

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

Your Ref : OP158365
R00007

Case Ref : PRM-IOP-0333

EIN Number : As listed

Date: 31st July 2020

Contact: Stephen Williams
3rd Floor, Mallard House, Kings Pool,
1-2 Peasholme Green,
York.
YO1 7PX.

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 30th July 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	378136	A	30/06/2020	UK/51/2020/0039
Arriva Rail London	378	378136	B	30/06/2020	UK/51/2020/0039
Arriva Rail London	378	378137	A	10/07/2020	UK/51/2020/0039
Arriva Rail London	378	378137	B	10/07/2020	UK/51/2020/0039
Arriva Rail London	378	378139	A	02/07/2020	UK/51/2020/0039
Arriva Rail London	378	378139	B	02/07/2020	UK/51/2020/0039
Arriva Rail London	378	378140	A	20/07/2020	UK/51/2020/0039
Arriva Rail London	378	378140	B	20/07/2020	UK/51/2020/0039
Arriva Rail London	378	378141	A	07/07/2020	UK/51/2020/0039
Arriva Rail London	378	378141	B	07/07/2020	UK/51/2020/0039
Arriva Rail London	378	378142	A	08/07/2020	UK/51/2020/0039
Arriva Rail London	378	378142	B	08/07/2020	UK/51/2020/0039
Arriva Rail London	378	378147	A	24/07/2020	UK/51/2020/0039
Arriva Rail London	378	378147	B	24/07/2020	UK/51/2020/0039
Arriva Rail London	378	378148	A	29/06/2020	UK/51/2020/0039
Arriva Rail London	378	378148	B	29/06/2020	UK/51/2020/0039
Arriva Rail London	378	378150	A	17/07/2020	UK/51/2020/0039
Arriva Rail London	378	378150	B	17/07/2020	UK/51/2020/0039
Arriva Rail London	378	378151	A	23/07/2020	UK/51/2020/0039
Arriva Rail London	378	378151	B	23/07/2020	UK/51/2020/0039
Arriva Rail London	378	378154	A	20/07/2020	UK/51/2020/0039
Arriva Rail London	378	378154	B	20/07/2020	UK/51/2020/0039
Arriva Rail London	378	378204	A	09/07/2020	UK/51/2020/0039
Arriva Rail London	378	378204	B	09/07/2020	UK/51/2020/0039
Arriva Rail London	378	378206	A	13/07/2020	UK/51/2020/0039
Arriva Rail London	378	378206	B	13/07/2020	UK/51/2020/0039
Arriva Rail London	378	378219	A	30/06/2020	UK/51/2020/0039
Arriva Rail London	378	378219	B	30/06/2020	UK/51/2020/0039
Arriva Rail London	378	378224	A	24/07/2020	UK/51/2020/0039
Arriva Rail London	378	378224	B	24/07/2020	UK/51/2020/0039
Arriva Rail London	378	378226	A	17/07/2020	UK/51/2020/0039

Arriva Rail London	378	378226	B	17/07/2020	UK/51/2020/0039
Arriva Rail London	378	378228	A	08/07/2020	UK/51/2020/0039
Arriva Rail London	378	378228	B	08/07/2020	UK/51/2020/0039
Arriva Rail London	378	378231	A	23/07/2020	UK/51/2020/0039
Arriva Rail London	378	378231	B	23/07/2020	UK/51/2020/0039
Balfour Beatty	073	073918	A	23/07/2020	UK/51/2020/0018
Balfour Beatty	073	073918	B	23/07/2020	UK/51/2020/0018
Chiltern Railways	165	165007	A	07/07/2020	UK/51/2020/0042
Chiltern Railways	165	165007	B	07/07/2020	UK/51/2020/0042
Chiltern Railways	165	165008	A	03/07/2020	UK/51/2020/0042
Chiltern Railways	165	165008	B	03/07/2020	UK/51/2020/0042
Chiltern Railways	165	165010	A	01/07/2020	UK/51/2020/0042
Chiltern Railways	165	165010	B	01/07/2020	UK/51/2020/0042
Chiltern Railways	165	165011	A	16/07/2020	UK/51/2020/0042
Chiltern Railways	165	165011	B	17/07/2020	UK/51/2020/0042
Chiltern Railways	165	165012	A	10/07/2020	UK/51/2020/0042
Chiltern Railways	165	165012	B	10/07/2020	UK/51/2020/0042
Chiltern Railways	165	165016	A	12/07/2020	UK/51/2020/0042
Chiltern Railways	165	165016	B	12/07/2020	UK/51/2020/0042
Chiltern Railways	165	165017	A	13/07/2020	UK/51/2020/0042
Chiltern Railways	165	165017	B	13/07/2020	UK/51/2020/0042
Chiltern Railways	165	165020	A	09/07/2020	UK/51/2020/0042
Chiltern Railways	165	165020	B	09/07/2020	UK/51/2020/0042
Chiltern Railways	165	165023	A	17/07/2020	UK/51/2020/0042
Chiltern Railways	165	165023	B	17/07/2020	UK/51/2020/0042
Chiltern Railways	165	165031	A	15/07/2020	UK/51/2020/0042
Chiltern Railways	165	165031	B	15/07/2020	UK/51/2020/0042
Chiltern Railways	165	165032	A	23/07/2020	UK/51/2020/0042
Chiltern Railways	165	165032	B	24/07/2020	UK/51/2020/0042
Chiltern Railways	165	165033	A	24/07/2020	UK/51/2020/0042
Chiltern Railways	165	165033	B	24/07/2020	UK/51/2020/0042
Chiltern Railways	165	165034	A	07/07/2020	UK/51/2020/0042
Chiltern Railways	165	165034	B	07/07/2020	UK/51/2020/0042
Chiltern Railways	165	165037	A	09/07/2020	UK/51/2020/0042
Chiltern Railways	165	165037	B	08/07/2020	UK/51/2020/0042
Chiltern Railways	168	168003	A	21/07/2020	UK/51/2020/0043
Chiltern Railways	168	168003	B	21/07/2020	UK/51/2020/0043
Chiltern Railways	168	168108	A	14/07/2020	UK/51/2020/0043
Chiltern Railways	168	168108	B	15/07/2020	UK/51/2020/0043

Chiltern Railways	168	168219	A	02/07/2020	UK/51/2020/0043
Chiltern Railways	168	168219	B	02/07/2020	UK/51/2020/0043
Chiltern Railways	168	168327	A	21/07/2020	UK/51/2020/0043
Chiltern Railways	168	168327	B	21/07/2020	UK/51/2020/0043
Chiltern Railways	168	168328	A	22/07/2020	UK/51/2020/0043
Chiltern Railways	168	168328	B	22/07/2020	UK/51/2020/0043
Chiltern Railways	168	168329	A	12/07/2020	UK/51/2020/0043
Chiltern Railways	168	168329	B	11/07/2020	UK/51/2020/0043
Chiltern Railways	172	172102	A	11/07/2020	UK/51/2020/0029
Chiltern Railways	172	172104	A	10/07/2020	UK/51/2020/0029
Chiltern Railways	82	82305	A	23/07/2020	UK/51/2020/0044
Colas Rail	073	073905	A	22/07/2020	UK/51/2020/0018
Colas Rail	073	073905	B	22/07/2020	UK/51/2020/0018
Colas Rail	073	073908	A	22/07/2020	UK/51/2020/0018
Colas Rail	073	073908	B	22/07/2020	UK/51/2020/0018
Colas Rail	073	073924	A	01/07/2020	UK/51/2020/0018
Colas Rail	073	073924	B	01/07/2020	UK/51/2020/0018
Crossrail	315	315820	A	29/06/2020	UK/51/2020/0030
Crossrail	315	315820	B	29/06/2020	UK/51/2020/0030
Crossrail	315	315829	A	02/07/2020	UK/51/2020/0030
Crossrail	315	315829	B	02/07/2020	UK/51/2020/0030
Crossrail	315	315839	A	13/07/2020	UK/51/2020/0030
Crossrail	315	315839	B	13/07/2020	UK/51/2020/0030
Crossrail	315	315843	A	14/07/2020	UK/51/2020/0030
Crossrail	315	315843	B	14/07/2020	UK/51/2020/0030
Crossrail	315	315844	A	01/07/2020	UK/51/2020/0030
Crossrail	315	315844	B	01/07/2020	UK/51/2020/0030
Crossrail	315	315847	A	10/07/2020	UK/51/2020/0030
Crossrail	315	315847	B	10/07/2020	UK/51/2020/0030
Crossrail	315	315848	A	10/07/2020	UK/51/2020/0030
Crossrail	315	315848	B	10/07/2020	UK/51/2020/0030
Crossrail	315	315851	A	14/07/2020	UK/51/2020/0030
Crossrail	315	315851	B	14/07/2020	UK/51/2020/0030
Crossrail	315	315854	A	01/07/2020	UK/51/2020/0030
Crossrail	315	315854	B	01/07/2020	UK/51/2020/0030
Crossrail	315	315856	A	13/07/2020	UK/51/2020/0030
Crossrail	315	315856	B	16/07/2020	UK/51/2020/0030
Crossrail	345	345012	A	30/06/2020	UK/51/2020/0020
Crossrail	345	345012	B	30/06/2020	UK/51/2020/0020

Crossrail	345	345052	A	29/06/2020	UK/51/2020/0020
Crossrail	345	345052	B	29/06/2020	UK/51/2020/0020
Freightliner	70	70003	A	21/07/2020	UK/51/2020/0002
Freightliner	90	90005	A	18/07/2020	UK/51/2020/0004
Freightliner	90	90008	A	18/07/2020	UK/51/2020/0004
Govia Thameslink Railway	365	365502	A	02/07/2020	UK/51/2020/0007
Govia Thameslink Railway	365	365506	A	02/07/2020	UK/51/2020/0007
Govia Thameslink Railway	700	700045	A	10/07/2020	UK/51/2020/0045
Govia Thameslink Railway	700	700045	B	10/07/2020	UK/51/2020/0045
Govia Thameslink Railway	700	700131	A	10/07/2020	UK/51/2020/0045
Govia Thameslink Railway	700	700131	B	10/07/2020	UK/51/2020/0045
Merseyrail	507	507010	A	16/07/2020	UK/51/2020/0011
Merseyrail	507	507010	B	16/07/2020	UK/51/2020/0011
South Western Railway	158	158881	A	03/07/2020	UK/51/2020/0013
South Western Railway	158	158881	B	03/07/2020	UK/51/2020/0013
South Western Railway	158	158883	A	21/07/2020	UK/51/2020/0013
South Western Railway	158	158883	B	02/07/2020	UK/51/2020/0013
South Western Railway	158	158890	A	01/07/2020	UK/51/2020/0013
South Western Railway	158	158890	B	01/07/2020	UK/51/2020/0013
South Western Railway	159	159002	A	04/07/2020	UK/51/2020/0040
South Western Railway	159	159002	B	04/07/2020	UK/51/2020/0040
South Western Railway	159	159003	A	06/07/2020	UK/51/2020/0040
South Western Railway	159	159003	B	06/07/2020	UK/51/2020/0040
South Western Railway	159	159004	A	23/07/2020	UK/51/2020/0040
South Western Railway	159	159004	B	07/07/2020	UK/51/2020/0040
South Western Railway	159	159005	A	04/07/2020	UK/51/2020/0040
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South Western Railway	159	159007	A	09/07/2020	UK/51/2020/0040
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South Western Railway	159	159011	A	07/07/2020	UK/51/2020/0040
South Western Railway	159	159011	B	07/07/2020	UK/51/2020/0040
South Western Railway	159	159012	A	11/07/2020	UK/51/2020/0040
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South Western Railway	159	159014	B	08/07/2020	UK/51/2020/0040
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South Western Railway	159	159016	B	10/07/2020	UK/51/2020/0040

South Western Railway	159	159019	A	05/07/2020	UK/51/2020/0040
South Western Railway	159	159019	B	05/07/2020	UK/51/2020/0040
South Western Railway	159	159021	A	03/07/2020	UK/51/2020/0040
South Western Railway	159	159021	B	03/07/2020	UK/51/2020/0040
South Western Railway	159	159022	A	06/07/2020	UK/51/2020/0040
South Western Railway	159	159022	B	06/07/2020	UK/51/2020/0040
South Western Railway	159	159101	A	05/07/2020	UK/51/2020/0040
South Western Railway	159	159101	B	05/07/2020	UK/51/2020/0040
South Western Railway	442	442402	A	15/07/2020	UK/51/2020/0046
South Western Railway	442	442402	B	15/07/2020	UK/51/2020/0046
South Western Railway	442	442403	A	14/07/2020	UK/51/2020/0046
South Western Railway	442	442403	B	14/07/2020	UK/51/2020/0046
South Western Railway	442	442404	A	17/07/2020	UK/51/2020/0046
South Western Railway	442	442404	B	17/07/2020	UK/51/2020/0046
South Western Railway	442	442406	A	16/07/2020	UK/51/2020/0046
South Western Railway	442	442406	B	16/07/2020	UK/51/2020/0046
South Western Railway	442	442408	A	14/07/2020	UK/51/2020/0046
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South Western Railway	442	442410	A	13/07/2020	UK/51/2020/0046
South Western Railway	442	442410	B	13/07/2020	UK/51/2020/0046
South Western Railway	442	442416	A	14/07/2020	UK/51/2020/0046
South Western Railway	442	442416	B	14/07/2020	UK/51/2020/0046
South Western Railway	442	442417	A	17/07/2020	UK/51/2020/0046
South Western Railway	442	442417	B	17/07/2020	UK/51/2020/0046
South Western Railway	442	442419	A	15/07/2020	UK/51/2020/0046
South Western Railway	442	442419	B	15/07/2020	UK/51/2020/0046
South Western Railway	442	442420	A	13/07/2020	UK/51/2020/0046
South Western Railway	442	442420	B	13/07/2020	UK/51/2020/0046
South Western Railway	442	442423	A	17/07/2020	UK/51/2020/0046
South Western Railway	442	442423	B	17/07/2020	UK/51/2020/0046
South Western Railway	455	455718	A	24/07/2020	UK/51/2020/0010
South Western Railway	455	455718	B	24/07/2020	UK/51/2020/0010
South Western Railway	455	455721	A	24/07/2020	UK/51/2020/0010
South Western Railway	455	455721	B	24/07/2020	UK/51/2020/0010
South Western Railway	455	455859	A	24/07/2020	UK/51/2020/0010
South Western Railway	455	455859	B	24/07/2020	UK/51/2020/0010
South Western Railway	458	458508	A	25/07/2020	UK/51/2020/0047

South Western Railway	458	458508	B	25/07/2020	UK/51/2020/0047
South Western Railway	458	458520	A	25/07/2020	UK/51/2020/0047
South Western Railway	458	458520	B	25/07/2020	UK/51/2020/0047
Southeastern	377	377508	A	10/07/2020	UK/51/2020/0008
Southeastern	377	377508	B	10/07/2020	UK/51/2020/0008
West Midlands Trains	172	172006	A	04/07/2020	UK/51/2020/0029
West Midlands Trains	172	172006	B	04/07/2020	UK/51/2020/0029
West Midlands Trains	172	172212	A	18/07/2020	UK/51/2020/0029
West Midlands Trains	172	172212	B	18/07/2020	UK/51/2020/0029
West Midlands Trains	172	172215	A	28/06/2020	UK/51/2020/0029
West Midlands Trains	172	172215	B	28/06/2020	UK/51/2020/0029
West Midlands Trains	172	172221	A	14/07/2020	UK/51/2020/0029
West Midlands Trains	172	172221	B	14/07/2020	UK/51/2020/0029
West Midlands Trains	172	172331	A	19/07/2020	UK/51/2020/0029
West Midlands Trains	172	172331	B	19/07/2020	UK/51/2020/0029
West Midlands Trains	172	172337	A	19/07/2020	UK/51/2020/0029
West Midlands Trains	172	172337	B	19/07/2020	UK/51/2020/0029
West Midlands Trains	172	172339	A	09/07/2020	UK/51/2020/0029
West Midlands Trains	172	172340	A	08/07/2020	UK/51/2020/0029
West Midlands Trains	172	172340	B	08/07/2020	UK/51/2020/0029
West Midlands Trains	230	230003	A	01/07/2020	UK/51/2020/0014
West Midlands Trains	230	230003	B	01/07/2020	UK/51/2020/0014
West Midlands Trains	323	323202	A	15/07/2020	UK/51/2020/0025
West Midlands Trains	323	323202	B	15/07/2020	UK/51/2020/0025
West Midlands Trains	323	323206	A	07/07/2020	UK/51/2020/0025
West Midlands Trains	323	323206	B	07/07/2020	UK/51/2020/0025
West Midlands Trains	323	323212	A	17/07/2020	UK/51/2020/0025
West Midlands Trains	323	323212	B	17/07/2020	UK/51/2020/0025
West Midlands Trains	323	323219	A	10/07/2020	UK/51/2020/0025
West Midlands Trains	323	323219	B	10/07/2020	UK/51/2020/0025
West Midlands Trains	323	323220	A	18/07/2020	UK/51/2020/0025
West Midlands Trains	323	323220	B	18/07/2020	UK/51/2020/0025
West Midlands Trains	350	350103	A	10/07/2020	UK/51/2020/0026
West Midlands Trains	350	350103	B	10/07/2020	UK/51/2020/0026
West Midlands Trains	350	350105	A	13/07/2020	UK/51/2020/0026
West Midlands Trains	350	350105	B	13/07/2020	UK/51/2020/0026
West Midlands Trains	350	350112	A	20/07/2020	UK/51/2020/0026
West Midlands Trains	350	350112	B	20/07/2020	UK/51/2020/0026
West Midlands Trains	350	350240	A	23/07/2020	UK/51/2020/0026

West Midlands Trains	350	350240	B	23/07/2020	UK/51/2020/0026
West Midlands Trains	350	350251	A	05/07/2020	UK/51/2020/0026
West Midlands Trains	350	350251	B	05/07/2020	UK/51/2020/0026
West Midlands Trains	350	350252	A	29/06/2020	UK/51/2020/0026
West Midlands Trains	350	350252	B	29/06/2020	UK/51/2020/0026
West Midlands Trains	350	350254	A	10/07/2020	UK/51/2020/0026
West Midlands Trains	350	350254	B	10/07/2020	UK/51/2020/0026
West Midlands Trains	350	350255	A	22/07/2020	UK/51/2020/0026
West Midlands Trains	350	350255	B	22/07/2020	UK/51/2020/0026
West Midlands Trains	350	350368	A	04/07/2020	UK/51/2020/0026
West Midlands Trains	350	350368	B	04/07/2020	UK/51/2020/0026
West Midlands Trains	350	350373	A	19/07/2020	UK/51/2020/0026
West Midlands Trains	350	350373	B	19/07/2020	UK/51/2020/0026
West Midlands Trains	350	350408	A	30/06/2020	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

Ian Jones	Head of Interoperability, Safety and Standards DfT
Ian Prosser	Director, Railway Safety
National Vehicle Register	nvr@networkrail.co.uk
David Galloway	Head of Vehicle Compatibility, Network Rail.
Pete Gracey	Head of Interoperability and Rail Vehicle Engineering, ORR.
Ian Maxwell	Head of Train Control Systems, ORR.