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

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BUSINESS PLAN FOR ISO/IEC JTC 1/WG 7

Sensor Networks

Period Covered: September 2013 – August 2014

Submitted by: Yongjin KIM (Convenor)

1. MANAGEMENT SUMMARY

1.1 STATEMENT OF SCOPE

The revised ToR of JTC 1/WG 7 was approved at the JTC 1 Jeju Plenary meeting in 2012 as follows:

Terms of Reference

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 2030, 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 2014:

Year	Date	Venue
2014	25 – 28 March (Tuesday – Friday)	London, UK (BSI)
2014	29 September – 2 October (Monday – Thursday)	Republic of Korea

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	IS
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	IS
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	FDIS
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)	IS
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: • General description of SN interfaces • Functional requirements of SN interfaces	IS
ISO/IEC 29182	Sensor Network Reference	• Functional blocks and components of a generic se	DIS

Part 6	Architecture (SNRA) – Part 6: Applications	nsor network, • Distinct characteristics of each component, • Generic sensor network reference architecture inc orporating the relevant sensor network-related ba se standards to support interoperability and data i nterchange	
ISO/IEC 29182 Part 7	Sensor Network Reference Architecture (SNRA) – Part 7: Interoperability guidelines	• Overview of interoperability for heterogeneous se nsor networks, • Guidelines for interoperability between heterogen eous sensor networks	DIS
ISO/IEC 20005	Services and Interfaces Supporting Collaborative Information Processing in Intelligent Sensor Networks	• CIP functionalities and CIP functional model • Common services supporting CIP • Common service interfaces to CIP	IS
ISO/IEC 30101	Sensor Network and its Interface for Smart Grid System	• Interfaces between the sensor networks and other networks, • Sensor network architecture to support smart grid systems, • Interface between sensor networks with smart gri d systems, • Sensor network based emerging applications and services to support smart grid systems, • Visualization of sensors/devices status and data/i nformation flow in large scalable heterogeneous n etwork systems, for example, geospatial informati on systems	DIS
ISO/IEC 30128	Generic Sensor Network Application Interface	• Description of generic sensor network application operations • Description of sensor network capabilities • Generic sensor network application interface	DIS

1.4 COOPERATIONS WITH OTHER ORGANIZATIONS

[Internal liaison within ISO/IEC JTC 1]

ISO/IEC JTC 1/SWG 5

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
- Underwater acoustic sensor networks

2.2 ACHIEVEMENTS

5 International Standards of JTC 1/WG 7 were published in 2013.
The JTC 1/WG 7 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 3 and Part 7
Development of DIS of ISO/IEC 29182 Part 6
Development of DIS of ISO/IEC 30101
Development of DIS of ISO/IEC 30128

3.2 STRATEGIES

Encourage more contributions from JTC 1 members to development of WG 7 current projects.
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 and M2M/IoT 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.