



## D6.1 Initial Standardisation and Dissemination plan

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**Edited by:** Antonio M. Ortiz (Institut Mines-Telecom), Ilan Mahalal (Gemalto)

**Contributors:** IMT, Gemalto, Alcatel, UPV, Prodevelop, UAH, KoçSystem, University of Seville, UPEM

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## Document History

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0.1	September 2013	Institut Mines-Telecom	Initial template
0.2	November 2013	Institut Mines-Telecom	New sections and text
0.3	25 November 2013	Gemalto	Update of the Standardization chapter
0.4	12 December 2013	Institut Mines-Telecom	Updated figures and description about standardization bodies
0.5	7 January 2014	Gemalto	Update of the Standardization chapter and adding information about GSMA
0.9	14 January 2014	Institut Mines-Telecom	Updated targeted conferences and journals
1.0	15 January 2014	Gemalto, University of Seville	Updates to the standards section. Also added list of tables and list of figures.

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## Executive Summary

Deliverable 6.1 is the first dissemination report of the SITAC project. It provides the initial plan for SITAC dissemination and standardisation activities to be achieved during the project progress, as well as the dissemination results obtained during the first six months.

The objective of this document, which is structured in two main sections, is to describe the planned dissemination and standardization activities of the SITAC consortium partners. Besides being advertised by means of many dissemination channels, work in SITAC is bound to be directly useful to the partners operation, with relevance to the ones with industrial activities. The consortium will also master the challenge of adhere to and push standardization efforts wherever applicable with particular emphasis on the Internet of things, Social Networks, Data Analysis, and Communication Protocols aspects. Being standard and compliant to already available guidelines is definitely a major goal of SITAC.

Despite SITAC is just in its first stage at the time of writing this document, the consortium has been very active in these areas and relevant results are already worthy to be mentioned.

## 1. Introduction

### 1.1. SITAC background and objectives

#### 1.1.1. Context and focus of research

Internet of Things is a vibrant paradigm that has shaken up the world of ubiquitous computing, making devices, applications and services available for anybody, at anytime, from anywhere. On the other hand, Social Networks enable the connection and interaction of people, allowing advanced information exchange.

When combining Internet of Things and Social Networks, new challenges arise, and new technological paradigms and developments come into play. Integration techniques that allow the correct interoperability between devices and users, new interaction methodologies, a huge amount of data, new services and applications, etc., are only some examples of the challenges that this new paradigms should face in the next years.

#### 1.1.2. Objectives and expected results

The main goal of SITAC is to provide a new ecosystem for managing a huge number and connected smart objects through the use of Social Networks paradigms.

This goal can be divided into several partial objectives:

- Provide a platform which enables the development of Social IoT and crowd-based applications with its relevant business-wise ecosystem.
- Provide a new multi-device collaborative application creation and composition framework.
- Facilitate seamless connection and cooperation among devices and users through the use of social networks and crowd-based applications.
- Provide straight forward management of security and privacy for users.
- Address technical challenges related to data analysis and recommendation techniques when leveraging the social network and crowd based paradigms.

SITAC shall provide a clear added-value in use cases involving Internet of Things and Social Networking, such as advanced management of home appliances, solar energy production managed by users, network identity and subscription management, and a crowd-based building management expert system.

### 1.2. WP6 Scope

The objectives of WP6 are to ensure the dissemination of the results achieved during the project's life and to coordinate its visibility at an international level through publications, contributions to standards and other industrial forums, participation or arrangement of specific events.

In general terms, WP6 manages the exploitation plan, coordinates and arranges all activities related to the dissemination of the SITAC project results within the research community, standardization bodies and towards markets players.

### 1.3. Scope of deliverable D6.1

Deliverable D6.1 is the initial standardisation and dissemination plan of the SITAC project. It presents the project dissemination strategy, including the dissemination target audience groups, the actions and channels to reach these groups during the project life, and the first opportunities for external collaborations. Then it provides the project's initial approach concerning the possible contributions to standards.

## 2. Dissemination Strategy

SITAC project will provide an extensive large-spectrum dissemination work, oriented to achieve awareness for the project activities and results, including:

- Contributions with technical papers, demonstrations, or talks at relevant international conferences, symposiums, workshops, ICT initiatives, technical events, industrial forums, and cooperation with European stakeholders
- Production of leading-edge research material suitable for publication in international journals (ACM, IEEE, Wiley, Elsevier, etc.)
- Updates of SITAC project to be published at the website, providing the latest information on project activities and achievements.
- Cooperation with other projects in related areas
- Standardisation of suitable developments

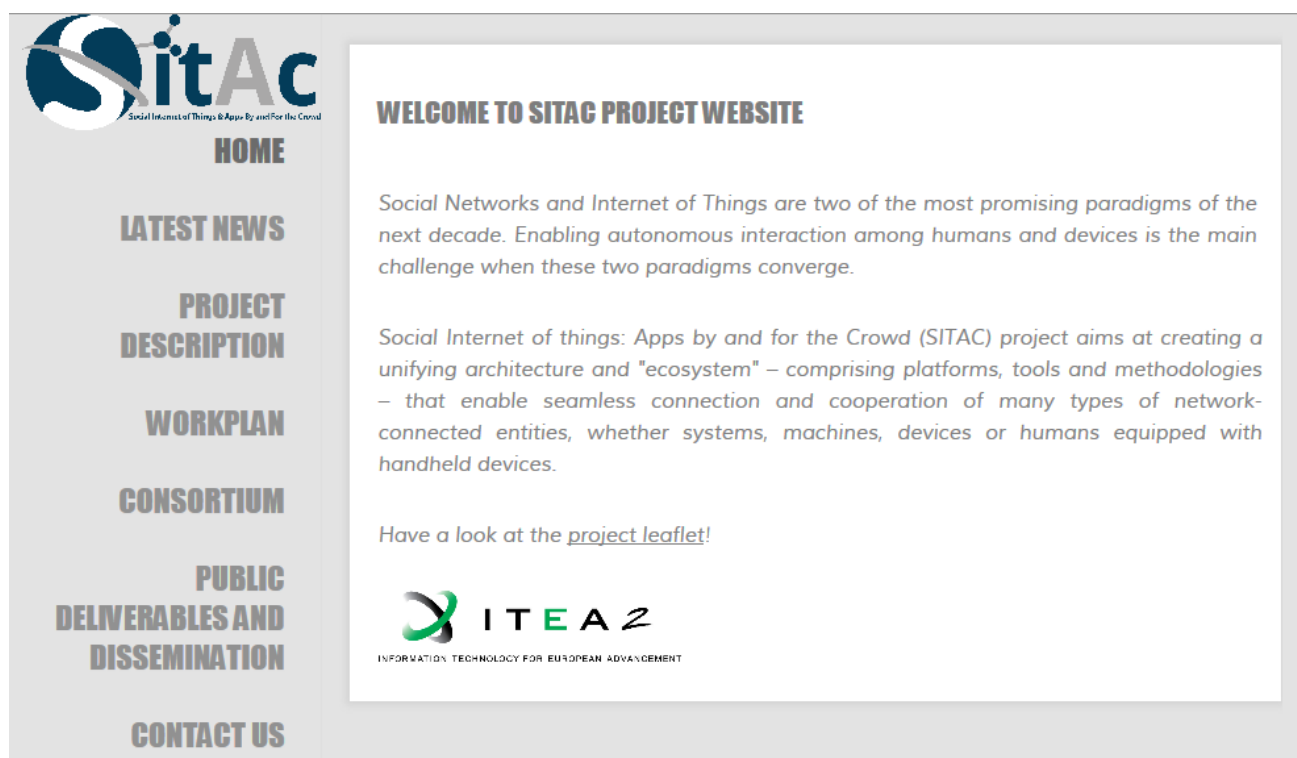
Other activities will be (have been) started and different channels are exploited to communicate the SITAC project objectives and to disseminate its outcomes:

- SITAC website: it is a key dissemination channel, providing the project description and public details
- Leaflets, flyers and brochures: they are printed to be available at events and conferences. They can also be retrieved from the SITAC website
- Public deliverables: they are available in the SITAC website, providing advanced documentation with the project information and achievements
- Participation in conferences and events: national and international conferences organised by institutions, universities and research organisations are important opportunities to share project results with other experts in the field. Such participation consists in delivering presentations and/or in having a stand with posters. Presentations allow reaching a large audience whereas posters can be used as a support for more individualized and in-depth exchanges
- Publications in journals and magazines: high-quality results will be published in top journals and magazines, so ensuring the visibility of the project achievements

The next sections detail each one of these dissemination activities.

## 2.1. SITAC website

The website is the first step to facilitate the dissemination of the project.



**Figure 1. SITAC website**

The SITAC website (see Figure 1. SITAC website) provides at a first glance, a high-level description of the project. It also includes a section to announce the latest news related to the project. The one-page project description is available, to allow readers to understand the main scope of the project.

After the first introductory sections, related to the project description and objectives, more detailed information is available, such as the workplan, the partners that compose the consortium, and the public deliverables and related dissemination activities. Finally, the “contact us” section provides the contact details of the project manager.

The public website is maintained regularly as the project produces results, as papers are published, as deliverables are released or whenever there is news to report.



## 2.2. Leaflets, flyers and brochures

The SITAC project will produce leaflets, flyers and brochures with the purpose of communicating its main objectives and outcomes. Leaflets, flyers and brochures will be available in printed form at conferences and events, as well as on the SITAC website.

Figure 2. SITAC leaflet shows the first leaflet that is already available for downloading.

**- Project starts:** December 2012  
**- Project ends:** December 2015

**- Contact:**  
Ilan Mahalal, Project Manager  
Phone: +331 55 01 55 47  
Email: ilan.mahalal@gemalto.com

**- Project website:** TBA

**SitAc**  
Social Internet of Things & Apps By and For the Crowd

**ITEA 2**  
INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

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**SCOPE**

The Internet is expected to ultimately interconnect billions of people and trillions of devices. The challenge undertaken by the ITEA2 SITAC project is to create a unifying architecture and 'ecosystem' comprising platforms, tools and methodologies that enable the seamless connection and cooperation of many types of network-connected entities, whether systems, machines, devices or humans with handheld devices. This ecosystem must make business sense and therefore cover the needs of various types of industrial stakeholders: device manufacturers, telecom operators, service providers and companies acting as users.

SITAC aims at delivering an open platform to enable such actors to monetise their products and services – whether communication infrastructures, installed sensors, data flows or labour – as well as share revenue, much in the way that cloud computing platforms do. The project will innovate by using the 'social networking' paradigm to facilitate and unify interactions both between people and devices and among devices. It will propose a distributed framework for enabling the Web-based service representation of smart spaces and the object they include.

**BENEFITS**

- FOR COMPANIES**  
The new ecosystem provided by SITAC will make use of intelligent service creation and composition that will facilitate the deployment and exploitation of new applications. Device manufacturers, telecom operators, service providers and industry companies will see how their costs of investment can be reduced.
- FOR END USERS**  
Innovative online features will engage end users to be involved in an environment where everything is connected and where an exciting wide spread of services and applications are ready to use.

**INNOVATIONS**

- Facilitating seamless connection and cooperation among devices and users through the use of social networks and crowd-based applications.
- Allowing casual users to take control of such massively deployed objects in a convenient and safe manner.
- Providing a platform which enables the development of Social IoT and crowd-based applications and its relevant business-wise ecosystem.
- Enabling in-node content analysis and decision making to decrease the amount of data flows.
- Addressing technical challenges related to data analysis and recommendation techniques when leveraging the social network and crowd-based paradigms.

Partner logos: gemalto, THALES, 20 years, proDEVELOP, MINES TELECOM, Institut Mines-Télécom, KogSistem, Starhome, Soft 4 ENERGY, mobitera, UNIVERSITÉ de Provence la Vallée, UNIVERSITAT POLITÈCNICA DE VALÈNCIA, it, UNIVERSIDAD DE SEVILLA, VTT, arcellik, Universidad de Alcalá, fara, PlanetMedia, MobiquiThings, Alcatel-Lucent, sense

Figure 2. SITAC leaflet

### 2.3. Public deliverables

Detailed information related to the project progress can be found in the public deliverables. The following table details the current public deliverables of the SITAC project.

<i>Deliverable</i>	<i>Deliverable name</i>	<i>Nature (R - Report; O - Other)</i>	<i>Delivery date</i>
D2.1	<i>SITAC State of the Art</i>	R	15/01/2014
D6.1	<i>Initial Standardisation and dissemination plan</i>	R	15/01/2014

## 2.4. Contributions to conference, events, journals and magazines

The main challenges of SITAC project are oriented to be solved by new technical developments. Thus, it is desirable to report on both the experience learnt within the project and the solutions proposed to different problems with the scientific research community. This will be done in two possible ways: contributions in international journals, conferences, or other events, as well as organizing scientific events on topics related to SITAC.

SITAC consortium aims at publishing its results in leading, high-level international conference proceedings and journals. Additionally, the achieved results will be the basis of books and/or book chapters. Timely publications will improve the project's visibility and enable exploitation of its results.

Additionally, special issues of international journals that include SITAC-related research will further increase the visibility of SITAC worldwide as well as provide a suitable forum to discuss SITAC ideas with the research community.

**Table 1** depicts the main conferences and journals targeted to disseminate the SITAC contributions.

**Table 1. Targeted conferences and journals**

Conferences	Journals
<p><b>IECON:</b> Annual Conference of the IEEE Industrial Electronics Society</p>	<p><b>IEEE:</b> Communications Magazine, Network Magazine,</p>
<p><b>IEEE MASS:</b> International Conference on Mobile Ad-hoc and Sensor Systems</p>	<p>Wireless Communications Magazine, Intelligent Systems, Transactions on Wireless Communications, Transactions on Vehicular Technologies, IoT Journal,</p>
<p><b>IEEE ICC:</b> International Conference on Communications</p>	<p>Transactions on Industrial Electronics, Transactions on Mobile computing , Sensors</p>
<p><b>IEEE GLOBECOM:</b> Global Telecommunications Conference</p>	<p><b>Elsevier:</b> Computer Networks, Computer Communications, Ad hoc Networks, JNCA, Pervasive and Mobile Computing Journal</p>
<p><b>Mobiquitous:</b> International Conference on Mobile and Ubiquitous Systems: Networks and Services</p>	<p><b>Springer:</b> Telecommunication Systems</p>
<p><b>ACM SIGCOMM:</b> Conference on Applications, Technologies, Architectures, and Protocols for Computer Communications</p>	<p><b>ACM/Wiley:</b> Wireless Communications and Mobile Computing Journal, Expert Systems</p>
<p><b>IEEE PiMRC:</b> International Symposium on Personal and Indoor Mobile Radio Conference</p>	
<p><b>IEEE WCNC:</b> Wireless Communications and Networking Conference</p>	
<p><b>ACM MobiWac:</b> International Workshop on Mobility Management and Wireless Access</p>	
<p><b>IEEE INFOCOM:</b> Conference on Computer Communications</p>	
<p><b>IEEE CCNC:</b> Consumer Communications and Networking Conference</p>	
<p><b>IEEE NOMS:</b> Network Operations and Management Symposium</p>	

**IEEE WF-IoT:** World Forum on Internet of Things

**IEEE SECON:** Conference on Sensor, Mesh and Ad Hoc Communications and Networks

**DCIS: International** Conference on *Design of Circuits and Integrated Systems*

**EWSN:** European Conference on Wireless Sensor Networks

**Wireless Days** Conference

**IEEE WiMob:** International Conference on Wireless and Mobile Computing, Networking and Communications

**IEEE GIIS:** Global Information Infrastructure Symposium

**ACM IWCMC:** International Wireless Communications and Mobile Computing Conference

**IFIP Networking**

**AAMAS:** International Conference on Autonomous Agents and Multiagent Systems

**IEEE CBI:** Conference on Business Informatics

## 2.5. Dissemination activities achieved during the first six months of the project

The following tables show the contributions to conferences, journals, standardization activities, and presentations and other events during the first six months of the project.

**Table 2. Contributions to conferences and journals during the first six months of the project**

Partner	Authors	Title	Published on (journal, conference...)	Date	Complementary information (number, issue, publisher, pages...)
Institut Mines-Telecom	Yuanfang Chen, Noel Crespi, Lin Lv, Mingchu Li,  Antonio M. Ortiz, and Lei Shu	Locating using Prior Information: Wireless Indoor  Localization Algorithm	ACM SIGCOMM	August 2013	
Institut Mines-Telecom	Antonio M. Ortiz, Fernando Royo, Teresa Olivares, Noel Crespi, and Luis Orozco-Barbosa	Smart Wireless Design SchemeL: Fuzzy-Logic Routing and TDMA MAC Protocol Integration	ACM MobiWac	November 2013	
Institut Mines-Telecom	Teresa Olivares, Fernando Royo, and Antonio M. Ortiz	An Experimental Tesbed for Smart Cities Applications	ACM MobiWac	November 2013	

**Table 3. Presentations and other events during the first six months of the project**

Name of conference / workshop/ event / other	Type (article/event/journal/presentation/other)	Title	Participant/author	Date	Place/country
4th ETSI M2M WORKSHOP	Workshop	Minimum security requirements for M2M gateway	Pierre Girard, Gemalto	6 November 2013	France
XIII Science Week	Event	Creation of Social Apps for IoT	UAH	5, 6, 12 and 13 November 2013	Alcalá de Henares, Spain
X Technology Entrepreneurs Week	Event	Creation of Social Apps for IoT Workshop	UAH	15 November 2013	Alcalá de Henares, Spain

### 3. Standardisation

This section focuses in the early planning of SITAC project in the standardization area. SITAC has two objectives here: to exploit the latest developments from the standardisation bodies that are relevant for the project, and to actively contribute to standards to promote SITAC's technical outcomes.

There are many standardisation bodies that impact IoT or can be associated with it. SITAC concentrates on the IoT service layer more than the concrete low level communication protocols between devices. We will naturally observe and contribute in these standards in the context of the SITAC project. It is still important to list a representative list of standards that can be used in the context of the project, while providing later on more information on those standards that are directly linked to SITAC innovation domains and in which SITAC members intend to contribute. The following tables summarize the main standardisation bodies for different domains.

#### 3.1. Standard bodies for communications area

The SITAC demonstrators and concrete implementations will rely on existing standards depending on the relevant domains of application. These are enabling standards that we will watch on their evolution.

Domain	sub-domain	Standard body	standards or activities
Wan	Operator managed	3GPP	Cellular networks
		GSMA	M2M remote Subscription management
		BBF	Fixed line networks management
		ETSI	TETRA, E2NA, ATTM (Cellular & fixed line networks)
		WiMAX Forum	
Lan (behind gateway)		Zigbee	Zigbee flavors
		Bluetooth	Bluetooth
		USB forum	Wireless USB
		IEEE	802.xx
		ETSI	PLT, others
		ETSI Smart M2M	Technology abstraction
		IETF	6LoWPAN: Lower layers
			CORE
			CoAP
			ROLL
			HOMENET
			IRTF IoT WG

**Table 4. Target standard bodies for communications area**

### 3.2. Standard bodies for M2M services

The M2M service layer and its relevant associated protocols and standards fall within the main focus of SITAC. Several members contribute directly in these standard bodies and the SITAC project may have a direct impact on the evolution of these standards. More details on these standards are provided in the chapters below.

Domain	sub-domain	Standard body	standards or activities
Service oriented		ETSI Smart M2M	TS 102 689, TS 102 921
		oneM2M Partnership project	In development, expected H2 2014
		GSMA Embedded Mobile	
		OMA	<ul style="list-style-type: none"> <li>• OMA M2M Device Classification</li> <li>• OMA Lightweight M2M protocol</li> <li>• OMA Converged Personal Network Services</li> </ul>
		ITU	<ul style="list-style-type: none"> <li>• Focus Group M2M</li> <li>• GSI (Global Standards Initiative) on IoT</li> </ul>
Device Management		BBF	TR-069
		OMA	DM 1.3, DM 2.0, LWM2M
Security oriented		ETSI M2M	TS 102 690, TS 102 921
		ISO/IEC JTC 1	
Semantics		Initiative EEBUS	

**Table 5. Target standard bodies for M2M services**



### 3.3. Standard bodies for application domains

These are M2M & IoT application domains for which standards already exist or are created. They are considered as vertical applications that can rely on the SITAC architecture and standardized M2M Service layers. We may watch on their evolution and fitness with the SITAC proposed solutions depending on the selected SITAC demonstrators.

Domain	sub-domain	Standard body	standards or activities
Energy	Smart Metering	MODBUS	MODBUS
		M-BUS	M-BUS and Wireless M-BUS : EN 13757-2 ,EN 13757-3
		DLMS	DLMS/COSEM
		SMCG	Smart Metering Coordination Group (between ETSI, CEN and CENELEC) for EC M/441
	Substations	IEC	
		IEEE	
	SCADA	IEC	IEC 62351
	Smart Grid	IEEE	
		SGCG	Smart Grid Coordination Group (between ETSI, CEN and CENELEC) for EC M/490
Health		Continua Health Alliance	
		ETSI	e-Health
Transport		ETSI	TC ITS: Intelligent Transport System managed by roadside infrastructure, see ETSI ITS site
		ISO	ISO 15118
		IEEE	IEEE 1609 (lower layers)
Industrial Control		IEC	IEC 62443

**Table 6. Target standard bodies for applications domain**

### 3.4. Standard bodies for Internet of things area

These standards fall within the main focus of SITAC. Several members contribute directly to these standard bodies and the SITAC project may have a direct impact on the evolution of these standards. More details on these standards are provided in the chapters below.

Domain	sub-domain	Standard body	standards or activities
Identity		ITU IoT-GSI	Object identification definition and management
Non Functional Requirements	Security	ISO/IEC JTC 1	
	Privacy	ISO/IEC JTC 1	
	Accessibility	ISO/IEC JTC 1	
	Interoperability	ISO/IEC JTC 1	
	User-friendly interfaces	ISO/IEC JTC 1	
	System performance	ISO/IEC JTC 1	

**Table 7. Target standard bodies for Internet of things area**

During the first six months of the project, the SITAC consortium has contributed to standardization bodies with the following input:

### 3.5. Contributions to Standards

Some members in the SITAC consortium are involved in standardisation activities and contribute actively to the evolution of certain standards. More details on these standards bodies are given below and related indications about relevant achievements or evolutions will be provided in the future reports on standardisation.

*In SITAC we intend to actively participate and contribute in the following standards committees:*

- ETSI Smart M2M
- OneM2M partnership project
- OMA device management
- OMA LWM2M
- ISO/IEC JTC 1
- ITU IoT-GSI
- GSMA - M2M remote Subscription management

#### 3.5.1. ETSI Smart M2M

ETSI Smart M2M and OneM2M are engaged in standardizing a world-wide M2M service layer that can guarantee the interoperability between the different lower layer standards. This M2M service layer will provide the needed services like data transport, security, devices management and device discovery in a harmonized manner to the application layer. These services will be independent from the underlying communication infrastructure and the deployed standards. In addition to these basic services, a cross vertical semantic support should be included into the service layer capabilities (e.g. data models translations).

ETSI Technical Committee M2M Machine to Machine Communications was created in 2007 to develop a horizontal approach to M2M communication that could be implemented as an overlay to a telecommunication network. The group aimed to provide a cross vertical end-to-end view of Machine to Machine standardization, and co-operated closely with ETSI's activities on Next Generation Networks, and also with the work of the 3GPP standards initiative for mobile communication technologies. Its Technical Specifications are divided in 3 stages:

- 1) Stage 1: Definition of the M2M Service Requirements in ETSI TS 102 689.
- 2) Stage 2: Definition of the M2M Functional Architecture in ETSI TS 102 690.
- 3) Stage 3: Specification of technical aspects of M2M Communications (*m1a*, *d1a* and *m1d* interfaces) in ETSI TS 102 921.

A first release was published at the end of 2011 and the last deliverables of the second release will be published at the end of 2013. Release 2 adds cross service providers communication, enhancements for lightweight (i.e. constrained) devices, and security interoperability including smart-card (UICC) based implementation, optionally with secure channel to trusted device environment, including OTA remote administration capabilities.

The Stage 3 specification includes a description of RESTful-based procedures in order to define how M2M Applications in Device, Gateway or Network (DA, GA, NA) and M2M SCL exchange information with each other. RESTful procedures can then be mapped on standard IETF protocols such as HTTP or CoAP.

Several Technical Reports support the main deliverables in several areas such as Threat Analysis, Interworking with M2M Areas Networks (i.e. deployed MAN/HAN/LAN technologies) or the support of interoperable semantics.

The security may rely on the Access Network provided mechanisms when trusted, on secure channel establishment at the M2M Service Layer (e.g. using TLS), or on data security provided at the object level.

The bootstrapping of security credentials to a multitude of objects across various environments with potentially different constraints in terms of computing resources is addressed in M2M release 1 by offering several options suitable for different scenarios.

The integration of existing protocols for Device Management, i.e. OMA DM 1.x (dominant for mobile networks) and BBF TR 069 (dominant for fixed network) into the M2M platform is also addressed (cf. ETSI TS 101 404 and ETS TS 101 405).

### 3.5.2. OneM2M partnership project

ETSI TC M2M specifications set the ground for international consolidation efforts in M2M standardization within the "OneM2M" partnership formed by ETSI (Europe), ARIB and TTC (Japan), ATIS and TIA (USA), TTA (Korea) and CCSA (China), started at the end of 2012 in an effort to consolidate the horizontal approach to M2M standardization initiated by ETSI at an international level. The organization of the partnership is quite similar to 3GPP.

The oneM2M Partnership Project gathers huge attendance and supports heavy activity with 6 meetings a year and weekly conference calls for its 5 technical working groups:

1. Requirements,
2. Architecture,
3. Protocols,
4. Security
5. (remote) Management, Abstraction and Semantics.

A special "Partner Type 2" status enables vertical specification organizations such as industry fora to participate to the effort, though the success in doing so beyond telecom industry dominated organizations is currently limited. Beyond OMA and BBF which are not M2M focused, the Continua Health Alliance and the Home Gateway Initiative are the major oneM2M Type 2 partners. Political issues have not yet enabled this initiative to receive an ITU endorsement.

The first release of the specifications, which will have a similar scope as the published ETSI work, is expected by the end of 2014. The new specifications will not be backward compatible with ETSI SmartM2M (which will therefore continue to maintain its published specifications) but are expected to better address specific areas identified as shortcoming in the existing ETSI work, such as supporting end-to-end security as a service to M2M applications, and enhanced charging capabilities.

### 3.5.3. ISO/IEC JTC 1

JTC 1 is the standards development environment where experts come together to develop worldwide Information and Communication Technology (ICT) standards for business and consumer applications. Additionally, JTC 1 provides the standards approval environment for integrating diverse and complex ICT technologies. These standards rely upon the core infrastructure technologies developed by JTC 1 centers of expertise complemented by specifications developed in other organizations.

Main mission:

Develop, maintain, promote and facilitate IT standards required by global markets meeting business and user requirements concerning:

- Design and development of IT systems and tools
- Performance and quality of IT products and systems
- Security of IT systems and information
- Portability of application programs
- Interoperability of IT products and systems
- Unified tools and environments
- Harmonized IT vocabulary
- User friendly and ergonomically designed user interfaces

In the context of SITAC we will follow the **ISO/IEC JTC 1/WG 7 Sensor networks** working group. The Electronic Engineering Group of the University of Seville belongs to the AEN/CTN 71 which is the Spanish mirror group to the ISO/IEC JTC 1/WG 7. This group studies the advances developed by the international group in the field of sensor networks and provides feedback according to their experience and expertise.

***In the context of SITAC we will also watch and participate in the new IoT activity:***

JTC 1 approves the revised Terms of Reference for the Special Working Group on Internet of Things (IoT) as follows:

1. Identify market requirements and standardization gaps for IoT;
2. Encourage JTC 1 SCs and WGs to address the need for ISO/IEC standards for IoT;
3. Facilitate cooperation across JTC 1 entities;
4. Promote JTC 1 developed standards relevant to IoT and encourage them to be recognized and utilized by industry and other standards setting organizations;
5. Facilitate the coordination of JTC 1 IoT activities with IEC, ISO, ITU and other organizations that are developing standards for IoT;
6. Periodically report results and recommendations to JTC 1/SWG on Planning;
7. Provide a written report of activities and recommendations to JTC 1 in advance of each JTC 1 Plenary meeting; and
8. Study IoT Reference Architectures/Frameworks and provide a study report. This study report should be written so it could be referenced in a possible JTC 1 New Work Item Proposal on IoT. The report shall be made available to JTC 1 no later than the 2014 JTC 1 Plenary.

### 3.5.4. OMA device management

Device Management refers to the management of device configuration and other managed objects of devices from the point of view of the DM Authorities. DM includes, but is not restricted to setting initial configuration information in devices, subsequent updates of persistent information in devices, retrieval of management information from devices, execute primitives on devices, and processing events and alarms generated by devices.

DM allows network operators, Service Providers or corporate information management departments to carry out the procedures of configuring devices on behalf of the End User (Customer).

OMA DM 2.0 is the next generation of the OMA DM 1.x Protocol, and provides the interface between the DM Server and the DM Client to manage the device. OMA DM 2.0 leverages a RESTful architecture for scalability and management performance, and is also designed to work efficiently on less capable devices.

### 3.5.5. OMA LWM2M (Lightweight M2M)

This enabler defines the application layer communication protocol between a LWM2M Server and a LWM2M Client, which is located in a LWM2M Device. The OMA Lightweight M2M enabler includes device management and service enablement for LWM2M Devices. The target LWM2M Devices for this enabler are mainly resource constrained devices. Therefore, this enabler makes use of a light and compact protocol as well as an efficient resource data model.

A Client-Server architecture is introduced for the LWM2M Enabler, where the LWM2M Device acts as LWNM2M Client and the M2M service, platform or application acts as the LWM2M Server.

### 3.5.6. ITU IoT-GSI

ITU's Telecommunication Standardization Sector (ITU-T) and its membership are at the forefront of standards development and coordination of the Internet of Things, with activities across all domains of the IoT.

The Global Standards Initiative on Internet of Things (IoT-GSI) promotes a unified approach in ITU-T for development of technical standards (Recommendations) enabling the Internet of Things in a global scale. ITU-T Recommendations developed under the IoT-GSI by the various ITU-T questions –in collaboration with other standards developing organizations (SDOs)- will enable worldwide service providers to offer the wide range of services expected by this technology. IoT-GSI also aims to act as an umbrella for IoT standards development worldwide.

The IoT-GSI aims to accomplish the following objectives through meetings and related activities involving groupings of rapporteur groups working on the IoT:

- Develop a definition of "Internet of Things (IoT)".
- Provide a common working platform by collocating meetings of IoT-related rapporteur groups.
- Develop the detailed standards necessary for IoT deployment, taking into account the work done in other standards development organizations (SDOs).

The main ITU-T Study Groups oriented to IoT developments are as follows:

- SG2 (Operational aspects of service provision and telecommunications management). Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunication services.
- SG3 (Tariff and accounting principles including related telecommunication economic and policy issues). Development of charging and accounting/settlement mechanisms for international telecommunications services using the Next Generation Networks (NGNs) and any possible future development, including adaptation of existing D-series Recommendations to the evolving user needs.
- SG11 (Signaling, requirements, protocols and test specifications). Internet of Things test specifications; signaling and protocol architectures in emerging telecommunication environments; signaling requirements and protocols for service and application in emerging telecommunication environments; signaling requirements and protocols for Bearer and Resource control in emerging telecommunication environments; guidelines for implementation of signaling requirements and protocols; signaling and control requirements and protocols for network attachment supporting multi-screen service, future networks and M2M; monitoring parameters for protocols and emerging networks; service and networks benchmarking measurements.
- SG13(Future networks including mobile and NGN). Service scenarios, deployment models and migration issues based on convergence services; requirements for NGN evolution (NGN-e) and its capabilities including support of IoT and use of software-defined networking; functional architecture for NGN evolution (NGN-e) including support of IoT and use of software-defined networks; evolution of user-centric networking,

services, and interworking with networks of the future including Software-Defined Networking; requirements and mechanisms for network QoS enablement including support for software-defined networks.

- SG17 (Security). Security aspects of ubiquitous telecommunication services; identity management architecture and mechanisms.

### 3.5.7. GSMA - M2M remote Subscription management

The GSMA's Embedded SIM delivers a technical specification to enable the remote provisioning and management of Embedded SIMs to allow the "over the air" provisioning of an initial operator subscription and the subsequent change of subscription from one operator to another.

Key to the commercial success of this new SIM is for the entire ecosystem to adhere to one common industry standard to achieve economies of scale. To achieve this the GSMA, the mobile network operators and SIM manufacturers are working on the delivery of a common, secure, interoperable architecture, elements of which will be certified to guarantee the secure encryption and transportation of operator credentials.

Through the GSMA, mobile network operators and SIM manufacturers from around the world have come together to establish a globally accepted specification.

Participating companies are:

- AT&T
- China Mobile
- China Unicom
- Deutsche Telekom
- Gemalto
- Giesecke & Devrient
- Morpho
- NTT DOCOMO
- Oberthur
- Orange
- Telecom Italia
- Telefonica
- Telenor
- Vodafone.

It is not the intention for the Embedded SIM to replace the removable SIM currently used, as it still offers many benefits to users and operators in a number of different ways

The Embedded SIM solution shall be designed to enable new business opportunities, e.g. in M2M segments, while keeping the proven benefits of the current UICC.

Any function, feature or service which is possible on a current UICC shall be possible on the eUICC.

- The Machine-to-Machine use cases are described in GSMA Embedded SIM Task Force Requirements and Use Cases Version 1.0.
- The Embedded SIM architecture is described in GSMA Embedded SIM Remote Provisioning Architecture Version 1.1.
- The Embedded SIM technical specification is described in GSMA Remote Provisioning Architecture for Embedded UICC Technical Specification Version 1.0.
- The Embedded SIM – Accelerating growth and operational efficiency in the M2M world – benefits and market opportunity, an explanatory slide presentation are described in GSMA Embedded SIM presentation.

The GSMA current specifications were issued in December 2013 integrating the contributions from the above partners. The GSMA will promote this specification on Q1 2014 and ETSI will also analyze it during 2014 but it is difficult at this stage to define when it may become an official standard issued by ETSI.

Due to this “change of ownership” between the specification and the standard, there is a possibility that current proposed specification may evolve or change when it is moved to ETSI.

In SITAC we intend to experiment with several variants of the specification and use this learnt experience in the next phases of a possible standard publication.

### 3.5.8. Other standardisation activities done during the first six months of the project

Partner	Authors	Title	Published on	Date
Institut Mines-Telecom	Gyu Myoung Lee, Woo Seop Rhee and Noel Crespi	Proposal of a new work item on social and device networking	ITU-T, Q11-13-May13-C-08	June 2013

## 4. Conclusions

Deliverable D6.1 is the first standardisation and dissemination plan of the SITAC project. It presents an introduction that details the main objectives and expected results within the project, as well as the scope of the WP6 and the presentation of its deliverables.

The dissemination strategy is then described, detailing several elements such as the SITAC website, leaflet, flyers and brochures, public deliverables, and contributions to conferences, journals and other events. A full list of already launched contributions is also given.

Furthermore, the standardisation plan is also described, as well as the target standard bodies and the contributions regarding standardisation.

All the dissemination activities will be reported on a regular basis in the SITAC website, as well as in the second release of D6.1 (month 15) and in the final report on standardisation and dissemination (D6.4, month 36).