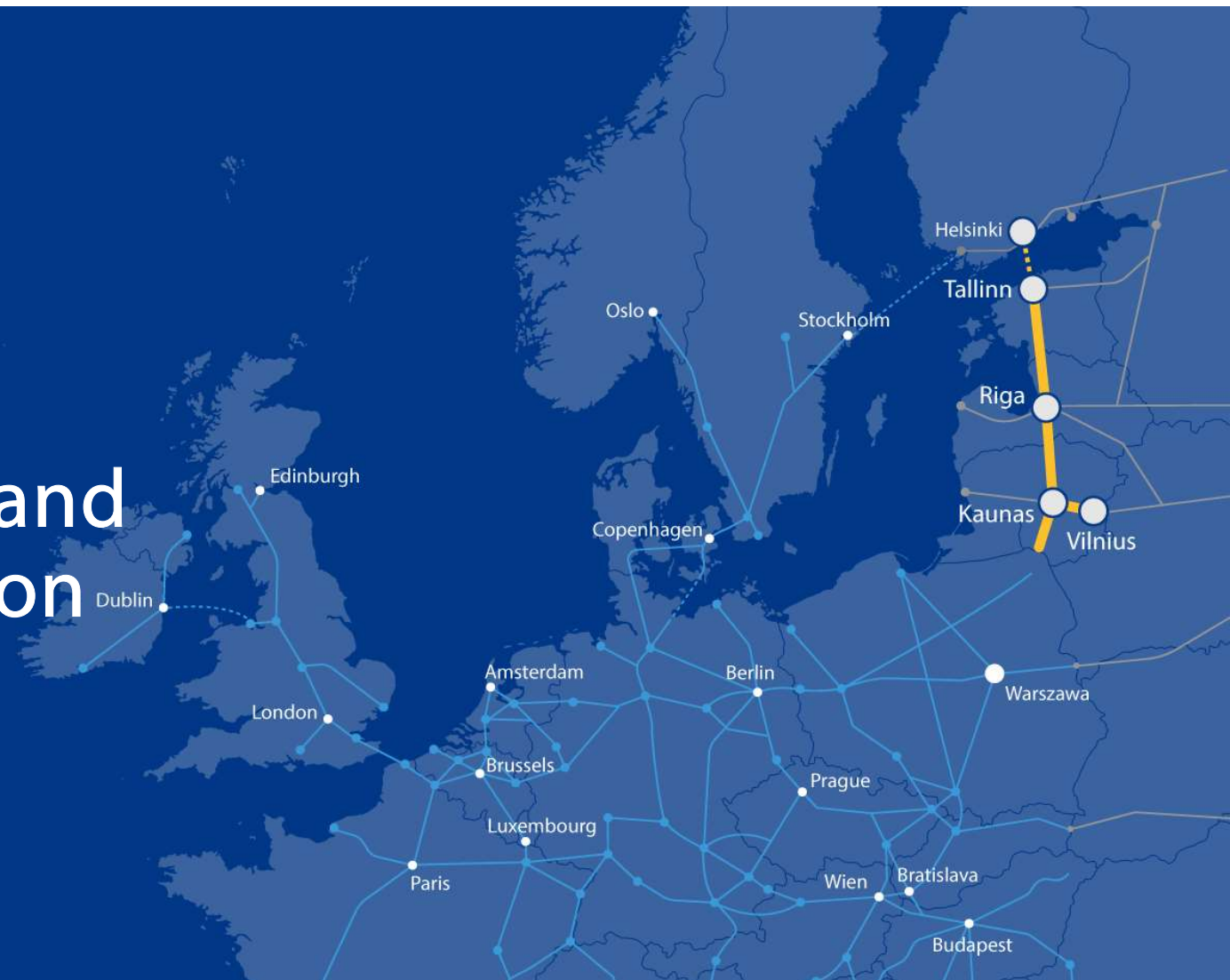




# Ensuring Safety and Interoperability on Rail Baltica



Co-financed by the Connecting Europe  
Facility of the European Union

# Principles

P1

Rail Baltica Safety motto  
– **Simpler is Safer**

P2

Developing Rail Baltica Safety Culture including Human component

P3

Enabling best practices: European Railway Standards and Regulations for Safety and Interoperability

Standards and Regulations define a common Railway language and describe common Railway concepts

**One** Railway System

(System definition)

**One** set of National Values

(Performances and Safety Targets)

**One** set of Engineering Rules

(Common Engineering processes)

**One** set of Operating Rules

(Common solutions on Risk assessment)

## Human at the heart

Agency Regulation (Regulation (EU) 2016/796 of the European Parliament and of the Council of 11 May 2016 on the European Union Agency for Railways

### Safety Culture

**Safety Management System (SMS)**

**Human and Organisational Factor**

**Common Safety Method (CSM-AR)**

Rail Accident Investigation

Common Occurrence Reporting

Transport of Dangerous Good

### Technical Specification for Interoperability (TSI)

**Conformity Assessment**

**National Rules**

Train drivers

**European Rail Traffic Management System (ERTMS)**

Analysis and Monitoring

Certification of Entities in Charge of Maintenance

Chargeable Services

# Context

## Human Factor

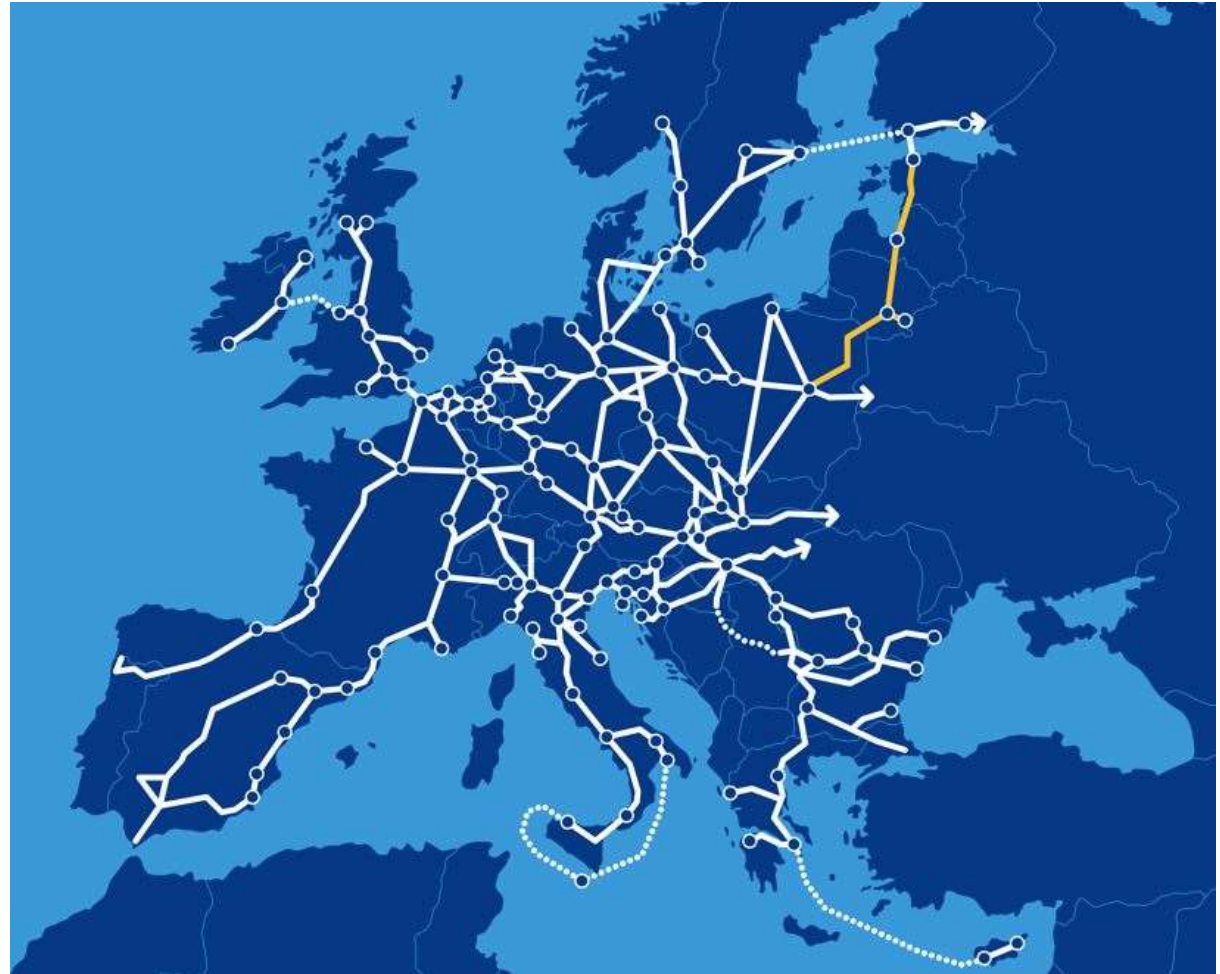
- 3 Countries [Estonia, Latvia, Lithuania] + 2 adjacent Countries [Poland, Finland] + Europe (Cultural)

## Technical

- Existing 1520 Railways modifications
- National rules and expertises,
- Technical interfaces (Electrification, Signalling Systems, Gauge, Cross border)

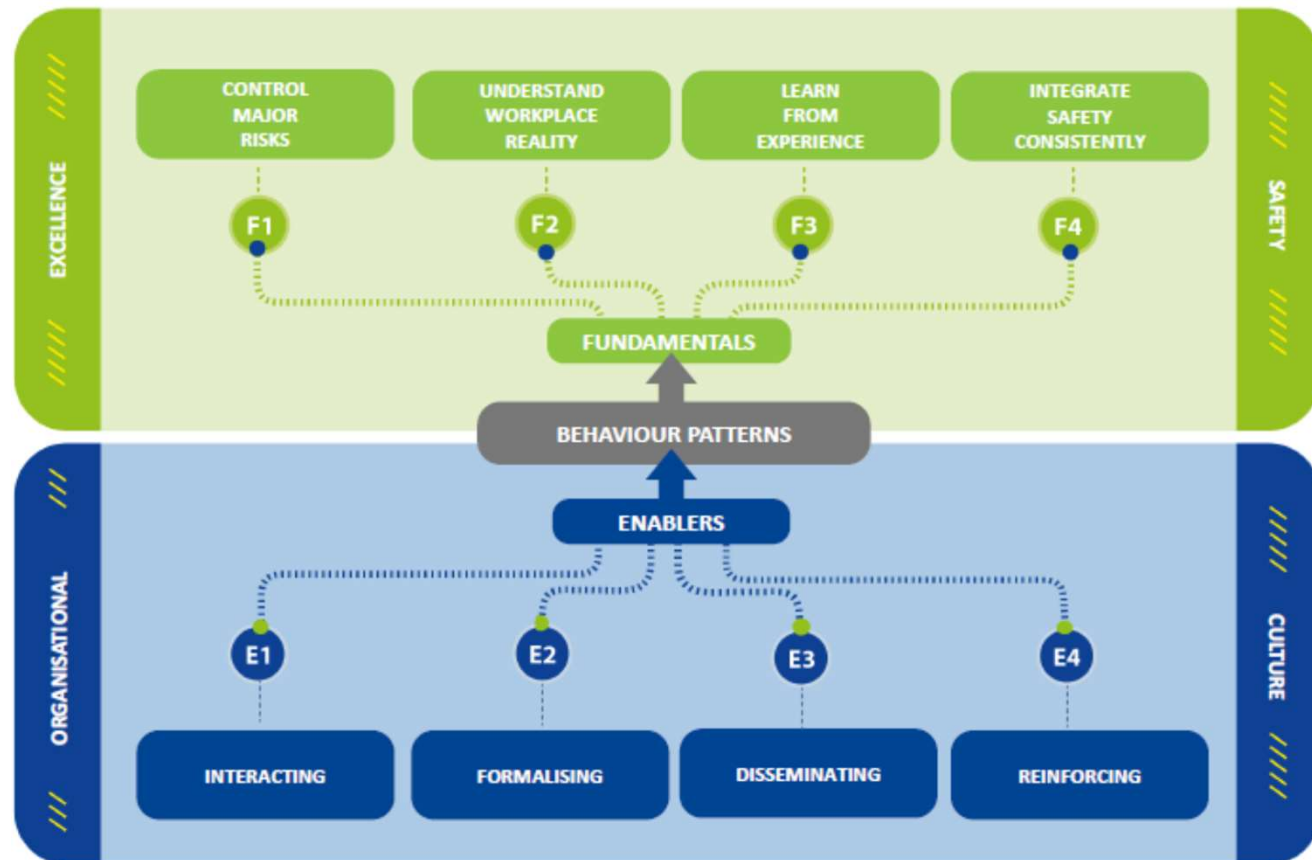
## Organisational

- RBR and 3 Implementing bodies,
- National Safety Authority (Legislation)
- National operators (Performances)



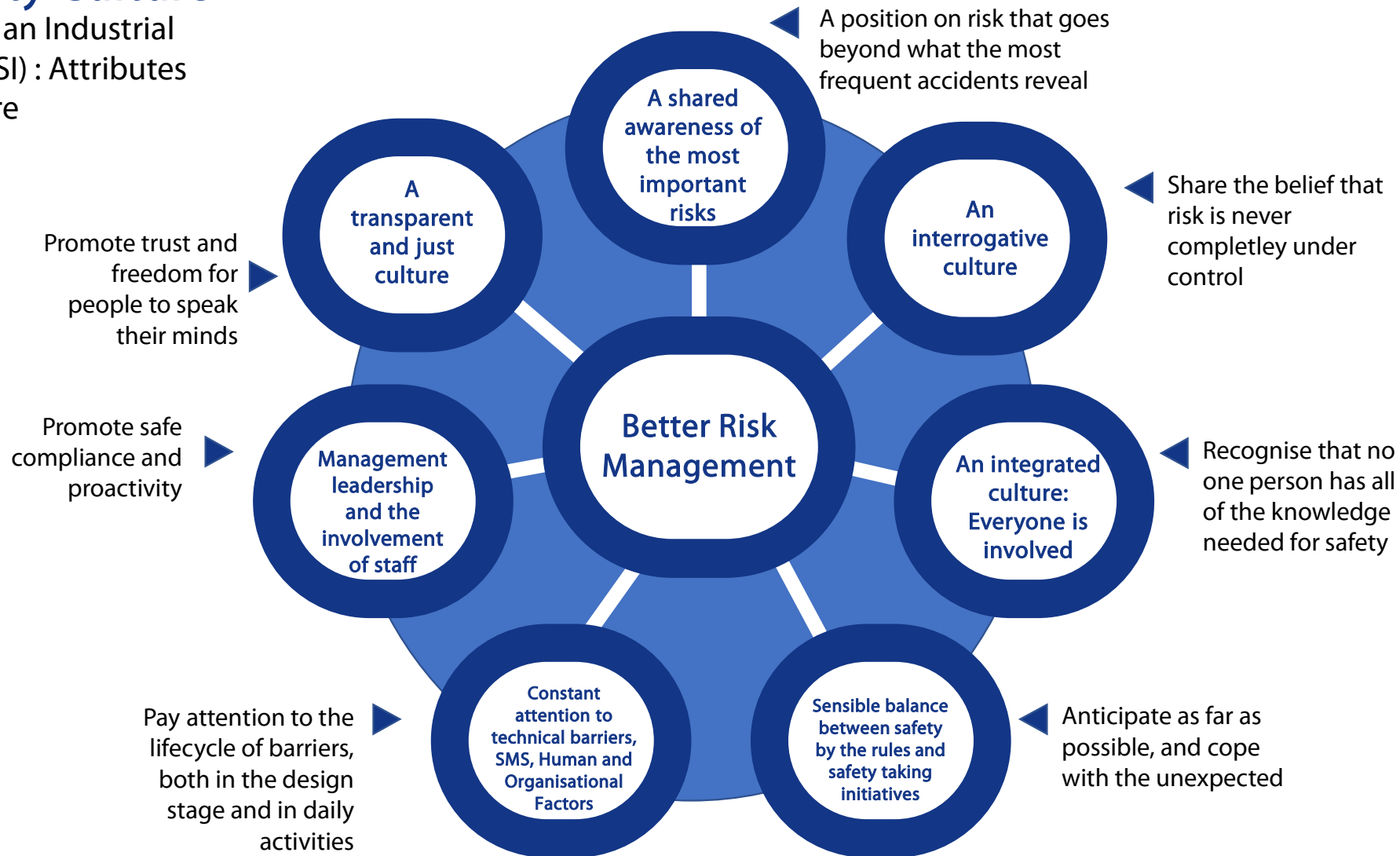
# Action: Safety Culture

European Railway Safety Culture Model 2.0 (ERA Documentation)



## Action: Safety Culture

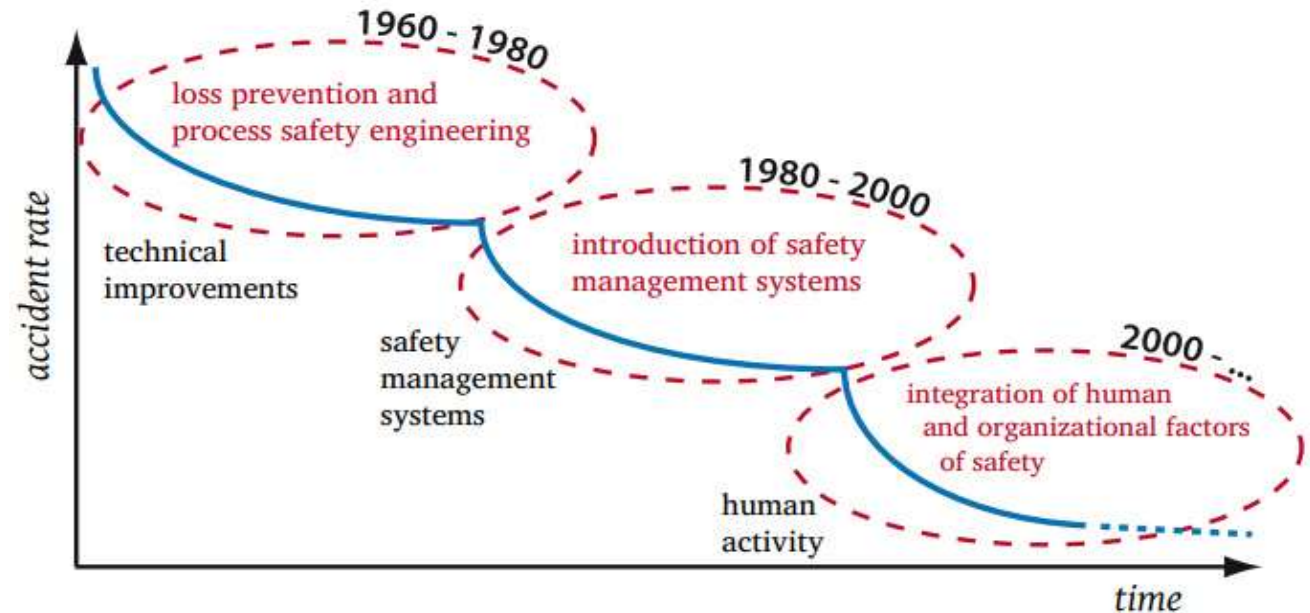
From Institute for an Industrial Safety Culture (ICSI) : Attributes for a Safety Culture



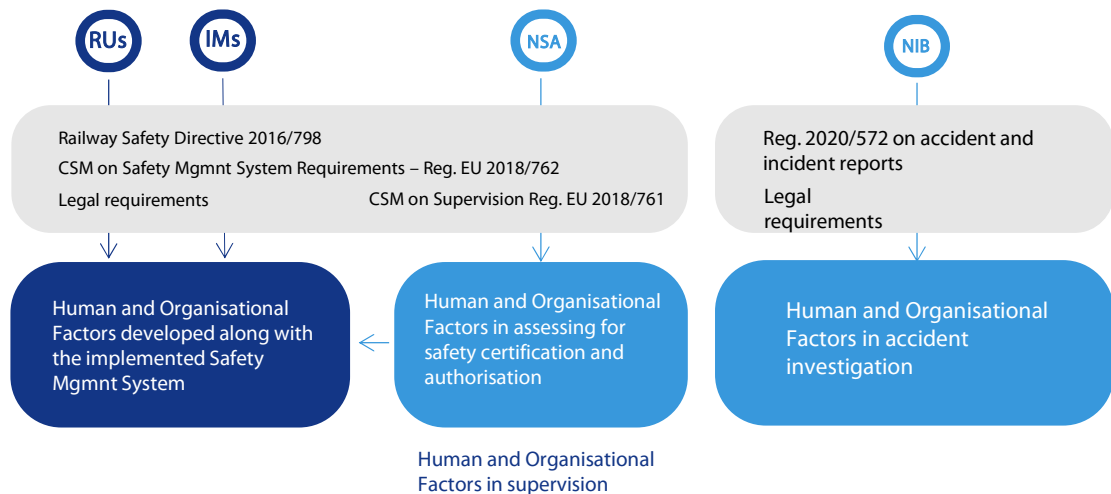


## Human and Organisational Factors (HOF):

- HOF refers to the interactions among system components and humans, considering their behaviors, at all levels such as individual, situational, group, organizational or cultural.

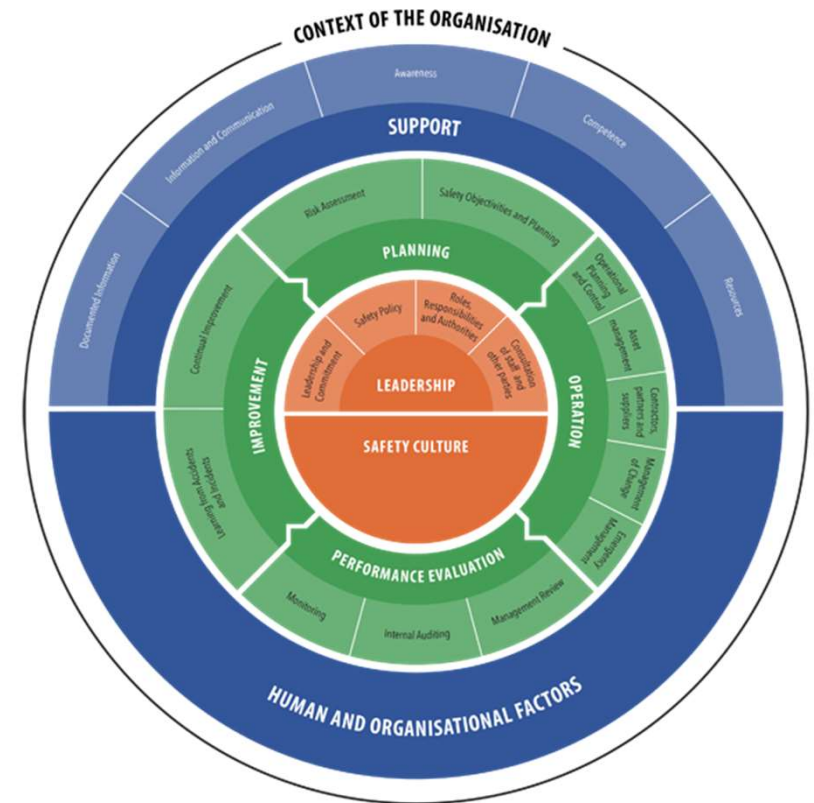
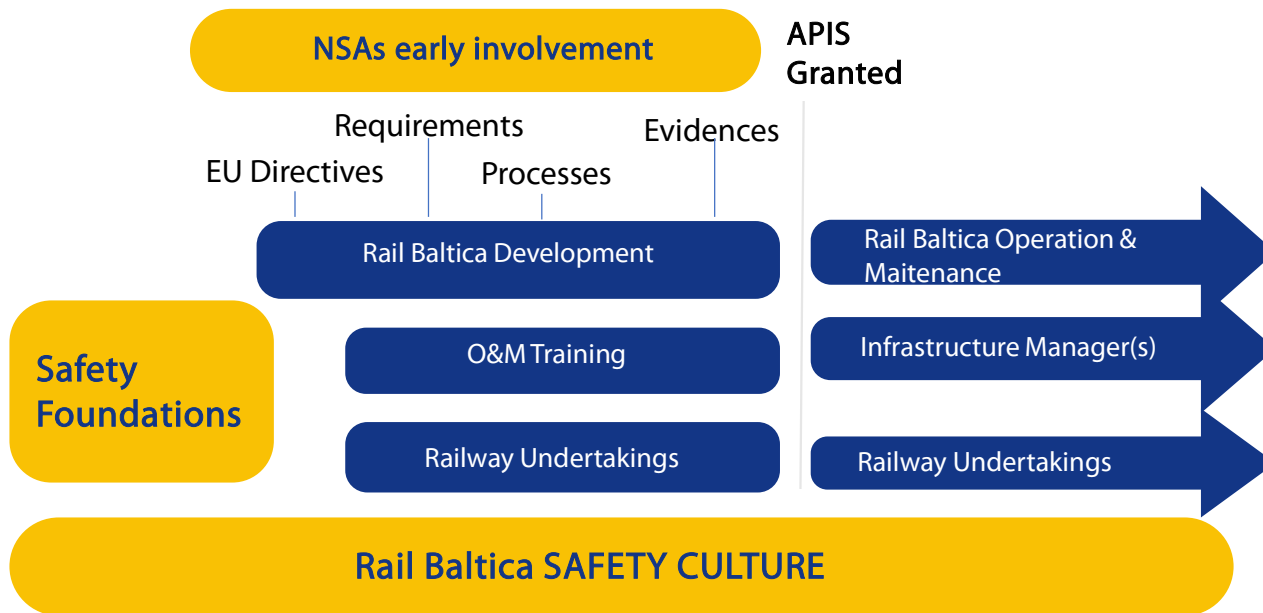


### Human and Organizational Factors within the 4th Railway Package



# Action: Safety Management System

Safety culture refers to the interaction between the requirements of the Safety Management System (SMS), how people make sense of them, based on their attitudes, values and beliefs, and what they actually do, as seen in decisions and behaviors.



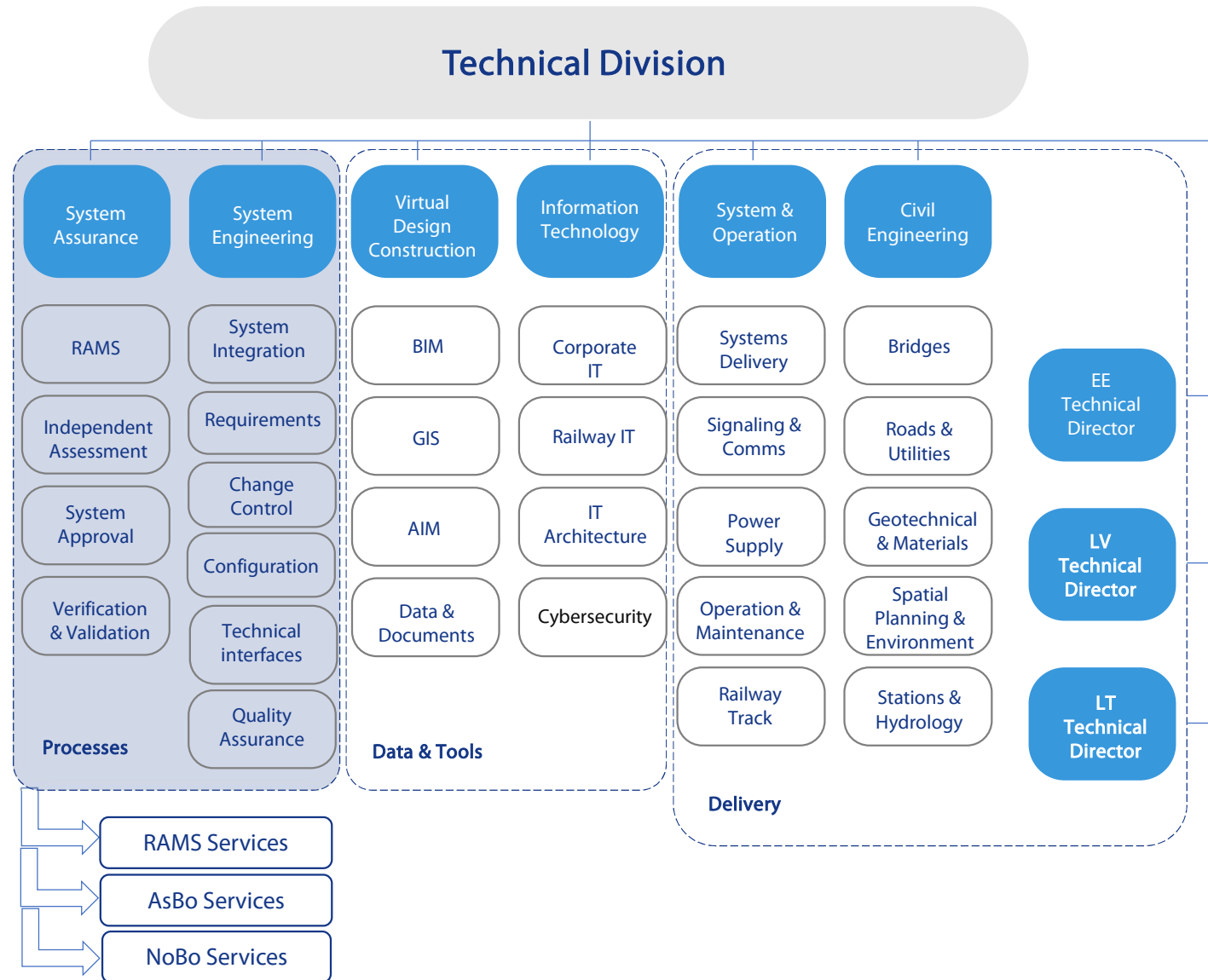
Rail Baltica progressively develops the Safety Culture model in its objectives, organisation and processes

# Action – Organisational

Enforcing the role of RAMS activities and Engineering processes in Rail Baltica organisation (NE 50126 processes)

Contracting Expertise Services for:

- System definition and RAMS Targets
- Common Safety Method implementation and Safety Targets (Assessment Body - AsBo)
- Interoperability compliance (Notified Nody - NoBo)





## Action: CSM (AR) – AsBo Services

### AsBo Regulatory Framework

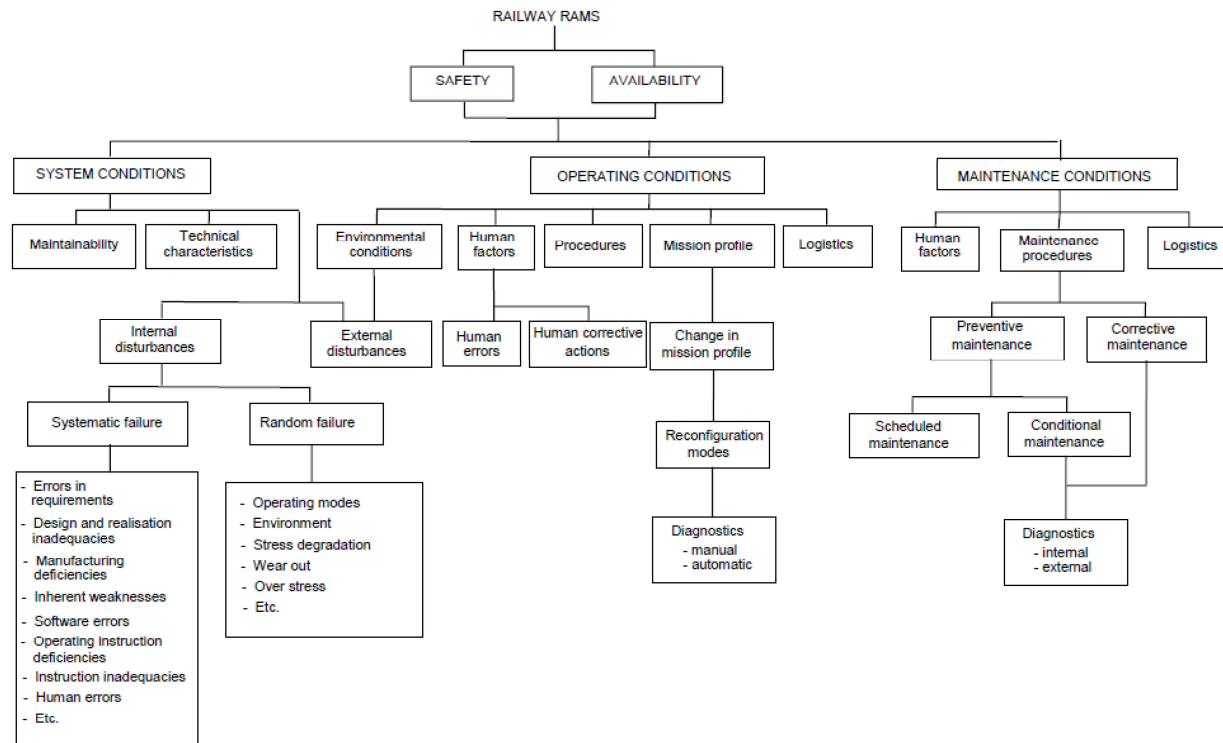
The general scope of Assessment body (AsBo) deployed for Rail Baltica Project consists in assessing the Project against the Common Safety Method for Risks Assessment regulation (No. 402/2013/EU), required by the Directive 2016/798/EU on Railway safety.

AsBo is responsible to provide an independent assessment of the suitability of both the application of the risk management process and its results, carried out through Project design, construction and integration phases.

Document reference	Document title	Version / Date
2016/798/EU	Directive on Railway Safety	2016
402/2013/EU	Common Safety Method for risk evaluation and assessment	2013
2015/1136/EU	Common Safety Method for risk evaluation and assessment (amendment to Regulation 402/2013)	2015
RFU-STR-016	Acceptance of assessment reports on Safety prepared by other parties	Issue 02 02/03/2021
ERA 1209/063 V1.0	Clarification Note on Safe Integration	2020
ERA/GUI/01-2008/SAF	Guild for the application of the Commission Regulation on the adoption of a common safety method on risk evaluation and assessment as referred to in Article 6(3)(a) of the Railway Safety Directive	Issue 1.1 2009
001NET1108	RECOMMENDATION FOR USE 01 ASBO Cooperation – Working method of the Assessment Body	Issue 1.1 2020

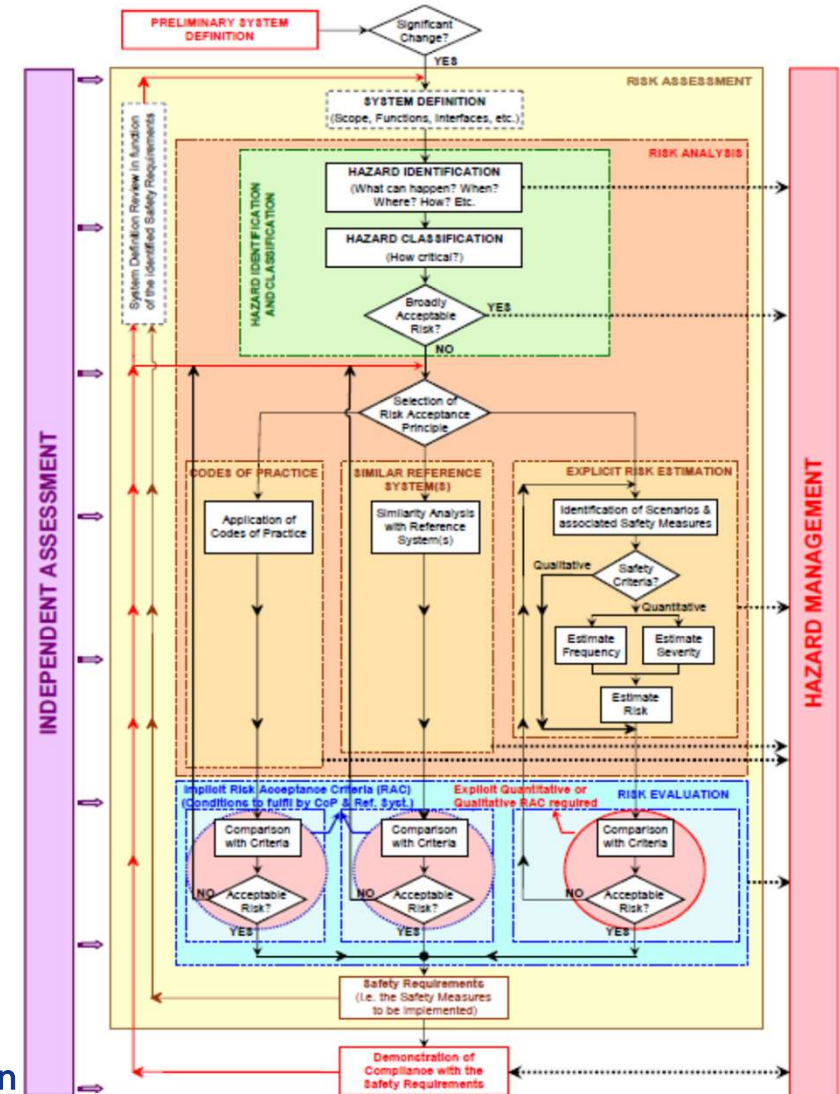
# Action: Risk Assessment – Functional

EN 50126



Risk Assessment methodology from EN 50126 (2017)

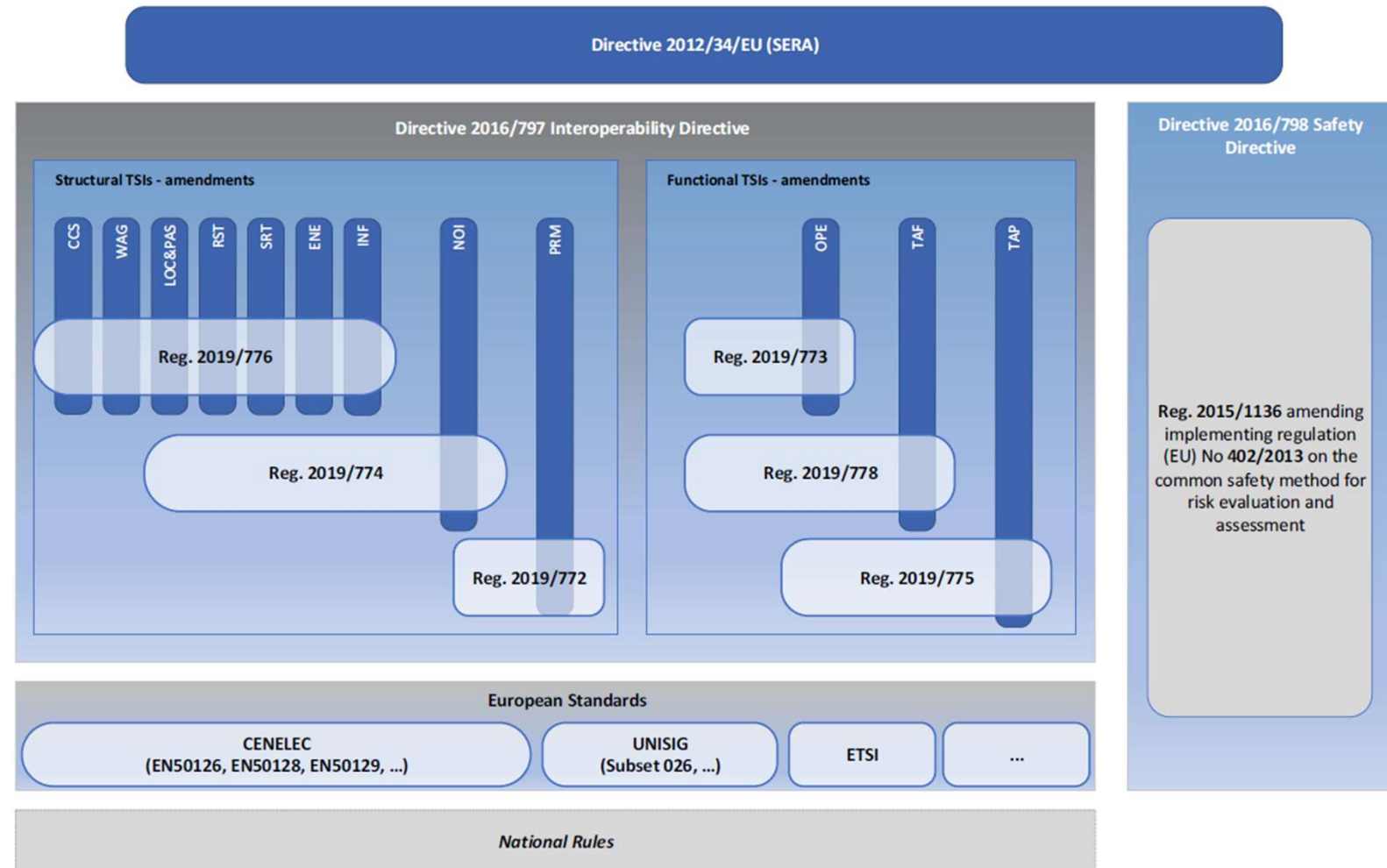
Guide for the application of the ERA CSM Regulation



# Action: TSI – NoBo Services

**Notified Body (NoBo)** conformity assessment is being performed in accordance with Directive 2016/797/EU to ensure interoperability between the Rail Baltica Project and the European railway network.

NoBo assessment starts with design works phase and ends with EC certification of each separate completed railway subsystem.



# Ensuring Safety and Interoperability – NoBo Services

## Technical Specifications for Interoperability

Each subsystem shall be covered by one TSI. Where necessary, a subsystem may be covered by several TSIs and one TSI may cover several subsystems. Main features of TSI:

- Intended scope (subsystem or part of subsystem);
- Essential requirements and interfaces with other subsystems
- Functional and technical specifications
- Interoperability constituents and interfaces
- Procedures are to be used in order to assess the compliance

Country	Document title
Estonia	Building Code adopted 01.07.2015
	Railway Act passed 15.10.2020; 31.10.2020
	The requirements for safety systems of IM/RUs and their implementation (adopted 03.12.2020 no. 83)
	The procedure for application of technical specifications of subsystems and interoperability constituents, the specific conditions for placing them in service and the list of essential requirements (adopted 27.11.2020 no. 80)
Latvia	Cabinet Regulation No. 500 adopted 19.08. 2014 “General Construction Regulations”
	Construction Law adopted 09.07.2013
	Cabinet Regulation No. 724 of 03.08.2010 “Railway technical operational regulations”
	Cabinet Rules No 530 adopted 02.09.2014 “Railway construction regulations”
	Cabinet Rules No 374 adopted 09.06.2020 “Railway interoperability rules”
	Cabinet Rules No 375 adopted 09.06.2020 “Railway safety rules”
Lithuania	Railway Law adopted 01.04.1998
	Law of the Republic of Lithuania on Railway Traffic Safety (2003 December 16, No. IX-1905)
	Railway Transport Code of the Republic of Lithuania (2004 April 22, No. IX-2152)
	Approval of the Regulations for the Technical Use of Railways (1996 September 20, No. 297)
	Construction Technical Regulation STR1.04.04:2017
	Rules for authorisation for placing into service of structural subsystems and rolling stock
	Railway system interoperability rules.

## Overview of the NoBo service

Three countries

Estonia, Lithuania,  
Latvia

Three subsystems

Infrastructure, Energy,  
Control-Command & Signalling

5 TSIs

INF, PRM, SRT, ENE, CCS

4 stages over 6 years:

Inception

Master  
Design

Detailed  
Design

Construction,  
Integration & Testing