	ISO/IEC JTC 1/SWG 5 **Internet of Things (IoT)** **Secretariat: KATS (Korea, Republic of)**

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Email of secretary: khj@etri.re.kr

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ISO/IEC JTC 1 SC 31

SC31 Contribution to
JTC 1-SWG-5 IoT

March 2013

ISO JTC1 IEC
INFORMATION TECHNOLOGY STANDARDS

SC31 Business

- Develop technology standards for AIDC
- Includes
  - Bar Codes (1D/linear and 2D/ Matrix symbols)
  - RFID
  - RTLS
  - Mobile devices and sensor interfaces
  - Security

Ongoing Implementations

Opportunities in "B2C" Mobile Commerce
supported by:

ISO/IEC 15415, 15424, 18004 (among others) for bar code AIDC technology

Opportunities in "Ticketing & Boarding Passes"
supported by:

ISO/IEC 15415, 15424, 24778 (among others) for bar code AIDC technology

Ongoing Implementations

Solutions for Patient Safety and Healthcare Logistics
provided by:
ISO/IEC 15415, 15416, 15417, 15420, 15424 & 16022, 16390, 24724
(among others) for bar code AIDC technology

Expansion in CPG / Retail Manufacturing and Supply Chain
supported by:
ISO/IEC 15415, 15416, 15420, 15424 & 16022, 16390, 24724 (among others) for bar code AIDC technology

Ongoing Implementations

Nearing the 40th Anniversary of AIDC in the FMCG Retail Supply Chain…

…on June 26, 1974, the first UPC bar code was scanned on a package of Wrigley's chewing gum at a Marsh supermarket in Ohio…

…supported by **ISO/IEC 15416, 15420 & 15426** (among others) for bar code AIDC technology

Outreach, Recognition, Cooperation

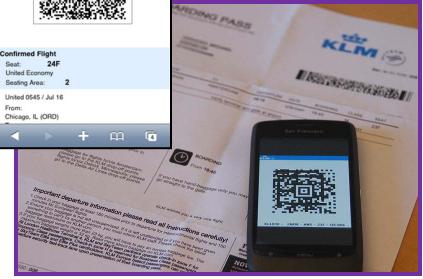**OCR (Optical Character Recognition) Print Quality Criteria**

Guidance for Bar Code Symbols on Mobile Phone Displays

ISO/IEC JTC 1/SC 31/WG 1 work on **ISO/IEC 16480** on **Reading and display of ORM by mobile devices**

ISO/IEC JTC 1/SC 31/WG 1 working together with **ISO/IEC JTC 1/SC 17/WG 3**

2012 JTC 1 Plenary

SC 31 and IoT

- SC 31 standards are data collection and identity data

- The information that drives IoT will be overwhelmingly collected/generated by an SC 31 technology standard

- SC31 involvement is <u>MORE</u> than just RFID:
    - Location services
    - Sensor interfaces
    - Mobile device interfaces
    - Bar Codes

SC31 IoT Ad hoc

- 2012 SC 31Plenary established ad hoc
- Membership from
  - Germany, France, Japan, Korea, South Africa, Sweden, USA, IEEE, OGC, JTC 1/WG 7
  - Identified 60 SC31 published standards that enable the IoT
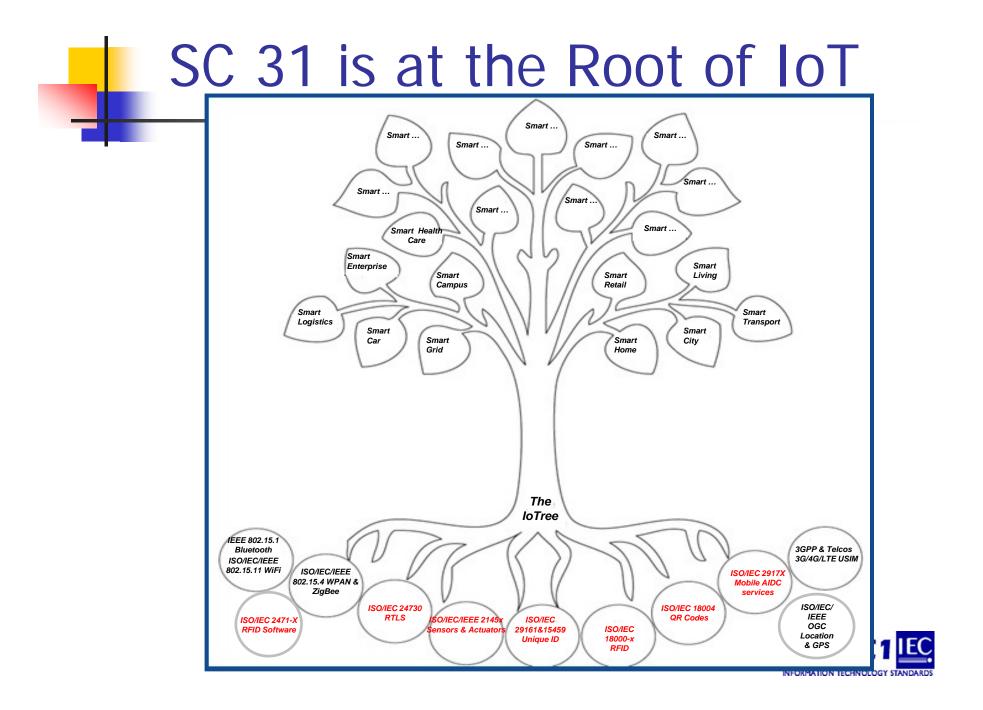- *Four New Work Item Recommendations to SC 31*
  - *How JTC 1/SC 31 standards fit into the Internet of Things (IoT) (SC 31)*
  - *RFID Memory Mapped Sensors (SC 31/WG 4 with cooperation of SC 31/WG 6)*
  - *Generic Air Interface for Control of RFID Tags with Sensors (or other bus devices)*
  - *Reader-to-System Interface to RFID Tags with Sensors (or other devices)*

SC 31 Liaisons for IoT

- *Other JTC 1 SCs*
- JTC 1/WG 7 (in place)
- OGC (in place)
- ETSI M2M (in place)
- 3GPP (in place)
- *oneM2M*
- XMPP (in place)
- TC 122 (in place)
- ITU-T JCA-IoT (in place)
- *ITU-T FG M2M*
- IEEE 1451 (in place)
- IEEE 802.15 (in place)

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SC 31 is at the Root of IoT

The IoTree diagram with leaves labeled: Smart …, Smart …, Smart …, Smart …, Smart …, Smart …, Smart …, Smart …, Smart …, Smart Health Care, Smart Enterprise, Smart Campus, Smart Retail, Smart Living, Smart Logistics, Smart Car, Smart Grid, Smart Home, Smart City, Smart Transport

Roots labeled:
- IEEE 802.15.1 Bluetooth ISO/IEC/IEEE 802.15.11 WiFi
- ISO/IEC/IEEE 802.15.4 WPAN & ZigBee
- ISO/IEC 2471-X RFID Software
- ISO/IEC 24730 RTLS
- ISO/IEC/IEEE 2145x Sensors & Actuators
- ISO/IEC 29161&15459 Unique ID
- ISO/IEC 18000-x RFID
- ISO/IEC 18004 QR Codes
- ISO/IEC 2917X Mobile AIDC services
- 3GPP & Telcos 3G/4G/LTE USIM
- ISO/IEC/ IEEE OGC Location & GPS

SC 31 Involvement

- SC 31 Standards are the Cornerstone of IoT

- SC 31 Standards are not the entirety of :
  - IoT
  - Sensor Networks
  - The Internet
- SC 31 Standards are a part of each

SC 31 Encourages

- Other groups to adopt and utilize the SC 31 family of AIDC Technologies

- Active liaisons so that SC 31 can support development of IoT application standards

- Early and frequent dialogue to preclude duplicate and overlapping work

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