Document type: Business Plan

Title: SC 41 Business Plan and Dashboard 2017

Status: This document is circulated for review and consideration at the October 2017 JTC 1 meeting in Russia.

Date of document: 2017-08-30

Source: SC 41 Chair

Expected action: ACT

Action due date: 2017-10-02

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Committee URL: http://isotc.iso.org/livelink/livelink/open/jtc1
BUSINESS PLAN FOR JTC 1/SC 41
Internet of Things and related technologies

PERIOD COVERED: November 2016 – June 2017

1 Executive Summary

JTC 1 created SC41 with a systems committee mandate at its November 2016 plenary. The Work Program of JTC 1/WG7 and WG10 was transferred to SC41 at the beginning of its May 2017 Plenary. This business plan report will thus essentially cover only the output of the first plenary of SC41.

For SC41 current performance and highlight please refer to the dashboard also in annex. Please note that the dashboard is incomplete since the work program was only transferred to SC 41 at the end of the period covered by this business plan.

2 Chairman’s Remarks

2.1 Market Requirements, Innovation

The Internet of Things (IoT) is defined in ISO/IEC CD 20924 as:

..an infrastructure of interconnected objects, people, systems and information resources together with intelligent services to allow them to process information of the physical and the virtual world and react.

The IoT brings value as part of a system. IoT systems have the following main characteristics:

- Network centric
- Distributed, with distributed processing (Mist/object computing, fog/edge computing and cloud computing)
- Data intensive
- Include ‘Smart’ objects (Autonomous or semi-autonomous)
- Machine to Machine (M2) intensive (networking and transactional)

Some of these systems, or more precisely systems of systems, are also socio-technical. An example of this is a smart city.

As we can see in Figure 1, the IoT is a horizontal technology that is impacting, and disrupting, many application domains in our global society.

Another characteristic of many IoT systems is heterogeneity. This is because of the large number of technologies that are in use and also because of the large number of suppliers of IoT products and services. This characteristic is there to stay not only because of the large scope of requirements for IoT systems but also because the continuous evolution of these technologies.

Finally, IoT systems incorporate other “smart ICT” such as Big Data and Analytics including learning systems and other AIs.
This is why SC41 was created as a systems committee: to fulfill its mandate, it will have to work cooperatively with other JTC 1, ISO and IEC entities as well as with many SDO’s.

Given the IoT characteristics that have been listed previously, SC41 needs to concentrate on technology agnostic frameworks and standards, and also to publish standards that would help bridge IoT technology with its wide range of application domain.

A first cut at ‘SC41 space’ is illustrated in Figure 2.
2.2 Accomplishments

SC41 held its first founding plenary in Seoul on May 28 to June 2, 2017. 73 delegates from 15 countries and 3 SDO’s attended the Plenary. The Plenary included a full day (Sunday the 28th of May) of Business and strategic planning. The key accomplishments were:

- Creation of a new organizational structure
- Creation of an AG
- Creation of six (6) Study Groups
- Four A liaison recommended to JTC 1
- Progression of all (8) current projects inherited from WG7 and WG10
- Consideration of eight (8) NWIPs
- Decision to have two plenaries per year, integrated with WG and SG meetings. The second plenary meeting will include a full day of business and strategic planning.
- Hosts (many to be confirmed) have been found for all meetings till the first plenary 2020

SC41 has, as of 2017-08-20, 21 participating members and 8 observing members (Figure 3), as well as 5 A liaison.

![Participating Members and Observing Members of SC41](image)

Figure 3 Participating and observing members of SC41

An overview of the existing SC41 collection of standards as of 2017-06-01, inherited from the former JTC 1/WG 7 and WG10, can be found in figure 4. Noteworthy is, under ‘IoT identification’, the presence of SC31 IoT standards. Many of these stable standards were created by SC31 in cooperation with the IEEE.
Noteworthy in Figure 3 is, under ‘IoT identification’, the presence of SC31 IoT standards. Many of these stable standards were created by SC31 in cooperation with the IEEE. In JTC 1, SC41 is aware of the following IoT related activities:

- JTC 1/SC6 (SG on LPWAN for Health Care Applications)
- JTC 1/SC24 (SG on wearables)
- JTC 1/SC 25 (WG1 on home automation)
- JTC 1/SC 27 (SG on IoT Security)
- JTC 1/ SC 29 (SG on IoMT)
- JTC 1/SC31 (Standards on IoT identification)

As mentioned, SC41 intends to work cooperatively with these JTC 1 entities to fulfill its systems integration mandate.

2.3 Resources

SC41 has sufficient resources for its present program of work, even if this will always remain a continuous challenge. SC41 will try to leverage as much as possible the resource of other JTC 1, ISO and IEC entities as well as SDO’s through cooperative work.

2.4 Competition and Cooperation

The full SC41 Membership list, including all external and internal liaisons can be found on the IEC Website. SC41 is making a conscious effort to increase co-operation with other standards groups by establishing an extensive network of liaisons both internal and external to JTC 1.
3 Work Program

3.1 Structure

SC41 Work Program is done in three working groups that were created at the end of the SC41 plenary, as illustrated in Figure 5. Six Study Groups, listed on the attached dashboard, were also created. These working groups operate under a governance structure that is centred on an Advisory Group (AG) chaired by the SC41 Chair and whose membership include the Secretary, the WG Conveners, the P members and the A liaison. As mentioned previously, two plenary and working groups meetings are held each year, the first one being with a full day AG were strategic planning is done.

![Figure 5 SC41 Structure](image)

3.2 WG3 – IoT Architecture

WG3 was created as follows:

- **Terms of reference:** Standardization in the area of IoT vocabulary, architecture, and frameworks,
- **Assigned Standards:** 29182-1, 2, 3
- **Projects:** 30141; 20924;

3.3 WG4 – IoT Interoperability

WG4 was created as follows:

- **Terms of reference:** Standardization in the area of IoT interoperability, connectivity, conformance and testing,
- **Assigned Standards:** 19637, 29182-7
- **Projects:** 21823-1

3.4 WG5 – IoT Applications

WG5 was created as follows:

- **Terms of reference:** Standardization in the area of IoT applications, Uses Cases, IoT platforms, middleware, tools and implementation guidance.
- **Assigned Standards:** 29182-4,5,6; 20005; 30101; 30128
- **Projects:** 22417; 22560; 30140-1,2,3,4
JTC 1/SC41 DASHBOARD
2017-06-01

Systematic Reviews

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PRODUCTION

MEETING ATTENDANCE

NWIs

- Interoperability for Internet of Things Systems — Part 2: Network connectivity
- Internet of Things (IoT) - Interoperability for Internet of Things Systems - Part 3: Semantic interoperability

STUDY GROUPS

- Wearables
- Trustworthiness
- Industrial IoT
- Edge Computing
- Real-time IoT
- Aspects of IoT Use Cases