

#EUYearofRail



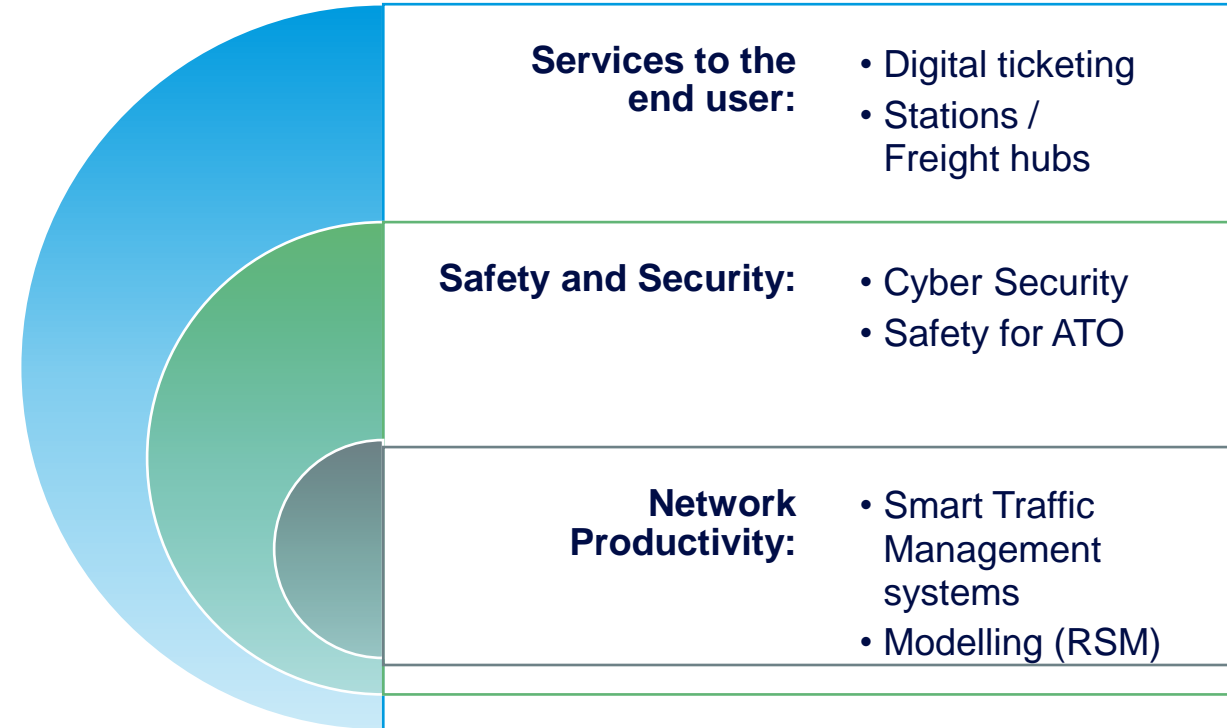
UIC Commitment on Digital and Innovation Strategy

François Davenne, UIC Director General

TIME MATTERS

- A non-linear environment
- Resilience as a must
- Ten years to make our systems smart
- Selecting transformational projects

- ▶ Vision for rail at the Cop 26
- ▶ 30/11, UIC centenary symposium: Which Railways in 5,10 and 15 years



DESIGN A BETTER FUTURE

Transforming cities and connecting communities:

- using clean energy and technology innovations
- promoting intermodality and seamless connections
- transforming customer experience

=> INTEGRATING MAJOR TECHNICAL BREAKTHROUGHS

- Digitalisation
- 5G
- Automation
- Artificial Intelligence
- Overcoming cyber risks

=> ACCELERATING THE CYCLE OF INNOVATION



Develop a shared System vision

Rail as the smart backbone for mobility

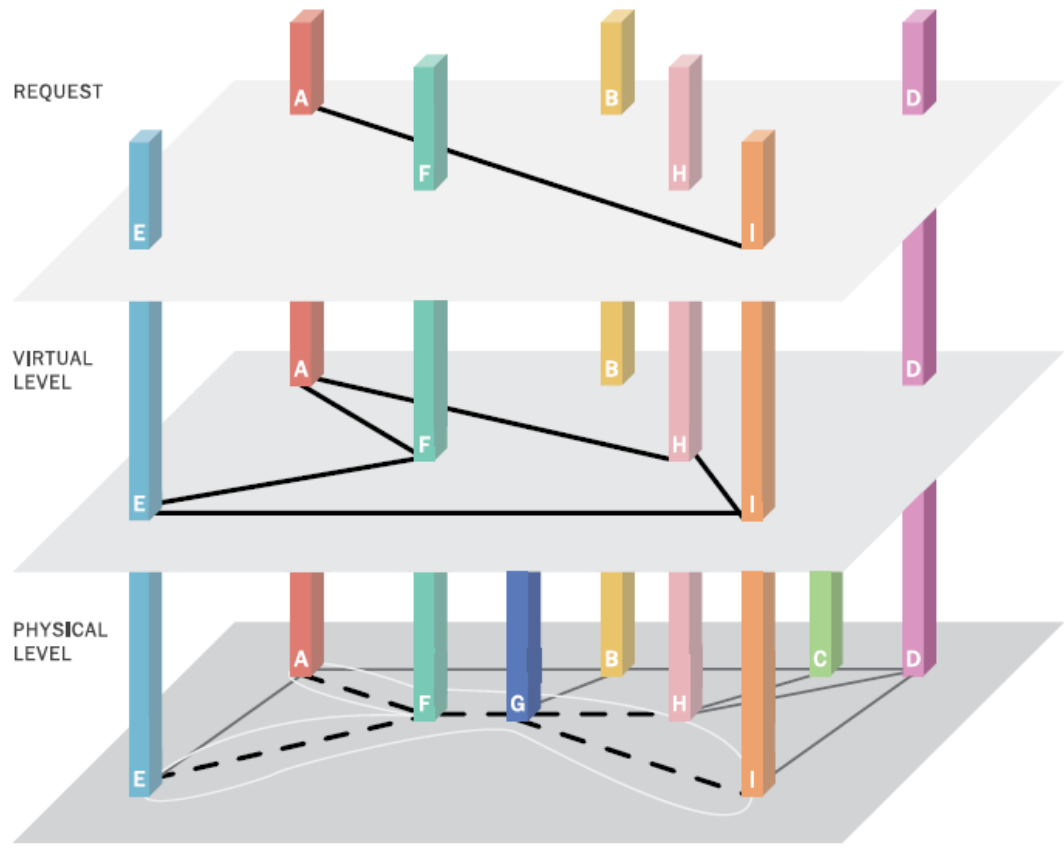
Internal regulation

- Minimise the internal complexity of the rail system
- Create interoperable train paths
- Connect different railway systems
- Insuring Safety/Security in the digital age

External interfaces

- Multimodality
- Interfacing with other regulations: customs, public transport.
- Creating and securing common data models and exchange protocols

Seamless connections: an analogy between IP and Railway



SERVICE LAYER

NETWORK LAYER

TRANSPORT LAYER

PHYSICAL LAYER



Enables:

- door-to-door journeys for passengers
- Seamless end-to-end freight transport

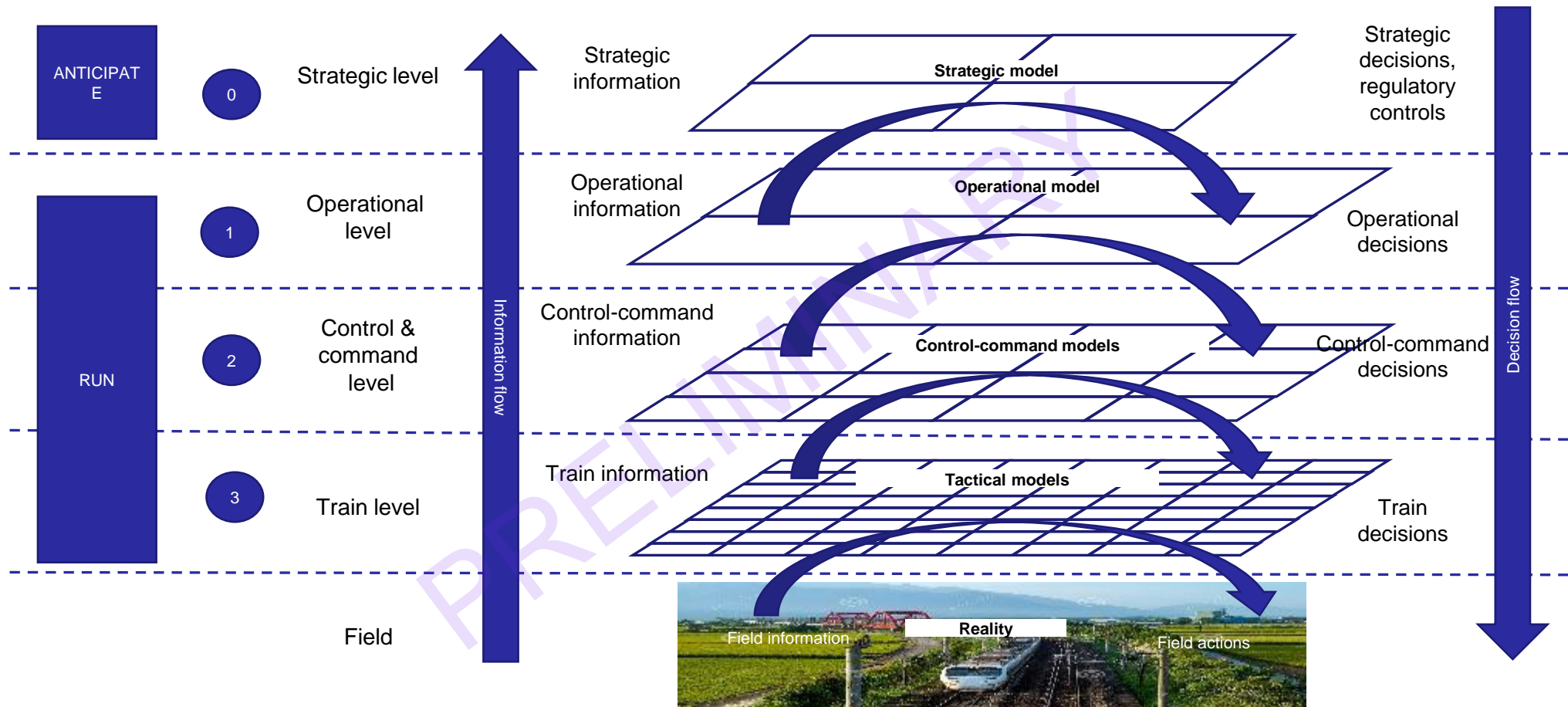
Rail traffic managed from end-to-end

compatibility between the rolling stock and the infrastructure

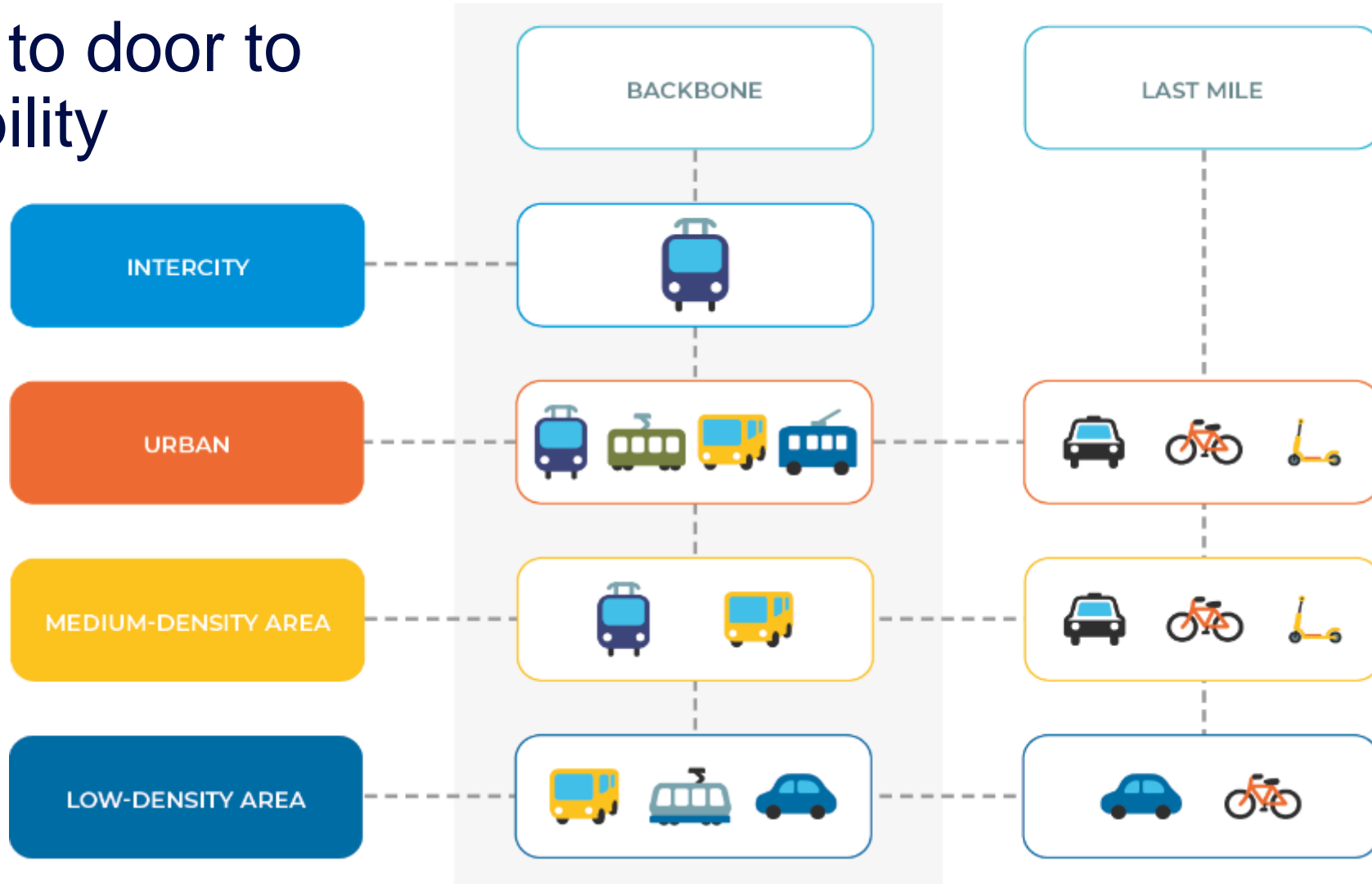
compliance with the essential requirements listed in the TSIs / UTPs

Railway system – Developing the Future system architecture

Functions – Level 1 – LEVELS and LOOPS within the railway system



The path to door to door mobility



FOCUS ON UIC'S ADDED VALUES



FOCUS ON UIC'S ADDED VALUES

FRMCS:

- The future 5G specifications for railways, but also the backbone, the key digitalisation enabler for the railway system,

Freight:

- On a multimodal level, supporting modal shift, notably through the development of freight digital platforms and specifications for freight operations,

Passengers:

- Focusing on integrated ticketing and innovative data models,

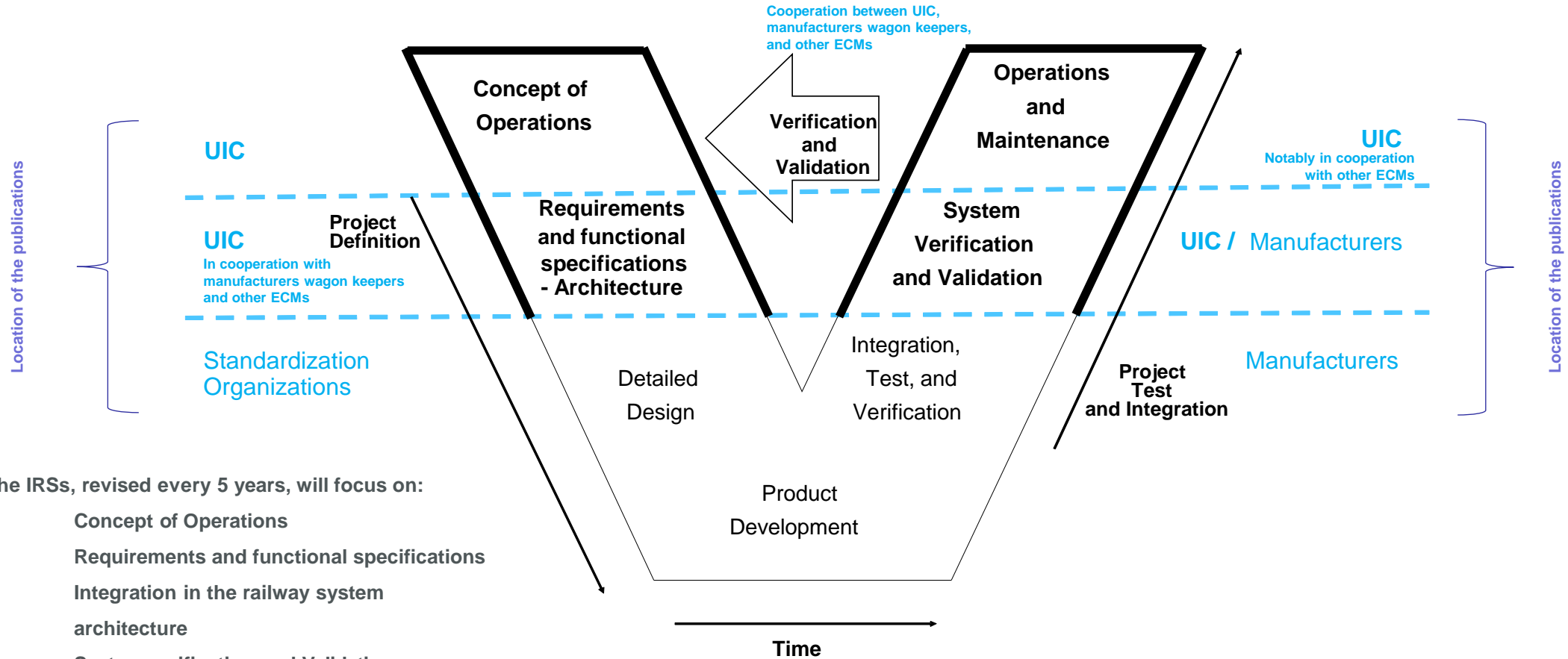
Solutions to support sustainable railways and carbon neutrality,

Security

Safety system and Operational Excellence

Click on document to open (ctrl + click)

ACCELERATE TOGETHER INNOVATIVE SOLUTIONS



The IRSs, revised every 5 years, will focus on:

- Concept of Operations
- Requirements and functional specifications
- Integration in the railway system architecture
- System verification and Validation
- Operational Rules, and Maintenance



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Thank you for your attention.