
ISO/IEC JTC 1 "Information technology"

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SC 31 Business Plan 2020

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Description

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BUSINESS Plan for ISO/IEC JTC 1/SC 31

Automatic Identification and Data Capture Techniques

PERIOD COVERED: November 2019 to October 2020

1 Executive summary

The goal of SC 31 is to provide technological standards for automating the identification of things and capturing data about those things. The technologies addressed by SC 31 are barcodes, optical character recognition, radio frequency identification and real time locating systems. SC 31 also develops and maintains standards for the identification of items and the data structures to encode information in data carriers. In addition, SC 31 has a working group developing application standards. It is available to assist ISO, IEC and JTC 1 committees developing standards making use of automatic data capture.

2 Chairman's Remarks

2.1 Market Requirements, Innovation

The Automatic Identification and Data Capture (AIDC) market is well established and growing steadily. The focus is on efficient implementations of the standards. Governmental bodies in a growing number of countries mandate AIDC technologies, for example in the pharmaceutical and medical device sectors or in the areas of fighting against illicit trade in the tobacco industry. There are still requirements for new technology standards, specifically new barcodes and standards related to the conformance and performance of data carriers and reading devices.

2.2 Accomplishments

SC 31 is responsible for 127 published standards. In addition, 23 standards are under development. During the period September 2019 to August 2020, SC 31 has published the following documents:

- ISO/IEC 22243:2019 Information technology — Radio frequency identification for item management — Methods for localization of RFID tags
- ISO/IEC 19823-10:2020 Information technology — Conformance test methods for security service crypto suites — Part 10: Crypto suite AES-128
- ISO/IEC 21471:2020 Information technology — Automatic identification and data capture techniques — Extended rectangular data matrix (DMRE) bar code symbology specification
- ISO/IEC 18046-2:2020 Information technology — Radio frequency identification device performance test methods — Part 2: Test methods for interrogator performance
- ISO/IEC 15963-1:2020 Information technology — Radio frequency identification for item management — Part 1: Unique identification for RF tags numbering systems
- ISO/IEC 15963-2:2020 Information technology — Radio frequency identification for item management — Part 2: Unique identification for RF tags registration procedures

2.3 Resources

SC 31 has 25 Participating members and 25 Observing members. In addition, SC 31 enjoys liaisons with 15 ISO and JTC 1 technical bodies as well as 10 external organisations.

SC 31 is privileged to have top world experts participating actively in the working groups and taking the initiative to propose new work items. It will continue paying attention to the inclusion of additional participants to make sure that the expertise is maintained and enhanced.

The number of countries having an active mirror committee in place is declining. This is likely because barcode and RFID technologies are well established and there is a perception of a lack of new challenges. This perception

needs to be corrected. There are new AIDC technologies coming up and there is no limit in the number of creative solutions making use of AIDC technology standards.

2.4 Competition and Cooperation

SC 31 continues to collaborate with CEN TC 225. Several projects have been developed under the “Vienna agreement”.

The collaboration with ISO TC 122 (Packaging) resulted in the transfer of five projects “supply chain applications of RFID” from ISO TC 122 to SC 31. New versions of these standards are developed by SC 31/WG 8 and should be finalised by the end of 2021.

The Category A liaisons with AIM Inc. and GS1 have been very useful and the cooperation will continue.

The growth of the Internet of Things (IoT) has awakened interest in the technologies based on the SC 31 technology standards. Standards for Radio Frequency identification, Real-Time Locating System, and barcodes are important to the fast and efficient adoption of the IoT concepts. SC 41 has adopted projects that are based on SC 31 standards, e.g. IoT applications for Electronic Label System and IoT Personnel positioning management system (PPMS). Special caution will be used to ensure there are no duplications. A close collaboration with SC 41 is expected to take place.

3 Discussion of SC program of work

3.1 WG 1 - Data Carrier

SC 31/WG 1 manages Optical Character Recognition, linear and 2D bar code symbologies and symbol quality standards.

3.1.1 WG 1 accomplishments

WG 1 progressed DMRE (Data Matrix REctangular) to publication in February 2020. This new standard adds many additional rectangular formats to those already available in Data Matrix. In addition, a new work item to add rectangular formats to QR Code was adopted. There is a new scanner and decoder performance standard 24458 progressing toward its second CD ballot CRM. Furthermore, WG1 is progressing a new bar code symbology with colour elements called JAB Code and it too is about to have its second CD CRM. WG1 progressed Han Xin Code through FDIS and it is now at the ISO editor in preparation for publication. Han Xin is being modified from its AIM standard to add GS1 functionality and specific web address support. WG1 progressed the Direct Part Mark (DPM) Quality through FDIS and is also at the ISO editor in preparation for publication. WG 1 has opened both its printed bar code quality standards 15416 and 15415 for update. Finally, WG1 has opened 16022 Data Matrix for revision.

3.1.2 WG 1 deliverables

In addition to further progressing the above projects, WG 1 is working on developing a DPM conformance process and is keeping up with potential future technology developments such as the spread spectrum symbology called Digimarc.

3.1.3 WG 1 strategies/risks/opportunities/issues

WG 1 intends to develop technically rigorous international data carrier standards that stand the test of time.

3.2 WG 2 - Data and structure

WG 2 focuses on the structure of the data to be encoded in Automatic Identification and Data Capture (AIDC) devices. This includes the high-level rules for constructing unique identifiers for both physical and virtual items.

3.2.1 WG 2 accomplishments

WG 2 manages a mature set of standards that are widely adopted by industry and governmental bodies around the world. An ad-hoc group was formed to study the concept of barcode container to fight forgery of documents. The concept is based on existing standards managed by WG 2, including ISO/IEC 20248.

3.2.2 WG 2 deliverables

A minor revision of ISO/IEC 20248 has been launched and should be completed in 2021. It will include a correction of a few errors and the addition of examples to aid in the implementation of the standard.

3.2.3 WG 2 strategies/risks/opportunities/issues

A key WG 2 issue to be addressed by both WG 2 and WG 8 is the prevention of data structure conflict, which may lead to denial of services, especially in the light of IoT, mobile systems and convergence of traditional markets.

3.3 WG 4 – Radio communications

WG 4 deals with all aspects of Radio-Frequency Identification (RFID) and Real Time Locating Systems (RTLS) including air interfaces, security, conformance, and performance.

3.3.1 WG 4 accomplishments

WG 4 worked on various standards on RFID, RTLS, security and test methods. Due to the maturity of RFID and RTLS most work is currently on revising and maintaining existing standards. New work is typical around test methods.

3.3.2 WG 4 deliverables

WG 4 currently has 14 ongoing work items. Only two of them are new work. All others are revisions of earlier published standards.

AIM became registration authority of ISO/IEC 15963 and ISO/IEC 29160 and therefore WG 4 is no longer required to handle these assignments. The registration authority link is: <https://www.aimglobal.org/registration-authority.html>.

3.3.3 WG 4 strategies/risks/opportunities/issues

WG 4 is expecting the following topics of relevance for 2020/2021:

Item	Strategy	Risk	Opportunity
1	Improve existing standards based on market feedback	Backwards compatibility may limit the changes that can be done	Increased market acceptance due to more advanced products based on the standards
2	Inform other standardization groups about the SC31 work	Prior work or other interests would not fit to the SC31 work	The industry could benefit from the fact that all RFID applications use the same test standards and therefore the tests only need to be done once. Only the requirements for different applications will vary.

3.4 WG 8 – Applications of AIDC

The purpose of WG 8 is to develop AIDC applications standards, to promote SC 31 internally to ISO and externally to all Standards bodies including Industry Groups and to be the external focal point for SC 31 and its working groups.

3.4.1 WG 8 accomplishments

WG 8 was formed at the ISO/IEC JTC 1/SC 31 Plenary in June of 2017. Since formation, work focused on ISO/IEC 22603 – Digital representation of product information. WG 8 has been working on a series of standards on supply

chain applications of RFID that were transferred from ISO/TC 122 to SC 31. In addition, WG8 has launched Ad Hoc groups to work on the Internet of Clothing and the Construction Industries.

3.4.2 WG 8 deliverables

WG 8 monitors the monthly ISO Bulletin on approved NWIP and writes directly to the TC / SC with an offer of expert support.

3.4.3 WG 8 strategies/risks/opportunities/issues

The work on ISO/IEC 22603 has generated immense interest in the international regulatory community. This work is challenging with trying to understand how to address Conformance Marking/e-Labeling. This led to making the standard a multi-part standard to address the various type of Conformance Marking/e-Labeling. The matter is under pressure from regulated sectors where complex labelling, the access to that label, and the long-term storage of e-Label data is increasingly important. Part 1 of 22603, General Requirements and Part 2, Requirements for electronic devices, are expected to be published in 2021.

The transfer of the ISO 1736x series, Supply Chain Application of RFID, was driven by the need for SC 31 technical experts to contribute to refining the standard as requested by JAIF, Joint Automotive Industry Forum. The JAIF is a consortium of Japanese (JAMA and JAPIA), European (Odette) and North American (AIAG) standards organizations that collaborates on global best practice recommendations and worldwide solutions for the global automotive industry. The first standard of the series, 17367 on Product tagging, is expected to reach DIS ballot by the end of 2020. The next 3 standards will follow and should reach DIS status in 2021. WG 8 has decided not to undertake a revision of 17363 on Freight containers but has proposed to transfer the responsibility for this standard to ISO TC 104.

WG 8 is aware of a new project launched by SC 41 for “IoT applications for electronic label system” and was concerned about a possible duplication with the scope of 22603. SC 31 and WG 8 will contribute and provide advice, as necessary.

3.5 SC 31 Vocabulary

ISO/IEC 19762:2016 is the AIDC harmonized vocabulary. It is available in in English, French, German, Russian, Korean and Japanese. In 2019 an ad-hoc Editing Team was formed and started discussion about some methodology issues such as inclusion of ISO/IEC 19762 SC 31 Harmonized vocabulary into ISO/IEC 2382, the structure changing currently a set of concepts in multiple languages in a single booklet to the form of separate brochures and new vocabulary and new languages prior to next SR scheduled in 2021.