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**Email of secretary:** [lrajchel@ansi.org](mailto:lrajchel@ansi.org)

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**ISO/IEC JTC 1/WG 7  
Working Group on Sensor Networks**

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ISO/IEC JTC 1/WG 7 Convenor:

Dr. Yongjin Kim, Modacom Co., Ltd (Email: cap@modacom.co.kr)

ISO/IEC JTC 1/WG 7 Secretariat:

Ms. Jooran Lee, Korean Standards Association (Email: jooran@kisi.or.kr)

# **BUSINESS PLAN FOR ISO/IEC JTC 1/WG 7**

## **Sensor Networks**

Period Covered: September 2012 – August 2013

Submitted by: Yongjin KIM (Convenor)

### **1. MANAGEMENT SUMMARY**

#### **1.1 STATEMENT OF SCOPE**

JTC 1/WG 7 recommends its revised ToR as follows (See **the bold letters**):

1) In the area of generic solutions for sensor networks, undertake standardization activities that support and can be applied to the technical work of all relevant JTC 1 entities and to other standards organizations. This includes activities in sensor networks such as the following:

- a) Standardization of terminology.
- b) Development of a taxonomy.
- c) Standardization of reference architectures.
- d) Development of guidelines for interoperability.

#### **e) Standardization of specific aspects of sensor networks**

2) In the area of application - oriented sensor networks, identify gaps and commonalities that may impact standardization activities within the scope of JTC 1. Further, share this information with relevant entities within and outside of JTC 1. Unless better pursued within another JTC 1 entity, the following standardization activities may be pursued as projects by this Working Group:

- a) Addressing the technology gaps within the scope of JTC 1 entities.
- b) Exploiting technology opportunities where it is desirable to provide common approaches to the use of sensor networks across application domains.

#### **c) Addressing emerging areas related to M2M and IoT**

3) In order to foster communication and sharing of information between groups working in the field of sensor networks:

- a) Seek liaison relationships with all relevant JTC 1 SCs/WGs.
- b) Seek liaison relationships with other organizations outside JTC 1 including but not limited to: relevant ISO TCs, IEC TCs and ITU-T SGs, IEEE 1451, IEEE 1588, IEEE P2030, IEEE

802.15, Open Geospatial Consortium, ZigBee Alliance, IETF 6LoWPAN, IETF ROLL WG, ETSI, IPSO Alliance, EPCglobal, ISA 100, LONMARK, KNX Association, Zwave Alliance.

c) Consider the possibility of conducting joint projects with relevant ITU-T SG.

d) Seek input from relevant research projects and consortia.

## 1.2 ORGANIZATION

WG 7 is a WG directly under the JTC 1.

WG 7 has 2 meetings per year, and has the following meeting schedule for 2013 to 2014:

Year	Date	Venue
2013	17-21 March	Abu Dhabi, UAE (Co-located with OGC)
2013	September	TBA
2014	March	TBA
2014	September	TBA

## 1.3 PROJECT REPORT

WG 7 has the following 9 projects under development:

ISO/IEC Designation #	Title	Scope	Current Status
ISO/IEC 29182 Part 1	Sensor Network Reference Architecture (SNRA) – Part 1: General overview and requirements	General overview of and the requirements identified for the Sensor Network Reference Architecture	DIS
ISO/IEC 29182 Part 2	Sensor Network Reference Architecture (SNRA) – Part 2: Vocabulary and Terminology	Terms and definition of selected concepts relevant to the field of sensor networks	DIS
ISO/IEC 29182 Part 3	Sensor Network Reference Architecture (SNRA) – Part 3: Reference architecture views	Architecture views including business, operational, systems, and technical views which are presented in functional, logical, and/or physical where applicable	DIS
ISO/IEC 29182 Part 4	Sensor Network Reference Architecture (SNRA) – Part 4: Entity models	Models for the entities comprising a sensor network according to the Sensor Network Reference Architecture (SNRA)	DIS
ISO/IEC 29182 Part 5	Sensor Network Reference Architecture (SNRA) – Part 5: Interface definitions	Definitions of SN interfaces among the entity models in the reference architecture and covers the following aspects: <ul style="list-style-type: none"> <li>• General description of SN interfaces</li> <li>• Functional requirements of SN interfaces</li> </ul>	DIS
ISO/IEC 29182 Part 6	Sensor Network Reference Architecture (SNRA) – Part 6: Application Profiles	<ul style="list-style-type: none"> <li>• Functional blocks and components of a generic sensor network,</li> <li>• Distinct characteristics of each component,</li> <li>• Generic sensor network reference architecture incorporating the relevant sensor network-related base standards to support interoperability and data interchange</li> </ul>	WD
ISO/IEC 29182 Part 7	Sensor Network Reference Architecture (SNRA) – Part 7: Interoperability guidelines	<ul style="list-style-type: none"> <li>• Overview of interoperability for heterogeneous sensor networks,</li> <li>• Guidelines for interoperability between heterogeneous sensor networks</li> </ul>	CD
ISO/IEC 20005	Services and Interfaces Supporting Collaborative Information Processing in Intelligent Sensor Networks	<ul style="list-style-type: none"> <li>• CIP functionalities and CIP functional model</li> <li>• Common services supporting CIP</li> <li>• Common service interfaces to CIP</li> </ul>	DIS

ISO/IEC 30101	Sensor Network and its Interface for Smart Grid System	<ul style="list-style-type: none"> <li>• Interfaces between the sensor networks and other networks,</li> <li>• Sensor network architecture to support smart grid systems,</li> <li>• Interface between sensor networks with smart grid systems,</li> <li>• Sensor network based emerging applications and services to support smart grid systems,</li> <li>• Visualization of sensors/devices status and data/information flow in large scalable heterogeneous network systems, for example, geospatial information systems</li> </ul>	WD
ISO/IEC 30128	Sensor networks application interfaces	<ul style="list-style-type: none"> <li>•</li> </ul>	WD

## 1.4 COOPERATIONS WITH OTHER ORGANIZATIONS

[Internal liaison within ISO/IEC JTC 1]

ISO/IEC JTC 1/SC 6

ISO/IEC JTC 1/SC 25

ISO/IEC JTC 1/SC 27

ISO/IEC JTC 1/SC 31

ISO/IEC JTC 1/SC 32

ISO/IEC JTC 1/SC 36

ISO/IEC JTC 1/SC 37

[Internal liaison within ISO/TCs and IEC/TCs]

ISO/TC 211

IEC/TC 65

IEC/TC 100

[External - Category C liaison]

OGC (Open Geospatial Consortium)

IEEE Instrumentation and Measurement Society TC 9

## 2. PERIOD REVIEW

### 2.1 MARKET INITIATIVES

In an era of ubiquitous network access, machine to machine communications as well as man to man and man to machine communications will be emerging as a blue ocean in Information and Communications Technology markets. Market segments and application areas for Sensor Networks' are vast and diverse with regard to both horizontal and vertical markets.

From the horizontal point of view, JTC 1/WG 7 will undertake standardization activities for generic solutions in such area as terminology and reference architectures in order to improve interoperability for overall sensor networks applications.

For the vertical markets, countless market areas are related to sensor networks, but those of interest initially include the following:

- Energy and Utility (e.g. Smart Grid System)
- Environment observation, forecast, and protection (e.g. Climate Change)
- Logistics and Supply Chain management
- Health care Medical applications at home and in hospital
- Intelligent Transportation and Traffic
- Defence and Military applications
- Asset management

## **2.2 ACHIEVEMENTS**

A NP was approved by JTC 1 (ISO/IEC NP 30128) in March 2012.

A PWI was initiated on Sensor network management.

Their current status is shown in 1.3 PROJECT REPORT.

## **3. FOCUS DURING NEXT WORK PERIOD**

### **3.1 DELIVERABLES**

Development of IS of ISO/IEC 29182 Part 1, Part 2 and ISO/IEC 20005

Development of DIS of ISO/IEC 29182 Part 3, Part 4 and Part 5.

Development of CD of ISO/IEC 29182 Part 6 and Part 7

Development of CD of ISO/IEC 30101

Development of CD of ISO/IEC 30128

### **3.2 STRATEGIES**

Encourage more contributions from JTC 1 members to development of WG 7 current projects.

Speed up development process of ISO/IEC 30101

Explore opportunities related to sensor networks in the following areas:

- Internet of Things (IoT)
- Cyber Physical Systems (CPS)
- Machine-to-Machine (M2M)
- Sensor Networks (SN) interfaces to other types of networks, e.g., cellular networks, satellite networks

### **3.3 OPPORTUNITIES**

Develop more new work items on sensor networks to meet market requirements

### **3.4 CHALLENGES**

Ensuring an effective and timely working relationship among WG 7 members to make it possible to complete the present WG 7 projects and produce high quality documents in the most speedy fashion.

Establish a liaison with other organizations described in the ToR of WG 7.