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PUBLIC VERSION

In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EC) No 139/2004 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus […]. Where possible the information omitted has been replaced by ranges of figures or a general description.

Hitachi Rail Ltd.
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Subject: **Case M.10507 – HITACHI RAIL / GROUND TRANSPORTATION SYSTEMS BUSINESS OF THALES**
Commission decision pursuant to Article 6(1)(b) in conjunction with Article 6(2) of Council Regulation No 139/2004[1] and Article 57 of the Agreement on the European Economic Area[2]

Dear Sir or Madam,

(1) On 14 September 2023, the Commission received a notification of a proposed concentration pursuant to Article 4 of Council Regulation (EC) No 139/2004 (the 'Merger Regulation') by which Hitachi Rail, Ltd. ('Hitachi Rail' or the 'Notifying Party', United Kingdom), controlled by Hitachi, Ltd. (Japan), intends to acquire within the meaning of Article 3(1)(b) of the Merger Regulation control of the whole of the Ground Transportation Systems business of Thales S.A. ('Thales GTS' or the 'Target', France) by way of purchase of shares (the 'Transaction').[3] Hitachi Rail and the Target are together referred to as the 'Parties'.

1 OJ L 24, 29.1.2004, p. 1 (the 'Merger Regulation'). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ('TFEU') has introduced certain changes, such as the replacement of 'Community' by 'Union' and 'common market' by 'internal market'. The terminology of the TFEU will be used throughout this decision.
2 OJ L 1, 3.1.1994, p. 3 (the 'EEA Agreement').
3 Publication in the Official Journal of the European Union, OJ C334, 22.9.2023, p. 13.

1. THE PARTIES AND THE OPERATION

(2) **Hitachi Rail** is a global provider of transport solutions including rolling stock, signalling systems, turnkey solutions, maintenance services and components. Hitachi Rail is a wholly-owned subsidiary of Hitachi, Ltd. ('Hitachi'), the ultimate parent entity of a Japanese conglomerate headquartered in Tokyo and active internationally in a number of industries such as information technologies, energy, automotive systems, construction machinery, metals, etc.

(3) **Thales GTS** offers various solutions across four core business lines: (i) mainline signalling, (ii) urban rail signalling, (iii) integrated communication and supervision solutions and (iv) revenue collection systems.

2. THE TRANSACTION

(4) On 3 August 2021, Hitachi and Thales entered into a put option agreement according to which Hitachi irrevocably committed to acquire 100% of the share capital and voting rights of a company to be incorporated by Thales and to which the latter will transfer the Target business, for a total value of EUR 1.66 billion. Thales exercised its put option on 7 February 2022 and the Parties entered into a share purchaser agreement on 10 February 2022. As a result of the Transaction Hitachi will thus acquire sole control of the Target.

(5) It follows that the proposed transaction is a concentration within the meaning of Article 3(1)(b) of the Merger Regulation.

3. UNION DIMENSION

(6) The undertakings concerned have a combined aggregate worldwide turnover of more than EUR 5 000 million (Hitachi: EUR […]; Thales GTS: EUR […] million). Each of them has an EU-wide turnover in excess of EUR 250 million (Hitachi: EUR […]; Thales GTS: EUR […]) and none of them achieves more than two-thirds of its aggregate EU-wide turnover within one and the same Member State. The Transaction thus has an EU dimension pursuant to Article 1(2) of the Merger Regulation.

4. PROCEDURE

(7) The Commission received an initial notification of the Transaction on 4 October 2022, which the Parties withdrew on 3 November 2022.

(8) The Parties renotified the Transaction on 14 September 2023. On the same day, the Parties formally submitted commitments. As part of its second review of the Transaction, the Commission carried out a market test to investigate whether the commitments submitted by the Parties alleviate the serious doubts on the compatibility of the Transaction with the internal market and the EEA Agreement.

5. THE PARTIES' ACTIVITIES

(9) The Parties are both active in the supply of (i) mainline signalling and (ii) urban rail signalling systems. In addition, Hitachi Rail is also active in the production

and supply of rolling stock (both mainline and urban). As a result, the Transaction gives rise to:

(a) Horizontally affected markets for (i) mainline signalling and (ii) urban rail signalling systems;

(b) Vertically affected markets between the Parties' activities for the supply of on-board units (upstream) and Hitachi's activities for the supply of mainline rolling stock (downstream);

(c) Conglomerate relationships between the Parties' activities for the supply of computer-based train control ('CBTC') signalling systems and Hitachi's activities for the supply of urban rolling stock.

6. HORIZONTAL EFFECTS

(10) The Transaction gives rise to several horizontally affected markets for (i) mainline signalling and (ii) urban rail signalling.

6.1. Analytical framework

(11) The Commission's Guidelines on the assessment of horizontal mergers under the Merger Regulation (the 'Horizontal Merger Guidelines') distinguish two main ways in which mergers between actual or potential competitors on the same relevant market may significantly impede effective competition, namely non-coordinated effects and coordinated effects.[4]

(12) Non-coordinated effects may significantly impede effective competition by eliminating the competitive constraint imposed by one merging party on the other, as a result of which the merged entity would have increased market power without resorting to coordinated behaviour. According to recital 25 of the Merger Regulation, a significant impediment to effective competition can result from the anticompetitive effects of a concentration even if the merged entity would not have a dominant position on the market concerned. In this regard, the Horizontal Merger Guidelines consider not only the direct loss of competition between the merging firms, but also the reduction in competitive pressure on non-merging firms in the same market that could be brought about by the merger.[5]

(13) The Horizontal Merger Guidelines list a number of factors, which may influence the extent to which horizontal non-coordinated effects arise from a merger, such as: the large market shares of the merging firms; the fact that the merging firms are close competitors; the limited possibilities for customers to switch suppliers; or the fact that the merger would eliminate an important competitive force. This list of factors applies if a merger would create or strengthen a dominant position or would otherwise significantly impede effective competition due to non-coordinated effects. Furthermore, not all of those factors need to be present to make significant non-coordinated effects likely and the list itself is not an exhaustive list.[6]

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4 OJ C 31, 5.2.2004, p. 5. The remainder of this Decision focuses on non-coordinated effects.

5 Horizontal Merger Guidelines, paras. 24-38.

6 Horizontal Merger Guidelines, paras. 24-38.

6.2. Mainline signalling

6.2.1. Introduction to mainline signalling

(14) Rail signalling systems provide safety controls on rail networks. At their most basic level, these systems avoid collisions by preventing two trains from meeting on the same section of railway network.[7] Rail signalling systems comprise both trackside[8] and on-board elements.[9] A distinction can be made between mainline signalling, which equips national railway networks (including conventional and high-speed lines) and urban rail signalling, which equips local railway networks such as metros and light rail.[10]

(15) Customers in the signalling sector source either:

(a) Projects, which consist of a comprehensive solution including all products and equipment, their adaptation, engineering, as well as project management and all services and/or spare parts required to install and put the system into operations;[11] or

(b) Products, on a standalone basis, i.e. without the supporting services such as axle counters, balises, relays, point machines and/or switches, etc.

(16) As for mainline signalling in particular, the various elements of mainline signalling systems, or sub-systems, consist of:[12]

(a) Interlockings, which constitute the core safety component of mainline signalling. They ensure the safe passage of trains by controlling and preventing access to sections of the tracks to avoid collisions (i.e. side impact, rear and head-on collisions);

(b) Automatic Train Protection ('ATP') systems: which – together with interlockings - constitute the safety level of mainline signalling (track protection and train control respectively). These systems were developed to reduce the risk of train drivers failing to respond to signalling commands;

(c) Operation and Control Systems ('OCS'): which are IT solutions designed to ensure the overall management of the networks. They comprise components that monitor and command signalling subsystems. The OCS perform operational (or 'control level') functions, which respond to safety

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7 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 706.

8 Trackside and wayside are used interchangeably in this Decision. Narrowly defined, trackside elements are specifically those elements located immediately beside the track, while wayside elements also include those elements located at a slightly greater distance from the track and the train. As such, track side and wayside element are installed on the railway infrastructure and purchased by infrastructure managers.

9 On-board elements or on-board units ('OBUs') are installed on the rolling stock and purchased by rolling stock manufacturers or train operators, depending on whether they are intended for installation on new trains or on existing train fleets.

10 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 710.

11 Spare parts and maintenance services are not provided on a standalone basis.

12 Interlockings and automatic train protection systems constitute the 'Safety Level' while the operation and control system represents the 'Control Level'.

requirements.[13] These include the operations of networks of interlockings and the integration of the information generated by interlockings and ATPs, as they are connected to several ATPs and interlockings across a national or regional infrastructure. The OCS is connected to the installed interlockings by means of interfaces.

(17) The key mainline signalling products which can be sold either as part of a project or as a standalone product are the following:

(a) OBUs, installed on the rolling stock,[14] and which receive the information from the ATP wayside and translate that information into safety procedures such as sending warning to the drivers, slowing or stopping the train;

(b) Interlocking equipment, which operates the vital control of the trackside elements such as switches or signals, guarantees the safety for train movements or routes, and ensures that incompatible routes are not simultaneously established for multiple trains; and

(c) Field elements: such as track circuits and/or axle counters,[15] point machines and/or switches,[16] balises,[17] relays,[18] track signals,[19] level crossings,[20] checkpoints,[21] treadles[22] and hot box detectors.[23]

(18) Interoperability among the various signalling subsystems and interoperability with the rolling stock have to be ensured.[24] Most countries have national operational rules and technical requirements for mainline signalling with which any project in that country must comply. There are more than 50 legacy ATP systems across Europe, including multiple systems within some individual Member States. Each legacy system is standalone and cannot interoperate with

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13 In addition, OCS also perform non-safety related functions, referred to as dispositive of management level functions, aimed at increasing network efficiencies, automatic conflict detection and conflict resolution, timetable management, decision support, and dispatching.

14 Trains, including very high-speed trains, high-speed trains, self-propelled regional trains, etc.

15 These field elements indicate whether a block is occupied or vacant.

16 These field elements are used to move a set of rails to allow a train to move from one track to another.

17 Balises are installed between the rails of a railway (as part of an ATP system) and transmit signalling information to the train passing above it.

18 Relays are devices that respond to a small current or voltage change by activating switches or other devise in an electric circuit and are used notably in interlockings.

19 Track signals are colour lights or mechanical arms installed next to or above the track.

20 Level crossings are systems deployed at crossroads between roads and rails to protect the public from trains at any speed.

21 Checkpoints enable the supervision of trains' condition by detecting deviations from predefined values while trains are running. Checkpoint sensors can perform a wide variety of operations including measuring wheel and axle loads, wagon load distribution, as well as detecting derailed wagons, blocked brakes, displaced loads, flat spots and hot boxes.

22 Treadles are technical or electrical devices that detect that a train wheel has passed a particular location and are used where a track circuit requires reinforcing with additional information about a train's location.

23 Hot box detectors are devices used to assess the health of railcar components including bearings, axles, and brakes by monitoring their temperatures.

24 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 723.

other legacy systems.[25] In order to travel, a train must have an ATP OBU that is compatible with each wayside ATP system it will encounter.

(19) Measures have been taken to improve the interoperability and safety of national networks and to encourage the development of an integrated rail system leading to a single European rail area. The European Rail Traffic Management System ('ERTMS') is the European standard for ATP. It has been developed to address the interoperability issues caused by legacy systems and enhance cross-border railway traffic, lower costs and promote competition between signalling suppliers. It allows a train equipped with an ERTMS on-board device made by any supplier to run on track sections equipped with ERTMS devices made by other suppliers. ERTMS is a control, command, signalling and communication system. It is composed of:

(a) the European Train Control System ('ETCS'):[26] this is an ATP that continuously ensures that the train does not exceed the safe speed and distance. In addition, it provides the relevant information that support the task of the train driver;[27]

(b) the Global System for Mobile Communications – Railways ('GSM-R'): this is the European radio communications standard for railway operations.[28]

(20) However, non-standardised national systems will remain in parts of the European rail network for many years, and non-standardised national equipment for rolling stock will remain necessary.[29]

6.2.2. Horizontally affected markets

(21) The Transaction gives rise to horizontally affected markets with respect to: (i) standalone interlocking projects, (ii) ATP wayside projects (including both overlay and resignalling projects) and (iii) OCS projects.

6.2.3. Standalone interlockings

6.2.3.1. Market definitions

6.2.3.1.1. Product market definition

(22) Interlockings are typically based on a system where tracks are split into 'blocks', the length of which can vary from a few hundred meters in stations to several kilometres in open tracks. Interlockings ensure that no more than one train enters a block at any time. Interlockings interface with adjacent or intersecting

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25 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 725.

26 For the purpose of the assessment of the Transaction, the terms ERTMS and ETCS will nevertheless be used interchangeably.

27 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 728.

28 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 729.

29 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 724.

interlockings and with the other signalling systems, including ATP system and the OCS.[30]

(23) Interlockings work by (i) receiving information from wayside sensors (track circuits and/or axle counters) about whether a specific block is vacant or occupied by a train; (ii) calculating safe routes for trains based on that information; (iii) controlling machines that move the rail at junctions to allow trains to transfer from one track to another; and (iv) issuing movement authorities to trains to allow them to travel, i.e. instructing through signals the train drivers how to proceed, e.g. to continue, to reduce speed, or to stop.[31]

(24) Broadly speaking, there are two types of interlockings: (i) older, non-electronic ones (also known as relay interlockings) and (ii) modern, electronic interlockings, which are a combination of hardware and software and are implemented through computers (i.e. computer-based interlockings).[32]

6.2.3.1.1.1. The Commission's precedents

(25) In previous decisions, the Commission considered whether the market for railway signalling could be further segmented according to the rail network type. In *Siemens / Alstom*, the majority of respondents indicated that mainline signalling and urban signalling should be distinguished from one another because the two types of systems serve different needs, are based on different technologies and standards, require different technical solutions and are sold to different customers. In view of these elements, the Commission concluded that mainline signalling and urban signalling belong to separate markets.[33]

(26) Within mainline signalling, the Commission considered a possible segmentation between mainline signalling projects and mainline signalling products or services. Railway signalling projects are comprehensive solutions involving: project-specific engineering, development and project managements, procurement of the necessary equipment, installation, testing and, in most cases, maintenance. In contrast, railway signalling products are signalling components used in railway signalling projects.[34] On this basis, the Commission concluded that a distinction should be made between mainline signalling projects and products.[35]

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30 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 713.

31 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 715.

32 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 716.

33 Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraphs 611-614; Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 744-750.

34 Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraph 619; Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 751-759.

35 Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraph 624; Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 757.

(27) Within mainline signalling projects, the Commission concluded that these should be further segmented by subsystem, with a distinction between (i) standalone interlocking projects, (ii) ATP projects and (iii) OCS projects.[36]

(28) Within standalone interlocking projects, the Commission considered that there was no need to define separate product markets by type of technology (i.e. non-electronic or computer-based).[37]

6.2.3.1.1.2. The Notifying Party's view

(29) The Notifying Party agrees that standalone interlocking projects constitute a distinct product market, given the specific demand for such projects. The Notifying Party also considers that a segmentation by type of interlocking technology is not relevant.[38]

6.2.3.1.1.3. The Commission's assessment

(30) The results of the investigation did not elicit any indication putting into question the relevance of a segmentation between mainline and urban rail signalling or between mainline signalling projects and products. As for the definition of a separate market for standalone interlocking projects, the tender data submitted by the Parties indicates that in the period 2013-2022, 48 contestable standalone interlocking projects were tendered[39] in 5 EEA countries.[40] It can thus be concluded that there exists a distinct demand for standalone interlocking projects.

(31) In this respect, a majority of customers that expressed a view confirmed that they exclusively or mostly purchase interlockings on a standalone basis.[41] Likewise, a vast majority of the opinions expressed by competitors confirmed that they exclusively or mostly sell interlockings on a standalone basis.[42] This is consistent with the market reports submitted by the Parties[43] and other internal documents from the Parties' ordinary course of business,[44] [a confidential description which references the Parties' internal strategy not in the public domain].

(32) Within standalone interlocking projects, the vast majority of customers who expressed a view confirmed that computer-based interlockings can be used as substitutes to non-electronic interlockings.[45] As one customer explained: '*with*

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36 Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraph 647-656; Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 791 and following.

37 Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraph 692; Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 794.

38 Form CO, paragraph 253.

39 Form CO, Annex CO S.7.1.

40 In Bulgaria, France, Italy, Poland and Romania.

41 Responses to Q2 - Questionnaire to customers of wayside signalling systems, question 3.

42 Responses to Q1 - Questionnaire to competitors, question 2.

43 Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.1; Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.2; Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.3; Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.4; Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.5 (Market report from Unife World Rail Market Study and Roland Berger).

44 Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.6; Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.7; Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.8; Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.9; Form CO, Annex CO Ch.1 Sub.c 1 P.5 S.7.2.10.

45 Responses to Q2 - Questionnaire to customers of wayside signalling systems, question 3.

new resignalling projects, digital and/or electronic interlockings has to be purchased, 'old' interlockings will be replaced with new digital and/or electronic interlockings'.[46] The vast majority of competitors who expressed a view also confirmed that computer-based interlockings can be substituted for non-electronic interlockings.[47] By way of illustration, one competitors explained that: '*The first interlockings were developed in the late 1980s. Since then, many relay interlockings* [i.e. non-electronic interlockings] *have been replaced by electronic interlockings. This process of replacement and renewal will continue to progress*'.[48]

(33) Finally, the Commission notes that the market investigation did not elicit any element suggesting that standalone interlocking projects should be further segmented, especially between projects for high-speed lines and mainlines.

(34) In view of the foregoing, the Commission concludes that standalone interlocking projects constitute a distinct product market without there being the need to further segment this market by type of technology (i.e. between non-electronic interlockings and computer-based interlockings).

6.2.3.1.2. Geographic market definition

6.2.3.1.2.1. The Commission's precedents

(35) In previous decisions, the Commission considered the market for interlocking projects to be national in scope because interlockings must be adapted to conform to national systems and signalling rules, and certain demand-side considerations present national features.[49]

6.2.3.1.2.2. The Notifying Party's view

(36) The Notifying Party agrees that the geographic market for standalone interlocking projects is national in scope.[50]

6.2.3.1.2.3. The Commission's assessment

(37) The results of the investigation confirm that the market for interlockings is national in scope. From a demand-side perspective, customers for interlocking projects are national infrastructure managers operating national networks.[51]

(38) From a supply-side perspective, the list of suppliers offering homologated interlockings varies between Member States.[52] In addition, the majority of competitors who expressed a view explained that significant differences exist

46 Response to Q2 - Questionnaire to customers of wayside signalling systems, question 5.1.
47 Responses to Q1 - Questionnaire to competitors, question 4.
48 Response to Q1 - Questionnaire to competitors, question 4.1.
49. For instance, the installed base, accreditation, the need for a significant local workforce and premises as well as the different technical and engineering requirements (Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph. 832).
50 Form CO, paragraph 257.
51 Questionnaire to customers of wayside signalling systems, question 1.
52 Form CO, table 38.

between Member States for standalone interlocking projects, both in terms of price and homologation.[53]

(39) According to one competitor '*Still massive differences exist between the Member States*'.[54] Likewise, another competitor explained that '*For interlockings, the markets are often national in scope and in some countries, there are only two or three active suppliers of interlockings, sometimes both Thales and Hitachi among them*'.[55] Similarly, a third competitor confirmed that '*national regulation still in force highly affects both homologation and interoperability*'.[56]

(40) This is consistent with the Parties' internal document [a confidential description which references the Parties' internal strategy]. As one internal document explains: '*[a quote from a confidential internal document]*'.[57]

(41) In view of the above, the Commission concludes that the relevant markets for standalone interlockings projects are national in scope.

6.2.3.2. Competitive assessment

(42) For standalone interlocking projects, the Parties' activities overlap in France, Germany and Italy.[58] The table below provides an overview of the Parties' market shares by reference to the number of tenders won for the supply of standalone interlocking projects in each of these Member States:

Table 1 – Standalone interlocking projects – Market shares (2013 – 2022)

Product market	Geo. market	Combined	Hitachi	Target
Standalone **Interlocking projects**	France	**[70-80]%**	[30-40]%	[30-40]%
	Germany	**[40-50]%**	[0-5]%	[40-50]%
	Italy	**[40-50]%**	[40-50]%	[0-5]%

Source: Form CO, Annex CO S.7.1

(43) Only 13 contestable standalone interlocking projects were identified by the Notifying Party over the last ten years in Bulgaria (1), France (1), Italy (10) and Poland (1). The Parties both competed for such projects only in [EU Member State], alongside Alstom and Siemens.[59]

6.2.3.2.1. France

(44) The Table below provides the detail of the Parties' and their competitors' market shares for standalone interlocking projects in France by reference to the number of tenders won:

53 Responses to Q1 - Questionnaire to competitors, question 6.
54 Response to Q1 - Questionnaire to competitors, question 6.1.
55 Minutes of a call with a competitor, 10 May 2022.
56 Response to Q1 - Questionnaire to competitors, question 6.1.
57 Annex RFI8-3, p.47.
58 This list of countries reflects all the countries [confidential commercial activity detail].
59 Form CO, Annex CO S.7.1.

Table 2 – Standalone interlocking projects: market shares (France)

FRANCE	All projects		Contestable projects[60]		> 1 bidder
	2013-2022	***2018-2022***	***2013-2022***	***2018-2022***	***2013-2022***
Hitachi	[30-40]%	[30-40]%	[20-30]%	[20-30]%	[20-30]%
Target	[30-40]%	[30-40]%	[30-40]%	[30-40]%	[30-40]%
Combined	***[70-80]%***	***[70-80]%***	***[60-70]%***	***[60-70]%***	***[60-70]%***
Alstom	[20-30]%	[20-30]%	[30-40]%	[30-40]%	[30-40]%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Annex CO S.7.1

(45) As shown above, the Parties' combined market share for standalone interlocking projects in France is particularly high ([70-80]%) with a very significant increment ([30-40]%). The only competitor on this market would be Alstom which would account for less than half of the Parties' combined market share ([20-30]%).

(46) For completeness, it is noted that [confidential commercial activity detail] as Hitachi is the owner of the legacy technology used by interlockings on high-speed lines in France (*Transmission Voix Machine*, 'TVM') and, as a result, currently holds a monopoly for interlocking projects on these lines.[61]

(47) However, the Commission notes that the relevant product market includes all types of standalone interlocking projects and does not distinguish between standalone interlocking projects for high-speed lines and conventional lines.[62] In any event, the Commission notes that even if the Parties do not overlap on the segment for standalone interlocking projects on high-speed lines in France, they overlap on the segment for conventional lines and their market shares on this sub-segment are close to their market shares on the overall market for standalone interlocking projects in France:

Table 3 – Standalone interlocking projects by type of line: market shares (France)[63]

Companies	High-speed lines		Conventional lines	
	2013-2022	***2018-2022***	***2013-2022***	***2018-2022***
Hitachi	[90-100]%	[90-100]%	[20-30]%	[20-30]%
Target	[0-5]%	[0-5]%	[40-50]%	[40-50]%
Combined	***[90-100]%***	***[90-100]%***	***[60-70]%***	***[60-70]%***
Alstom	[0-5]%	[0-5]%	[30-40]%	[30-40]%
Total	**100%**	**100%**	**100%**	**100%**

Source: Annex CO S.7.1

(48) In France, the national infrastructure manager (SNCF Réseau) purchases standalone interlocking projects through framework agreements.[64] More

60 Throughout this decision and in line with the Commission's approach in *Siemens / Alstom* (Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraph 146) and *Alstom / Bombardier* (Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 280), the term 'contestable' relates to tenders formally open to competition.

61 Form CO, Annex CO S.7.1.

62 See above, paragraph (33).

63 Market shares calculated by reference to the number of tenders won.

64 Minutes of a call with a customer of 15 June 2022.

specifically, when SNCF Réseau intends to enter into a new framework agreement (or to amend or extend an existing framework agreement), it typically launches a call for tenders, to which all suppliers technically able to supply interlockings for the French market can participate.[65] Based on the responses received, SNCF Réseau then ranks the various suppliers and selects several of them. SNCF Réseau unilaterally sets the number of selected suppliers based on a number of criteria.[66]

(49) Since 2006, SNCF Réseau launched calls for tenders for three framework agreements:[67]

(1) The initial PAING 2006 framework agreement: as part of these agreements, [confidential information on the name of the participants] participated in the tender and all three were selected;

(2) The PAI BAL framework agreement: in 2006, SNCF extended the PAING 2006 framework agreement until 2018 and introduced an amendment for the procurement of specific interlocking equipment (i.e. the Block Digital). [confidential information on the name of the participants] participated in the tender and only [confidential information on the name of the participants] were ultimately selected;

(3) The ARGOS agreement: the ARGOS process was initiated in 2018. It started off with a research phase in which four suppliers participated, namely: Alstom, Hitachi, Thales and Siemens. At the end of this research phase, three suppliers were selected in May 2020: Alstom, Hitachi and Thales.

(50) These three calls for tenders show that only four interlocking suppliers are technically able to supply interlockings in France: Alstom, Hitachi, Thales and Siemens.[68] However, Siemens appears to be a more distant player since it did not participate to the tender [confidential bidding data] and even though it participated to the two latest calls for tenders, it never won. This is reflected in the bidding data submitted by the Parties:

65 Minutes of a call with a customer of 15 June 2022.

66 Minutes of a call with a customer of 15 June 2022.

67 Form CO, paragraphs 648 – 694.

68. These are the same only four suppliers also active in France for ETCS ATP wayside resignalling projects (which also include interlockings). This means that there is no other player active in France for the supply of interlockings, be it on a standalone basis or as part of a broader ETCS ATP wayside resignalling project (i.e. including both interlockings and other ETCS ATP wayside systems).

Table 4 – Standalone interlocking projects: bidding data (France)

2013-2022	Participation rate			Winning rates[69]		
	Overall	*With Hitachi participation*	*With Thales participation*	*Overall*	*With Hitachi participation*	*With Thales participation*
Hitachi	[90-100]%	[90-100]%	[90-100]%	[60-70]%	[60-70]%	[50-60]%
Thales	[60-70]%	[60-70]%	[90-100]%	[60-70]%	[60-70]%	[90-100]%
Alstom	[60-70]%	[60-70]%	[50-60]%	[60-70]%	[60-70]%	[50-60]%
Siemens	[30-40]%	[30-40]%	[50-60]%	[0-5]%	[0-5]%	[0-5]%

Source: Annex CO S.7.1

(51) Indeed, in view of the above, it appears that:

(a) Hitachi participated in […] calls for tenders launched by the French rail infrastructure manager (SNCF Réseau), whereas Thales and Alstom participated to only [60-70]% of these tenders and Siemens participated in only [30-40]%;

(b) Every time Thales participated in a call for tenders, it competed with Hitachi in [60-70]% of tenders compared to [30-40]% of the time for Siemens;

(c) Only Thales, Hitachi and Alstom managed to win calls for tenders;

(d) The overall winning rate of Hitachi ([60-70]%) is higher than its winning rate when Thales is participating ([50-60]%).

(52) As a result, Siemens appears to be a distant competitor whereas Thales, Hitachi and Alstom compete more closely. Thales also appears to be a close competitor of Hitachi and Hitachi a close competitor of Thales. The transaction would thus combine two close competitors and reduce the number of selected players in the context of the ARGOS agreement from three to two and, more generally, it would reduce the overall number of players technically able to deliver interlocking projects in France from four to three (i.e. when taking Siemens into account even though Siemens never won a tender over the past 10 years in France).

(53) According to the Notifying Party, the Transaction would not give rise to competition concerns for the provision of standalone interlocking projects in France because:

(a) For high-speed lines: SNCF is starting to gradually phase out the TVM technology and replacing it with the European standardized ETCS technology, thus opening-up competition on interlockings for high-speed lines;

69 Winning rates are defined as the share of competitive tenders won by each supplier based on the number (as opposed to value) of projects won. In the case of wins by consortia, the Commission has attributed one win to each of the two consortia members, thus leading to total winning rates possibly above 100%.

(b) For conventional lines:

(1) most of the competition dynamics for the upcoming years are determined by framework agreements which will remain unchanged;

(2) SNCF Réseau will be able to rely on the combined entity and continue to have an alternative supplier (Alstom), which is sufficient to maintain competitive conditions;

(3) for the award of future framework agreements, there will remain sufficient other actual or potential competitors;

(4) the Parties are not close competitors because in the last three sets of framework agreements, Hitachi and Alstom have […] been selected as suppliers while Thales has only been selected […];

(5) SNCF Réseau holds a monopsony which gives it significant countervailing buyer power.

(54) With respect to high-speed lines, the Commission notes that the market investigation did not elicit any element suggesting that the segment of interlockings installed on high-speed lines form part of a separate market.Furthermore, the results of the investigation confirm the existence of interoperability constraints which may confer a significant competitive advantage in the future to the Parties and Alstom, which were selected as part of the ARGOS agreement, for the installation of interlockings on high-speed lines as well.[70]

(55) With regards to interlockings installed on conventional lines, the results of the investigation did not support the Parties' allegations for the following reasons.

(56) ***First***, the results of the market investigation do not support the Notifying Party's view that most of the competition dynamics for the upcoming years are already pre-determined by the framework agreement currently in place (ARGOS). In this respect, SNCF Réseau made clear that: '*Following the award of the ARGOS framework contract for interlockings, the market repartition between the suppliers will be continuously re-evaluated, possibly on a yearly basis, based on experience and project costs. The prices stipulated in the framework contract will be reviewed and re-negotiated in 2026. The ARGOS framework agreement aims at maintaining a high level of competition during the entire duration of the contract between the three selected suppliers*'.[71]

(57) The review of the ARGOS framework agreement also confirmed that the allocation of future interlocking projects will be regularly re-evaluated based on the past performance of the contract, every five years.[72]

(58) ***Second***, the results of the market investigation do not support the Notifying Party's allegation that the existence of a single credible alternative supplier (Alstom) would be sufficient to maintain effective competitive conditions. In this

70 This is because the ARGOS agreement covers the provision of standalone interlocking projects for both high-speed lines and conventional lines (minutes of a call with a customer, 21 November 2022, paragraph 2).

71 Minutes of a call with a customer, 15 June 2022.

72 Annex CO Ch.1 Sub.c.1 P.5 S.7.2.16, clause 68.3.

respect, the French railway infrastructure manager confirmed that the number of suppliers selected as part of the ARGOS was carefully chosen: '*the number of suppliers to be awarded a lot of the framework contract is a compromise between allowing a sufficient level of competition within the contract on the one side, and the efficiency of the management of the contract and its projects on the other side. The Company decided that the framework contract would be awarded three suppliers*'.[73]

(59) Furthermore, several customers confirmed that one or two suppliers for the supply of standalone interlocking projects is not sufficient to ensure a competitive outcome. As one customer explained for instance: '*In the past when we purchased standalone interlockings we attempted to do this on independent calls for tenders. The out turn from this was not favourable due to limited competition (in reality only 1-2 national suppliers who would provide a bid)*'.[74]

(60) This is also consistent with the specific features of the ARGOS framework agreement, which is designed to ensure continuous competition between selected suppliers and based on the allocation of lots according to the performance of each supplier in the implementation of the contract.[75] The allocation of various lots to several suppliers based on their ranking means that there is no '*winner-takes-all*' effect. This reduces the incentive of the participants to compete and the level of competition between them. As such, the calls for tenders launched as part of this framework agreement cannot be regarded as perfect bidding markets.

(61) ***Third***, the market investigation did not support the Parties' claim according to which many other suppliers could participate in calls for tenders for the award of the next framework agreement. In this respect, the Commission notes that since 2006, the same four suppliers ([confidential information on the names of competitors]) participated in the calls for tenders launched by SNCF.[76]

(62) In addition, the market investigation confirmed the existence of strong incumbency advantage which makes new entry less likely on this market. As one competitor explained for instance: '*Due the historical proximity to the SNCF market, Thales' installed base is broad; thus forming a high barrier for entry for any competitor who intends to enter the market*'.[77] As a result, the suppliers selected in the context of the ARGOS agreement (including the two Parties) are likely to benefit from a competitive advantage in future calls for tenders for the next framework agreements to be launched by SNCF Réseau.

(63) ***Fourth***, the results of the market investigation confirmed that the Parties are close competitors. Almost all customers who expressed a view explained that the Parties are close competitors for the supply of standalone interlocking projects.[78] Likewise, the majority of competitors who expressed a view confirmed that the Parties are close competitors.[79]

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73 Minutes of a call with a customer, 15 June 2022.

74 Response to Q2 - Questionnaire to customers of wayside signalling systems, question 6.

75 Minutes of a call with a customer, 15 June 2022.

76 Except for the PAING 2006 framework agreement for which only [confidential information on the names of competitors] participated.

77 Response to Q1 - Questionnaire to competitors, question 12.3.1.

78 Responses to Q2 - Questionnaire to customers of wayside signalline systems, question 14.1.

79 Response to Q1 - Questionnaire to competitors, question 12.3.

(64) As one competitor explained: '*Thales GTS and Hitachi are 2 of the 3 key suppliers of interlocking systems in France*'.[80] According to another competitor: '*Hitachi and Thales GTS are two of the three main interlocking suppliers in France, the third supplier being Alstom. We believe that these companies have similar technical capability and product offerings*'.[81] Likewise, a third competitor explained that '*The Argos framework agreement was awarded to Thales, Hitachi and Alstom. Thales and Hitachi have considerable and similar market share of the interlockings market in France and they compete against each other on all tenders*'.[82]

(65) ***Fifth***, the market investigation also confirmed that SNCF Réseau will not be able to sponsor the entry of a new interlocking supplier or to launch independent calls for tenders outside the ARGOS agreement while this framework agreement is in force (i.e. for the next 15 years). As SNCF Réseau explained: '*The Company cannot and will not procure interlockings outside of the ARGOS framework agreement* […]. *The Company considers that for legal, technological and economic reasons, it is not conceivable to open up the ARGOS framework agreement for a new supplier like Siemens for instance*'.[83] This results in a lock-in effect that limits the countervailing buyer power of SNCF Réseau. Moreover, the removal of one selected supplier as a result of the transaction will further reduce the countervailing buyer power of SNCF Réseau.

(66) In view of the evidence considered in this Section 6.2.3.2.1, the Commission concludes that the Transaction gives rise to serious doubts as to its compatibility with the internal market and the EEA Agreement for standalone interlocking projects in France.

6.2.3.2.2. Germany

(67) The Table below provides the detail of the Parties' and their competitors' market shares for standalone interlocking projects in Germany:

Table 5 – Standalone interlocking projects: market shares (Germany)[84]

GERMANY	All projects		Contestable projects		> 1 bidder
	2013-2022	***2018-2022***	***2013-2022***	***2018-2022***	***2013-2022***
Hitachi	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Target	[40-50]%	[40-50]%	[20-30]%	[10-20]%	[10-20]%
Combined	***[40-50]%***	***[40-50]%***	***[20-30]%***	***[10-20]%***	***[10-20]%***
Siemens	[30-40]%	[30-40]%	[60-70]%	[70-80]%	[70-80]%
Alstom	[10-20]%	[10-20]%	[5-10]%	[10-20]%	[10-20]%
Scheidt-Bachmann	[5-10]%	[5-10]%	[0-5]%	[0-5]%	[0-5]%
Pintsch	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Form CO, Annex CO S.7.1

(68) As shown above, the increment brought about by Hitachi for the supply of standalone interlocking projects in Germany is rather limited ([0-5]%) and corresponds to [confidential commercial information], which means that the

80 Responses to Q1 - Questionnaire to competitors, question 12.3.1.
81 Responses to Q1 - Questionnaire to competitors, question 12.3.1.
82 Responses to Q1 - Questionnaire to competitors, question 12.3.1.
83 Minutes of a call with a customer, 15 June 2022.
84 Market shares calculated by reference to the number of tenders won.

Parties never competed for the same standalone interlocking project in Germany over the past 10 years. On this market, the Parties will continue to face significant competitive pressure from 4 remaining players, including significant competitors like Siemens ([30-40]%) and Alstom ([10-20]%).

(69) This is consistent with the responses received in the market investigation. In particular, the German infrastructure manager explained that it views the Transaction favourably with respect to standalone interlocking projects in Germany as post-Transaction '*Hitachi would get access to the operational knowhow from Thales which supports Hitachi to enter the German signalling market*'.[85]

(70) In view of the foregoing, the Commission takes the view that the Transaction does not give rise to serious doubts as to its compatibility with the internal market and the functioning of the EEA Agreement for standalone interlocking projects in Germany.

6.2.3.2.3. Italy

(71) The Table below provides the detail of the Parties' and their competitors' market shares for standalone interlocking projects in Italy:

Table 6 – Standalone interlocking projects: market shares (Italy)[86]

ITALY	All projects		Contestable projects		> 1 bidder
	2013-2022	***2018-2022***	***2013-2022***	***2018-2022***	***2013-2022***
Hitachi	[30-40]%	[30-40]%	[30-40]%	[30-40]%	[30-40]%
Target	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Combined	***[30-40]%***	***[30-40]%***	***[30-40]%***	***[30-40]%***	***[30-40]%***
Alstom	[40-50]%	[30-40]%	[40-50]%	[30-40]%	[40-50]%
ECM	[10-20]%	[10-20]%	[10-20]%	[10-20]%	[10-20]%
Sirti	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Mermec	[0-5]%	[5-10]%	[0-5]%	[5-10]%	[5-10]%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Form CO, Annex CO S.7.1

(72) In Italy, the increment brought about by Thales for the supply of standalone interlocking project is very limited ([0-5]%) and corresponds to [confidential commercial information], which means that the Parties never competed for the same standalone interlocking project in Italy over the past 10 years. On this market, the Parties will continue to face significant competitive pressure from 4 remaining players, including significant competitors like Alstom ([40-50]%) who will remain the market leader and ECM ([10-20]%).

(73) This is consistent with the results of the market investigation. In particular, the Italian rail infrastructure manager considers that '*there is no overlap for the supply of interlockings in Italy and RFI does not anticipate any specific impact of the Transaction in Italy in this regard*'.[87]

(74) In view of the above, the Commission takes the view that the Transaction does not give rise to serious doubts as to its compatibility with the internal market and

85 Minutes of a call with a customer of 20 June 2022, paragraph 17.
86 Market shares calculated by reference to the number of tenders won.
87 Minutes of a call with a customer of 14 July 2022, paragraph 8.

the functioning of the EEA Agreement for standalone interlocking projects in Italy.

6.2.4. ATP wayside projects[88]

6.2.4.1. Market definitions

6.2.4.1.1. Product market definition

(75) ATP systems were developed to reduce the risk of train drivers failing to respond to signalling commands. They are designed to ensure that the train complies with the movement authorities issued by the interlocking and the appropriate speed on any given section of the tracks.[89] The ATP systems alert the driver if speed limits are exceeded and initiate automatic breaking if required. To ensure the information is properly transmitted between the track and the train, ATP systems include both (i) wayside systems, installed on the tracks and (ii) OBUs, installed on the rolling stock.[90]

(76) The ATP wayside system receives the signalling commands from the interlockings and transmits this information either to:[91]

(a) a balise or transponder, which then transmits the signalling information to the train via an antenna ('intermittent ATP system'); or

(b) a wayside encoder transmitting information, via cable or radio, to the train ('continuous ATP system').

(77) The ATP OBU receives the signalling information from the antenna and implements safety procedures, such as sending warnings to the driver, or stopping or slowing the train. Different levels of ATP systems provide different levels of protection.[92] A basic ATP system may cause an alarm to sound in the train cabin where the driver failed to obey a signal, a more advanced ATP system can intervene where a train driver fails to modify the train's behaviour by applying the emergency brake, and an even more advanced ATP system can control the speed of a train by applying the brakes of a train in response to a signal from the interlocking or based on a maximum track speed information programmed into the system.[93]

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88 For completeness, the Commission notes that the Transaction does not give rise to affected markets under any plausible geographic market definition with respect to ETCS ATP OBU projects. As a result, this section focuses on ETCS ATP wayside projects.

89 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 717.

90 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 717.

91 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 718.

92 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 719.

93 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 719.

6.2.4.1.1.1. The Commission's precedents

(78) In previous decisions, the Commission considered that ATP projects should be segmented between ATP wayside and OBU projects, each constituting a separate product market.[94]

(79) Within ATP wayside projects, the Commission distinguished separate markets for conventional (i.e. legacy) systems and ETCS systems.[95] To justify this segmentation, the Commission explained that legacy systems are essentially local and cannot fulfil interoperability functionalities required by ETCS systems.[96] ETCS, on the other hand, is part of the European ERTMS standard for ATP systems. As such, ETCS systems are similar across EEA Member States. ETCS and legacy standards are not interoperable and thus require different wayside and on-board equipment. As the underlying technology is different, there is no supply-side substitution and the approval procedures are different.[97]

(80) Within ATP wayside projects (both for legacy and ETCS projects), the Commission distinguished separate markets for:[98]

(a) Overlay projects: these projects relate to the separate procurement of ATP wayside systems as standalone subsystems (i.e. without interlockings) placed over a pre-existing interlocking infrastructure;

(b) Resignalling projects: these projects relate to the joint procurement of ATP wayside systems and interlockings as part of a bundled project.

6.2.4.1.1.2. The Notifying Party's view

(81) The Notifying Party agrees with the previous Commission's findings that a segmentation between ATP wayside projects and OBU projects is relevant.[99] Likewise, the Notifying Party agrees that a segmentation between ETCS and legacy ATP wayside systems is relevant.[100]

(82) The Notifying Party considers that ATP wayside resignalling and overlay projects do not constitute separate product markets because the complexity that might result from the interface between the ETCS ATP system and the interlocking in the context of an overlay project is not always relevant since network operators can require standard ATP-interlockings interfaces or impose that access to the interface specification is given to the ETCS ATP system supplier.[101] The Notifying Party further notes that major ETCS ATP wayside suppliers pursue and

94 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 770; Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraphs 660-665.

95 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 776.

96 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 776.

97 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 776.

98 Case COMP/M.8677 – Siemens / Alstom, para. 667; Case COMP/M.9779 – Alstom/Bombardier, para. 777-780.

99 Form CO, paragraph 203.

100 Form CO, paragraphs 210-211.

101 Form CO, paragraph 215.

win both types of projects (overlay and re-signalling).[102] In addition, the Notifying Party submits that both types of projects imply a full responsibility of the supplier for the final signalling system.[103]

6.2.4.1.1.3. The Commission's assessment

(83) The results of the market investigation did not elicit any element putting into question the relevance of the distinction between ATP wayside projects and OBU projects or within ATP wayside project - between legacy and ETCS ATP wayside projects.

(84) As to the distinction between overlay and resignalling projects, the results of the market investigation support the existence of distinct relevant product markets. The bidding data provided by the Notifying Party shows that several customers launch separate tenders for overlay projects, e.g. for framework contracts for the procurement of Radio Block Centers (RBCs – which are a type of overlay equipment).[104]

(85) This is consistent with the Parties' internal documents, [a confidential description which references the Parties' internal strategy not in the public domain].[105] This is also consistent with the responses received from market participants: several customers indicated that they purchase overlay projects separately, including from the Parties.[106] Likewise, several competitors confirmed that they supply overlay systems on a standalone basis.[107]

(86) In view of the foregoing, the Commission concludes that the markets for ATP wayside and OBU projects should be distinguished. Within each of these markets, the Commission takes the view that further distinctions, (i) between legacy and ETCS projects and (ii) between overlay and resignalling projects are warranted.

6.2.4.1.2. Geographic market definition

6.2.4.1.2.1. The Commission's precedents

(87) In previous decisions, the Commission made a distinction between the geographic market definitions of legacy and ETCS ATP wayside projects (both for overlay and resignalling projects):

(a) For legacy ATP wayside projects: the Commission considered the relevant geographic markets for ATP wayside overlay projects (standalone) and ATP wayside resignalling projects (bundle of legacy ATP wayside and interlockings) to be national in scope. This is due to the absence of standardization for legacy ATP wayside systems in the EEA and the fact that customers are national infrastructure managers. The Commission also

102 Form CO, paragraph 216.
103 Form CO, paragraph 217.
104 Form CO, Annex CO S.7.1.
105 See e.g. Annex RFI8_4, page 4.
106 Responses to Q2 - Questionnaire to customers of wayside signalling systems, question 2.
107 Responses to Q1 - Questionnaire to competitors, questions 20 and 20.1.

noted in this respect that the list of suppliers able to deliver such projects varies between Member States;[108]

(b) For ETCS ATP wayside projects: while noting the existence of several factors pointing to the existence of national markets,[109] the Commission ultimately concluded that EEA-wide markets existed because the adoption of EU-wide authorisation procedures and standards, and in particular of ERTMS, was developing homogeneous conditions for competition between mainline signalling suppliers within the EEA.[110]

6.2.4.1.2.2. The Notifying Party's view

(88) The Notifying Party submits that the geographic market for ETCS ATP wayside overlay and resignalling projects are EEA-wide (including also the UK and Switzerland).[111] In this respect, the Notifying Party argues that non-incumbent suppliers can easily provide their ETCS ATP wayside systems across the EEA, the UK, and Switzerland since functionalities of the ERTMS system and many of the interfaces are certified at EU level on the basis of TSIs. According to the Notifying Party, this results in an increased ability for customers to switch to suppliers active in other EEA Member States, the UK, or Switzerland in a short timeframe and at a negligible cost.[112]

(89) As to legacy ATP wayside overlay projects, the Notifying Party considers these markets to be national in scope due notably to the importance of national specifications.[113]

6.2.4.1.2.3. The Commission's assessment

(90) The market investigation did not elicit any element that would put into question the previous findings of the Commission according to which the markets for legacy ATP wayside projects are national in scope. The results of the investigation in the case at hand, however, strongly suggest that the markets for ETCS ATP wayside projects (including both overlay projects and resignalling projects) are also national in scope.

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108 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 840-842.

109 Namely: (i) suppliers of ETCS systems need to homologate their ETCS systems, (ii) in overlay projects, they need to create an interface to the installed interlockings and the interlockings on the neighbouring sections of the network, (iii) in resignalling projects, they need to create an interface to the interlockings on the neighbouring sections.

110 From a supply point of view, the Commission also explained that the same Baseline ETCS platforms were used by suppliers across the EEA (after adaptations to cater for national specificities), which suggests that competitive conditions are similar across the EEA (Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 834-836). For resignalling projects, the existence of an EEA-wide market was further justified by the fact that in resignalling projects, the interlockings are replaced which means that only the interface with neighbouring interlockings (i.e. installed on neighbouring sections) needs to be developed. As a result, the need to interoperate with existing interlockings is more limited than in overlay projects (Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 837-839).

111 Form CO, paragraphs 220-224.

112 Form CO, paragraphs 217-218.

113 Form CO, paragraph 234.

(91) ***First***, from a demand-side perspective, the Commission notes that most customers of ETCS ATP wayside projects (including overlay and resignalling projects) are national infrastructure managers, operating national railway infrastructure.[114]

(92) ***Second***, from a supply-side perspective, it can be observed that:

(a) Most suppliers of ETCS ATP wayside overlay projects usually do not bid in all EEA countries.[115] For example, while Thales has bid on […] overlay tenders in the past 10 years in Finland (as presented in the tender data by the Notifying Party), Hitachi [confidential bidding data]. Similarly, while according to the data provided by the Notifying Party, Alstom has participated in […] tenders of the past ten years in Italy, [confidential bidding data]. Further, certain local competitors appear to be only active in one or two countries across the EEA (e.g. AZD Praha appears to only be active in Czechia);[116]

(b) This is also true for ETCS ATP wayside resignalling projects.[117] For example, Hitachi has not bid for a resignalling tender in Bulgaria in the past ten years, while Thales has bid for […] out of the […] tenders in that country.[118] Similarly, Hitachi has not bid on resignalling tenders in Croatia in the past ten years, while Thales had bid on […] out of the […] tenders in that country.[119] In Poland, Hitachi has not bid on resignalling tenders in the past ten years, while Thales bid on […] out of the […] tenders in that country.[120] In Italy, Hitachi has bid on […] out of the […] tenders in that country in the past ten years, and Thales bid on […] – Siemens however bid on none of the […] tenders.[121]

(93) These examples support the conclusion that suppliers adopt a country-by-country bidding strategy in ETCS ATP wayside overlay and resignalling projects, probably due to the existence of significant barriers to entry (as explained in further detail below).[122]

(94) ***Third,*** this is consistent with the Parties' internal documents, as can be seen in Hitachi's internal document captioned in Figure 1 below.

(95) By way of illustration, with respect to Radio Block Centres (as part of overlay projects), it appears that Hitachi only considers itself to be active in a selection of countries, and its overlap with Thales (referred to as [confidential project name]) is confined to [EU Member State]. Likewise, for ETCS based freight systems, route control systems and interlocking systems, Hitachi looks at these markets [confidential information on a Party's commercial strategy]. It suggests that suppliers adopt a country by country strategy when it comes to bidding for ETCS ATP wayside projects.

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114 Response to Q2 - Questionnaire to customers of wayside signalling systems, question 1.
115 Form CO, Annex CO S.7.1.
116 See Annex CO S.7.1.
117 See Annex CO S.7.1.
118 See Annex CO S.7.1.
119 See Annex CO S.7.1.
120 See Annex CO S.7.1.
121 See Annex CO S.7.1.
122 See paragraph (96) and following.

Figure 1 – Hitachi internal consideration of Hitachi and Thales presence in certain markets

[…]

Source: Annex CO S.5.4.A.4, slide 75.

(96) ***Fourth***, ETCS suppliers need to take into account specific national characteristics for the operation of their signalling systems, both for overlay projects and resignalling projects.

(97) For example, both ETCS ATP wayside overlay and resignalling systems need to operate with OCS which present a number of national features. As one customer explained: '[s]*ince the railway network in the Netherlands is highly occupied and has its own history in engineering and systems, the homologation costs are rather high. For instance the link between the ETCS system and the Operation and control systems is quite unique* […]'.[123] Likewise another customer confirmed that '*OCS interfaces are not yet standardised / harmonised so national specifications still dominate the supplies*'.[124]

(98) Furthermore, in the specific case of overlay projects, the overlay systems need to operate with legacy signalling systems, largely through the interface to interlockings (which – by definition – are not replaced as part of an overlay project). This confers a competitive advantage to suppliers having access to those systems. This was confirmed by a customer according to whom: '*having knowhow about the installed legacy systems is therefore an advantage because the supplier needs to interface with the existing systems. As the Company cannot invest in new digital interlockings on the entirety of its network simultaneously, suppliers offering digital interlockings will naturally have to interface with legacy systems*'.[125] Likewise, another customer explained that '*the interfaces between interlockings and RBCs are not standardised / harmonised*'.[126] According to this customer: '[t]*he current signalling market is not sufficiently standardised to allow a mix and match approach and it is our assessment that projects attempting to integrate Interlockings and Radio Block centers from different suppliers will have an unfavourable risk profile*'.[127]

(99) ***Fifth***, although the need for interface with interlockings is more limited in resignalling projects (because the interlockings are also replaced), resignalling systems also need an interface with interlockings installed on neighbouring sections of the railway network (i.e. sections located next to the section concerned by the resignalling project in question).[128] In addition, the market investigation elicited a number of elements that clearly point towards the existence of national markets also for ETCS ATP wayside resignalling projects:

(a) The majority of customers expressing a view submitted that there are significant differences in homologation requirements and in prices of ETCS

123 Response to Q2 - Questionnaire to customers of wayside signalling systems, question 27.1.
124 Response to Q2 - Questionnaire to customers of wayside signalling systems, question 46.1.
125 Minutes of a call with a customer, 20 June 2022.
126 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 18.1.
127 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 3.2.1.
128 Minutes of a call with a customer, 20 June 2022.

ATP wayside resignalling projects between different EEA countries.[129] For example, one customer expressed the view that there are '*massive differences*' in the performance of ETCS ATP wayside resignalling systems between different countries, '*due to the different development levels of ETCS*'.[130]

Another customer generally explains that '[t]*he approaches for specification and procurement of Interlocking and ETCS are substantially different within the EEA. The differences are caused by different starting points and business cases for renewal*'.[131] Yet another customer explains: '*Pretty much all EEA countries have their own homologation processes. Prices vary a lot because all countries have different strategies and different ways to divide contracts inside the projects (for example is the Specific application in supplier's scope or buyer's scope), also the construction time period during the year affects to price (for example Finland has only 8-10 months available time to construct wayside) Performance is very much dependent on the country case by case (possibility to construct, possibility to arrange traffic breaks etc.)*'.[132]

Likewise, many competitors confirmed the existence of differences in the conditions of supply of ETCS ATP wayside resignalling projects between EEA countries (e.g. in relation to prices, homologation and technology requirements).[133]

For example, one competitor in this context explains that '[e]*ven though there is a tendency for ETCS to become more of a global standard, the standards that currently apply across countries are not uniform and there are considerable barriers to entry depending on suppliers' conformity with local standards and local references. Each country still has its own homologation process and technological requirements and ETCS ATP wayside systems need to be adapted to the national interlockings legacy system interface'*.[134]

(b) These specificities of national systems are reflected in the high barriers to entry. A majority of customers expressing a view in the market investigation submit that the barriers to entry for the supply of ETCS ATP wayside resignalling projects in the Member States where they operate are high.[135]

Several customers stressed the lack of harmonization and the existence of national interoperability constraints.[136] For example, one customer explains specifically that '[t]*he market entry barriers are high because an enormous development effort is required. In addition, technical requirements have to*

129 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 27.

130 Courtesy translation from the original German: '*Aufgrund der unterschiedlichen Ausprägungsstufen von ETCS* […] *gibt es zwischen den Bahnen massive Unterschiede*', Response to Q2 – Questionnaire to customers of wayside signalling systems, question 27.1.

131 Response to Q2 – Questionnaire to customers of wayside signalling systems, question 27.1.

132 Response to Q2 – Questionnaire to customers of wayside signalling systems, question 27.1.

133 Responses to Q1 - Questionnaire to competitors, question 17.

134 Response to Q1 - Questionnaire to competitors, question 17.1.

135 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 38.

136 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 38.1.

be met and a complex approval process has to be completed. Due to national operational a signalling systems the functional requirements are special. The level of safety and reliability is at maximum'.[137] Another customer simply states that '[t]*he development and homologation costs are quite high. This enters a barrier for newcomers*'.[138] A further customer states that '[t]*he level of technology and the initial investment are high*'.[139] Yet another customer finds that '[s]*ignificant supplier investment is needed to modify supplier products and demonstrate compliance against UK technical requirements and specifications*'.[140]

Against this background it is not surprising that a large majority of customers expressing their view in the market investigation submit that they are not aware of any entry on the market for the supply of ETCS ATP wayside resignalling projects in the Member State where they operate over the past ten years.[141] Some customers however do expect entry in the next 5-10 years in the country where they operate.[142] However, as one customer explains, this is connected with significant investments and (design) adaptations: '*Tenders for renewal of signalling on private railways or new railway lines may attract new entrants but it is not certain that the size of the contracts will be sufficient to establish new entrants due to high entrance cost related to design*'.[143]

(100) ***Sixth***, the results of the market investigation also suggest that, contrary to the expectations of a few years ago, the standardisation trend to which the Commission referred in *Siemens/Alstom*[144] and *Alstom/Bombardier*[145] to conclude on the existence of EEA markets has not fully materialised and strong national elements, which have been also taken into account by the Commission in *Siemens / Alstom* remain. It is for this reason that the adoption of EU-wide authorisation procedures and standards has not translated into homogeneous conditions for competition between mainline signalling suppliers within the EEA.

(101) As one competitor explained '[e]*ven though there is a tendency for ETCS to become more of a global standard, the standards that currently apply across countries are not uniform and there are considerable barriers to entry depending on suppliers' conformity with local standards and local references. Each country still has its own homologation process and technological requirements and ETCS ATP wayside systems need to be adapted to the national interlockings legacy system interface. Moreover, even though ETCS systems are standardized certain countries have introduced adaptations whereby they combined ETCS systems applicable in major railways with legacy systems applicable in smaller rail lines. Such combinations of ETCS and legacy systems are required, for example by certain customers located in Europe*'.[146]

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137 Response to Q2 – Questionnaire to customers of wayside signalling systems, question 38.1.
138 Response to Q2 – Questionnaire to customers of wayside signalling systems, question 38.1.
139 Response to Q2 – Questionnaire to customers of wayside signalling systems, question 38.1.
140 Response to Q2 – Questionnaire to customers of wayside signalling systems, question 38.1.
141 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 39.
142 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 40.
143 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 40.1.
144 Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraph 769.
145 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 834-836.
146 Response to Q1 - Questionnaire to competitors, question 17.1.

(102) In view of the results of the market investigation in the case at hand, the Commission thus concludes that the markets for legacy ATP wayside overlay projects and ETCS ATP wayside resignalling projects are national in scope.

6.2.4.2. Competitive assessment

(103) Within ATP projects, the Transaction only gives rise to horizontally affected markets for (i) the supply of ETCS ATP wayside overlay projects and (ii) ETCS ATP wayside resignalling projects.[147]

6.2.4.2.1. ETCS ATP wayside overlay projects

6.2.4.2.1.1. France

(104) In view of the bidding data submitted by the Notifying Party, it appears that Hitachi, Thales and Alstom have participated in several tenders for ETCS ATP wayside overlay projects in France over the past ten years.[148] However, Thales [confidential information on commercial activity].

Table 7 – ETCS ATP wayside overlay projects: market shares (France)[149]

Companies	All projects		Contestable projects		> 1 bidder
	2013-2022	***2018-2022***	***2013-2022***	***2018-2022***	***2013-2022***
Hitachi	[10-20]%	[5-10]%	[20-30]%	[5-10]%	[20-30]%
Thales	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Combined	***[10-20]%***	***[5-10]%***	***[20-30]%***	***[5-10]%***	***[20-30]%***
Alstom	[80-90]%	[90-100]%	[70-80]%	[5-10]%	[20-30]%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Form CO, Annex CO S.7.1

(105) SNCF launched a call for tenders for standalone overlay projects in 2022 for the supply of RBCs which correspond to one of the main components of any overlay project. SNCF selected Hitachi as the exclusive supplier for the next fifteen years (i.e. which is aligned on the duration of the ARGOS agreement).[150] As a result, Hitachi will be the only supplier of overlay projects to SNCF for the next fifteen years and the Parties will not be competing for these projects.

(106) However, the Eurotunnel group mentioned in the course of the investigation that it intends to launch a tender to renew the signalling in the Channel tunnel.[151] In this respect, Eurotunnel clarified '*it is likely that it will launch a tender/tenders for new interlockings/RBCs within the next 18 months. It is however not yet decided how this/these calls for tenders will exactly be organised*'.[152]

(107) This means that Eurotunnel is considering the possibility to launch either one single call for tenders for a resignalling project (including both interlockings and overlay equipment) or two separate calls for tenders: one for interlockings tender

147 As explained in further detail below, the Transaction also gives rise to non-horizontal relationships between the Parties' activities for the supply of ATP OBU projects and Hitachi's activities for the supply of rolling stocks (see Section 7).

148 Form CO, Annex CO S.7.1.

149 Market shares calculated by reference to the number of tenders won.

150 Form CO, Annex CO S.7.1.

151 Minutes of a call with a customer, 5 January 2023.

152 Minutes of a call with a customer, 25 September 2023.

for an overlay project. The bidding data submitted by the Notifying Party suggests that [confidential information on commercial activity]. Over the past 10 years, [confidential commercial data] have participated to such calls for tenders in France and most recently, [confidential commercial data] competed for the tender launched by SNCF for the supply of RBCs.[153] For this future tender, the Transaction would thus remove one competitor and leave only two competitors active on the market.

(108) It is unlikely that new players (i.e. ETCS ATP wayside overlay project suppliers that so far have not participated in tenders in France) would enter the market and participate in such tender. Siemens in particular faces significant obstacles to start offering ETCS ATP wayside overlay project solutions in France. As explained above, Siemens is not a current supplier of interlockings in France and faces higher barriers to entry (as it is not part of the ARGOS agreement). Unlike Thales, Hitachi and Alstom (which are current and future interlockings suppliers in France), Siemens would not profit from any efficiencies in having its overlay projects interface with its own interlockings.

(109) This is consistent with the views expressed by all competitors in the course of the investigation who explained that either a minority or none of their ETCS ATP wayside systems, in particular RBCs, were supplied to lines which are equipped with interlockings of a different supplier.[154] This further underlines the hurdle faced by e.g. Siemens.

(110) In view of the foregoing, the Commission concludes that the Transaction gives rise to serious doubts as to its compatibility with the internal market and the functioning of the EEA Agreement for ETCS ATP wayside overlay projects in France.

6.2.4.2.1.2. Germany

(111) In Germany, the Parties hold a very large combined market share of [70-80]% for ETCS ATP wayside overlay projects of the past ten years (with an increment of [10-20]% from Hitachi). Siemens would remain as the only significant competitor with [30-40]%. The Transaction would thus reinforce Thales' leading position pre-Transaction.

Table 8 – ETCS ATP wayside overlay projects: market shares (Germany)[155]

Companies	All projects		Contestable projects		> 1 bidder
	2013-2022	***2018-2022***	***2013-2022***	***2018-2022***	***2013-2022***
Hitachi	[10-20]%	[10-20]%	[0-5]%	[0-5]%	[0-5]%
Target	[50-60]%	[40-50]%	[50-60]%	[60-70]%	[50-60]%
Combined	***[70-80]%***	***[60-70]%***	***[50-60]%***	***[60-70]%***	***[60-70]%***
Siemens	[20-30]%	[30-40]%	[30-40]%	[30-40]%	[30-40]%
Other	[0-5]%	[5-10]%	[5-10]%	[5-10]%	[5-10]%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Form CO, Annex CO S.7.1

153 Argos RBC contract; see e.g. https://de railmarket.com/news/technology-innovation/820-hitachi-to-supply-rbc-argos-equipment-for-modernization-of-french-railways, accessed 27 October 2022.

154 Responses to Q1 - Questionnaire to competitors, question 20.1.

155 Market shares calculated by reference to the number of tenders won.

(112) The bidding data provided by the Notifying Party confirms the relevance of ETCS ATP wayside overlay projects in Germany.[156] While overlay projects tend to have a lower value compared to resignalling projects, the bidding data shows that the German infrastructure manager regularly launches tenders for overlay projects (21 calls for tender over the past ten years).[157]

(113) Considering the number of suppliers that have participated in ETCS ATP wayside overlay project tenders in Germany in the past ten years, the Transaction amounts to a 4-to-3 combination, between two close competitors.[158] The Parties are two of only three suppliers (with Siemens) that have won overlay projects in Germany (Alstom participated in [10-20]% of the tenders over the past ten years, but has never won).[159]

(114) Therefore, in view of the evidence considered in the present section, the Commission concludes that the Transaction gives rise to serious doubts as to its compatibility with the internal market and the functioning of the EEA Agreement for ETCS ATP wayside overlay projects in Germany.

6.2.4.3. ETCS ATP wayside resignalling projects

6.2.4.3.1. France

(115) In France, Alstom holds a [90-100]% market share when considering ETCS ATP wayside resignalling projects tenders awarded over the past ten years (due to the win of [confidential information on the number of tenders] in 2012).[160]

(116) Nevertheless, the market investigation confirmed the relevance of resignalling projects in France (and therefore of the competitive constraint exerted by the two Parties in this market). As explained above, Eurotunnel intends to launch a tender to renew the signalling in the Channel tunnel[161] and is considering the possibility to launch either one single call for tenders for a resignalling project or two separate calls for tenders for, respectively, interlocking and overlay projects.

(117) As explained above, the Transaction is likely to remove a credible competitor in France:

(a) For interlocking projects: only the three suppliers selected as part of the ARGOS agreement (see above in Section 6.2.3.2.1) can deliver interlocking projects. The Transaction will remove one of these three suppliers;

(b) For ETCS wayside overlay projects: the same three suppliers as for interlockings (Hitachi, Thales, […]) are the only ones that participated in tenders for overlay projects in France at least over the last ten years. The Transaction will remove one of these three suppliers.

(118) Given that any ETCS ATP wayside resignalling project combines an interlockings part with an overlay part (i.e. both types of systems are part of any

156 Form CO, Annex CO S.7.1.
157 Form CO, Annex CO S.7.1.
158 Form CO, Annex CO S.7.1.
159 Form CO, Annex CO S.7.1.
160 Form CO, Annex CO S.7.1.
161 Minutes of a call with a customer, 5 January 2023.

resignalling project tender), the Transaction is likely to remove a credible competitor that could participate in a call for tenders for a resignalling project launched by Eurotunnel. This would amount to a 3-to-2 combination for ETCS ATP wayside resignalling projects in France.

(119) This significant further concentration among credible bidders for any future ETCS ATP wayside resignalling project in France is also reflected in the views of market participants active on this market. For instance, one customer considers the Parties to be close competitors[162] - both with '*significant technical capabilities*'.[163] This customer submits that with respect to the supply of ETCS ATP wayside resignalling projects in France, as a consequence of the Transaction it expects (i) prices to increase, (ii) choice to decrease, (iii) innovation to decrease, (iv) the quality of maintenance services and upgrades to decrease.[164] This customer explained further that '[c]*oncentration of the market leads to less competition*'.[165]

(120) In view of the foregoing, the Commission takes the view that the Transaction gives rise to serious doubts as to its compatibility with the internal market and the functioning of the EEA Agreement for ETCS ATP wayside resignalling projects in France.

6.2.4.3.2. Germany

(121) According to the data submitted by the Parties, there have been only two ETCS ATP wayside resignalling projects in Germany over the past ten years: one project in 2012 called 'AG-VDE8' (to which [confidential commercial data] participated and which was won by Siemens) and one other in 2020 called 'Digitaler Knoten Stuttgart' (to which [confidential commercial data] participated and which was won by Thales).[166]

(122) Given the limited number of tenders launched in Germany for resignalling projects and the fact that Hitachi has never won any of these tenders, Hitachi's market share is inexistent and only Thales and Siemens have positive shares:

Table 9 – ETCS ATP wayside resignalling projects: market shares (Germany)[167]

Companies	All projects		Contestable projects		> 1 bidder
	2013-2022	***2018-2022***	***2013-2022***	***2018-2022***	***2013-2022***
Target	[60-70]%	[90-100]%	[50-60]%	[90-100]%	[50-60]%
Combined	[60-70]%	[90-100]%	[50-60]%	[90-100]%	[50-60]%
Siemens	[30-40]%	[0-5]%	[40-50]%	[0-5]%	[40-50]%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Form CO, Annex CO S.7.1

(123) Despite the limited number of tenders of resignalling projects in Germany over the past ten years, the market investigation confirmed the relevance of this market

162 Response to Q2 – Questionnaire to customers of wayside signalling systems, question 34.2.
163 Response to Q2 – Questionnaire to customers of wayside signalling systems, question 34.2.1.
164 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 43.
165 Response to Q2 – Questionnaire to customers of wayside signalling systems, question 43.1.
166 Form CO, Annex CO S.7.1.
167 Market shares calculated by reference to the number of tenders won.

for the future. In particular, the German rail network operator confirmed that it intends to launch calls for tenders in the next 5 years similar to the 'Digitaler Knoten Stuttgart' project.[168] On this market, the results of the market investigation indicate that the Transaction may significantly impede effective competition for the following reasons.

(124) ***First***, based on the bidding data submitted by the Parties, the Transaction amounts to a 4-to-3 concentration, since only four suppliers participated in tenders for ETCS ATP wayside resignalling projects in Germany over the past 10 years (Thales, [confidential information on the names of competitors]).[169]

(125) ***Second***, Hitachi recently entered the market for standalone interlockings in Germany and has the intention to grow. In a press release, Hitachi described the recent homologation of its interlockings system in Germany as a '*major step towards Hitachi Rail entering the German interlocking market*'.[170] This indicates that Hitachi is likely to exert an increasing competitive pressure over Thales for the supply of interlockings and resignalling projects in Germany.

(126) ***Third***, the results of the market investigation confirm that Hitachi and Thales compete closely for ETCS ATP wayside resignalling projects in Germany:

(a) *In the first place*, the Parties are two of the three suppliers (with Siemens) that have won ETCS ATP wayside overlay projects in Germany. This means that the Parties are close competitors for the overlay part of any ETCS ATP wayside resignalling project in Germany.[171]

(b) *In the second place*, the close competition between the Parties is illustrated by the latest tender launched by Deutsche Bahn in 2020 ('Digitaler Knoten Stuttgart'), which was ultimately won by Thales. Only three players participated to this tender (i.e. the two Parties and […]). […] did not participate and Thales ultimately won.[172]

This project is particularly relevant given its size (EUR […]). In particular, (i) this is the largest ETCS ATP wayside resignalling project launched by Deutsche Bahn over the past ten years; (ii) it is among the 10% largest tenders launched in Europe for ETCS ATP wayside resignalling projects over the past 10 years;[173] (iii) Thales' website describes this project as a '*reference*' for future re-signalling projects;[174] (iv) it is described as the '*[confidential information on a Party's commercial strategy]*' in a Thales internal document;[175] and (v) other competitors also stressed the particular importance of this project in the course of the investigation.[176]

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168 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 29; minutes of a call with a customer of 29 September 2023.

169 Form CO, Annex CO S.7.1.

170 See https://www hitachi.com/New/cnews/month/2022/02/220204.pdf, accessed 27 October 2023.

171 Form CO, Annex CO S.7.1.

172 Form CO, Annex CO S.7.1.

173 Form CO, Annex CO S.7.1.

174 See https://www.thalesgroup.com/de/group/journalist/press_release/thales-wird-die-signaltechnik-der-deutschen-bahn-stuttgart, accessed 27 October 2023.

175 [Confidential project name] Information Package, slide 19.

176 Response to Q1 - Questionnaire to competitors, question 23.1.

The fact that only three suppliers participated in this tender, including the two Parties, shows that the Parties are two of the very few suppliers able to deliver ETCS ATP wayside resignalling projects of a large dimension in Germany. As one market participant indicated: '*there is a difference between medium-sized suppliers and large suppliers. Medium-sized suppliers (e.g. like Scheidt Bachmann or Pintsch) may not want to compete for large scale signalling projects – at the moment they focus on smaller rail lines and don't develop solutions for large projects. This may also be due to the fact that currently these suppliers do not have Radio Block Centres for ETCS – therefore they wouldn't be able to deliver the whole digital signalling system for a line, but rather only the interlockings. It is therefore unrealistic to expect such medium-sized companies to deliver for large whole-line projects in 3-5 years*'.[177]

(c) *In the third place*, the vast majority of customers who expressed a view in the course of the market investigation, including the German infrastructure manager, considers that the Parties are close competitors for the supply of ETCS ATP wayside resignalling projects.[178]

(127) In view of the foregoing, the Commission concludes that the Transaction gives rise to serious doubts as to its compatibility with the internal market and the functioning of the EEA Agreement for ETCS ATP wayside resignalling projects in Germany.

6.2.4.3.3. Spain

(128) In Spain, the Parties' combined market share has remained below [40-50]% over the past ten years with a relatively limited increment ([5-10]%). Over the past five years only, the Parties' combined market share ([50-60]%) and the increment ([5-10]%) are higher:

Table 10 – ETCS ATP wayside resignalling projects: market shares (Spain)[179]

Companies	All projects		Contestable projects		> 1 bidder
	2013-2022	*2018-2022*	*2013-2022*	*2018-2022*	*2013-2022*
Hitachi	[5-10]%	[5-10]%	[0-5]%	[0-5]%	[0-5]%
Target	[30-40]%	[40-50]%	[30-40]%	[50-60]%	[30-40]%
Combined	***[30-40]%***	***[50-60]%***	***[30-40]%***	***[50-60]%***	***[30-40]%***
Alstom	[20-30]%	[0-5]%	[20-30]%	[0-5]%	[20-30]%
Siemens	[10-20]%	[10-20]%	[10-20]%	[10-20]%	[10-20]%
CAF	[10-20]%	[10-20]%	[10-20]%	[10-20]%	[10-20]%
Indra	[5-10]%	[5-10]%	[5-10]%	[5-10]%	[5-10]%
Others	[0-5]%	[5-10]%	[0-5]%	[5-10]%	[0-5]%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Form CO, Annex CO S.7.1

(129) However, the Parties will continue to face significant competitive pressure from several credible competitors in Spain, including Alstom ([20-30]%), Siemens

177 Minutes of a call with a customer, 20 June 2022.

178 Responses to Q2 – Questionnaire to customers of wayside signalling systems, questions 34.1 and 34.2.

179 Market shares calculated by reference to the number of tenders won.

([10-20]%) and CAF ([10-20]%). This is confirmed by the bidding data submitted by the Notifying Party:

Table 11 – ETCS ATP wayside resignalling projects: bidding data (Spain)

2013-2022	Participation rate			Winning rates		
	Overall	*With Hitachi participation*	*With Thales participation*	*Overall*	*With Hitachi participation*	*With Thales participation*
Hitachi	[20-30]%	[90-100]%	[20-30]%	[5-10]%	[20-30]%	[5-10]%
Thales	[70-80]%	[80-90]%	[90-100]%	[40-50]%	[40-50]%	[60-70]%
Alstom	[40-50]%	[80-90]%	[50-60]%	[10-20]%	-	[10-20]%
Siemens	[60-70]%	[80-90]%	[60-70]%	[20-30]%	[20-30]%	[10-20]%
CAF	[40-50]%	[80-90]%	[50-60]%	[10-20]%	[40-50]%	[10-20]%

Source: Form CO, Annex CO S.7.1

(130) As shown above:

(a) Siemens, Alstom and CAF participated in more tenders over the past 10 years for ETCS ATP wayside resignalling projects in Spain than Hitachi, which suggests that Siemens, Alstom and CAF are closer competitors to Thales on this market than Hitachi;

(b) This is consistent with the fact that Hitachi competed in only [20-30]% of the tenders in which Thales participated, compared to [60-70]% for Siemens, [50-60]% for CAF and [50-60]% for Alstom;

(c) This is also consistent with the fact that the overall winning rate of Thales is the same as its winning rate in tenders in which Hitachi participates, which suggests that Hitachi exerts little competitive pressure over Thales for the supply of ETCS ATP wayside resignalling projects in Spain.

(131) This is also consistent with the results of the market investigation. The national railway infrastructure manager in Spain confirmed that several alternatives are available for the supply of ETCS ATP wayside resignalling projects in this country, including Alstom, Siemens and CAF.[180] According to this customer, Thales is the most credible supplier currently active in Spain for ETCS ATP resignalling projects. The next most credible supplier is Alstom, then Siemens, CAF and only after comes Hitachi.[181] This confirms that Alstom, Siemens and CAF are closer competitors to Thales than Hitachi.

(132) This customer also explained that it expects new suppliers to enter this market in Spain in the next five years[182] and confirmed that at least one additional supplier is currently undergoing the homologation process for the supply of ETCS ATP wayside resignalling projects in Spain.[183]

(133) In view of the above, the Commission concludes that the Transaction does not give rise to serious doubts as to its compatibility with the internal market for ETCS ATP wayside resignalling projects in Spain.

180 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 32.

181 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 35.

182 Responses to Q2 – Questionnaire to customers of wayside signalling systems, questions 40 and 40.1.

183 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 30.2.

6.2.5. Operation control systems (OCS)

6.2.5.1. Market definitions

6.2.5.1.1. Product market definition

(134) OCS are IT solutions designed to ensure the overall management of the networks. They comprise components that monitor and command signalling subsystems. The OCS perform operational (or 'control level') functions, which respond to safety requirements.[184] These include the operations of networks of interlockings, the integration of the information generated by interlockings and ATPs, as they are connected to several ATPs and interlockings across a national or regional infrastructure. The OCS is connected to the installed interlockings by means of interfaces.

6.2.5.1.1.1. The Commission's precedents

(135) In previous decisions, the Commission considered OCS as a separate sub-system of railway signalling projects in light of the specific demand for such projects.[185] The Commission noted in this respect that a further segmentation based on different types or levels of OCS projects was not warranted.[186] The Commission also excluded a further segmentation based on project size.[187]

6.2.5.1.1.2. The Notifying Party's view

(136) The Notifying Party agrees with the Commission's findings that there is a distinct product market for OCS.[188] The Notifying Party also agrees that a further segmentation based on the type or levels of OCS projects is not warranted. In this respect, the Notifying Party explains that there is a strong supply-side substitutability as OCS are generally scalable and modulable solutions that offer a large flexibility in application to cover all level of rail traffic control and operations management. From a demand-side perspective, the Notifying Party argues that when buying an OCS sub-system, customers are aware of their modularity and scalability that can address all levels of operation. As a result customers generally do not need to change the OCS each time their actual needs evolve.

(137) Finally, the Notifying Party also agrees that a segmentation by size of OCS projects would not be meaningful.

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184 In addition, OCS also perform non-safety related functions, referred to as dispositive of management level functions, aimed at increasing network efficiencies, automatic conflict detection and conflict resolution, timetable management, decision support, and dispatching.

185 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 796; Commission decision of 18 April 2013 in Case M.6843 – Siemens / Invensys Rail, paragraph 8.

186 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 798.

187 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 799.

188 Form CO, paragraphs. 262-265.

6.2.5.1.1.3. The Commission's assessment

(138) The results of the market investigation confirmed the relevance of a distinction between OCS projects and other markets for mainline signalling projects. A majority of customers who expressed a view confirmed that they purchase OCS individually.[189] In addition, the market investigation did not elicit any element suggesting that a further distinction should be made within OCS projects by types or levels of OCS projects, or according to the project size.

(139) In view of the above, the Commission considers that there is no need to define separate markets for OCS projects based on the different levels of OCS or on the project size. As a result, the Commission will assess the effect of the Transaction on a market for OCS without further segmentation.

6.2.5.1.2. Geographic market definition

6.2.5.1.2.1. The Commission's precedents

(140) In *Alstom / Bombardier*, the Commission noted that the market investigation elicited mixed results concerning the definition of the relevant geographic market for OCS projects.[190] In particular, the Commission noted that some respondents argued that '*OCS systems could be quite easily adapted to any customers' specifications and that functionalities are generally similar in every country*' while at the same time pointing out that there were specificities in each single country (e.g. in terms of functionalities, operations and information displayed based on the operator and infrastructure manager choices).[191] In light of these results, the Commission concluded that it was not possible to definitively conclude on the exact geographic market definition and assessed the effects of the transaction both at EEA and national levels.[192]

6.2.5.1.2.2. The Notifying Party's view

(141) The Notifying Party argues that the relevant geographic market for OCS projects is EEA-wide (including the UK and Switzerland) due to an ever-increasing trend for standardization allowing a better interoperability.[193]

6.2.5.1.2.3. The Commission's assessment

(142) The results of the market investigation suggest that the market for OCS projects present national features. In this respect, the majority of customers who expressed a view confirmed that strong differences still exist between Member States for the supply of OCS projects, in terms of homologation, prices, performance, and interoperability with other network equipment.[194]

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189 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 45.

190 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 850.

191 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 844.

192 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 850.

193 Form CO, paragraphs. 268-271.

194 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 46.

(143) As one customer explained: '*OCS interfaces are not yet standardised/harmonized so national specifications still dominate the supplies*'.[195] Likewise, another customer explained that: '*Pretty much all EEA countries have their own homologation processes. Prices vary a lot because all countries have different strategies and different ways to divide contracts inside the projects* […] *also the construction time period during the year affects to price* […]. *Performance is very much dependent on the country case by case (possibility to construct, possibility to arrange traffic breaks etc.)*'.[196] According to a third customer '*The HMI* [human-machine interface] *and operation rules are special for each country; accordingly the OCS will have to fulfil country specific requirements. Homologation follows national rules / laws, so the process differs significantly*'.[197]

(144) In any event, the exact geographic market definition for OCS projects can be left open as the Transaction does not give rise to serious doubts under any plausible geographic market definition.

6.2.5.2. Competitive assessment

(145) The Parties' activities do not overlap at national level in the EEA for the supply of OCS projects. As a result, the Parties' activities only overlap at EEA level:

Table 12 – OCS projects: market shares (EEA)[198]

Companies	All projects		Contestable projects		> 1 bidder
	2013-2022	***2018-2022***	***2013-2022***	***2018-2022***	***2013-2022***
Hitachi	[5-10]%	[10-20]%	[0-5]%	[0-5]%	[0-5]%
Thales	[20-30]%	[60-70]%	[20-30]%	[60-70]%	[30-40]%
Combined	***[30-40]%***	***[70-80]%***	***[20-30]%***	***[60-70]%***	***[30-40]%***
Alstom	[20-30]%	[0-5]%	[20-30]%	[0-5]%	[40-50]%
Atos	[10-20]%	[0-5]%	[10-20]%	[0-5]%	[0-5]%
Siemens	[5-10]%	[0-5]%	[10-20]%	[0-5]%	[10-20]%
Indra	[5-10]%	[10-20]%	[10-20]%	[10-20]%	[0-5]%
CAF	[0-5]%	[10-20]%	[5-10]%	[10-20]%	[5-10]%
MIPRO	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Others	[0-5]%	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Form CO, Annex CO S.7.1

(146) Over the past ten years, the Parties' combined market share amounts to [30-40]% with a [5-10]% increment. Over the same period Alstom has a market share of [20-30]%, Atos has a market share of [10-20]%, while Siemens and Indra each represent [5-10]% of the market. Thales' market share is significantly higher over the past five years which translates into a significantly higher combined market share over the past five years ([70-80]%) with a higher increment ([10-20]%).

(147) Nevertheless, the Commission notes that the Parties do not appear to be close competitors as the Transaction does not give rise to any actual overlap between the Parties' activities at national level. The fact that they are not close competitors is confirmed by the bidding data submitted by the Parties:

195 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 46.1.
196 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 46.1.
197 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 46.1.
198 Market shares calculated by reference to the number of tenders won.

Table 13 – OCS projects: bidding data (EEA)

2013-2022	Participation rate			Winning rates		
	Overall	*With Hitachi participation*	*With Thales participation*	*Overall*	*With Hitachi participation*	*With Thales participation*
Hitachi	[10-20]%	[90-100]%	[10-20]%	[0-5]%	[20-30]%	-
Thales	[20-30]%	[20-30]%	[90-100]%	[10-20]%	[20-30]%	[40-50]%
Siemens	[30-40]%	[70-80]%	[70-80]%	[20-30]%	-	[30-40]%
Alstom	[20-30]%	[50-60]%	[60-70]%	[10-20]%	[50-60]%	[20-30]%
CAF	[10-20]%		[40-50]%	[5-10]%	-	[20-30]%

Source: Form CO, Annex CO S.7.1

(148) The bidding data above confirms that:

(a) Hitachi participated in less tenders for OCS projects in the last 10 years than Thales, Siemens, Alstom and CAF. This shows that Hitachi is a smaller player and exerts less competitive pressure on the market in general and Thales in particular than Siemens and Alstom;

(b) When Hitachi participated in tenders for OCS projects in the last 10 years, it met Siemens in [70-80]% of tenders, Alstom in [50-60]% of tenders and Thales in only [20-30]% of tenders. This confirms that Siemens and Alstom are closer competitors to Hitachi than Thales;

(c) When Thales participated in tenders, it met Siemens in [70-80]% of tenders, Alstom in [60-70]% of tenders, CAF in [40-50]% of tenders and Hitachi in only [10-20]% of tenders. This confirms that Siemens, Alstom and CAF are closer competitors to Thales than Hitachi;

(d) The winning rate of Thales is actually higher when Hitachi participates in a tender than overall. This suggests that Hitachi exerts limited competitive pressure on Thales.

(149) This is also consistent with the results of the market investigation. The competitors who expressed a view in the course of the investigation also confirmed that the merged entity will continue to face a number of credible competitors including Siemens, Alstom, Atos, Indra and Mipro. Likewise, the responses received from customers confirm that several credible suppliers will remain able to deliver OCS projects in their Member States post-Transaction.[199] A large majority of these customers confirmed that the Parties are not close competitors for OCS projects in the Member State where they operate.[200]

(150) In view of the above, the Commission concludes that the Transaction does not give rise to serious doubts as to its compatibility with the internal market and the EEA Agreement for the supply of OCS projects.

199 Responses to Q2 – Questionnaire to customers of wayside signalling systems, questions 51 and 53.

200 Responses to Q2 – Questionnaire to customers of wayside signalling systems, question 52.2.

6.3. Urban rail signalling

6.3.1. Product market definition

6.3.1.1. The Commission's precedents

(151) In previous decisions, the Commission considered that urban signalling is mainly a 'project-based' business and excluded the need to define separate markets for urban signalling products. While leaving the exact market definition open, the Commission contemplated a further distinction between metro and light rail projects[201] and, within metro projects, between conventional and Computer Based Transport Communication ('CBTC') systems.[202] Conventional systems (based on a 'fixed blocks' model where each block of the track may only be occupied by one train) are gradually being replaced by CBTC systems in the EEA (which work by reference to the actual train position on the track and therefore allow for higher capacities).

6.3.1.2. The Notifying Party's view

(152) The Notifying Party agrees with these product market definitions considered in the Commission precedents.[203]

6.3.1.3. The Commission's assessment

(153) The Commission will consider the relevant product market of CBTC systems for metros ("CBTC systems market"), where the Transaction gives rise to an affected market.

(154) The Commission's market investigation confirmed the relevance of the product market definition as considered in the above-mentioned precedents. In particular, a majority of market participants expressing a view consider there to be significant differences in certain relevant parameters between urban rail signalling for metros and for light rail,[204] as well as between CBTC systems for metros and conventional systems for metros.[205]

6.3.2. Geographic market definition

6.3.2.1. The Commission's precedents

(155) The Commission contemplated the definition of EEA-wide markets for all urban rail signalling markets. For the CBTC systems market however, the market investigation in Alstom / Bombardier elicited mixed results as to whether the

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201 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 1139; Commission decision of 18 April 2013 in Case M.6843 – Siemens / Invensys Rail, paragraph 13.

202 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 1146.

203 Form CO, paragraphs 1080, 1085.

204 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 11 and responses to Q1 – Questionnaire to competitors, question 28.

205 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 13 and responses to Q1 – Questionnaire to competitors, question 30.

market should be defined as EEA-wide, national or at city-level.[206] In the case at hand, however, the Parties' activities do not overlap at city or national levels within the EEA.

6.3.2.2. The Notifying Party's view

(156) The Notifying Party considers that the CBTC systems market is at least EEA-wide (including the UK and Switzerland) and possibly worldwide in scope.[207] This is due to the absence of interoperability issues between CBTC networks at a national or inter-city level, the broad consistency of safety and quality requirements across the EEA and the acceptance by EEA customers of references from CBTC projects in other EEA countries.

6.3.2.3. The Commission's assessment

(157) The market investigation confirms that the CBTC systems market is likely at least EEA-wide. Competitors responding to the Commission's market investigation do not consider there to be significant differences in the CBTC systems they supply in different EEA countries. Rather, they see the market to even have certain global features.[208] As one competitor explains, it '*considers this a market with strong 'global' features, as there are no specific technologies based on certain countries or regions. For China the constraint is to have a Chinese partner*'.[209] Another competitor explains: '*There are no national homologation requirements for URS solutions. Also, the technical, safety and quality requirements are consistent across the world.*'[210]

(158) It can however be left open, whether the market is wider than EEA(including the UK and Switzerland), as the Transaction does not give rise to serious doubts under any plausible geographic market definition.

6.3.3. Competitive assessment

(159) For the following reasons, the Commission considers that the Transaction does not give rise to serious doubts as to its compatibility with the internal market in relation to non-coordinated horizontal effects in the EEA (or the EEA, including the UK and Switzerland) in the CBTC systems market.

(160) ***First***, while the Transaction gives rise to large combined market shares of the Parties, the increment is moderate and the Parties' tender participation is limited.

(161) As shown in Table 14 below, the Parties' combined market share was [40-50]% in the EEA (including the UK and Switzerland) market and [5-10]% in the EEA only. The shares differ somewhat if only tenders with more than one bidder are considered.

206 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 1168.
207 Form CO, paragraph 1129.
208 Responses to Q1 – Questionnaire to competitors, question 37.
209 Responses to Q1 – Questionnaire to competitors, question 37.1.
210 Responses to Q1 – Questionnaire to competitors, question 37.1.

Table 14 – CBTC market shares (2013 – 2022)[211]

2013-2022	EEA+UK+CH		EEA only	
	All tenders	**>1 bidder**	**All tenders**	**>1 bidder**
Hitachi	[5-10]%	[0-5]%	[5-10]%	[5-10]%
Thales	[30-40]%	[30-40]%	[0-5]%	[0-5]%
Combined	***[40-50]%***	***[40-50]%***	***[5-10]%***	***[5-10]%***
Siemens	[40-50]%	[40-50]%	[60-70]%	[70-80]%
Alstom	[10-20]%	[10-20]%	[20-30]%	[20-30]%
Others	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Total	**100%**	**100%**	**100%**	**100%**

Source: Form CO, Annex S.7.1

(162) These market shares show, that the Parties have a strong combined market position in an EEA (including the UK and Switzerland) market, but that this market position is largely driven by Thales' strong position outside the EEA (specifically in the UK, where Thales was successful in winning business in relation to the London Underground), while Hitachi has only a limited market position.

(163) The market shares further show, that aside from the Parties, only two further competitors, Alstom and Siemens (both of which have important market positions), are active in Europe. Both Alstom and especially Siemens have significantly larger market positions than Hitachi, and Siemens is also larger than Thales. Within the EEA, Alstom and Siemens are by far the two most important CBTC suppliers, with Thales [confidential commercial data].

(164) Further, the tender participation of Hitachi and Thales has been considerably lower than that of Siemens and Alstom.[212] In the EEA (including the UK and Switzerland), Hitachi participated in [40-50]% of tenders, Thales in [20-30]% of tenders, Siemens in [80-90]% of tenders, and Alstom in [70-80]% of tenders. These figures are similar for the EEA only. If only tenders with more than one bidder are considered, Hitachi participated in [50-60]% of tenders, Thales in [30-40]% of tenders, Siemens in [90-100]% of tenders and Alstom- in [80-90]% of tenders. Again, these figures are similar for the EEA only.

(165) ***Second***, the Parties are not close competitors in the CBTC systems market.

(166) *In the first instance*, head-to-head competition between the Parties is limited. While the majority of customers and competitors that expressed a view in the market investigation consider the Parties to be close competitors,[213] the Parties' actual competitive interaction in tenders has been limited. In the EEA (including the UK and Switzerland), the Parties only met in [10-20]% of the tenders in the past ten years ([10-20]% in the EEA only). Limiting this assessment to tenders with more than one bidder, the Parties only met in [20-30]% of the tenders in the past ten years ([20-30]% in the EEA only).[214]

211 Market shares calculated by reference to the number of tenders won.

212 Form CO, Annex CO S.7.1.

213 Responses to Q1 – Questionnaire to competitors, question 38; responses to Q3 – Questionnaire to customers of urban signalling systems, question 23.

214 Form CO, Annex CO S.7.1.

In the second instance, each of the Parties competes more frequently in tenders with Siemens and Alstom than with the other Party. Hitachi competed with Siemens in [90-100]% of the tenders in which it participated in the last ten years in the EEA (including the UK and Switzerland), with Alstom in [80-90]% of the tenders, and with Thales in only [30-40]% of the tenders. For the EEA only, these figures are similar. Thales competed with Siemens in [80-90]% of the tenders in which it participated in the last ten years in the EEA (including the UK and Switzerland), with Alstom in [70-80]% of the tenders, and with Hitachi in only [50-60]% of the tenders.[215] This trend is also reflected in customer replies to the Commission's market investigation, where the large majority of respondents consider Siemens and Alstom to be the two most credible suppliers to participate in forthcoming tenders, with Thales and Hitachi regarded as only the third and fourth most credible suppliers.[216]

(167) *In the third instance*, every time the Parties met in a tender in the last ten years, both Siemens and Alstom [confidential bidding data].[217] Overall, the available data shows that the Parties do not compete closely for CBTC system tenders in the EEA (given the limited number of tenders in which both Parties participated, described above);[218] instead, each of the Parties appear to compete more closely with Siemens and Alstom than with each other (as illustrated by the number of times that each Hitachi or Thales met with Siemens and Alstom in tenders, described above).[219]

(168) ***Third***, it appears that suppliers that have not supplied CBTC systems in the EEA (including the UK and Switzerland) in the past, may do so in the future.

(169) *In the first instance*, the Commission's market investigation has revealed companies that plan to enter or are in the process of entering the supply of CBTC systems in Europe. One company states that it '*is in the process of developing a CBTC solution and the Company cannot be considered to be currently active on the CBTC market. This is a long process that requires an important investment.*'[220] Another company explains that it '*is currently developing its own CBTC solution.* [It] *has won its first project, which is in execution*'.[221]

(170) *In the second instance*, market participants expect that the available suppliers of CBTC systems in Europe will not remain limited to the Parties, Siemens and Alstom[222] (even though some customers and competitors consider barriers to entry to be generally high).[223]

(171) Customers would seriously consider contracting a CBTC systems supplier that does not currently have any supply references in the EEA.[224] In particular, many

215 Form CO, Annex CO S.7.1.
216 Phase 1, Q3, question 20.
217 Form CO, Annex CO S.7.1.
218 Form CO, Annex CO S.7.1.
219 Form CO, Annex CO S.7.1.
220 Minutes of a call with a competitor, 5 May 2022.
221 Minutes of a call with a competitor, 20 May 2022.
222 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 27. Responses to Q1 – Questionnaire to competitors, questions 40-42.
223 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 26. Responses to Q1 – Questionnaire to competitors, question 42.1.
224 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 27.

customers expect CAF to enter the CBTC systems market in Europe in the next five to ten years.[225] One customer in this context explains: '*We know CAF systems and strategy and we believe that it can enter the market*'.[226] Another customer explains that '*CRRC* [a Chinese supplier] *is active delivering systems in China, and within the next 5 to 10 years they will be ready for offering their technology outside China, e.g., in EEA. CAF already has a pilot installation for CBTC technology in Bilbao, they are likely to be ready to offer this technology within the next 5 to 10 years in competitive bidding*'.[227] A further customer notes that '*Stadler, TCT, Nippon signal are also candidates*' to enter the market.[228]

(172) Competitors also regard it likely that new suppliers will enter the CBTC systems market in Europe. For example, a number of competitors already consider Stadler as a credible competitor in of CBTC systems in the EEA.[229] One competitor explains that '[t]*here is a significant threat of entry, particularly by other existing railway suppliers such as Stadler, and Asian players. Chinese and Japanese suppliers are expanding their activities outside of their home countries (e.g., India, Egypt, USA, Brazil) and are expected to compete on the EEA CBTC market in the near future*'.[230] A further competitor explains that '*Stadler seems to be expanding their activities in CBTC. Examples would be its participation in the Lausanne metro tender, award of driverless system for Appenzeller Bahn in Switzerland*'.[231]

(173) Therefore, it appears at least possible that other players aside of the Parties, Siemens and Alstom will enter the supply of CBTC systems in the next five to ten years.

(174) ***Fourth***, the majority of customers and competitors consider that the Transaction will not give rise to negative effects on competition in the CBTC systems market, or on their own activities.

(175) The majority of competitors expressing a view in the market investigation consider that the Transaction will not have a negative impact on the supply of CBTC systems, in terms of price, quality, choice or innovation.[232] While one competitor considers that the '[r]*eduction of the number of competitors will lead to less competition, in certain situations it might lead to no competition at all*',[233] another competitor explains its absence for concerns by pointing to the fact that '*Hitachi is a small player in EEA*'.[234] A majority of competitors expressing their view also consider that the Transaction will not have a negative impact on their own activities in the supply of CBTC systems.[235]

(176) The majority of customers expressing a view in the market investigation consider that the Transaction will not have a negative impact on the supply of CBTC

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225 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 27.
226 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 27.1.
227 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 27.1.
228 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 27.1.
229 Responses to Q1 – Questionnaire to competitors, question 40.
230 Responses to Q1 – Questionnaire to competitors, question 41.1.
231 Responses to Q1 – Questionnaire to competitors, question 41.1.
232 Responses to Q1 – Questionnaire to competitors, question 47.
233 Responses to Q1 – Questionnaire to competitors, question 47.1.
234 Responses to Q1 – Questionnaire to competitors, question 47.1.
235 Responses to Q1 – Questionnaire to competitors, question 58.

systems, in terms of price, quality, choice, innovation or the provision of maintenance and upgrade services. While those customers that expect to launch tenders in the coming years expect the Transaction to reduce choice, they do not expect a negative impact on price, quality, innovation or the provision of maintenance and upgrade services.[236] One customer in this context submits: '*The Transaction will reduce for a period of time the level of choice on the CBTC supply, as two large suppliers are integrating and thus reducing one large supplier from the market. However, usually this type of reduction has a limited time span as it creates a market opportunity for new suppliers to enter the market and become relevant suppliers. In terms of innovation and provision of services this creates a stronger entity and therefore provides opportunities for developing these areas, and hence pushing all suppliers to become better.*'[237]

(177) With respect to their own procurement of CBTC systems, the majority of customers expressing a view in the market investigation considers that the Transaction will have either no impact or a positive impact on them. This is also the case for customers that will likely launch a tender in the coming years.[238]

(178) Overall, customers consider that there will be sufficient competition in tenders post-Transaction, as they consider participation of three players to be sufficient to generate the needed level of competitive interaction.[239] In any case, most of those customers that plan to launch a tender in the coming years consider Siemens and Alstom as the two strongest CBTC suppliers in Europe.[240]

(179) Therefore, overall, most market participants do not consider that the Transaction is likely to cause a negative impact on competition in the CBTC systems market in the EEA (including the UK and Switzerland).

(180) In view of the above, the Commission concludes that the Transaction does not give rise to serious doubts as to its compatibility with the internal market and the functioning of the EEA Agreement for the supply of CBTC projects.

7. NON-HORIZONTAL EFFECTS

(181) The Transaction gives rise to:

(a) Vertical relationships between mainline signalling OBUs (upstream) and mainline rolling stock (downstream), because mainline train OEMs purchase OBUs that they install on the rolling stock they then sell;

(b) Conglomerate relationships between urban signalling solutions and urban rolling stock (i.e. metros, trams, etc.), because urban signalling solutions and urban rolling stock are sometimes tendered together as part of turnkey solutions (e.g. a CBTC solution together with automated metros) or urban

236 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 31.
237 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 31.1.
238 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 33.
239 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 21.
240 Responses to Q3 – Questionnaire to customers of urban signalling systems, question 20.

rolling stock operators purchase separately urban rolling stock and CBTC solutions that they then integrate.[241][242]

7.1. Market definitions

(182) The definitions of the relevant product and geographic markets for urban signalling solutions were discussed above.[243] As a result, this section focuses on the markets for (i) mainline signalling OBUs (i.e. ATP OBU projects) and (ii) mainline rolling stock.

7.1.1. ATP OBU projects

7.1.1.1. Product market definition

7.1.1.1.1. The Commission's precedents

(183) As previously explained,[244] the Commission considered in previous decisions that ATP projects should be segmented between ATP wayside and ATP OBU projects, each constituting a separate product market.[245]

(184) Within ATP OBU projects, the Commission distinguished separate markets for conventional (i.e. legacy) systems and ETCS systems.[246] To justify this segmentation, the Commission explained that legacy systems are essentially local and cannot fulfil interoperability functionalities required by ETCS systems.[247] ETCS, on the other hand, is part of the European ERTMS standard for ATP systems. As such, ETCS systems are similar across EEA Member States. ETCS and legacy standards are not interoperable and thus require different wayside and

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241 Tenders covering both urban rolling stock and the urban rail signalling system are sometimes referred to as 'turnkey projects'. When customers launch standalone tenders for urban rolling stock only (i.e. without the urban rail signalling system), (i) customers can launch another separate call for tenders for the urban rail signalling system and take care themselves of the integration of the urban rolling stock and the urban rail signalling system (in which case the relationship between the two products, i.e. the urban rolling stock and the urban signalling system, remains conglomerate in nature); and/or (ii) customers can let the urban rolling stock manufacturer choose the supplier of the OBU for the urban signalling system (in which case the relationship between the urban rolling stock and the OBUs is vertical in nature – but only for the OBUs). It is only in the latter scenario (i.e. in the absence of a 'turnkey project', when the urban rolling stock manufacturer chooses the supplier of the OBUs), that the Transaction gives rise to a vertical link between the Parties' activities. However, the Parties [confidential commercial data] (Form CO, footnote 434). By way of exception, Hitachi Rail [confidential commercial data] but [confidential commercial data] (Form CO, footnote 434). As a result, the Parties' activities do not overlap for the supply of urban signalling OBUs and there is no vertical link between the Parties' activities in this respect.

242 For completeness, it can be noted that the Transaction also gives rise to conglomerate relationships with respect to mainline signalling retrofit projects, between the Parties' activities for the supply of ATP OBUs to mainline rolling stock operators and Hitachi's activities for the supply of mainline rolling stock.

243 See above, section 6.3.1.

244 See paragraph (78).

245 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 770; Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraphs 660-665. See above 6.2.4.1.1.

246 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 776.

247 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 776.

on-board equipment. As the underlying technology is different, there is no supply-side substitution and the approval procedures are different.[248]

(185) Finally, for both legacy and ETCS ATP OBU projects, the Commission explained that a further distinction between OBUs for new rolling stock and OBUs for retrofitting existing rolling stock is not warranted.[249]

7.1.1.1.2. The Notifying Party's view

(186) The Notifying Party agrees with the Commission's precedents and considers that a segmentation between ATP wayside and ATP OBU projects is relevant. From a demand-side perspective, the Notifying Party explains that each system has different technical characteristics.[250] They do not pursue the same purpose and fulfil distinct functions (i.e. ATP OBU systems manage onboard activity in support of the driver whereas ATP wayside systems manage interface with wayside equipment). The Notifying Party also explains that ATP OBU and wayside systems are generally procured separately from one another by different customers. From a supply-side perspective, a supplier that has managed to develop and manufacture ATP wayside systems cannot easily develop and manufacture ATP OBU systems as the development and manufacturing processes are largely different.[251]

(187) The Notifying Party also agrees that a distinction between ETCS and legacy OBU projects is relevant.[252]

7.1.1.1.3. The Commission's assessment

(188) The results of the market investigation confirmed the relevance of a distinction between ATP wayside projects and ATP OBU projects from a customer perspective. First, customers of ATP wayside projects (i.e. railway infrastructure managers) and ATP OBU projects (i.e. rolling stock OEMs and/or railway operators) are different.[253] Second, the tender data submitted by the Parties indicates that in the period 2013-2022, 151 contestable ETCS ATP OBU projects were tendered[254] in 19 EEA countries.[255] This confirms the existence of a distinct demand for ATP OBU projects. This is also consistent with the responses received from market participants in the course of the market investigation. For instance, one competitor explained in this respect that: '*It is* […] *possible (and common) to have different suppliers for onboard and wayside signalling. The competitive dynamics are therefore somewhat different when considering new trains*'.[256]

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248 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 776.

249 Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraph 678-682; Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 781-785.

250 Form CO, paragraphs 203-206.

251 Form CO, paragraph 205.

252 Form CO, paragraphs 210-211.

253 In France for instance, SNCF Réseau is the national infrastructure manager while SNCF Voyageurs is the national railway operator.

254 Form CO, Annex CO S.7.1.

255 In Bulgaria, France, Italy, Poland and Romania.

256 Minutes of a call with a competitor of 16 May 2022, paragraph 15.

(189) As for the segmentation between ETCS and legacy ATP OBU projects, the market investigation did not elicit results that would put into question the relevance of such distinction.

(190) Finally, for the purpose of assessing the vertical relationship between the Parties' activities for the supply of ATP OBU projects and Hitachi's activities for the supply of rolling stock, the Commission notes that a further segmentation could be relevant in the case at hand between sales of OBUs to rolling stock OEMs and sales of OBUs to rolling stock operators. However, the exact product market definition can be left open as the Transaction does not give rise to serious doubts under any plausible market definition (i.e. ETCS or legacy ATP OBU projects, with a potential further segmentation between sales made to rolling stock OEMs and sales made to rolling stock operators).

7.1.1.2. Geographic market definition

7.1.1.2.1. The Commission's precedents

(191) In *Siemens / Alstom*, the Commission considered that the relevant geographic markets for ETCS OBU projects were EEA-wide, noting in particular that the adoption of EU-wide authorisation procedures and standards, and in particular of ERTMS, was developing homogeneous conditions for competition between mainline signalling suppliers within the EEA.[257] Conversely, the Commission considered that the markets for legacy OBU projects were national in scope.[258]

(192) Likewise, in *Alstom / Bombardier*, the vast majority of participants to the market investigation confirmed that the market for ETCS OBUs projects should be considered EEA-wide in scope.[259] This is because ETCS projects respond to European standards and pan-European safety rules and can be considered to be EEA wide. Furthermore, ETCS OBU are interoperable at the European level. Several participants also pointed to the possibility of a market larger than the EEA, as the ETCS standard would have been adopted also by countries outside the EEA (notably Switzerland). In view of these elements, the Commission concluded that the market for ETCS OBU projects is at least EEA-wide and left open the question as to whether Switzerland should be included in this market.

(193) As for legacy OBU projects, like in Siemens / Alstom, the Commission defined this market as national in scope due to the existence of strong barriers to entry, including: (i) the existence of adaptation costs to meet the country specific operating rules, (ii) sufficient volume to cover the cost of country adaptation, and (iii) homologation processes.[260] Furthermore, the market investigation in this case showed that legacy OBUs are not standardized, as they differ from one country to another.

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257 Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraphs 718-737.

258 Commission decision of 6 February 2019 in Case M.8677 – Siemens / Alstom, paragraphs 738-749.

259 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 827-828.

260 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 829-831.

7.1.1.2.2. The Notifying Party's view

(194) The Notifying Party agrees with the Commission's previous findings that the geographic market for ETCS OBU projects is at least EEA-wide. The Notifying Party considers that the UK and Switzerland should also be included in the relevant geographic market. To support this view, the Notifying Party submits that suppliers compete on at least an EEA-wide basis while, at the same time, ETCS OBUs are designed to operate with ETCS balises across the EEA, the UK and Switzerland.

(195) Likewise, the Notifying Party agrees that the markets for legacy OBU projects are national in scope because infrastructure managers and other national customers purchase these projects for their national needs subject to compliance with national specifications and homologation.

7.1.1.2.3. The Commission's assessment

(196) From a demand-side perspective, several elements suggest that the markets for ATP OBU projects are more likely to be EEA-wide than the markets for ATP wayside projects. This is because unlike ATP wayside projects for which customers are national infrastructure managers, the customers for ATP OBU projects include rolling stock OEMs which are active across the EEA. Furthermore, the market investigation confirmed that the wayside signalling supplier in a given country does not have an advantage for the supply of OBUs in this country.

(197) As one competitor explained: '[t]*he wayside signalling supplier in a given region/market does not have an advantage in supplying the bundled rolling stock/onboard unit when compared to a player that is not the supplier of the respective wayside signalling. This is because ETCS ensures that the onboard signalling unit supplied by one supplier works with the wayside signalling provided by another supplier. In fact, there are many cases where different signalling suppliers provide the wayside and onboard signalling. In some cases even the customers when procuring the trains do not specify on which part of a network the trains in question will operate – the signalling on the train simply has to comply with the ETCS standard, thereby ensuring that it can be operated on any relevant part of the network equipped with wayside signalling according to the ETCS standard*'.[261] The situation is different however for legacy ATP OBU projects as these projects use different technologies between Member States and thus present strong national features.

(198) In any event, the exact geographic market definition can be left open as the Transaction does not give rise to serious doubts for the supply of ETCS or legacy ATP OBU projects under any plausible market definition.

[261] Minutes of a call with a competitor of 16 May 2022, paragraph 16.

7.1.2. Rolling stock

7.1.2.1. Product market definition

7.1.2.1.1. The Commission's precedents

(199) In its previous decisions, the Commission distinguished mainline trains (running at speeds below 250 km/h) from high-speed trains (running at speeds above 250 km/h), very high-speed trains (running at speeds above 300 km/h) and urban trains (running on urban networks and covering mass transit within cities).[262]

(200) Within mainline trains, the Commission considered a distinction between intercity trains (running at speeds comprised between 160 km/h and 250 km/h) and regional trains (running at speeds below 160 km/h).[263] Within this category, the Commission also made a distinction (i) between locomotives-hauled trains (which include a locomotive and several wagons) and self-propelled trains (which consist of a single trainset)[264] and (ii) according to the traction technology[265,266].

(201) Within urban trains, the Commission previously distinguished between metros, trams and automated people movers.[267] Within metros, the Commission contemplated further distinctions between (i) rubber tyre and steel wheel metros, as well as between (ii) automated and conventional metros.[268]

7.1.2.1.2. The Notifying Party's view

(202) The Notifying Party agrees with these product market definitions considered in the Commission precedents.[269]

7.1.2.1.3. The Commission's assessment

(203) The outcome of the market investigation does not contradict the Commission's precedents nor give any reasons to depart from them.[270] This is also confirmed by the internal documents of the Parties, such as market studies used by the Parties in their usual course of business.

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262 Case M.9779 – Alstom / Bombardier Transportation, paragraphs.31, 44, 58.

263 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 59-60 and 62-70.

264 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 57 and 61.

265 The Commission contemplated a distinction between electric multiple units (i.e. trains powered through overhead catenaries ('EMUs')), diesel multiple units (i.e. on-board diesel engines ('DMUs')) and bi-mode trains (with a possible further segmentation between bi-mode trains using a diesel engine ('DEMUs'), batteries ('BEMUs') or hydrogen fuel-cell technologies ('HEMUs')). See: Case M.9779 – Alstom / Bombardier Transportation, paras. 71-73 and Commission decision of 25 May 2022 in Case M.10616 – CAF / Coradia Polyvalent Business / Talent 3 Business, paragraphs 17-22.

266 The Commission contemplated a distinction between single-deckers and double-deckers but considered, ultimately, that a distinction single-deckers and double-deckers was not warranted (Case M.9779 – Alstom / Bombardier Transportation, para. 79).

267 Commission decision of 13 July 2005 in Case COMP/M.2139 – Bombardier/Adtranz, para. 7; Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 102.

268 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraphs 103 et seq.

269 Form CO, paragraphs 1462- 1506 and 1517-1550.

270 See paragraphs (199)-(201).

(204) In a study conducted by Unife,[271] very high speed trains and high speed trains are distinguished from other categories of mainline trains. Within mainline trains, the study also makes a distinction between regional trains and intercity trains, which differentiate themselves by the speed at which they operate. The additional distinction by traction system (electric, diesel-electric and diesel-hydraulic locomotives) is also confirmed by the study.[272]

(205) For urban trains, Unife distinguishes between light rail vehicles (e.g. trams), metro vehicles and automated people mover systems, confirming the precedents described above.[273]

(206) In light of the available information to the Commission and the internal documents of the Parties does not justify the Commission departing from its previous practice regarding the product market definition for mainline rolling stock and urban rolling stock.

7.1.2.2. Geographic market definition

7.1.2.2.1. The Commission's precedents

(207) From a geographic point of view, with respect to mainline trains, the market investigation in Alstom / Bombardier was inconclusive as to whether the relevant product markets are national or EEA-wide (including Switzerland).[274] The Commission noted that self-propelled mainline trains are significantly different across EEA Member States in terms of customer preference, technical specifications and regulatory requirements, which limits the possibility for rail operators to use a self-propelled mainline train operated in one EEA country into another EEA country[275].

(208) As for urban trains, the Commission considered in Alstom / Bombardier that the market for metros is EEA-wide despite the fact that some national manufacturers may have a stronger position in their respective countries.[276]

7.1.2.2.2. The Notifying Party's view

(209) The Notifying Party submits that the geographic market for mainline trains is at least EEA+UK-wide (including Switzerland).[277] They argue that (i) mainline rolling stock suppliers are all active across the EEA and the UK, (ii) suppliers win projects across the EEA and the UK regardless of their footprint, (iii) suppliers provide trains capable of operating in several Member States at the same time, (iv) technical standards in the EEA are increasingly harmonised facilitating EEA-

271 Form CO, Annex Ch.2 S.7.2.2.
272 Form CO, Annex Ch.2 S.7.2.2., page 12.
273 Form CO, Annex Ch.2 S.7.2.2., page 13.
274 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 198.
275 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 199.
276 Commission decision of 31 July 2020 in Case M.9779 – Alstom / Bombardier Transportation, paragraph 235.
277 Form CO, paragraph 1565.

wide competition, and finally (v) suppliers use the same platform for the production of mainline trains operating in different Member States.[278]

(210) As for the urban rolling stock, the Notifying Party agrees that the geographic market for the supply of trams/light rail vehicles ('LRVs') should be EEA, including UK and Switzerland in scope.[279]

7.1.2.2.3. The Commission's assessment

(211) The market investigation does not contradict the Commission's precedents nor give any reasons to depart from them.

(212) For the purpose of this Decision and in light of all information available to it, the Commission therefore considers that the relevant geographic market for urban rolling stock is EEA in scope. As for mainline rolling stock, the Commission will carry out its competitive assessment at both an EEA-wide level, including Switzerland, and at national level.[280]

7.2. Competitive assessment

7.2.1. Analytical framework

(213) A merger can entail non-horizontal effects when it involves companies operating at different levels of the same value chain or in closely related markets. In assessing potential non-horizontal effects of a merger, the Commission analyses, among other things, whether the merger results in foreclosure so that actual or potential rivals' access to supplies or markets is hampered or eliminated as a result of the merger, thereby reducing those companies' ability and/or incentive to compete.[281] Such foreclosure may discourage entry or expansion of rivals or encourage their exit.

(214) In assessing the likelihood of such a scenario, the Commission examines, first, whether the merged firm would have the ability to foreclose its rivals[282], second, whether it would have the economic incentive to do so[283] and, third, whether a foreclosure strategy would have a significant detrimental effect on competition, thus causing harm to consumers.[284] In practice, these factors are often examined together as they are closely intertwined.

7.2.2. Market shares

(215) Table 15 below provides an overview of the Parties' market shares on all markets giving rise to vertical and conglomerate relationships. It summarises the Parties' and their competitors' market shares on the EEA markets for the supply of

278 Form CO, paragraph 1566

279 Form CO, paragraph 1578.

280 The bidding data indicate that, in the EEA, Hitachi only sold mainline rolling stock in [EU Member State] (Form CO, Annex CO S.7.1).

281 Commission Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 265, 18.10.2008, p. 6 ('Non-Horizontal Merger Guidelines'), paragraphs 20-29.

282 Non-Horizontal Merger Guidelines, paragraphs 33 to 39, 60 to 67 and 95 to 104.

283 Non-Horizontal Merger Guidelines, paragraphs 40 to 46, 68 to 71 and 105 to 110.

284 Non-Horizontal Merger Guidelines, paragraphs 47 to 57, 72 to 77 and 111 to 118.

mainline and urban trains, as well as on the market for the supply of mainline ETCS OBUs and urban signalling systems.

(216) The table shows that the combined market shares of the Parties, on the upstream markets, are [10-20]% on the ETCS OBU[285] market, [40-50]% on the CBTC market, [10-20]% on the conventional URS market and [5-10]% on the light rail URS.

[285] The legacy OBUs are not listed in the table, as, to the extent that legacy OBUs are being phased out to the benefit of ETCS OBUs, new and retrofitted rolling stock is generally equipped with ETCS OBUs. Moreover, Hitachi does not supply rolling stock in any Member States where Thales owns a legacy technology ([EU Member States]). Therefore, meaningful vertical and conglomerate relationships between rolling stock and legacy OBUs can be excluded. This is in line with the Commission's approach in Alstom/Bombardier, where its assessment focused on the relationships between rolling stock and ETCS OBU projects. Form CO, paragraphs 370 and 1655.

Table 15 – Non-horizontal relationships: market shares[286], 2013-2022, EEA + UK + CH[287]

Company	VHS	HS	Self-propelled mainline trains				Metros			Trams		ETCS OBUs[288]	CBTC	Conv. URS	Light rail URS
			Regio.	*Bimode*	*EMU*	*DMU*	*Auto*	*Conv.*	*Steel wheel*	*Low floor*	*Steel wheel*				
Hitachi	[20-30]%	[0-5]%	[5-10]%	[30-40]%	[5-10]%	-	[5-10]%	[10-20]%	[10-20]%	[0-5]%	[0-5]%	[10-20]%	[5-10]%	[5-10]%	[0-5]%
Thales	-	-	-	-	-	-	-	-	-	-	-	[0-5]%	[30-40]%	[0-5]%	[0-5]%
Alstom	[50-60]%	[30-40]%	[30-40]%	[20-30]%	[30-40]%	[30-40]%	[60-70]%	[10-20]%	[20-30]%	[30-40]%	[20-30]%	[50-60]%	[10-20]%	Not available	Not available
Siemens	[20-30]%	[30-40]%	[10-20]%	[0-5]%	[10-20]%	-	[10-20]%	[30-40]%	[20-30]%	[5-10]%	[5-10]%	[20-30]%	[40-50]%	Not available	Not available
CAF	-	-	[5-10]%	[10-20]%	[5-10]%	[20-30]%	[10-20]%	[10-20]%	[10-20]%	[10-20]%	[10-20]%	[5-10]%	-	Not available	Not available
Stadler	-	[0-5]%	[20-30]%	[20-30]%	[20-30]%	[10-20]%	[0-5]%	[10-20]%	[10-20]%	[20-30]%	[20-30]%	Not available	Not available	Not available	Not available
Skoda	-	[0-5]%	[0-5]%	-	[0-5]%	-	-	[0-5]%	[0-5]%	[5-10]%	[5-10]%	-	-	-	-

286 Market shares calculated by reference to the number of tenders won.

287 Form CO, Annex CO S.7.1.

288 These market shares focus exclusively on ETCS OBUs as Thales only supplies legacy OBUs in [EU Member States] and Hitachi does not supply or participate to calls for tenders in [EU Member States] for the supply of mainline rolling stock. As a result, any risk of input or customer foreclosure can be excluded in this respect (see below paragraph (230)).

7.3. Vertical effects

7.3.1. Input foreclosure

(217) As shown in Table 15, Thales is the only significant supplier of mainline signalling OBUs without a rolling stock division. In this context, several non-integrated OEMs (i.e. rolling stock suppliers without a signalling division) expressed concerns in the course of the market investigation regarding the vertical relationships arising between mainline signalling OBUs and mainline rolling stock.[289]

(218) These non-integrated OEMs explained that in a significant number of tenders for the supply of rolling stock, they need to partner with a signalling supplier in order to equip their rolling stock with signalling OBUs. As a result of the Transaction, these OEMs may be forced to partner with the signalling division of their integrated competitors (i.e. their competitors for the supply of rolling stock that have a signalling division) which may put them at a competitive disadvantage.

(219) The Commission investigated the concerns raised by these non-integrated OEMs but the data collected as part of the market investigation indicate that the Transaction will not give the merged entity the ability or incentive to foreclose competition on the markets for mainline rolling stock by restricting or degrading the access of non-integrated OEMs to Thales mainline signalling OBUs.

7.3.1.1. Ability

(220) The results of the market investigation indicate that the merged entity would not be able to foreclose non-integrated OEMs by restricting their access to Thales' mainline OBUs for the following reasons.

(221) ***First***, the merged entity will not have significant market power on the upstream market for the supply of ETCS OBUs in the EEA.[290] On this market, the Parties' combined market share on the upstream market for the supply of ETCS OBUs is limited ([10-20]%) with a small increment brought about by Thales ([0-5]%).[291] This is also true when taking into account only sales made by mainline ETCS OBU suppliers to rolling stock OEMs (as opposed to sales made to train operators). On this segment, the Parties have a combined market share of [10-20]% and the increment brought about by Thales is *de minimis* ([0-5]%).[292] It follows that the Parties also have similar market shares on the other sub-segment for sales made to mainline rolling stock operators as part of retrofit projects (as opposed to sales made to mainlein rolling stock OEMs).[293] This shows that Hitachi is already vertically integrated and that the Transaction will not significantly increase its position on the relevant upstream market.

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289 Minutes of a call with a rolling stock OEM of 15 June 2022, paragraph 22; Minutes of a call with a rolling stock OEM of 11 May 2022, paragraphs 6-22.

290 Non-Horizontal Merger Guidelines, paragraph 35.

291 Form CO, Table 15 and Annex CO S.7.1.

292 Form CO, Annex CO S.7.1.

293 On this sub-segment, the relationship between the Parties' activities for the supply of ETCS ATP OBUs and Hitachi's activities for the supply of rolling stock is conglomerate in nature, but the outcome of the assessment is the same.

(222) This is consistent with the results of the market investigation. As one integrated rolling stock OEM explained: '[f]*or OBUs, there are several suppliers active in Europe such as Siemens, Alstom, Hitachi, CAF and Stadler. Thales has not been very active in this segment*'.[294]

(223) ***Second***, the merged entity will continue to compete on the markets for the supply of rolling stock with a number of integrated OEMs which have their own mainline signalling divisions and do not need to access Thales' mainline OBUs. As such, the merged entity will be unable to foreclose these rolling stock OEMs which will remain unaffected. These include Siemens, Alstom, CAF and Stadler.

(224) ***Third***, the bidding data collected in the course of the market investigation indicates that Thales' mainline OBUs do not constitute a particularly important input for non-integrated rolling stock OEMs. The bidding data submitted by non-integrated rolling stock OEMs shows that, over the last years, they partnered with Thales in a limited number of tenders while they partnered with integrated OEMs in the vast majority of their tenders. Moreover, the bidding data submitted by an integrated OEM show that they do not exclusively install their own OBU technology on their rolling stock, but they also partner with competing OBU suppliers[295].

(225) ***Fourth***, this is consistent with the results of the market investigation. For instance, the largest integrated rolling stock OEMs confirmed that they have sold mainline signalling OBUs to third party rolling stock OEMs in the EEA in a significant number of cases.[296] Likewise, a non-integrated OEM stated that it outsources the installation of OBUs on its rolling stock to the signalling divisions of competing OEMs such as Siemens, Alstom and Hitachi[297].

(226) ***Fifth***, the results of the market investigation confirm that a number of other smaller independent signalling suppliers will continue to supply mainline signalling OBUs, including:

(a) AZD Praha: this company provides ETCS OBUs, primarily in Czechia, Slovakia and Poland but also in other EEA Member States, including Lithuania, Estonia, Hungary, Croatia and Bulgaria.[298] ;

(b) Mermec: this company has developed an ETCS OBU solution through a JV with Stadler.[299]

(227) ***Sixth***, certain integrated rolling stock OEMs are expected to expand in the near future on the markets for mainline signalling. One integrated rolling stock OEM indicated for instance that it recently acquired several signalling companies with a view to expand in the near future.[300]

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294 Minutes of a call with a rolling stock OEM of 10 May 2022, paragraph 12.

295 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, questions 49.1 and 48.

296 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, questions 49.1 and 49.1.2.

297 Minutes of a call with a competitor of 11 May 2022, paragraph 14.

298 Minutes of a call with a competitor of 31 March 2023, paragraph 8.

299 Form CO, footnote 150.

300 Minutes of a call with a competitor of 20 May 2022, paragraphs 12-13.

(228) In view of the above, the Commission concludes that the Transaction will not give the merged entity the ability to engage in an input foreclosure strategy with a view to foreclose Hitachi's competitors from the market for rolling stock.

7.3.1.2. Incentive

(229) The results of the market investigation confirm that the merged entity will have no incentive to engage in input foreclosure and, in particular, to restrict or degrade the access of non-integrated rolling stock OEMs to Thales' mainline signalling OBUs.

(230) ***First***, as regards legacy OBUs in particular, the Commission notes that Hitachi has not supplied rolling stock over the past ten years in any Member State where Thales owns a legacy technology (i.e. [EU Member States]). Furthermore, Hitachi has never participated to a tender for the supply of mainline rolling stock in [EU Member State] and participated only to one tender over the past ten years for the supply of rolling stock in [EU Member State] (which was ultimately won by Stadler).[301]

(231) As a result, the merged entity would have little incentive to restrict or otherwise degrade access of competing rolling stock OEMs to Thales' legacy OBUs in [EU Member States] as such strategy would represent a cost for the merged entity on the upstream market without the prospect of a significant increase in sales of rolling stock by Hitachi downstream.[302]

(232) ***Second***, with respect to ETCS OBUs, Hitachi is already vertically integrated and the increment brought about by Thales for the supply of signalling OBUs remains particularly limited ([0-5]%). As a result, the Transaction will not significantly change the incentive of the merged entity and is unlikely to give it an incentive to foreclose Hitachi's rivals for the supply of mainline rolling stock.

(233) ***Third***, at national level, Hitachi has never participated to tenders for the supply of mainline rolling stock in the EEA countries where Thales is active for the supply of ETCS OBUs (i.e. [EU and EEA Member States]).[303] As a result, the merged entity would have little incentive to restrict the access of Hitachi's competitors to Thales' ETCS OBUs in these countries.

(234) ***Fourth***, the data collected in the course of the market investigation indicates that the closest competitors of Hitachi on the markets for the supply of rolling stock are integrated OEMs which have their own signalling divisions and would remain unaffected by any potential input foreclosure strategy.

301 Form CO, Annex CO S.7.1.

302 The same conclusion applies when taking into account only sales of legacy ATP OBUs to mainline rolling stock operators (as opposed to sales made to rolling stock OEMs).

303 Form CO, Annex CO S.7.1.

Table 16 – Participation rate and winning rate with Hitachi's participation

Company	Number of tenders when Hitachi participated to the tender	With Hitachi participation	Number of tenders won when Hitachi participated to the tender	Winning rate with Hitachi participation
Hitachi	[…]	[90-100]%	[…]	[50-60]%
Alstom	[…]	[50-60]%	[…]	[30-40]%
Siemens	[…]	[10-20]%	[…]	[0-5]%
CAF	[…]	[20-30]%	[…]	[5-10]%
Stadler	[…]	[10-20]%	[…]	[5-10]%
Talgo	[…]	[0-5]%	[…]	[0-5]%

Source: Form CO, Annex CO S.7.1.

(235) As in Table 16 above, the market investigation confirmed that:

(a) Hitachi's closest competitor for the supply of mainline rolling stock in general is Alstom: when Hitachi participated to a tender, Alstom participated in [50-60]% of them and won [30-40]% of them;

(b) Hitachi's second closest competitor for mainline rolling stock in general is CAF which is also integrated with its own mainline signalling division;

(c) Hitachi's third closest competitors are Siemens and Stadler who both are integrated as well.

(d) The only non-integrated rolling stock OEM listed in the table above (i.e. Talgo) is the most distant competitor of Hitachi.

(236) The lack of closeness of competition for the supply of rolling stock between Hitachi and non-integrated rolling stock OEMs significantly limits the number of customers that are likely to be diverted away from non-integrated OEMs and the share of that diverted demand that Hitachi could capture as a result of an input foreclosure strategy.[304]

(237) In view of the foregoing, the Commission concludes that the Transaction will not give an incentive to the merged entity to foreclose Hitachi's competitors for the supply of rolling stock.

7.3.1.3. Impact

(238) For completeness, the Commission also notes that even in the hypothetical scenario where the merged entity would have the ability and incentive to foreclose competing rolling stock OEMs post-Transaction by restricting their access to its mainline signalling OBUs, such strategy would not have a significant impact on competition.

(239) ***First***, integrated rolling stock OEMs do not need access to Hitachi's or Thales' mainline signalling OBUs and would thus be unaffected by such input foreclosure strategy. As shown in table Table 15 above, competing integrated OEMs

304 Non-Horizontal Guidelines, paragraph 42.

(i.e. Siemens, Alstom, CAF and Stadler) together account for more than [50-60]% of all the markets for the supply of mainline rolling stock.

(240) This means that the proportion of the downstream markets that would be affected by such input foreclosure strategy would remain limited (around [0-5]%),[305] which significantly reduces the impact that such input foreclosure strategy would have on the market.[306]

(241) ***Second***, the data collected in the course of the market investigation shows that the competitive pressure exercised by non-integrated rolling stock OEMs when they partner with integrated rolling stock OEMs for mainline signalling OBUs is higher than when they partner with pure signalling players like Thales. In this respect, the data submitted by non-integrated rolling stock OEMs shows that, when they partner with Thales, they observe lower winning rates than when they partner with integrated OEMs.[307]

(242) ***Third***, the responses received from market participants during the market investigation confirm that the Transaction will not have any significant impact on the markets for mainline rolling stock. In this respect, a majority of rolling stock OEMs (who expressed a view including integrated and non-integrated OEMs) consider that the Transaction would have no effect in terms of prices, quality, choice or innovation.[308]

(243) By way of illustration, one rolling stock OEM explained that '*Main rolling stock suppliers have their own onboard signalling solution. Smaller players still have sufficient supplier alternatives*'.[309] According to another rolling stock: '*the merger will not significantly alter the competitive landscape in the supply of the onboard unit market*'.[310] Likewise, a third rolling stock OEM confirmed that '*the impact of the Transaction on all those parameters is neutral, including the choice, due to the low presence of Thales in the mainline OBUs market*'.[311]

(244) In view of the foregoing, the Commission concludes that the Transaction will not give the merged entity the ability and incentive to foreclose competition on the markets for mainline rolling stock by restricting or degrading their access to the merged entity's mainline signalling OBUs.

7.3.2. Customer foreclosure

7.3.2.1. Ability

(245) The results of the market investigation indicate that the merged entity would not have the ability to foreclose competitors for mainline signalling OBUs by restricting their access to Hitachi's mainline rolling stock.

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305 This corresponds to the market share of Skoda in Table 15, which is the only non-integrated rolling stock OEM listed in Table 15.

306 Non-Horizontal Merger Guidelines, paragraph 48.

307 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, questions 49.

308 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question 50.

309 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question 50.1.

310 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question 50.1.

311 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question 50.1.

(246) ***First***, with respect to legacy OBUs, Hitachi does not supply rolling stock in any Member States where Thales owns a legacy technology ([EU Member States]). Therefore, any meaningful vertical relationship between rolling stock and legacy OBUs can be excluded.

(247) ***Second***, as for ETCS OBUs, Hitachi's market shares at EEA level on the downstream markets for mainline rolling stock remains limited at EEA level and always below [30-40]% with the exception of bimode trains for which Hitachi has a market share of [30-40]%.[312]

(248) However, the suppliers of ETCS OBUs for bimode trains are the same as for other type of mainline rolling stock. Given that bimode trains do not represent a significant proportion in order intake among the different traction technologies ([10-20]%),[313] this means that the Parties' competitors for the supply of ETCS OBUs for bimode trains will continue to have access to a particularly large customer base on alternative downstream markets post-Transaction and are unlikely to be foreclosed if they no longer get access to Hitachi's bimode trains for the supply of their ETCS OBUs.[314]

(249) ***Third***, at national level, Hitachi has never participated to tenders for the supply of mainline rolling stock in the EEA countries where Thales is active for the supply of ETCS OBUs (i.e. [EU and EEA Member States]).[315] As a result, the merged entity would not have the ability to foreclose Thales' competitors for the supply of ETCS OBUs in these countries by restricting their access to Hitachi's rolling stock.[316]

(250) ***Fourth***, Hitachi holds a strong market position in Italy in the segments of regional trains, bimode trains and EMU trains, as showed in Table 17 below, where its market share is above [50-60]%:[317]

312 Form CO, Annex CO S.7.1.

313 Form CO, Annex CO S.7.1.

314 Non-Horizontal Merger Guidelines, paragraph 66.

315 Form CO, Annex CO S.7.1.

316 This is true for the access of Thales' competitors to the existing fleet of mainline rolling stock in these countries (i.e. for retrofit projects): given that Hitachi has no installed base of mainline rolling stock in these countries, it cannot foreclose Thales' competitors for the supply of ETCS OBUs by restricting their access to its own mainline rolling stock. This is also true for the award of future mainline rolling stock contracts in these countries: if Hitachi were to start suppling mainline rolling stock in these countries using only its own ETCS OBUs, this would not limit or reduce the current customer base of Thales' competitors who could still sell their ETCS OBUs for retrofit projects on pre-existing rolling stock fleets in these countries.

317 Form CO, Annex CO S.7.1.

Table 17 – Market share data: Italy, 2013-2022[318]

Company	HS	Self-propelled mainline trains			
		Regio.	***Bimode***	***EMU***	***DMU***
Hitachi	-	[50-60]%	[60-70]%	[50-60]%	-
Thales	-	-	-	-	-
Alstom	[90-100]%	[20-30]%	[5-10]%	[30-40]%	-
Siemens	-	-	-	-	-
Talgo	-	-	-	-	-
CAF	-	-	-	-	-
Stadler	-	[5-10]%	[20-30]%	-	[40-50]%
Skoda	-	-	-	-	-
Pesa					[50-60]%

Source: Form CO, Annex CO S.7.1.

(251) However, the market investigation confirmed that the Parties' competitors for the supply of ETCS OBUs in Italy are also active in other EEA Member States[319] and could continue supplying their current customers in these other Member States with no significantly higher costs as they are already supply these customers. As a result, even if Hitachi would no longer source mainline signalling OBUs from these competitors in Italy, these suppliers would still have access to a large customer base.[320]

(252) ***Fifth***, the merged entity will continue to face a number of integrated signalling suppliers with their own rolling stock division, which do not need access to Hitachi's rolling stock in order to operate on the market for mainline signalling OBUs in the EEA. It follows that the merged entity will not be able to foreclose these signalling suppliers by restricting their access to Hitachi's rolling stock.

(253) ***Sixth***, this is consistent with the results of the market investigation and in particular with the fact that no competitor for mainline signalling OBUs expressed concerns in relation to a potential customer foreclosure strategy.

(254) The Commission thus concludes that the merged entity will not have the ability to foreclose competitors for the supply of mainline signalling OBUs post-Transaction.

7.3.2.2. Incentive

(255) The results of the market investigation indicate that the Transaction will not give the merged entity the incentive to foreclose the Parties' competitors for the supply of mainline signalling OBUs in the EEA.

(256) In this respect, the Commission notes that Hitachi is already vertically integrated and the increment brought about by Thales for the supply of mainline signalling OBUs is particularly limited ([0-5]%). As a result, the Transaction will not significantly change the incentive of the merged entity and is unlikely to give it an incentive to foreclose Hitachi's rivals for the supply of mainline rolling stock.

318 Market shares calculated by reference to the number of tenders won.
319 Form CO, Annex CO S.7.1.
320 Non-Horizontal Merger Guidelines, paragraph 66.

(257) This is consistent with the results of the market investigation and in particular the fact that no competitor for mainline signalling OBU expressed customer foreclosure concerns in this respect. The Commission thus concludes that the Transaction will not give the merged entity the incentive to foreclose competing mainline OBU suppliers in the EEA.

7.3.2.3. Impact

(258) For completeness, the Commission also notes that even in the hypothetical scenario where the merged entity would have the ability and incentive to foreclose competing OBU suppliers by restricting their access to Hitachi's rolling stock post-Transaction, such strategy would not have a significant impact on the market.

(259) ***First***, Hitachi's market share for the supply of rolling stock in the EEA remains limited[321] and competing OBU suppliers will continue to get access to a large customer base.[322]

(260) ***Second***, the merged entity will continue to face a number of integrated signalling players which would remain unaffected by a customer foreclosure strategy and together account for [70-80]% of the market (see Table 18 above).

(261) ***Third***, this is consistent with the results of the market investigation since no competitor for the supply of mainline signalling OBUs expressed customer foreclosure concerns in the course of the market investigation.

(262) In view of the above, the Commission concludes that the Transaction will not give the merged entity the ability and incentive to foreclose competition on the markets for mainline signalling OBUs by restricting the access of competing OBU suppliers to Hitachi's mainline rolling stock.

7.4. Conglomerate effects

(263) As shown in table Table 15, Thales is the only significant supplier of urban signalling systems without an urban rolling stock division. In this respect, several non-integrated urban rolling stock OEMs (i.e. rolling stock suppliers without a signalling division) expressed concerns in the course of the market investigation regarding the conglomerate relationships arising between the Parties' activities for urban rail signalling and Hitachi's activities for the supply of urban rolling stock.[323]

(264) The Commission investigated the concerns raised by these non-integrated OEMs but the data collected as part of the market investigation indicate that the Transaction will not give the merged entity the ability or incentive to foreclose competition on the markets for urban rolling stock by restricting or degrading the access of non-integrated OEMs to Thales urban signalling systems.

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321 See paragraph (245).

322 See paragraph (249).

323 Minutes of a call with a rolling stock OEM of 15 June 2022, paragraph 22; Minutes of a call with a rolling stock OEM of 11 May 2022, paragraphs 6-22.

7.4.1. Ability

(265) The results of the market investigation indicate that the merged entity will not have the ability to foreclose competition for urban rolling stock by restricting access to Thales' urban signalling systems.

(266) ***First***, as shown in Table 15, the Parties' combined market share for the supply of urban signalling systems remains below [30-40]% on all markets except for CBTC,[324] where the combined market share of the merged entity is [40-50]%. However, as explained in paragraph (162), this market position is largely driven by Thales' strong position outside the EEA (specifically in the UK, where Thales was successful in winning business at the London Underground), while Hitachi has only a limited market position. Therefore, the merged entity would lack a significant degree of market power in the EEA for the supply of urban signalling systems in general, and CBTC systems in particular.[325]

(267) ***Second***, the merged entity will continue to compete on the markets for the supply of urban rolling stock with Siemens and Alstom, which have their own mainline signalling divisions and do not need to access Thales' urban signalling systems. As such, the merged entity will be unable to foreclose these urban rolling stock OEMs which will remain unaffected.

(268) ***Third***, the bidding data collected in the course of the market investigation indicates that Thales' CBTC systems do not constitute a particularly important input for non-integrated rolling stock OEMs. The bidding data submitted by non-integrated rolling stock OEMs shows that, over the past years, they partnered with Thales in a limited number of tenders while they partnered with integrated OEMs in the vast majority of their tenders. Moreover, the bidding data submitted by an integrated OEM shows that they do not exclusively install their own ETCS OBUs on their rolling stock, but also sometimes partner with competing OBU suppliers.[326]

(269) ***Fourth***, this is consistent with the results of the market investigation which show that Hitachi[327] and one other large integrated rolling stock OEM[328] sold urban CBTC OBUs to third party rolling stock OEMs in the past. Furthermore, the market investigation showed that several urban rolling stock OEMs, including some non-integrated OEMs, intend to enter the market for CBTC systems in the near future. One OEM confirmed for instance that it recently acquired several signalling companies and entered urban signalling markets with a view to expand soon.[329] Likewise another non-integrated urban rolling stock OEM indicated that it is currently developing an in-house CBTC solution that it expects to be available on the market in the coming years.[330]

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324 The combined market shares of the merged entity are [10-20]% on the conventional URS market and [5-10]% on the light rail URS.

325 Non-Horizontal Merger Guidelines, paragraph 99.

326 Responses to Q3 - Questionnaire to customers of urban rail signalling systems, questions 51 & 53.

327 Form CO, Annex CO S.7.1.

328 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question 52.

329 Minutes of a call with a competitor of 20 May 2022, paragraph 5.

330 Minutes of a call with a competitor of 5 May 2022, paragraph 10.

(270) In view of the above, the Commission concludes that the merged entity would not have the ability to foreclose Hitachi's competitors for the supply or urban rolling stock in general and metros in particular, by restricting their access to the Parties' CBTC systems, especially those of Thales.

7.4.2. Incentive

(271) The results of the market investigation also indicate that the Transaction will not give an incentive to the merged entity to foreclose Hitachi's competitors for the supply of urban rolling stock by restricting their access to Thales' urban signalling systems.

(272) ***First***, the data collected in the course of the market investigation shows that non-integrated urban rolling stock OEMs are not the closest competitors of Hitachi. In this respect, Table 18 below shows that:

(a) The closest competitors of Hitachi are Alstom, Siemens and CAF (for example, when Hitachi participated to a tender, Alstom participated in [50-60]% of them and won [20-30]% of them);

(b) Stadler is a non-integrated OEM and appears as the most distant competitor of Hitachi;

(c) CAF is also a non-integrated OEM, however its winning rate with Hitachi's participation suggests that it exerts a competitive pressure similar to that of competitors like Siemens and Alstom;

(d) Moreover, CAF[331] and Stadler[332] plan to enter the CBTC segment in the near future.

Table 18 – Participation rate and winning rate conditional on Hitachi's participation

Company	Number of tenders when Hitachi participated to the tender	Participation rate with Hitachi's participation	Number of tenders won when Hitachi participated to the tender	Winning rate with Hitachi's participation
Hitachi	[…]	[90-100]%	[…]	[20-30]%
Alstom	[…]	[50-60]%	[…]	[20-30]%
Siemens	[…]	[40-50]%	[…]	[20-30]%
CAF	[…]	[60-70]%	[…]	[20-30]%
Stadler	[…]	[10-20]%	[…]	[20-30]%

Source: Form CO, Annex CO S.7.1.

(273) ***Second***, the results of the market investigation show that Hitachi and one other large integrated rolling stock OEM sold urban CBTC OBUs in the past to third party rolling stock OEMs.[333] These past strategies suggest that integrated urban

331 Minutes of a call with a competitor of 5 May 2022, paragraph 10.
332 Minutes of a call with a competitor of 20 May 2022, paragraph 5.
333 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question 52.

rolling stock OEMs have no incentive to restrict the access to their CBTC OBUs.[334]

(274) In view of the above, the Commission concludes that the merged entity will not have an incentive to foreclose competing urban rolling stock OEMs by restricting their access to Thales' urban rail signalling systems in general and CBTC systems in particular.

7.4.3. Impact

(275) For completeness, the Commission also notes that even in the hypothetical scenario where the merged entity would have the ability and incentive to foreclose competing rolling stock OEMs post-Transaction by restricting their access to its urban signalling systems, such strategy would not have a significant impact on competition.

First, integrated rolling stock OEMs like Siemens and Alstom do not need access to Hitachi's or Thales' CBTC systems and would thus be unaffected by such input foreclosure strategy. This means that only the non-integrated OEMs would be affected, which however only account for a limited part of the market for automated metros ([10-20]%).[335]

(276) ***Second***, the responses received in the course of the market investigation confirmed that some previously non-integrated urban rolling stock OEMs recently entered the market for urban signalling systems and are expected to expand on this market. For instance, one rolling stock OEM explained that '[they] *see new entrants such as Stadler Signalling emerging to address the CBTC market*'.[336] Another example concerns CAF, which is in the process to develop a CBTC technology that is currently being tested in Bilbao.[337]

(277) ***Third***, the data collected in the course of the market investigation shows that the competitive pressure exercised by non-integrated rolling stock OEMs when they partner with integrated rolling stock OEMs for urban signalling systems is higher than when they partner with pure signalling players like Thales. In this respect, the data submitted by the non-integrated rolling stock OEMs shows that, when they partner with Thales, they observe lower winning rates than when they partner with integrated OEMs.[338]

(278) ***Fourth***, this is consistent with the views expressed by the majority of urban rolling stock OEMs according to which the Transaction will not have a significant impact for the supply of urban rolling stock in terms of prices, quality, choice or innovation.[339] By way of illustration, one urban rolling stock OEM explained that the Transaction will have no impact on the market for urban rolling stock because '*Hitachi is from a Metro rolling stock perspective neglectable in Europe with 2%*

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334 Non-Horizontal Merger Guidelines, paragraph 109.

335 Non-Horizontal Merger Guidelines, paragraph 113. Automated metros are the only urban rolling stock that can be used with CBTC systems, which is the only urban signalling market where the Parties have a combined market share above [30-40]%.

336 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question 54.1.

337 Form CO, paragraph 1290.

338 Responses to Q3 - Questionnaire to customers of urban rail signalling systems, questions 51 & 53.

339 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question 54.

share'.[340] This is also in line with the responses received from customers, the majority of which confirmed that the Transaction will have no impact on their procurement of urban rolling stock.[341]

(279) In any event, there is no need to consider the overall impact of such a strategy as the merged entity will lack the ability and incentive to foreclose competing urban rolling stock OEMs. As a result, the Commission concludes that the Transaction will not give the merged entity the ability and incentive to foreclose competition on the markets for urban rolling stock by restricting or degrading their access to the merged entity's urban signalling systems.

7.5. Conclusion

(280) In view of the above, the Commission concludes that the Transaction does not raise serious doubts as to its compatibility with the internal market and with the EEA agreement regarding (i) vertical effects arising from the Transaction in connection with the signalling upstream markets in the EEA and the rolling stock downstream market in the EEA and (ii) conglomerate effects between urban rail signalling on the one hand, and urban trains on the other.

8. PROPOSED REMEDIES

8.1. Introduction

(281) In order to address the competition concerns identified by the Commission and render the concentration compatible with the internal market, the Notifying Party submitted a first set of commitments (the 'Initial Commitments') on 14 September 2023. The Commission launched a market test of the Initial Commitments on 18 September 2023 (the 'Initial Market Test').

(282) Based on the results of the Initial Market Test, the Commission provided the Notifying Party with its assessment of the Initial Commitments on 4 October 2023. Following the feedback from the Commission and in order to address the identified shortcomings of the Initial Commitments, the Notifying Party submitted a second set of commitments on 20 October 2023 (the 'Final Commitments').

(283) The Final Commitments are attached as Annex and form an integral part of this Decision.

8.2. Analytical framework

(284) Where, as in this case, a notified concentration raises serious doubts as to its compatibility with the internal market, the Parties may modify the notified concentration to remove the grounds for the serious doubts identified by the Commission with a view to having it declared compatible with the internal market,[342] pursuant to Article 6(1)(b) in conjunction with Article 6(2) of the Merger Regulation.

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340 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question 54.1.

341 Responses to Q3 - Questionnaire to customers of urban rail signalling systems, question 34.

342 Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under

(285) The Commission only has the power to accept commitments that will prevent a significant impediment to effective competition in all relevant markets where competition concerns were identified. To that end, the commitments have to eliminate the competition concerns entirely and have to be comprehensive and effective from all points of view.[343] Moreover, commitments must be capable of being implemented effectively within a short period of time.[344]

(286) In assessing whether proposed commitments are likely to eliminate its competition concerns, the Commission considers all relevant factors, including inter alia the type, scale and scope of the commitments, judged by reference to the structure and particular characteristics of the market in which those concerns arise, including the position of the parties and other participants on the market.[345]

(287) Divestiture commitments are generally the best way to eliminate competition concerns resulting from horizontal overlaps, as they create the conditions for the emergence of a new competitive entity or for the strengthening of existing competitors via divestiture by the merging parties.[346]

(288) The divested activities must consist of a viable business that, if operated by a suitable purchaser, can compete effectively with the merged entity on a lasting basis and that is divested as a going concern. The business must include all the assets which contribute to its current operation or which are necessary to ensure its viability and competitiveness and all personnel which are currently employed or which are necessary to ensure the business' viability and competitiveness.[347]

(289) Normally, a viable business is a business than can operate on a stand-alone basis, which means independently of the merging parties as regards the production and supply of input materials or other forms of cooperation other than during a transitory period.[348]

(290) The business to be divested has to be viable as such. Therefore, the resources of a possible or even presumed future purchaser are not taken into account by the Commission at the stage of assessing the remedy. The situation is different if already during the procedure a sale and purchase agreement with a specific purchaser is concluded whose resources can be taken into account at the time of the assessment of the commitment.[349]

(291) The intended effect of the divestiture will only be achieved if and once the business is transferred to a suitable purchaser in whose hands it will become an active competitive force in the market. The potential of a business to attract a suitable purchaser is an important element of the Commission's assessment of the appropriateness of the proposed commitment.[350]

Commission Regulation (EC) No 802/2004 (the 'Remedies Notice'), OJ C 267, 22.10.2008, p.1., paragraph 5.

343 Remedies Notice, paragraph 9.

344 Remedies Notice, paragraph 9.

345 Remedies Notice, paragraph 12.

346 Remedies Notice, paragraphs 17 and 22.

347 Remedies Notice, paragraphs 23-25.

348 Remedies Notice, paragraph 32.

349 Remedies Notice, paragraph 30.

350 Remedies Notice, paragraph 47.

8.3. The Initial Commitments

8.3.1. Summary of the Initial Commitments

(292) The Notifying Party's Initial Commitments consisted of the divestment of Hitachi Rail's business in France and Germany under the respective legal entities holding those activities, complemented by a business in the UK (the 'Initial Divestment Businesses'), as follows:

(a) In France, the divestment of Hitachi Rail STS France SAS, which includes: (i) operations site in Les Ulis, manufacturing site in Riom, service and maintenance site in Paris, as well as international branches; (ii) ETCS and legacy OBU projects in France and other countries, for high-speed and conventional lines; and (iii) the ARGOS platforms with interlockings and ATP wayside overlay projects that are currently under development (the 'ARGOS Platforms', which include the 'ARGOS Wayside Platform' and the 'ARGOS Interlocking Platform').

(b) In Germany, the divestment of Hitachi Rail STS Deutschland GmbH, with its business for ETCS ATP wayside and interlocking projects in Germany, which includes: (i) office for operations in Munich; and (ii) the German WSP platforms that are under development for both ATP wayside overlay projects and interlocking projects (the 'German WSP Platforms' which include the 'German WSP Wayside Platform' and the 'German WSP Interlocking Platform').

(293) The businesses above would be complemented by the Parties' divestiture of Hitachi Rail's digital mainline signalling assets and resources in the UK, to be carved out from Hitachi Rail and contributed to a new legal entity. The Commission understands this business would be divested by Hitachi as a consequence of binding commitments undertaken vis-à-vis the UK Competition and Markets Authority.[351]

(294) Under the Initial Commitments, each of the Initial Divestment Businesses would include all tangible and intangible assets, customer records, purchase orders, contracts and leases, licenses, permits and authorizations, as well as the necessary personnel to ensure their viability and competitiveness. In addition, the Initial Commitments provided that the Initial Divestment Businesses would be supported by a number of transitional services agreements ('TSAs'), as well by a secondment agreement for engineers (the 'Secondment Arrangement'), at the purchaser's option. In particular:

(a) With respect to the ARGOS Wayside Platform: (i) a TSA for approximately [confidential information on the duration and price of TSA] under which Hitachi Rail would undertake to complete the development and to obtain the homologation thereof, and then transfer the ARGOS Wayside Platform and the corresponding R&D know-how to the purchaser, or (ii) a TSA for [confidential information on the duration and price of TSA] under which Hitachi Rail would undertake to hire a maximum of […] additional

[351] https://www.gov.uk/government/news/hitachi-rail-to-sell-part-of-mainline-signalling-business-allowing-merger-to-proceed

full-time equivalents ('FTEs') to be employed by Hitachi Rail France and train such additional personnel to the extent required by the purchaser for the development and ultimately transfer of the ARGOS Wayside Platform as soon as reasonably practical.

(b) With respect to the ARGOS Interlocking Platform, a TSA [confidential information on the duration and price of TSA] under which Hitachi Rail would undertake to support key R&D personnel to the extent required by the purchaser;

(c) With respect to the German WSPs, a TSA for [confidential information on the duration and price of TSA] under which Hitachi Rail would undertake to train and/or support the purchaser to the extent required;

(d) a TSA for a period of approximately [confidential information on the duration and price of TSA]; and

(e) a Secondment Arrangement in respect of up to […] Italy-based suitably qualified engineers from Hitachi Rail for [confidential information on the duration of TSA] (or until completion of homologation), as well as (ii) training of up to […] FTEs to be identified within the Hitachi Rail business or otherwise recruited as part of the Divestment Business, so that they would have the same level of competence as the Italy-based engineers.

(295) As for purchaser requirements, further to the standard purchaser criteria (requiring independence from the Parties; proven expertise in the relevant field; incentives to maintain and develop the Divestment Business; and a lack of prima facie competition concerns), the Initial Commitments also provided that the Purchaser should have proven expertise in the rail industry, financial resources and incentive to maintain and develop the Divestment Business. [Confidential information on implementation of Initial Commitments].

(296) Further to the above, the Notifying Party has entered into related commitments, *inter alia* regarding the separation of the Divestment Businesses from its retained business, the preservation of the viability, marketability and competitiveness of the Divestment Businesses, including the appointment of a monitoring trustee and, if necessary, a divestiture trustee.

(297) The Divestment Business does not include Hitachi Rail's CBTC business. The assets, personnel, IP, customer and supplier contracts, customer track records, licenses, permits and authorizations, as well as branches, which are dedicated to the CBTC Business will be carved out of the Divestment Business.

8.3.2. The Notifying Party's view

(298) In the Form RM submitted together with the Initial Commitments (the 'Initial Form RM'), the Notifying Party stated that the Initial Commitments had the scale and scope to eliminate entirely the Commission's serious doubts, given that they removed the overlaps between the parties in the markets for which the

Commission had raised competition concerns, creating a new competitor in such markets and beyond.[352]

(299) According to the Notifying Party, the Initial Commitments were comprehensive and effective, as they included two pre-existing legal entities, together with the respective foreign branches that contained all assets and personnel, as well as state-of-the-art technologies, a backlog of contracts and extensive experience in winning and delivering projects. The Notifying Party considered therefore that the Initial Commitments had all necessary elements to ensure the viability and competitiveness of the Divestment Business on a lasting basis in France, Germany and other geographies.[353]

(300) Also according to the Notifying Party, the Initial Commitments were profitable and attractive. They included activities for which the Commission did not raise serious doubts, but that would contribute to the viability and profitability of the Divestment Business.[354]

(301) Finally, the Notifying Party considered that the Initial Commitments were capable of being implemented effectively within a short period of time, as they entailed the divestiture of two pre-existing legal entities together with the ARGOS Platforms, the German WSP and the UK Divestment Business and a minimal reverse carve out of the CBTC Business.[355]

8.3.3. Commission's assessment of the Initial Commitments

8.3.3.1. General Aspects of the Initial Commitments

(302) The Initial Commitments were structural in nature, as they entailed a divestment of Hitachi Rail's operations in France and Germany (as well as in the UK), with the purpose to enable the entry or expansion of a credible competitor in these countries and beyond.

(303) The Commission sought feedback from the market participants with respect to the Initial Commitments (the 'Initial Market Test'). The results of the market test were overall positive with respect to the general perimeter of the Initial Commitments.

(304) Market participants considered that the Initial Commitments were generally suitable and adequate to effectively remove competition concerns; also, that the scale of the Divestment Business was sufficient to ensure its immediate viability and competitiveness. For example, customers highlighted the positive aspects of the Initial Commitments as follows:

(305) "*The divestment business includes tangible and intangible assets (including manufacturing site), licences, contracts, leases, commitments... It also includes the human ressources of Hitachi Rail France* […] *especially the key personnel* […]. *In addition, the defined TSA will help the divestment business to be ready after the divestment. Hitachi Rail France has a long-term history of development*

352 Form RM submitted by the Notifying Party on 14 September 2023, paragraph 16.
353 Form RM submitted by the Notifying Party on 14 September 2023, paragraphs 22-31.
354 Form RM submitted by the Notifying Party on 14 September 2023, paragraphs 32-35.
355 Form RM submitted by the Notifying Party on 14 September 2023, paragraph 36.

of signalling systems with skilled teams and therefore has a solid base to be a viable company."[356]

(306) "*In our opinion, the Commitments are sufficient to allow the Purchaser of the Divestment Business to run a viable business. The Purchaser will be supported in the approval of the WSP platform and will be able to compete in the market with an approved product. The fact that Hitachi will not compete in the same countries for the next 10 years ensures that the Purchaser can establish itself as a competitor in the market*."[357]

(307) Nevertheless, the results of the Initial Market Test also raised concerns with respect to possible implementation risks of the Initial Commitments.

8.3.3.2. Implementation risks related to transitional support provisions

(308) Market participants raised concerns about the viability of the Initial Commitments with respect to the ARGOS and German WSP Platforms that are still under development. Specifically, the Initial Market Test pointed to shortcomings on the scope of the Secondment Arrangement and of the envisaged TSAs to develop the ARGOS and German WSP Platforms.

(309) A majority of respondents considered that the maximum number of […] seconded engineers and […] FTEs would be insufficient for the Purchaser to achieve a complete development of the platforms :"*We believe that the duration, number of engineers and FTEs to be trained may be underestimated* […]";[358] "*according to our signalling specialists neither the timeframe nor the number of FTE is considered to be sufficient*";[359] "*The duration provided and resources committed may be insufficient, according to our experience, to ensure a viable and real R&D know-how transfer. To enable a proper development* […] *we would expect a higher number of engineers.*"[360]

(310) Likewise, a majority of the market participants considered the scope and proposed duration of the TSAs and of the Secondment Arrangement to be insufficient: "*It seems difficult to understand that a company's knowledge of so many years can be transmitted in* […] *years* […]";[361] *"*[…] *it is difficult to quantify the resources it will take to complete a first full-compliant product* […] *it would be helpful to incorporate the objective "full-compliant" product* […] *as a common goal in the contract".*[362]

(311) Moreover, the Initial Market Test pointed to lack of clarity on the scope of the perpetual, royalty-free licenses that Hitachi Rail undertook to grant to the Purchaser with respect to the ARGOS and German WSP platforms: "*The license will ensure viability and competitiveness only if it includes relevant provisions related to new releases/upgrades/modification of the platforms*".[363]

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356 Response to Q2 - Questionnaire to customers of wayside signalling systems, question CA2.
357 Response to Q2 - Questionnaire to customers of wayside signalling systems, question E6.
358 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question C.A.14.
359 Response to Q2 - Questionnaire to customers of wayside signalling systems, question C.A.14.
360 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question C.A.16.
361 Response to Q2 – Questionnaire to customers of wayside signalling systems, question C.A.16.
362 Response to Q2 - Questionnaire to customers of wayside signalling systems, question C.F.2.
363 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question C.A.10.

8.3.3.3. Implementation risks related to customers consent

(312) The Initial Market Test stressed the importance that key customers consent to the transfer of their contracts to the Divestment Business.

(313) Market participants raised concerns with respect to possible uncertainty in this respect: "*Backlog is required for the viability of the Divestment Business, and therefore approval by the customers is necessary*."[364]; "*Obtaining clarity, which customer contracts can be transferred and which not* […] *significantly influences the viability and competitiveness of the Divestment Business*".[365]

8.3.3.4. Implementation risks related to purchaser suitability criteria

(314) Most market participants expressed a view that the purchaser needs to have experience not only in the rail industry broadly, but to have experience in particular in railway infrastructure: "*The potential purchaser should* […] *be a company with experience in railway infrastructure* […]";[366] "*Based on our experience system integration experiences are necessary*.";[367] "*a purchaser without any experience in the signalling business will underestimate the complexity of this business and will not be able to manage all potential risks*."[368]

(315) In addition, market participants considered important for the Purchaser to have sufficient financial strength and strategic expansion focus, as well international scale: "*To be competitive in the market, a sufficient financial base and experience in the rail industry is required*."[369] "[…] *achieving an international presence* […] *is key for the new business.*"[370]

8.3.3.5. Commission's assessment of the Initial Commitments

(316) The Initial Commitments contained the appropriate principles to address the Commission's competition concerns related to the loss of direct competition between Hitachi and Thales resulting from the Transaction.

(317) Indeed, the Initial Commitments: (i) provided for the divestiture of a standalone business to remove the horizontal overlap between the parties in France and Germany; (ii) enabled the creation of an independent player to act as a new competitive constraint in France, Germany and other geographies where the Parties are active; (iii) covered entire and international platforms, include manufacturing sites, other tangible and intangible assets, employees and transitional TSAs; (iv) included certain purchaser criteria, [confidential information on implementation of Initial Commitments].

(318) However, the Commission considered that the issues identified in the Initial Market Test had to be addressed to guarantee the future viability and competitiveness of the Divestment Business. Accordingly, the Commission found

364 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question C.D.4.
365 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question C.D.4.
366 Response to Q2 - Questionnaire to customers of wayside signalling systems, question D.5.
367 Response to Q2 - Questionnaire to customers of wayside signalling systems, question D.4.
368 Responses to Q1 - Questionnaire to competitors of wayside signalling systems, question D.4.
369 Response to Q2 - Questionnaire to customers of wayside signalling systems, question D.2.
370 Response to Q2 - Questionnaire to customers of wayside signalling systems, question C.A.10.

the Initial Commitments were overall insufficient to address its competition concerns.

8.4. The Final Commitments

(319) To alleviate the concerns identified in the Initial Market Test, the Parties offered the Final Commitments, which:

(a) Provide that the Secondment Arrangement will include an appropriate number of qualified engineers to be agreed with the Purchaser (without limiting the number of engineers for this purpose), in addition to all other engineers already transferred as part of the Divestment Business;

(b) Extend the duration of each TSA until homologation or completion of the corresponding ARGOS or German WSP Platforms, and provide the possibility of post-homologation or post-completion TSAs of […], at the request of the purchaser, should the purchaser need assistance with possible bug fixes, upgrades, new releases, modifications, and improvements;

(c) Specify that the IP licenses for the ARGOS or German WSP Platforms include the right to use, copy, modify, improve, upgrade, and reverse-engineer all non-country and non-customer specific elements and components of the platforms;

(d) In relation to purchaser criteria, require experience specifically in rail infrastructure, international presence and financial strength, in addition to incentive and objective to maintain and develop the Divestment Business;

(e) Expressly provide that, as a condition to approve the purchaser, the Commission must be satisfied that SNCF and Deutsche Bahn would not withhold their consents in relation to the transfer of their contracts to the Purchaser.

8.4.1. Assessment of the Final Commitments

(320) The Commission takes the view that the Final Commitments address all outstanding concerns in terms of the implementation risks raised by market participants during the Initial Market Test.

(321) First, the Final Commitments ensure that the purchaser will be able to conclude development and homologation or completion of each ARGOS and German WSP Platforms, by: (i) providing flexibility in the number of engineers to be included in the Secondment Arrangement as needed; (ii) ensuring that the duration of the TSAs by which Hitachi Rail provides support to the Purchaser covers all relevant milestones for development and homologation/completion of the platforms, and providing additional assurances with the possibility of post-homologation or post-completion TSAs; as well as (iii) clarifying that the scope of the right to use under the relevant IP licenses include any upgrades, modifications or improvements.

(322) Moreover, Hitachi Rail will provide contractual assurances for the purchaser to enforce the development milestones for the ARGOS and German WSP Platforms, and will provide warranties directly to customers in case such milestones are not met.

(323) Second, the Final Commitments contain stricter purchaser criteria that, [confidential information on implementation of Final Commitments], are capable of ensuring the suitability of the purchaser to operate the Divestment Business and make the necessary investments with the appropriate business plan to further develop the Divestment Business.

(324) Third, the Final Commitments condition the approval of the purchaser to the consent of key customers to transfer the contracts to the Divestment Business.

8.4.2. Conclusion on the assessment of the Final Commitments

(325) For the reasons outlined above, the commitments entered into by the undertakings concerned are sufficient to entirely eliminate the serious doubts as to the compatibility of the transaction with the internal market and the functioning of the EEA Agreement.

(326) The commitments in section B of the Annex constitute conditions attached to this Decision, as only through full compliance therewith can the structural changes in the relevant markets be achieved. The other commitments set out in the Annex constitute obligations, as they concern the implementing steps which are necessary to achieve the modifications sought in a manner compatible with the internal market.

9. CONCLUSION

(327) For the above reasons, the Commission has decided not to oppose the notified concentration as modified by the commitments and to declare it compatible with the internal market and with the functioning of the EEA Agreement, subject to full compliance with the conditions in section B of the commitments annexed to the present Decision. This Decision is adopted in application of Article 6(1)(b) in conjunction with Article 6(2) of the Merger Regulation and Article 57 of the EEA Agreement.

For the Commission

(Signed)
Didier REYNDERS
Member of the Commission

20 October 2023

Case M.10507 – Hitachi Rail / Thales's Ground Transportation Systems Business

COMMITMENTS TO THE EUROPEAN COMMISSION

Pursuant to Article 6(2) of Council Regulation (EC) No 139/2004 (the "***Merger Regulation***"), Hitachi Rail, Ltd. ("***Hitachi Rail***" or the "***Notifying Party***") hereby enters into the following Commitments (the "***Commitments***") *vis-à-vis* the European Commission (the "***Commission***") with a view to rendering Hitachi Rail's acquisition of sole control over the global Ground Transportation Systems business (the "***Target***") of Thales SA ("***Thales***") (the "***Concentration***") compatible with the internal market and the functioning of the European Economic Area ("***EEA***") Agreement.

This text shall be interpreted in light of the Commission's decision pursuant to Article 6(1)(b) of the Merger Regulation to declare the Concentration compatible with the internal market and the functioning of the EEA Agreement (the "***Decision***"), in the general framework of European Union law, in particular in light of the Merger Regulation, and by reference to the Commission Notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 (the "***Remedies Notice***").

Section A. Definitions

1. For the purpose of the Commitments, the following terms shall have the following meaning:

   Affiliated Undertakings: undertakings controlled by the Parties and/or by the ultimate parents of the Parties, whereby the notion of control shall be interpreted pursuant to Article 3 of the Merger Regulation and in light of the Commission Consolidated Jurisdictional Notice under Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings (the "***Consolidated Jurisdictional Notice***").

   ARGOS Interlocking Platform: Hitachi Rail's platform for interlockings (standalone interlockings/resignalling) projects on high-speed and conventional lines, currently being developed to meet SNCF standards, with an homologation to be expected by […].[1]

   ARGOS Platforms: ARGOS Interlocking Platform and ARGOS Wayside Platform.

   ARGOS Wayside Platform: Hitachi Rail's platform for ATP wayside (overlay/resignalling) projects on high-speed and conventional lines, on the basis of ETCS standards, currently being developed to meet SNCF standards, with an homologation to be expected by […].

[1] According to the latest schedule agreed with SNCF.

Assets: the assets that contribute to the current operation or are necessary to ensure the viability and competitiveness of the Divestment Business as indicated in Section B, paragraph 8 and described more in detail in the Schedule.

ATP: automatic train protection.

Closing: the transfer of the legal title to the Divestment Business to the Purchaser.

Closing Period: the period of […] months (subject to a possible extension under Section F) from the approval of the Purchaser and the terms of sale by the Commission.

Confidential Information: any business secrets, know-how, commercial information, or any other information of a proprietary nature that is not in the public domain.

Conflict of Interest: any conflict of interest that impairs the Trustee's objectivity and independence in discharging its duties under the Commitments.

Divestment Business: the business or businesses as defined in Section B and in the Schedule which the Notifying Party commits to divest.

Divestiture Trustee: one or more natural or legal person(s) who is/are approved by the Commission and appointed by Hitachi Rail and who has/have received from Hitachi Rail the exclusive Trustee Mandate to sell the Divestment Business to a Purchaser at no minimum price.

DMS: digital mainline signalling.

Effective Date: the date of adoption of the Decision.

ETCS: European Train Control System.

First Divestiture Period: the period of […] months from the Effective Date.

Generic Application: the software loaded onto the Safety Platform that translates the signalling rules received from each customer/infrastructure owner into algorithms, executed by the Safety Platform.

Generic Product: the common standard generic (*i.e.*, non-country and non-customer specific) Safety Platform on which the Generic and Specific Applications are being loaded.

German WSP: Hitachi Rail's platform for (*i*) ATP wayside (overlay/resignalling) projects on high-speed and conventional lines, on the basis of ETCS standards, currently under development to meet Deutsche Bahn requirements, with a completion[2] to be expected by […] (the "***German WSP ATP Wayside***") and (*ii*) interlockings (standalone interlockings/resignalling) projects on high-speed and conventional lines, currently under

[2] See footnote 17.

development to meet Deutsche Bahn requirements, with a completion to be expected by […] (the "***German WSP Interlocking***").[3]

Hitachi Rail: Hitachi Rail, Ltd., incorporated under the laws of England and Wales, with its registered office at 7th Floor, One New Ludgate, 60 Ludgate Hill, London, England, EC4M 7 AW, and registered with the Companies House under number 05598549.

Hold Separate Manager: the person appointed by Hitachi Rail for the Divestment Business to manage the day-to-day business under the supervision of the Monitoring Trustee.

Key Personnel: all personnel necessary to maintain the viability and competitiveness of the Divestment Business, as listed in the Schedule, including the Hold Separate Manager.

Monitoring Trustee: one or more natural or legal person(s) who is/are approved by the Commission and appointed by Hitachi Rail, and who has/have the duty to monitor Hitachi Rail's compliance with the conditions and obligations attached to the Decision.

PAI Interlocking Platform: Hitachi Rail's platform for interlockings (standalone interlockings/resignalling) projects on conventional lines (mainly in France and the United Kingdom ("***UK***")), and high-speed lines, mainly in Morocco, which is already developed and operational.

Parties: the Notifying Party and the undertaking that is the target of the concentration.

Personnel: all staff currently employed by the Divestment Business, including staff seconded to the Divestment Business, shared personnel as well as the additional personnel listed in the Schedule.

Purchaser: the entity approved by the Commission as acquirer of the Divestment Business in accordance with the criteria set out in Section D.

Purchaser Criteria: the criteria laid down in paragraph 19 of these Commitments that the Purchaser must fulfil in order to be approved by the Commission.

Safety Platform: the vital platform (hardware), which includes an operating system, drivers, communications, and computing hardware.

Schedule: the schedule to these Commitments describing more in detail the Divestment Business.

SEI Interlocking Platform: Hitachi Rail's platform for interlockings (standalone interlockings/resignalling) projects on high-speed lines, mainly in France, UK, Spain, Sweden and China, which is already developed and operational.

SEI Platforms: SEI Interlocking Platform and SEI Wayside Platform.

[3] The dates of the German WSP Milestones are aligned with the project schedule of [*name of German projects*] as of September 2023.

SEI Wayside Platform: Hitachi Rail's platform used for ATP wayside (overlay/resignalling) projects on high-speed lines, on the basis of ETCS standards, mainly in France, UK, Spain, Sweden and Morocco, which is already developed and operational.

Specific Application: the configuration data and parameters for each specific project which are used to configure the Generic Application.

Trustee(s): the Monitoring Trustee and/or the Divestiture Trustee as the case may be.

Trustee Divestiture Period: the period of […] months from the end of the First Divestiture Period.

UK DMS Business: assets and resources comprising Hitachi Rail's local UK DMS business.

Section B. The commitment to divest and the Divestment Business

I – Commitment to divest

2. In order to maintain effective competition, Hitachi Rail commits to divest, or procure the divestiture of the Divestment Business by the end of the Trustee Divestiture Period as a going concern to a purchaser and on terms of sale approved by the Commission in accordance with the procedure described in paragraph 20 of these Commitments. To carry out the divestiture, Hitachi Rail commits to find a purchaser and to enter into a final binding sale and purchase agreement for the sale of the Divestment Business within the First Divestiture Period. If Hitachi Rail has not entered into such an agreement at the end of the First Divestiture Period, Hitachi Rail shall grant the Divestiture Trustee an exclusive mandate to sell the Divestment Business in accordance with the procedure described in paragraph 32 in the Trustee Divestiture Period.
3. [*Confidential details relating to conditions precedent to the Concentration*]
4. Hitachi Rail shall be deemed to have complied with this commitment if:
   (a) by the end of the Trustee Divestiture Period, Hitachi Rail or the Divestiture Trustee has entered into a final binding sale and purchase agreement and the Commission approves the proposed purchaser and the terms of sale as being consistent with the Commitments in accordance with the procedure described in paragraph 20; and
   (b) the Closing of the sale of the Divestment Business to the Purchaser takes place within the Closing Period.
5. In order to maintain the structural effect of the Commitments, the Notifying Party shall, for a period of 10 years after Closing (or 15 years if the ARGOS framework agreement is extended by five additional years), not acquire, whether directly or indirectly, the possibility of exercising influence (as defined in paragraph 43 of the Remedies Notice, footnote 3) over the whole or part of the Divestment Business, unless, following the submission of a reasoned request from the Notifying Party showing good cause and accompanied by a report

from the Monitoring Trustee (as provided in paragraph 46 of these Commitments), the Commission finds that the structure of the market has changed to such an extent that the absence of influence over the Divestment Business is no longer necessary to render the proposed concentration compatible with the internal market.

6. In addition, the Notifying Party shall, for a period of 10 years after Closing, commit not to use the German WSP to bid for ETCS ATP wayside and interlocking projects in Germany, unless, following the submission of a reasoned request from the Notifying Party showing good cause and accompanied by a report from the Monitoring Trustee (as provided in paragraph 46 of these Commitments), the Commission finds that the structure of the market has changed to such an extent that this commitment is no longer necessary to render the proposed concentration compatible with the internal market. For the avoidance of doubt, this paragraph 6 shall not prevent Hitachi Rail from using the Target's technologies to bid for ETCS ATP wayside and interlocking projects in Germany.

7. Finally, the Notifying Party shall, for a period of 10 years after Closing (or 15 years if the ARGOS framework agreement is extended by five additional years), commit not to use the SEI, PAI Interlocking, and ARGOS Platforms to bid for ETCS ATP wayside, interlocking, and ETCS and legacy on-board units ("***OBUs***") projects in France, unless, following the submission of a reasoned request from the Notifying Party showing good cause and accompanied by a report from the Monitoring Trustee (as provided in paragraph 46 of these Commitments), the Commission finds that the structure of the market has changed to such an extent that this commitment is no longer necessary to render the proposed concentration compatible with the internal market. For the avoidance of doubt, this paragraph 7 shall not prevent Hitachi Rail from using the Target's technologies to bid for ETCS ATP wayside, OBU and interlocking projects in France.

II – Structure and definition of the Divestment Business

8. The Divestment Business consists of: (*i*) Hitachi Rail STS France SAS ("***Hitachi Rail France***"), which includes Hitachi Rail France's business for ETCS ATP wayside, interlocking, and ETCS and legacy OBU projects in France and other countries (as specified in the Schedule and **Annex 1**) (*ii*) Hitachi Rail STS Deutschland GmbH ("***Hitachi Rail Deutschland***"), which includes Hitachi Rail Deutschland's business for ETCS ATP wayside and interlocking projects in Germany and (*iii*) the UK DMS Business[4].[5] The legal and functional structure of the Divestment Business as operated to date is described in the Schedule. The Divestment Business, described in more detail in the Schedule, includes all assets and staff that contribute to the current operations or are necessary to ensure the viability and competitiveness of the Divestment Business, in particular:

[4] The Monitoring Trustee and Purchaser will be given the opportunity to verify for themselves the completeness of the scope of the UK DMS Business assets.

[5] For the avoidance of doubt, the Divestment Business shall not include Hitachi Rail's ETCS ATP wayside, interlocking or OBUs projects carried out by other legal entities within the Hitachi Rail Group and in countries other than those specified in the Schedule and **Annex 1** or any part of the Target.

(a) all tangible and intangible assets (including intellectual property ("***IP***") rights);

(b) all licenses, permits and authorizations issued by any governmental organization for the benefit of the Divestment Business;

(c) all contracts, leases, commitments and customer orders of the Divestment Business;

(d) all customer, references, credit and other records of the Divestment Business; and

(e) the Personnel.

9. For the avoidance of doubt, the Divestment Business shall not include Hitachi Rail France's communications-based train control ("***CBTC***") business (the "***CBTC Business***"), including all relevant assets, personnel, IP, customer and supplier contracts, customer track records, licenses, permits and authorizations, and branches, which are exclusively dedicated to the CBTC Business.

10. In addition, the Divestment Business includes the benefit, for a transitional period after Closing, of the current arrangements under which Hitachi Rail or its Affiliated Undertakings supply products or services to (or obtained products or services from) the Divestment Business, as detailed in the Schedule, unless otherwise agreed with the Purchaser. Strict firewall procedures will be adopted so as to ensure that any competitively sensitive information related to, or arising from such supply arrangements (for example, product roadmaps) will not be shared with, or passed on to, anyone outside the relevant business unit/division of the corresponding Hitachi Rail entity.

Section C. Related commitments

I – Preservation of viability, marketability and competitiveness

11. From the Effective Date until Closing, the Notifying Party shall preserve or procure the preservation of the economic viability, marketability and competitiveness of the Divestment Business, in accordance with good business practice, and shall minimize as far as possible any risk of loss of competitive potential of the Divestment Business. In particular Hitachi Rail undertakes:

(a) not to carry out any action that might have a significant adverse impact on the value, management or competitiveness of the Divestment Business or that might alter the nature and scope of activity, or the industrial or commercial strategy or the investment policy of the Divestment Business;

(b) to make available, or procure to make available, sufficient resources for the development of the Divestment Business, on the basis and continuation of the existing business plans;

(c) to take all reasonable steps, or procure that all reasonable steps are being taken, including appropriate incentive schemes (based on industry practice), to encourage all Key Personnel and engineers to remain with the Divestment

Business, and not to solicit or move any Personnel to Hitachi Rail's remaining business. Where, nevertheless, individual members of the Key Personnel exceptionally leave the Divestment Business, Hitachi Rail shall provide a reasoned proposal to replace the person or persons concerned to the Commission and the Monitoring Trustee. Hitachi Rail must be able to demonstrate to the Commission that the replacement is well suited to carry out the functions exercised by those individual members of the Key Personnel. The replacement shall take place under the supervision of the Monitoring Trustee, who shall report to the Commission.

II – Hold-separate obligations

12. The Notifying Party commits, from the Effective Date until Closing, to procure that the Divestment Business is kept separate from the businesses that the Notifying Party will be retaining and, after closing of the notified transaction to keep the Divestment Business separate from the businesses that the Notifying Party is retaining and to ensure that unless explicitly permitted under these Commitments: (*i*) management and staff of the businesses retained by Hitachi Rail (the "***Retained Business***") have no involvement in the Divestment Business; (*ii*) the Key Personnel and Personnel of the Divestment Business have no involvement in any business retained by Hitachi Rail and do not report to any individual outside the Divestment Business, unless required for the support to be granted by the Divestment Business to the Retained Business, as detailed in the Schedule.

13. Until Closing, Hitachi Rail shall assist the Monitoring Trustee in ensuring that the Divestment Business is managed as a distinct and saleable entity separate from the businesses which Hitachi Rail is retaining. Immediately after the adoption of the Decision, Hitachi Rail shall appoint a Hold Separate Manager. The Hold Separate Manager, who shall be part of the Key Personnel, shall manage the Divestment Business independently and in the best interest of the business with a view to ensuring its continued economic viability, marketability and competitiveness and its independence from the businesses retained by Hitachi Rail. The Hold Separate Manager shall closely cooperate with and report to the Monitoring Trustee and, if applicable, the Divestiture Trustee. Any replacement of the Hold Separate Manager shall be subject to the procedure laid down in paragraph 11(c) of these Commitments. The Commission may, after having heard Hitachi Rail, require Hitachi Rail to replace the Hold Separate Manager.

III – Ring-fencing

14. Hitachi Rail shall implement, or procure to implement, all necessary measures to ensure that it does not, after the Effective Date, obtain any Confidential Information relating to the Divestment Business and that any such Confidential Information obtained by Hitachi Rail before the Effective Date will be eliminated and not be used by Hitachi Rail. This includes measures *vis-à-vis* Hitachi Rail's appointees on the supervisory board and/or board of directors of the Divestment Business. In particular, the participation of the Divestment Business in any central information technology network shall be severed to the extent possible, without compromising the viability of the Divestment Business. Hitachi Rail may

obtain or keep information relating to the Divestment Business which is reasonably necessary for the divestiture of the Divestment Business or the disclosure of which to Hitachi Rail is required by law.

IV – Non-solicitation clause

15. Hitachi Rail undertakes, subject to customary limitations and applicable laws and regulations, not to solicit, and to procure that Affiliated Undertakings do not solicit, the Key Personnel transferred with the Divestment Business for a period of up to 5 years after Closing.

V - Due diligence

16. In order to enable potential purchasers to carry out a reasonable due diligence of the Divestment Business, Hitachi Rail shall, subject to customary confidentiality assurances and dependent on the stage of the divestiture process:

    (a) provide to potential purchasers sufficient information as regards the Divestment Business, including a non-confidential version of the Commitments together with a full confidential version of the Schedule, save for appropriate redactions of competitively sensitive information relating to the Divestment Business and Hitachi Rail; and

    (b) provide to potential purchasers sufficient information relating to the Personnel and allow them reasonable access to the Personnel.

VI – Reporting

17. Hitachi Rail shall submit written reports in English on potential purchasers of the Divestment Business and developments in the negotiations with such potential purchasers to the Commission and the Monitoring Trustee (provided it has already been appointed) no later than 10 days after the end of every month following the Effective Date (or otherwise at the Commission's request). Hitachi Rail shall submit a list of all potential purchasers having expressed interest in acquiring the Divestment Business to the Commission at each and every stage of the divestiture process, as well as a copy of all the offers made by potential purchasers within five days of their receipt.

18. Hitachi Rail shall inform the Commission and the Monitoring Trustee (provided it has already been appointed) on the preparation of the data room documentation and the due diligence procedure and shall submit a copy of any information memorandum to the Commission and the Monitoring Trustee (provided it has already been appointed) before sending the memorandum out to potential purchasers.

Section D. The Purchaser

19. In order to be approved by the Commission, the Purchaser must fulfil the following criteria:

    (a) The Purchaser shall be independent of and unconnected to the Notifying Party and its Affiliated Undertakings (this being assessed having regard to the situation following the divestiture);

    (b) The Purchaser shall have the financial resources and strength, proven expertise and experience in the rail infrastructure industry, international presence, and incentive and objective to maintain and develop the Divestment Business as a viable and active competitive force in competition with the Parties and other competitors;

    (c) The acquisition of the Divestment Business by the Purchaser must neither be likely to create, in light of the information available to the Commission, *prima facie* competition concerns nor give rise to a risk that the implementation of the Commitments will be delayed. In particular, the Purchaser must reasonably be expected to obtain all necessary approvals from the relevant regulatory authorities for the acquisition of the Divestment Business.

20. The final binding sale and purchase agreement (as well as ancillary agreements) relating to the divestment of the Divestment Business shall be conditional on the Commission's approval. When Hitachi Rail has reached an agreement with a purchaser, it shall submit a fully documented and reasoned proposal, including a copy of the final agreement(s), within one week to the Commission and the Monitoring Trustee. Hitachi Rail must be able to demonstrate to the Commission that the purchaser fulfils the Purchaser Criteria and that the Divestment Business is being sold in a manner consistent with the Commission's Decision and the Commitments. For the approval, the Commission shall (*i*) verify that the purchaser fulfils the Purchaser Criteria and that the Divestment Business is being sold in a manner consistent with the Commitments including their objective to bring about a lasting structural change in the market and (*ii*) be satisfied that the consents from SNCF and Deutsche Bahn in relation to the transfer of their relevant Backlog Contracts (as defined in the Schedule) to the Purchaser would not be withheld. The Commission may approve the sale of the Divestment Business without one or more assets or parts of the personnel, or by substituting one or more assets or parts of the personnel with one or more different assets or different personnel, if this does not affect the viability and competitiveness of the Divestment Business after the sale, taking account of the proposed purchaser.

Section E. Trustee

I – Appointment procedure

21. Hitachi Rail shall appoint a Monitoring Trustee to carry out the functions specified in these Commitments for a Monitoring Trustee. The Notifying Party commits not to close the Concentration before the appointment of a Monitoring Trustee.

22. If Hitachi Rail has not entered into a binding sale and purchase agreement regarding the Divestment Business one month before the end of the First Divestiture Period or if the Commission has rejected a purchaser proposed by Hitachi Rail at that time or thereafter, Hitachi Rail shall appoint a Divestiture Trustee. The appointment of the Divestiture Trustee shall take effect upon the commencement of the Trustee Divestiture Period.

23. The Trustee shall:

    i. at the time of appointment, be independent of the Notifying Party and its Affiliated Undertakings;

    ii. possess the necessary qualifications to carry out its mandate, for example have sufficient relevant experience as an investment banker or consultant or auditor; and

    iii. neither have nor become exposed to a Conflict of Interest.

24. The Trustee shall be remunerated by the Notifying Party in a way that does not impede the independent and effective fulfilment of its mandate. In particular, where the remuneration package of a Divestiture Trustee includes a success premium linked to the final sale value of the Divestment Business, such success premium may only be earned if the divestiture takes place within the Trustee Divestiture Period.

a) Proposal by Hitachi Rail

25. No later than two weeks after the Effective Date, Hitachi Rail shall submit the name or names of one or more natural or legal persons whom Hitachi Rail proposes to appoint as the Monitoring Trustee to the Commission for approval. No later than one month before the end of the First Divestiture Period or on request by the Commission, Hitachi Rail shall submit a list of one or more persons whom Hitachi Rail proposes to appoint as Divestiture Trustee to the Commission for approval. The proposal shall contain sufficient information for the Commission to verify that the person or persons proposed as Trustee fulfil the requirements set out in paragraph 23 and shall include:

    (a) the full terms of the proposed mandate, which shall include all provisions necessary to enable the Trustee to fulfil its duties under these Commitments;

    (b) the outline of a work plan which describes how the Trustee intends to carry out its assigned tasks; and

    (c) an indication whether the proposed Trustee is to act as both Monitoring Trustee and Divestiture Trustee or whether different trustees are proposed for the two functions.

b) Approval or rejection by the Commission

26. The Commission shall have the discretion to approve or reject the proposed Trustee(s) and to approve the proposed mandate subject to any modifications it deems necessary for the Trustee to fulfil its obligations. If only one name is approved, Hitachi Rail shall appoint or cause to be appointed the person or persons concerned as Trustee, in accordance with the mandate approved by the Commission. If more than one name is approved, Hitachi Rail shall be free to choose the Trustee to be appointed from among the names approved. The Trustee shall be appointed within one week of the Commission's approval, in accordance with the mandate approved by the Commission.

c) New proposal by Hitachi Rail

27. If all the proposed Trustees are rejected, Hitachi Rail shall submit the names of at least two more natural or legal persons within one week of being informed of the rejection, in accordance with paragraphs 21 and 26 of these Commitments.

d) Trustee nominated by the Commission

28. If all further proposed Trustees are rejected by the Commission, the Commission shall nominate a Trustee, whom Hitachi Rail shall appoint, or cause to be appointed, in accordance with a trustee mandate approved by the Commission.

II – Functions of the Trustee

29. The Trustee shall assume its specified duties and obligations in order to ensure compliance with the Commitments. The Commission may, on its own initiative or at the request of the Trustee or Hitachi Rail, give any orders or instructions to the Trustee in order to ensure compliance with the conditions and obligations attached to the Decision.

a) Duties and obligations of the Monitoring Trustee

30. The Monitoring Trustee shall:

(i) propose, in its first report to the Commission, a detailed work plan describing how it intends to monitor compliance with the obligations and conditions attached to the Decision;

(ii) oversee, in close co-operation with the Hold Separate Manager, the on-going management of the Divestment Business with a view to ensuring its continued economic viability, marketability and competitiveness and monitor compliance by Hitachi Rail with the conditions and obligations attached to the Decision. To that end the Monitoring Trustee shall:

(a) monitor the preservation of the economic viability, marketability and competitiveness of the Divestment Business, and the keeping separate of the

Divestment Business from the business retained by Hitachi Rail, in accordance with paragraphs 11 and 12 of these Commitments;

(b) supervise the management of the Divestment Business as a distinct and saleable entity, in accordance with paragraph 13 of these Commitments;

(c) with respect to Confidential Information:

- determine all necessary measures to ensure that Hitachi Rail does not after the Effective Date obtain any Confidential Information relating to the Divestment Business;

- in particular, strive for the severing of the Divestment Business' participation in a central information technology network to the extent possible, without compromising the viability of the Divestment Business;

- make sure that any Confidential Information relating to the Divestment Business obtained by Hitachi Rail before the Effective Date is eliminated and will not be used by Hitachi Rail; and

- decide whether such information may be disclosed to or kept by Hitachi Rail as the disclosure is reasonably necessary to allow Hitachi Rail to carry out the divestiture or as the disclosure is required by law;

(d) monitor the splitting of assets and the allocation of Personnel between the Divestment Business and Hitachi Rail or Affiliated Undertakings;

(iii) propose to Hitachi Rail such measures as the Monitoring Trustee considers necessary to ensure Hitachi Rail's compliance with the conditions and obligations attached to the Decision, in particular the maintenance of the full economic viability, marketability or competitiveness of the Divestment Business, the holding separate of the Divestment Business and the non-disclosure of competitively sensitive information;

(iv) review and assess potential purchasers as well as the progress of the divestiture process and verify that, dependent on the stage of the divestiture process:

(a) potential purchasers receive sufficient and correct information relating to the Divestment Business (including a non-confidential version of the Commitments together with a full confidential version of the Schedule, save for appropriate redactions of competitively sensitive information of the Divestment Business and Hitachi Rail) and the Personnel in particular by reviewing, if available, the data room documentation, the information memorandum and the due diligence process; and

(b) potential purchasers are granted reasonable access to the Personnel;

(v) act as a contact point for any requests by third parties, in particular potential purchasers, in relation to the Commitments;

(vi) provide to the Commission, sending Hitachi Rail a non-confidential copy at the same time, a written report within 15 days after the end of every month that shall cover the operation and management of the Divestment Business as well as the splitting of assets and the allocation of Personnel so that the Commission can assess whether the business is held in a manner consistent with the Commitments and the progress of the divestiture process as well as potential purchasers;

(vii) promptly report in writing to the Commission, sending Hitachi Rail a non-confidential copy at the same time, if it concludes on reasonable grounds that Hitachi Rail is failing to comply with these Commitments;

(viii) within one week after receipt of the documented proposal referred to in paragraph 20 of these Commitments, submit to the Commission, sending Hitachi Rail a non-confidential copy at the same time, a reasoned opinion as to the suitability and independence of the proposed purchaser and the viability of the Divestment Business after the Sale and as to whether the Divestment Business is sold in a manner consistent with the conditions and obligations attached to the Decision, in particular, if relevant, whether the Sale of the Divestment Business without one or more Assets or not all of the Personnel affects the viability of the Divestment Business after the sale, taking account of the proposed purchaser; and

(ix) assume the other functions assigned to the Monitoring Trustee under the conditions and obligations attached to the Decision.

31. If the Monitoring and Divestiture Trustee are not the same legal or natural persons, the Monitoring Trustee and the Divestiture Trustee shall cooperate closely with each other during and for the purpose of the preparation of the Trustee Divestiture Period in order to facilitate each other's tasks.

b) Duties and obligations of the Divestiture Trustee

32. Within the Trustee Divestiture Period, the Divestiture Trustee shall sell at no minimum price the Divestment Business to a purchaser, provided that the Commission has approved both the purchaser and the final binding sale and purchase agreement (and ancillary agreements) as in line with the Commission's Decision and the Commitments in accordance with paragraphs 19 and 20 of these Commitments. The Divestiture Trustee shall include in the sale and purchase agreement (as well as in any ancillary agreements) such terms and conditions as it considers appropriate for an expedient sale in the Trustee Divestiture Period. In particular, the Divestiture Trustee may include in the sale and purchase agreement such customary representations and warranties and indemnities as are reasonably required to effect the sale. The Divestiture Trustee shall protect the legitimate financial interests of Hitachi Rail, subject to the Notifying Party's unconditional obligation to divest at no minimum price in the Trustee Divestiture Period.

33. In the Trustee Divestiture Period (or otherwise at the Commission's request), the Divestiture Trustee shall provide the Commission with a comprehensive monthly report written in English on the progress of the divestiture process. Such reports shall be submitted within 15 days after the end of every month with a simultaneous copy to the Monitoring Trustee and a non-confidential copy to the Notifying Party.

III – Duties and obligations of the Parties

34. Hitachi Rail shall provide and shall cause its advisors to provide the Trustee with all such co-operation, assistance and information as the Trustee may reasonably require to perform its tasks. The Trustee shall have full and complete access to any of Hitachi Rail's or the Divestment Business' books, records, documents, management or other personnel, facilities, sites and technical information necessary for fulfilling its duties under the Commitments and Hitachi Rail and the Divestment Business shall provide the Trustee upon request with copies of any document. Hitachi Rail and the Divestment Business shall make available to the Trustee one or more offices on their premises and shall be available for meetings in order to provide the Trustee with all information necessary for the performance of its tasks.

35. Hitachi Rail shall provide the Monitoring Trustee with all managerial and administrative support that it may reasonably request on behalf of the management of the Divestment Business. This shall include all administrative support functions relating to the Divestment Business which are currently carried out at headquarters level. Hitachi Rail shall provide and shall cause its advisors to provide the Monitoring Trustee, on request, with the information submitted to potential purchasers, in particular give the Monitoring Trustee access to the data room documentation and all other information granted to potential purchasers in the due diligence procedure. Hitachi Rail shall inform the Monitoring Trustee on possible purchasers, submit lists of potential purchasers at each stage of the selection process, including the offers made by potential purchasers at those stages, and keep the Monitoring Trustee informed of all developments in the divestiture process.

36. Hitachi Rail shall grant or procure Affiliated Undertakings to grant comprehensive powers of attorney, duly executed, to the Divestiture Trustee to effect the sale (including ancillary agreements), the Closing and all actions and declarations which the Divestiture Trustee considers necessary or appropriate to achieve the sale and the Closing, including the appointment of advisors to assist with the sale process. Upon request of the Divestiture Trustee, Hitachi Rail shall cause the documents required for effecting the sale and the Closing to be duly executed.

37. Hitachi Rail shall indemnify the Trustee and its employees and agents (each an "***Indemnified Party***") and hold each Indemnified Party harmless against, and hereby agrees that an Indemnified Party shall have no liability to Hitachi Rail for, any liabilities arising out of the performance of the Trustee's duties under the Commitments, except to the extent that such liabilities result from the willful default, recklessness, gross negligence or bad faith of the Trustee, its employees, agents or advisors.

38. At the expense of Hitachi Rail, the Trustee may appoint advisors (in particular for corporate finance or legal advice), subject to Hitachi Rail's approval (this approval not to be unreasonably withheld or delayed) if the Trustee considers the appointment of such advisors necessary or appropriate for the performance of its duties and obligations under the Mandate, provided that any fees and other expenses incurred by the Trustee are reasonable. Should Hitachi Rail refuse to approve the advisors proposed by the Trustee the Commission may approve the appointment of such advisors instead, after having heard Hitachi Rail. Only the Trustee shall be entitled to issue instructions to the advisors. Paragraph 37 of these Commitments shall apply *mutatis mutandis*. In the Trustee Divestiture Period, the Divestiture Trustee may use advisors who served Hitachi Rail during the Divestiture Period if the Divestiture Trustee considers this in the best interest of an expedient sale.

39. Hitachi Rail agrees that the Commission may share Confidential Information proprietary to Hitachi Rail with the Trustee. The Trustee shall not disclose such information and the principles contained in Article 17(1) and (2) of the Merger Regulation apply *mutatis mutandis*.

40. The Notifying Party agrees that the contact details of the Monitoring Trustee are published on the website of the Commission's Directorate-General for Competition and they shall inform interested third parties, in particular any potential purchasers, of the identity and the tasks of the Monitoring Trustee.

41. For a period of 10 years from the Effective Date the Commission may request all information from the Parties that is reasonably necessary to monitor the effective implementation of these Commitments.

IV – Replacement, discharge and reappointment of the Trustee

42. If the Trustee ceases to perform its functions under the Commitments or for any other good cause, including the exposure of the Trustee to a Conflict of Interest:

    (a) the Commission may, after hearing the Trustee and Hitachi Rail, require Hitachi Rail to replace the Trustee; or

    (b) Hitachi Rail may, with the prior approval of the Commission, replace the Trustee.

43. If the Trustee is removed according to paragraph 42 of these Commitments, the Trustee may be required to continue in its function until a new Trustee is in place to whom the Trustee has effected a full hand over of all relevant information. The new Trustee shall be appointed in accordance with the procedure referred to in paragraphs 21-28 of these Commitments.

44. Unless removed according to paragraph 42 of these Commitments, the Trustee shall cease to act as Trustee only after the Commission has discharged it from its duties after all the Commitments with which the Trustee has been entrusted have been implemented. However, the Commission may at any time require the reappointment of the Monitoring Trustee if it subsequently appears that the relevant remedies might not have been fully and properly implemented.

Section F. The review clause

45. The Commission may extend the time periods foreseen in the Commitments in response to a request from Hitachi Rail or, in appropriate cases, on its own initiative. Where Hitachi Rail requests an extension of a time period, it shall submit a reasoned request to the Commission no later than one month before the expiry of that period, showing good cause. This request shall be accompanied by a report from the Monitoring Trustee, who shall, at the same time send a non-confidential copy of the report to the Notifying Party. Only in exceptional circumstances shall Hitachi Rail be entitled to request an extension within the last month of any period.

46. The Commission may further, in response to a reasoned request from the Notifying Party showing good cause waive, modify or substitute, in exceptional circumstances, one or more of the undertakings in these Commitments. This request shall be accompanied by a report from the Monitoring Trustee, who shall, at the same time send a non-confidential copy of the report to the Notifying Party. The request shall not have the effect of suspending the application of the undertaking and, in particular, of suspending the expiry of any time period in which the undertaking has to be complied with.

Section G. Entry into force

47. The Commitments shall take effect upon the date of adoption of the Decision.

(Signed)

……
duly authorized for and on behalf
of Hitachi Rail

SCHEDULE

1. The Divestment Business comprises two current legal entities: (*i*) Hitachi Rail France (including its branches in Algeria, Morocco, South Korea, and Tunisia); (*ii*) Hitachi Rail Deutschland. In addition, the Divestment Business will include the UK DMS Business, which will be carved out from Hitachi Rail Limited to a newly incorporated legal entity or branch, which will be transferred to (and become a subsidiary or branch of) or set up by Hitachi Rail France.

2. In accordance with paragraph 8 of these Commitments, the Divestment Business includes, but is not limited to:

   (a) the following main tangible assets:

      (i) all the hardware and other tangible assets necessary to operate the SEI Wayside Platform;

      (ii) all the hardware and other tangible assets necessary to operate the SEI Interlocking Platform and PAI Interlocking Platform;

      (iii) all the hardware and other tangible assets necessary to operate the ARGOS Platforms;

      (iv) all the hardware and other tangible assets necessary to operate the German WSP;

      (v) all hardware and other tangible assets necessary to operate Hitachi Rail France's ETCS and legacy OBU business (the "***OBU Business***");

      (vi) Hitachi Rail France's site in Les Ulis, France (the "***Core French Site***") and all equipment and other tangible assets currently located at the Core French site and relating to the development, sales, bidding, project management, engineering, and research and development ("***R&D***") functions (including test benches and verification and validation ("***V&V***") tools), as well as all tangible assets currently located at the Core French Site relating to support functions (*i.e.*, accounting and finance, human resource ("***HR***"), legal, procurement, information technology ("***IT***"), and supply chain);

      (vii) Hitachi Rail France's manufacturing site in Riom, France (the "***French Manufacturing Site***") and all production equipment and other tangible assets currently located at the French Manufacturing Site (including one plant and one warehouse), to which the manufacturing capabilities in respect of the German WSP (as well as [*Confidential details relating to manufacturing capabilities*] in relation to the ARGOS Platforms) will be transferred;[6]

[6] The transfer of manufacturing capabilities will comprise: (i) the provision to the Riom manufacturing team of all drawings, bills of material and test specifications necessary to manufacture and test the German WSP equipment;

(viii) Hitachi Rail France's service and maintenance site in Paris, France (the "***French Maintenance Site***") and all maintenance equipment and other tangible assets currently located at the French Maintenance Site;

(ix) Hitachi Rail Deutschland's office in Munich, Germany (the "***German Office***") and all equipment and other tangible assets currently located at the German Office and relating to the sales and project management functions (including an integration and testing laboratory); and

(x) Hitachi Rail France's branches in Algeria, Morocco, South Korea, and Tunisia (together, the "***Foreign Branches***") and all tangible assets currently located at the Foreign Branches.

(b) the following main intangible assets:

(i) all software, IP rights, and other intangible assets necessary to operate the SEI Platforms and PAI Interlocking Platform,[7] including all elements and components of (*i*) the SEI and PAI Safety Platforms (with the related technology, know-how, source code, drawings, and documentation), (*ii*) the software Generic Application and relevant tools, documentation, *etc*., and (*iii*) the Specific Applications configuration tool suites, manuals, and test environment;[8]

(ii) the complete transfer of technology of Hitachi Rail's ARGOS Platforms pursuant to the following mechanism: (*i*) the divestment by Hitachi Rail to the Divestment Business of all country- and customer- specific elements and components of the ARGOS Platforms,[9] including all relevant know-how, material, software, drawings, tools, documents, manuals, source code and bills of quantity[10] and (*ii*) the transfer by Hitachi Rail to the Divestment Business, through a perpetual, royalty-free and non-exclusive license, of all non-country and non-customer specific elements and components of the

(ii) training for the benefit of the Riom manufacturing team, to be completed prior to Closing; (iii) the transfer or novation of agreements with external suppliers of services and off-the-shelf components used to manufacture the German WSP from Hitachi Rail to the Divestment Business or, if the manufacturing of the German WSP for the backlog projects has been completed before the Closing, the list of such suppliers and the relevant scope of work in order for the Purchaser to issue new orders when new projects using the German WSP will be awarded; and (iv) at the request of the Purchaser, a TSA to address any residual requirements for a transitional period.

7 For the avoidance of doubt, such elements are already part of the activities owned and performed by Hitachi Rail France.

8 Hitachi Rail will retain the right to use and modify the technologies required to deliver its on-board and CBTC solutions, including the "2 out of 3" Safety Platforms embedded in the [*name of solution*] (interlockings) and [*name of solution*] (on-board) solutions.

9 [*Confidential details relating to the ownership and operation of the ARGOS Generic and Specific Applications*]

10 The Divestment Business will also have a laboratory and test environment.

Wayside Standard Platform ("***WSP***") used to build the ARGOS Platforms (the "***ARGOS License***")[11];

(iii) the complete transfer of technology of Hitachi Rail's German WSP pursuant to the following mechanism: (*i*) the divestment by Hitachi Rail to the Divestment Business of all country- and customer- specific elements of the German WSP (*i.e.*, (*a*) the software Generic Application and relevant tools, documentation, *etc*. and (*b*) the Specific Applications configuration tool suites, manuals, and test environment), including all relevant know-how, material, software, drawings, tools, documents, manuals, source code and bills of quantity[12] and (*ii*) the transfer by Hitachi Rail to the Divestment Business, through a perpetual, royalty-free and non-exclusive license, of all non-country and non-customer specific elements and components of the WSP used to build the German WSP (the "***German WSP License***") [13];

(iv) all software, IP rights, and other intangible assets necessary to operate the OBU Business;

(v) the dedicated permits and consents required for the operation of the UK DMS Business more generally; and

(vi) all other intangible assets currently owned by Hitachi Rail France and Hitachi Rail Deutschland and necessary to operate the Divestment Business.

(c) subject to obtaining any necessary consents from contractual counterparties, which Hitachi Rail will use its best efforts to procure, the following main customer contracts, supplier agreements, and leases:

(i) Customer contracts: all ETCS ATP wayside, interlocking, legacy and ETCS OBU, service and maintenance, and components contracts awarded to Hitachi Rail France, Hitachi Rail Deutschland or the UK DMS Business, which will still be in place and with orders still outstanding at the time of Closing (the "***Backlog Contracts***"), as listed in **Annex 1**; as well as [*Confidential details relating to a UK project*];

(ii) Supplier and partnership agreements: all third-party supplier agreements contracted to Hitachi Rail France, Hitachi Rail Deutschland or the UK DMS Business, which will still be in place and with orders still outstanding at the time of Closing (the "***Supplier Agreements***"), including all third-

[11] For the avoidance of doubt, the ARGOS License will include the right to *inter alia* use, copy, modify, improve, upgrade, and reverse-engineer all non-country and non-customer specific elements and components of the ARGOS Platforms.

[12] The Divestment Business will also have a laboratory and test environment for the testing and further development of the German WSP.

[13] For the avoidance of doubt, the German WSP License will include the right to *inter alia* use, copy, modify, improve, upgrade, and reverse-engineer all non-country and non-customer specific elements and components of the German WSP.

party supply agreements relating to the Backlog Contracts for the installation and commission activities carried out by joint venture partners or third parties (including the consortium agreement currently in place between Hitachi Rail, Systra, and Eiffage Energie Ferroviaire); and

(iii) Leases: the lease for the occupation of the Core French Site (the "***French Lease***") and the German Office (the "***German Lease***").

(d) the exclusive right to refer to the track records and customer credentials related to past or current mainline projects that were/are awarded to and delivered by Hitachi Rail France (including Hitachi Rail's UK DMS Business once transferred to Hitachi Rail France) and Hitachi Rail Deutschland. [14]

(e) the following Personnel currently employed by Hitachi Rail France, Hitachi Rail Deutschland and Hitachi Rail' UK DMS Business:[15]

(i) [490-520] Full-Time Equivalents ("***FTEs***") currently employed by Hitachi Rail France and currently located at the Core French Site, the French Manufacturing Site, the French Maintenance Site, or the Foreign Branches, including [200-250] R&D, engineering, and delivery project FTEs, [65-75] production FTEs, [5-15] sales and bidding FTEs, [5-15] procurement FTEs, [65-75] maintenance FTEs, [45-55] support functions (HR, IT, legal, finance, treasury and accounting) FTEs, and [20-30] supply chain and logistics FTEs;

(ii) [10-20] FTEs currently employed by Hitachi Rail Deutschland and currently located at the German Office, including [5-15] engineering, and project delivery, [0-5] sales and bidding FTEs, and [0-5] HR FTE;

(iii) at the option of the Purchaser, the Hitachi Rail France Additional Wayside Personnel, as defined below; and

(iv) [10-20] FTEs currently employed by Hitachi Rail UK and located in the UK (plus [0-5] additional FTEs to be hired), in charge of sales, bidding, project management and project engineering for digital mainline signalling projects.

[14] The Divestment Business will have the exclusive right to refer to the track records and customer credentials related to past mainline projects that were awarded to and delivered by the Divestment Business. Where delivered by (but not awarded to) the Divestment Business, it will be able to rely on the reference for the portion of the signalling solution / scope of work that it delivered. The right to these references will be then "shared" with Hitachi Rail's retained business to the extent of the relevant portion of the signalling solution / scope of work delivered.

[15] Note: the figures provided are indicative as of July 2023.

(f) the following Key Personnel:

(i) the following Key Personnel dedicated to engineering and R&D (the "***Key Engineering and R&D Personnel***"): [*Names and positions of the Key Engineering and R&D Personnel*]);

(ii) the following Key Personnel dedicated to the sales and marketing activities (the "***Key Sales Personnel***"): [*Names and positions of the Key Sales Personnel*];

(iii) the following Key Personnel dedicated to project management and delivery activities (the "***Key Delivery Personnel***"): [*Names and positions of the Key Delivery Personnel*]);

(iv) the following Key Personnel dedicated to production activities (the "***Key Production Personnel***"): [*Names and positions of the Key Production Personnel*];

(v) the Hold Separate Manager: [*Name and position of the Hold Separate Manager*]; and

(vi) the following Key Personnel dedicated to Hitachi Rail's UK DMS Business: [*Names and positions of the Key Personnel dedicated to Hitachi Rail's UK DMS Business*].

(g) (*1*) a secondment arrangement[16] in respect of at least [5-10] (the appropriate number to be agreed with the Purchaser, on a necessary and proportionate basis) Italy-based suitably qualified engineers from Hitachi Rail on terms to be agreed in good faith with the Purchaser (including as [*Confidential details relating to some terms and conditions of the Italian Engineering Secondment*], the number of secondees and the secondment period, subject to a five year maximum) as may be strictly necessary to cover, for example, the remaining activities to achieve the homologation of the ARGOS Wayside Platform (the "***ARGOS Wayside Homologation***") and the completion of the German WSP (the "***German WSP Completion***")[17] (and to the extent necessary, the homologation of the ARGOS Interlocking Platform (the "***ARGOS Interlocking Homologation***"))[18] [*Confidential details relating to some terms and conditions of the Italian Engineering Secondment*] (the "***Italian Engineering Secondment***") and with the commitment from Hitachi Rail to implement appropriate incentive measures for the relocation

[16] Such secondments would be subject to contractual protections and procedures (*e.g.*, non-disclosure obligations, training and firewalls) to manage the transfer of any confidential information both during and after the secondments.

[17] The German WSP Completion is to be construed as the achievement of the German WSP Milestones, as defined below in Clause 2(h)(v), leading to the approval to be obtained by Deutsche Bahn for the entry into revenue service of the German WSP for a given project.

[18] Hitachi Rail [*Confidential details relating to Hitachi Rail's forecasts relating to the ARGOS Interlocking Homologation*]. Otherwise, Clause 2(g) of the Schedule shall apply *mutatis mutandis* to the ARGOS Interlocking Platform.

of the resources, and (*2*) at the option of the Purchaser, the provision of up to [5-10] FTEs to be identified within Hitachi Rail or otherwise recruited, so that they would have the same level of competence as the Italy-based engineers from Hitachi Rail working on the WSP by, or soon after, Closing, that the Purchaser could use for any bids for tenders using these platforms, perform the remaining development and/or engineering activities linked to the projects where the ARGOS and German WSP Platforms would be used (the "***Additional Trained Staff***")[19];

(h) the following arrangements for the supply of products or services by Hitachi Rail to the Purchaser, to be discussed and agreed with the Purchaser on fair terms with a view to ensuring that the support provided is both required and proportionate to its needs, and taking account of any overlaps between the below arrangements and the Italian Engineering Secondment and the Additional Trained Staff[20]:

(i) with regards to the transfer of technology of the ARGOS Wayside Platform provided at Article 2(b)(ii) above, at the option of the Purchaser, either:

(A) (*1*) a Transitional Services Agreement ("***TSA***") [*Confidential details relating to contract price*] until the obtention of the ARGOS Wayside Homologation under which Hitachi Rail will undertake to complete the development of the ARGOS Wayside Platform that will be integrated with the Generic and Specific Applications of the ARGOS wayside (radio block centers ("***RBC***")) developed by Hitachi Rail France to obtain the homologation thereof (the "***ARGOS Wayside TSA***") as soon as reasonably practical after the Closing and in any event no later than […],[21] committing to the following milestones (the "***ARGOS Wayside Milestones***"):

[*Confidential details relating to the description of the ARGOS Wayside Milestones*]

[*Confidential details relating to additional obligations undertaken by Hitachi Rail*];

and

(*2*) an agreement [*Confidential details relating to contract price*] under which Hitachi Rail will undertake to train on the job the Divestment Business resources around the transfer of technology of

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19 For the avoidance of doubt, the option to the Purchaser of the Additional Trained Staff is distinct from the option of the Hitachi Rail France Additional Wayside Personnel, explained below in Clause 2(h)(i)(B). Both options are available to the Purchaser, with the appropriate number of FTEs to be discussed and agreed with the Purchaser on the basis of strict necessity and proportionality and taking into account any overlaps between the Additional Trained Staff and the Hitachi Rail France Additional Wayside Personnel.

20 The different options presented below provide the Purchaser with multiple choices, which may be combined in a way which best suits the needs / goals of the Purchaser.

21 [*Confidential details relating to the duration of the ARGOS Wayside TSA*]

the ARGOS Wayside Platform (the "***Developed ARGOS Wayside Training Agreement***");

or

(B) a TSA [*Confidential details relating to contract price*] under which Hitachi Rail will undertake to (*1*) hire a maximum of [5-10] additional FTEs to be employed by Hitachi Rail France (the "***Hitachi Rail France Additional Wayside Personnel***") before the Closing, or if this is not feasible, as soon as reasonably practical thereafter (and in any event within nine months after Closing),[22] (*2*) train on the job the Hitachi Rail France Additional Wayside Personnel to the extent reasonably required by the Purchaser for the development, homologation, and ultimately transfer of the ARGOS Wayside Platform as soon as reasonably practical after the Closing, (*3*) continue the development of the ARGOS Wayside Platform until the completion of the training of the Hitachi Rail France Additional Wayside Personnel, (*4*) commit to provide sufficient support to enable the Purchaser to reach the ARGOS Wayside Milestones, (*5*) provide *mutatis mutandis* [*Confidential details relating to additional obligations undertaken by Hitachi Rail*], and (*6*) at the option of the Purchaser, support the Hitachi Rail France Additional Wayside Personnel and the Key R&D Personnel for the development and homologation of the ARGOS Wayside Platform until the obtention of the ARGOS Wayside Homologation and to the extent reasonably required by the Purchaser (the "***ARGOS Wayside Training, Development and Transfer TSA***").[23]

(ii) at the option of the Purchaser, a TSA [*Confidential details relating to contract price*] for a period of up to […] years after the obtention of the ARGOS Wayside Homologation under which Hitachi Rail will undertake to train and/or support the Purchaser for possible bug fixes, upgrades, new releases, modifications, and improvements of the ARGOS Wayside Platform post-homologation (the "***ARGOS Wayside Post-Homologation TSA***");

(iii) at the option of the Purchaser, and to the extent that the ARGOS Interlocking Homologation has not been obtained before Closing, a TSA [*Confidential details relating to contract price*] until the obtention of the ARGOS Interlocking Homologation under which Hitachi Rail will undertake to train and/or support the Key R&D Personnel for the

[22] See footnote 19.

[23] For the avoidance of doubt Hitachi Rail (*i*) will transfer all IP rights relating to the country- and customer-specific elements and components of the ARGOS Interlocking Platform and (*ii*) will retain (and grant to the Purchaser a non-exclusive right *inter alia* to use, copy, modify, improve, upgrade, and reverse-engineer) the non-country and non-customer specific components and elements of the ARGOS Interlocking Platform, which are used by other technologies (that is "applications"), including CBTC, in addition to mainline signalling.

development and homologation of the ARGOS Interlocking Platform to the extent reasonably required by the Purchaser (the "***ARGOS Interlocking Support TSA***")[24];

[*Confidential details relating to additional obligations undertaken by Hitachi Rail*];

(iv) at the option of the Purchaser, a TSA [*Confidential details relating to contract price*] for a period of […] years after the obtention of the ARGOS Interlocking Homologation under which Hitachi Rail will undertake to train and/or support the Purchaser for possible bug fixes, upgrades, new releases, modifications, and improvements of the ARGOS Interlocking Platform post-homologation (the "***ARGOS Interlocking Post-Homologation TSA***");

(v) at the option of the Purchaser, a TSA [*Confidential details relating to contract price*] under which Hitachi Rail will undertake to train and/or support the Purchaser for the development of the German WSP to the extent reasonably required by the Purchaser until the German WSP Completion (the "***German WSP TSA***"), including (to the extent not already completed before Closing) for the German WSP Interlocking:[25]

– [*Confidential details relating to the description of the German WSP Interlocking Milestones*] (together, the "***German WSP Interlocking Milestones***");

and for the German WSP ATP Wayside:[26]

– [*Confidential details relating to the description of the German WSP RBC Milestones*] (together, the "***German WSP RBC Milestones***" and together with the German WSP Interlocking Milestone, the "***German WSP Milestones***");

[*Confidential details relating to additional obligations undertaken by Hitachi Rail*];

(vi) at the option of the Purchaser, a TSA [*Confidential details relating to contract price*] for a period of […] years after the obtention of the German WSP Completion under which Hitachi Rail will undertake to train and/or support the Purchaser for possible bug fixes, upgrades, new releases,

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24 [Confidential details relating to the ARGOS Interlocking Homologation]

25 The dates of the German WSP Interlocking Milestones are aligned with the schedule of the [*name of a German interlocking projects*] as of September 2023 and the successful and timely completion of their predecessors.

26 The German WSP RBC Milestones are aligned with the schedule of the [*name of German ATP wayside projects*] as of September 2023 and the successful and timely completion of their predecessors.

modifications, and improvements of the German WSP post-completion (the "***German WSP Post-Completion TSA***");

(vii) at the option of the Purchaser, a TSA [*Confidential details relating to contract price*] for a period of […] years after the Closing under which Hitachi Rail will undertake to train the Purchaser for the development of the German WSP Interlocking and ATP Wayside Generic and Specific Applications (the "***German WSP Applications TSA***");

(viii) at the option of the Purchaser, a TSA for a period up to [*Confidential details relating to contract duration*] [*Confidential details relating to contract price*] under which Hitachi Rail will [*Confidential details relating to Hitachi Rail's obligations*];

(ix) to the extent required, a supply agreement for a period of approximately 60 months [*Confidential details relating to contract price*] under which Hitachi Rail will undertake to provide [*name of components*] for the few ongoing Backlog Contracts,[27] as listed in **Annex 1**;

(x) at the option of the Purchaser, [*Confidential details relating to a supply agreement*];

(xi) [*Confidential details relating to transitional services agreements*]; and

(xii) at the option of the Purchaser and under terms to be mutually agreed with the Purchaser, any additional short-term TSA(s) with Hitachi Rail that the Purchaser might deem necessary for initial support.

(i) [*Confidential details relating to further obligations undertaken by Hitachi Rail*]; and

(j) a warranty by Hitachi Rail that, at Closing, the Divestment Business will comply with the European Committee for Electrotechnical Standardization (CENELEC) standards (in particular UNE-EN 50126, 50128, and 50129) and with Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment.

3. The Divestment Business shall not include the CBTC Business including all relevant assets, personnel, IP, customer and supplier contracts, customer track records, licenses, permits, and authorizations, and branches, which are dedicated to the CBTC Business. CBTC resources to be carved out of the Divestment Business include:[28]

[27] In some cases, Hitachi Rail Italy would also provide [*type of support*], to be evaluated on a project-by-project basis considering the activities still to be delivered at the time of entering into the agreement and considering that these activities could be carried out internally by Hitachi Rail France.

[28] The Monitoring Trustee would ensure that the personnel and assets within the CBTC Business are not required by the Divestment Business and monitor relocation/co-location process within the Core French Site.

(a) [*Confidential details relating to the resources and items to be carved out*].

4. These Commitments shall not prevent Hitachi Rail from entering into the following arrangements with the Purchaser to support the Retained Business and to satisfy the requirements of the carveout of the CBTC Business:[29]

- [*Confidential details relating to reverse TSAs, licenses and supply agreements*]; and
- a sublease under which the Purchaser will sublease one or two floors of [*Confidential details relating to the sublease*] the Core French Site (at least) until the corresponding lease terminates in […].

5. The Divestment Business shall not include FTEs which are currently employed by Hitachi Rail France and which are non-essential to Hitachi Rail France and provide essential support to other Hitachi Rail entities at a global level (the "***Global Staff***").

6. The Divestment Business shall not include Hitachi Rail France's subsidiary in Hong Kong, Hitachi Rail STS Hong Kong Ltd, [*Confidential details relating to the entity*].

7. If there is any asset or personnel which is not covered by paragraph 2 of this Schedule but which is both used (exclusively or not) in the Divestment Business and necessary for the continued viability and competitiveness of the Divestment Business, that asset or adequate substitute will be offered to potential purchasers.

[Confidential Annexes 1 and 2 to the Commitments]

[29] Such list may be further supplemented and the duration of the reverse TSAs extended as need be to support the Retained Business and enable Hitachi Rail to perform its obligations with respect to the ongoing or delivered projects.