

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

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## **Liaison Statement from ISO/IEC JTC 1 WG 7 to IEC TC 57**

### **Introduction**

During JTC 1 / WG 7 Meeting in Gaithersburg, Maryland in USA, 23-27 August 2010, it is recommended JTC 1 / WG 7 ("WG7" hereafter) to liaise with IEC TC 57 ("TC57" hereafter). WG 7 currently has the following three projects:

1. ISO/IEC 29182 – Sensor Network Reference Architecture
2. ISO/IEC NP 20005 – Specification of Data Value Domain Services and Interfaces Supporting Collaborative Information Processing in Intelligent Sensor Networks
3. ISO/IEC NP 30101 – Sensor Network and its Interface for Smart Grid System

Scope of each project is listed later in this liaison statement under "WG7's Current Projects." WG7 believes that the above projects, especially, ISO/IEC NP 30101, can benefit both organizations. Therefore, WG7 requests to establish Category C liaison with TC57.

### **History of WG 7**

At the JTC1 plenary in Tel Aviv in 2009 JTC1 formally approved the establishment of a working group on sensor networks directly under JTC1.

### **Resolution 34 - Establishment of JTC 1 Working Group 7 on Sensor Networks**

Sensor networks are being widely used across a whole sphere of applications; it is important for JTC 1 to undertake standardization in the area of generic solutions for sensor networks and application-oriented sensor networks within the overall scope of JTC 1. To this end, JTC 1 establishes JTC 1 Working Group 7 on Sensor Networks with the following terms of reference:

- 1) In the area of generic solutions for sensor networks, undertake standardization activities that support and apply to the technical work of all relevant JTC 1 entities and to other standards organizations. This would include 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.
- 2) In the area of application-oriented sensor networks, identify gaps and commonalities as they 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.
- 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.
- 4) Membership in the Working Group is open to representatives from all National Bodies, JTC 1 liaisons and JTC 1 approved PAS submitters.

### **WG7's Current Projects**

- a) ISO/IEC 29182 "Sensor Network Reference Architecture"

Scope: This multi-part International Standard specifies generic and generalized reference architecture for sensor networks. It guides both horizontal and vertical applications of sensor networks providing an ability to be tailored to meet specific requirements.

- ISO/IEC 29182 Part 1 – General overview and requirements
- ISO/IEC 29182 Part 2 – Vocabulary and terminology
- ISO/IEC 29182 Part 3 – Reference architecture views
- ISO/IEC 29182 Part 4 – Entity models
- ISO/IEC 29182 Part 5 – Interface definitions
- ISO/IEC 29182 Part 6 – Application profiles
- ISO/IEC 29182 Part 7 – Interoperability guidelines

- b) ISO/IEC NP 20005, "Specification of Data Value Domain Services and Interfaces Supporting Collaborative Information Processing in Intelligent Sensor Networks"

Scope: This international standard specifies services and interfaces supporting collaborative information processing (CIP) in intelligent sensor networks which includes:

- CIP functionalities and CIP functional model
- Common services supporting CIP
- Common service interfaces to CIP

- c) ISO/IEC NP 30101, "Sensor Network and its Interface for Smart Grid System"

Scope: The project will work within the scope of JTC1 to investigate how sensor networks can support Smart Grid technologies for power generation, distribution, networks, energy storage, load efficiency, control and communications and associated environmental

challenges. It will characterize the requirements for sensor networks to support these applications. Data from sensors in Smart Grid systems is collected, transmitted, published and acted upon to ensure efficient coordination of the various systems and subsystems. The intelligence derived through the sensor networks supports synchronization, monitoring and responding, command and control, data/information processing, security, information routing, and human-grid display/graphical interfaces.

This standard will specify the:

- interfaces between the sensor networks and other networks
- sensor network architecture to support smart grid systems
- interface between sensor networks with smart grid systems
- sensor network based emerging applications and services to support smart grid systems
- visualization of sensors/devices status and data/information flow in large scalable heterogeneous network systems, for example, geospatial information systems