



CP-SETIS

**towards Cyber-Physical Systems Engineering Tools Interoperability
Standardisation**

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SafeTRANS



Content

- Cyber-Physical Systems Development
 - Engineering Environments
 - Interoperability Specification

- CP-SETIS
 - Goals
 - ICF: IOS Communication Forum
 - Status



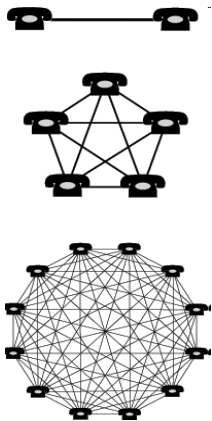
(CP)Systems Engineering Environments

- Cyber-Physical Systems (CPS)
 - are becoming omnipresent in our daily lives
 - many new business opportunities
 - are difficult to develop
 - A multitude of development tools by different vendors, spanning
 - different engineering disciplines
 - different phases of the development process
 - must be integrated into Engineering Environments to support
 - company (and sometimes even application) specific design processes
 - quality requirements (like safety, security, reliability, traceability of design artifacts,...)
 - physically and organisationally distributed design teams
 - ...



Data and Tool Integration Problem

Point-to-point
Integrations
don't scale



Monocultures
lock you in



Maintenance, management,
and change costs go up over time



Ongoing and unexpected
costs drain resources

End-user productivity suffers:
Either stuck with the wrong tool,
stuck doing manual integration;
often stuck doing both

Integrations consume more of the IT budget:
integration failures are the top 2 causes
of software project delays*

Creating new
integrations is
unpredictable

Past choices
restrict present
action and
future vision

even more: limited ability to respond to change
Constrained by exhausted IT budget and lower productivity

* Commissioned study conducted by
Forrester Consulting.



IOS – Interoperability Specification

- IOS is a **set of specifications** covering data and tool interoperability
 - based on (relevant parts) of **existing standards**, whenever possible
 - I.e., **OSLC** for Lifecycle Data Integration and Exchange, **FMI** for Heterogeneous Co-Simulation, etc.
 - containing **extensions** of these standards
 - containing **stand-alone specifications** not based on any existing standard
 - containing **bridges** between these standards
- Has been developed in various European projects
 - Mostly in the ARTEMIS context: iFEST, CESAR, MBAT, CRYSTAL, HOLIDES, and more, but also ITEA, FP-7,...



CP-SETIS: Goals and Motivation

Goal 1: The **alignment of all IOS-related forces** within Europe to support a common **IOS Standardisation Strategy**, aiming at a formal standardisation process of the IOS.

To avoid splitting of forces and uncoordinated activities, which would endanger the huge effort that has already been put into the IOS

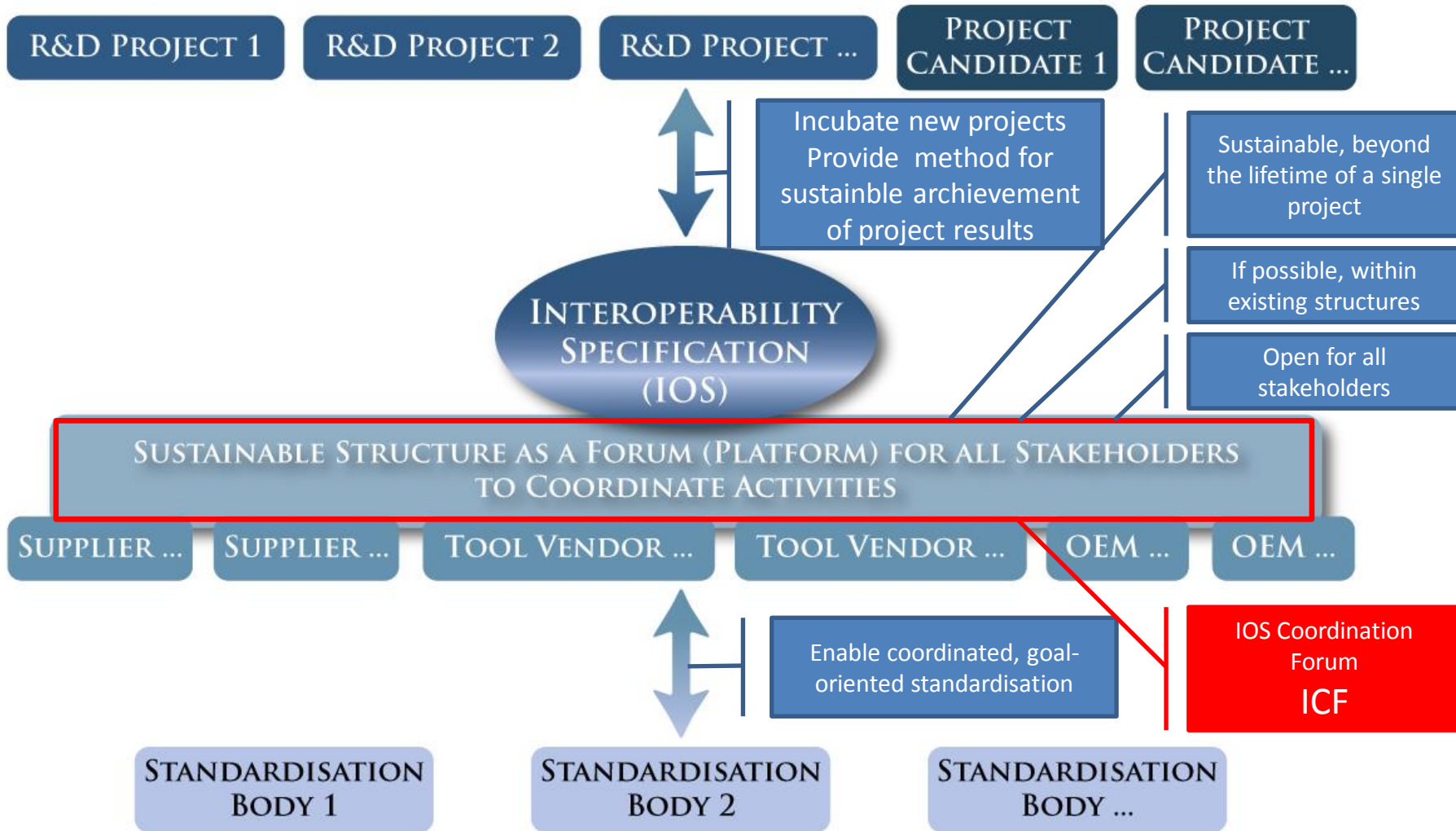
To enable all stakeholders to realize the potential of IOS

Goal 2: The definition and implementation of **sustainable IOS Standardisation Activities** supporting both, **formal standardisation** of ‘stable’ IOS versions as well as **extensions of IOS**, if possible **within existing structures** that survive the lifespan of single projects.

These activities exceed both, the scope as well as the lifetime of any single project



ICF – IOS Coordination Forum



ICF – Benefits for Stakeholder

- have one place where **all information** about IOS is available
- use ICF as an **independent, neutral forum**, to meet other stakeholders at eye level
- find **allies and cooperation partners**, e.g., to **extend and shape** those parts of the IOS that are relevant to this particular group of stakeholders, including pushing of **formal standardization**
- **find experts** for IOS related matters
- be able to **guarantee sustainability and accessibility** for their IOS related project results
- easily **exchange and gather IOS related information**, e.g., the current baseline of IOS, new extensions under development, standardization activities, etc.

- while at all times being **able to focus** on those parts of the IOS, that are actually of interest to them.



Status

Year 1

- Definition of first draft of **operational/business model** for ICF
 - Assets
 - Roles, responsibilities
 - Participation rules (rights and obligations)
 - Financing (to be finalized)
- **Alignment** of model with stakeholders
- First **evaluation** of potential host structures

Year 2 (starting now)

- **Refinement** of model
- Deciding upon a **host structure**
- **Implementation** of ICF within host structure



Project Factsheet



Coordinator:



Core Partner:



THALES

SIEMENS

Associated Partners:



Additional Associated Partners welcome!

Duration: 01.03.2015 - 28.02.2017

Total Budget: 780.000 Euro (similar to Support Actions)

Funding by: Horizon 2020

