[redacted]

[redacted]

CASE ME/6971/21 ACQUISITION BY HITACHI RAIL OF THALES' GROUND TRANSPORTATION SYSTEMS BUSINESS

SUBMISSION ON OCS PROJECTS

1. OVERVIEW

1.1 The Proposed Transaction will not result in a substantial lessening of competition ("**SLC**") for Operation Control Systems ("**OCS**") projects in the UK regardless of the procurement framework that will ultimately be adopted and implemented by Network Rail.[1]

1.2 OCS comprises Signalling Control Systems ("**SCS**"), [redacted] and Traffic Management Systems ("**TMS**"), [redacted] In either case, the Proposed Transaction will not provide the Parties, through the merged entity, with either the ability or the incentive to increase prices or otherwise worsen their bid for OCS projects in the future, for the following reasons (explained in more detail below):

1.2.1 Network Rail can, and frequently does, mandate specific subcontractors for the supply of SCS solutions when procuring SCS as part of a bundle with other mainline signalling subsystems. Therefore, regardless of the ultimate structure of, and identity of the suppliers within, the TCSF, the Parties expect that the existing UK suppliers of SCS (Siemens, Alstom-Bombardier and Resonate) will continue to supply SCS in their capacity as framework suppliers (including within consortia) and/or on a sub-contractor basis.

1.2.2 Siemens, Alstom-Bombardier and Resonate have significant advantages in relation to the supply of SCS, benefiting from the fact that: (i) their SCS solutions are already approved for the UK, (ii) their SCS already have the relevant interfaces to interlockings; and (iii) where possible, Network Rail aims to ensure continuity of technology and SCS workstations within the ambit of a given Rail Operating Centre ("**ROC**"), effectively benefitting the incumbents. In addition, the Parties understand that [redacted] As SCS and Integrated TMS are connected by means of interfaces, an incumbency in supplying SCS translates to an advantage in supplying Integrated TMS.

1.2.3 Digitalisation will have little detrimental impact on the incumbents' advantages during CP7 and CP8 (and potentially longer), as (i) SCS for digital signalling projects require additional (and not fewer) functionalities and interfaces than SCS for conventional signalling projects and (ii) there is little standardisation

[1] [redacted]

[2] [redacted]

[redacted]

of specifications for SCS across different countries, making the business case less clear-cut for new entrants to develop an SCS for the UK.

1.2.4 [redacted] the significant incumbency advantages that Siemens, Alstom-Bombardier and Resonate enjoy (as set out in paragraphs 2.3 to 2.7 and **section 3**).

1.2.5 [redacted] there will be no overall decrease in the level of competition that the merged entity will face such as to reduce its incentives to compete.[3]

2. INDIRECT METHODS OF PROCURING SCS WITHIN THE TCSF

2.1 Network Rail has historically procured SCS projects as part of a bundle with other mainline signalling systems[4] and only occasionally on a standalone basis. [redacted]

2.2 Within the TCSF, in line with its past practice, [redacted] As a result, contrary to the statements made in the Phase 1 Decision,[5] Resonate is a strong competitor for the supply of OCS projects and should not be dismissed or downgraded in importance on the basis that it does not also supply other mainline signalling subsystems. [redacted]

Network Rail can mandate sub-contractors for the supply of SCS

[3] [redacted]

[4] *I.e.*, renewing the signalling and control systems at the same time as part of one scheme.

[5] Phase 1 Decision, para 309.

[redacted]

2.3 [redacted]

2.4 At the same time, Network Rail seeks to ensure continuity of SCS within a given ROC, so that signalling operators (in the control room) can work with a single, homogenous user interface as well as for reasons of operational flexibility and competency management (i.e. all signalling operators can use any workstation in the control room) and more efficient maintenance.

2.5 To ensure continuity within the ambit of an ROC, while outsourcing project and system integration (and related risks), Network Rail can procure – and historically has procured – multiple mainline signalling subsystems as part of a single project, while mandating that the supplier of the *project* must procure SCS for that project from a specified supplier (typically, Resonate or Siemens). For example:

2.5.1 in relation to the [redacted] the Parties understand that Alstom-Bombardier was mandated to sub-contract the delivery of the SCS to Resonate, notwithstanding Alstom-Bombardier's ability to supply SCS itself.[6]

2.5.2 similarly, the Parties understand that for the East Coast Development tender, Network Rail mandated that [redacted] SCS be used.

2.5.3 [redacted]

2.5.4 [redacted] was required to sub-contract to [redacted] in the context of the Hope Valley Railway Upgrade.

2.6 In such a scenario, the supplier of the *project* is responsible for integrating the various mainline signalling components into an overall system that works safely and effectively to the requisite standard.

2.7 [redacted]

2.8 Ultimately, Network Rail can decide how it wishes to procure SCS within the TCSF and regardless of the ultimate structure of the TCSF,[7] [redacted]

[6] See [redacted]

[7] [redacted]

[redacted]

[redacted]

TCSF suppliers can form consortia or choose to sub-contract the supply of SCS

2.9 In addition, [redacted] a framework supplier without an approved UK SCS solution may decide to partner with Resonate for the TCSF or sub-contract[8] the SCS aspect of a project to Resonate. [redacted]

2.10 Suppliers therefore do not need to be able to supply SCS in order to compete for the TCSF, and [redacted]

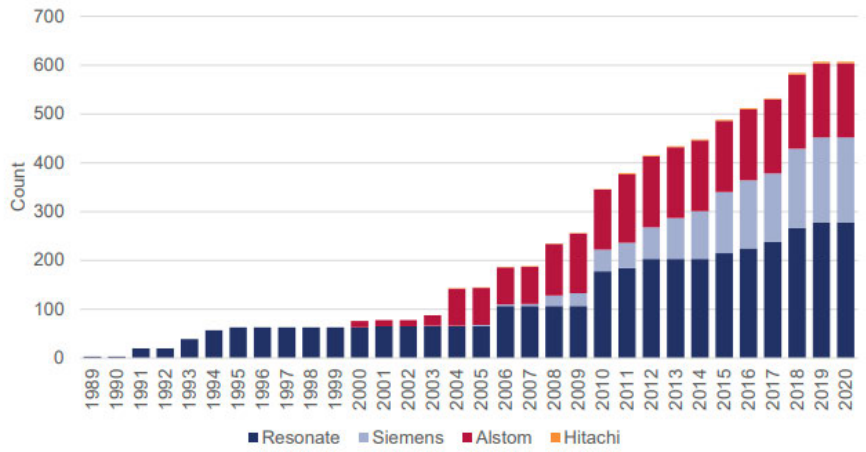
3. HISTORIC ADVANTAGE OF SIEMENS, ALSTOM-BOMBARDIER AND RESONATE IS EXPECTED TO CONTINUE THROUGHOUT TCSF

3.1 Siemens, Alstom-Bombardier and Resonate have a significant advantage in relation to the supply of SCS, which translates to an advantage in relation to the supply of TMS, given Network Rail's preference for procuring "Integrated" TMS. As explained below, the significant advantages enjoyed by these competitors are unlikely to diminish as a result of the move to digital signalling within the TCSF.

Incumbency advantage in the supply of SCS

3.2 Siemens, Alstom-Bombardier and Resonate have, together, accounted for almost all SCS commissioned in the UK in the last ten years - see **Figure 1** below.

Figure 1 – SCS commissions by company (or predecessor) by year



Source: ORR Report, Figure 6.2

3.3 Each of these players has a significant incumbency advantage in relation to SCS for the following reasons:

[8] [redacted]

[redacted]

[redacted]

3.3.1 **Incumbents' SCS are already approved for use in the UK.** SCS are generic solutions that can be applied on conventional or digitally signalled railways. Therefore, Siemens, Alstom-Bombardier and Resonate only need to modify their SCS that are currently applied to conventionally signalled railways to ensure that they meet ETCS standards. Alstom-Bombardier and Siemens both currently supply digital interlockings in the UK, and so may already have SCS deployed for digital signalling in the UK.[9]

3.3.2 By contrast, any other supplier [redacted] would need to first develop and obtain UK-specific approval for an SCS solution (and these requirements vary slightly depending on the SCS' conventional or digital application). This would require considerable time and investment.[10] [redacted]

3.3.3 **Incumbents already have the relevant interfaces to interlockings.** SCS must interact with interlockings: SCS send requests to the interlocking to create and secure safe routes for trains.

(a) Since c.97% of the current installed base of interlockings was manufactured by Siemens, Alstom-Bombardier or one of their predecessor companies, Siemens' and Alstom-Bombardier's SCS can interact with the vast majority of the installed base of interlockings, without facing challenges around interfacing. While there is an open interface standard in the UK (RT/E/S/17503), which applies to interlockings that have been installed in the UK since 1999, any new supplier would still need to develop and test its own interface in line with the open interface standard, requiring considerable time and investment, as well as risk for the customer.[12]

(b) Resonate, through acquisition, owns British Railways' SCS technology (IECC) which can interact with Siemens' and Alstom-Bombardier's

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9 An SCS solution applied to digitally signalled railways has all of the functionality and interfaces of SCS applied to conventionally signalled railways, as well as the functionality and interfaces needed to manage the interaction with digital interlockings and ETCS ATP. [redacted]

10 [redacted]

11 [redacted]

12 [redacted]

[redacted]

[redacted]

interlockings (which were also, originally, British Railways technology). Resonate therefore also faces little challenge in ensuring that its SCS can interact with the installed base of interlockings.

3.3.4 **The need to ensure continuity of SCS within a given ROC.** As explained above, Network Rail seeks to ensure continuity of SCS within a given ROC, so that signalling operators (in the control room) have a single, homogenous user interface to work with. This desire for continuity provides incumbent suppliers with an advantage, given that their SCS technology is already installed in large parts of the UK. As described above, [redacted]

Incumbency in SCS translates to an advantage in Integrated TMS

3.4 [redacted]

An Integrated TMS is a system in which the TMS interacts directly with the SCS, with planning and optimisation decisions automatically taken by the TMS (unlike an "Isolated" TMS, which involves execution of decisions by a signalling controller). [redacted]

3.5 [redacted]

3.6 Integrated TMS are connected to the SCS by means of interfaces. As with the interlocking–SCS interface, the SCS–Integrated TMS interface also favours the incumbent supplier of SCS, as that supplier would be able to create the relevant interfaces without technical challenges. The ability of Siemens', Alstom-Bombardier's and Resonate's SCS to interface with the installed base of interlockings therefore also gives them a great advantage in relation to the supply of Integrated TMS. Indeed,

[13] [redacted]

[14] [redacted]

[15] [redacted]

[16] [redacted]

[redacted]

[redacted]

Siemens and Resonate have, together, accounted for [redacted] of Integrated TMS projects in the UK over the last 5 years.[17]

3.7 [redacted]

3.8 For completeness, for the reasons described in Section 2 above,[19] the strength of Siemens, Alstom-Bombardier and Resonate in the supply of SCS and subsequently Integrated TMS does not preclude other suppliers from competing for ETCS ATP wayside projects in the UK. As noted above, suppliers can also choose to form consortia or to sub-contract certain works to a third party.

Digitalisation will have little impact on the incumbents' advantages

3.9 The incumbency advantages enjoyed by Siemens, Alstom-Bombardier and Resonate may diminish in the long-term (*i.e.,* over a period of decades, not years), assuming that the future installed base of interlockings has standardised interfaces ([redacted])[20] and there are sufficient incentives for new entrants to develop an SCS for the UK. However, the incumbency advantages of Siemens, Alstom-Bombardier and Resonate are expected to persist throughout CP7 and CP8 (and potentially longer).

3.10 For the reasons outlined below, [redacted]

3.10.1 **Specification of SCS supplier.** First, in light of [redacted]

17 [redacted]

18 [redacted]

19 [redacted]

20 [redacted]

[redacted]

3.10.2 **SCS for digital signalling projects are not simpler or materially different to SCS for conventional signalling projects.** Instead, SCS for digital signalling projects requires ETCS capability and functions, control and indications to manage ETCS-fitted trains / lines *in addition to (and not instead of)* the capabilities needed for conventional signalling. Suppliers of SCS for conventional signalling projects (Siemens, Alstom-Bombardier and Resonate) therefore have a significant advantage in their ability to deliver SCS for digitally signalled railways.

3.10.3 **Challenging business case for new entrants.** Unlike ETCS, there is no standardisation of SCS across different countries. In theory, any EEA supplier of SCS could introduce their product to the UK provided that Network Rail provides them with the funding required to modify/develop their base product in line with UK standards and functional and operation requirements, or provided that there would be a guaranteed pipeline of work at a price point that is sufficient to support a business case for the SCS supplier to bear this cost. However:

(a) [redacted]

(b) The [redacted] Suppliers may therefore focus on homologating interlockings and ETCS for use in the UK and choose instead to sub-contract the supply of SCS [redacted] to an existing supplier of SCS.

3.11 In light of [redacted] Siemens, Alstom-Bombardier and Resonate will also continue to dominate the supply of TMS in the UK, [redacted]

[redacted]

[redacted]

4. THE PARTIES ARE NOT COMPARATIVELY STRONGER PLAYERS IN THE UK THAN OTHER ACTUAL OR POTENTIAL COMPETITORS

4.1 In contrast to Siemens, Alstom-Bombardier and Resonate, [redacted]

4.1.1 [redacted]

(a) [redacted]

(b) [redacted]

4.1.2 [redacted] As explained in section 3 above, [redacted]

4.2 [redacted]

4.3 Assuming that the TCSF provides sufficient incentives for new suppliers (particularly those who have ETCS capabilities elsewhere in Europe) to enter the UK market, all suppliers without an existing UK approved product [redacted] would face costs (and delays) in terms of product development, testing and approval. [redacted]

[21] Phase 1 Decision, para 280.

[redacted]

[redacted],[22] CAF and Indra are in a similar position:

4.3.1 CAF has digital interlockings capabilities (Quasar SE4),[23] ETCS solutions certified by the European Rail Agency (AURIGA - ERTMS Level 1 and Level 2)[24] and SCS capabilities.[25] CAF has a long-standing history in the UK dating back to 1995 (for rolling stock and ETCS OBUs) and its recent UK investments[26] demonstrate CAF's desire to expand and develop further in the UK. CAF also has experience of partnering with other suppliers in order to enter new markets.[27]

4.3.2 Indra has references for its ETCS capabilities in Spain, an SCS solution that has been applied on digitally signalled railways and has also won isolated TMS projects.[28] In addition, it has previously participated in tenders for OCS projects in Lithuania, Estonia and Norway,[29] and has also participated with its DaVinci TMS product (installed on the Spanish high-speed rail network) in Network Rail tenders in 2009 and 2019. [redacted]

4.4 [redacted]

5. THE PROPOSED TRANSACTION WILL NOT LEAD TO A REDUCTION OF COMPETITION IN RESPECT OF OCS PROJECTS

5.1 [redacted]

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22 [redacted]

23 https://www.caf.net/en/soluciones/senalizacion/enclavamientos-electronicos.php.

24 https://www.caf.net/en/soluciones/senalizacion/sistemas-ERTMS.php.

25 https://www.caf.net/en/soluciones/senalizacion/centros-control-integrado.php.

26 [redacted]

27 For instance, CAF has entered the Polish market through a partnership with local interlockings provider Kombud to provide ETCS in Poland: https://www.cafsignalling.com/en/caf-signalling-allies-with-kombud-and-strengthens-its-international-presence/.

28 [redacted]

29 [redacted]

[redacted]

5.1.1 In the UK [redacted]

5.1.2 Even in EEA+UK+CH, [redacted]

5.2 For completeness, [redacted]

5.2.1 SCS: [redacted]

As noted in **Figure 1** above, the SCS market as a whole is dominated by Siemens, Alstom-Bombardier and Resonate.

5.2.2 Isolated TMS: [redacted] in relation to Isolated TMS in [redacted]

5.2.3 Integrated TMS: [redacted]

5.3 [redacted] the merged entity will continue to face the same competitive constraints that the Parties currently face. As a result, there will be no overall decrease in the level of competition that the merged entity will face such as to reduce its incentives to compete.

[30] [redacted]

[31] [redacted]

[redacted]

[redacted]

6. CONCLUSION – NO SLC IN RESPECT OF OCS

6.1 For the reasons set out above, the Proposed Transaction will not result in an SLC in respect of OCS projects, regardless of the framework that will ultimately be adopted and implemented by Network Rail. In particular, Siemens, Alstom-Bombardier and Resonate will continue to dominate the supply of both SCS and Integrated TMS in the UK, [redacted]

6.2 To the extent that the TCSF incentivises new entry in relation to the supply of OCS projects, [redacted]

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