



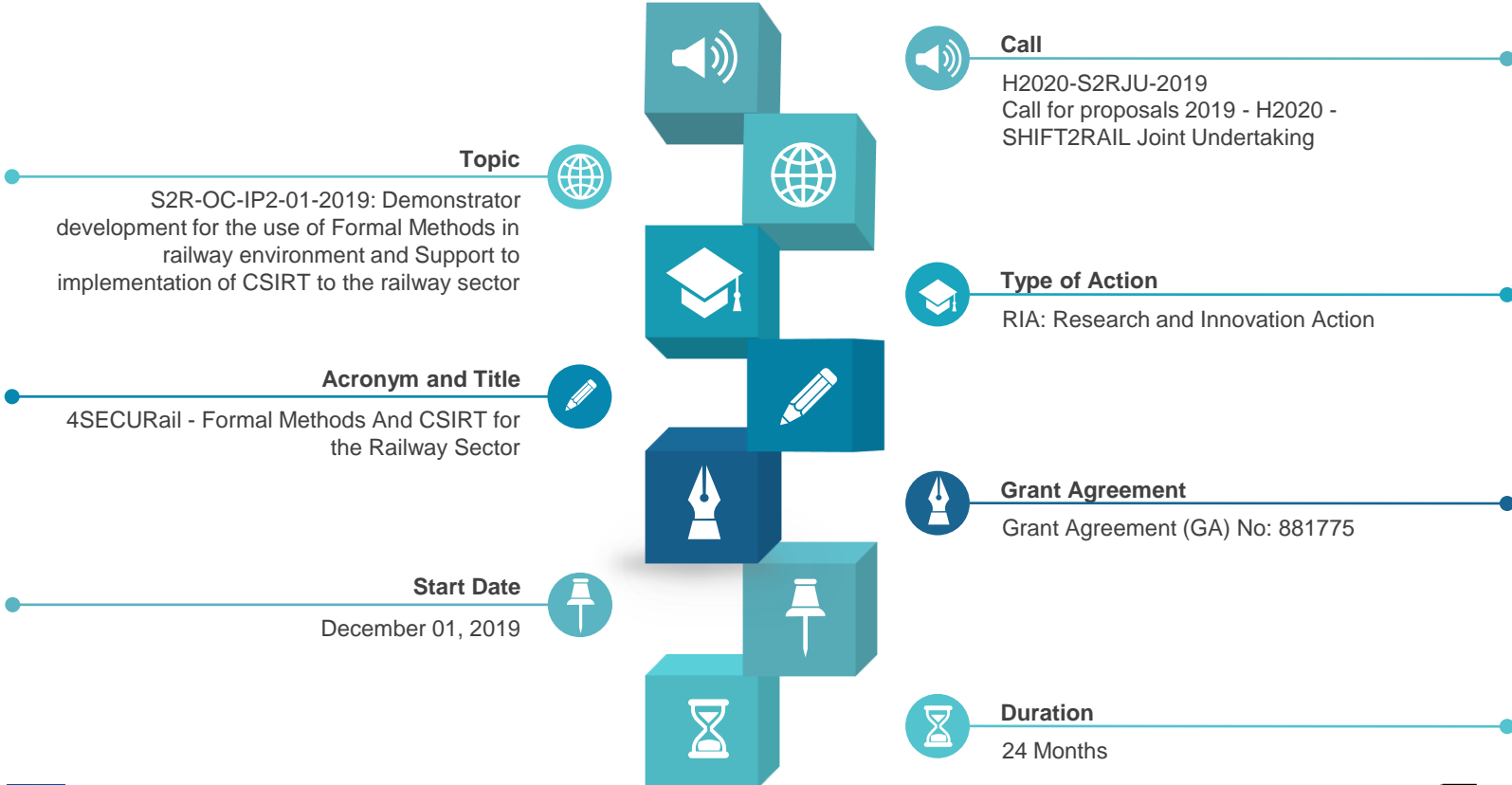
4SECURail Final Event

Objectives and overview on the concepts and approaches

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4SECURail is integrated in the H2020-S2RJU-2019 Call



4SECURail Project has two different workstreams: WS1- Formal Methods. WS2 - CSIRT

WS1-Formal Methods

Demonstrator development for the use of Formal Methods in railway environment

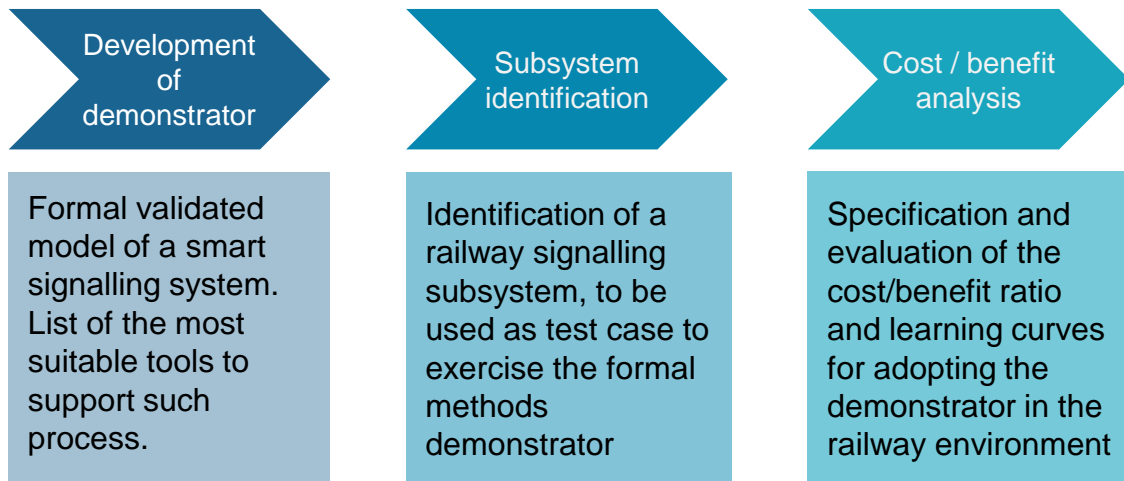
WS1 aims to provide a demonstrator of state-of-the-art formal methods and tools to evaluate the learning curve and to perform a cost/benefit analysis of the adoption of formal methods in railway industry

WS2-CSIRT

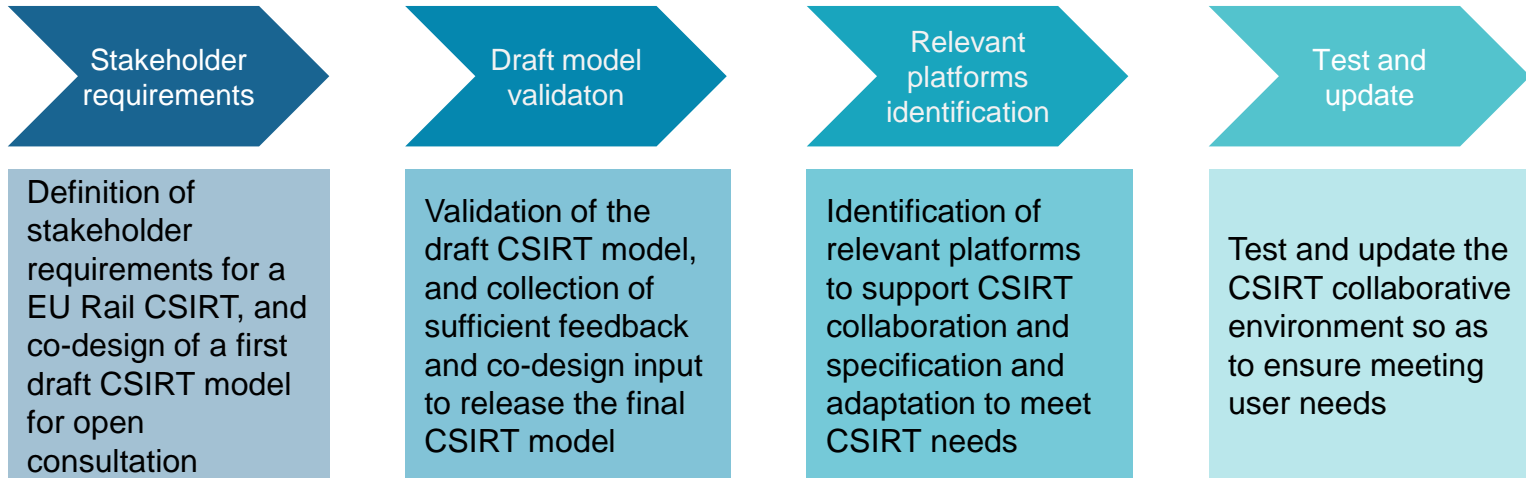
Support to implementation of CSIRT to the railway sector

WS2 aims to deliver a CSIRT model for Railway, co-designed and owned by stakeholders, along with a working platform also co-designed with those stakeholders to ensure ownership and future uptake.

WS1 consists of the development demonstrator for the use of formal methods in railway environment



WS2 gives support for the implementation of CSIRT to the railway sector



The project lasted 24 months and was divided in two reporting periods: P1: M1-M12, P2: M13-M24

Workpackage	Leader	Timeline																							
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24
WP 1 - Project management and coordination	ARD																								
T1.1 - Administrative and Financial Management	ARD	D1.1																							
T1.2 - Quality Assurance, Data and Risk Management	ARD					D1.2																			
T1.3 - Technical coordination, knowledge management and connection with S2R JU and projects	SIRT I																								
WP2 - Demonstrator Development for the use of Formal Methods in Railway Environment	CNR																								
T2.1 - Formal development demonstrator prototype	CNR					D2.1							D2.2												
T2.2 - Requirements definition of a railway signalling subsystem	SIRT I												D2.3												
T2.3 - Experimenting the formal methods demonstrator	CNR																								
T2.4 - Specification of cost/benefit analysis and learning curves	FIT																								
WP3 - Support to implementation of CSIRT to the railway sector	HIT																								
T3.1 - CSIRT model	HIT							D3.1					D3.2												
T3.2 - CSIRT platform	TREE																								
WP4 - Dissemination and Communication	ARD																								
T4.1 - Dissemination & Communication	ARD			D4.1				D4.2																	D4.3
T4.2 - Advisory Board	ARD																								
T4.3 - Sustainability & Impact Maximization	SIRT I																								D4.4

MS1 MS2 MS3 MS4

WP1: Project Management and Coordination

- D1.1 “Project Overview and quality assurance plan”
- D1.2 “Data Management Plan”

WP2: Demonstrator Development for the use of FM

- D2.1 “Specification of Formal development demonstrator”
- D2.2 “Formal development demonstrator prototype 1st release”
- D2.3 “Case study requirements and specification”
- D2.4 “Specification of CBA and learning curves, 1st release”
- D2.5 “Formal development demonstrator prototype, final release”
- D2.6 “Specification of CBA and learning curves, final release”

WP3: Support to implementation of CSIRT to the railway sector

- D3.1 “CSIRT model dedicated to railway, 1st release”
- D3.2 “CSIRT model dedicated to railway, final release”
- D3.3 “CSIRT collaborative environment prototype”

WP4: Outreach and networking

- D4.1 “Set-up of public website”
- D4.2 “Dissemination plan”
- D4.3 “Exploitation plan”
- D4.4 “Final Dissemination report”

Advisory board (AB)

- It was decided to set an Advisory Board (AB) for each WS to bring a much-needed perspective to the work done from the Consortium.
- The AB brought reliable recommendations and advices that contributed to the assessment of the developed solutions.
- Some AB meetings have been held to receive their opinions on the work done and to collect their advice for further work.
- The members of the AB (for each WS) have been:

INFRABEL

PROVER

DTU



(expleo)



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OF TWENTE.

hhu Heinrich Heine
Universität
Düsseldorf

unife
THE EUROPEAN RAIL INDUSTRY

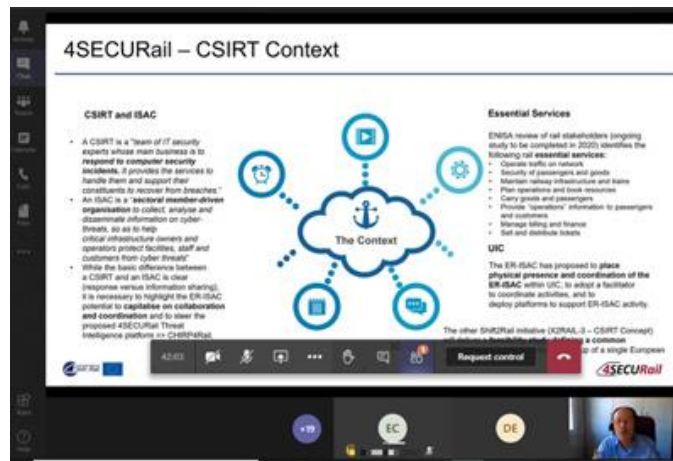
cervello
Railway Cyber Security

Collaboration with complementary projects

- A useful interaction was set between 4SECURail and other S2R complementary projects such as:
 - *X2Rail-2: Enhancing railway signalling systems based on train satellite positioning, on-board safe train integrity, formal methods approach and standard interfaces, enhancing Traffic Management System functions*
 - *X2Rail-3: Advanced Signalling, Automation and Communication System (IP2 and IP5) – Prototyping the future by means of capacity increase, autonomy and flexible communication*

Workshops performed

- Two technical workshops have been performed for each workstream.
- All of them received a great feedback and participation from all the attendees, and were a good opportunity to discuss the application for both workstreams.
- The attendees that took part in the event were from a wide range of companies and organizations such as Infrastructure Managers, Railway Undertakings, International Organizations for Standards, etc.



4SECURail

Thank you for your attention

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