Update on SEG 7 and SEG 8

Prepared for IEC TC 100 AGS by Kate Grant

SEG 7 meeting in Tokyo August 2017

- Meeting held to finalise report to IEC SMB
- Reviewed **AC/22/2017 -**Systems Activities: the AC that crystallises the proposals for IEC systems work in the future and new entities such as SRDs, contributing members etc.
- Compared proposed definitions for Smart Manufacturing, SEG members asked to provide comments by 9th October
  - 1) from ISO SMCC
  - 2) modified by SEG 7
  - 3) further modified by German NC

SEG 7 revised definition Version 2:

- Manufacturing that improves its performance with integrated and intelligent use of processes and resources in cyber, physical and human spheres to create and deliver products and services, which also collaborates with other domains within an enterprise's value chain and improves its performance aspects."
- *Note 1:* Performance aspects include agility, efficiency, safety, security, sustainability or any other performance indicators identified by the enterprise.
- *Note 2:* In addition to manufacturing, other enterprise domains can include engineering, logistics, marketing, procurement, sales or any other domains identified by the enterprise

SEG 7: 6 recommendations to SMB

- **A.1 -** For the purposes of harmonizing and advancing Smart Manufacturing activities in the IEC, SEG 7 on Smart Manufacturing recommends establishing a new Systems Committee titled Smart Manufacturing as justified by the market overview, business case and national initiatives, etc.
- **A.2 -** SEG 7 Smart Manufacturing recommends for approval the initial scope for the SyC Smart Manufacturing as:
- *To provide coordination and advice in the domain of Smart Manufacturing to harmonize and advance Smart Manufacturing activities in the IEC, other SDOs and Consortia according to clause 2 in AC/22/2017.*
- **A.3 -** SEG 7 recommends that the SMB accept the defined functions and anticipated deliverables detailed in Recommendation A.3 of this report as tasks proposed to be executed by the SyC, and confirmed by the SyC within 12 months of their appointment.
- **A.4 –** SEG 7 recommends the formation of a Joint ISO/IEC "Smart Manufacturing Standards Map" Task Force per the recommendation of the ISO TMB/Smart Manufacturing Coordinating Committee (SMCC) – (Ref: ISO/TMBG/SMCC N 71).
- **A.5 –** SEG 7 recommends that the on-going work within IEC and ISO, relating to Smart Manufacturing be recognized and supported by the SyC.
- **A.6 -** SEG 7 recommends that the SMB disband SEG 7 effective at the first meeting of the new SyC Smart Manufacturing.

Potential timetable for SyC Smart Manufacturing

- Could be initiated with first meeting between March and June
- Aim to have 2 meetings in 2018
- 1 per year thereafter, half day meeting and broader for 2 days.
- Significant liaison/coordination activity envisaged
- Input to Tokyo meeting from:
  - Update on use case study of unified reference model
  - JTC 1 SC41, P2413, ISO SMCC, JWG 21 (between IEC TC65 and ISO TC184)
  - NC reports on relevant national activities

SEG 8 Communication Technologies and Architectures of Electrotechnical Systems

- First meeting in Germany 29th -30th June
- Next meeting 1st -3rd November
- Main task is to co-ordinate adoption of communication technologies within IEC, to avoid committees working in different fields adopting incompatible solutions.
- 1-page “flyer” inviting participation prepared
- Deliverable 1 of SG 9 provided a number of use cases for which communication requirements were listed according to the matrix developed by SG 9; this will be reviewed.
- SG9 Deliverables 2 and 3 will also be reviewed and updated as necessary

Scope reviewed and submitted for SMB approval

1. Develop and execute a process for including communication system aspects (such as interfaces, data models and behaviours) into existing and new IEC deliverables.
2. Monitor new or emerging communication technologies and architectures that are specified or standardized outside the IEC (e.g. 5G, Low Power Wide Area Networking, Deterministic Networking, Edge Computing/Intelligence, Management & Orchestration, and others).
3. Monitor new market trends (e.g. IT/OT convergence) and analyse new business and development models (e.g. Open Source, DevOps) related to communication technologies and assess their impact on IEC activities.
4. Take into account additional essential aspects of communication technologies such as security, reliability, safety, privacy, energy efficiency, and others.
5. Evaluate the impact of these technologies, architectures and trends on current and foreseen IEC work, in particular on systems related activities, and engage with the concerned IEC committees by raising awareness and making technical recommendations.
6. Identify key standardization stakeholders external to the IEC and define appropriate engagement models, where required, to ensure IEC requirements are being addressed.
7. Be the IEC focal point for spectrum management related issues and coordinate with ITU-R and regional spectrum policy organizations.
8. Evaluate gaps in standardization of communication technologies based on requirements provided by selected IEC use cases, and take appropriate actions within the IEC or through collaboration with external bodies.
9. Review the current status of relevant TC/SC work in the IEC to identify any duplication of work or potential inconsistencies.
10. Define a structure for the coordination of cross TC/SC work in the IEC and with external bodies, where required.
11. Recommend to the SMB the appropriate long term structure to sustain the effective adoption and/or standardization of communication technologies across the IEC.

Proposed Deliverables and relation to scope

Deliverable number	Deliverable name	Scope items addressed
D1	Process for including communication technologies within the IEC	(1), (9), (10)
D2	Monitoring and impact assessment of emerging technologies and architectures	(2), (4), (5)
D3	Monitoring and impact assessment of market trends and business and development models	(3), (4), (5)
D4	Assessment and strategy for external organizations	(6), (8), (10)
D5	Assessment and strategy for IEC committees	(6), (8), (9), (10)
D6	Gap analysis on standardization of communication technologies	(8)
D7	Proposals for dedicated spectrum to ITU-R and regional spectrum policy organizations	(7)
D8	Survey assessment on spectrum needs within the IEC	(7)
D9	Interim and final reports to SMB	(11)

Working Groups established

WG number	WG name	Assigned deliverables
WG 1	Trend monitoring	D2, D3
WG 2	Collaboration	D4, D5, D6
WG 3	Spectrum policy	D7, D8

Flyer

- See separate document