1.42. C&ESAR 2017 Protection des données face à la menace cyber

- **Date:** 27th November
- **Venue:** Rennes
- **Partner:** TL
- **Summary:** C&ESAR is an annual cybersecurity event taking place in Rennes. Trialog presented a paper entitled “An Ecosystem Vision of Security and Data Protection for the Internet of Things” based on work done in CREATE-IoT. Presentation is available online²⁰:
- **Relevance of the event for the IoT-LSP Program:** The workshop focused in the integration of security of personal data a major concern of AG05.



5.1.43. IoT Trustworthiness in the Era of Artificial Intelligence, Robotic Things and Blockchain Technologies – Trustech 2017

- **Date:** 28th November
- **Venue:** Cannes
- **Partner:** SINTEF

²⁰ https://www.cesar-conference.org/wp-content/uploads/2017/11/27112017-15h-Cesar_hocine_ameur_antonio-kung_v1.pdf

- **Summary:** Presentation made in session entitled securing the IoT. Presentation carried out by SINTEF Digital about the "IoT Trustworthiness in the Era of Artificial Intelligence, Robotic Things and Blockchain Technologies" referencing the IoT-European LSPs programme.
- **Relevance of the event for the IoT-LSP Program:** The session and the presentation addressed IoT security and trustworthiness which is relevant for AG05 (Trusted IoT, Privacy, Security, and Legal frameworks) in particular.

5.1.44. Ensuring Security and Privacy in IoT-Based Ecosystems – Trustech 2017

- **Date:** 28th November
- **Venue:** Cannes
- **Partner:** TL
- **Summary:** Presentation made in session entitled securing the IoT. TL was responsible for this presentation that was focused in "Ensuring Security and Privacy in IoT-based Ecosystems" highlighting the IoT-European LSPs programme.
- **Relevance of the event for the IoT-LSP Program:** The workshop focused in the security of IoT, a major concern of AG05.

5.1.45. ETSI and AIOTI IoT Security Standardisation Status – Trustech 2017

- **Date:** 28th November
- **Venue:** Cannes
- **Partner:** ETSI
- **Summary:** Presentation made in session entitled securing the IoT. This presentation was carried out by ETSI which focused on "ETSI and AIOTI IoT Security Standardization Status".
- **Relevance of the event for the IoT-LSP Program:** The presentation has focused on security aspects in IoT standardisation, with a status on the work ongoing in AIOTI which is of interest of the LSPs in AG05 and also AG02.

5.1.46. Internet of Things, a brave new world for consumers

- **Date:** 28th November
- **Venue:** Brussels
- **Partner:** AL
- **Summary:** The conference²¹ addressed the opportunities and risks of the Internet of Things. It zoomed in on the areas of privacy, competition, consumer rights, contracts, safety and security. A key feature of the conference was to shed light on the role of consumer organisations.
- **Relevance of the event for the IoT-LSP Program:** Despite its advantages, IoT raises numerous challenges in the areas of privacy, safety and consumer rights that all link – to a different extent- to scope of all projects funded in the context of IoT-LSP Program. This conference provided an opportunity to discuss these challenges and the necessary legally accompanying measures from a human centric standpoint.

²¹ <http://www.beuc.eu/press-media/news-events/conference-internet-things-brave-new-world-consumers>

5.1.47. IoT Tribe North Launch

- **Date:** 29th November
- **Venue:** Barnsley
- **Partner:** BLU
- **Summary:** Presentation carried out by BLU about the programme that is designed for early-stage Internet of Things companies, as well as panel discussions with companies and investors on co-creation and innovation.
- **Relevance of the event for the IoT-LSP Program:** Creating awareness among start-up, SME and developer communities for the Open Calls.



5.1.48. Applying Technology in the Arts – International Arts Leadership Roundtable 2017

- **Date:** 29th November
- **Venue:** Hong Kong
- **Partner:** FE
- **Summary:** In the section on "Applying Technology in the Arts", FE mentioned directly the LSPs and CSAs, and on the way the STARTS agenda is being shaped in the EU and incorporated into IoT projects via activity from the CSA. Strong possibility of a co-creation collaboration in a STARTS context between institutions in Hong Kong and in the EC and/or UK.
- **Relevance of the event for the IoT-LSP Program:** Connected directly to CREATE-IoT through the presentation of Open Prototyping - a methodology proposed in D03.01 for how to combine Arts activity within ICT projects.



5.1.49. Presentation to National Culture and Arts Foundation (NCAF) Taiwan and British Council (BC) representatives

- **Date:** 1st December
- **Venue:** Taiwan
- **Partner:** FE
- **Summary:** The core proposition of this session was around the way art can generate value for other sectors, notably technology and city innovation. FutureEverything are now engaged in a deeper partnership proposal with NCAF and BC and will be considering ways in which EC programmes in which we are active can feature in this partnership.
- **Relevance of the event for the IoT-LSP Program:** Connected directly to CREATE-IoT through the presentation of Open Prototyping - a methodology proposed in D03.01 for how to combine Arts activity within ICT projects.

5.1.50. Digital Skills and Jobs Coalition Conference

- **Date:** 7th December
- **Venue:** Brussels
- **Partner:** AL

- **Summary:** At the conference Commissioner Gabriel launched the new Digital Opportunity scheme for traineeships in digital and present the European Digital Skills Awards 2017 for outstanding projects that have boosted the digital skills of Europeans. The conference included plenary panels on investments in digital skills and skills needed for the future as well as and host parallel workshops on digital skills for citizens, small and medium sized enterprises and for education.
- **Relevance of the event for the IoT-LSP Program:** Digital skills are one of the essential pre-requisites of an efficient uptake of IoT and development and growth of IoT ecosystems, as well as ensuring accessibility to IoT for entrepreneurs, API developers, makers and SMEs in general. Digital skills are not LSP-specific but link in various ways to the entire IoT-LSP Program. Hence, this event should be considered as horizontally relevant across all LSPs and co-ordinated support actions.

5.1.51. Next Things Next Starts Exhibition

- **Date:** 15th December
- **Venue:** Gijon
- **Partner:** ARTS
- **Summary:** An event²² promoting the Science, Technology and the Arts (STARTS) initiative of the Digital Single Market (DSM) in which the actions being implemented in the context of the Large-Scale Pilots (LSPs) initiative were referred. The reference included a broad explanation of the LSPs, their area of action and their innovative aims. The principles overarching the ongoing development of the specific STARTS contribution and role in the LSPs was explained.
- **Relevance of the event for the IoT-LSP Program:** The NEXT THINGS NEXT STARTS exhibition presents 5 IoT applications developed by artists in cooperation with Telefonica R&D. The LSPs were disseminated in this context, where no previous knowledge of the LSPs existed. A press conference took place where the IoT LSPs were explained. Good media impact resulted from that press conference including a full-page article in *El Pais* that had an estimated audience of 1,5 million people.

5.1.52. 12th Annual Meeting of the Internet Governance Forum

- **Date:** 18th – 21st December
- **Venue:** Geneva
- **Partner:** AL
- **Summary:** Discussions during the four-day IGF meeting²³ addressed issues under the following sub-themes: Access, Inclusion & Diversity; Critical Internet Resources; Cybersecurity; Digital Economy, Digital Work, Trade & Sustainable Development; Gender & Youth; Human Rights Online; Multi-stakeholder Cooperation & Governance; New Technologies & Emerging Issues - AI, IoT, Big Data, Blockchain, VR, Fakenews. This activity participated in by Arthur's Legal fall within the scope of Work Package 05 on "IoT Policy Framework - Trusted, Safe and Legal Environment for IoT".
- **Relevance of the event for the IoT-LSP Program:** This event provided grounds for discussions about the IoT phenomenon within the broader context of internet governance. The considerations associated to internet governance as a whole are, of course, relevant for the initial

²² http://www.laboralcentrodearte.org/en/exposiciones/nt_ns?set_language=en

²³ <https://www.intgovforum.org/multilingual/>

policy framework applicable for all LSPs delivered by CREATE-IoT in the first year of the project and, more specifically, by WP05 on IoT Policy Framework-Trusted, Safe and Legal Environment for IoT.

5.2. Publications

Table 5 shows all the CREATE-IoT publications carried out so far and are respectively detailed in the following subsections with the title, author(s) and publisher.

Table 5: CREATE-IoT dissemination publications

Title	Partner(s)	Date	Publisher
Internet of Things Cognitive Transformation Technology Research Trends and Applications.	SINTEF	August 2017	River Publishers Series in Communications
IoT Standards Landscape – State of the Art Analysis and Evolution	ETSI	August 2017	River Publishers Series in Communications
IoT European Large-Scale Pilots - Integration, Experimentation and Testing	SINTEF	August 2017	River Publishers Series in Communications
STARTS in IoT for better lives	ARTS	October 2017	European Commission ²⁷
An Ecosystem Vision of Security and Data Protection for the Internet of Things	TL	November 2017	Organiser web site ²⁸

5.2.1. IoT Cognitive Transformation Technology Research Trends and Applications.

- **Partner(s):** SINTEF
- **Publisher:** River Publishers²⁴
- **Date of publication:** August 2017
- **Place of publication:** Chapter 3 in IERC Cluster Book
 - Published in: River Publishers Series in Communications
 - Page(s): 17 - 95
 - ISSN: ISBN 978-87-93609-11-2 (Hardback)
 - Issue Date: August 2017
 - DOI: eISBN 978-87-93609-10-5 (Ebook)
- **Open access provided to this publication:** Yes²⁵

5.2.2. IoT Standards Landscape – State of the Art Analysis and Evolution

- **Partner(s):** ETSI
- **Publisher:** River Publishers²⁴
- **Date of publication:** August 2017
- **Place of publication:** Chapter 6 in IERC Cluster Book
 - Published in: River Publishers Series in Communications

²⁴ <https://www.riverpublishers.com/>

²⁵ http://www.internet-of-things-research.eu/pdf/Cognitive_Hyperconnected_Digital_Transformation_IERC_2017_Cluster_eBook_978-87-93609-10-5_P_Web.pdf

- Page(s): 17 - 95
- ISSN: ISBN 978-87-93609-11-2 (Hardback)
- Issue Date: August 2017
- DOI: eISBN 978-87-93609-10-5 (Ebook)
- **Open access provided to this publication: Yes²⁶**

5.2.3. IoT European Large-Scale Pilots - Integration, Experimentation and Testing

- **Partner(s):** SINTEF
- **Publisher:** River Publishers²⁴
- **Date of publication:** August 2017
- **Place of publication:** Chapter 8 in IERC Cluster Book
 - Published in: River Publishers Series in Communications
 - Page(s): 221 - 282
 - ISSN: ISBN 978-87-93609-11-2 (Hardback)
 - Issue Date: August 2017
 - DOI: eISBN 978-87-93609-10-5 (Ebook)
- **Open access provided to this publication: Yes²⁵**

5.2.4. STARTS in IoT for better lives

- **Partner(s):** ARTS
- **Publisher:** European Commission
- **Date of publication:** October 2017
- **Place of publication:** Digital Single Market Blog
- **Open access provided to this publication: Yes²⁷**

5.2.5. An Ecosystem Vision of Security and Data Protection for the Internet of Things

- **Partner(s):** TL
- **Publisher:** Conference web site²⁸
- **Year of publication:** November 2017
- **Place of publication:** Conference web site²⁸
- **Open access provided to this publication: Yes²⁹**

²⁶ http://www.internet-of-things-research.eu/pdf/Cognitive_Hyperconnected_Digital_Transformation_IERC_2017_Cluster_eBook_978-87-93609-10-5_P_Web.pdf

²⁷ <https://ec.europa.eu/digital-single-market/en/blog/starts-iot-better-lives>

²⁸ <https://www.cesar-conference.org>

²⁹ https://www.cesar-conference.org/wp-content/uploads/2017/11/CESAR_2017_106_Antonio_Kung.pdf

6. INTERNATIONAL COLLABORATION

As part of CREATE-IoT's objectives, there is a need to engage with the international community, with the aim to strengthen the role of the EU on the global IoT scene, in particular in terms of access to foreign markets. It links the European activities with international initiatives through reciprocity by promoting cooperation and the sharing of findings and conclusions.

This is targeted by organising and/or participating in events or workshops with the international community so to share plans, ideas and potential solutions in each location.

6.1. Events

This section is related to all the CREATE-IoT international collaboration activities that have been carried out so far. Table 6 below presents each event with the respective date, time and place where it was organized. All of these sessions were organized in part or in whole by the CREATE-IoT partners UNPARALLEL Innovation, leader of the international collaboration activities and Mandat International, who coordinated IoT Week 2017 in association with IoT Forum, with the purpose of fostering international collaboration activities.

Table 6: CREATE-IoT International Collaboration activities

Event Name	Place	Date/Time
Bi-lateral concertation meeting	IoT Week 2017 - International Conference Centre of Geneva (CICG)	Wednesday, 7 June – 17:00 PM to 18:30 PM
Emerging IoT Solutions in Developing Countries	IoT Week 2017 - International Conference Centre of Geneva (CICG)	Friday, 9 June – 09:00 AM to 10:00 AM
IoT Inclusion & Cooperation with the South	IoT Week 2017 - International Conference Centre of Geneva (CICG)	Friday, 9 June – 10:00 AM to 11:00 AM
International Cooperation on IoT	IoT Week 2017 - International Conference Centre of Geneva (CICG)	Friday, 9 June – 11:30 AM to 12:30 PM

6.1.1. Bi-lateral concertation meeting

- **Date:** 7th June
- **Venue:** Geneva
- **Partner:** UNP
- **Summary:** This was a private meeting that had as its main objective the discussion of the Brazilian action plan about IoT establishing the EU-Brazil IoT Advisory Group on a similar basis to the EU-China IoT Advisory Group, in order to provide support and promote cooperation between the EU and Brazil.
- **Relevance of the event for the IoT-LSP Program:** This meeting allowed several parties to discuss the important points to take into consideration for the establishment of the EU-Brazil IoT Advisory Group. Potential synergies between Brazilian pilots and the IoT-LSP was a key point.

6.1.2. Emerging IoT Solutions in Developing Countries

- **Date:** 7th June
- **Venue:** Geneva
- **Partner:** UNP

- **Summary:** This session enabled the discussion of IoT solutions from developing countries/regions so that the audience can acquire knowledge and understand the specific requirements and constraints of developing and deploying IoT systems in each specific context. The session aimed to promote joint collaboration between researchers and practitioners from the EU and developing countries/regions to debate ways and approaches to develop IoT technologies that are sustainable and that promote sustainability.
- **Relevance of the event for the IoT-LSP Program:** This session tackled several key aspects that differ IoT in Europe from developing countries. From different requirements to different application needs, it provided compressive information that may can be of use from each LSP point-of-view.

6.1.3. IoT Inclusion & Cooperation with the South

- **Date:** 7th June
- **Venue:** Geneva
- **Partner:** UNP
- **Summary:** This session focused on how IoT can promote the inclusion of developing countries and promote the development of IoT solutions that address common IoT issues, sustainable and inclusive living. Identify safe paths for IoT implementation to provide sustainable inclusion of developing countries, as well as successful practices, approaches and strategies among developing countries in the Southern Hemisphere.
- **Relevance of the event for the IoT-LSP Program:** This session provided specific information regarding the Southern Hemisphere countries, which helps the LSPs to identify potential target issues in a different area.

6.1.4. International Cooperation on IoT

- **Date:** 7th June
- **Venue:** Geneva
- **Partner:** UNPARALLEL Innovation
- **Summary:** Panel discussion on International Cooperation for research and development on the IoT including, in particular, North-to-North cooperation (EU-US-Asia). Different types of cooperation were discussed such as cooperation between EU-China on 5G and IoT research, China-EU Partnership on Urbanization, China-France Cooperation on Science and Technology, China-UK Cooperation on Smart Cities, and the global reach of European IoT platforms.
- **Relevance of the event for the IoT-LSP Program:** This event provided a discussion environment where several cooperation activities were presented and their results shared. This enabled the IoT LSP program to understand what is being done and what can be targeted by each specific LSP.

7. SUMMARY

This document reported all dissemination, coordination and international collaboration activities carried out in the first 12 months of the project, with the objective of raising awareness among the research, industry and academia communities not only to the CREATE-IoT project, but for the complete IoT-LSP initiative. As such, this document identifies all coordination actions carried out (including Activity Group 08 - Communication, Collaboration Strategy and Liaisons), all dissemination activities (both events and publications) and also the International collaboration events that were co-organised by CREATE-IoT, to foster international collaboration activities.

Appendix A: INTERNATIONAL COLLABORATION REPORTS

A.1. Bi-lateral concertation meeting

This meeting made possible to discuss the importance and advantages about creating the EU-Brazil IoT Advisory Group. Some of the relevant objectives of this group were addressed in order to plan and strengthen this cooperation:

- Take into account the opportunities and challenges arising from IoT through a mutual understanding between EU-Brazil and other important stakeholders;
- Develop IoT networks and technology architectures in terms of security, privacy, and interoperability through EU-Brazil collaborative proposals;
- To increase IoT opportunities in terms of information-sharing and interoperability through dissemination to the development and usage of open IoT platforms;
- Promote strong liaisons in several projects, initiatives and stakeholders of the IoT ecosystem established between EU-Brazil;
- Recognize the pertinent IoT applications that contain specific backgrounds and mutual interests of the EU-Brazil cooperation;
- Facilitate common research initiatives and proposals on IoT as well as find research that is necessary;
- Develop contributions and support with strategic considerations about international IoT collaboration and governance.

Table 7 below shows the names and roles/institutions of all the participants who joined in the “Bi-lateral concertation meeting” which took place on June 7, during IoT Week 2017 held at the International Conference Center of Geneva (CICG).

Table 7: List of participants in the event

Participant	Role/Institution
José Gontijo	Director of the Department of Science, Technology and Digital Innovation at Ministry of Science, Technology, Innovation and Communications in Brazil
Gabriel Marão	President of the Brazilian IoT Competitiveness Forum
Srdjan Krco	Co-founder and CEO of DunavNET
Antonio Skarmeta	Professor of the Department of Information and Communication Engineering at the University of Murcia in Spain
Payam Barnaghi	Professor of the Department of Electrical and Electronic Engineering at the University of Surrey in UK
Pedro Maló	Chief Science Officer at Unparallel Innovation, Lda
Alberto Paradisi	Vice-President on Research and Development at CPqD
Ricardo Rivera	Head of the ICT Industries Department at BNDES
Marcello Zuffo	Professor of the Department of Electronics Systems Engineering at the Polytechnic School in University of São Paulo
Sergio Takeo Kofuji	Professor of the Polytechnic School in University of São Paulo

It was also discussed that the EU-Brazil IoT Consultative Group will work closely with the regular activities between Europe and Brazil in order to strengthen their collaboration and will carry out the following relevant actions:

- The EU-Brazil IoT Advisory Group will carry out technical advice and monitor the execution of the Brazilian IoT action plans;
- Will be responsible for supporting and managing the collaboration work between the IoT LSPs of the EU and the Brazilian IoT Pilots (including those of the EUB-02-2017 joint call);
- Will map all the Brazilian pilots on IoT projects that are leveraging the use of EU technologies (e.g. FIWARE) in the IoT LSP Initiative Portal;
- Encourage the BPI-IoT initiative (IoT-Brazilian Open Platforms) to conduct mutual cooperation with IoT-EPI in the development of open platforms.
- Develop and elaborate strategic and technical documents to encourage EU-Brazilian cooperation (e.g. an “EU-Brazil Joint White Paper on the Internet of Things”).



Figure 1: Bi-lateral concertation meeting (activity photos)

A.2. Emerging IoT Solutions in Developing Countries

This meeting included three relevant presentations performed by the participants who disseminated some emerging IoT solutions from Africa and Brazil as well as the services and smart cities in India.

Table 8 provides the name and role/institution of all the participants who joined in the “Emerging IoT Solutions in Developing Countries” session that took place on June 9, during the IoT Week 2017 held at the International Conference Center of Geneva (CICG).

Table 8: List of participants in the event

Participant	Role/Institution
Alberto Paradisi	Vice-President on Research and Development at CPqD
Prof. M.P. Gupta	Professor and Head of Department of Management Studies at Indian Institute of Technology of Delhi
Louis Coetzee	Chief Engineer and Research Group Leader for the Internet of Things at the Council for Scientific and Industrial Research Meraka Institute in South Africa

Emerging IoT solutions from Brazil: This presentation was carried out by the Vice-President on Research and Development at CPqD, Alberto Paradisi that presented the innovation case for IoT in agriculture of CPqD and São Martinho group in Brazil.

São Martinho is a large farm dedicated to the sugar cane plantation that has a private LTE network, the first 250MHz network, with large area coverage, spectrum availability for broadband services and whose licensing cost is low.

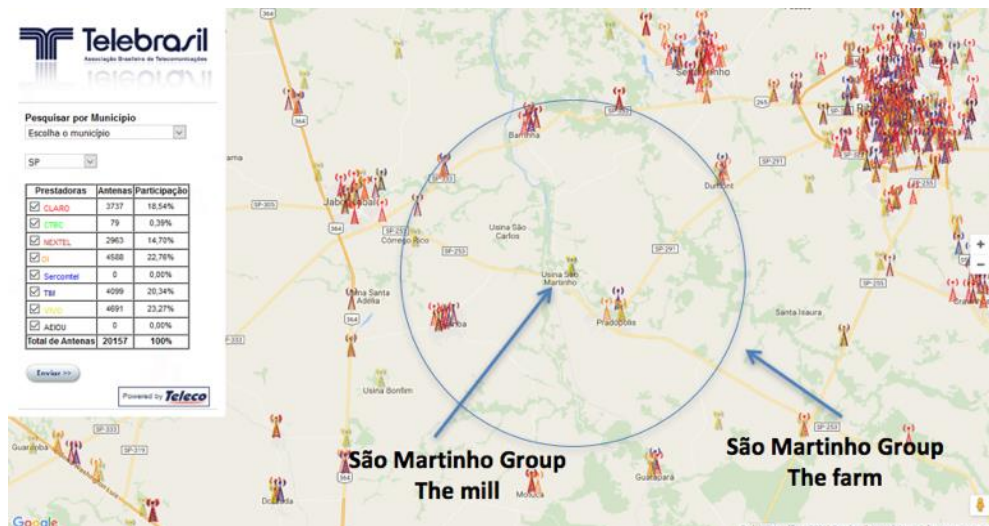


Figure 2: Typical Cellular infrastructure in the field

The CAO project (Centre of Agriculture Operation) began in the harvest of 2017/2018 and will end in the harvest of 2019/2020 with the aim of automation and IT deployment in the rural area to make it possible to collect information from the agricultural machines and transmit this information to the private network LTE to be processed and analysed.

The case of São Martinho is also an example of operational excellence, focused on people, management and technology as it has a great operational logistics, where the harvesting machines cover 3,500km per day, where its entire fleet travels in one day the equivalent of two trips around the world. São Martinho is a Digital Farm with a digital factory allowing a change of level, a revolution in management, a better quality since its origin and improvement in reaction time.

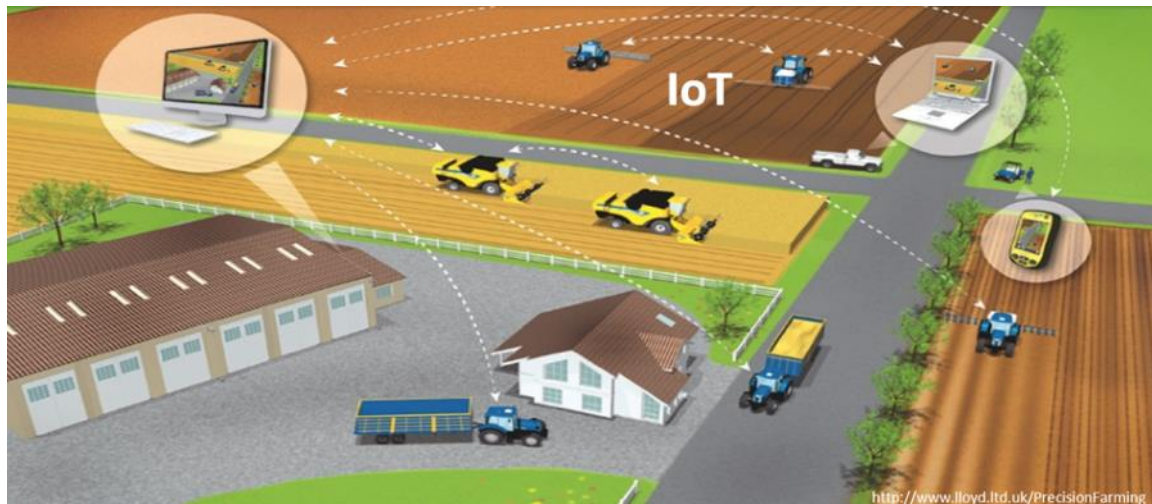


Figure 3: São Martinho Digital Farm

Smart Cities and Services in India: This presentation was carried out by Prof. M.P. Gupta, Head of Department of Management Studies at the Indian Institute of Technology of Delhi that presented emerging IoT solutions in developing countries and the perspective of India on IoT in smart cities and services.

India has several national priority programs, such as Make in India, Skill India, Start-up India, Swachh Bharat, Jah Dhan Yojana, PM Adarsh Gram Yojana, Gram Jyoti Yojana, Fasal Bima Yojana, but, of these, Digital India and Smart Cities stand out.

Digital India focuses on digital infrastructures that are useful for everyone, on services at the request of citizens and on digital empowerment of citizens and consists of the nine key points of Figure 4.

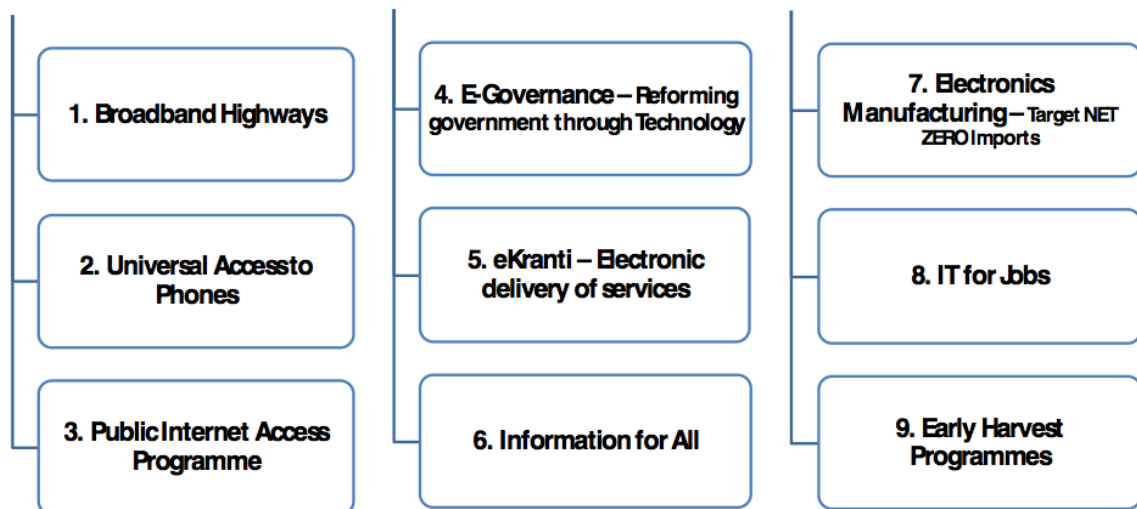


Figure 4: Nine key points of Digital India

Another advantage of Digital India is that it will benefit the common man in the several areas shown in Figure 5.

The Smart Cities are a subset of the Digital India program, with the mission to develop 100 smart cities, such as satellite cities in larger cities, modernizing them and developing an IoT industry ecosystem in the country. In order to advance this development, US\$15 billion has been approved and a process of city selection is already available, where all cities can participate in the challenge.

There are several European Union partners involved in the development of Smart Cities in India and each one helps one or more cities in their development or provides investment:

- France – will help to develop cities of Chandigarh, Puducherry and Nagpur;
- Sweden – will help to develop states like Karnataka, Telangana and Maharashtra;
- Spain – will help turn Delhi into a Smart City;
- Germany – will help to develop cities of Bhubaneswar, Kochi and Coimbatore;
- The Netherlands – has shown interest in investing in India for developing smart cities;
- Italy – will invest \$1.2 trillion over the next 20 years in its own initiatives.

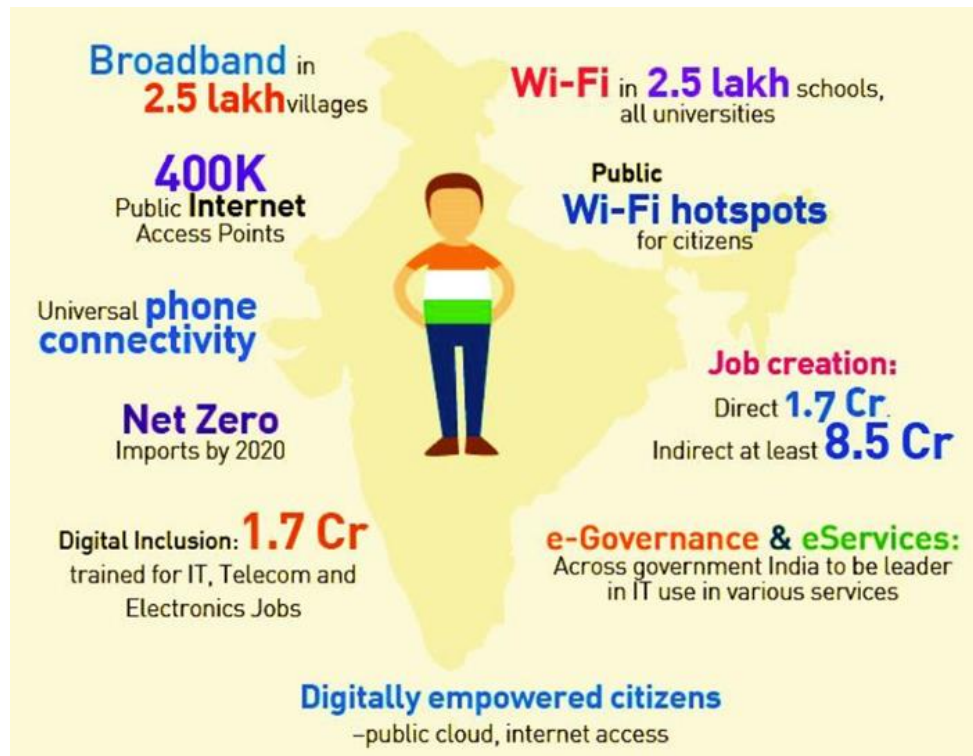


Figure 5: Benefits that Digital India will offer to the common man

IoT is the key to Smart Cities planning through which it is possible to improve infrastructure, minimize pollution and congestion, make cities more sustainable and improve quality of connectivity to convert data into useful information for City-wide command and control operation, unique user experiences, management of assets and their services in a supply chain, health, safety and many more possibilities.

India's policy on IoT aims to achieve the creation of a US\$15 billion IoT industry by 2020, develop specific sets of IoT skills for national and international markets, R&D companies for all assisting technologies and the development of IoT products to Indian needs in all possible domains. This policy should impact B2B and B2C companies with data from billions of sensors being processed by various IoT platforms. Figure 6 below presents the Indian IoT policy framework.

Some of the problems and issues that will occur in the development of these smart cities in India are:

- Global cooperation in the development of standards around IoT process, technologies, services and interoperability such as spectrum energy communication protocol standards, standards for communication inside/outside the cloud, international integrity and quality standards for data creation and traceability, standards in terms of energy consumption, device security data privacy, data accuracy and standards of integrity.
- Strong legal framework where privacy law must be reformulated in view of the development of the IoT paradigm;
- Facility for R&D and innovation, including support for start-up enterprises and for global members;

- Make the global IoT ecosystem interoperable between IoT technologies.

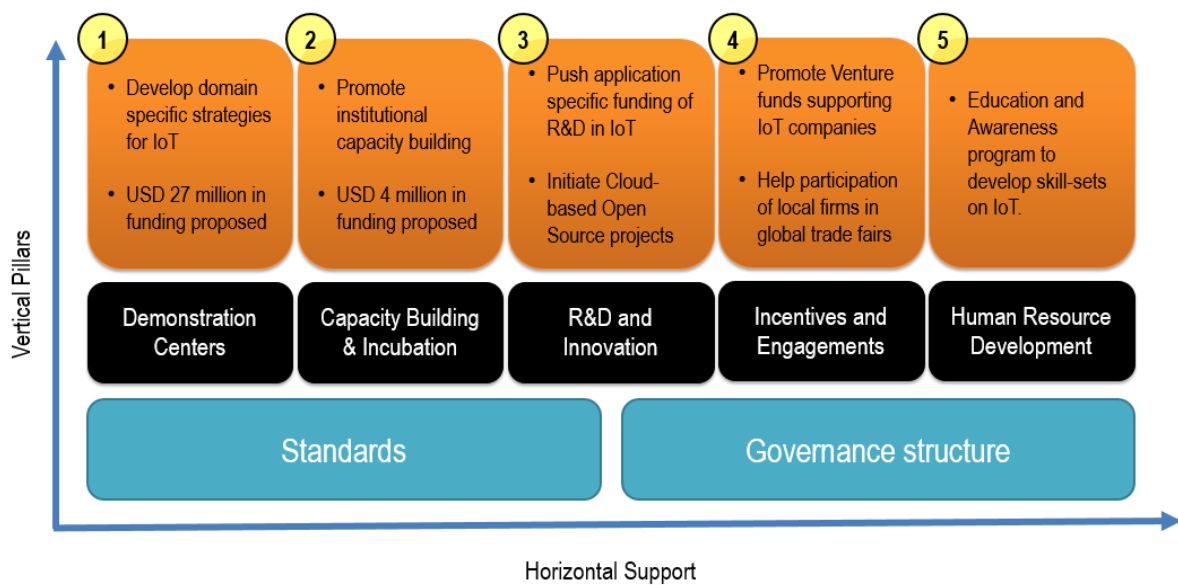


Figure 6: Indian IoT policy framework

Emerging solutions from Africa: This presentation was carried out by Chief Engineer and Research Group Leader for the Internet of Things at the Council for Scientific and Industrial Research Meraka Institute in South Africa, Louis Coetzee that presented the emerging IoT solutions from South Africa.

The awareness of IoT solutions has been increasing in South Africa where several multinationals are already working to establish a footprint; some network operators are already conducting some initiatives (MTN & Sigfox) and there has been the emergence of South African companies such as IoT.next.

Some of the problems and challenges for the implementation of IoT in Africa are energy (national blackouts), connectivity (it is expensive and only networks LoRa and Sigfox), support and maintenance (limited access to qualified maintenance) and high costs.

Some IoT solutions have already been implemented in several areas such as:

- **Lumkani - Fire Detection:** applied to Informal records (fossil fuels used for heating and cooking); early warning system for fire; sending message to alert the community; and GPS location distribution for emergency response.



Figure 7: Lumkani - Fire detection

- Smart Water Handpump: applied to water, sanitation and hygiene (WASH), Oxford (UK); Remote supervising of hand pumps (accelerometer and GSM); Use of the pump (e.g. maintenance required); Daily and seasonal patterns; Proof of operational concept in Kenya.



Figure 8: Intelligent water handpump

- Smart Water Management System: applied to detection of water leaks in a municipal water infrastructure; Based on LoRa communication; and uses dynamic hydraulic models (location and leak detection).



Figure 9: Intelligent water management system

Some of the Insights about the emerging IoT solutions in Africa are:

- Nowadays everything is IoT and has already been done and solved;
- For sellers, it is essential that they have a careful viable investment and a business that is already in operation;
- Policies and rules should be studied and established;
- IoT high-cost investments are limited;
- IoT has a major impact on vandalism and crime, making it an important asset in security;
- Continuity by movement of people in public/private sectors;
- Tension between R&D vs operational.

Discussion about the session: The session was the first of the day at IoT Week 2017 and started 10 minutes late resulting in the discussion on the themes being postponed for the subsequent session. Here, and due to the great interest in the implementation IoT technologies in developing countries, Africa in particular, the discussion focused a lot on how it is possible to implement these technologies in the field. The Waziup approach was discussed and revolves around three aspects:

1. Promote and carry out IoT competitions and animations (e.g. Wazihacks) in order to promote links with the local communities of practice/interest;
2. Create a connection with existing living labs or competence centers to look for local operational structures and work with them on promoting IoT solutions;
3. Take advantage of tools that are the basis for teaching how to implement IoT technologies (e.g. IoT Catalogue), to promote guidance on developing IoT solutions.

This approach has been used in Africa and could be used in other regions or countries.



Figure 10: Session Photos



Figure 11: Discussion photos

A.3. IoT Inclusion & Cooperation with the South

This meeting was focused on five important presentations performed by the participants in order to overview the IoT inclusion and cooperation with nations in the Southern Hemisphere. Table 9 shows the names and roles/institutions of all the participants who joined in the “IoT Inclusion & Cooperation with the South” session which took place on June 7, during the IoT Week 2017 held at the International Conference Center of Geneva (CICG).

Table 9: List of participants in the event

Participant	Role/Institution
Ramy Fathy	Vice Chairman at the ITU-T Study Group 20 at the International Telecommunication Union
Marimuthu Swami Palaniswami	Professor at University of Melbourne
Gabriel Marão	President of the Brazilian IoT Competitiveness Forum
Ricardo Rivera	Head of the ICT Industries Department at BNDES
Corentin Dupont	Senior Researcher Engineer at FBK CREATE-NET
Levent Gurgun	R&D Projects Manager at CEA-LETI

Views of the ITU on IoT for Developing Countries: This presentation was carried out by Dr. Ramy Ahmed Fathy, Vice Chairman of the ITU-T Study Group 20 at the International Telecommunication Union, who presented the views of the ITU on IoT for developing countries.

According the vision of ITU, there are several challenges on IoT for developing countries such as the access to fundamental services (drinking water, sanitation) while electricity is still considered a problem in many areas. The economic sectors are labour-intensive, the social impact on specific social segments needs to be assessed and developing countries’ markets are price-sensitive. The ITU-T Study Group 20 has set a standardization for the development of countries that focuses on several areas of action as is visible in Figure 12.



Figure 12: ITU-T Study Group 20 Standardization for Development

There is a set of development aspects in terms of Big Data & AI in IoT that stand out:

- No Poverty: Map poverty with predictive big data analytics. Use IoT to gather field data correlated with poverty (i.e. health, pollution, food production, etc).
- Zero Hunger: Increase agricultural productivity. Use IoT in precision agriculture and farming applications, soil mapping, soil properties measurements, nitrogen supervision, etc.
- Good Health and Well-Being: Analyse vast amounts of healthcare data. Use IoT sensors, IoT platforms for device supervision, analytics and diagnostics.
- Quality Education: Revolutionize classrooms with individualized learning. Use IoT AR/VR, for lab testing, scientific demonstration, examination and training.
- Gender Equality: Unequal division of unpaid care and domestic work (cleaning, cooking and caring for children or the elderly, is performed usually by women and girls). Use IoT in elderly- and child-care applications, sensing incidents, healthcare-supervising and triggering actions in incidents/emergencies.
- Clean Water and Sanitation: Improve efficient and clean water provision. Use IoT to identify water pollutants and waterborne diseases and control water quality.
- Affordable and Clean Energy: Improve photovoltaic energy capture. Use IoT to identify weather/luminance conditions and adjust photovoltaic arrays for ideal efficiency.
- Work and Economic Growth: Increase productivity through intelligent automation. Use Industrial IoT sensors and actuators in order to monitor worker's health and productivity and performance.

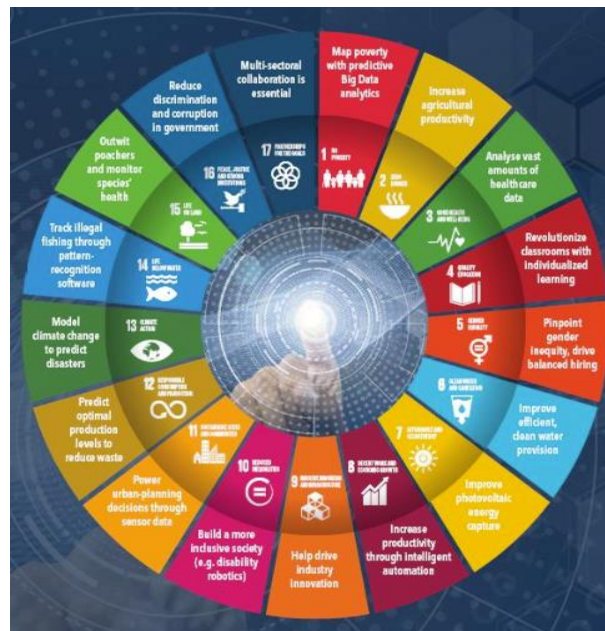


Figure 13: List of standardization activities

It also recognized the application of IoT in Smart Cities and Communities (SC&C) that allows us to identify the following aspects:

- General requirements and abilities of IoT applications and services;
- Frameworks and functional architectures of IoT to support networks and gateways;
- Precise IoT services covering transportation safety services and e-health services;
- IoT-based smart greenhouses, farming, manufacturing and Big Data problems;
- Security, trust and privacy protection in IoT;
- Key emerging technologies like crowdsourcing, intelligent control and blockchain of things;
- SC&C-related ecosystems, applications, services and use cases;
- Standards that are directly related to SC&C with a focus on urban planning, water, logistics, healthcare, e-government, transport, energy and others.
- Open Data;

- Spatio-temporal modelling for SC&C;
- Integration of sensing and supervision for smart sustainable cities.

The KPIs for the project on smart sustainable cities to reach sustainable development goals are presented in Figure 14 below.

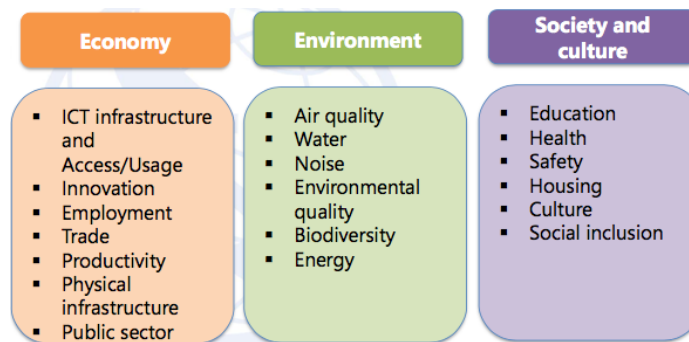


Figure 14: KPIs Project for Smart Sustainable Cities to Reach SDGs

The ITU-T Study Group 20 developed two relevant publications on IoT and Smart Sustainable Cities. The *Flipbook on Unleashing the potential of the Internet of Things* presents a collection of the first set of ITU international standards for IoT, offering a resource of great value to standards experts interested in contributing to the work of ITU-T SG20. The *Flipbook on Shaping smarter and more sustainable cities - Striving for Sustainable Development Goals* is a collection of technical reports and specifications details policy and technical considerations relevant to the development of SSC, providing policymakers and engineers with valuable reference material to guide the pursuit of happier, safer lives in our cities.

Views from Asia: This presentation was carried out by Marimuthu Swami Palaniswami, Professor at the University of Melbourne and Director of a large ARC Research Network on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP) with about 100 researchers on various interdisciplinary projects who presented the Asia perspective on IoT for developing countries.

At the University of Melbourne, they have access to a broad network of more than 200 researchers and postgraduate students as well as extensive links across Australia, USA, Europe and Asia, have 50 leading participants, 50 affiliated researchers and post-Docs, 75 research students, 10 Australian universities and partner organizations, 30 industry links, sensor network research infrastructures across the country, and IoT.



Figure 15: Broad Network at University of Melbourne

This presentation focused on the impact of climate change on the Great Barrier Reef where the increase in CO₂ (acidification of the ocean) and the increase in temperature causes the corals to contract disease. In 2008, censuses show that, around the world, 20% of reefs have already been lost, another 15% are in critical condition and another 20% are under threat in the long term.

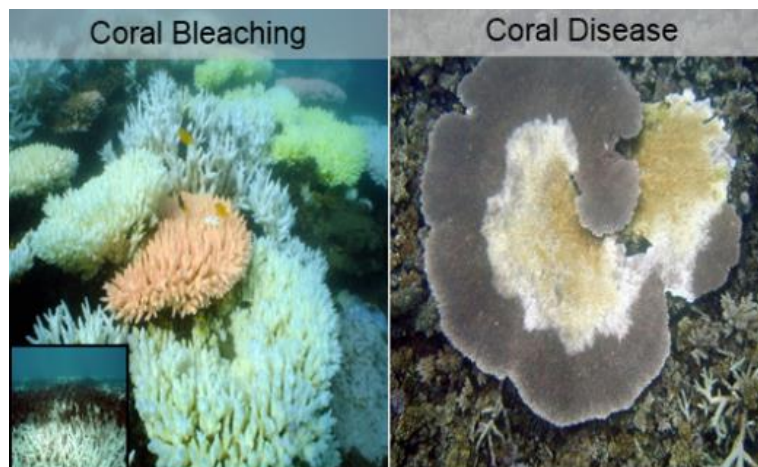


Figure 16: Effects on coral due to the increasing temperature in GBR

To study the oceans and the corals, a set of float sensors were placed on the Heron island, which each have a single thermistor mounted under the float at a depth of about 60cm. This set of sensors collects data, stores it in the internal memory, and transmits this acquired information to the base station every 10 min.

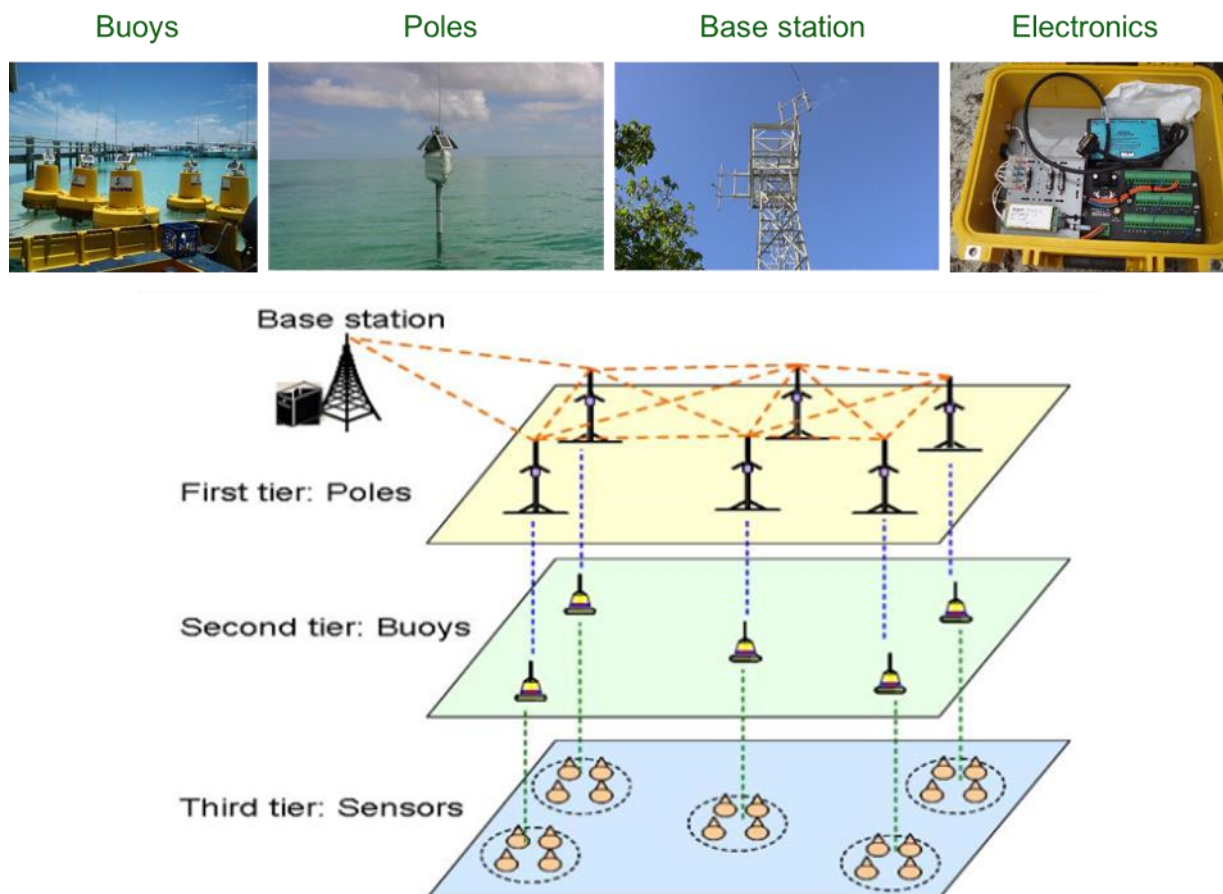


Figure 17: Sensors placed on Heron Island to study the oceans

Views from Brazil: This presentation was carried out by the Head of the ICT Industries Department at BNDES, Ricardo River, who presented the IoT action plan study for Brazil. This study delivers a five-year plan for the Brazilian Government with recommendations for horizontal problems as well as identifying three to five segments where the country can become a worldwide reference in IoT.

The impact of IoT levers in markets with a large manufacturing sector and large populations presenting a great opportunity to leap into legacy technologies. Brazil already launched the study titled "Internet of Things: A Plan of Action for Brazil", with ambitious goals to define the initial aspirations for IoT in Brazil, prioritize vertical and horizontal for IoT development, and prepare an action plan for 2018-22 to implement the study proposals.

The study is divided into four phases and is currently at the end of the second phase.

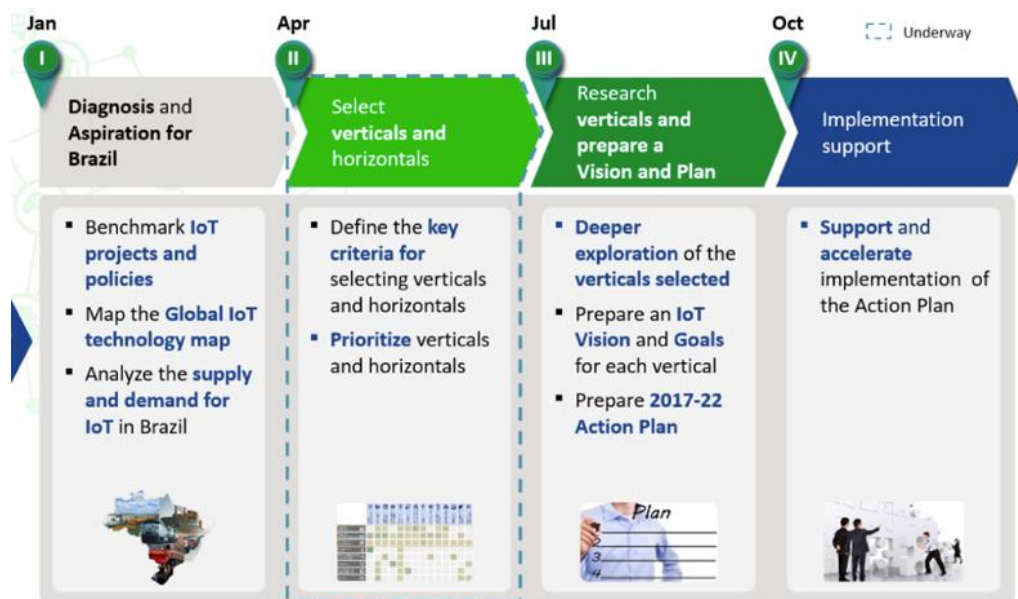


Figure 18: The study four phases

A broad IoT environment with key stakeholders in the construction of the plan already includes more than 2,000 people, companies and other agents, boards (IoT Chamber, Consulting Board, Policy makers Committee), specialists, leadership and project team, BNDES and the MCTIC.



Figure 19: Broad IoT ecosystem with key stakeholders

This is supported by five major surveys with the objective of extracting relevant responses to ongoing IoT initiatives and aspirations in Brazil, Brazil IoT Map, key horizontals and relevant proposals of public policies and projects.

The aspiration for IoT in Brazil covered the competitiveness, a connected and digital society, and the IoT production chain by accelerating the implementation of IoT as a tool for the sustainable development of Brazilian society. Competitiveness fosters growth and advancement of the economy, improves productivity, creates innovation business models, and develops IoT-based value-added goods and services. A digital and connected society promotes ownership of the benefits of IoT society to manage the city's resources, provide intelligent services and prepare Brazilians for work using the new technologies of the 21st century. The IoT production chain increases the local production, innovation, SMEs, exports and the internationalization of local technologies and enterprises.

In order to prioritize verticals, a set of ten areas that share common interoperability problems was identified as presented in Figure 20.

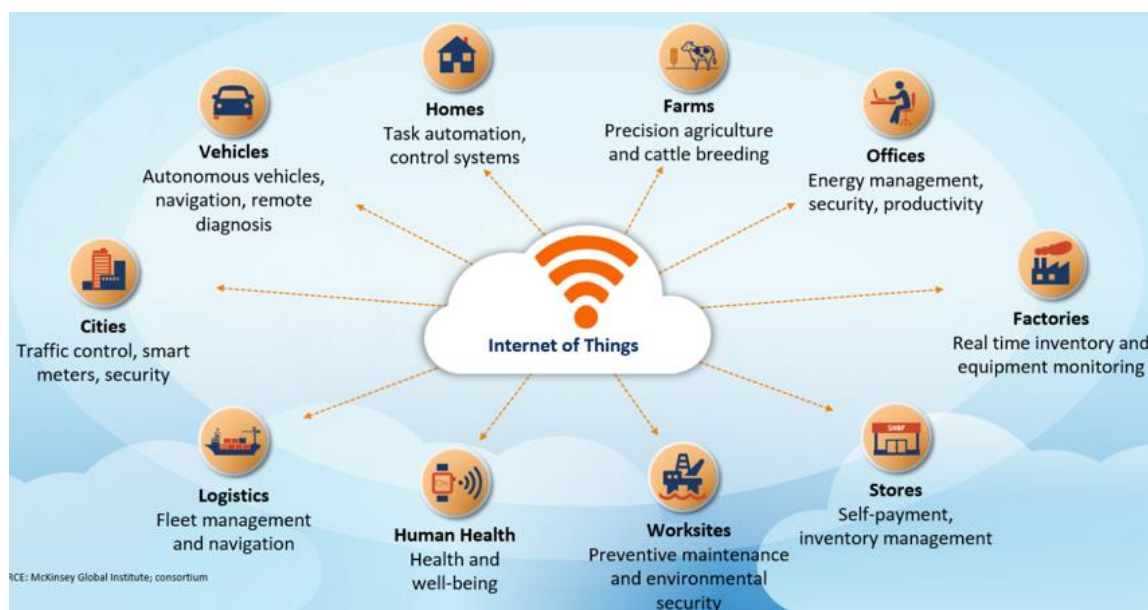


Figure 20: Concept of settings used in areas with common interoperability problems

In the Brazilian Action Plan for 2017-2022, short, medium and long-term initiatives for testbeds and innovation hubs, pilot projects and public calls for innovation as well as international cooperation are expected.

A relevant example of the development of IoT in Brazil is the Digital Farm of São Martinho, which is the 5th largest producer of sugarcane and has a private 4G network (LTE 250 MHz). By day, harvesting machines travel the equivalent of two trips around the world and its management focuses on logistics, precision farming, asset management and planning.

Views from EU-Africa on IoT and Big Data for Africa: This presentation was carried out by Corentin Dupon, a Senior Researcher Engineer at FBK CREATE-NET research centre who is working on the Waziup project where they are responsible for the Cloud-IoT platform of Waziup.

The IoT technical challenges in Africa include rural access to technology and the internet; hardware costs, development and implementation applications; and service quality and the fragmentation of mobile phone use. The Waziup project focuses on the adaptation of IoT technology applications to rural areas in Africa by using several IoT sensors and LoRa communication. LoRa is a low-cost, energy-efficient, long-range communication technology that is compatible with Arduino and Raspberry-PI. In addition to these advantages LoRa is available to be implemented on a large-scale.

In the use cases, one intends to perform an IoT transformation of African farms in which, through IoT applications, it is possible to monitor devices and user-notification systems and still control and act on systems and devices. Through the Big Data applications, it is possible to have a descriptive analysis, a prescriptive analysis and a forecast.

In Senegal, there is already a laboratory that works as a testbed where the gateway and the LoRaWan is tested, as shown in Figure 21, and that performs validation tests on the sensors of the final device.

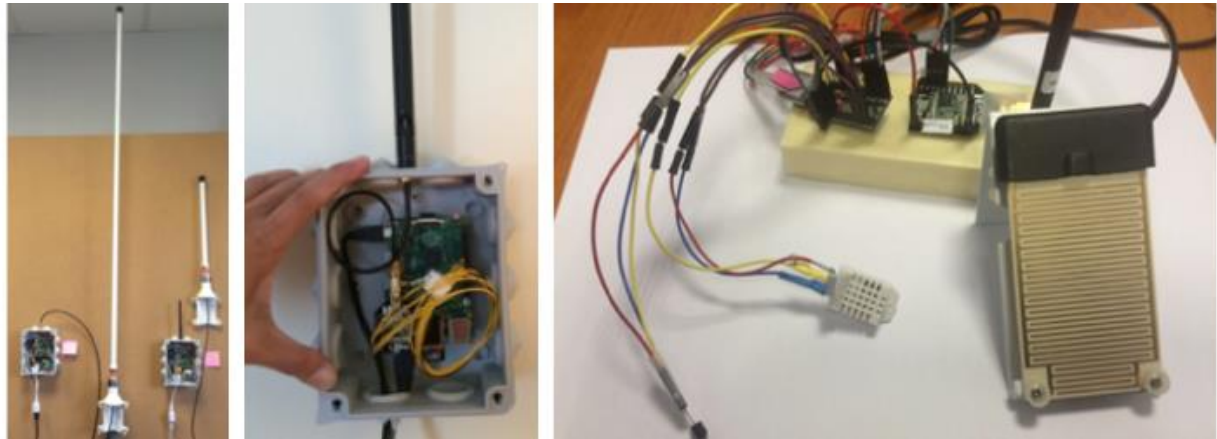
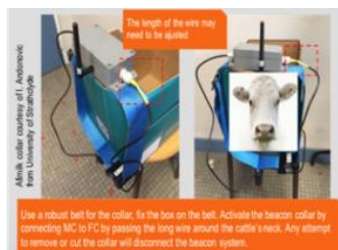


Figure 21: LoRa Gateway placed in a laboratory at Senegal

In the Waziup project a set of MVPs in different areas of activity is being deployed in some countries as shown in Figure 22 below: cattle rustling in Senegal, fish farming, a weather station in Ghana, and urban waste and soil moisture in Togo.



Cattle rustling - Senegal



Fish farming - Ghana



Weather Station - Ghana



Urban waste - Togo



Soil moisture - Togo

Figure 22: Different MVPs deployed in Ghana, Togo and Senegal

The IoT ecosystem in Africa is increasing through its presence on social media, due to the WAZIHack models (were organized three WaziHacks in Senegal, Ghana and Togo), via about 40 innovation training and workshops and several IoT activities such as the IoT Forum Africa and

IoT Africa Summit. The continent is ready for the IoT and big data technology adaptation in order to improve the social and economic conditions.

Views of IoT-EPI International Collaboration Task Force: This presentation was carried out by Pedro Maló, a senior researcher and seasoned scientific advisor at Unparallel Innovation, Lda that holds a PhD in interoperability methods and tools for large-scale and massively heterogeneous data environments, who presented the views of the IoT-EPI International Collaboration Task Force.

The IoT-EPI is an European initiative, addressing the EU-funded H2020, in order to build a sustainable IoT ecosystem and increase the opportunities to the increase the development of IoT platforms. This initiative has as its objectives:

- Describe the strategy and actions for international collaboration with global players (industry research, innovation ecosystems and public administrations);
- Promote the EU's success stories to international markets in order to encourage them to adopt EU IoT platforms worldwide.
- Recognize opportunities, trends, markets outside of Europe in forefront markets, and disseminate EU R&D in IoT;
- Establish liaisons with key stakeholders outside the EU and coordinate the interaction with them.



Figure 23: Session photos



Figure 24: Discussion photos

A.4. International Cooperation on IoT

In this meeting, there were three significant presentations, given by the participants, in order to disseminate some relevant aspects that may arise by the international cooperation on IoT. Table 10 presents the list with the names and roles/institutions of all the participants who joined in the “International Cooperation on IoT” session that took place on June 9, during the IoT Week 2017 held at the International Conference Center of Geneva (CICG).

Table 10: List of participants in the event

Participant	Role/Institution
Marimuthu Swami Pal-aniswami	Professor at University of Melbourne
Srdjan Krco	Co-founder and CEO of DunavNET
Ovidiu Vermesan	Chief Scientist at SINTEF DIGITAL Force
Kees van der Klauw	Head of the Research Program at Philips Lighting
Prof. Ziqin Sang	Vice Chairman at the ITU-T Study Group 20 on IoT and Smart Cities and Communities

International Cooperation on IoT and Smart Cities: This presentation has carried out by Prof. Ziqin Sang, Vice Chairman at the ITU-T Study Group 20 on IoT and Smart Cities and Communities, who presented the International Cooperation on IoT and Smart Cities focused in five areas:

1. The Belt and Road Initiative, that is a cooperative development strategy for:
 - Infrastructure networks in order to bridge the infrastructure gap;
 - Financial institutions including the AIIB (Asian Infrastructure Investment Bank) and the Silk Road Fund;
 - Geo-economics of continental integration;
 - Culture and education.



Figure 25: China's One Belt, One Road initiative

2. The collaboration between EU-China regarding the research on 5G and IoT, which had its first meeting in March 2017 in Beijing and its second in June 2017 in Geneva, has as its main objectives:
 - Dissemination and communication on 5G and IoT with stakeholders around the world;

- Establish partnership plans between EU-China collaboration proposals and policy white paper;
 - Large-scale pilot, EU-China test platform, cooperation framework and best practices;
 - Standardization and interoperability through 5G coordination and guidance for IoT.
3. Establish a partnership between China-EU on the urbanization area originated from the High-Level Conference of the China-EU Partnership in May 2012 held in Brussels, in which the theme was "to communicate and learn from each other, to achieve mutual benefits and winning results."
 4. The China-France cooperation on Science and Technology that, in June 2011 in the XIIIth Session of the Joint Franco-Chinese Scientific and Technical Commission, included the Smart Cities in the six priority areas of cooperation. The other areas are: Sustainable development, biodiversity and water resources management; green chemistry and technology; energy; life science; information science and technology; and advanced materials.

China-UK Cooperation on Smart Cities was established in October 2015. The "China-UK cooperation memorandum on smart city" signing ceremony was held in the British foreign office where three companies (British Arup, Chinese iSoftStone and Venturous) established a strategic cooperative partnership.

International Collaboration Task Force: This presentation was carried out by Ovidiu Vermesan who holds a Ph.D. in microelectronics, a Masters of International Business and who is also Chief Scientist at SINTEF DIGITAL, who presented the IoT-EPI initiative and the IoT European Large-Scale Pilots Program.

The IoT-EPI is an European initiative that has a network of partners from 120 companies and organizations and a total funding of €50M with the objective of developing projects of innovative platform technologies. The project also aims at finding strategies and enhancing activities with international stakeholders in IoT domain projects and establishing strong liaisons with key stakeholders outside the EU.

The IoT European Large-Scale Pilots Program (IoT-LSPs) has the objective of promoting the development of IoT solutions in Europe through the integration of advanced IoT technologies in several actuation areas.



Figure 26: IoT European Large-Scale Pilots Program

This program encompasses the two CSAs - Coordination and Support Actions - (U4IoT and CEATE-IoT) and five LSPs - Large-Scale Pilots – (SynchroniCity, MONICA, IoF2020,

AUTOPILOT and ACTIVAGE) and includes projects addressing the IoT applications based on European relevance, technology readiness and socio-economic interest in Europe.

International Cooperation in IoT: This presentation was carried out by Kees van der Klauw, the Head of the Research Program at Philips Lighting, who presented some relevant points of view about why the international cooperation in IoT is important and also how and when this cooperation can be done.

Why:

- Acquire economic value: is necessary scalability in the industries because most countries are small for a company (is a European challenge);
- International cooperation to minimize "waste" for governments, schools, companies, end users and industry;
- Companies do not differentiate: need many common functionalities;
- The internet is beyond borders but can be disrupted politically;

What:

- Cooperation with end-users allow international learning.
- Functional requirements: interoperability, architectures, mutual languages...
- Non-functional requirements that have high costs (legal characteristics, data storage policies and privacy) involving end users in pilots, protection, code of conduct and energy consumption standards.

How:

- Practical terms: global real-scale learning projects (LSP's), producing international cooperation and convergence, and evolving local stakeholders.
- Cooperation between consortia: allows duplication and achieving complementarities.
- Attractive plans: offering benefits for who achieve convergence/international development.

When:

(Already and for the next years)

- Some bigger countries do not have the challenge of international collaboration and can begin to control the market now.
- Cleaning up a divergent legacy will cost a fortune and no offer value to end-users;

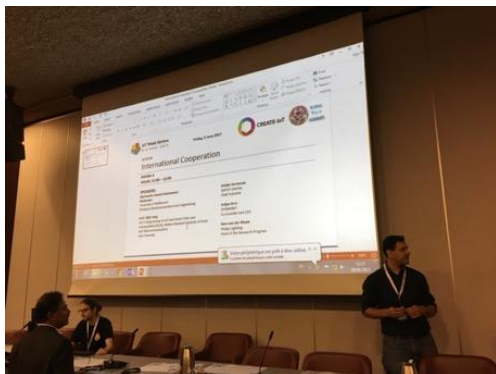




Figure 27: Activity photos



Figure 28: Discussion photos