

Mr Steve Leigh
Program Manager
Network Rail Telecoms
The Quadrant, Level 2 Caldecotte,
Eldergate
Milton Keynes
Buckinghamshire
MK9 1HA

Your Ref : OP158365
R00009

Case Ref : PRM-IOP-0333

EIN Number : As listed

Date: 2nd October 2020

Contact: Adam Buckland

2nd Floor, 2 Rivergate,
Temple Quay,
Bristol.
BS1 6EH.

Dear Steve,

**THE RAILWAYS (INTEROPERABILITY) REGULATIONS 2011, AS AMENDED
TYPE AUTHORISATION OF GSMR V4.0 FITTED TO THE VEHICLES LISTED IN
THIS LETTER IN CONFORMITY WITH EUROPEAN REGISTER OF AUTHORISED
TYPE REFERENCE 11-095-0001-5-001.**

I refer to your application for type authorisation, received on 22nd September 2020. Following a review of your application, I can confirm that ORR grants an authorisation under regulation 9 of the Railways (Interoperability) Regulations 2011, as amended.

This authorisation is for the placing in service of V4.0 GSM-R Cab Mobile sub system fitted with an interference resistant transceiver. In addition, there is an option to replace the current GSM-R antenna with a combined GSM-R/GPS antenna and to fit and additional LTE antenna.

- GSM-R Cab Mobile Type - GSM-R V4.0 Cab Mobile SVR400+ with NR4.0 software (Build 1127) which incorporate an ETSI TS 102 933 V 2.1.1 compliant transceiver.
- GSM-R/GPS antenna (Fitment of combined GSM-R/GPS antennae is optional)
 - Huber & Suhner – SWA-0825/360/5/30/DFRX30
 - Polomarconi – BGLD1/S
- LTE antenna (Fitment of LTE antennae is optional)
 - Huber & Suhner – SWA-0825/360/5/30/MIMO
 - Panorama Antennas – TRNM-7-60-NJ
 - Polomarconi – T01811814
 - Huber & Suhner – Sencity Rail MIMO Antenna 1399.17.0222

This conforms to European Register of Authorised Types (ERATV) type 11-095-0001-5-001.

This authorisation applies to the following inclusive.

Operator	Class	Vehicle	Cab	V4.0 Installation Date	EIN
Arriva Rail London	378	378145	A	09/09/2020	UK/51/2020/0039
Arriva Rail London	378	378145	B	09/09/2020	UK/51/2020/0039
Arriva Rail London	378	378149	A	06/09/2020	UK/51/2020/0039
Arriva Rail London	378	378149	B	06/09/2020	UK/51/2020/0039
Arriva Rail London	378	378207	A	25/08/2020	UK/51/2020/0039
Arriva Rail London	378	378207	B	25/08/2020	UK/51/2020/0039
Arriva Rail London	378	378208	A	09/09/2020	UK/51/2020/0039
Arriva Rail London	378	378208	B	09/09/2020	UK/51/2020/0039
Arriva Rail London	378	378218	A	06/09/2020	UK/51/2020/0039
Arriva Rail London	378	378218	B	26/08/2020	UK/51/2020/0039
Arriva Rail London	378	378220	A	27/08/2020	UK/51/2020/0039
Arriva Rail London	378	378220	B	27/08/2020	UK/51/2020/0039
Arriva Rail London	378	378223	A	04/09/2020	UK/51/2020/0039
Arriva Rail London	378	378223	B	04/09/2020	UK/51/2020/0039
Arriva Rail London	378	378227	A	10/09/2020	UK/51/2020/0039
Arriva Rail London	378	378227	B	10/09/2020	UK/51/2020/0039
Arriva Rail London	378	378230	A	09/09/2020	UK/51/2020/0039
Arriva Rail London	378	378230	B	09/09/2020	UK/51/2020/0039
Arriva Rail London	378	378232	A	10/09/2020	UK/51/2020/0039
Arriva Rail London	378	378232	B	10/09/2020	UK/51/2020/0039
Arriva Rail London	378	378233	A	18/09/2020	UK/51/2020/0039
Arriva Rail London	378	378233	B	18/09/2020	UK/51/2020/0039
Arriva Rail London	378	378255	A	17/09/2020	UK/51/2020/0039
Arriva Rail London	378	378255	B	17/09/2020	UK/51/2020/0039
Balfour Beatty	073	073917	A	17/09/2020	UK/51/2020/0018
Balfour Beatty	073	073917	B	17/09/2020	UK/51/2020/0018
Balfour Beatty	073	073926	A	01/09/2020	UK/51/2020/0018
Balfour Beatty	073	073926	B	01/09/2020	UK/51/2020/0018
Balfour Beatty	073	073927	A	15/09/2020	UK/51/2020/0018
Balfour Beatty	073	073927	B	15/09/2020	UK/51/2020/0018
Balfour Beatty	073	073938	A	27/08/2020	UK/51/2020/0018
Balfour Beatty	073	073938	B	27/08/2020	UK/51/2020/0018

Balfour Beatty	073	073943	A	11/09/2020	UK/51/2020/0018
Balfour Beatty	073	073943	B	11/09/2020	UK/51/2020/0018
Balfour Beatty	073	073944	A	15/09/2020	UK/51/2020/0018
Balfour Beatty	073	073944	B	14/09/2020	UK/51/2020/0018
Balfour Beatty	073	073949	A	09/09/2020	UK/51/2020/0018
Balfour Beatty	073	073949	B	09/09/2020	UK/51/2020/0018
Balfour Beatty	075	075411	A	27/08/2020	UK/51/2020/0016
Balfour Beatty	075	075411	B	27/08/2020	UK/51/2020/0016
Balfour Beatty	075	075502	A	28/08/2020	UK/51/2020/0016
Balfour Beatty	075	075502	B	28/08/2020	UK/51/2020/0016
Balfour Beatty	077	077322	A	11/09/2020	UK/51/2020/0019
Balfour Beatty	098	098218	A	17/09/2020	UK/51/2020/0022
Balfour Beatty	098	098218	B	17/09/2020	UK/51/2020/0022
Balfour Beatty	098	098219	A	16/09/2020	UK/51/2020/0022
Balfour Beatty	098	098219	B	16/09/2020	UK/51/2020/0022
Balfour Beatty	098	098220	A	17/09/2020	UK/51/2020/0022
Balfour Beatty	098	098220	B	16/09/2020	UK/51/2020/0022
Chiltern Railways	165	165002	A	19/09/2020	UK/51/2020/0042
Chiltern Railways	165	165002	B	19/09/2020	UK/51/2020/0042
Chiltern Railways	165	165003	A	11/09/2020	UK/51/2020/0042
Chiltern Railways	165	165003	B	11/09/2020	UK/51/2020/0042
Chiltern Railways	165	165014	A	16/09/2020	UK/51/2020/0042
Chiltern Railways	165	165014	B	16/09/2020	UK/51/2020/0042
Chiltern Railways	165	165021	A	25/08/2020	UK/51/2020/0042
Chiltern Railways	165	165021	B	25/08/2020	UK/51/2020/0042
Chiltern Railways	165	165022	A	28/08/2020	UK/51/2020/0042
Chiltern Railways	165	165022	B	28/08/2020	UK/51/2020/0042
Chiltern Railways	165	165025	A	31/08/2020	UK/51/2020/0042
Chiltern Railways	165	165025	B	31/08/2020	UK/51/2020/0042
Chiltern Railways	165	165026	A	08/09/2020	UK/51/2020/0042
Chiltern Railways	165	165026	B	08/09/2020	UK/51/2020/0042
Chiltern Railways	165	165028	A	24/08/2020	UK/51/2020/0042
Chiltern Railways	165	165028	B	24/08/2020	UK/51/2020/0042
Chiltern Railways	165	165036	A	02/09/2020	UK/51/2020/0042
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Chiltern Railways	165	165039	A	01/09/2020	UK/51/2020/0042
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Chiltern Railways	168	168215	A	27/08/2020	UK/51/2020/0043
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Chiltern Railways	168	168216	A	09/09/2020	UK/51/2020/0043
Chiltern Railways	168	168216	B	10/09/2020	UK/51/2020/0043
Chiltern Railways	168	168217	A	12/09/2020	UK/51/2020/0043
Chiltern Railways	168	168217	B	12/09/2020	UK/51/2020/0043
Chiltern Railways	168	168322	A	26/08/2020	UK/51/2020/0043
Chiltern Railways	168	168322	B	26/08/2020	UK/51/2020/0043
Chiltern Railways	168	168323	A	08/09/2020	UK/51/2020/0043
Chiltern Railways	168	168323	B	08/09/2020	UK/51/2020/0043
Chiltern Railways	172	172103	B	04/09/2020	UK/51/2020/0029
Colas Rail	073	073925	A	25/08/2020	UK/51/2020/0018
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GB Railfreight	66	66780	A	16/09/2020	UK/51/2020/0001
Network Rail	098	098908	A	09/09/2020	UK/51/2020/0022
Network Rail	098	098909	A	10/09/2020	UK/51/2020/0022
Network Rail	098	098916	A	18/09/2020	UK/51/2020/0022
Network Rail	098	098925	A	10/09/2020	UK/51/2020/0022
Network Rail	098	098931	A	10/09/2020	UK/51/2020/0022
Network Rail	098	098958	A	09/09/2020	UK/51/2020/0022
Network Rail	098	098959	A	10/09/2020	UK/51/2020/0022
Network Rail	098	098966	A	18/09/2020	UK/51/2020/0022
Network Rail	098	098975	A	10/09/2020	UK/51/2020/0022
Network Rail	098	098981	A	10/09/2020	UK/51/2020/0022
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South Western Railway	455	455707	B	11/09/2020	UK/51/2020/0010
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South Western Railway	458	458507	A	19/09/2020	UK/51/2020/0047
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Southeastern	375	375306	B	24/08/2020	UK/51/2020/0035
Southeastern	375	375307	A	18/09/2020	UK/51/2020/0035
Southeastern	375	375307	B	18/09/2020	UK/51/2020/0035
Southeastern	375	375602	A	24/08/2020	UK/51/2020/0035
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Southeastern	375	375623	A	02/09/2020	UK/51/2020/0035
Southeastern	375	375623	B	02/09/2020	UK/51/2020/0035
Southeastern	375	375627	A	08/09/2020	UK/51/2020/0035

Southeastern	375	375627	B	08/09/2020	UK/51/2020/0035
Southeastern	375	375703	A	03/09/2020	UK/51/2020/0035
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Southeastern	375	375711	A	10/09/2020	UK/51/2020/0035
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Southeastern	375	375801	A	31/08/2020	UK/51/2020/0035
Southeastern	375	375801	B	31/08/2020	UK/51/2020/0035
Southeastern	375	375803	A	25/08/2020	UK/51/2020/0035
Southeastern	375	375803	B	25/08/2020	UK/51/2020/0035
Southeastern	375	375808	A	23/08/2020	UK/51/2020/0035
Southeastern	375	375808	B	23/08/2020	UK/51/2020/0035
Southeastern	375	375820	A	23/08/2020	UK/51/2020/0035
Southeastern	375	375820	B	23/08/2020	UK/51/2020/0035
Southeastern	375	375822	A	19/09/2020	UK/51/2020/0035
Southeastern	375	375822	B	19/09/2020	UK/51/2020/0035
Southeastern	375	375825	A	05/09/2020	UK/51/2020/0035
Southeastern	375	375829	A	17/09/2020	UK/51/2020/0035
Southeastern	375	375829	B	06/09/2020	UK/51/2020/0035
Southeastern	375	375901	A	24/08/2020	UK/51/2020/0035
Southeastern	375	375901	B	24/08/2020	UK/51/2020/0035
Southeastern	375	375907	A	30/08/2020	UK/51/2020/0035
Southeastern	375	375907	B	30/08/2020	UK/51/2020/0035
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Southeastern	375	375922	A	16/09/2020	UK/51/2020/0035
Southeastern	375	375922	B	16/09/2020	UK/51/2020/0035
Southeastern	376	376026	A	26/08/2020	UK/51/2020/0036
Southeastern	376	376026	B	30/08/2020	UK/51/2020/0036
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Southeastern	465	465006	B	23/08/2020	UK/51/2020/0037
Southeastern	465	465011	A	27/08/2020	UK/51/2020/0037
Southeastern	465	465011	B	27/08/2020	UK/51/2020/0037
Southeastern	465	465014	A	19/09/2020	UK/51/2020/0037
Southeastern	465	465014	B	19/09/2020	UK/51/2020/0037
Southeastern	465	465022	A	23/08/2020	UK/51/2020/0037
Southeastern	465	465022	B	23/08/2020	UK/51/2020/0037
Southeastern	465	465025	A	02/09/2020	UK/51/2020/0037

Southeastern	465	465025	B	02/09/2020	UK/51/2020/0037
Southeastern	465	465030	A	15/09/2020	UK/51/2020/0037
Southeastern	465	465030	B	15/09/2020	UK/51/2020/0037
Southeastern	465	465031	A	28/08/2020	UK/51/2020/0037
Southeastern	465	465031	B	28/08/2020	UK/51/2020/0037
Southeastern	465	465035	A	02/09/2020	UK/51/2020/0037
Southeastern	465	465035	B	02/09/2020	UK/51/2020/0037
Southeastern	465	465037	A	07/09/2020	UK/51/2020/0037
Southeastern	465	465037	B	07/09/2020	UK/51/2020/0037
Southeastern	465	465040	A	05/09/2020	UK/51/2020/0037
Southeastern	465	465040	B	05/09/2020	UK/51/2020/0037
Southeastern	465	465041	A	11/09/2020	UK/51/2020/0037
Southeastern	465	465041	B	11/09/2020	UK/51/2020/0037
Southeastern	465	465042	A	26/08/2020	UK/51/2020/0037
Southeastern	465	465042	B	26/08/2020	UK/51/2020/0037
Southeastern	465	465154	A	11/09/2020	UK/51/2020/0037
Southeastern	465	465154	B	11/09/2020	UK/51/2020/0037
Southeastern	465	465156	A	09/09/2020	UK/51/2020/0037
Southeastern	465	465156	B	09/09/2020	UK/51/2020/0037
Southeastern	465	465166	A	12/09/2020	UK/51/2020/0037
Southeastern	465	465166	B	12/09/2020	UK/51/2020/0037
Southeastern	465	465168	A	26/08/2020	UK/51/2020/0037
Southeastern	465	465168	B	26/08/2020	UK/51/2020/0037
Southeastern	465	465169	A	10/09/2020	UK/51/2020/0037
Southeastern	465	465169	B	10/09/2020	UK/51/2020/0037
Southeastern	465	465171	A	08/09/2020	UK/51/2020/0037
Southeastern	465	465171	B	08/09/2020	UK/51/2020/0037
Southeastern	465	465180	A	18/09/2020	UK/51/2020/0037
Southeastern	465	465180	B	18/09/2020	UK/51/2020/0037
Southeastern	465	465190	A	15/09/2020	UK/51/2020/0037
Southeastern	465	465190	B	15/09/2020	UK/51/2020/0037
Southeastern	465	465191	A	14/09/2020	UK/51/2020/0037
Southeastern	465	465191	B	14/09/2020	UK/51/2020/0037
Southeastern	465	465195	A	18/09/2020	UK/51/2020/0037
Southeastern	465	465195	B	18/09/2020	UK/51/2020/0037
Southeastern	465	465242	A	01/09/2020	UK/51/2020/0037
Southeastern	465	465242	B	01/09/2020	UK/51/2020/0037
Southeastern	465	465243	A	09/09/2020	UK/51/2020/0037
Southeastern	465	465243	B	09/09/2020	UK/51/2020/0037

Southeastern	465	465244	A	08/09/2020	UK/51/2020/0037
Southeastern	465	465244	B	08/09/2020	UK/51/2020/0037
Southeastern	465	465245	A	24/08/2020	UK/51/2020/0037
Southeastern	465	465245	B	24/08/2020	UK/51/2020/0037
Southeastern	465	465901	A	01/09/2020	UK/51/2020/0037
Southeastern	465	465901	B	01/09/2020	UK/51/2020/0037
Southeastern	465	465903	A	31/08/2020	UK/51/2020/0037
Southeastern	465	465903	B	31/08/2020	UK/51/2020/0037
Southeastern	465	465904	A	02/09/2020	UK/51/2020/0037
Southeastern	465	465904	B	02/09/2020	UK/51/2020/0037
Southeastern	465	465910	A	17/09/2020	UK/51/2020/0037
Southeastern	465	465910	B	17/09/2020	UK/51/2020/0037
Southeastern	465	465912	A	27/08/2020	UK/51/2020/0037
Southeastern	465	465912	B	27/08/2020	UK/51/2020/0037
Southeastern	465	465915	A	26/08/2020	UK/51/2020/0037
Southeastern	465	465924	A	04/09/2020	UK/51/2020/0037
Southeastern	465	465924	B	04/09/2020	UK/51/2020/0037
Southeastern	465	465926	A	16/09/2020	UK/51/2020/0037
Southeastern	465	465926	B	16/09/2020	UK/51/2020/0037
Southeastern	465	465933	A	18/09/2020	UK/51/2020/0037
Southeastern	465	465933	B	18/09/2020	UK/51/2020/0037
Southeastern	466	466002	A	03/09/2020	UK/51/2020/0041
Southeastern	466	466002	B	03/09/2020	UK/51/2020/0041
Southeastern	466	466006	A	16/09/2020	UK/51/2020/0041
Southeastern	466	466006	B	16/09/2020	UK/51/2020/0041
Southeastern	466	466008	A	28/08/2020	UK/51/2020/0041
Southeastern	466	466008	B	28/08/2020	UK/51/2020/0041
Southeastern	466	466014	A	12/09/2020	UK/51/2020/0041
Southeastern	466	466014	B	12/09/2020	UK/51/2020/0041
Southeastern	466	466033	A	05/09/2020	UK/51/2020/0041
Southeastern	466	466033	B	05/09/2020	UK/51/2020/0041
Southeastern	466	466036	A	25/08/2020	UK/51/2020/0041
Southeastern	466	466036	B	25/08/2020	UK/51/2020/0041
Volker Rail	075	075301	A	03/09/2020	UK/51/2020/0016
Volker Rail	075	075301	B	03/09/2020	UK/51/2020/0016
Volker Rail	075	075303	A	02/09/2020	UK/51/2020/0016
Volker Rail	075	075303	B	02/09/2020	UK/51/2020/0016
Volker Rail	077	077802	A	02/09/2020	UK/51/2020/0019
Volker Rail	077	077802	B	02/09/2020	UK/51/2020/0019

West Midlands Trains	172	172007	A	28/08/2020	UK/51/2020/0029
West Midlands Trains	172	172007	B	28/08/2020	UK/51/2020/0029
West Midlands Trains	172	172217	A	03/09/2020	UK/51/2020/0029
West Midlands Trains	172	172217	B	03/09/2020	UK/51/2020/0029
West Midlands Trains	172	172332	A	12/09/2020	UK/51/2020/0029
West Midlands Trains	172	172332	B	12/09/2020	UK/51/2020/0029
West Midlands Trains	172	172344	A	25/08/2020	UK/51/2020/0029
West Midlands Trains	172	172344	B	25/08/2020	UK/51/2020/0029
West Midlands Trains	172	172345	A	04/09/2020	UK/51/2020/0029
West Midlands Trains	172	172345	B	04/09/2020	UK/51/2020/0029
West Midlands Trains	319	319218	A	01/09/2020	UK/51/2020/0053
West Midlands Trains	319	319218	B	01/09/2020	UK/51/2020/0053
West Midlands Trains	319	319460	A	23/08/2020	UK/51/2020/0053
West Midlands Trains	319	319460	B	23/08/2020	UK/51/2020/0053
West Midlands Trains	350	350113	A	23/08/2020	UK/51/2020/0026
West Midlands Trains	350	350113	B	23/08/2020	UK/51/2020/0026
West Midlands Trains	350	350234	A	07/09/2020	UK/51/2020/0026
West Midlands Trains	350	350234	B	07/09/2020	UK/51/2020/0026
West Midlands Trains	350	350237	A	15/09/2020	UK/51/2020/0026
West Midlands Trains	350	350237	B	15/09/2020	UK/51/2020/0026
West Midlands Trains	350	350246	A	08/09/2020	UK/51/2020/0026

The restrictions or limitations of use on the structural subsystem are those referenced in the Determination of Type.

The rolling stock subsystem authorised by this letter must be operated and maintained in accordance with Regulation 20.

You should be aware that any future modifications to the authorised subsystem may constitute a 'renewal' or an 'upgrade' as defined in Regulation 2. If a project entity, in relation to the project, considers that the modification meets either of these definitions they may apply, in accordance with the provisions of Regulation 13, to the Department for Transport (DfT) for a decision on whether a new authorisation will be required. Should DfT decide that an authorisation is not required they must consult with ORR whether authorisation is required on safety grounds.

As the project entity you are responsible for retaining the declaration of conformity to an authorised type of railway vehicle, documentation recording any alterations, and maintenance manuals in relation to the subsystem, keeping them up to date and making them available to the ORR in accordance with Regulation 19.

If you are not the owner of the authorised subsystem you shall within 60 days, in accordance with Regulation 19(3), transfer the declaration of conformity to an

authorised type of railway vehicle, documentation recording any alterations, and maintenance manuals in relation to the subsystem to the owner of the subsystem and the owner shall then be regarded as the project entity. If the owner, in accordance with Regulation 19(4), disposes of his interest in the authorised subsystem, he shall within 60 days of the disposal transfer the declaration of conformity to an authorised type of railway vehicle, documentation recording any alterations, and maintenance manuals in relation to the subsystem to the person acquiring that interest and that person shall be regarded as the project entity.

Please note that under Regulation 36, the person who applied for the authorisation shall send particulars to the Registration Entity to enable the registration entity to enter the information on the National Vehicle Register. This will include such further information as the registration entity may reasonably require set out in the relevant standard.

If you are the operator, may I remind you of the need to have adequate arrangements within your Safety Management System to control the risks associated with this rolling stock subsystem.

This decision letter will be published on ORR's website.

Yours sincerely



Steve Fletcher - ORR Deputy Director, Railway Planning and Performance.

Cc

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National Vehicle Register

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Ian Maxwell

Head of Train Control Systems, ORR.