

REFERENCES

Funkwerk mobile radio systems worldwide

Traditional. Innovative. SOLUTIONS.



MOBILE COMMUNICATION- & TRAIN RADIO SYSTEMS MADE IN GERMANY

FUNKWERK SYSTEMS GMBH IN KÖLLEDA

We develop and produce train radio technology for railway companies worldwide – since 1981. As the world market leader, we offer customised solutions for voice and data communication on railways, via analogue as well as digital (GSM-R/4G/5G) mobile radio networks. Considering latest standards, we integrate pioneering technologies into our development of train radio systems that meet the challenges of the future, thanks to their modularity.

YOUR PARTNER FOR TRAIN RADIO PART OF A STRONG COMPANY GROUP

Funkwerk AG is a technologically leading provider of innovative communication, information and security systems. We supply the railway and rail vehicle industry, but also public transport companies, energy, utility and general enterprises, public authorities and prisons, healthcare institutions as well as cities, local authorities and leisure facilities – all over the world.

As a company group, we control and optimize operational processes in transport, logistics and buildings, using customized concepts.



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max. 8A



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Chassis-B/G-MTSE-LIC/BWG-2173-10
S/N 185000002
CE

TRAIN RADIO SYSTEM

MESA 26



REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2012 - 2019	Bombardier	several users	Germany	350 cab radios
2013 - 2022	Siemens AG	several users	several countries	2.000 cab radios
2014	SJ (Statens Järnvägar)	SJ (Statens Järnvägar)	Sweden	85 cab radios
2015 - 2023	various (RKORD, MAV Start, Kontron)	MÁV (Hungarian state railways)	Hungary	750 cab radios
2016 - 2022	various (ECM, ...)	several users	Italy	600 cab radios
2016 - 2022	Alstom	several users	several countries	2.000 cab radios
2016 - 2022	Stadler AG	several users	several countries	1.500 cab radios
2018 - 2022	Iskotel	SŽ (Slovenian railways)	Slovenia	217 cab radios
2019 - 2022	Deutsche Bahn AG (German railways)	DB Regio, DB Cargo	several countries	1.000 cab radios
2019 - 2022	various EVU	Cargo/Passenger transport	several countries	450 cab radios

TRAIN RADIO SYSTEM

MESA 26 – 1800

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REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2010 - 2015	UGL Infrastructure Pty Ltd.	TfNSW (Transport for New South Wales)	Australia	1.000 cab radios
2018	CRRC Changchun Railway Vehicles Co, Ltd.	TfNSW (Transport for New South Wales)	Australia	49 cab radios
2018 - 2020	Hyundai-Rotem Company	TfNSW (Transport for New South Wales)	Australia	230 cab radios

TRAIN RADIO SYSTEM CRC26-N



REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2014 - 2015	KPN (Netherlands)	NS Groep N.V.	Netherlands	1.500 cab radios
2015 - 2019	CAF	NS Groep N.V.	Netherlands	236 cab radios
2017	Bane NOR	Bane NOR	Netherlands	15 cab radios
2018 - 2022	Alstom Belgium	NS Groep N.V.	Netherlands	190 cab radios

TRAIN RADIO SYSTEM BI-MODE

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REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
1999 - 2022	Alstom Transportation	SNCF (French railways)	France	9.000 cab radios



TRAIN RADIO SYSTEM MESA 25



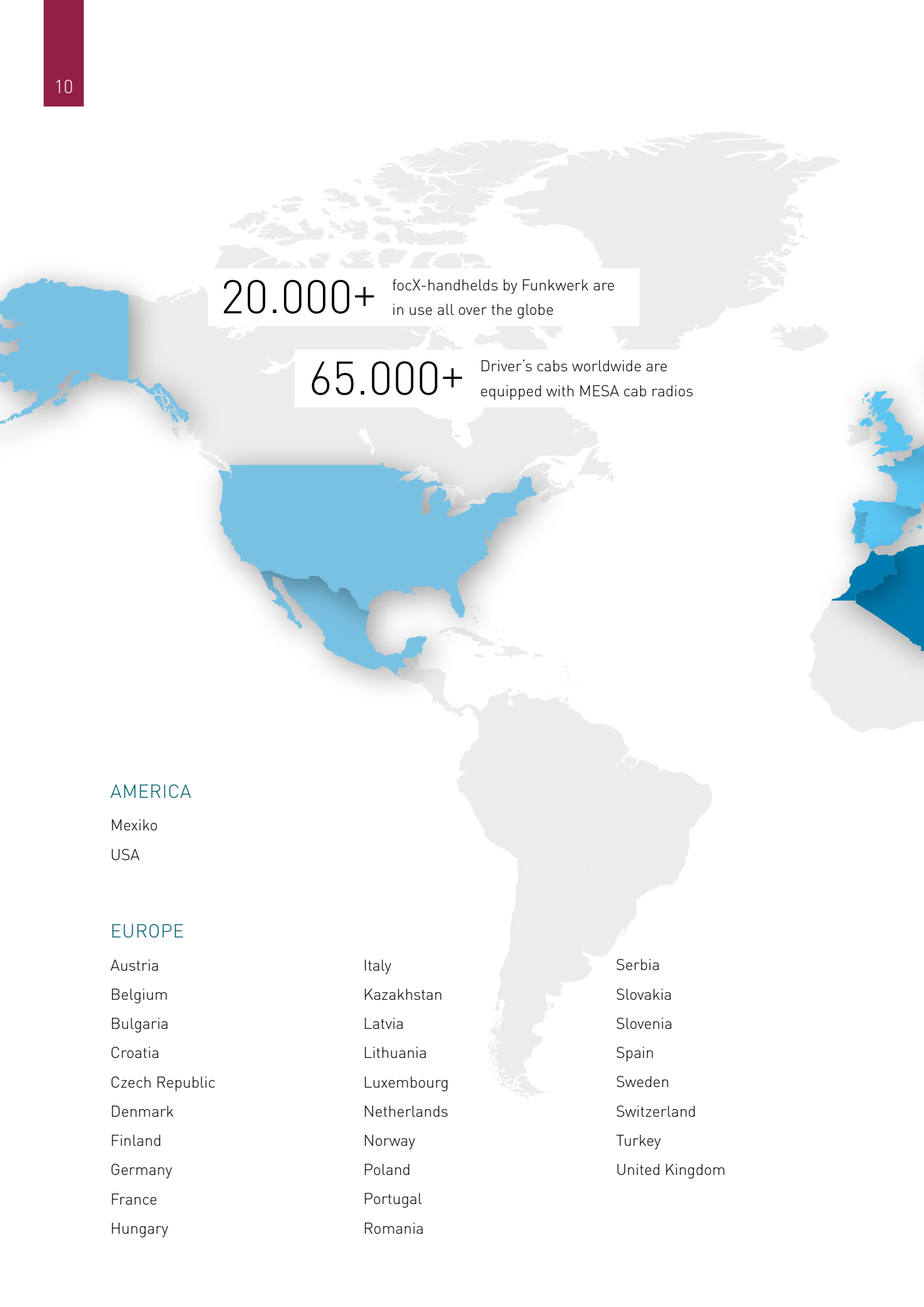
REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2004 - 2014	SBB (Swiss federal railways)	SBB (Swiss federal railways)	Switzerland	1.500 cab radios
2005 - 2014	NSB AS (Norwegian state railways)	NSB AS (Norwegian state railways)	Norway	500 cab radios

TRAIN RADIO SYSTEM MESA 24

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REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2003 - 2009	Siemens Belgium	SNCB	Belgium	2.100 cab radios
2008 - 2010	CFL (Luxembourg national railways)	CFL (Luxembourg national railways)	Luxembourg	67 cab radios
2017 - 2023	Alstom/Bombardier	SNCB	Belgium	117 cab radios



20.000+ focX-handhelds by Funkwerk are in use all over the globe

65.000+ Driver's cabs worldwide are equipped with MESA cab radios

AMERICA

Mexiko

USA

EUROPE

Austria

Belgium

Bulgaria

Croatia

Czech Republic

Denmark

Finland

Germany

France

Hungary

Italy

Kazakhstan

Latvia

Lithuania

Luxembourg

Netherlands

Norway

Poland

Portugal

Romania

Serbia

Slovakia

Slovenia

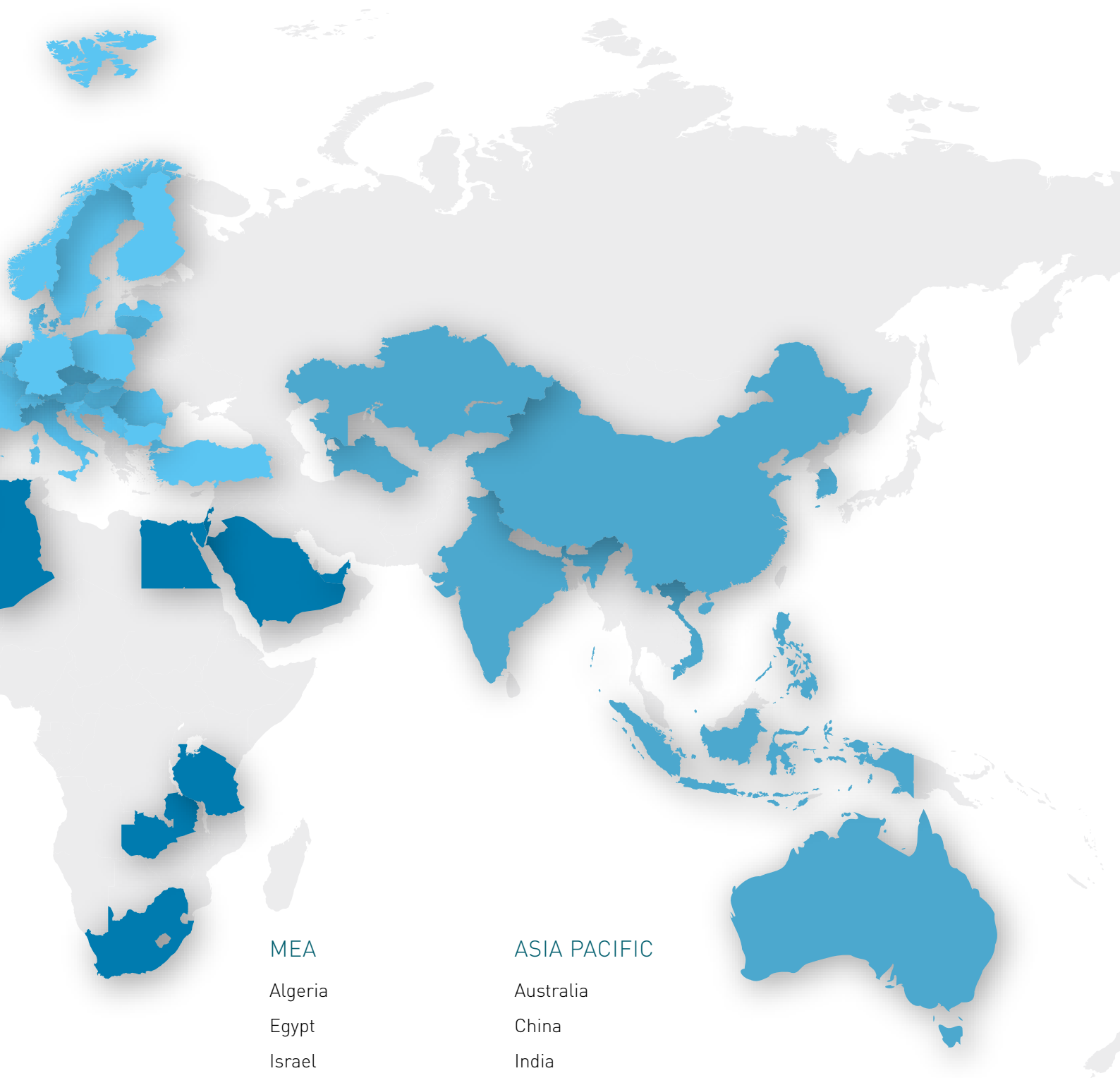
Spain

Sweden

Switzerland

Turkey

United Kingdom



MEA

Algeria
Egypt
Israel
Morokko
Saudi Arabia
South Africa
Tanzania
UAE
Zambia

ASIA PACIFIC

Australia
China
India
Indonesia
Philippines
South Korea
Turkmenistan
Vietnam

TRAIN RADIO SYSTEM

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REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
1999 - 2004	Nortel Networks Germany GmbH	Deutsche Bahn AG (German railways)	Germany	9.000 cab radios
2000 - 2019	Bombardier	several users		1.500 cab radios
2004 - 2006	Austrian Federal Railways ÖBB	Austrian Federal Railways ÖBB	Austria	222 cab radios
2005 - 2007	CargoNet	CargoNet	Norway	143 cab radios
2006 - 2014	Selex	RFI	Italy	750 cab radios
2008 - 2010	ONCF (Office National des Chemins de Fer)	ONCF (Office National des Chemins de Fer)	Morocco	78 cab radios
2008	CAF, S.A.	RENFE	Spain	164 cab radios
2009 - 2012	Austrian Federal Railways ÖBB	Austrian Federal Railways ÖBB	Austria	Equipment of 595 vehicles
2009 - 2010	Belam Riga	LG (Lithuanian state railways)	Lithuania	650 cab radios
2009 - 2010	Kapsch Carrier Com	Anesrif	Algeria	70 cab radios



REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2010	Space Top Co. Ltd	SRO (Saudi Railway Organization)	Saudi Arabia	71 cab radios
2012 - 2023	Siemens	several users		1.300 cab radios
2013 - 2016	Huawei / ASPMK	Turkmen state railway	Turkmenistan	30 cab radios
2014 - 2015	various	TCDD (Turkish railway)	Turkey	140 cab radios
2015 - 2018	Thales	ONCF (Office National des Chemins de Fer)	Morocco	335 cab radios
2016 - 2018	S-Bahn Berlin	S-Bahn Berlin	Germany	720 cab radios
2016 - 2019	Pesa	several users incl. DB AG	Poland	50 cab radios
2017	Huawei	Secretaría de Comunicaciones y Transportes, Mexico	Mexico	60 cab radios
2019 - 2022	various RU's	Cargo/Passenger transport	various countries	250 cab radios



REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2016 - 2024	Siemens	several users	Germany	583 cab radios
2017 - 2023	Stadler	several users	Germany	303 cab radios
2018 - 2030	Alstom/Bombardier	several users	various countries	247 cab radios
2017 - 2025	Austrian federal railways ÖBB	Austrian federal railways ÖBB	Austria	466 cab radios



shuntfocX[®]
by funkwerk

railfocX[®]
by funkwerk

dualfocX[®]
by funkwerk



REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2011 - 2016	Austrian federal railways ÖBB	Austrian federal railways ÖBB	Austria	2.000 devices
2012 - 2014	DB	Small railways	Germany	100 devices
2012 - 2014	Austrian small railways and service providers	Austrian small railways and service providers	Austria	250 devices
2013 - 2014	Eltel Networks Denmark	Eltel Networks Denmark	Denmark	101 devices
2013 - 2018	British users	Network Rail	Great Britain	2.500 devices
2014	DSB Denmark	DSB Denmark	Denmark	248 devices
2015	Jernbaneverket	Jernbaneverket	Norway	2.000 devices
2015 - 2016	Eurotunnel	Eurotunnel	France	950 devices
2015 - 2022	Thales for ONCF	Thales for ONCF	Morocco	2.000 devices
2019 - 2023	RKORD	MÁV (Hungarian state railways)	Hungary	100 devices
2022	Project Links	SRO	Saudi Arabia	400 devices

RADIO DATA TRANSMISSION SYSTEMS

EDOR



REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2010	Beijing Great Harvest Technology Co., Ltd (BGHT)	China Railway	China	> 2.000 devices
2010 - 2022	Mermec	several users	Italy	600 devices
2012 - 2018	Ansaldo	several users		200 devices
2015 - 2019	CAF Signalling	several users	Spain	330 devices
2015 - 2022	Bombardier	several users		2.000 devices



REALISATION	CUSTOMER	APPLICANT	COUNTRY	ORDER QUANTITY
2015 - 2018	Siemens	several users	various countries	200 devices
2016 - 2017	SNCF	SNCF	Belgium	2.200 devices
2016 - 2022	Bombardier	several users	Belgium	1.000 devices
2016 - 2022	Kontron Prague		Czech Republic	1.000 devices
2017 - 2019	Siemens TS	Network Rail	Great Britain	3.000 devices
2018	Austrian federal railways ÖBB	Austrian federal railways ÖBB	Austria	1.079 devices
2018 - 2019	Beijing	China Railways	China	500 devices
2018 - 2022	Alstom	ETCS Customer of Alstom	France/Italy	6.000 devices
2018 - 2022	SNCF	SNCF	France	12.000 devices
2018 - 2022	DB AG	DB AG	Germany	6.000 devices

TRAIN RADIO SYSTEMS FOR VEHICLE MANUFACTURERS



BOMBARDIER

- + TALENT series
- + ZEFIRO series
- + BR430
- + BR187
- + D02010
- + Double-decker railcar for CFL
- + M6 series for SNCB
- + RIU-ETCS and GSM-R voice cab radios for RENFE
- + Talent T3
- + TRAXX platform
- + BR490 for DB AG

STADLER

- + for regional transport Mittelland (CH)
- + FLIRT series (MAV, NSB)
- + TILO series
- + GTW for Arriva
- + GTW for Veolia
- + JK OY (Finland)
- + Dosto Transito
- + EC 250
- + EVO series for SBB
- + KISS series for ÖBB
- + EURO4000 series
- + EURO6000 series
- + EURO9000 series
- + EURODUAL series
- + CITYLINK series

SIEMENS

- + Series 2016 for ÖBB
- + Series 642 for ÖBB
- + U4 series für ÖBB
- + Railjet series for ÖBB
- + Class RABe 514 for SBB
- + Velaro D, TCDD, Eurostar
- + ZFM04 for ÖBB
- + Radio module (MT) for NS Groep N.V.
- + Vectron
- + Mireo
- + Mireo Plus B
- + Desiro
- + Desiro HC
- + Velaro MS
- + DB dual power locomotive
- + ICE4 - Class 412
- + Taurus ÖBB - Class 1016, 1116

CAF

- + Diesel hybrid locomotive DEHLO800
- + Civity BEMU

CRRC

- + DB AG shunting locomotive (AZLok)
- + RCH shunting locomotive (Type CHA1B1)
- + Dual AC electric locomotive with last mile (Type CEA1D1)
- + Double deck EMU



ALSTOM

- + LINT
- + X61
- + XCC
- + Transio
- + Coradia
- + X60, X61 for Sweden
- + LINT DIESEL-NETZ OST-WEST for DB AG
- + Coradia Lint for LNVG
- + Coradia Lint for Netinera
- + iLINT
- + Avelia
- + M7 Twindexx
- + Prima H3
- + Prima H4
- + AGV
- + Coradia Continental
- + Coradia LINT
- + Coradia iLINT
- + Coradia Nordic
- + Coradia Stream
- + ETR 610
- + ETR 470
- + X'Trapolis

VOITH TURBO

- + „Maxima“ project
- + „Gravita 10 BB“ project

TOSHIBA

- + Diesel hybrid locomotive DEHLO800

WEITERE

- + Arriva (FLIRT series)
- + Bavarian „Oberlandbahn“ BOB
- + BLS AG: Private railway „Lötschberger“ in Switzerland
- + Butzbach-Licher Eisenbahn AG (Hessische Landesbahn GmbH - HLB)
- + Connexion (PROTOS series)
- + Karelian Trains (Finland)
- + SBB: Windhoff LRZ08 firefighting rescue train
- + Serbia: Serbian railways „Železnice Srbije“
- + Talgo: ICE-L
- + TCDD: Türkiye Cumhuriyeti Devlet Demiryolları
- + ZSSK Cargo (Slovak Republic) (Skoda 240 series)

PICTURE CREDITS

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funkwerk 

Funkwerk Systems GmbH

Im Funkwerk 5

99625 Köllda, Germany

info@funkwerk.com

funkwerk.com