



Form 4: New Work Item Proposal

Circulation date: 2016-10-13	Reference number: ISO/NP 22071 (to be given by Central Secretariat)
Closing date for voting: 2016-12-09	
Proposer (e.g. ISO member body or A liaison organization) ISO/TC 184/SC 4	ISO/TC 184/SC 4 N 3132
Secretariat ANSI	

A proposal for a new work item within the scope of an existing committee shall be submitted to the secretariat of that committee with a copy to the Central Secretariat and, in the case of a subcommittee, a copy to the secretariat of the parent technical committee. Proposals not within the scope of an existing committee shall be submitted to the secretariat of the ISO Technical Management Board.

The proposer of a new work item may be a member body of ISO, the secretariat itself, another technical committee or subcommittee, an organization in liaison, the Technical Management Board or one of the advisory groups, or the Secretary-General.

The proposal will be circulated to the P-members of the technical committee or subcommittee for voting, and to the O-members for information.

- The proposer has considered the guidance given in the Annex C during the preparation of the NWIP.

Proposal (to be completed by the proposer)

Title of the proposed deliverable.

English title:

Industrial automation systems and integration -- Product data representation and exchange Application protocol: For modelling and simulation information in a collaborative systems engineering context (MoSSEC), edition 1

French title:

Protocole d'application: Pour l'information de modélisation et de simulation dans le contexte de l'ingénierie système collaborative

(In the case of an amendment, revision or a new part of an existing document, show the reference number and current title)

Scope of the proposed deliverable.

Building a first edition of the new Standard to support the sharing of systems engineering context information for collaborative Modelling and Simulation. This will use the New STEP architecture to develop the:

- Definition of the business (AP-level) objects for the collaboration context data, using the results from recent research projects as the starting point.
- Model-based mapping to other APs and STEP core technical capabilities.
- Harmonized business objects (AP domain model), concept model and application activity model with other APs where appropriate.
- Implementation methods and hence implementation models for data sharing and linked data at the business object (AP) level
- Definition of reference data

Validation of the efficiency and adequacy of the first edition through Pilots

Support the implementer forums with:

- Business (AP) level Use-cases and associated Activity diagrams using MoSSEC object flows
- Test-data for use with the use-cases
- Business (AP) level conformance class definitions in line with the use-cases
- Conformance class validation procedures
- Documentation and usage guidance dissemination

Purpose and justification of the proposal*

The globalization of aerospace and defense industries drives large volumes of product performance and behavior modelling and simulation work into geographically distributed teams and into the supply chain. Teams within an organization and in the supply chain each need to use the “best in class” software workbench and specialist tools for their domain and each may have a separate data repository. They must share and exchange elements of modelling and simulation technical data together with data that defines the collaboration context (which can be summarized as “who”, “what”, “where”, “when”, “how” and “why”) whilst protecting intellectual property and maintaining export controls.

The modelling and simulation technical data and collaboration context data are used to justify change decisions and to validate the product throughout the product life-cycle. While the exchange of collaboration context data can be handled using existing standards such as ISO 10303-239 and -242, these are unsuited to data sharing and linked data due to need for multiple server calls to represent the information for a single business object.

Recent research projects, involving industrial companies and software vendors, have progressively developed and tested a set of business objects and services to capture and share the collaboration context data for modelling and simulation. This has demonstrated the business value of being able to share collaboration context data on industrial scenarios, using it to justify change decisions and to validate the product throughout the product life-cycle. Industrial companies are now keen to exploit this approach on new product developments, supported by software vendors who wish to embed the capabilities in their toolsets. To satisfy this desire, the business objects and services need to be standardized.

The goal of the MoSSEC project is to standardize these business objects and services into an

Application Protocol [AP], harmonizing with other APs where appropriate. The AP will be agnostic of the type of modelling and simulation, and it is the intention that modelling and simulation technical data will continue to be exchanged using technical standards in use today (e.g. AP209, AP210, AP242, FMI).

MoSSEC, coupled with existing technical standards, will enable competitive and robust product development in global teams, where modelling and simulation data are fully traceable to PLM/SLM references, enabling quick validation of design changes in any phase of the product life-cycle.

Consider the following: Is there a verified market need for the proposal? What problem does this standard solve? What value will the document bring to end-users? See Annex C of the ISO/IEC Directives part 1 for more information. See the following guidance on justification statements on ISO Connect:

<https://connect.iso.org/pages/viewpage.action?pageId=27590861>

Preparatory work (at a minimum an outline should be included with the proposal)

A draft is attached An outline is attached An existing document to serve as initial basis

The proposer or the proposer's organization is prepared to undertake the preparatory work required:

Yes No

If a draft is attached to this proposal:

Please select from one of the following options (note that if no option is selected, the default will be the first option):

- Draft document will be registered as new project in the committee's work programme (stage 20.00)
 Draft document can be registered as a Working Draft (WD – stage 20.20)
 Draft document can be registered as a Committee Draft (CD – stage 30.00)
 Draft document can be registered as a Draft International Standard (DIS – stage 40.00)

Is this a Management Systems Standard (MSS)?

Yes No

NOTE: if Yes, the NWIP along with the Justification study (see Annex SL of the Consolidated ISO Supplement) must be sent to the MSS Task Force secretariat (tmb@iso.org) for approval before the NWIP ballot can be launched.

Indication(s) of the preferred type to be produced under the proposal.

International Standard Technical Specification
 Publicly Available Specification Technical Report

Proposed development track

1 (24 months) 2 (36 months - default) 3 (48 months)

Note: Good project management is essential to meeting deadlines. A committee may be granted only one extension of up to 9 months for the total project duration (to be approved by the ISO/TMB).

Known patented items (see ISO/IEC Directives, Part 1 for important guidance)

Yes No

If "Yes", provide full information as annex

Co-ordination of work: To the best of your knowledge, has this or a similar proposal been submitted to another standards development organization?

Yes No

If “Yes”, please specify which one(s):

A statement from the proposer as to how the proposed work may relate to or impact on existing work, especially existing ISO and IEC deliverables. The proposer should explain how the work differs from apparently similar work, or explain how duplication and conflict will be minimized.

MoSSEC ed1 project will be managed in close coordination with:

- The New STEP architecture current project, to use the architecture and develop implementation methods for web services at business object level.
- The development of AP239 ed3 and AP242 ed2, to ensure consistency and convergence on common business and concept level objects

A listing of relevant existing documents at the international, regional and national levels.

ISO 10303-209, ISO 10303-233, ISO 10303-239, ISO 10303-242
 ISO TC 184/SC 4 N8554 - New Architecture for 10303 — Initial Preliminary Draft

Please fill out the relevant parts of the table below to identify relevant affected stakeholder categories and how they will each benefit from or be impacted by the proposed deliverable(s).

	Benefits/impacts	Examples of organizations / companies to be contacted
Industry and commerce large industry	Improved decision making for complex products, improved traceability, improved sharing of modelling and simulation information linked to a Systems Engineering context	Airbus, Boeing, Rockwell Collins, BAE Systems
Industry and commerce SMEs	Improved decision making for complex products, improved traceability, improved sharing of modelling and simulation information linked to a Systems Engineering context	TBD
Government		
Consumers		
Labour		
Academic and research bodies	Improved ability to link research solutions with commercial software products	NLR (Holland), Cranfield (UK), Cambridge (UK)
Standards application businesses	Wide scope for developing applications based on standard	Eurostep, Jotne
Non-governmental organizations		

Other (please specify)	Modelling and Simulation software vendors – reduced development costs due to standardized interfaces	Dassault Systemes, MSC Software, Siemens
Liaisons: A listing of relevant external international organizations or internal parties (other ISO and/or IEC committees) to be engaged as liaisons in the development of the deliverable(s). NAFEMS, INCOSE, ASD-SSG, AIA EMC	Joint/parallel work: Possible joint/parallel work with: <input type="checkbox"/> IEC (please specify committee ID) <input type="checkbox"/> CEN (please specify committee ID) <input checked="" type="checkbox"/> Other (please specify) New STEP architecture, AP242 ed2, AP239 ed3 projects, OASIS OSLC ALM-PLM working group	
A listing of relevant countries which are not already P-members of the committee. Note: The committee secretary shall distribute this NWIP to the countries listed above to see if they wish to participate in this work		
Proposed Project Leader (name and e-mail address) Adrian MURTON adrian.murton@airbus.com	Name of the Proposer (include contact information) Adrian MURTON and Gregory POLLARI adrian.murton@airbus.com and gregory.pollari@rockwellcollins.com	
This proposal will be developed by: <input checked="" type="checkbox"/> An existing Working Group: ISO/TC 184/SC 4/WG 12 <input type="checkbox"/> A new Working Group: (Note: establishment of a new WG must be approved by committee resolution) <input type="checkbox"/> The TC/SC directly <input type="checkbox"/> To be determined:		
Supplementary information relating to the proposal <input checked="" type="checkbox"/> This proposal relates to a new ISO document <input type="checkbox"/> This proposal relates to the adoption as an active project of an item currently registered as a Preliminary Work Item <input type="checkbox"/> This proposal relates to the re-establishment of a cancelled project as an active project Other:		
<input checked="" type="checkbox"/> Annex(es) are included with this proposal (give details) White Paper for ISO 10303 (STEP) MoSSEC ed 1, presentation, SC 4 change management form Note: The White Paper includes additional references to more detailed documents if required		
Additional information/question(s)		