

CUSTOMER	PROJECT	SYSTEM	TORQUE	VEHICLE SPEED	VOLTAGE	QTY OF CAB SETS	YEAR	COUNTRY	VEHICLE TYPE
Alstom Transport (France)	NBMS M7	Pantograph	120NM	200Km/h	24V DC	90	2017	Belgium	EMU
Alstom Transport (France)	SBB H4	Pantograph	120NM	120Km/h	24V DC	47	2017	France	EMU
Alstom Transport (France)	Citadis - Nice X05	Pantograph	120NM	80Km/h	24V DC	38	2017	France	LRV
Alstom Transport (France)	Citadis - Avignon X05	Pantograph	120NM	80Km/h	24V DC	20	2017	France	LRV
Alstom Transport (France)	Citadis - Caen X05	Pantograph	120NM	80Km/h	24V DC	46	2017	France	LRV
Alstom Transport (France)	Citadis - Lusail X05	Pantograph	120NM	80Km/h	24V DC	10	2017	France	LRV
Alstom Transport (Italy)	Smart Coradia TI	Pantograph	120NM	200Km/h	110V DC	94	2017	Italy	EMU
Alstom Transport (Poland)	Smart Coradia ICNG	Pantograph	120NM	200Km/h	110V DC	158	2017	Poland	EMU
Alstom Transport (Sweden)	X61 Replacement	Pantograph	120NM	160Km/h	110V DC	232	2017	Sweden	EMU
Alstom Transport (France)	Strasbourg	Pantograph	120NM	80 Km/h	24V DC	24	2016	France	LRV
Alstom Transport (France)	Citadis - Sydney X05	Pantograph	120NM	80 Km/h	24V DC	12	2016	Australia	LRV
Alstom Transport (France)	Kazakhstan	Pantograph	120NM	200 Km/h	110V DC	50	2012	Kazakhstan	Loco
Alstom Transport (France)	Nanjing Metro	Pantograph	80NM	100 Km/h	24V DC	20	2004	China	LRV
Alstom Transport (France)	Merval	Dual Pendulum	80NM	120 Km/h	24V DC	54	2004	Chile	LRV
Alstom Transport (France)	Melbourne Hillside	Dual Pendulum	80NM	120 Km/h	24V DC	120	2003	Australia	LRV
Alstom Transport (France)	Marina Line	Pantograph	80NM	90 Km/h	110V DC	88	2003	Singapore	LRV
Alstom Transport (France)	Shanghai Metro	Pantograph	80NM	100 Km/h	24V DC	56	2002	China	LRV
Alstom Transport (France)	Singapore Metro	Pantograph	80NM	100 Km/h	110V DC	50	2001	Singapore	LRV
Alstom Transport (Germany)	Alstom X40	Pantograph	80NM	200 Km/h	110V DC	63	2012	Sweden	EMU
Alstom Transport (Germany)	Alstom Skane	Pantograph	80NM	200 Km/h	110V DC	40	2012	Sweden	EMU
Alstom Transport (Germany)	Alstom X62	Pantograph	80NM	200 Km/h	110V DC	60	2010	Sweden	EMU
Alstom Transport (Germany)	Alstom X61	Pantograph	80NM	200 Km/h	110V DC	60	2008	Sweden	EMU
Alstom Transport (Germany)	Alstom X60	Pantograph	80NM	200 Km/h	110V DC	55	2005	Sweden	EMU
Alstom Transport (Italy)	Z1	Dual Pantograph	120NM	200 Km/h	24V DC	53	2016	Italy	HST
Alstom Transport (Italy)	ETR 675	Pantograph	120NM	200 Km/h	24V DC	16	2016	Italy	HST
Alstom Transport (Italy)	SBB	Pantograph	120NM	250 Km/h	24V DC	40	2013	Italy	HST
Alstom Transport (Italy)	X-Trapolis	Dual Pendulum	80NM	120 Km/h	24V DC	60	2010	Italy	LRV
Alstom Transport (Italy)	SM6	Dual Pantograph	120NM	220 Km/h	24V DC	8	2008	Russia	HST
Alstom Transport (Spain)	Citadis - Sydney X05	Pantograph	120NM	80 Km/h	24V DC	108	2017	Australia	LRV
Alstom Transport (Sweden)	Arlanda Airport Project	Pendulum	80NM	200 Km/h	110V DC	28	2000	Sweden	LRV
Alstom Transport (UK)	Class 334 Refit	Pantograph	80NM	160 Km/h	110V DC	80	2015	UK	EMU
Alstom Transport (UK)	London Underground L17	Pantograph	50NM	100 Km/h	-52V DC	96	2004	UK	LUL
Alstom Transport (UK)	Firstgroup DMU - Class 180	Pantograph	80NM	200 Km/h	110V DC	56	2002	UK	DMU
Alstom Transport (UK)	Gatwick Airport - Class 460	Pantograph	80NM	160 Km/h	110V DC	32	2001	UK	EMU

Alstom Transport (UK)	South West Train - Class 458	Pantograph	80NM	160 Km/h	110V DC	120	2001	UK	EMU
Alstom Transport (UK)	Scot Rail - Class 334	Pantograph	80NM	160 Km/h	110V DC	160	2001	UK	EMU
Alstom Transport (UK)	Firstgroup DMU - Class 175	Pantograph	80NM	160 Km/h	110V DC	108	2000	UK	DMU
Alstom Transport (UK)	London Jubilee Line L14	Pantograph	50NM	100 Km/h	-52V DC	174	1998	UK	LUL
Alstom Transport (UK)	London Northern Line L15	Pantograph	50NM	100 Km/h	-52V DC	318	1998	UK	LUL
Bombardier (Austria)	De Lijn III	Pantograph	120NM	100 Km/h	24V DC	80	2015	Belgium	LRV
Bombardier (Austria)	Linz 4	Pantograph	120NM	100 Km/h	24V DC	6	2014	Austria	LRV
Bombardier (Austria)	De Lijn II	Pantograph	120NM	100 Km/h	24V DC	76	2014	Belgium	LRV
Bombardier (Austria)	Basel Tram	Pantograph	120NM	100 Km/h	24V DC	88	2013	Switzerland	LRV
Bombardier (Austria)	De Lijn	Pantograph	120NM	100 Km/h	24V DC	20	2013	Belgium	LRV
Bombardier (Austria)	Gold Coast	Pantograph	120NM	100 Km/h	24V DC	28	2012	Australia	LRV
Bombardier (Austria)	Blackpool	Pantograph	110NM	100 Km/h	24V DV	32	2011	UK	LRV
Bombardier (Austria)	Linz 3	Pantograph	120NM	100 Km/h	24V DC	23	2011	Austria	LRV
Bombardier (Austria)	Karlsruhe	Pantograph	120NM	100 Km/h	24V DC	60	2011	Germany	LRV
Bombardier (Austria)	Lokalbahn III	Pantograph	80NM	100 Km/h	24V DV	16	2009	Germany	LRV
Bombardier (Austria)	Manchester Tram	Pantograph	110NM	100 Km/h	24V DC	134	2008	UK	LRV
Bombardier (Austria)	Postlingbergbahn	Pantograph	110NM	100 Km/h	24V DC	8	2008	Austria	LRV
Bombardier (Austria)	Porto	Pantograph	80NM	100 Km/h	24V DV	30	2007	Portugal	LRV
Bombardier (Austria)	Stockholm III	Pantograph	110NM	100 Km/h	24V DV	18	2007	Sweden	LRV
Bombardier (Austria)	Marseille	Pantograph	110NM	100 Km/h	24V DC	52	2006	France	LRV
Bombardier (Austria)	Innsbruck	Pantograph	80NM	100 Km/h	24V DC	22	2006	Austria	LRV
Bombardier (Austria)	U6	Pantograph	110NM	100 Km/h	24V DC	36	2005	Austria	LRV
Bombardier (Austria)	Cologne Tram	Pantograph	80NM	100 Km/h	24V DC	68	2005	Germany	LRV
Bombardier (Austria)	Eskisehir	Pantograph	110NM	100 Km/h	24V DC	36	2003	Austria	LRV
Bombardier (Austria)	Geneva	Pantograph	110NM	100 Km/h	24V DC	40	2003	Switzerland	LRV
Bombardier (Austria)	Istanbul	Pantograph	110Nm	100 Km/h	24V DC	120	2002	Turkey	LRV
Bombardier (Belgium)	NBMS M7	Pantograph	120NM	200Km/h	24V DC	65	2017	Belgium	EMU
Bombardier (Belgium)	Geneva	Pantograph	110NM	100 Km/h	24V DC	36	2009	Switzerland	LRV
Bombardier (Belgium)	T3000	Pantograph	110NM	100 Km/h	24V DC	150	2005	Belgium	LRV
Bombardier (Canada)	Go Transit 261	Pantograph	120NM	100 Km/h	24V DC	18	2016	Canada	EMU
Bombardier (Canada)	Go Transit 272	Pantograph	120NM	100 Km/h	24V DC	62	2015	Canada	EMU
Bombardier (Canada)	Kingston and Vancouver	Pantograph	80NM	80 Km/h	110V DC	36	2015	Canada	LRV
Bombardier (Canada)	Metrolinx 263	Pantograph	120NM	80 Km/h	24V DC	388	2014	Canada	LRV
Bombardier (Canada)	Toronto Streer Car	Pantograph	120NM	80 Km/h	30V DC	204	2011	Canada	LRV
Bombardier (Canada)	Toronto Rocket	Pantograph	80NM	88 Km/h	37.5V DC	78	2008	Canada	LRV
Bombardier (Canada)	Yong In	Pantograph	80NM	120 Km/h	48V DC	60	2006	Taiwan	LRV

Bombardier (Canada)	Vancouver	Pantograph	80NM	100 Km/h	48V DC	60	2001	Canada	LRV
Bombardier (Canada/USA)	North East Corridor	Pantograph	80NM	240 Km/h	72V DC	84	1999	USA	EMU
Bombardier (China) Sifang Transport	807	Pantograph	120NM	250 Km/h	24V DC	120	2015	China	HST
Bombardier (China) Sifang Transport	803	Pantograph	120NM	250 Km/h	24V DC	80	2011	China	HST
Bombardier (China) Sifang Transport	799	Pantograph	80NM	200 Km/h	24V DC	80	2009	China	HST
Bombardier (China) Sifang Transport	797	Pantograph	80NM	250 Km/h	24V DC	80	2008	China	HST
Bombardier (China) Sifang Transport	796	Pantograph	80NM	200 Km/h	24V DC	80	2006	China	HST
Bombardier (China) Sifang Transport	790	Pantograph	80NM	200 Km/h	24V DC	80	2005	China	HST
Bombardier (France)	AGC (SNCF)	Pantograph	80NM	160 Km/h	72V DC	700	2003	France	EMU
Bombardier (Germany)	Stockholm	Rain Sensor	N/A	90 Km/h	24V DV	12	2016	Sweden	LRV
Bombardier (Germany)	Koln	Pantograph	110NM	100 Km/h	24V DC	30	2010	Germany	LRV
Bombardier (Germany)	Bursa	Dual Wrapover	120NM	100 Km/h	24V DC	60	2010	Germany	LRV
Bombardier (Germany)	K4500	Pantograph	80NM	100 Km/h	24V DC	10	2010	Germany	LRV
Bombardier (Germany)	Krefeld	Pantograph	110NM	100 Km/h	24V DC	38	2009	Germany	LRV
Bombardier (Germany)	De Lijn	Pantograph	80NM	100 Km/h	24V DC	170	2009	Germany	LRV
Bombardier (Germany)	Delhi	Pantograph	80NM	120 Km/h	110V DC	166	2008	India	LRV
Bombardier (Germany)	Berlin	Pantograph	80NM	100 Km/h	24V DC	200	2007	Germany	LRV
Bombardier (Germany)	Frankfurt	Dual Wrapover	120NM	100 Km/h	24V DC	200	2007	Germany	LRV
Bombardier (Germany)	Rotterdam	Pantograph	110NM	100 Km/h	24V DC	128	2007	Holland	LRV
Bombardier (Germany)	Docklands	Pantograph	80NM	100 Km/h	24V DC	110	2007	UK	LRV
Bombardier (Germany)	Valencia	Pantograph	110NM	100 Km/h	24V DC	120	2006	Spain	LRV
Bombardier (Germany)	Dusseldorf	Pantograph	120NM	100 Km/h	24V DC	86	2017	Germany	LRV
Bombardier (Hungary)	BDT	Pantograph	80NM	120 Km/h	24V DC	48	2006	Hungary	EMU
Bombardier (India)	Queensland	Pantograph	80NM	120 Km/h	110V DC	150	2015	Australia	LRV
Bombardier (India)	MRVC II	Pantograph	80NM	120 Km/h	110V DC	154	2012	India	LRV
Bombardier (Mexico)	Riyadh	Pantograph	120NM	90 Km/h	110V DC	94	2016	Riyadh	LRV
Bombardier (Mexico)	Hiawatha	Pantograph	80NM	100 Km/h	24V DC	55	2002	USA	LRV
Bombardier (Portugal)	Metro do Porto	Pendulum	80NM	80 Km/h	24V DC	72	2002	Portugal	LRV
Bombardier (UK)	LERL	Pantograph	80NM	160 Km/h	110V DC	60	2010	UK	EMU
Bombardier (UK)	Southern 44	Pantograph	80NM	160 Km/h	110V DC	44	2008	UK	EMU
Bombardier (UK)	Southern 48	Pantograph	80NM	160 Km/h	110V DC	48	2008	UK	EMU
Bombardier (UK)	SSL	Pantograph	80NM	150 Km/h	110V DC	380	2007	UK	LUL
Bombardier (UK)	ELR	Pantograph	80NM	160 Km/h	110V DC	88	2007	UK	EMU
Bombardier (UK)	Gautrain	Pantograph	80NM	200 Km/h	110V DC	96	2007	South Africa	EMU
Bombardier (UK)	VLU	Pantograph	80NM	150 Km/h	110V DC	94	2005	UK	LUL
Bombardier (UK)	Nottingham Tram	Pantograph	80NM	80 Km/h	24V DC	60	2003	UK	LRV

Bombardier (UK)	Porterbrook 80 Thames Valley	Pantograph	80NM	160 Km/h	110V DC	46	2016	UK	DMU
Bombardier (UK)	Southern 108	Pantograph	80NM	160 Km/h	110V DC	54	2015	UK	EMU
Bombardier (UK)	Southern 32	Pantograph	80NM	160 Km/h	110V DC	16	2015	UK	EMU
Bombardier (UK)	Porterbrook 80	Pantograph	80NM	160 Km/h	110V DC	40	2015	UK	DMU
Bombardier (UK)	Crofton Class 170	Pantograph	80NM	160 Km/h	24V DC	18	2014	UK	DMU
Bombardier (UK)	Scotrail Class 170	Pantograph	80NM	160 Km/h	24V DC	52	2014	UK	DMU
Bombardier (UK)	Etches Park Retrofit	Pantograph	120NM	160 Km/h	24V DC	60	2012	UK	DMU
Bombardier (UK)	Southern Ext	Pantograph	80NM	160 Km/h	110V DC	52	2012	UK	EMU
Bombardier (UK)	Porterbrook Phase II	Pantograph	80NM	160 Km/h	24V DC	48	2011	UK	DMU
Bombardier (UK)	Porterbrook	Pantograph	80NM	160 Km/h	24V DC	54	2010	UK	DMU
Bombardier (UK)	Connex 8/9 - Class 376	Pantograph	80NM	160 Km/h	110V DC	72	2003	UK	EMU
Bombardier (UK)	Class 315	Pantograph	80NM	160 Km/h	110V DC	24	2003	UK	EMU
Bombardier (UK)	Turbostar - Class 170	Pantograph	80NM	160 Km/h	24V DC	74	2003	UK	DMU
Bombardier (UK)	DVT	Pantograph	80NM	200 Km/h	110V DC	62	2003	UK	EMU
Bombardier (UK)	LTS (C2C) - Class 357	Pantograph	80NM	160 Km/h	110V DC	88	2001	UK	EMU
Bombardier (UK)	Connex/Govia - Class 375	Pantograph	80NM	160 Km/h	110V DC	60	2001	UK	EMU
Bombardier (UK)	Class 91	Pantograph	80NM	200 Km/h	110V DC	62	2001	UK	EMU
Bombardier (UK)	CTS Strasbourg Phase II	Pendulum	80NM	60 Km/h	24V DC	54	1998	France	LRV
Bombardier (UK)	CTS Strasbourg Phase I	Pendulum	80NM	60 Km/h	24V DC	52	1996	France	LRV
Brel ABB (UK)	Railpart Brel	Pantograph	80NM	120 Km/h	110V DC	95	2003	UK	EMU
Brookville (USA)	SFRTA Loco	Pantograph	80NM	100 Km/h	72V DC	10	2012	USA	Loco
Changchun IRIS Trading Ltd (China)	Dali Lijiang	Pantograph	80NM	100 Km/h	24V DC	40	2011	China	LRV
Changchun Rail Company (China)	San Ya	Pantograph	120NM	100 Km/h	24V DC	28	2017	China	LRV
Changchun Rail Company (China)	Guangfo Line	Pantograph	120NM	100 Km/h	24V DC	50	2015	China	LRV
Changchun Rail Company (China)	Xi'an Metro line 2	Pantograph	120NM	100 Km/h	24V DC	88	2015	China	LRV
Changchun Rail Company (China)	Chengdu Lines 3&4	Pantograph	120NM	100 Km/h	24V DC	52	2015	China	LRV
Changchun Rail Company (China)	Yangfang Line	Pantograph	120NM	100 Km/h	24V DC	40	2015	China	LRV
Changchun Rail Company (China)	Ha Er Bin	Pantograph	120NM	100 Km/h	24V DC	34	2014	China	LRV
Changchun Rail Company (China)	Changchun Metro	Pantograph	120NM	100 Km/h	24V DC	88	2014	China	LRV
Changchun Rail Company (China)	Ethiopia	Pantograph	120NM	100 Km/h	24V DC	88	2013	Ethiopia	LRV
Changchun Rail Company (China)	Harbin Line 1	Pantograph	120NM	100 Km/h	24V DC	30	2012	China	LRV
Changchun Rail Company (China)	Beijing Line 6	Pantograph	120NM	100 Km/h	24V DC	76	2012	China	LRV
Changchun Rail Company (China)	Chong Qing Line 2	Pantograph	80NM	100 Km/h	24V DC	26	2012	China	LRV
Changchun Rail Company (China)	Bangkok	Pantograph	120NM	100 Km/h	24V DC	24	2012	Bangkok	LRV
Changchun Rail Company (China)	Hong Kong SIL	Pantograph	120NM	100 Km/h	24V DC	20	2012	Hong Kong	LRV
Changchun Rail Company (China)	Beijing Line 14	Pantograph	120NM	100 Km/h	24V DC	76	2012	China	LRV

Changchun Rail Company (China)	Argentina	Pantograph	120NM	100 Km/h	24V DC	18	2011	Argentina	LRV
Changchun Rail Company (China)	Chong Qing 1	Pantograph	80NM	100 Km/h	24V DC	50	2011	China	LRV
Changchun Rail Company (China)	Shanghai Line 6	Pantograph	80NM	100 Km/h	24V DC	36	2011	China	LRV
Changchun Rail Company (China)	Brazil 1A	Pantograph	120NM	180 Km/h	24V DC	40	2011	Brazil	EMU
Changchun Rail Company (China)	Malaysia	Dual Pendulum	120NM	80 Km/h	110V DC	38	2011	Malaysia	EMU
Changchun Rail Company (China)	Hong Kong	Pantograph	80NM	100 Km/h	24V DC	28	2010	Hong Kong	LRV
Changchun Rail Company (China)	Iran Ma Sa De Line	Pantograph	120NM	100 Km/h	24V DC	50	2010	Iran	LRV
Changchun Rail Company (China)	Iran 455 Aluminium	Pantograph	80NM	100 Km/h	110V DC	66	2010	Iran	LRV
Changchun Rail Company (China)	Xi'an	Pantograph	120NM	100 Km/h	24V DC	26	2010	China	LRV
Changchun Rail Company (China)	Beijing Line 15	Pantograph	120NM	100 Km/h	24V DC	64	2010	China	LRV
Changchun Rail Company (China)	Chong Qing 3	Pantograph	120NM	100 Km/h	24V DC	120	2010	China	LRV
Changchun Rail Company (China)	Chong Qing 6	Pantograph	80NM	100 Km/h	24V DC	45	2010	China	LRV
Changchun Rail Company (China)	Shanghai 6 & 8 Extension	Pantograph	80NM	100 Km/h	24V DC	36	2010	China	LRV
Changchun Rail Company (China)	Brazil EMU	Pantograph	120NM	180 Km/h	72V DC	63	2010	Brazil	EMU
Changchun Rail Company (China)	Iran 455	Pantograph	110NM	100 Km/h	110V DC	60	2009	Iran	LRV
Changchun Rail Company (China)	Saudi Arabia	Pendulum	120NM	100 Km/h	24V DC	52	2009	Saudi Arabia	LRV
Changchun Rail Company (China)	Shenzhen Line 3	Pantograph	110NM	100 Km/h	24V DC	80	2009	China	LRV
Changchun Rail Company (China)	Shanghai 6 & 8	Pantograph	80NM	100 Km/h	24V DC	72	2009	China	LRV
Changchun Rail Company (China)	Chong Qing LRV	Pantograph	80NM	100 Km/h	24V DC	44	2009	China	LRV
Changchun Rail Company (China)	Yi Zhuang	Pantograph	120NM	100 Km/h	24V DC	20	2009	China	LRV
Changchun Rail Company (China)	Guangfo Line	Pantograph	80NM	100 Km/h	24V DC	50	2009	China	LRV
Changchun Rail Company (China)	Guangzhou Line 4	Pantograph	80NM	100 Km/h	110V DC	60	2008	China	LRV
Changchun Rail Company (China)	Guangzhou Line 5	Pantograph	80NM	100 Km/h	110V DC	60	2008	China	LRV
Changchun Rail Company (China)	Beijing Line 2	Pantograph	80NM	100 Km/h	24V DC	48	2007	China	LRV
Changchun Rail Company (China)	Beijing Line 10	Pantograph	80NM	100 Km/h	24V DC	68	2007	China	LRV
Changchun Rail Company (China)	Beijing Airport Line	Pantograph	80NM	100 Km/h	48V DC	24	2007	China	LRV
Changchun Rail Company (China)	Shenzhen	Pantograph	80NM	100 Km/h	24V DC	10	2007	China	LRV
Changchun Rail Company (China)	Shenyang	Pantograph	80NM	100 Km/h	24V DC	40	2007	China	LRV
Changchun Rail Company (China)	Beijing Extension	Pantograph	80NM	100 Km/h	24V DC	2	2005	China	LRV
Changchun Rail Company (China)	Tianjing Metro	Pantograph	80NM	100 Km/h	24V DC	49	2005	China	LRV
Changchun Rail Company (China)	Chong Qing	Pantograph	80NM	100 Km/h	24V DC	38	2005	China	LRV
Changchun Rail Company (China)	Iran 119	Dual Pantograph	80NM	100 Km/h	110V DC	34	2005	Iran	LRV
Changchun Rail Company (China)	Beijing Line 5	Pantograph	80NM	100 Km/h	24V DC	85	2005	China	LRV
Changchun Rail Company (China)	Iran Metro	Pendulum	110NM	100 Km/h	24V DC	22	2004	Iran	LRV
Changchun Rail Company (China)	Iran 77	Dual Pendulum	80NM	100 Km/h	110V DC	22	2004	Iran	LRV
Changchun Rail Company (China)	Iran 105	Dual Pantograph	80NM	100 Km/h	110V DC	32	2004	Iran	LRV

Changchun Rail Company (China)	Beijing Metro	Dual Pantograph	80NM	100 Km/h	24V DC	112	2003	China	LRV
Changchun Rail Company (China)	Tianjing	Pendulum	110NM	100 Km/h	110V DC	40	2003	China	LRV
Changchun Rail Company (China)	Wuhan Metro	Pendulum	110NM	100 Km/h	24V DC	30	2003	China	LRV
CRVC (China)	KDZ6	Pantograph	120NM	350Km/h	110V DC	470	2017	China	HST
CRVC (China)	CRVC Cab A	Pantograph	120NM	380 Km/h	24V DC	4	2014	China	HST
CRVC (China)	CRVC Cab C	Pantograph	120NM	380 Km/h	24V DC	4	2014	China	HST
CSR (China)	E32	Pantograph	120NM	350Km/h	110V DC	183	2017	China	HST
CSR (China)	GuangShenGang Line	Pantograph	120NM	380 Km/h	24V DC	250	2015	China	HST
CSR (China)	CSR Paramos	Pantograph	120NM	380 Km/h	24V DC	30	2015	China	HST
CSR (China)	Standardized Cab 1	Pantograph	120NM	380 Km/h	24V DC	4	2015	China	HST
CSR (China)	Standardized Cab 2	Pantograph	120NM	380 Km/h	24V DC	4	2015	China	HST
CSR (China)	KDZ6	Pantograph	120NM	380 Km/h	24V DC	20	2015	China	HST
CSR (China)	Dual 300	Pantograph	120NM	380 Km/h	24V DC	10	2012	China	HST
CSR (China)	CSR E27	Pantograph	120NM	380 Km/h	24V DC	530	2012	China	HST
CSR (China)	CSR 500	Pantograph	120NM	500 Km/h	110V DC	8	2011	China	HST
CSR (China)	Rocket	Pantograph	110NM	380 Km/h	24V DC	200	2009	China	HST
CSR (China)	Dual 350	Dual Pendulum	110NM	350 Km/h	24V DC	250	2008	China	HST
GE Rail	GE Loco	Pantograph	80NM	100 Km/h	72V DC	10	2012	USA	Loco
GEC Alstom	Railpart Metcam	Pantograph	80NM	120 Km/h	110V DC	105	2003	UK	EMU
HieterBlick	Bielefeld	Pantograph	110NM	100 Km/h	24V DC	32	2010	Germany	LRV
Kawasaki	Airport	Pantograph	80NM	120 Km/h	110V DC	55	2010	Japan	LRV
Koncar	EMU	Pantograph	110NM	160 Km/h	24V DC	60	2014	Croatia	EMU
Koncar	EMU	Pantograph	110NM	160 Km/h	24V DC	10	2010	Croatia	EMU
MDC	DPS	Pantograph	120NM	200 Km/h	24V DC	12	2010	Ukraine	Loco
MDC	220	Pantograph	80NM	220 Km/h	110V DC	110	2010	Ukraine	Loco
NedTrain	DDZ	Pantograph	120NM	180 Km/h	110V DC	100	2010	Netherlands	EMU
Newag	31WE	Dual Pantograph	120NM	160 Km/h	24V DC	120	2014	Poland	EMU
Niigata	Okayama Tram	Pantograph	80NM	100 Km/h	24V DC	22	2009	Japan	LRV
NVR YeDong	Seoul Line	Pantograph	120NM	80 Km/h	100V DC	8	2017	Korea	LRV
NVR YeDong	Brazil CPTM	Pantograph	120NM	100 Km/h	72V DC	61	2015	Brazil	LRV
NVR YeDong	KoRail Line 1	Pantograph	80NM	120 Km/h	110V DC	19	2015	Korea	LRV
NVR YeDong	SeongNam YeoJu	Pantograph	120NM	120 Km/h	24V DC	45	2015	Korea	EMU
NVR YeDong	Busan Line 1	Pendulum	120NM	80 Km/h	110V DC	15	2015	Korea	LRV
NVR YeDong	Busan Retrofit	Pantograph	120NM	80 Km/h	110V DC	50	2015	Korea	LRV
NVR YeDong	Gimpo	Pantograph	120NM	80 Km/h	110V DC	49	2015	Korea	LRV
NVR YeDong	Sosa Wonsi	Pantograph	80NM	80 Km/h	24V DC	70	2015	Korea	LRV

NVR YeDong	Cairo	Pendulum	120NM	100 Km/h	72V DC	50	2014	Egypt	LRV
NVR YeDong	Indonesia	Pantograph	120NM	100 Km/h	110V DC	9	2013	Indonesia	LRV
NVR YeDong	InterCity	Pantograph	120NM	150 Km/h	110V DC	46	2013	Korea	EMU
NVR YeDong	Incheon Line	Pantograph	80NM	80 Km/h	110V DC	17	2012	Korea	LRV
NVR YeDong	KoRail 198R	Pendulum	80NM	110 Km/h	110V DC	56	2011	Korea	EMU
NVR YeDong	Daegu	Pantograph	80NM	120 Km/h	110V DC	61	2011	Korea	LRV
NVR YeDong	Hankuk Fibre	Dual Pendulum	110NM	120 Km/h	24V DC	2	2011	Korea	LRV
NVR YeDong	Hankuk Fibre Bimodal	Dual Pendulum	120NM	120 Km/h	24V DC	3	2011	Korea	LRV
NVR YeDong	Kyung Chun Line	Dual Pendulum	120NM	180 Km/h	110V DC	17	2011	Korea	EMU
NVR YeDong	Tilting Train	Pendulum	80NM	220 Km/h	24V DC	2	2011	Korea	HST
NVR YeDong	Bundang Line	Pendulum	80NM	120 Km/h	110V DC	30	2010	Korea	LRV
NVR YeDong	Suin Line	Pendulum	80NM	120 Km/h	110V DC	20	2010	Korea	EMU
NVR YeDong	Jungang Line	Pendulum	80NM	120 Km/h	110V DC	30	2009	Korea	EMU
NVR YeDong	KoRail	Dual Pantograph	110NM	160 Km/h	110V DC	28	2009	Korea	EMU
NVR YeDong	KoRail II	Pantograph	80NM	160 Km/h	110V DC	46	2009	Korea	EMU
NVR YeDong	Busan LRT	Pantograph	80NM	60 Km/h	110V DC	40	2007	Korea	LRT
PESA	730ML	Pantograph	120NM	160 Km/h	24V DC	10	2015	Germany	DMU
PESA	DB Bahn	Pantograph	120NM	140 Km/h	24V DC	8	2014	Germany	DMU
PESA	Belarus	Pantograph	120NM	140 Km/h	24V DC	6	2013	Belarus	DMU
PESA	Russia 611M	Pantograph	120NM	180 Km/h	24V DC	4	2013	Russia	DMU
Phendula	18E	Pantograph	80NM	120 Km/h	110V DC	428	2010	South Africa	Loco
Phendula	10E	Pendulum	80NM	120 Km/h	110V DC	6	2010	South Africa	Loco
Poznan Rail Bus	Romac	Pantograph	80NM	100 Km/h	24V DC	12	2007	Poland	LRV
RCS Gmbh	Haramain	Pantograph	120NM	100 Km/h	24V DC	64	2015	Saudi Arabia	EMU
RCS Gmbh	Saudia Arabia	Pantograph	120NM	100 Km/h	24V DC	72	2012	Saudi Arabia	EMU
RCS Gmbh	PKP	Dual Pantograph	120NM	250 Km/h	24V DC	50	2012	Italy	HST
RCS Gmbh	Talgo Avril	Pantograph	120NM	380 Km/h	24V DC	70	2012	Spain	EMU
RCS Gmbh	Talgo 350	Pantograph	120NM	330 Km/h	24V DC	50	2010	Spain	HST
RCS Gmbh	Talgo 250	Pantograph	80NM	250 Km/h	24V DC	96	2005	Spain	HST
Rotem (Korea)	Manila	Pendulum	80NM	100 Km/h	110V DC	36	2002	Philippines	LRV
SC Marub	X4500	Dual Pantograph	120NM	160 Km/h	72V DC	4	2011	Romania	EMU
SC Marub	Rio	Dual Pendulum	120NM	160 Km/h	24V DC	1	2011	Romania	EMU
Siemens (America)	San Francisco Tram	Pantograph	120NM	80Km/h	30V DC	128	2017	America	LRV
Siemens (Czech)	Maracaibo	Pantograph	110NM	120 Km/h	24V DC	14	2005	Czech	EMU

Siemens (Germany)	Avanto Mullhouse	Pantograph	110NM	120 Km/h	24V DC	24	2008	France	EMU
Siemens (Germany)	Bangkok	Pantograph	80NM	180 Km/h	24V DC	38	2006	Thailand	DMU
Siemens (Germany)	Kaohsiung	Pantograph	50NM	100 Km/h	24V DC	66	2005	Taiwan	LRV
Siemens (Germany)	Avanto	Pantograph	110NM	120 Km/h	24V DC	72	2005	France	EMU
Siemens (Germany)	Oslo Tram , 1 & 2	Pantograph	50NM	100 Km/h	24V DC	200	2004	Norway	LRV
Siemens (UK) Desiro	Scotrail	Pantograph	80NM	160 Km/h	24V DC	46	2009	UK	EMU
Siemens (UK) Desiro	TPE	Pantograph	80NM	160 Km/h	24V DC	106	2008	UK	DMU
Siemens (UK) Desiro	SWT	Pantograph	80NM	160 Km/h	24V DC	348	2008	UK	EMU
Siemens (UK) Desiro	West Midlands Franchise	Pantograph	80NM	160 Km/h	24V DC	168	2007	UK	EMU
Siemens (UK) Desiro	West Coast Mainline	Pantograph	80NM	160 Km/h	24V DC	70	2007	UK	EMU
Siemens (USA)	Calgary IX	Pantograph	120NM	100 Km/h	24V DC	150	2015	Canada	LRV
Siemens (USA)	San Francisco	Pantograph	120NM	100 Km/h	24V DC	156	2015	USA	LRV
Siemens (USA)	Twin Cities	Pantograph	120NM	100 Km/h	24V DC	118	2012	USA	LRV
Siemens (USA)	Houston 2	Pantograph	120NM	100 Km/h	24V DC	38	2012	USA	LRV
Siemens (USA)	Atlanta	Pantograph	120NM	100 Km/h	24V DC	4	2012	USA	LRV
Siemens (USA)	Calgary VIII	Pantograph	120NM	100 Km/h	24V DC	76	2010	Canada	LRV
Siemens (USA)	Edmonton 5	Pantograph	120NM	100 Km/h	24V DC	40	2010	USA	LRV
Siemens (USA)	San Diego VIII	Pantograph	120NM	100 Km/h	24V DC	130	2010	USA	LRV
Siemens (USA)	Salt Lake City	Pantograph	120NM	100 Km/h	24V DC	170	2009	USA	LRV
Siemens (USA)	Edmonton	Pantograph	80NM	100 Km/h	24V DC	52	2007	Canada	LRV
Siemens (USA)	Charlotte 1 & 2	Pantograph	80NM	100 Km/h	24V DC	60	2006	USA	LRV
Siemens (USA)	San Diego	Pantograph	80NM	100 Km/h	24V DC	22	2004	USA	LRV
Siemens (USA)	Portland	Dual Pendulum	80NM	100 Km/h	24V DC	68	2003	USA	LRV
Siemens (USA)	Houston	Pantograph	80NM	100 Km/h	24V DC	36	2003	USA	LRV
Skoda	NIM Express	Pantograph	120NM	200 Km/h	24V DC	12	2015	Czech	Loco
Slingsby	Oslo Tram	Pantograph	50NM	100 Km/h	24V DC	33	2005	Norway	LRV
Solaris	Leipzig	Pantograph	120NM	70 Km/h	24V DC	36	2016	Germany	LRV
Solaris	Braunschweig	Pantograph	120NM	120 Km/h	24V DC	36	2015	Germany	LRV
Solaris	Olsztyn	Pantograph	120NM	120 Km/h	24V DC	30	2014	Poland	LRV
Solaris	Jena	Pantograph	120NM	120 Km/h	24V DC	10	2012	Germany	LRV
Solaris	Poznan	Pantograph	120NM	120 Km/h	24V DC	40	2010	Poland	LRV
Solaris/Stadler	Braunschweig 2	Pantograph	120NM	120 Km/h	24V DC	14	2019	Germany	LRV
Solaris/Stadler	Krakow	Pantograph	120NM	120 Km/h	24V DC	50	2019	Poland	LRV
Stagecoach	Super Tram	Pantograph	80NM	100 Km/h	24V DC	20	2000	UK	LRV
Stagecoach	Super Tram	Dual Pantograph	80NM	100 Km/h	24V DC	20	1999	UK	LRV
Tranzrail (New Zealand)	Tranzrail	Pantograph	50NM	120 Km/h	72V DC	70	1998	N. Zealand	Loco

TZV	Croatia	Pendulum	80NM	120 Km/h	72V DC	10	2010	Croatia	Loco
TZV	Croatia	Pendulum	80NM	120 Km/h	24V DC	10	2010	Croatia	Loco
TZV	Croatia	Pantograph	50NM	120 Km/h	24V DC	14	2009	Croatia	Loco
TZV	Croatia	Pantograph	80NM	120 Km/h	24V DC	4	2008	Croatia	Loco
TZV	Croatia	Pantograph	80NM	120 Km/h	72V DC	28	2008	Croatia	EMU
TZV	Croatia	Pendulum	50NM	120 Km/h	24V DC	48	2007	Croatia	Loco
TZV	Croatia	Pendulum	80NM	120 Km/h	72V DC	22	2006	Croatia	EMU
UCW	South Africa	Pendulum	50NM	100 Km/h	24V DC	90	2007	South Africa	Loco
Voith	Voith Russia 2	Pantograph	120NM	120 Km/h	24V DC	4	2015	Russia	Loco
Vossloh Spain	Gmunden	Pantograph	120NM	120 Km/h	24V DC	20	2015	Austria	LRV
Vossloh Spain	SNCF Retrofit	Pantograph	80NM	120 Km/h	24V DC	24	2014	France	Loco
Wabtec	DVT	Pantograph	80NM	200 Km/h	110V DC	62	2010	UK	EMU
Wabtec	Class 91	Pantograph	80NM	200 Km/h	110V DC	62	2010	UK	EMU
West Midlands Travel	Midland Metro	Pantograph	110NM	120 Km/h	24V DC	40	2004	UK	LRV
Yashima	Purple Line	Pantograph	120NM	80 Km/h	110V DC	21	2015	Bangkok	LRV