

ISO STEP Part 4000 Project Report ISO STEP AP239ed3 Project Report

AIA-ASD Interoperability Conference Call

25th November, 2019

Yves BAUDIER – ASD – ISO AP239ed3 Co-chair: Europe
Rick ZURAY – AIA – ISO AP239ed3 Co-chair: Americas

STEP Core Model (ISO 10303-4000)

Requirements:

- A reference information model (integration layer) for all STEP Application Protocols
 - Formal semantic mappings AD Domain Models to Core Model
- Building on previous STEP technology (ARM in EXPRESS)
 - Formal semantic mappings Core Model to ARM
- Enabler for interoperability between STEP Application Protocols
- Building on OASIS PLCS findings
- 1st version built on AP242 and AP239 requirements (convergence)

Key features:

- Modelled in SysML
- Mappings modelled in Parametric Diagrams
- Fully model-based (increased quality)
- Unified approach to properties
- Reference Data (modelled in OWL) proposed as a method to extend the semantics
 - Core Model RD can be customised for a given AP, industry or project.
- Split in Core Technical Capabilities (CTCs) for easier management, use and maintenance.
- Extended names and addresses
- Increased consistency with international standards (e.g. SI, ISO 80000)

**New Work Item
successfully balloted at
ISO in June/August 2019**

ISO International Organization for Standardization
Organisation internationale de normalisation
Международная организация по стандартизации

FORM 4:
NEW WORK ITEM PROPOSAL (NP)

Title of the proposed deliverable

English title
Industrial automation systems and integration — Product data representation and exchange — Part 4000: Core Model

French title (if available)
Systèmes d'automatisation industrielle et intégration — Représentation et échange de données de produits — Partie 4000 : Modèle de base

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

Scope of the proposed deliverable

The proposed Core Model is an essential component of the STEP Extended Architecture, proposed as part of "Extension 2" of this STEP Extended Architecture.

The Core Model intends to cover the full scope required by the Application Protocols that use the STEP Extended Architecture.

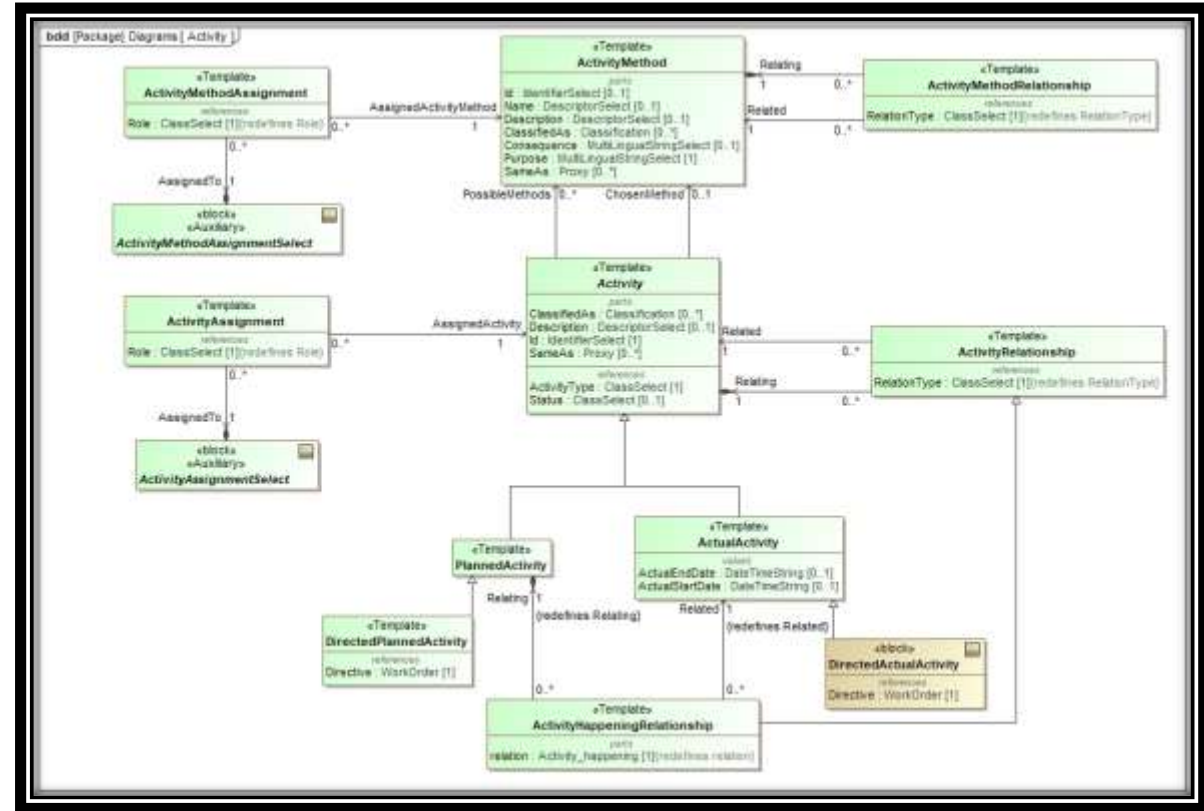
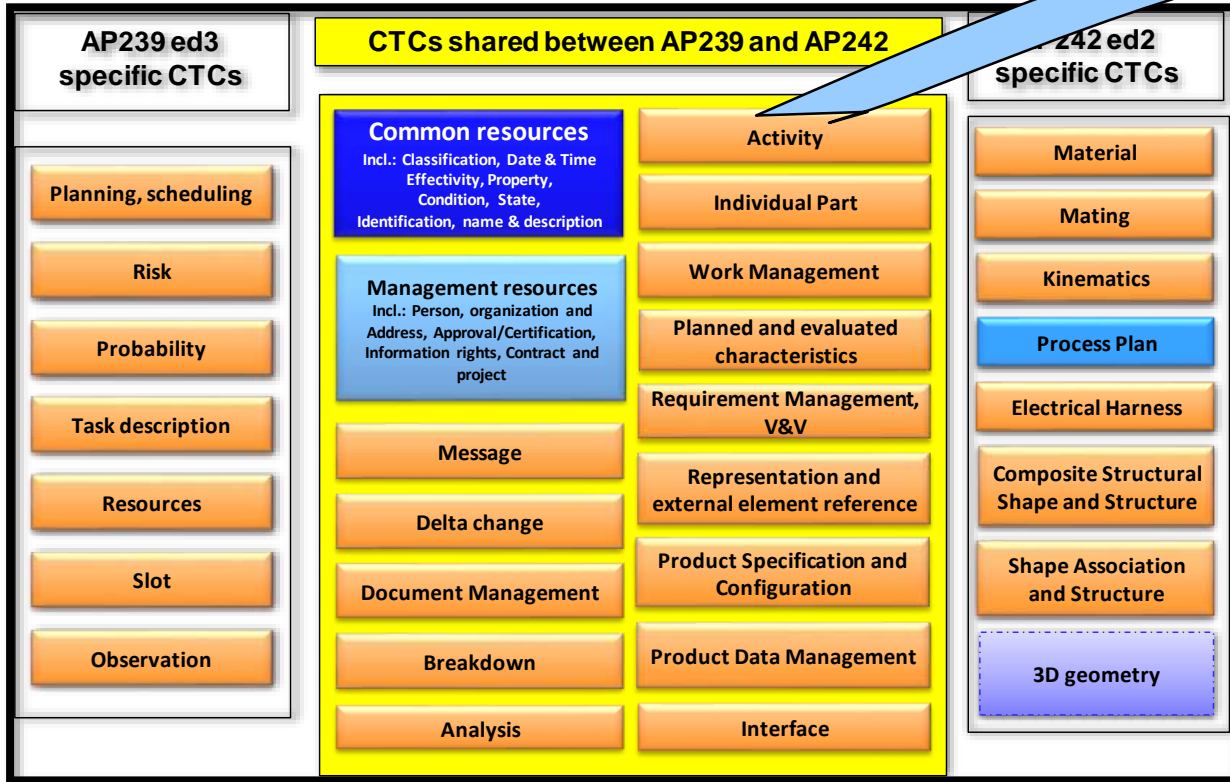
AP242 ed2, AP243 ed1 and AP239 ed3 being the first APs using the STEP Extended Architecture, the first version of the Core Model will cover the scope required by these AP Domain Models.

Due to the significant overlap in terms of data model between these APs, a significant work has been conducted over the last two years to harmonize the Core Model shared by these APs.

The proposed deliverable will include the Core Model (in SysML), the mappings from the Core Model to the SysML ARM layer (SysML parametric diagrams), the Core Model Reference Data (in OWL) and the associated technical documentation (HTML).

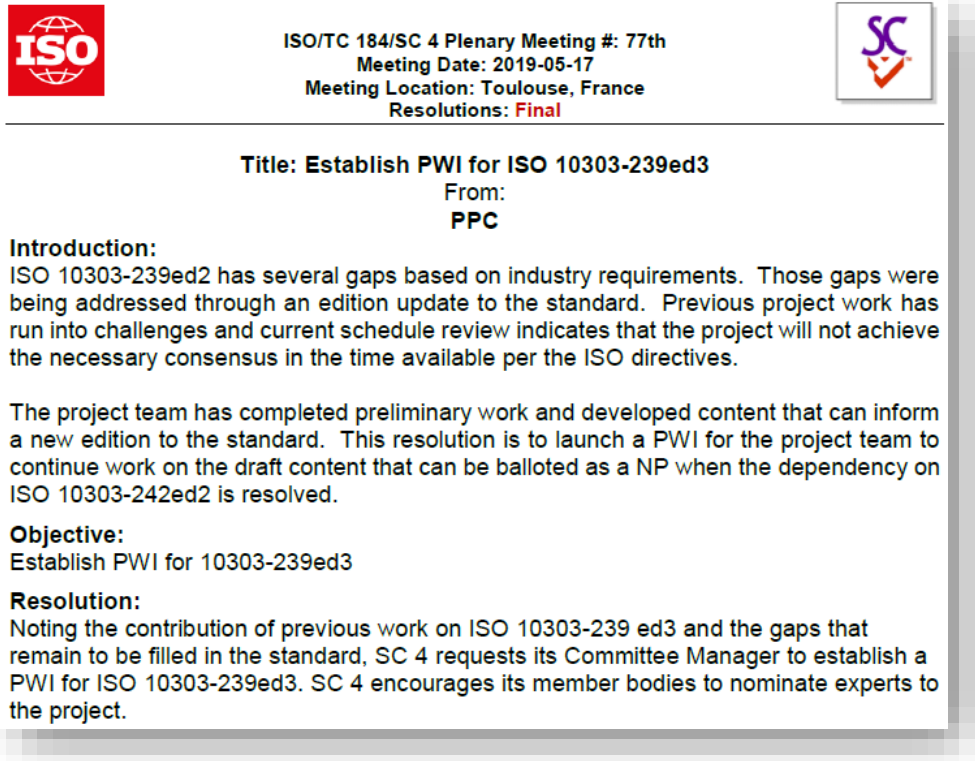
Note: Part 4000 ("Core Model") is the primary deliverable of this NWI

STEP Core Model (ISO 10303-4000)



**Plan is to ballot a 1st version (Committee Draft)
of Part 4000 at ISO early 2020 – and then
publish as a Technical Specification**

AP239 ed3 project



**Preliminary Work Item
submitted at ISO in June
2019**

Requirements:

- Unify the existing versions of AP239/PLCS (from ISO and OASIS) in one reference and contractable standard version.
- Provide an overarching standard for Product Support specifications, including the **AIA-ASD ILS Specifications** and **SAE-GEIA-STD-0007**.
- Enable interoperability through life, and more specifically between Design and Services thanks to harmonization with AP242

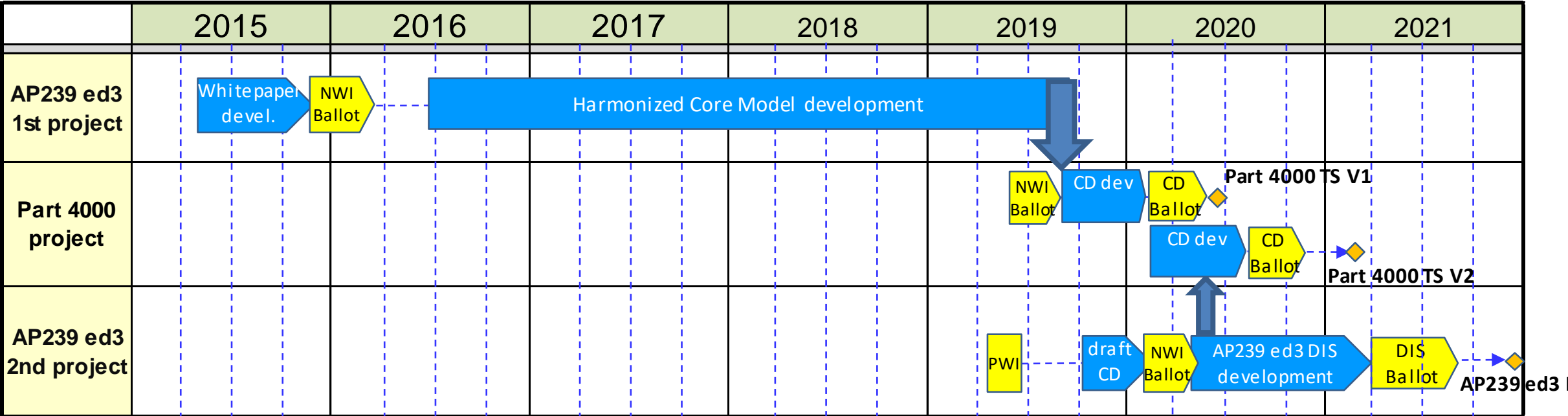
Partners involved:

- France: Airbus, AFNeT, Boost Conseil, CIMPA
- Germany: HeMe, LKsoft
- Norway: MtiK
- Spain: Airbus
- Sweden: SAAB
- UK: Airbus, Eurostep, Ferroday
- USA: Boeing, Andromeda Systems, LDAC

Project supported by PDES, Inc. and AFNeT

Plan is to ballot a NWI with draft CD attached) by S1 2020

Updated global planning



NWI: New Work Item - **CD:** Committee Draft - **DIS:** Draft International Standard - **FDIS:** Final Draft International Standard - **IS:** International Standard
TS: Technical Specification