



DELIVERABLE

D1.4 – Capacity building plan and actions report v3

Project Acronym: ESPRESSO

Grant Agreement number: 691720

Project Title: systemic Standardisation approach to Empower Smart cities and communities

Revision: 3

Authors: Mario Conci (HIT) with contributions from the whole Consortium

Project co-funded by the the Horizon 2020 Framework Programme of the European Union		
Dissemination Level		
P	Public	
C	Confidential, only for members of the consortium and the Commission Services	X

D1.4 – Capacity building plan and actions report V3	
File: D1.4 Capacity building plan and actions report v3.docx	Page: 1 of 16



1. Revision history and statement of originality

1.1. Revision history

Rev	Date	Author	Organization	Description
1	27/11/2017	Mario Conci	HIT	First Draft
2	12/12/2017	Mario Conci	HIT	Integration of consortium's feedback
3	21/12/2017	Mario Conci	HIT	Final version ready for revision
4	21/12/2017	Irene Facchin	TRILOGIS	Quality check
5				

1.2. Statement of originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.



2. List of references

Number	Full Reference

3. Table of Acronyms

Acronym	Description
BDVA	<i>Big Data Value Association</i>
EIP-SCC	<i>European Innovation Partnership on Smart Cities and Communities</i>
OASC	<i>Open and agile Smart Cities</i>
SCG	<i>SmaCStak Coordination Group</i>
SmaCStak	<i>Smart City Stakeholder Network</i>
SSCC CG	<i>Smart and Sustainable Cities and Communities Coordination Group</i>



4. Executive Summary

D1.4 updates the second release of the capacity building plan and actions report (D1.3) with remarks and suggestions collected until M24 with regard to the strategy adopted by the Consortium for building the ESPRESSO network of stakeholders.

In particular, following what agreed in D1.3 – “Capacity building plan and actions report” (version 2) we insisted on the promotion of the outcomes of ESPRESSO shifting the focus from the theoretical/high-level aspects of standardization to more specific aspects related to the case studies of the pilot cities and their implementation.

The stakeholders’ network at M12 was at quite good level in terms of number of stakeholders involved. Therefore, we decided to work on further improve the stakeholders’ engagement. The current report describes the outcomes in terms of community engagement until M24 clustered by specific areas of intervention that were outlined in D1.3. More in general the capacity building actions were focused on three main directives: improving the communication, consolidate existing synergies and increase the community.



5. Table of Content

1. Revision history and statement of originality	2
1.1. Revision history	2
1.2. Statement of originality.....	2
2. List of references	3
3. Table of Acronyms.....	3
4. Executive Summary	4
5. Table of Content.....	5
6. Table of Tables	6
7. Capacity building plan and actions	7
7.1. The ESPRESSO Stakeholders' Ecosystem	7
7.1.1. The SmaCStak.....	9
7.1.2. The SCG: SmaCStak Coordination Group.....	10
8. Conclusions	11



6. Table of Tables

Table 1: Potential stakeholders	8
Table 2: Composition of the SmaCStak	9
Table 3: Members of the SmaCStak Coordination Group	10
Table 4: SCC Lighthouse Projects Reached out	11
Table 5: SCC Initiatives Reached out	12
Table 6: List of Webinars	13



7. Capacity building plan and actions

The work on expanding the network has gone on also during the second year of the project. The consortium put a lot of effort during 2016 to set up the network and consolidated it in 2017. Thanks to the actions designed at the beginning of the project in D1.2 and refined in D1.3 ESPRESSO Consortium can count on a wide array of contacts and stakeholders.

Each partner has indeed invited some of their contacts to be part of and nurture the ESPRESSO stakeholders' community. The stakeholders are of various kinds and include EU and extra-EU cities, private companies, academia, EU-Initiatives as well as Local, Regional and National Authorities. The Geography spread of the network have both national, European and global reach. Partners of ESPRESSO have contacted their stakeholders both as part of other smart cities activities (e.g. EU projects, thematic working groups, committees, Standardization consortia, etc.) and via private messages to reach out and point directly to individuals and organisations that are involved in similar activities and projects. Invitations have also been accompanied by a brief explanatory letter, followed up by telephone calls or online conversations. For official and high-level liaisons, a formal invitation by ESPRESSO's coordinator has been preferred.

The current document is the last version of Capacity building plan and actions report and updates the previous version D1.3 with further details.

7.1. The ESPRESSO Stakeholders' Ecosystem

Main goal of the capacity-building actions that the Consortium has sought so far is the creation of ESPRESSO's main asset that is an ecosystem of actors and stakeholders that are involved or interested in novel standards and technologies related to the Smart Cities.

All the partners have contributed to the task by leveraging on their personal networks (see table 1) and implementing those actions as described in the updated versions of the report on capacity building actions, that can be briefly summarized here below:

- Knowledge sharing among partners of the same projects, committee and working group;
- Inter-connecting partners from various networks and hence establishing a cross-sectoral smart cities network;
- Promoting ESPRESSO, its partners, aim and the importance of technical standards at numerous conferences across Europe;
- Using mailing lists of thematic groups and participation to joint activities and working groups;
- Invitation of relevant/strategic stakeholders to events organized by ESPRESSO;
- Promoting the ESPRESSO LinkedIn group and website;
- Newsletters, presentations, papers and videos disseminated via partners' website and social network;
- On-site communication taking part to different events.



Table 1: Potential stakeholders

Institution	Kind of contacted partners
UNI KL	Partners from research & planning associations
HIT	Partners mainly linked to the European Innovation Partnership on Smart Cities and Communities (EIP-SCC). The amount of potential contacts is around 300 people belonging to different Action Clusters.
ETSI	Partners from IoT/Smart City alliances, SDOs Technical Bodies, H2020 Research and Innovation projects, CEN/CENELEC/ETSI Std Mandate Coordination Groups
ROTTERDAM	Local SME, large enterprises and neighbouring cities
VCS	Partner cities (Berlin, Hamburg, Vienna, Helsinki and Hannover)
PWC	Smart city relevant "umbrella" organizations, Private companies, Local, regional and national authorities
ISOCARP	Urban planners and policy makers, cities, industry, R&D
ATOS	BDVA, OASC and its city network of 89 cities
DIN	Partner cities (Munich, Cologne, Lyon, Vienna), as well as partners associated with DIN's smart cities activities, such as Deutsche Telekom, IBM, Siemens, Ernst & Young, Deloitte, Altran, German City Association, Urban Institute, Federal Ministry for economic affairs and energy, Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety, Federal Institute for research on building, urban affairs, and spatial development, German Commission for Electrical, Electronic & Information Technologies, VDA (German Association of the automotive industry), Continental, EnBW, SM!GHT, Microsoft, Alliander, CEN/CENELEC, BSI, Urban DNA, AUDI, Berlin Partner for economy and technology.
BRE	Partners linked to open standard development such as BSUKI and OS. Other partners involved in research such as Cardiff University, Digital Greenwich. Stakeholders through events like Eco-build, BIM Projects, BIM Level 3 & Beyond.
OS	Partners linked to open standard, Smart City initiatives, NSBs & SDOs
OGC	Partners linked to open standard, Smart City initiatives, NSBs & SDOs



FRAUNHOFER	Partner Cities (Hamburg, London, Rome, Lyon, Munich, Vienna, Eindhoven, Manchester, Stavanger), partners from related H2020 research projects (Smarticipate, Smarter Together, Triangulum), local SMEs (wetransform), customer contacts
TRILOGIS	Partners linked to open standard and SMEs
TARTU	Tartu Smart City Coordination Group, Estonian SMEs, Telia Estonia, Forum Estonia.
LOCALIDATA	Local NSBs & SDOs

7.1.1. The SmaCStak

Main result of the capacity-building actions of ESPRESSO has been the creation of ESPRESSO’s community: the SmaCStak.

The SmaCStak is composed of stakeholders in the field of smart cities and particularly interested in the usage and implementation of standards. Stakeholders have been selected among the consortium’s network and include a variety of actors such as cities, SMEs, industries and research centers.

Currently the SmaCStak gathers 136 people with a European-wide coverage and from different backgrounds. The following table shows more details regarding the composition of SmaCStak at M24.

Table 2: Composition of the SmaCStak

SmaCStak (at M12)		SmaCStak (at M24)	
Members in total	136	Members in total	158
Countries (Top five countries per number of registrants)	23 UK 24, Germany 11, Belgium 9, Italy 9, Spain 8	Countries (Top five countries per number of registrants)	35 UK 29, Germany 23, Belgium 16, Netherlands 14, Italy and Spain 13
Nature of organizations	Public 32 %, Private 29%, Research Institutions 19%, City/Municipality 12%, NGO 5%, SDO 4%, Industry 4%, Other 8%	Nature of organizations	Public 29%, Private 28%, Research Institutions 18%, City/Municipality 13%, Other 7%, NGO 6%, Industry 5%, SDO 4%
Organization Memberships	EIP-SCC (41%), Eurocities (33%), Covenant of	Organization Memberships	EIP-SCC (42%), Covenant of Mayors (23%),



(Top 3)	Mayors (27%)	(Top 3)	Eurocities (12%)
---------	--------------	---------	------------------

In a first phase, people have been contacted directly by ESPRESSO’s partners and invited to join the SmaCStak. For this purpose, we created an online form requesting, among basic details, also whether they are linked to smart cities associations/projects, and whether they are involved in any smart city initiative about standards.

Those stakeholders have been collected in the so-called Atlas of Smart Cities, a map of Europe that provides a geographical overview of the composition of the stakeholders’ network. The Atlas is available on the website of the project.

SmaCStak’s members are stimulated and encouraged to exchange experiences via virtual channels, namely twitter and LinkedIn. Those tools are used as an exchange platform for ideas, partner and cooperation search, or as an advertising platform for events with Smart City and standardization reference.

7.1.2. The SCG: SmaCStak Coordination Group

The SmaCStak Coordination Group (SCG) is composed of representatives from public and private sector. Important role of the SCG members is to guide the SmaCStak and increase the outreach of the ESPRESSO project. SCG members belong to networks and organizations that can act as multipliers for ESPRESSO, such as: EIP-SCC, DIN, ETSI, EUROCITIES, Fraunhofer IAO. Other members belong instead to organizations closer to the Market and research such as Future Cities Catapult and Cluj IT Cluster. The cities of Rotterdam and Tartu are also part of the SCG and provide support for contacting other cities.

The SCG members have been suggested by the partners and have been invited to be part of the Coordination Group via an invitation email. The SCG has been confirmed at the end of April.

Table 3: Members of the SmaCStak Coordination Group

Member	Affiliation	Representative of:
Lluisa Marsal	Future Cities Catapult/BSI	CEN-CENELEC-ETSI SSCC-CG
Patrick Guillemin Philippe Moretto	ETSI	
Rob Poll-van Dasselaar	ROTTERDAM	Pilot cities
Rene Tonnisson	TARTU	
Joachim Lonien	DIN	SDOs and NSBs
Daniel Homorodean	Cluj IT CLUSTER	Academia, Industries



Antonio Kung	TRIALOG/EIP-SCC	and SMEs
Nikolaos Kontinakis	EUROCITIES	Network of cities

8. Conclusions

In 2017 the consortium has worked to consolidate the ESPRESSO ecosystem and to improve its level of engagement. In particular, following what agreed in D1.3 – “Capacity building plan and actions report” (version 2) we insisted on the promotion of the outcomes of ESPRESSO shifting the focus from the theoretical/high-level aspects of standardization to more specific aspects related to the case studies of the pilot cities and their implementation. More in general the capacity building actions were focused on three main directives: improving the communication, consolidate existing synergies and increase the community.

Improvement of communication

We improved the way to communicate with our stakeholders. We put more attention on how deliver the contents in order to reach out to non-expert people. The website has been improved, made more usable and make it clearer (e.g. technical jargon should be avoided). It was integrated with an introductory slide outlining as simply as possible goals and benefits of ESPRESSO. We also delivered pieces of news to trigger the interest of a wider audience such as events and funding opportunities. Internet-based tools helped to raise the awareness of the project and improve the communication among stakeholders of the SmaCStak along with other dissemination actions on social media and ESPRESSO Webinars for example.

Consolidation of synergies

We consolidated synergies with projects and networks namely the CityKeys Project that presented their results in one of our Webinars and the European Innovation Partnership on Smart Cities and Communities (EIP-SCC). Specifically, ESPRESSO has started a collaborative work with the EIP-SCC initiative on urban platform becoming an example for activities concerning standardization. Some partners of ESPRESSO are part of the EIP-SCC and had therefore many chances to share project’s outcomes to a wider networks, which enabled us to get in contact with policy makers and private sector stakeholders.

Enlarge the communities

We accomplished this task by getting in contact mostly with new Lighthouse projects and SCC networks/initiatives. The tables below shows the list of actors we got in contact with. Specifically, with SCC lighthouse projects we asked them to share their experiences with us. To the SCC Networks we asked to act as multipliers and help us to disseminate our activities.

Table 4: SCC Lighthouse Projects Reached out

Project Acronym	Lighthouse Cities	Follower Cities	Website	ESPRESSO PARTNER
<u>TRIANGULUM</u>	Manchester (UK),	Prague (CZ), Leipzig	http://triangulum-project.eu/	Fraunhofer



	Eindhoven (NL), Stavanger (NO)	(DE), Sabadell (ES) ('Observer City': Chinese city of Tianjin)		
<u>REMOURBAN</u>	Valladolid (ES), Nottingham (UK), Tepebasi/Eskisehir (TK)	Seraing (BE), Miskolc (HU) (Focus on mid-size cities of 300.000 inhabitants)	http://www.remourban.eu/	HIT
<u>GrowSmarter</u>	Stockholm (SE), Cologne (DE) and Barcelona (ES)	Valetta (MT), Suceava (RO), Porto (PT), Cork (IE), Graz (AT) (additional 20 cities will be engaged)	http://www.grow-smarter.eu/home/	HIT
<u>REPLICATE</u>	San Sebastian (ES), Florence (IT), Bristol (UK)	Essen (DE), Lausanne (CH), Nilüfer (TK)	http://replicate-project.eu/	UNIKL
<u>SMARTENCITY</u>	Vitoria (ES), Tartu (EE), Sonderborg (DK)	Asenovgrad (BG), Lecce (IT)	http://smartencity.eu/	Tartu
<u>SMARTER TOGETHER</u>	Lyon (FR), Munich (DE), Vienna (AT)	Santiago de Compostela (ES), Sofia (BG), Venice (IT)	http://smarter-together.eu/	DIN
<u>SHARING CITIES</u>	London (UK), Lisbon (PT), Milan (IT)	Bordeaux (FR), Burgas (BG), Warsaw (PL)	http://www.sharingcities.eu/	ETSI
<u>RUGGEDISED</u>	Rotterdam, Glasgow and Swedish Umeå	Brno(CZ), Gdansk(PL) and Parma(IT)	http://www.ruggedised.eu/	Rotterdam
<u>STARDUST</u>	Pamplona (Spain), Tampere (Finland), and Trento (Italy)	Derry (UK), Kozani (Greece), and Litomerice (Czech Republic)		ISOCARP

Table 5: SCC Initiatives Reached out

OASC	Open and Agile Smart Cities	http://www.oascities.org/	OGCE
SCC-Infosystem	EU Smart Cities Information System	http://www.smartcities-infosystem.eu/	HIT
Progressive Project	Progressive Project	http://www.age-platform.eu/project/progressive	HIT/DIN
Green Digital Charter	Green Digital Charter	http://www.greendigitalcharter.eu/	HIT
CEN-CENELEC-	CEN-CENELECT-	https://www.cencenelec.eu/standards/Sectors/SmartLi	ETSI



ETSI SF SCC	ETSI		
-------------	------	--	--

Cities are the stakeholders recognized as the first users of the ESPRESSO's outcomes, therefore we focused more on getting information on their needs. At this regard, Rotterdam and Tartu acted like champions and actively promote the benefits of adopting standards to other cities involved in common projects (e.g. Oslo, Eindhoven, Brussels and Sonderborg). Furthermore, each partner was asked to get in contact with a city and administer an interview.

Questions of the interview were:

1. What changes, in terms of the Smart Cities concept, do you see for your city / metropolitan area in the coming years (5-10)?
2. Are you familiar with the European Digital Agenda? What steps have you taken to align with it and what would be your key urban infrastructure, which will change in the next years, respective to the DA?
3. Do you currently have a Smart City strategy? If not, what impact do you think there would be such a planning / local development policy document?
4. What "Smart Cities" solutions do you use or implement at local initiative level? For these, can you please tell us about:
 - a) Experience and Impact
 - b) Typology of technology (sensors, protocols)
 - c) The way data is stored
 - d) Security and confidentiality
 - e) Applications
5. Do you use standards in public procurement?
6. What would be the ESPRESSO results' applicability for your city?

We did not get many responses from cities. Some of the reasons might be: general lack of understanding and interest on the topics of ESPRESSO; lack of a single persons that could take up our requests; cities have different priorities respect to the project.

Webinars, Online tools and social channels

Webinars have been scheduled as a way to start the engagement of the SmaCStak. At M24 we scheduled more than 10 webinars, approximately one each month for dissemination of the outcomes of the project. SCG members have also agreed to deliver webinar on their activities. We use webinars to discuss about the topics of deliverables and webinars. SmaCStak members have also been encouraged to deliver webinars and share their best practices online.

Table 6: List of Webinars

WHEN	WHO	Title	ABSTRACT
21/07/2016	ISOCARP	Smart City Indicators	Smart development represents a crucial factor for cities, both allowing them to gain competitive positioning on the map of Europe, but also strongly influencing the quality of life. On the path to „becoming Smart”, cities have a lot of key ingredients to consider:



			Leadership, Vision, Data, Participation, Communication, Innovation and Standards. Standards are the building blocks which support the different systems coming together, creating a common understanding and the possibility to track performance, and progress. Because cities need to have the possibility to measure their performance while implementing smart city strategies and solutions, ESPRESSO is setting up a City Information and Indicator Platform, as a portal to collect and share data required for indicator definition and a tool for city self-assessment. The platform will also represent a tool for promoting integrated urban approaches, supporting smart sustainable urban regeneration and development strategies.
30/08/2016	ROTT	Rotterdam Geo Information Management: from hypes to solutions	Rotterdam is one of the pilot cities in the Espresso Project. One of our aims as pilot city is to bring theory into practice. In this webinar Joris Goos will give his view on what role Geo Information can play in the Smart City approach, hereby focussing on the need of open standards and models. What problems do we encounter these days and how can we solve them? Should we introduce yet another system, should we use the solution of that one key-vendor? Or should we rather try to speak a common language, use existing information to enrich our data and make connections throughout different domains?
16/09/2016	OS	Smart City Standards and Architecture	This webinar will provide the opportunity for cities to share their experiences in relation to selection and application of standards and Ordnance Survey will guide the SmaCStak members through what has been done, how it all fits together allowing discussion on the implications.
14/10/2016	PWC	Funding and Procurement approaches applied to Smart Cities	Existing as well as emerging economic, financial and procurement models can be applied in various sectorial services of actual and future Smart City (SC) scenarios. This deliverable presents the most relevant and novel funding and procurement approaches applied to the SC domain. A special focus is also dedicated to the most appropriate operating models that can guarantee financial sustainability over time of SC projects. Relevant use cases of SC solutions have been collected in order to emphasise different successful approaches depending on the specific city needs as well as funding, financial and procurement models adopted.
10/11/2016	TARTU	Smart City best practices: The City of Tartu	The webinar will introduce the main Smart City developments in currently under implementation in City of Tartu including activities related to retrofitting, energy efficiency, electric mobility, citizen engagement and ICT applications.
15/12/2016	Lluisa Marsal (SCG)	United for Smart Sustainable Cities	U4SSC initiative, a joint partnership between UN and ITU. It is a pre-standardisation group which aim is to prepare policy standards to help implement the SDGs (Sustainable development Goal), in particular Goal 11 and UN's New Urban Agenda.
19/01/2017	CITYKEYS PROJECT	The CityKeys Project	The aim of CITYkeys project was to develop and validate, with the aid of cities, a performance measurement framework for the common and transparent monitoring as well as the comparability of smart city solutions across European cities. The development of the framework included the key performance indicators (KPIs), the data collection procedure, the methods to calculate the indicators as well as policy and business model recommendations for the use of indicators. The project has built on existing performance measurement frameworks and has proposed the use of open



			<p>standards and interfaces. It has also aspired to be the first framework that has a specific European approach and treats the smart city objectives and smart city projects in a holistic way.</p> <p>Speakers: City KPI - Peter Bosch, TNO Feedback from the testing with cities - Aapo Huovila, VTT Zaragoza: A city's experience from the project - Daniel Sarasa Funes, City of Zaragoza</p>
10/03/2017	City of Haarlem - Jan Koers	City of Haarlem: presentation of the Haarlem approach to data management	<p>The webinar presents the information infrastructure used to guarantee continuous updating of open data, the challenges of data-governance and the principles to implement a governance structure based on the concept of base-registries and proposed implementation of metadata by design; issues to discuss are data-ownership in inter-organizational processes, the use of meta data in relation to the GDPR, mechanisms of feedback on data-quality and leveraging these concepts at European level.</p>
07/04/2017	Daniel Homorodean (SCG)	The perspective and potential of standardizing operational processes in the administration across EU, with a focus on Life Events	<p>As citizens of an integrated Europe, we can work, relocate, conduct business in any member state and we expect that our relationship with the administration should be predictable and consistent anywhere. Yet, we are not there. From one state to another and even from one city to another our interaction with the administration is different, following particular action flows, documents and timelines.</p> <p>The need for standardization is highly emphasized at EU level and consistent activity is taking place in various domains of the administration, like procurement, invoicing, e-signatures, reuse of public data, data protection and privacy. Some countries pioneer their own standards in other domains, preceding a larger European approach. But what is the perspective for standardizing the Life Events at EU level? In this webinar, we will explore it together.</p> <p>The speaker Daniel Homorodean - Cluj IT Cluster</p>
26/04/2017	Daniel Sarasa and Antonio Kung (SCG)	Data management and citizens' privacy in smart cities open governance	<p>Thanks to smartphones and apps, Internet of Things (IoT) devices, networks and sensors deployed throughout public spaces, cities are collecting vast amounts of data beneficial for the 'public good'. This data enables municipalities to develop better-informed decision-making and improve public services (waste management, traffic prediction, energy efficiency).</p> <p>This webinar intends to show how data management processes by city administrations and use of privacy-by-design standards are key to build trust and resilience in smart cities and open data.</p> <p>Speakers: Daniel Sarasa (Smart City Program Manager', Zaragoza City Council) Antonio Kung (CTO, Trialog)</p>
13/06/2017	DIN & OGCE, REMOURBAN, PROGRESSIVE	ESPRESSO: Standards and reference architecture enabling a smart city urban platform!	<p>Many Smart City solutions are based on sophisticated information and communication technologies. However, technological complexity, as well as the complexity of the various sectorial services involved within a Smart City, require a system approach to standardisation. Such an approach must promote the greatest possible reuse of existing open standards to accelerate Smart City deployment. In an effort to leverage the promise of a system</p>



		<p>approach, ESPRESSO (Espresso – systemic standardisation approach to Empower Smart cities and communities) focuses on the development of a conceptual Smart City Information Framework based on open standards. In this webinar, we discuss our first findings with other Smart City Projects. It will be an opportunity to get to know the ESPRESSO Smart City platform and have an overview of the relevant open standards, technologies, and information models that constitutes it.</p> <p>Speakers: Joachim Lonien –DIN: Smart city standards streamlining Bart De Lathouwer – OGCE: Development of Smart City information framework Maria Luisa Mirantes – Xeridia: Overview of REMOURBAN ICT Platform Alexandra Engelt - DIN: The PROGRESSIVE Project: Progressive Standards around ICT for Active and Healthy Ageing</p>
--	--	--

Events

Another fruitful way to enlarge the community was the participation in different kinds of events. The Consortium monitored and attended whenever possible relevant events. A more detailed description of the events where ESPRESSO’s partners took part is collected in the deliverable on capacity building actions (D1.3 version 4).