

World High Speed Rolling Stock














15th January 2020

Country /Region	Photograph	Owner or Operator	Suppliers	Class	Trainset Formula	Features	Number of trainsets	Number of presence	Number of cars in a trainset	Number to add over 200 kph	total number of cars	total number of cars (over200kph)	Number expected	Year in Service	Power [kW]	Tractive Effort [kN]	Acceleration [m/s ²]	Max. Speed [km/h]	Max.Op. Speed [km/h]	Number of over 250 kph	Voltage	Weight of the trainset [t]	Power weight ratio [kW/t]	Max.Axle Load [t]	Trainset length [m]	Trainset width [mm]	Seats			Signaling systems	Observations
																											1st class	2nd class	Total		
Austria		ÖBB	Siemens	"Railjet" Siemens Taurus (ÖBB 1216) + Siemens Viaggio	1L7T	C	60	60	8	60	480	480	60	2008-	6400	300		230	230	0	3kV(partially) 15kV16.7Hz 25kV50Hz	446	#VALUE!	22.5	206	2825	16+76, partially 6+42	316, partially 394	408, partially 442	LZB/PZB,ZUB,ETCS	Locomotive: Class 1116, partially 1216
Austria		WestBahn	Stadler	4010	2M4T		7	7	6		42		7	2011-	6000			200	200	0	15kV16.7Hz	296	17.9		150	2800	60	441	501	LZB/PZB,ZUB	
France		SNCF	Alstom	TGV Atlantique	2L10T	C, A	28	54	12	54	648	648	28	1989-	8800			300	300	54	1.5kV 25kV50Hz	435	18.6	17	237	2904	116	364	480	TVM/KVB	No.301-405 Renovated to Lacroix 455 places(105+350) TVM430 is installed from No 386 to No 405
France, Belgium, The Netherlands		Thalys	Alstom	Thalys PBA	2L8T	C, A	9	9	10	9	90	90	9	1996-	8800			320	300	9	1.5kV 3kV 25kV50Hz	385	21.2	17	200	2904	120	257	377	TVM/KVB, TBL,ATB,ETCS	No. 4531-4540, owned by SNCF Same series as TGV Réseau (tric.). 4531 (now 4551) is used for SNCF
France, Belgium, The Netherlands		Thalys	Alstom	Thalys PBKA	2L8T	C, A	17	17	10	17	170	170	17	1996-	8800			320	300	17	1.5kV 3kV 15kV16.7Hz 25kV50Hz	385	21.2	17	200	2904	120	257	377	TVM/KVB, TBL,TBL2, ATB,PZB/LZB,ETCS	No.4301-4346 SNCF 6 (No.4341-4346), NS 4 (No.4321-4322,4331-4332) , SNCB 7 (No.4301-4307), No.4321-4322-> DB -> NS
France		SNCF	Alstom	TGV Réseau (bicourant)	2L8T	C, A	26	26	10	26	260	260	26	1993-	8800			320	320	26	1.5kV, 25kV50Hz	383	21.4	17	200	2904	108	242	350	TVM/KVB	No.501-553, 19 (No.515-533) sets are converted to POS and Duplex Réseau, 3sets are added from Réseau tric (No551-553). No 502 was abandoned after the accident at Bieme. Renovating by Lacroix to 355 places(105+252)
France		SNCF	Alstom	TGV Réseau (tricourant)	2L8T	C, A	27	27	10	27	270	270	27	1993-	8800			320	320	27	1.5kV 3kV 25kV50Hz	383	21.4	17	200	2904	108	242	350	TVM/KVB,TBL,SC MT	No.4501-4529, No.4551 3 sets (No.4507-4509) are converted to Réseau bi. No.4530 -> IRIS320, No.4551 <- No.4531 Thalys PBA 4507-30: suited for Belgium(TBL). 4501-06: suited for Italy(SCMT)
France		SNCF	Alstom	TGV Duplex	2L8T	C, A, D	85	88	10	88	880	880	85	1996-	8800			320	320	88	1.5kV 25kV50Hz	390	20.4	17	200	2896	181	328	509	TVM/KVB	No.201-289
France		SNCF	Alstom	TGV Réseau Duplex	2L8T	C, A, D	19	19	10	19	190	190	19	2006-	8800			320	320	19	1.5kV 25kV50Hz (15kV16.7Hz)	380	20.9	17	200	2896	181	328	509	TVM/KVB	No.601-619 613-615: tri-voltage(+15kV16.7Hz)
France, Switzerland		SNCF, SBB	Alstom	TGV POS	2L8T	C, A, D	18	18	10	18	180	180	18	2006-	9280			320	320	18	1.5kV 15kV16.7Hz 25kV50Hz	423	20.5	17	200	2904	108	253	361	TVM/KVB,PZB/LZB,SUB,ETCS	No. 4401-4419 4406: SBB
France		SNCF	Alstom	TGV Dasye	2L8T	C, A, D	11	49	10	49	490	490	11	2009-	9280			320	320	49	1.5kV 25kV50Hz	390	21.5	17	200	2896	181	328	509	TVM/KVB,ETCS	No.701-749
France		SNCF	Alstom	TGV Euroduplex 3UA	2L8T	C, A, D	30	30	10	30	300	300	30	2011-	9280			320	320	30	1.5kV 15kV16.7Hz 25kV50Hz	390	21.5	17	200	2896	181	328	509	TVM/KVB,PZB/LZB, ETCS	No.4701-4730 Used for Lyria and Alleo
France		SNCF	Alstom	TGV Euroduplex 3UF/3UH	2L8T	C, A, D	25	25	10	25	250	250	56	2013-	9280			320	320	25	1.5kV 25kV50Hz	390	21.5	17	200	2896	181	328	509	TVM/KVB, ETCS	No.801-825 for first 25 sets. No. 801-810 are operable in Spain. No.811-825 are operable in Luxembourg.
France		SNCF	Alstom	TGV Euroduplex 3UFC Océane	2L8T	C, A, D	55	55	10	55	550	550	55	2016-	9280			320	320	55	1.5kV 25kV50Hz	390	21.4	17	200	2896	158	398	556	TVM, ETCS	No.851-854 for first 4 sets.
France		SNCF	Alstom	TGV Duplex renov Océane	2L8T	C, A, D	3	3	10	3	30	30	3	1996-	8800			320	320	3	1.5kV 25kV50Hz	390	20.4	17	200	2896	158	398	556	TVM, KVB	
France		SNCF	Alstom	TGV Ouigo	2L8T		38	38		38				2009-	9280			320	320	38	1.5kV 25kV50Hz	390	17.0	21.5	200	2896			634	TVM, KVB,ETCS	
France, UK		Eurostar	Alstom	TGV-TMST 373 e300	2L18T (+ 2MB)	C, A	22	26	20	26	520	520	22	1993-	12200			300	300	26	0.75kV 3kV 25kV50Hz	752	15.0	17	394	2814	206	544	750	TVM/KVB,TBL,ATB,WS/TPWS	No.3081-3232 SNCF 16 (No.3201-3232), BR 11 (No.3001-3022), SNCB 3 (No.3103-3108) 7 sets are equipped for DC 1.5kV operation. 26 sets for Eurostar. No.3101 exists, not operation. No.3102 for scrapping in 2015. No.3103/4 for scrapping in 2016. No.3015/6 were refurbished in 2015.
France		SNCF	Alstom	IRIS320	2L8T	C, A Inspection	1	1	10	1	10	10	1	1993-	8800			320	320	1	1.5kV 3kV 25kV50Hz				200	2904	N/A	N/A	N/A	TVM/KVB,TBL,SC MT	TGV Réseau (tric.) 4530
Germany		DB AG	Siemens Bombardier	401(ICE1)	2L12T	C	59	59	14	59	826	826	59	1991-	9600	400		280	280	59	15kV16.7Hz	782	11.5	19.5	358	3020	197	506	703	ETCS LZB/PZB,ZUB	Redesign 2005ff
Germany		DB AG	Siemens Bombardier	402(ICE2)	1L7T	C	44	44	8	44	352	352	44	1996-	4800	200		280	280	44	15kV16.7 Hz	418	10.7	19.5	205	3020	106	275	381	LZB/PZB	Redesign 2011ff
Germany		DB AG	Siemens Bombardier	403(ICE3)	4M4T		50	50	8	50	400	400	50	2000-	8000	300		330	300	50	15kV16.7 Hz	409	18.0	16	200	2950	101	349	450	EYCS LZB/PZB	Redesign 2011ff
Germany, Netherlands		DB AG, NS	Siemens Bombardier	406(ICE3M) DB 46(ICE3M) NS	4M4T		10	10	8	10	80	80	10	2000-	8000	300		330 220(DC)	300	10	1.5kV 3kV 15kV16.7Hz 25kV50Hz	435	17.1	16	200	2950	93	326	419	ETCS LZB/PZB, ATB,TBL	Redesign 2011ff

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Germany		DB AG	Siemens Bombardier	406(ICE3MF)	4M4T		6	6	8	6	48	48	6	2000-	8000	300		330 220(DC)	320	6	1.5kV 3kV 15kV16.7Hz 25kV50Hz	435	17.1	16	200	2950	91	322	413	LZB/PZB, ATB,TBL, TVM/KVB	Redesign 2011ff
Germany		DB AG	Siemens	407(ICE3)	4M4T		17	17	8	17	136	136	17	2013-	8000			320	17	1.5kV 3kV 15kV16.7Hz 25kV50Hz	454	16.3	14.2	201	2950	111	333	444	LZB/PZB, ATB,TBL, TVM/KVB, ETCS	Redesign 2011ff	
Germany, Austria		DB AG, ÖBB	Siemens Bombardier Alstom	411(ICE-T) DB 4011(ICE-T) ÖBB	4M3T	T	30	30	7	30	210	210	30	2000-	4000	200		230	230	0	15kV16.7 Hz	350	10.6	15	185	2850	55	304	359	LZB/PZB,ZUB	Redesign 2013ff
Germany		DB AG	Siemens Bombardier Alstom	411(ICE-T2)	4M3T	T	29	29	7	29	203	203	29	2004-	4000	200		230	230	0	15kV16.7 Hz	350	10.5	15	185	2850	55	321	376	LZB/PZB	Redesign 2013ff
Germany		DB AG	Siemens Bombardier Alstom	415(ICE-T)	3M2T	T	10	10	5	10	50	50	10	1999-	3000	150		230	230	0	15kV16.7 Hz	273	10.2	15	133	2850	41	209	250	LZB/PZB,ZUB	Redesign 2013ff
Germany		DB AG	Siemens Bombardier	412 (ICE4 7-car)	3M4T		0 (37)	0	7	0	0	0	37	-	4950		0.55	230	249	0	1.5kV 3kV 15kV16.7Hz 25kV50Hz	455	10.1	<18	200	2852	77	379	456	ETCS, LZB/PZB, ZUB	
Germany		DB AG	Siemens Bombardier	412 (ICE4 12-car)	6M6T		25 (100)	25	12	25	300	300	100	2016-	9900		0.53	250	249	25	15kV16.7Hz	659	13.6	<18	346	2852	205	625	830	ETCS, LZB/PZB	
Germany, Denmark		DB AG, DSB	Siemens Bombardier Alstom	605(ICE-TD)	4M	T	6	6	4		24		6	2001-(2017)	2240	160		200	200	0	Diesel	216	9.7	14.5	106	2850	41	154	195	LZB/PZB, ZUB	6 were transferred from DB to DSB and are equipped with Danish signaling system and radio for international services. 14 is out of service. Tilting system is not used.
Germany		DB AG	Siemens Bombardier Alstom	605(ICE-TD)	4M	T	1	1	4		4		1	2001-	2240	160		200	200	0	Diesel	216		14.5	106	2850	N/A	N/A	N/A	-	advanced Train Lab
Germany		DB AG	Siemens	ICE-S	2L1T	C Inspection	1	1	3	1	3	3	1	2006-	9600			280	280	1	15kV16.7 Hz	211			120.3	2856	N/A	N/A	N/A	-	
Italy		Trenitalia	Alstom	ETR450	8M1T	T	6	6	9	6	54	54	6	1988-	5000			250	250	6	3kV	435	10.7	12.5 (unloaded)	233.9	2750	170	220	390	SCMT/BACC	15 trainsets were produced.
Italy		Trenitalia	Alstom	ETR460	6M3T	T	9	9	9	9	81	81	9	1995-	5880	207		250	250	9	3kV	445	12.2	13.5 (unloaded)	237	2800			479	SCMT/BACC	10 trainsets were produced.
Italy, (Switzerland)		Trenitalia (SBB)	Alstom	ETR470	6M3T	T	5	5	9		45		5	1996-	5880			200	200	0	3kV 15kV16.7Hz	460	11.8	15.1	236.6	2800	151	324	475	SCMT/BACC,ZUB	Trenitalia: 5 sets, SBB: 0 sets
Italy		Trenitalia	Alstom	(ETR480) ETR485	6M3T	T	15	15	9	15	135	135	15	1997-	5880			280	250	15	3kV 25kV50Hz	422	12.8	13.5 (unloaded)	237	2800			489	SCMT/BACC	AC electric equipment was installed to ETR480 and renumbered as ETR485
Italy		Trenitalia	AnsaldoBreda Alstom Bombardier	ETR500	2L11T	C	59	59	13	59	767	767	59	1995-	8800	400		360	300	59	3kV 25kV50Hz	640(loaded)	13.8	17	354	2860			574	SCMT/BACC ETCS	Figures are for 3-class. 4-class are introduced from 2012
Italy		Trenitalia	Alstom	ETR600	4M3T	T	12	12	7	12	84	84	12	2008-	5600		0.48	280	250	12	3kV 25kV50Hz	443(loaded)	12.6	17	187.4	2830	126	306	432	SCMT/BACC ETCS	
Italy, Switzerland		Trenitalia SBB	Alstom	ETR610	4M3T	T	26	26	7	26	182	182	22	2009-	5500	226	0.48	250	250	26	3kV 15kV16.7Hz 25kV50Hz	466	12.2	17	187.4	2830	108+18	304(Trenitalia) 200(SBB)	430(Trenitalia) 400(SBB)	SCMT/BACC,LZB /PZB,ZUB,ETCS	Trenitalia: 7sets, SBB: 19sets
Italy		Trenitalia	AnsaldoBreda	ETR700 (Frecciargento)			4 (17)	4	8	4	32	32	17	2019-				250			3kV 25kV50Hz								500		Refurbished Frya
Italy		Trenitalia	AnsaldoBreda HRI* Bombardier	ETR1000	4M4T		50 (64)	50	8	50	400	400	64	2015-	9800	370	0.7	400	300	50	1.5kV 3kV 15kV16.7Hz 25kV50Hz	500(loaded)	19.6	17	202	2924	10+71+76	300	457	ETCS	Operation from 2015 in 300km/h
Italy		NTV	Alstom	AGV575	EMU-11 (5MB7TB)	A	25	25	11	25	275	275	25	2012-	7500	Approx. 273		300	300	25	3kV 25kV50Hz	398	15.0	17	201	3000	19+143	288	450	SCMT/BACC ETCS	3-class
Italy		NTV	Alstom	"Evo Pendolino"	4M3T		10 (22)	10	7	10	70	70	22	2017-				250	250	10									472		Pendolino design
Italy		RFI	AnsaldoBreda Alstom Bombardier	"Epsilon"	2L8T	C Inspection	2	2	10	2	20	20	2	2008-	8800			300	300	2	3kV 25kV50Hz			17	249	2860	N/A	N/A	N/A	SCMT/BACC ETCS	Based on ETR500
Poland		PKP Intercity	Alstom	ED250	4M3T		20	20	7	20	140	140	20	2014-	5500		0.49	250	250	20	3kV 15kV16.7Hz 25kV50Hz	395.5	14.2	17	187.4	2830	57	345	402	ETCS L1/L2, SHP, Mirei,LZB/PZB	
Spain		Renfe Operadora	Alstom	S100 (bic.)	2L8T	C,A	14	14	10	14	140	140	14	1992-	8800	220		300	300	14	3kV 25kV50Hz	392	21.0	17.2	200.15	2904	38+78	211(+2hp)	330(+2hp)	ASFA/LZB,ERTMS	"AVE" 3 classes
Spain		Renfe Operadora	Alstom	S100 (tric.)	2L8T	C,A	10	10	10	10	100	100	10	1992-	8800	220		300	300	10	1.5kV 3kV 25kV50Hz	392	21.0	17.2	200.15	2904	N/A	N/A	347	ASFA/LZB,TVM/KVB,ERTMS	"AVE" 3 classes 10 sets are tri-current and operable in France from 2013.
Spain		Renfe Operadora	Alstom	S101	2L8T	C,A	0	0	10		0		0	1996-2010	5400			200	200	0	3kV	392	12.9	17.2	200.15	2904	112	200(+2hp)	314(+2hp)	ASFA/EBICAB900	"Euromed" Gauge 1668 All sets converted to S100.
Spain		Renfe Operadora	Talgo Bombardier	S102	2L12T	C, A, T	16	16	14	16	224	224	16	2005-	8000			330	300	16	25kV50Hz	324	22.9	17	200.244	2960	45+76	193(+2hp)	314(+2hp)	ASFA/LZB/ETCS	"AVE" 3 classes
Spain		Renfe Operadora	Siemens	S103	4M4T		26	26	8	26	208	208	26	2007-	8800	283		350	300	26	25kV50Hz	439	18.7	<17	200	2950	38+103	262(+2hp)	403(+2hp)	ASFA/LZB/ETCS	"AVE" 3 classes
Spain		Renfe Operadora	CAF Alstom	S104	4M		20	20	4	20	80	80	20	2004-	4000	212	0.72	250	250	20	25kV50Hz	222	16.6	17	107.1	2920	30	206(+1hp)	236(+1hp)	ASFA/LZB/ETCS	"Avant"
Spain		Renfe Operadora	Talgo	S106 (S106.000/S106.050)	2L12T	C,A	0 (30)	0	14	0	0	0	30	(2020-)	8000 (DC:6500, 4300)	200		330	300	0	1.5kV, 3kV 25kV50Hz	323.4	23.4	17	200	2960	105(+2hp)	416	521(+2hp)	ASFA/LZB/ETCS/ TVM430/KVB/RPS	There will be 15 units series 106.000(1435) and 15 units series 106.050 Dual gauge(1435/1668) 10 trainsets for international use, include TVM430,KVB,RPS
Spain		Renfe Operadora	Talgo Bombardier	S112	2L12T	C,A,T	30	30	14	30	420	420	30	2010-	8000	200		330	300	30	25kV50Hz	322	23.5	17	200.244	2960	71	292(+2hp)	363(+2hp)	ASFA/LZB/ETCS	Similar to S102 but capacity is increased.
Spain		Renfe Operadora	Alstom	S114	4M		13	13	4	13	52	52	13	2011-	4000	212	0.74	250	250	13	25kV50Hz	248	15.0	16	107.9	2830	N/A	237(+1hp)	237(+1hp)	ASFA/LZB/ETCS	"Avant"
Spain		Renfe Operadora	CAF Alstom Bombardier	S120	4M		12	12	4	12	48	48	12	2006-	4000 (DC:2700)	150	0.52	250 220(DC)	250 220(DC)	12	3kV 25kV50Hz	256	14.5	16.2	107.3	2920	81(+1hp)	156	237(+1hp)	ASFA/LZB/ETCS	"Alvia" Dual gauge (1668,1435)
Spain		Renfe Operadora	CAF Alstom Bombardier	S120.5	4M		15	15	4	15	60	60	15	2006-	4000 (DC:2700)	150	0.52	250 220(DC)	250 220(DC)	15	3kV 25kV50Hz	256	14.5	16.2	107.3	2920	74(+1hp)	148	222(+1hp)	ASFA/LZB/ETCS	"Alvia" Dual gauge (1668,1435)

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Spain		Renfe Operadora	CAF Alstom	S121	4M		29	29	4	29	116	116	29	2008-	4800	212	0.68	250 220(DC)	250 220(DC)	29	3kV 25kV50Hz	252	17.5		107.4	2920	N/A	N/A	282	ASFA/LZB/ETCS	"Avant" Dual gauge (1668,1435)
Spain		Renfe Operadora	Talgo Bombardier	S130	2L11T	C,A,T	32	32	13	32	416	416	32	2007-	4800 (DC:4000)	220		250 220(DC)	250 220(DC)	32	3kV 25kV50Hz	312	15.4	18	185.2	2960	62(+1hp)	236	298(+1hp)	ASFA/LZB/EBICA B900/ETCS	"Alvia" Dual gauge (1668,1435) 15 sets will be converted to S130H.
Spain		Renfe Operadora	Talgo Bombardier	S730	2L11T (2T are dedicated for diesel engine)	C,A,T	12	12	13	12	156	156	12	2012-	4800 (DC:4000) (Diesel:3600)	220		250 220(DC) 180(diesel)	250 220(DC) 180(diesel)	12	3kV 25kV50Hz Diesel	385	12.5	18	186	2960	44(+2hp)	216	260(+2hp)	ASFA/LZB/EBICA B900/ETCS	Diesel hybrid version of S130. Diesel engines are installed on 2 end cars next to the locomotive. 15 sets are converted from S130. Dual gauge (1668,1435).No12 was abandoned after the accident at Santiago de Compostela.
Spain		Renfe Operadora	Alstom	S490	2M1T	T	0	0	3	0	0	0	0	1999-	2200	130		220	220	0	3kV	159	12.8	16		3282	49	111	160(+1hp)	ASFA	"Alaris" Broad gauge (1668) Not Operative since 2013.
Spain		ADIF	Talgo Bombardier	A330	2L3T	C,A,T Inspection	1	1	5	1	5	5	1	2007-				330	300	1	25kV50Hz	190			82	2960	N/A	N/A	N/A	ASFA ETCS	
Portugal		CP	Alstom	CPA4000	4M2T	T	10	10	6	10	60	60	10	1999-	3920	210		220	220	0	25kV50Hz	299	12.1	14.4	158.9	2920	96	205	299 +2hp	EBICAB700	Broad gauge (1668) Loading gauge meets CP requirement
Switzerland		SBB	Bombardier Alstom	RABDe500(ICN)	4M3T	T	44	44	7		308		44	2000-	5200	210		220	200	0	15kV16.7Hz	355	13.3		188	2830	125	326	451	ZUB	
Switzerland		SBB	Stadler	Giruno (EC250)	4M7T	A	1 (29)	1	11	1	11	11	29	(2019-)	6000	300		250	250	1	15kV16.7Hz 25kV50Hz 3kV				202	2900	117	288	405	SCMT/BACC/LZB /PZB/ZUB/ETCS	
UK		CC, EC, EM, FGW, GC,V	BREL	IC125	2L7T 2L8T	C	80	80	9 10		720		80	1976-	3360			200	200	0	Diesel	383(2L7T)			197 220	2740			472 etc	AWS/TPWS	CC: Cross Country,EC: East Coast, EM: East Midlands, FGW:First Great Western, GC: Grand Central, V:Virgin
UK		East Coast	BREL, Alstom	IC225	1L9T	C	30	30	10		300		30	1989-	4350			225	200	0	25kV50Hz				226	2740	112	368	480	AWS/TPWS	
UK		EC, GC, HT, NR	Alstom	180	5M		14	14	5		70		14	2000-	2800			200	200	0	Diesel	252.5	10.2		116.5	2730	42	226	268	AWS/TPWS	"Adelante" EC: East Coast, GC: Grand Central, HT: Hull Trains, NR: Northern Rail
UK		Cross Country	Bombardier	220	4M		34	34	4		136		34	2001-	2200			200	200	0	Diesel	185.6	11.0		93.34	2730	26	162	188	AWS/TPWS	"Voyger"
UK		Cross Country, Virgin	Bombardier	221	4M 5M	T	4 40	44	4 5		176		44	2002-	2800(5M)			200	200	0	Diesel	227(4M) 282.8(5M)	9.2		93.3(4M) 116.2(5M)	2730	26	162(4M) 224(5M)	188(4M) 250(5M)	AWS/TPWS	"Super Voyger"

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																											1st class	2nd class	Total			
UK		East Midlands	Bombardier	222	4M 5M 7M		4	17	6	27	4	5	7	135	27	2004-	3920(7M)		200	200	0	Diesel				161.8(7M)	2730	106	236	342	AWS/TPWS	"Meridian"
UK		Virgin	Alstom	390	6M3T	T	56	56	9		504		56	2002-	5500	204		225	200	0	25kV50Hz	458 (loaded)	12.0	16.1	217	2730	145	294	439	AWS/TPWS	Decided to increasing train length to 11 car for 31 train sets and creation of 4 new 11 car trainsets.	
UK		Southeastern	Hitachi	395	4M2T		29	29	6	29	174	174	29	2009-	3360		0.7	225	225	0	0.75kV 25kV50Hz			11 (unloaded, Avg.)	121.8	2810	0	348	348	TVM/KVB AWS/TPWS		
UK		IEP(Great Western, East Coast mainline)	Hitachi (H&HRE*)	800	3M2T		6 (46)	6	5		30		46	2017-			0.7	200	200	0	25kV50Hz + Diesel (Bi-mode)	230 249 (bi-mode)		18.4	130	2740				AWS/TPWS	Agility Trains, Bi-mode Bi-mode is possible to be propelled by both electricity and diesel engine who provide electricity to motors. 46 sets: 5-cars; 36 sets for Great Western Main Line, 10 sets for East Coast main line	
UK		IEP(Great Western, East Coast mainline)	Hitachi (H&HRE*)	800	9-cars		(34)	0	9		0		34	2017-			0.7	200	200	0	25kV50Hz + Diesel (Bi-mode)	230 249 (bi-mode)		18.4	130	2740				AWS/TPWS	Agility Trains, Bi-mode Bi-mode is possible to be propelled by both electricity and diesel engine who provide electricity to motors. 34 sets: 9-cars 21 sets for Great Western Main Line, 13 sets for East Coast main line	
UK		IEP(East Coast mainline)	Hitachi (H&HRE*)	801	3M2T		(12)	0	5		0		12	(2018-)			0.7	200	200	0	25kV50Hz + Diesel (Bi-mode)			18.4	234	2740				AWS/TPWS	Agility Trains 12 sets: 5-cars; for East Coast Main Line	
UK		IEP(East Coast mainline)	Hitachi (H&HRE*)	801	9-cars		(30)	0	9		0		30	(2018-)			0.7	200	200	0	25kV50Hz + Diesel (Bi-mode)			18.4	234	2740				AWS/TPWS	Agility Trains 30 sets: 9-cars; for East Coast Main Line	
UK		Great Western	Hitachi (H&HRI*)	802	3M2T		(22)	0	5		0		22	(2018-)			0.75	200	200	0	25kV50Hz + Diesel (Bi-mode)									AWS/TPWS	Bi-mode, AT300 Bi-mode is possible to be propelled by both electricity and diesel engine who provide electricity to motors.	
UK		Great Western	Hitachi (H&HRI*)	802	9-cars		(14)	0	9		0		14	(2018-)			0.75	200	200	0	25kV50Hz + Diesel (Bi-mode)									AWS/TPWS	Bi-mode, AT300 Bi-mode is possible to be propelled by both electricity and diesel engine who provide electricity to motors.	
UK		Eurostar	Siemens	374 e320	8M8T		12 (17)	12	16	12	192	192	17	2015-	16000			320	300	12	1.5kV 3kV 15kV16.7Hz 25kV50Hz			17	400	2950	222	672	894	TVM/KVB,TBL, AWS/TPWS,ETCS	No.4001-4010 Siemens Velaro D series.	
Czech		CD	Alstom	CD 680 "Pendolino"	4M3T	T	7	7	7	7	49	49	7	2003-	4000	200		230	230	0	3kV 15kV16.7Hz 25kV50Hz	385	9.7	14.75	184.4	2800	105	228	333	LS, LZB/PZB		
Czech		CD	Siemens	"ČD railjet" Siemens Taurus (OBB 1216) + Siemens Viaggio Comfort	1L7T	C	7	7	8	7	56	56	7	2014-	6000	300		230	230	0	3kV 15kV16.7Hz 25kV50Hz	479	11.7	21.5	204.78	2825	6+42	394	442	LZB/PZB,ZUB	Locomotive: Class 1216 type	
Netherlands Belgium		NS Hispeed SNCB	Ansaldobreda	V250	4M4T		0	0	8	0	0	0	0	2012-2013	5500	300	0.58	250	250	0	1.5kV 3kV 25kV50Hz	423	11.8	17	200.9	2870	127	419	546	ATB,TBL,LZB,ETCS	NS Hispeed:9(7) sets, SNCB 0(3) sets 2013.1- service is suspended.	
Russia		RZD	RVR	ER200	8M2T		0	0	10		0	0	0	1974-2009	7680		0.4	200	200	0	3kV	557.4	12.8		260	3130					Broad gauge (1520)	
Russia		RZD	Siemens	"Sapsan" B1	4M6T		12	12	10	12	120	120	12	2009-	8000	328	0.43	250	250	12	3kV	662(Loaded)	12.1	17	250	3265	104	500	604		Broad gauge (1520)	

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












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																											1st class	2nd class	Total							
Russia		RZD	Siemens	"Sapsan" B2	4M6T		4	4	10	4	40	40	4	2009-	8000	328	0.42	250	250	4	3kV 25kV50Hz	678(Loaded)	11.8	18	250	3265	104	500	604			Broad gauge (1520)				
Finland		VR	Alstom	SM3 "Pendolino"	4M2T	T	18	18	6	18	108	108	18	1995-	4000	163	0.5	220	220	0	25kV50Hz	328	11.5	14.3	159	3200	47	238(+2)	285(+2)		EBICAB900	Broad gauge (1524)				
Finland,Russia		Karelian Railways	Alstom	Sm6 "Allegro"	4M3T	T	4	4	7	4	28	28	4	2010-	5500	226		220	220	0	3kV 25kV50Hz	409(Loaded)	13.4	17	184.8	3200	42+6	304	352+2hp			Broad gauge (1522 and 1520) Operated by RZD and VR.				
Norway		Flytoget	Bombardier	BM71	3M		16	16	3	16	48	48	16	1997-	1950			210	210	0	15kV16.7Hz	158	11.4		82.1	3048	0	168	168		EBICAB700	An intermediate car is being introduced for all sets.				
Norway		NSB	Bombardier	BM73	4M	T	22	22	4	22	88	88	22	1999-	1950			210	210	0	15kV16.7Hz	212	8.5	16.5	108	3048			203 246		EBICAB700	"Signatur"				
Slovenia		SZ	Alstom	ETR310	2M1T	T	2	2	3		6		2	2002-	1980			200	200	0	3kV			14.8	81.2	2800	30	136	166		SCMT/BACC,PZB					
Sweden		SJ	Bombardier	X2(X2000)	1L5T 1L6T	C,T	7 36	43	6 7		294		43	1990-	3260	160		200	200	0	15kV16.7Hz	360(6T)	8.5	18.5	140 165	3080	48 96	213	261(+2hp) 309(+2hp)		EBICAB700					
Sweden		SJ	Alstom	X40	2M 3M	D	16 27	43	2 3		113		43	2005-	1600 2400		0.64	200	200	0	15kV16.7Hz	140 205	10.4		55.1 81.5	2960	0	180 288	180 288		EBICAB700					
Sweden		Arlanda Express	Alstom	X3	2M2T		7	7	4		28		7	1999-	2240			200	200	0	15kV16.7Hz	193	10.8		93.4	3063	0	190	190		EBICAB700					
Sweden		SJ	Bombardier	X55 (SJ 3000)	EMU-4		(20)	0	4		0		20	2012-	3180			250	200	0	15kV16.7Hz	274	10.8		107	3430	64	181	245		EBICAB700 ETCS					
Sweden		SJ		Snabbtåg			(30)	0			0		30	(<2030)																	350					
Greece		TrainOSE	Alstom	ETR485														250															480	ETCS		
China		CR	CSR-Bombardier	CRH1A	5M3T		128 (151)	128	8		1024		151	2006-	5500	320	0.6	250	200	128	25kV50Hz	435	11.3	16.5	213.5	3328	144(128)	524(483)	668(611)		CTCS 2		As for the number of seats, outside the parenthesis is for the fixed seats, inside the parenthesis is for the rotatable seats. No.46 was abandoned after the accident in Wenzhou.			
China		CR		CRH1A-A	5M3T		87	87	8		696		87	2016-																						
China		CR	CSR-Bombardier	CRH1B	10M6T		24	24	16		384		24	2008-	11000	320	0.6	250	200	24	25kV50Hz	850	11.5	16.5	426.3	3328					1299+2		CTCS 2			
China		CR	CSR-Bombardier	CRH1E	10M6T		20	20	16		320		20	2009-	11000		0.6	250	200	20	25kV50Hz	890	11.7	16.5	428.9	3328	16+480 (Sleeping Car)	122	618+2		CTCS 2		13 cars are 1st class sleeping cars(1 car is special 1st class sleeping), 2 cars are 2nd class seating cars, 1 car is a dining car.			
China		CR	KHI+, CSR-Sifang	CRH2A	4M4T		473	473	8		3784		473	2008-	4800	176		250	200	473	25kV50Hz	359.7	11.8	14	201.4	3380	51	559	610		CTCS 2		1 car is 1st seating car,7 cars are 2nd seating cars 1 set is used as the inspection car.			
China		CR	CSR-Sifang	CRH2B	8M8T		20	20	16		320		20	2008-	9600	352		250	200	20	25kV50Hz	758.8	11.8	14	401.4	3380	155	1074	1229		CTCS 2		3 Cars are 1st seating cars,12 cars are 2nd seating cars,1 car is dining car.			
China		CR	CSR-Sifang	CRH2C	6M2T		49	49	8	49	392	392	49	2008-	8760	264		350	300	49	25kV50Hz	370.8	19.5	14	201.4	3380	51	559	610		CTCS 2, 3		1 car is 1st seating car, 6 cars are 2nd seating cars, 1 car is 2nd seating/dining car 1 set is used as the inspection car.			
China		CR	CSR-Sifang	CRH2C2	6M2T		11	11	8	11	88	88	11	2008-	8760	264		350	300	11	25kV50Hz	370.8	19.5	14	201.4	3380	51	559	610		CTCS 2, 3		1 car is 1st seating car, 6 cars are 2nd seating cars, 1 car is 2nd seating/dining car 1 set is used as the inspection car.			
China		CR	CSR-Sifang	CRH2E	8M8T		24	24	16		384		24	2009-	9600	352		250	200	24	25kV50Hz	778.9	11.6	14	401	3380	520 (Sleeping Car)	100	620		CTCS 2		13 cars are 1st class sleeping cars, 2 cars are 2nd class seating cars, 1 car is dining car.			
China		CR	CSR-Sifang	CRH2G	4M4T		20	20	8	20	160	160	20	2015-	9280		0.39	250	250	20	25kV50Hz			15.45	201.4	3380	48	565	613		CTCS 2					
China		CR		CRH3A	4M4T		1	1	8	1	8	8	1	2017-				250	250	1	25kV50Hz													616		
China		CR	Siemens, CNR-Tanshang	CRH3C	4M4T		80	80	8	80	640	640	80	2008-	8800	300	0.46	350	300	80	25kV50Hz	425	18.7	17	200	3260	66	490	556+1		CTCS 2, 3		1 car is 1st class seating car, 6 cars are 2nd seating cars, 1 car is 1st seating/dining car.			
China		CR	Alstom, CNR-Changchun	CRH5A	5M3T		140	140	8		1120		140	2007-	5500	302	0.6	250	200	140	25kV50Hz	451.3	11.0	<17	211.5	3200	60(112)	562(474)	622(586)		CTCS 2		As for the seat's number,the figure outside the parenthesis is for the fixed seats.inside the parenthesis is for the rotatable seat.			
China		CR	Alstom, CNR-Changchun	CRH5G	5M3T		88	88	8		704		88	2007-	5500	302	0.6	250	200	88	25kV50Hz	451.3	11.0	<17	211.5	3200	60(112)	562(474)	622(586)		CTCS 2		As for the seat's number,the figure outside the parenthesis is for the fixed seats.inside the parenthesis is for the rotatable seat.			
China		CR	CSR-Puzhen Rollingstock Co.Lit.	CRH6A	4M4T		27	27	8		216		27	2013-	5520		0.65	220	200	0	25kV50Hz			15.5	201.4	3300		557	1488		CTCS 2, 3		CRH6A will be existed. operating speed is under 200km/h.			
China		CR	CSR-Sifang	CRH380A	6M2T		316	316	8	316	2528	2528	316	2010-	9600			350	300	316	25kV50Hz			<15	203	3380	12+95	373	480		CTCS 2, 3		12 seats: "sightseeing". There are other 14 seats for dining car.			
China		CR	CSR-Sifang	CRH380AL	14M2T		113	113	16	113	1808	1808	113	2011-	21560			350	300	113	25kV50Hz			<15	403	3380	56+6+76	923	1061		CTCS 2, 3		56 seats: business class, 6 seats: "sightseeing".			
China		CR		CRH380AG			16	16	8		128		16																							
China		CR	CNR-Changchun	CRH380B	4M4T		354	354	8	354	2832	2832	354	2011-	9200			350	300	354	25kV50Hz			<17	200	3260	72	528	600+1		CTCS 2, 3					
China		CR	CNR-Tanshang, CNR-Changchun	CRH380BL	8M8T		149	149	16	149	2384	2384	149	2011-	18400		0.41	350	300	149	25kV50Hz			<17	400	3260	24+190	791	1005		CTCS 2, 3		24 seats: business			
China		CR	CNR-Changchun	CRH380BG	4M4T		141	141	8	141	1128	1128	141	2011-	9200			350	300	141	25kV50Hz			<17	200	3260	72	528	600+1		CTCS 2, 3					

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																											1st class	2nd class	Total			
China		CR	CNR-Changchun	CRH380CL	8M8T		25	25	16	25	400	400	25	2011-	18400						25	25kV50Hz		<17	428	3358			1004	CTCS 2, 3		
China		CR	CSR-Bombardier	CRH380D	4M4T		85	85	8	85	680	680	85	(2012-)	10000		0.48	350	300	85	25kV50Hz	462	17.6	17	215.3	3358	14+90	391	495	CTCS 2, 3	VIP class: 14 seats	
China		CR	CSR-Bombardier	CRH380DL	8M8T		(60)	0	16	0	0	0	60	(2012-)	20000		0.48	350	300	0	25kV50Hz	934	19.2	17	428.1	3358	52+126	835	1013	CTCS 2, 3	VIP class: 52 seats	
China		CR		CR400AF	4M4T		18 (21)	18	8	18	144	144	21	2017-	9750					18	25kV50Hz	400	350	17	209	3360	10+28	518	556		Business class: 10 seats First class: 28 seats	
China		CR		CR400BF	4M4T		9	9	8	9	72	72	9	2017-	9750					9	25kV50Hz	400	350	17	209	3360	10+28	518	556		Business class: 10 seats First class: 28 seats	
China		CR		CR400AF-A	8M8T		(16)	0	16	0	0	0	16		19200					0	25kV50Hz	400	350	17	209	3360	10+28	518	556			
China		CR	CRRC Tangshan	CR400BF-A	8M8T		(16)	0	16	0	0	0	16		20280					0	25kV50Hz	400	350	17	209	3360	10+28	518	556			
China		CR		CJ2				0	8	0	0	0										250										
China		CR	CNR-Changchun	CIT001	5M3T	Inspection	1	1	8		8	8	1	2007-	5500	302	0.6	250	200	1	25kV50Hz			<17	211.5	3200	N/A	N/A	N/A	CTCS 2, 3	Based on CRH5A	
China		CR	CSR-Sifang	CIT400A	7M1T	Inspection	1	1	8	1	8	8	1	2011-						1	25kV50Hz				201	3380	N/A	N/A	N/A	CTCS 2, 3	Based on CRH380A	
China		CR	CNR-Tanshang, CNR-Changchun	CIT400B	6M2T	Inspection	1	1	8	1	8	8	1	2011-						1	25kV50Hz					N/A	N/A	N/A	CTCS 2, 3	Based on CRH380B and CRH380C		
China		MTR	CRRC	MTR CRH380A	6M2T		9	9	8	9	72	72	9	2018-	9600					9	25kV50Hz	408		<15	203	3380			579	CTCS 2, 3	for Guangzhou, Shenzhen and Hong Kong link	
Chinese Taipei		THSRC	H,KHI,NS*	700T	9M3T		34	34	12	34	408	408	34	2007-	10260					34	25kV60Hz	503	17.6		304	3380	66	923	989	ATP		
Japan		JRW	H,KHI,KS,NS,TCC*	0	6M		0	0	6	0	0	0	0	1964-2008	4440			0.33	220	220	0	25kV60Hz	970 for original 16-car set (Loaded)	12.2	16	150	3380	0	400	400	ATC	First HS train in the world. Shortened from 16 cars to 6cars for local transportation. Operation finished in 11/2008. 3216 cars were produced.
Japan		JRW	H,KHI,KS,NS,TCC*	100	6M		0	0	6	0	0	0	0	1985-2012	5520		0.44	230	220	0	25kV60Hz	925 for original 16-car set (Loaded)	11.9	15	152	3380	0	394	394	ATC	Max. speed was 230km/h for V sets.	
Japan		JRE	H,KHI,KS,NS,TCC*	200	10M		0	0	10	0	0	0	0	1982-2013	9200		0.44	240	240	0	25kV50Hz	583	14.6	16.4	250	3380	52	710	762	ATC DS-ATC	It was 12 cars when introduced. A trainset was abandoned after the derailment at Chuetsu Earthquake.	
Japan		JRC JRW	H,KHI,KS,NS*	300 300-3000	10M6T		0	0	16	0	0	0	0	1992-2012	12000		0.44	270	270	0	25kV60Hz	710 (Loaded)	16.9	12	402.1	3380	200	1123	1323	ATC ATC-NS	70 sets had existed.	
Japan		JRE	KHI,TCC*	400	6M1T		0	0	7	0	0	0	0	1992-2010	5040		0.44	240	240	0	25kV50Hz 20kV50Hz	318	14.7	12.9	149	2947	20	379	399	ATC DS-ATC ATS-P	For through operation b/w Shinkansen line and improved classical line (Yamagata line). All 12 sets were replaced by E2-2000.	
Japan		JRW	H,KHI,KS,NS*	500	16M	T	0	0	16	0	0	0	0	1996-2010	18240 or 17600		0.44	300	300	0	25kV60Hz	688 (Loaded)	26.5	11.7	404	3380	200	1124	1324	ATC ATC-NS	9 sets had existed.	
Japan		JRW	H,KHI,KS,NS*	500-7000	8M	T	8	8	8	8	64	64	8	2008-	8800		0.44	285	285	8	25kV60Hz				204	3380	0	608	608	ATC ATC-NS	8 sets were renovated from 16-car 500.	
Japan		JRC JRW	H,KHI,KS,NS*	700 700-3000	12M4T		6 8	14	16	14	224	224	14	1998-	13200		0.56	285	285	14	25kV60Hz	708 (Loaded)	18.6	11.4	404.7	3380	200	1123	1323	ATC ATC-NS	JRC 32 sets, JRW 700-3000:15 sets, 700:8 sets - moved from JRC to JRW.	
Japan		JRW	H,KHI,KS,NS*	700-7000	6M2T		16	16	8	16	128	128	16	2000-	6600		0.56	285	285	16	25kV60Hz	356 (Loaded)	18.5	11.4	204.7	3380	0	571	571	ATC ATC-NS		
Japan		JRC JRW	H,KHI,KS,NS*	N700-2000 N700-5000 N700A-1000 N700A-4000	14M2T	T	80 16 46 17	159	16	159	2544	2544	159	2007-	17080		0.72	300	300	159	25kV60Hz	715 (Loaded)	23.9	11.4	404.7	3360	200	1123	1323	ATC ATC-NS	JRC: (N700A(N700-1000,-2000,-9000)) 100 sets; JRW: (N700(N700-3000) & N700A(N700-5000)) 16 sets; (N700A(N700-4000)) 1 sets JRC was converted from N700 to N700A(N700-2000) and JRW is converting from N700-3000 to N700A(N700-5000). N700-9000 is a trial train-set and also converted to N700A.	
Japan		JRW JRK	H,KHI,KS,NS*	N700-7000 N700-8000	8M	T	19 11	30	8	30	240	240	30	2011-	9760		0.72	300	300	30	25kV60Hz			Approx 11	204.7	3360	24	522	546	ATC KS-ATC	JRW(N700-7000) 19 sets, JRK(N700-8000) 11 sets	
Japan		JRC	H,NS	N700S	14M2T	T	1	1	16	1	16	16	1	2020-						1					404.7	3360						
Japan		JRK	H*	800	4M2T		5	5	6	5	30	30	5	2004-	6600		0.69	260	260	5	25kV60Hz	276 (Loaded)	23.9	11.4	154.7	3380	0	392	392	ATC KS-ATC		
Japan		JRK	H*	800-1000 800-2000	4M2T		2 1	3	6	3	18	18	3	2009-	6600		0.72	260	260	3	25kV60Hz				154.7	3380	0	384	384	ATC KS-ATC	2 sets: 800-1000, track inspection is capable. 1set: 800-2000, catenary, signalling and communication inspection are capable.	
Japan		JRE	H,KHI*	E1	6M6T	D	0	0	12	0	0	0	0	1994-2012	9840		0.44	240	240	0	25kV50Hz	693	12.8	17	302	3380	102	1133	1235	ATC DS-ATC		
Japan		JRE	H,KHI,NS,TC C*	E2	8M2T		2	2	10	2	20	20	1	1997-	7200		0.44	275	275	2	25kV50Hz 25kV60Hz	349	18.6	13.0	201.4	3380	51	579	630	ATC DS-ATC	For Joetsu line.	
Japan		JRE	H,KHI,NS,TC C*	E2-1000	8M2T		24	24	10	24	240	240	24	2002-	9600		0.44	275	275	24	25kV50Hz	442	19.6	13.0	251.4	3380	51	763	814	ATC DS-ATC	For Tohoku and Joetsu line.	

World High Speed Rolling Stock

15th January 2020

Country /Region	Photograph	Owner or Operator	Suppliers	Class	Trainset Formula	Features	Number of trainsets	Number of presence	Number of cars in a trainset	Number of cars to add over 200 kph	total number of cars	total number of cars (over200kph)	Number expected	Year in Service	Power [kW]	Tractive Effort [kN]	Acceleration [m/s2]	Max. Speed [km/h]	Max.Op. Speed [km/h]	Number of over 250 kph	Voltage	Weight of the trainset [t]	Power weight ratio [kW/t]	Max.Axle Load [t]	Trainset length [m]	Trainset width [mm]	Seats			Signaling systems	Observations								
																											1st class	2nd class	Total										
Japan		JRE	KHI,TCC*	E3	4M2T		2	2	6	2	12	12	2	1997-	4800		0.44	275	275	2	25kV50Hz 20kV50Hz	258	17.2	12.3	128.2	2945	23	315	338	ATC DS-ATC ATS-P	For Tohoku line.								
Japan		JRE	KHI*	E3-700	4M2T		1	1	6	1	6	6	1	2014-	4800		0.44	275	275	1	25kV50Hz 20kV50Hz	258	18.0	12.3	128.2	2945		143	ATC DS-ATC ATS-P	A luxury train for tourist-oriented services,"Toreiyu", on Yamagata-shinkansen line(the regauged section). It was converted from E3 on 2014.									
Japan		JRE	KHI*	E3-700	4M2T		1	1	6	1	6	6	1	2016-	4800		0.44	275	275	1	25kV50Hz 20kV50Hz	258	18.0	12.3	128.2	2945		143	ATC DS-ATC ATS-P	A luxury train for tourist-oriented services,"Genbi-Shinkansen", on Joetsu-shinkansen line. It was converted from E3 on 2015.									
Japan		JRE	KHI,TCC*	E3-1000	5M2T		3	3	7	3	21	21	3	1999- 2014-	6000		0.44	275	275	3	25kV50Hz 20kV50Hz	311	17.9	12.2	148.7	2945	23	379	402	ATC DS-ATC ATS-P	For through operation b/w Shinkansen line and improved classical line (Yamagata Shinkansen line). 1 additional train set was converted from E3 of 2 trainsets on 2014.								
Japan		JRE	KHI,TCC*	E3-2000	5M2T		12	12	7	12	84	84	12	2008-	6000		0.44	275	275	12	25kV50Hz 20kV50Hz	307	18.1	12.5	148.7	2945	23	371	394	ATC DS-ATC ATS-P	All sets had replaced Series 400.								
Japan		JRE	H,KHI*	E4	4M4T	D	20	20	8	20	160	160	20	1997-	6720		0.46	240	240	0	25kV50Hz	428	14.1	16	201.4	3380	54	763	817	ATC DS-ATC									
Japan		JRE	H,KHI*	E5	8M2T	T	43 (59)	43	10	43	430	430	59	2011-	9600		0.47	320	320 (300[-2012])	43	25kV50Hz	453.5	19.3	13	253	3350	18 55	658	731	ATC DS-ATC	3 classes, For Hokkaido-shinkansen, through operation between JR East and JR Hokkaido								
Japan		JRH	H,KHI*	H5	8M2T	T	4	4	10	4	40	40	4	2016-	9600		0.47	320	320	4	25kV50Hz	453.5	19.3	13	253	3350	18 55	658	731	ATC DS-ATC	3 classes, For Hokkaido-shinkansen, through operation between JR East and JR Hokkaido								
Japan		JRE	H,KHI*	E6	5M2T	T	24	24	7	24	168	168	24	2013-	6000		0.47	320	320 (300[-2014])	24	25kV50Hz 20kV50Hz	306.5	18.4		148.7	2945	23	315	338	ATC DS-ATC ATS-P	For through operation b/w Shinkansen line and improved classical line (Akita Shinkansen line)								
Japan		JRE JRW	H,KHI,KS,J- TREC*	E7 W7	10M2T		22 11	33	12	33	396	396	33	2014-	12000		0.44	275	260	33	25kV50Hz 25kV60Hz	540	20.1		302	3380	18 63	853	934	ATC DS-ATC	3 classes, JRE(E7) 17sets, JRW(W7) 11sets For Hokuriku-shinkansen, operating from 2014								
Japan		JRC JRW	H, NS*	923 923-3000	6M1T	Inspection	1 1	2	7	2	14	14	2	2001- 2005-	6600		0.56	270	270	2	25kV60Hz				179.7	3380	N/A	N/A	N/A	ATC ATC-NS	Based on 700								
Japan		JRE	TCC*	E926	5M1T	Inspection	1	1	6	1	6	6	1	2001-	6000		0.44	275	275	1	25kV50Hz 20kV50Hz	275		12.4	128.2	2945	N/A	N/A	N/A	ATC DS-ATC ATS-P	Based on E3								
Korea		KORAIL	Alstom HyundaiRote m	KTX	2L18T (+ 2MB)	C,A	46	46	20	46	920	920	46	2004-	13560	382	0.45	300	300	46	25kV60Hz	701	17.4	17	388	2904	92	863	955	ATC(TVM), ATS, ATP	"Sancheon"								
Korea		KORAIL	HyundaiRote m	KTX-Sancheon	2L8T	C,A	61	61	10	61	610	610	61	2010-	8800	210	0.45	330	300	61	25kV60Hz	434	19.0		201	2970	30	345	375	ATC(TVM), ATS, ATP	"Sancheon"								
Korea		KORAIL	HyundaiRote m	KTX-Honam	2L8T	C,A	22	22	10	22	220	220	22	2015-	8800	210	0.45	330	300	22	25kV60Hz	434	18.9		201	2970	33	377	410	ATC(TVM), ATS, ATP	"Honam"								
Korea		KORAIL	HyundaiRote m	E320 8 cars			(2)	0	8		0		2	2019-						0													515						
Korea		KORAIL	HyundaiRote m	E320 6 cars			(6)	0	6		0		6	2019-						0														380					
Korea		SR	HyundaiRote m	SRT-Suseo	2L8T	C,A	10	10	10	10	100	100	10	2016-	8800	210	0.45	330	300	10	25kV60Hz	434	18.9		201	2970	33	377	410	ATC(TVM), ATS, ATP	"Suseo" SR is on of the High Speed train operation company in South Korea.								
Korea		KORAIL	HyundaiRote m	KTX-Wongang	2L8T	C,A	15	1	10	1	10	10	15	2017-	8800	210	0.45	330	300	1	25kV60Hz	434	18.9		201	2970	33	377	410	ATC(TVM), ATS, ATP	"Wongang", For Wonju - Gangneung.								
Korea		KORAIL	HyundaiRote m	EMU-250			19	0	6	0	0	0	19	2020-						0														381	5 trainsets for Gyeongjeon, 14 trainsets for Seohae and Center Island and Jungang				
Turkey		TCDD Transport	CAF SA (SPAIN)	HT65000	4M2T		12	12	6	12	72	72	12	2009-	4800	200	0.48	250	250	12	25kV50Hz	297	-	17	158.9	2920	55	356	411	ETCS, ATS	8 seats in cafeteria are excluded.								
Turkey		TCDD Transport	Siemens (GERMANY)	HT80000	4M4T		1 (17)	1	8	1	8	8	17	2015-	8000	300	0.55	320	300	1	25kV50Hz	456	-	17	200.7	2924	111	335	446	ETCS	Siemens Velaro D series. 16 seats in cafeteria are excluded.								
Turkey		TCDD Transport	Siemens (GERMANY)	HT80100	4M4T		6 (96)	6	8	6	48	48	96	2016-	8000	300	0.55	300	300	6	25kV50Hz	456	-	17	200.7	2924	57	426	483	ETCS	Siemens Velaro Turkey series. 36 seats in cafeteria are excluded.								
Turkey		TCDD Transport	Siemens (GERMANY)	HT80100	4M4T		(10+2)	0	8	0	0	0	12	(2020-)	8000	300	0.55	300	300	0	25kV50Hz	456	-	17	200.7	2924	57	426	483	ETCS	Siemens Velaro Turkey series. 36 seats in cafeteria are excluded. Note: 2 additional trainsets are not certain yet.								
Saudi Arabia		Haramain HSR	Talgo	(Talgo 350)	2L13T	C,A	35 (36)	35	15	35	525	525	36	2018-	8000	200		350	300	35	25kV60Hz	373.9			215	2960 (Loco)/2942 (cars)	100	304	404	ETCS									
Morocco		ONCF	Alstom	RGV-M	2L8T	C,A,D	12	12	10	12	120	120	12	2018-				320	300	12	3kV 25kV50Hz				200	2896			533	ETCS	No.1201-1212								
USA		Amtrak	Bonbardier Alstom	Acela	2L6T	C	20	20	8	20	160	160	20	2000-	9200	225		241 (150mph)	241 (150mph)	20	25kV60Hz 12.5kV60Hz 12kV25Hz	566	15.6	23	203	3175	44	260	304	ATP									
USA		Amtrak	Alstom	Avelia Liberty	2L9T	C, A, T	(28)	0	11	0	0	0	28	(2021-)				300 (186mph)	255 (159mph)	0														386					
Total (current)							4983	4983	1506	3486	46608	34585	5638																							4138			
Total (Current+Ordered)							5638																																HRE: Hitachi Rail Europe(UK) HRI: Hitachi Rail Italy