ITEA 2

INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

openETCS

Towards Interoperable Standards
The openETCS Approach

supported by:

Federal Ministry of Education and Research

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE
MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR ET DE LA RECHERCHE

INVESTISSEMENTS D'AVENIR

Région de Bruxelles-Capitale

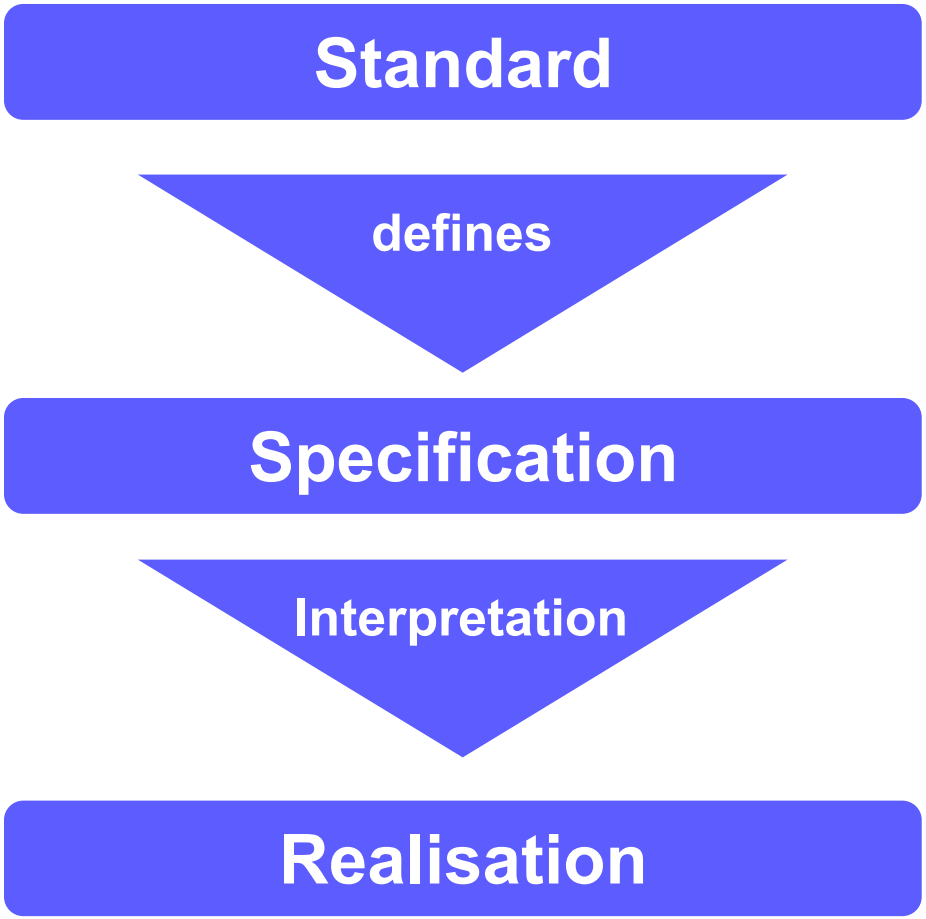
GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA E INNOVACIÓN

openETCS@ITEA2 Project

Dr. Stefan Rieger

Berlin, 24/09/2014

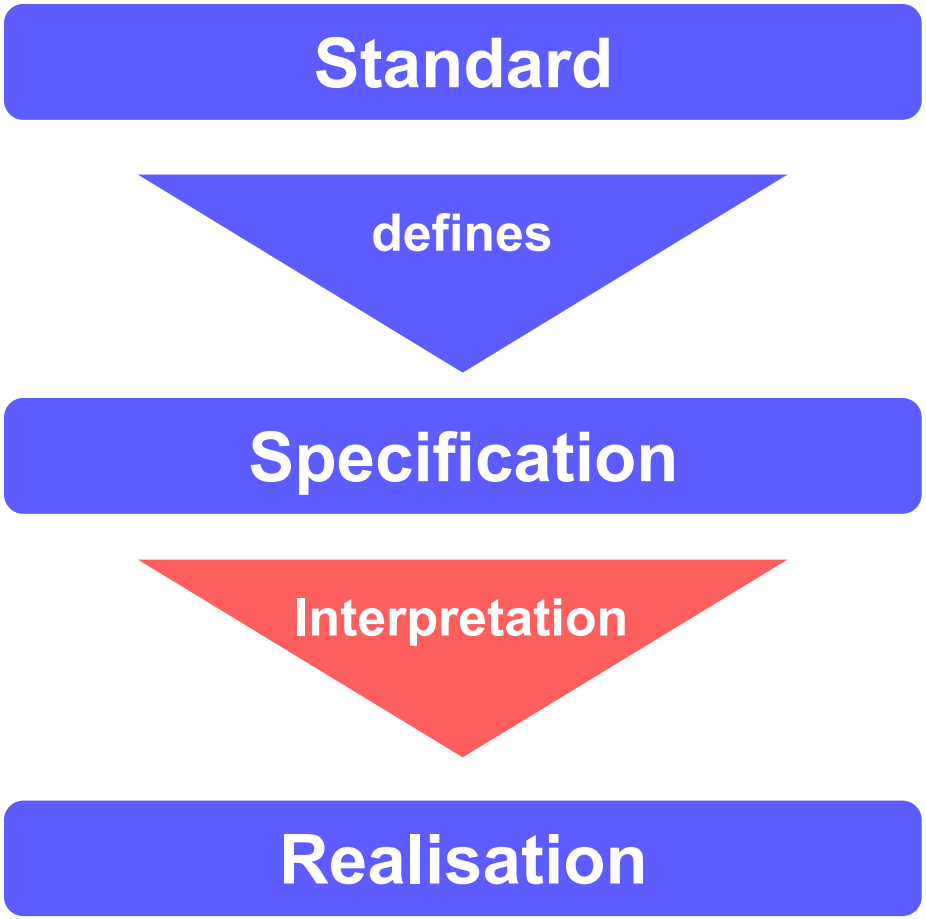
From Standard to Implementation



Goal: Interoperability

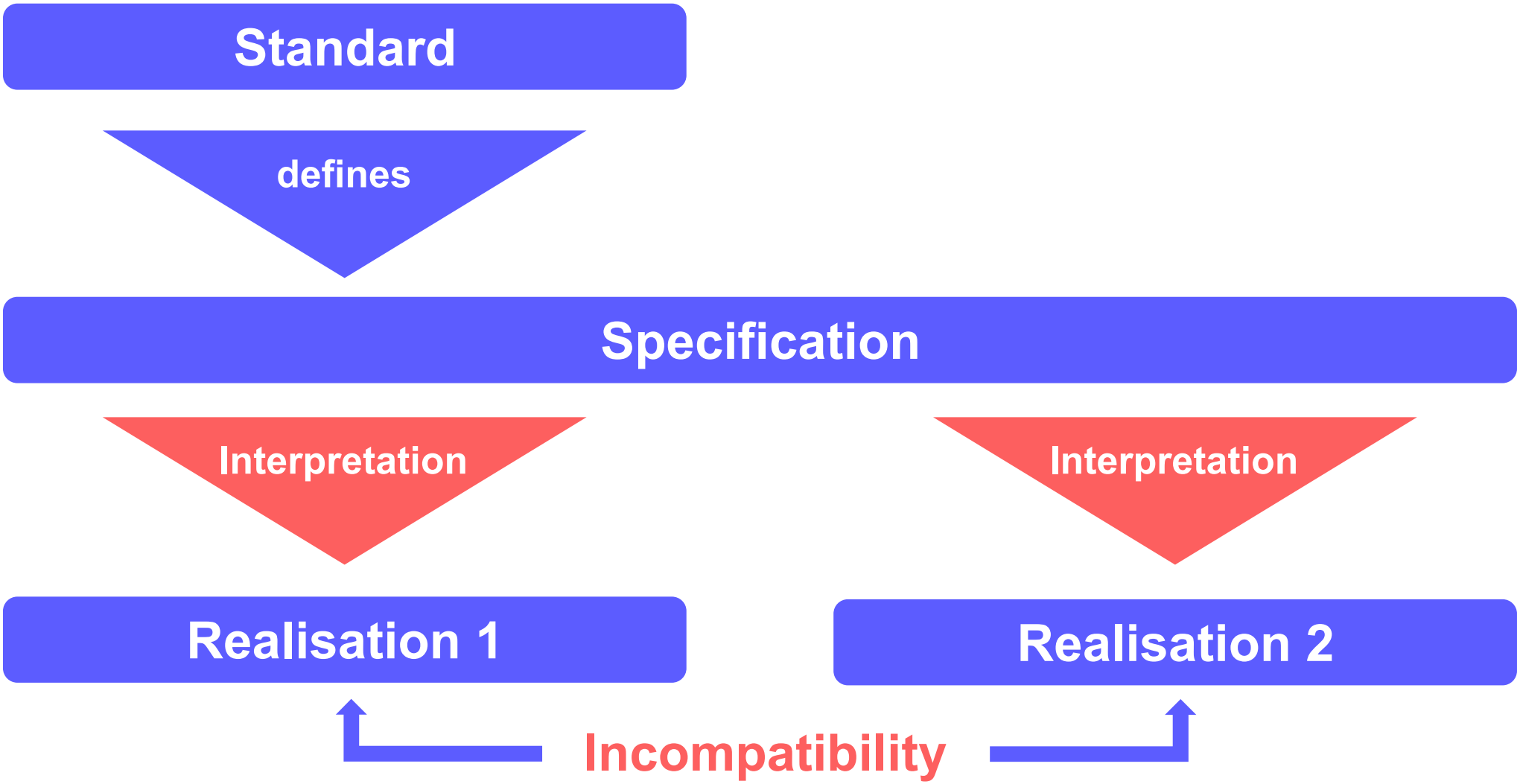
Goal: Define realisation

From Standard to Implementation

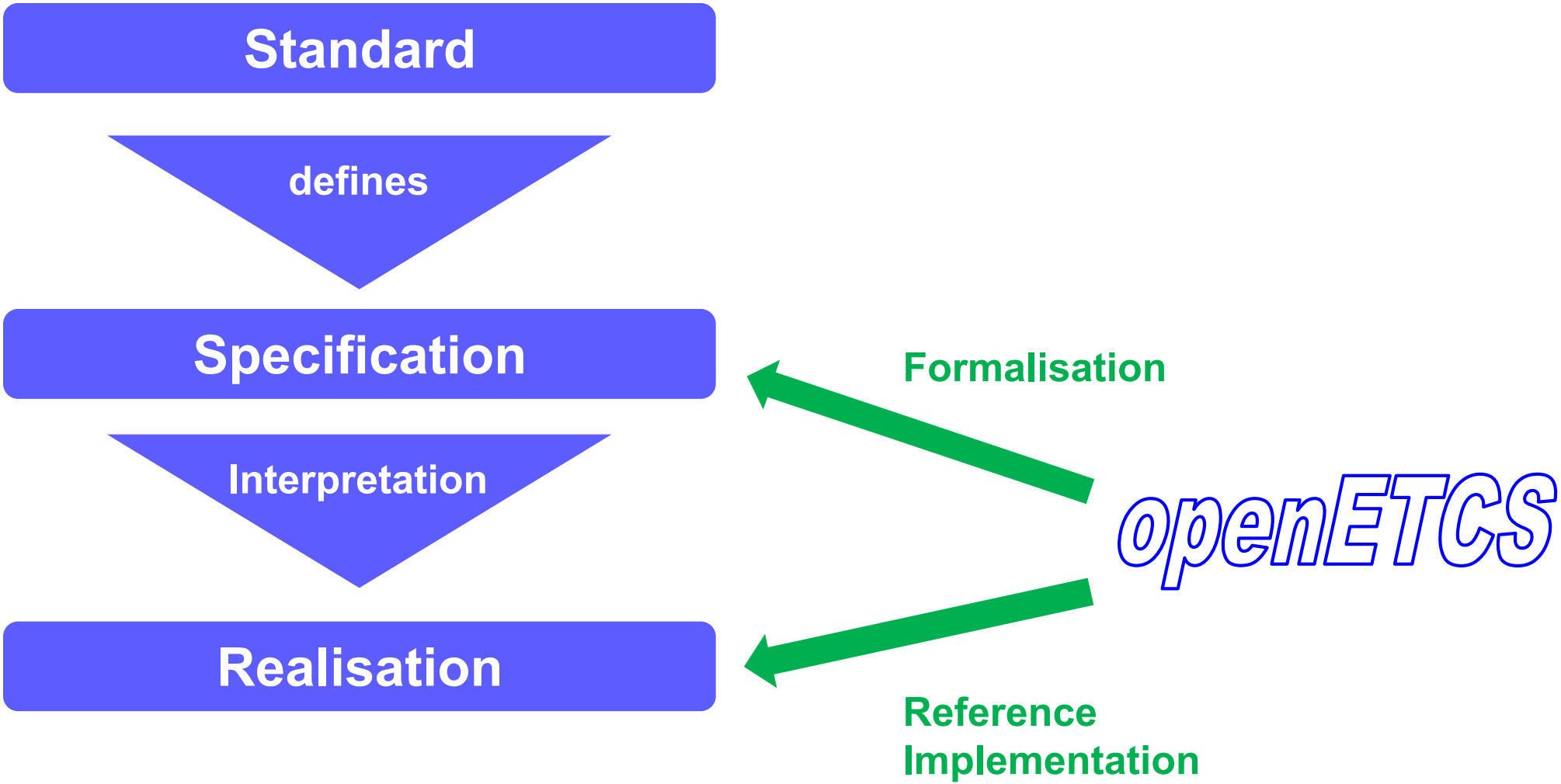


Natural Language

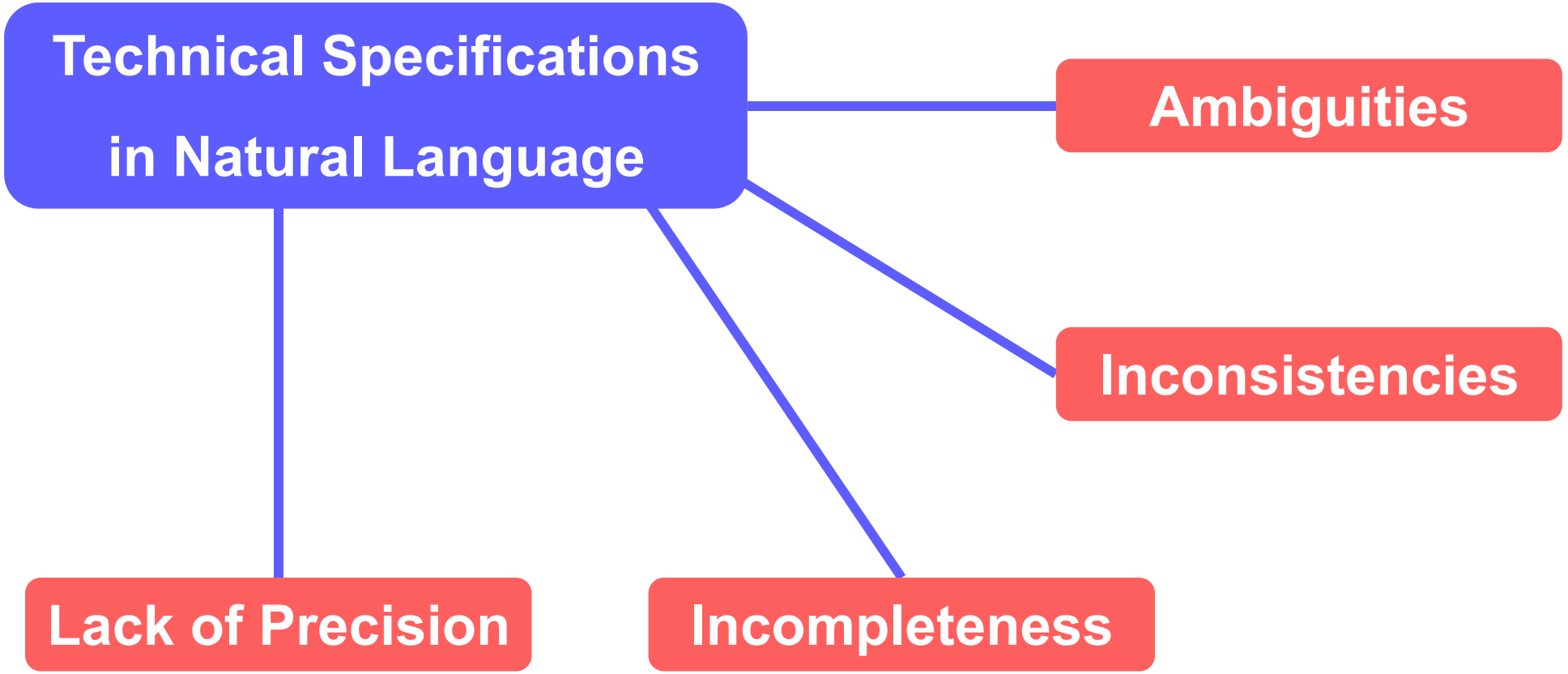
The Reality


Standard
defines
Specification
Interpretation
Interpretation
Realisation 1
Realisation 2
Incompatibility

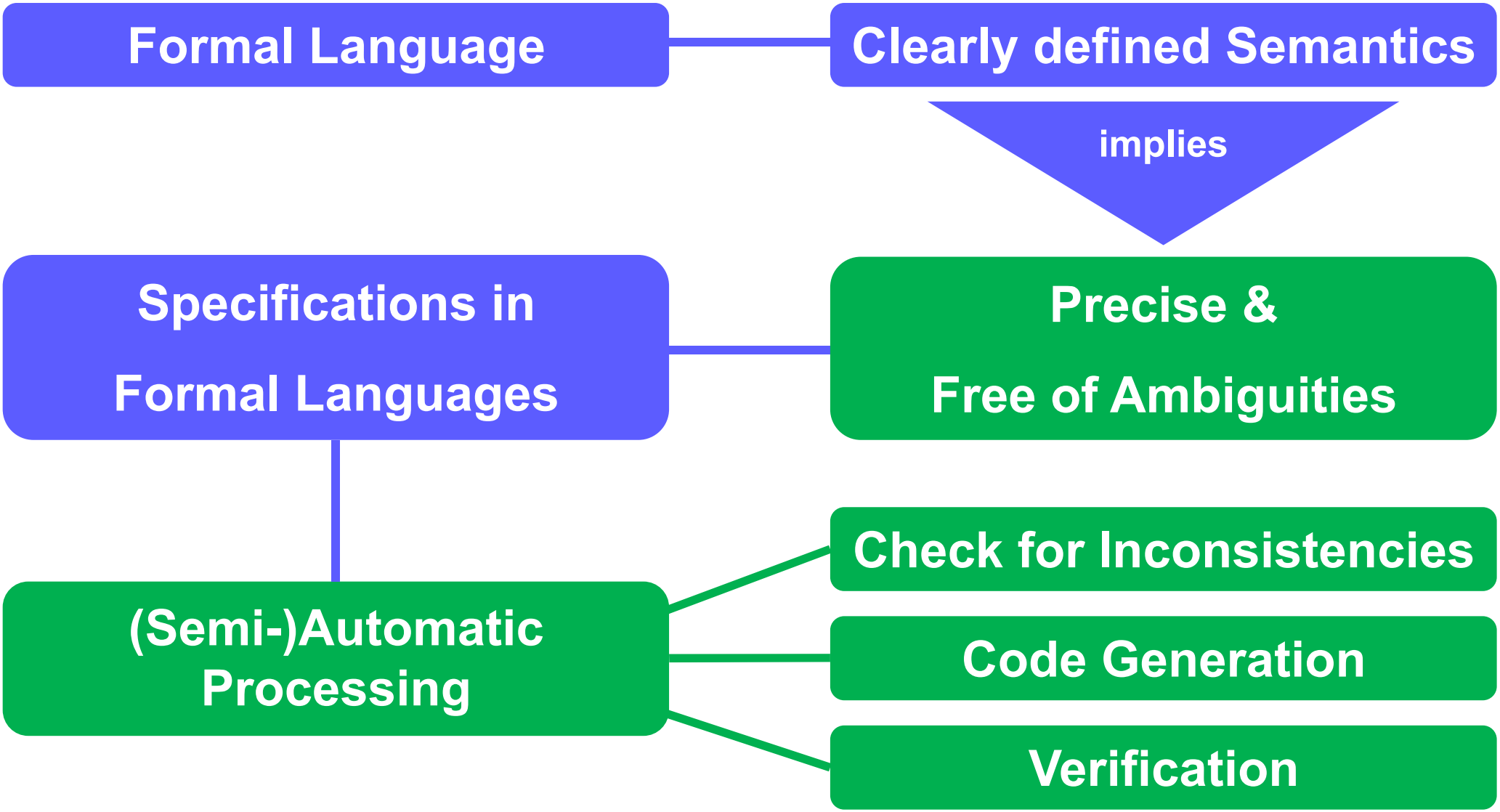
How do we achieve real interoperability?



The Problem


Technical Specifications in Natural Language
Ambiguities
Inconsistencies
Lack of Precision
Incompleteness

Solution: Formalisation



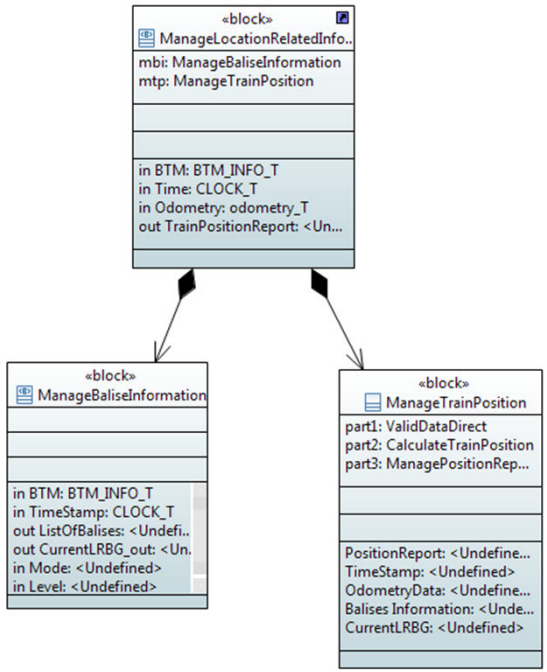
The openETCS Approach I

ETCS Specification (natural language)

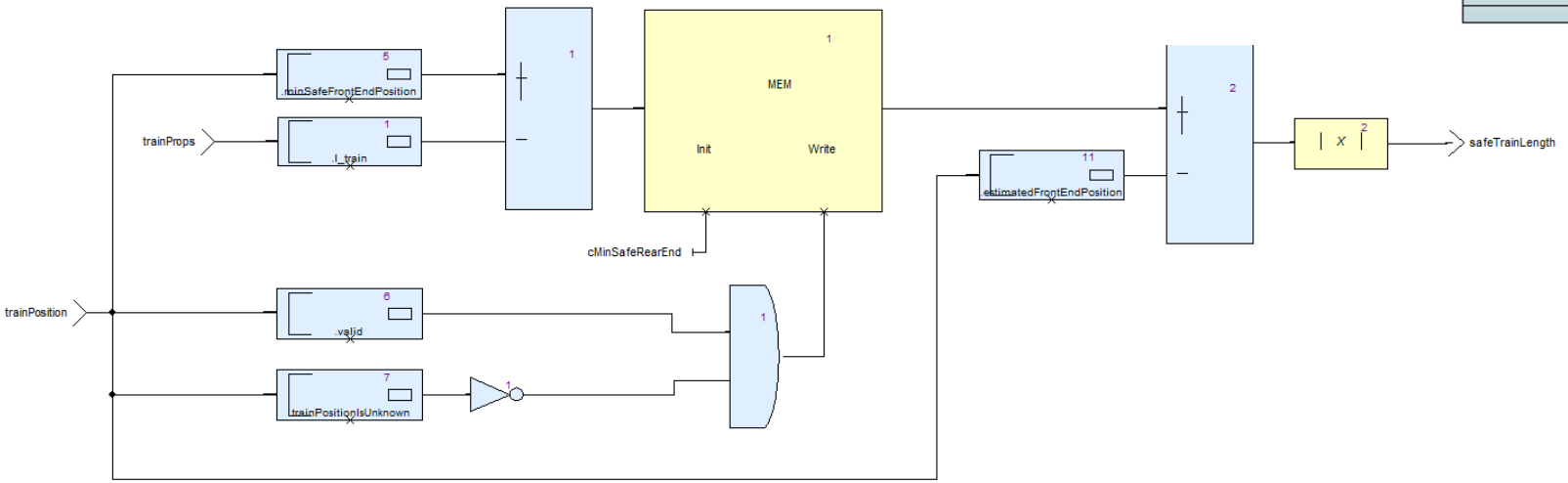
Formalisation

(Semi-)Formal Model

Architecture (SysML)

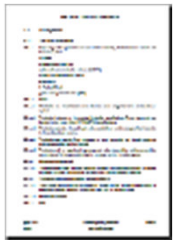


Behaviour (Scade)



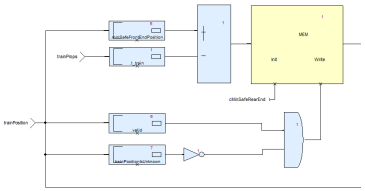
The openETCS Approach II

ETCS Specification (natural language)



Formalisation

(Semi-)Formal Model

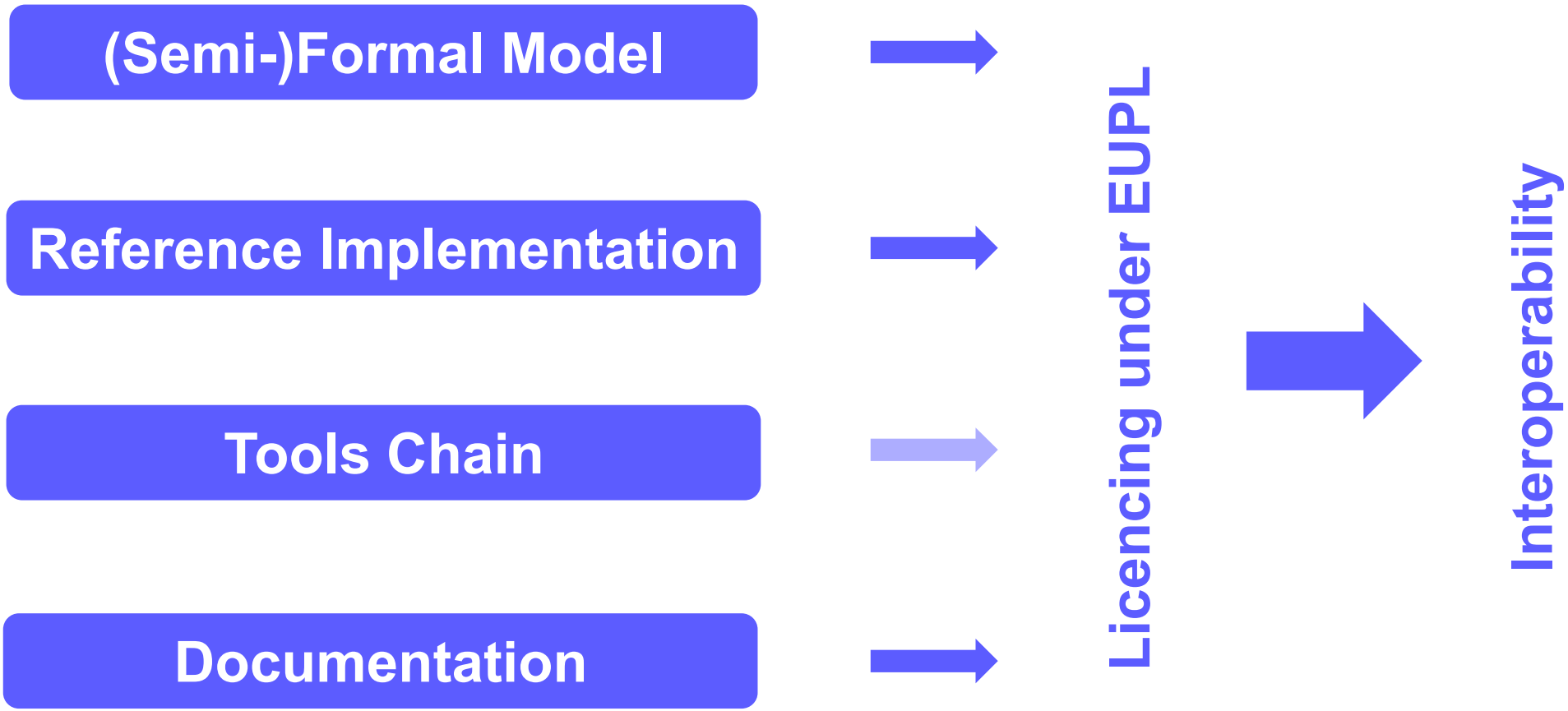


Code Gen.

Reference Implementation

Standardisation

„Open Proof“


(Semi-)Formal Model
Reference Implementation
Tools Chain
Documentation
Licencing under EUPL
Interoperability

openETCS @ INNOTRANS

openETCS Workshop

- Today, 16:00 – 18:00
- CityCube Berlin, meeting room R12 (level 3)

Booths of partners:

ERSA
Hall 11.2, Booth 110

Fraunhofer FOKUS
Hall 23B, Booth 206

Systerel
Hall 11.2, Booth 110

CityCube Berlin in Construction (CC BY-SA 3.0, Peter Kuley)