

ISO/IEC JTC 1  
Information Technology

**Document Type:** New Work Item Proposal

**Document Title:** Information technology -- IEEE Standard for a Smart Transducer Interface for Sensors and Actuators -- Transducers to Radio Frequency Identification (RFID) Systems Communication Protocols and Transducer Electronic Data Sheet Formats

**Document Source:** SC 31

**Reference:**

**Document Status:** This document is circulated to JTC 1 National Bodies for concurrent review. If the JTC 1 Secretariat receives no objections to this proposal by the due date indicated, we will so inform the SC 31 Secretariat

**Action ID:** Act

**Due Date:** 2009-10-24

**No. of Pages:** 6

ISO/IEC JTC 1/SC 31

Automatic Identification and Data Capture Techniques

Secretariat: ANSI (USA)

**DOC TYPE:** New Work Item Proposal

**TITLE:** Information technology -- IEEE Standard for a Smart Transducer Interface for Sensors and Actuators -- Transducers to Radio Frequency Identification (RFID) Systems Communication Protocols and Transducer Electronic Data Sheet Formats

**SOURCE:** National Body of the United States

**PROJECT:** ISO/IEC/IEEE 21451-7

**STATUS:** See the attached Working Draft (WD) Text that is in support of the New Work Item Proposal. P-members have an obligation to vote and are requested to cast votes on the SC 31 Web site (LiveLink) by the date indicated on this cover page. Per Resolution 5 of the Seoul Plenary Meeting, P-Members are requested to use the attached form (SC031 - Form 13B Comment Document.doc)

**ACTION ID:** COM

**DUE DATE:** 2009-10-24

**DISTRIBUTION:** ISO/IEC JTC 1/SC 31 members

**MEDIUM:** ISO TC Portal (LiveLink)

**NO. OF PAGES:** 97 (including this cover)

## G3 New Work Item Proposal

July 2009

### PROPOSAL FOR A NEW WORK ITEM

Date of presentation of proposal: 2009-07-15	Proposer: National Body of the United States
Secretariat: United States (ANSI)	ISO/IEC JTC 1 N XXXX ISO/IEC JTC 1/SC 31 N 2896

A proposal for a new work item shall be submitted to the secretariat of the ISO/IEC joint technical committee concerned with a copy to the ISO Central Secretariat.

**Presentation of the proposal** - to be completed by the proposer.

<b>Title</b> (subject to be covered and type of standard, e.g. terminology, method of test, performance requirements, etc.) Smart Transducer Interface for Sensors and Actuators - Transducers to Radio Frequency Identification (RFID) Systems Communication Protocols and Transducer Electronic Data Sheet Formats
<b>Scope</b> (and field of application) This standard defines data formats to facilitate communications between Radio Frequency Identification (RFID) systems and smart RFID tags with integral transducers (sensors and actuators). The standard defines new Transducer Electronic Data Sheet (TEDS) formats based on the IEEE 1451 family of standards. This standard also defines a command structure and specifies the communication methods with which the command structure is designed to be compatible.
<b>Purpose and justification</b> - The purpose of this standard is to provide methods for interfacing transducers and RFID tags, and for reporting transducer data within the RFID infrastructure. This standard will reduce the cost and time required to integrate transducer and RFID systems, as well as providing a means for device and equipment interoperability.  RFID technologies are rapidly emerging as the means of tracking products and assets. Standards are being developed to address these needs. Sensors can provide information about the condition of the products. Further, there is a great need to provide sensor data as part of the supply chain reporting. However there is a lack of openly defined standard interfaces between sensors and RFID tags. Since the IEEE 1451 suite of smart transducer interfaces for sensors and actuators are recognized sensor interface standards in industry, this project can fill that gap by providing such sensor-to-RFID tag interfaces to meet industry need.  ISO/IEC/IEEE 1451.7 will remain backwards compatible with IEEE 1451.7 to the extent possible.
<b>Programme of work</b> If the proposed new work item is approved, which of the following document(s) is (are) expected to be developed? <input type="checkbox"/> a single International Standard <input type="checkbox"/> more than one International Standard (expected number: ..... ) <input checked="" type="checkbox"/> a multi-part International Standard consisting of ...5... parts <input type="checkbox"/> an amendment or amendments to the following International Standard(s) ..... <input type="checkbox"/> a technical report , type ..... And which standard development track is recommended for the approved new work item? <input checked="" type="checkbox"/> a. Default Timeframe <input type="checkbox"/> b. Accelerated Timeframe <input type="checkbox"/> c. Extended Timeframe
<b>Relevant documents to be considered</b> IEEE 1451.7

**Co-operation and liaison** IEEE 1451.7 was originally developed by members of JTC 1/SC 31 and members of IEEE. Under the provisions of the ISO/IEEE Partnership Standards Development Organization (PSDO) a Joint Group (JG) of experts is proposed under the provisions of Clause 5.2 and Annex A to the PSDO. The field of JTC 1/SC 31 was approved as a participant in the PSDO by ISO TMB Resolution 19/2009. Other liaisons:

SC 31/WG 2  
SC 31/WG 3  
SC 31/WG 4  
SC 31/WG 5  
SC 31/WG 7  
EPCglobal  
GS1  
ISO TC 122  
ISO TC 104

**Preparatory work offered with target date(s)** This NP is submitted along with a proposed WD for comment and a Joint Development Group (JG) will work cooperatively to develop a text and achieve consensus amongst the appointed experts. Once consensus is reached within the JG, the draft is circulated to the relevant ISO committee and to the relevant IEEE Working Group for three-month comment. A CD is expected in December 2009, an FCD April 2010, and an FDIS in October 2010.

**Signature:**

Will the service of a maintenance agency or registration authority be required? .....No.....

- If yes, have you identified a potential candidate? .....

- If yes, indicate name .....

Are there any known requirements for coding? .....No.....

-If yes, please specify on a separate page

Does the proposed standard concern known patented items? .....No.....

- If yes, please provide full information in an annex

**Comments and recommendations of the JTC 1** - attach a separate page as an annex, if necessary

**Comments with respect to the proposal in general, and recommendations thereon:**

It is proposed to assign this new item to [JTC 1/SC 31/WG 6](#)

**Voting on the proposal** - Each P-member of the ISO/IEC joint technical committee has an obligation to vote within the time limits laid down (normally three months after the date of circulation).

<b>Date of circulation:</b> 2009-07-24	<b>Closing date for voting:</b> 2009-10-22	<b>Signature of Secretary:</b> Lisa Rajchel
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<b>NEW WORK ITEM PROPOSAL - PROJECT ACCEPTANCE CRITERIA</b>		
<b>Criterion</b>	<b>Validity</b>	<b>Explanation</b>
<b>A. Business Requirement</b>		
A.1 Market Requirement	Essential <u>  X  </u> Desirable <u>    </u> Supportive <u>    </u>	The stakeholders include sensor manufacturers, RFID tag/system manufacturers, system integrators, sensor/RFID system users, retailers, shipping container manufacturers, shippers/carriers.

A.2 Regulatory Context	Essential ____ Desirable ____ Supportive ____ Not Relevant <u>X</u>	
<b>B. Related Work</b>		
B.1 Completion/Maintenance of current standards	Yes ____ No <u>X</u>	
B.2 Commitment to other organisation	Yes <u>X</u> No ____	ISO/IEC/IEEE 1451.7
B.3 Other Source of standards	Yes <u>X</u> No ____	Joint Development with IEEE 1451.7 for ISO/IEC/IEEE 1451.7
<b>C. Technical Status</b>		
C.1 Mature Technology	Yes <u>X</u> No ____	Sensor technology is rapidly evolving and its interface to computing devices, mobile telephony, and RFID is required to support B2B, B2C, and other supply chain applications
C.2 Prospective Technology	Yes ____ No <u>X</u>	
C.3 Models/Tools	Yes ____ No <u>X</u>	
<b>D. Conformity Assessment and Interoperability</b>		
D.1 Conformity Assessment	Yes ____ No <u>X</u>	Not at this time, however, conformance to developed standards will obviously be important in the near future
D.2 Interoperability	Yes <u>X</u> No ____	The primary purpose of the proposed standard is to support interoperability and connectivity to computing devices, mobile telephony, and RFID.
<b>E. Cultural and Linguistic Adaptability</b>	Yes ____ No <u>X</u>	
<b>F. Other Justification</b>		ISO/IEEE PSDO

## Notes to Proforma

**A. Business Relevance.** That which identifies market place relevance in terms of what problem is being solved and or need being addressed.

A.1 Market Requirement. When submitting a NP, the proposer shall identify the nature of the Market Requirement, assessing the extent to which it is essential, desirable or merely supportive of some other project.

A.2 Technical Regulation. If a Regulatory requirement is deemed to exist - e.g. for an area of public concern e.g. Information Security, Data protection, potentially leading to regulatory/public interest action based on the use of this voluntary international standard - the proposer shall identify this here.

**B. Related Work.** Aspects of the relationship of this NP to other areas of standardisation work shall be identified in this section.

B.1 Competition/Maintenance. If this NP is concerned with completing or maintaining existing standards, those concerned shall be identified here.

B.2 External Commitment. Groups, bodies, or fora external to JTC 1 to which a commitment has been made by JTC for Co-operation and or collaboration on this NP shall be identified here.

B.3 External Std/Specification. If other activities creating standards or specifications in this topic area are known to exist or be planned, and which might be available to JTC 1 as PAS, they shall be identified here.

**C. Technical Status.** The proposer shall indicate here an assessment of the extent to which the proposed standard is supported by current technology.

C.1 Mature Technology. Indicate here the extent to which the technology is reasonably stable and ripe for standardisation.

C.2 Prospective Technology. If the NP is anticipatory in nature based on expected or forecasted need, this shall be indicated here.

C.3 Models/Tools. If the NP relates to the creation of supportive reference models or tools, this shall be indicated here.

**D. Conformity Assessment and Interoperability** Any other aspects of background information justifying this NP shall be indicated here.

D.1 Indicate here if Conformity Assessment is relevant to your project. If so, indicate how it is addressed in your project plan.

D.2 Indicate here if Interoperability is relevant to your project. If so, indicate how it is addressed in your project plan

**E. Cultural and Linguistic Adaptability** Indicate here if cultural and linguistic adaptability is applicable to your project. If so, indicate how it is addressed in your project plan.

**F. Other Justification** Any other aspects of background information justifying this NP shall be indicated here

