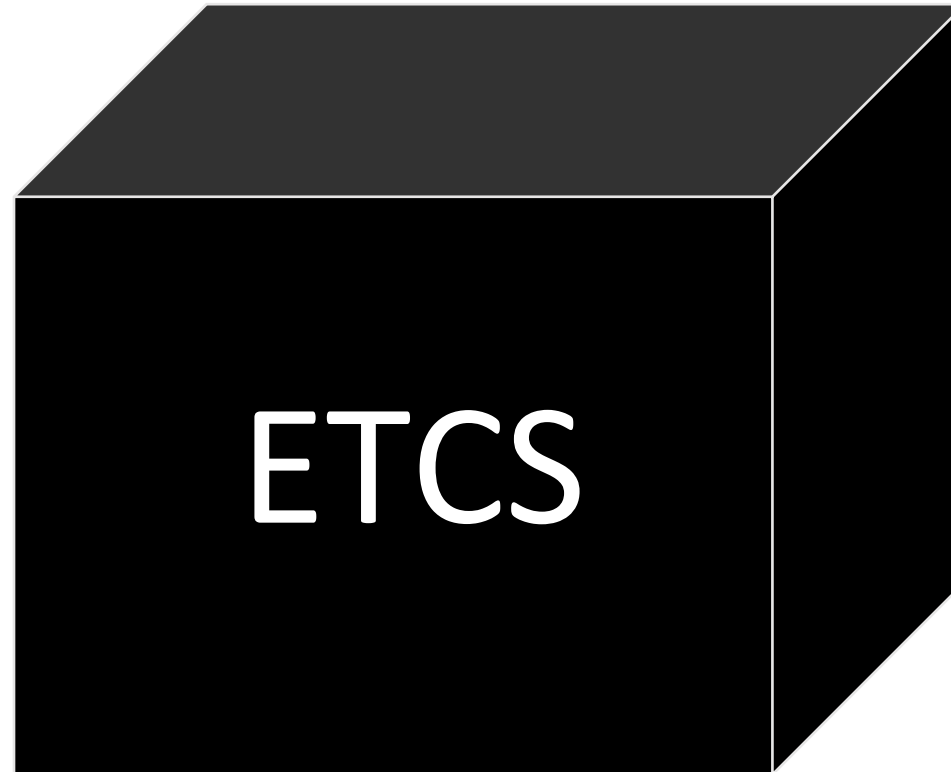


ETCS trackside cost drivers – an infrastructure manager's view

Nicola Furness, ERA ERTMS Conference 23/04/26

ETCS Cost Drivers – ETCS as a black box



ETCS Cost Drivers – ETCS Specifications

L 222/380

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COMMISSION IMPLEMENTING REGULATION (EU) 2023/1695

of 10 August 2023

on the technical specification for interoperability relating to the control-command and signalling subsystems of the rail system in the European Union and repealing Regulation (EU) 2016/919

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

 Having regard to Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union ⁽¹⁾, and in particular Article 5(11) thereof,

Whereas:

- (1) Commission Regulation (EU) 2016/919 ⁽²⁾ lays down the technical specification for interoperability (TSI) relating to the 'control-command and signalling' (CCS) subsystems.
- (2) Pursuant to Article 3(5), points (b) and (f) of Commission Delegated Decision (EU) 2017/1474 ⁽³⁾, TSIs are to be reviewed in order to take into account the developments of the Union railway system and related research and innovation activities, and update references to standards.
- (3) On 24 January 2020, in accordance with Article 19(1) of Regulation (EU) 2016/796 of the European Parliament and of the Council ⁽⁴⁾, the Commission asked the European Union Agency for Railways (the 'Agency') to prepare recommendations implementing a selection of the specific objectives set out in Articles 3 and 7 of Delegated Decision (EU) 2017/1474.
- (4) On 30 June 2022, the Agency issued a recommendation relating to the CCS subsystems (ERA-REC-1175-1218-2022/REC). This Regulation is based on that recommendation.
- (5) The existing regulatory framework should be modernized in order to enable new functionalities associated with the digitalisation of railway networks. The efficiency and sustainability of rail freight should be improved through further harmonisation of the European Rail Traffic Management System (ERTMS) and a broader and more systematic deployment of the ERTMS across the Union, notably on trans-European transport network.
- (6) The new functionalities associated with digitalisation of railway networks and identified in the ERTMS Longer Term Perspective Report of the Agency required the update of the TSI on CCS subsystems. These new technologies requested by the railway sector, as well, were the Future Railway Mobile Communication System (FRMCS), automated train operations, advanced train positioning, and digital automatic couplers.
- (7) Therefore, this revision delivers both full specifications for automated train operations (Grade of Automation 2) and the interface to FRMCS, which were available. Full FRMCS, advanced train positioning, and digital automatic coupler specifications were not yet available due to the need for further development.

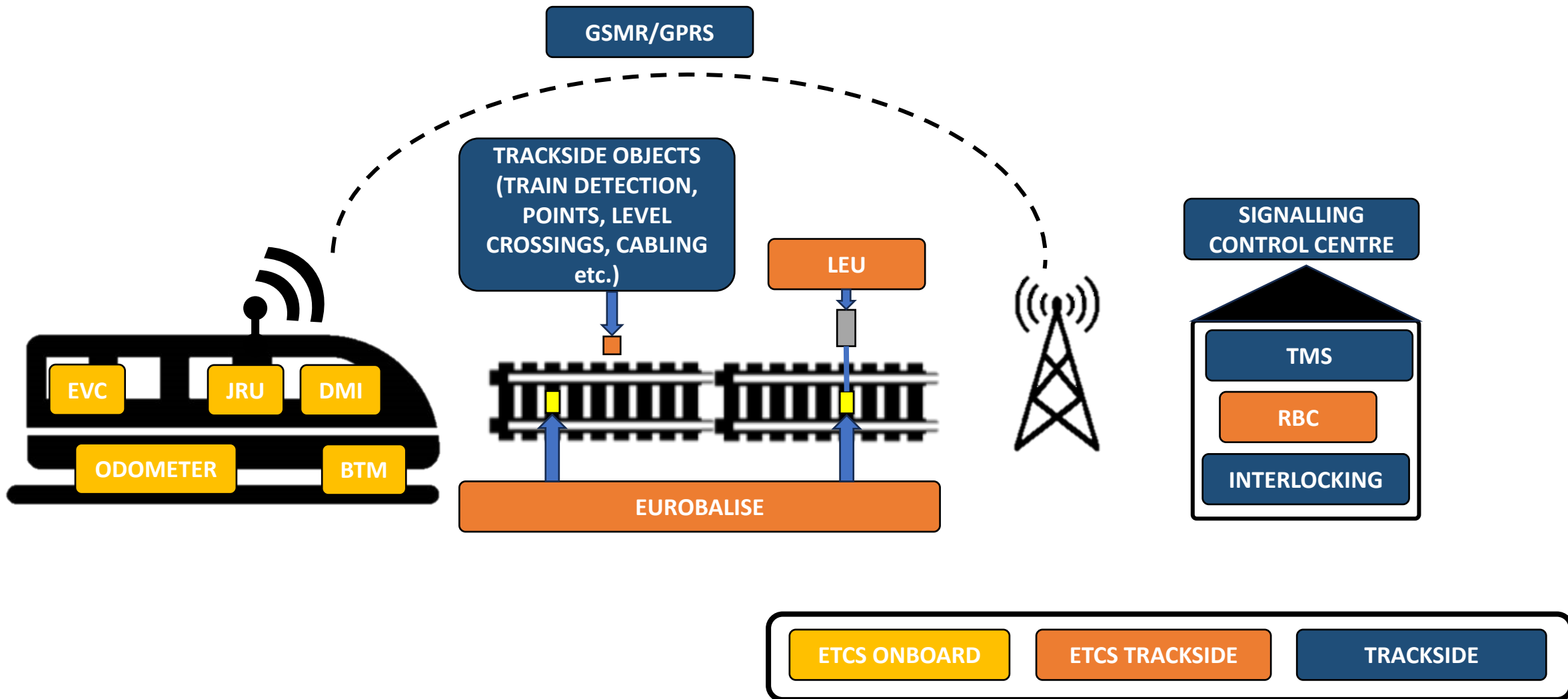
⁽¹⁾ OJ L 138, 26.5.2016, p. 44.

⁽²⁾ Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specification for interoperability relating to the 'control-command and signalling' subsystems of the rail system in the European Union (OJ L 158, 15.6.2016, p. 1).

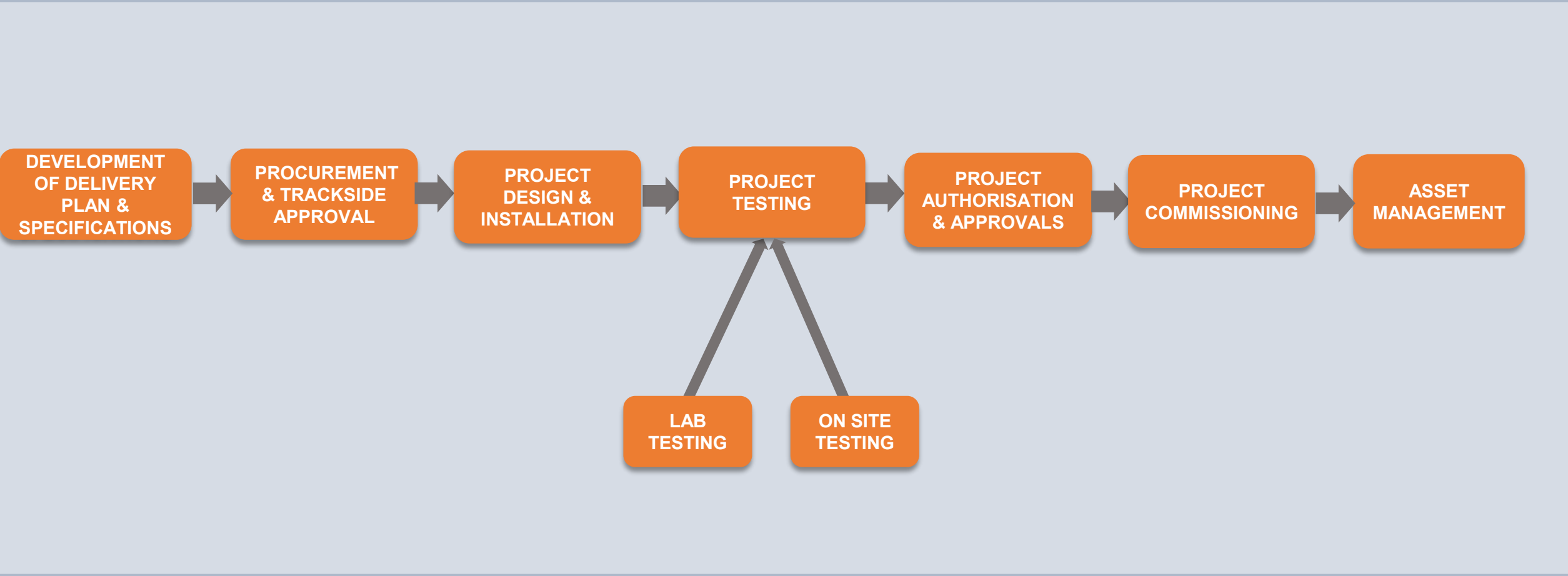
⁽³⁾ Commission Delegated Decision (EU) 2017/1474 of 8 June 2017 supplementing Directive (EU) 2016/797 of the European Parliament and of the Council with regard to specific objectives for the drafting, adoption and review of technical specifications for interoperability (OJ L 210, 15.8.2017, p. 5).

⁽⁴⁾ Regulation (EU) 2016/796 of the European Parliament and of the Council of 11 May 2016 on the European Union Agency for Railways and repealing Regulation (EC) No 681/2004 (OJ L 138, 26.5.2016, p. 1).

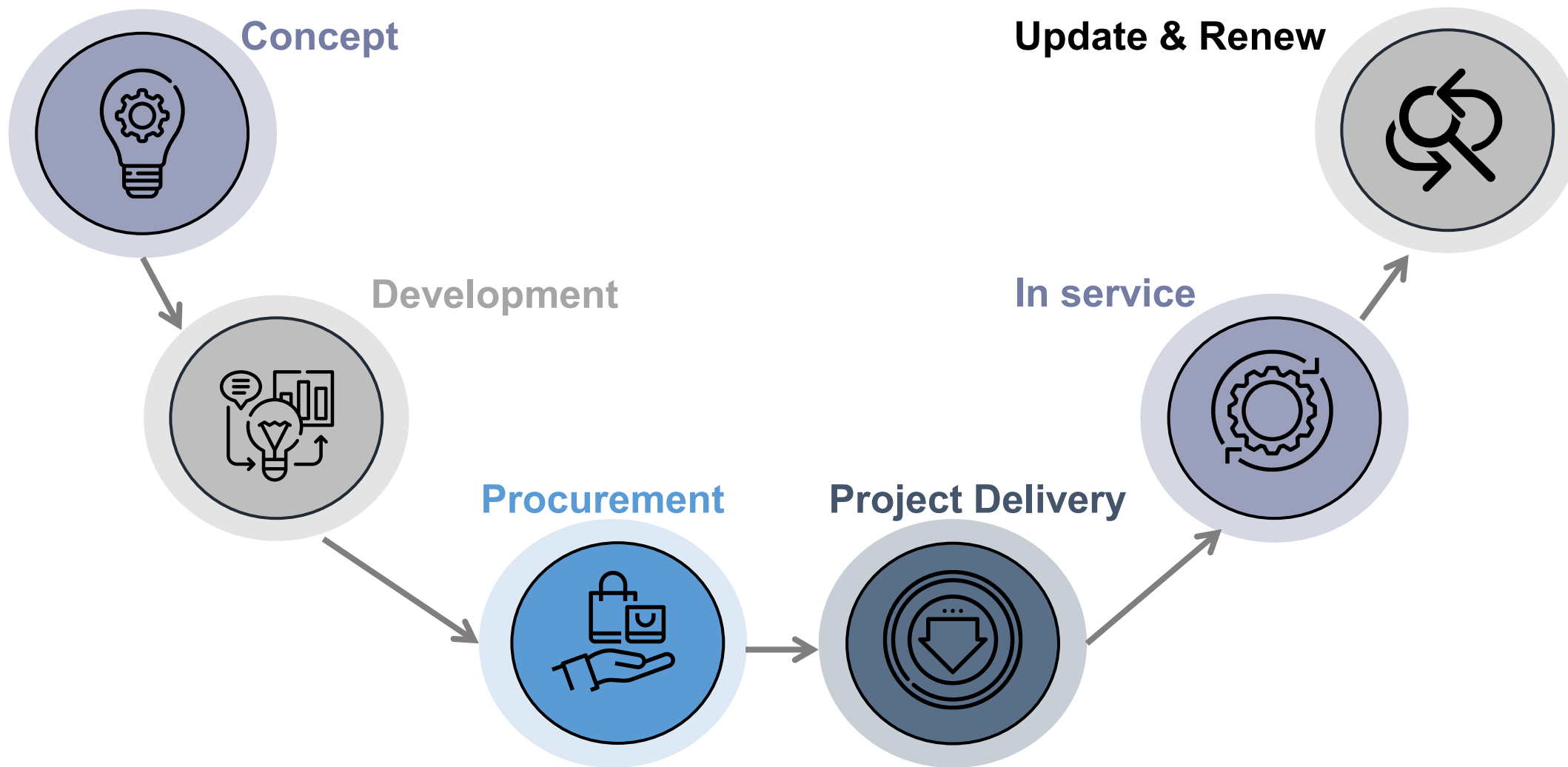
ETCS Cost Drivers – ETCS Products



ETCS Cost Drivers – Project Delivery



ETCS Cost Drivers – ETCS Lifecycle management



ETCS Cost Drivers – Conclusions

