

Company Presentation

Verkehrstechnik Süd GmbH

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➔ History

VTS Verkehrstechnik Süd GmbH was founded in 2003, as a dynamic and meritocratic medium-sized company.

VTS is the result of a managing buyout process enrooted as a business part of the well-established Schaltbau Holding AG. This company successfully exists since 1929 with more than 80 years presence in the railway world.

Under consideration of this background and together with our highly skilled engineers and professionals with long time experience in project management, production, assembling and setting-up to operation of modern and innovative railway vehicles and components, VTS will provide outstanding performance to our customers.

Evolving advancement in process concerning our value added chain never get lost our main pretention:

The provision of service to our customers regarding to their individual demands and without any confinement.

And this is well known in the railway industry:

We are proud, that every notable railway manufacturer in Europe will be found on our customer reference.

➔ Portfolio

Our Team of engineers, commercial professionals and highly skilled employees is prepared to provide outstanding know how and large business activities in electrical systems and sub components.

Additional to our portfolio in electrical railway systems, VTS acquired consolidated knowledge in research, prototyping and pre-production development of electrical components.

In detail, we provide as follows:

→ Engineering

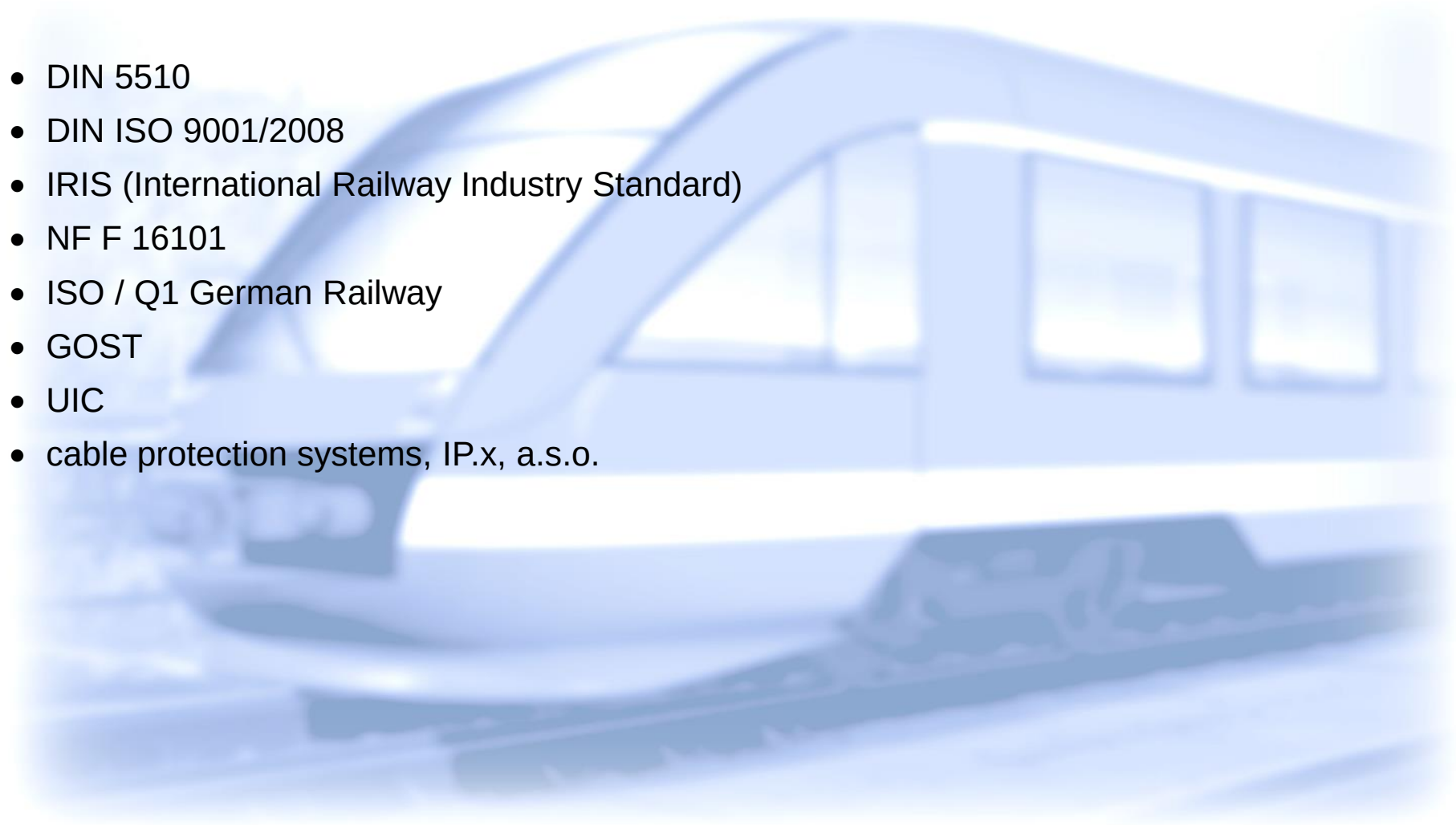
- provide a responsible project manager
- technical and commercial settlement of the project
- design wiring diagrams
- make lists of the items
- programming software for vehicle on-board control system
- design and manufacturing documentations (schematics, part lists, wiring lists)
- design and integration subsystems (engine / transmission, air condition, door control, brake)
- interface management and -clarification
- selection and delivery of components including interfacing of components delivered by customer
- selection and delivery of traction control systems
- inputs to disposition and purchasing
- preparation of documentation (spare part lists, vehicle description, instruction for setting into operation, maintenance instruction)
- setting into operation (static and dynamic, vehicle on-board control system, qualification test)
- staff training (maintenance staff, driver)
- Selection, integration and delivery for the following subsystems:

→ Systems

- Entire **drivers' panels built** in a **steel frame structure**, fitted with ready-made module plates, cabled and tested including interfaces to the coach via electrical or pneumatic connected
- Entire **driving unit module** (complete and preassembled driving unit in **GRP-construction**)
- **Electrical control cabinet** finish implemented, wired and tested
- **On-board battery** system 24 V DC, 120 V DC or other voltages
- **Internal train bus** system (MVB) / **external bus** (WTB) / **Programmable logic controller** (PLC)
- **Interface unit** for engine, gear and brake system
- **Traction control systems**
- **Driver's display** - prepared for electronic time-table system (EBULA)
- Vehicle information system (**FIS**) and **Train radio communication system**
- Inductive train control system (**INDUSI**)
- **Sensors, actors** of vehicle periphery
- **Master controller** for drive and brake
- **MG brake surveillance**
- **GPS** vehicle navigation / **GSM** data communication
- **DC/DC**-converters, **DC/AC**-converters output 230 V AC
- **Video/audio** equipment

➔ Norms and Standards

- DIN 5510
- DIN ISO 9001/2008
- IRIS (International Railway Industry Standard)
- NF F 16101
- ISO / Q1 German Railway
- GOST
- UIC
- cable protection systems, IP.x, a.s.o.



→ Interface head-end module vehicle body



→ Driver`s cab module: interior view



→ Driver`s desk



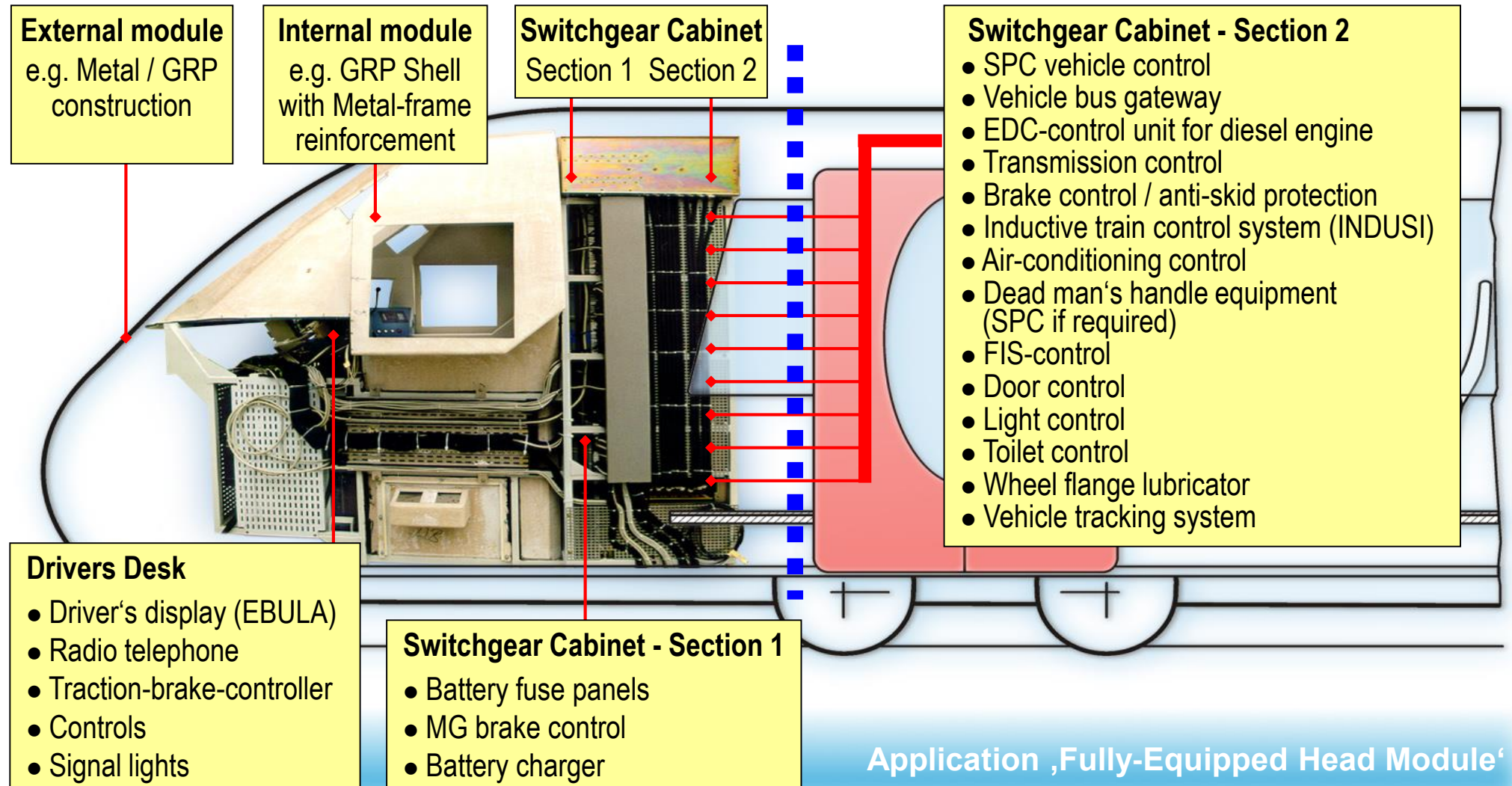
→ Driving unit module



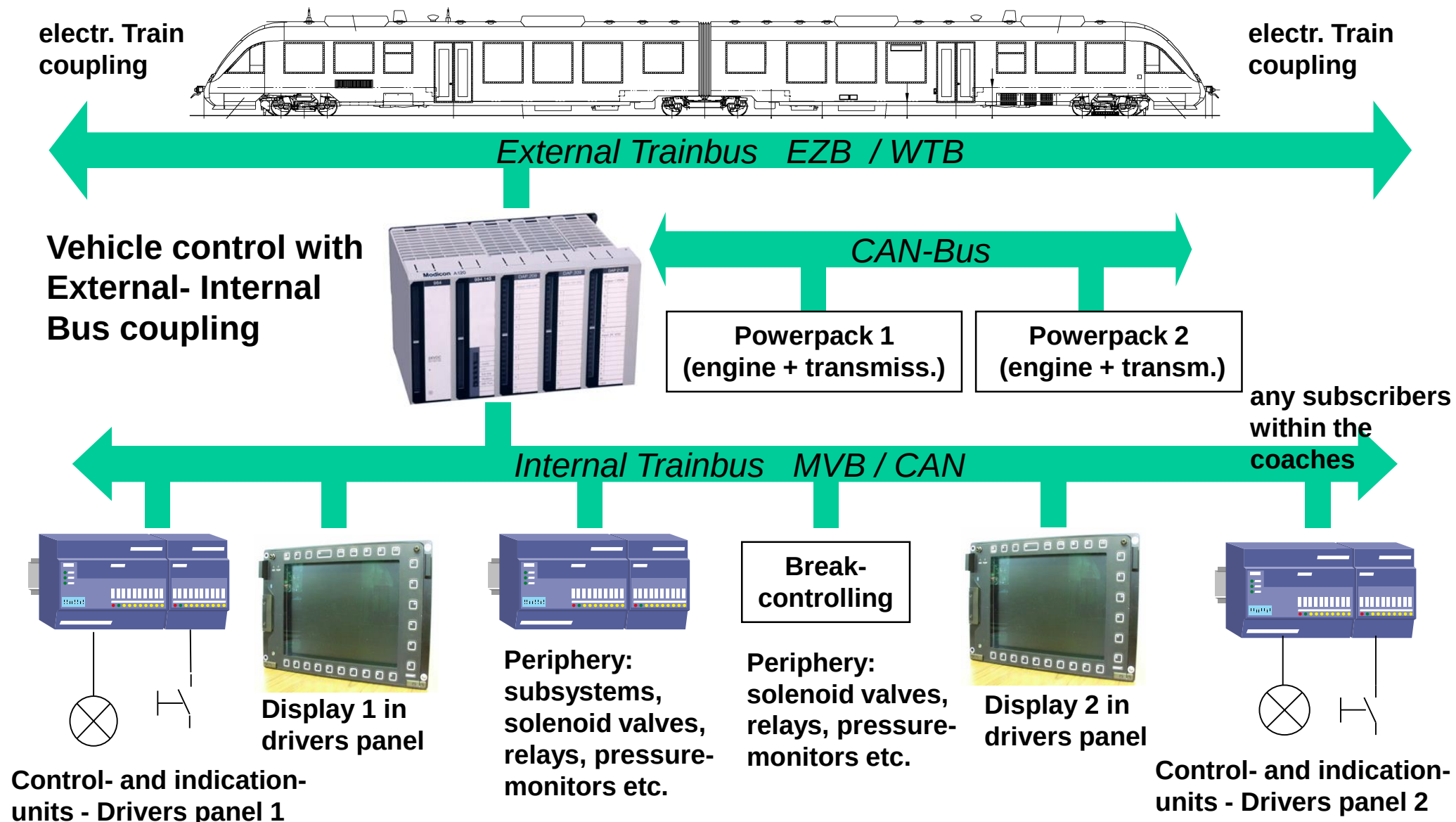
→ Projects



→ Interface: Head-end module ← → Vehicle body



Application 'Fully-Equipped Head Module'



➔ Driver's cab module in GRP frame construction ...



... Interior view

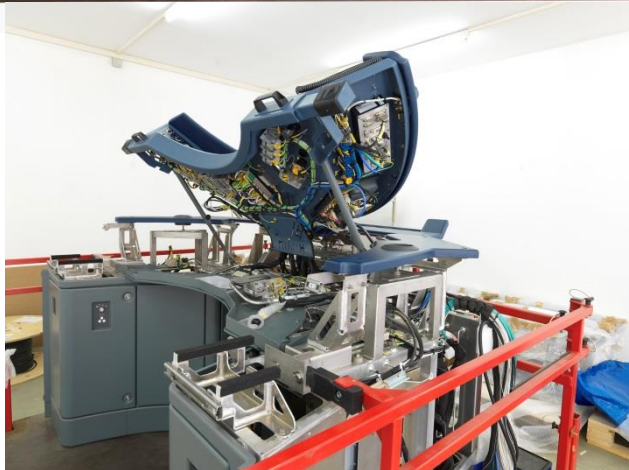
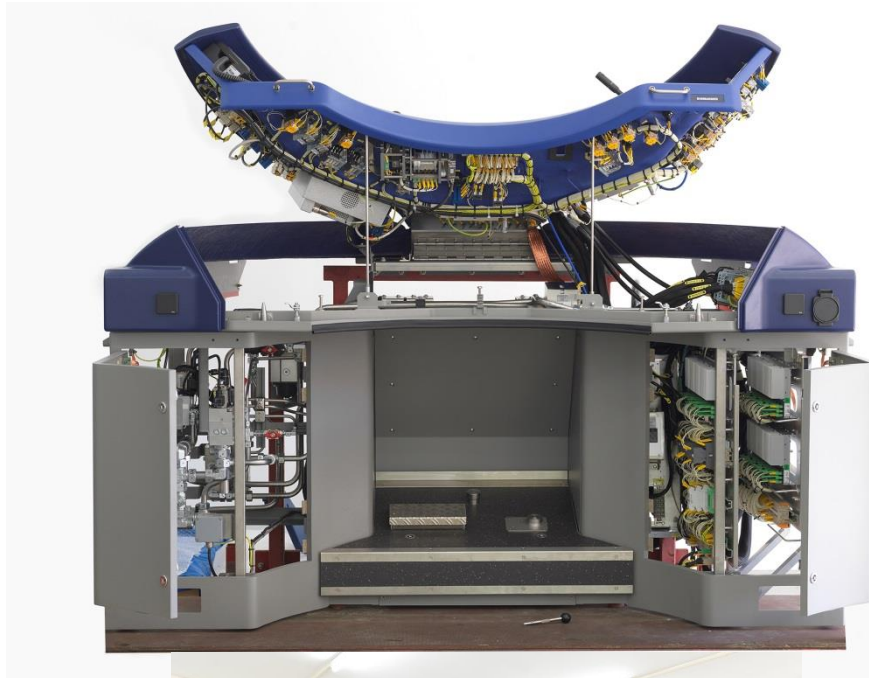
➔ Driver`s desk



As example the new ICX driver's desk



➔ Driver`s desk



→ examples



→ examples



Alstom LINT41 for DB (VT648)



Alstom LINT 41 for priv. railway company Syntus (NL)



Alstom VT641 for DB (BR641)



Stadler Regio-Shuttle family

→ examples



Bombardier: Talent 2 driver's cab control panel



Stadler Rail AG: FLIRT



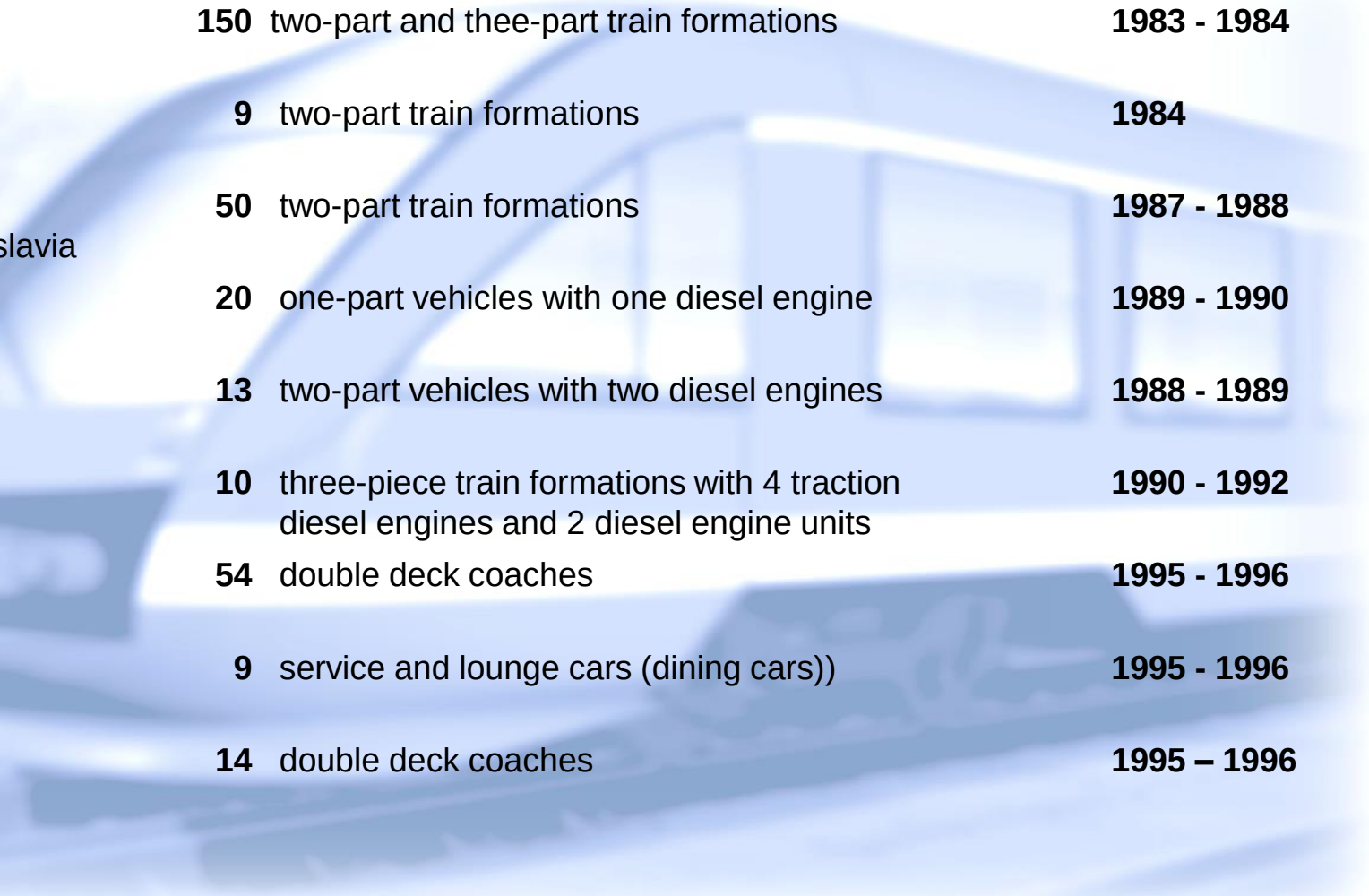
BOMBARDIER: ITINO RMV



Stadler Rail AG: GTW

➔ References

Diesel train sets for RENFE / Spain	150 two-part and thee-part train formations	1983 - 1984
Diesel train sets for ENAFER / Peru	9 two-part train formations	1984
Diesel train sets for MACOSA / Yugoslavia	50 two-part train formations	1987 - 1988
Category 1 for OSE Greece	20 one-part vehicles with one diesel engine	1989 - 1990
Category 2 for OSE Greece	13 two-part vehicles with two diesel engines	1988 - 1989
Category 4 for OSE Greece	10 three-piece train formations with 4 traction diesel engines and 2 diesel engine units	1990 - 1992
Hotel Train for DACH AG	54 double deck coaches	1995 - 1996
S & L for DACH AG	9 service and lounge cars (dining cars))	1995 - 1996
Grosser Belt for DB	14 double deck coaches	1995 – 1996



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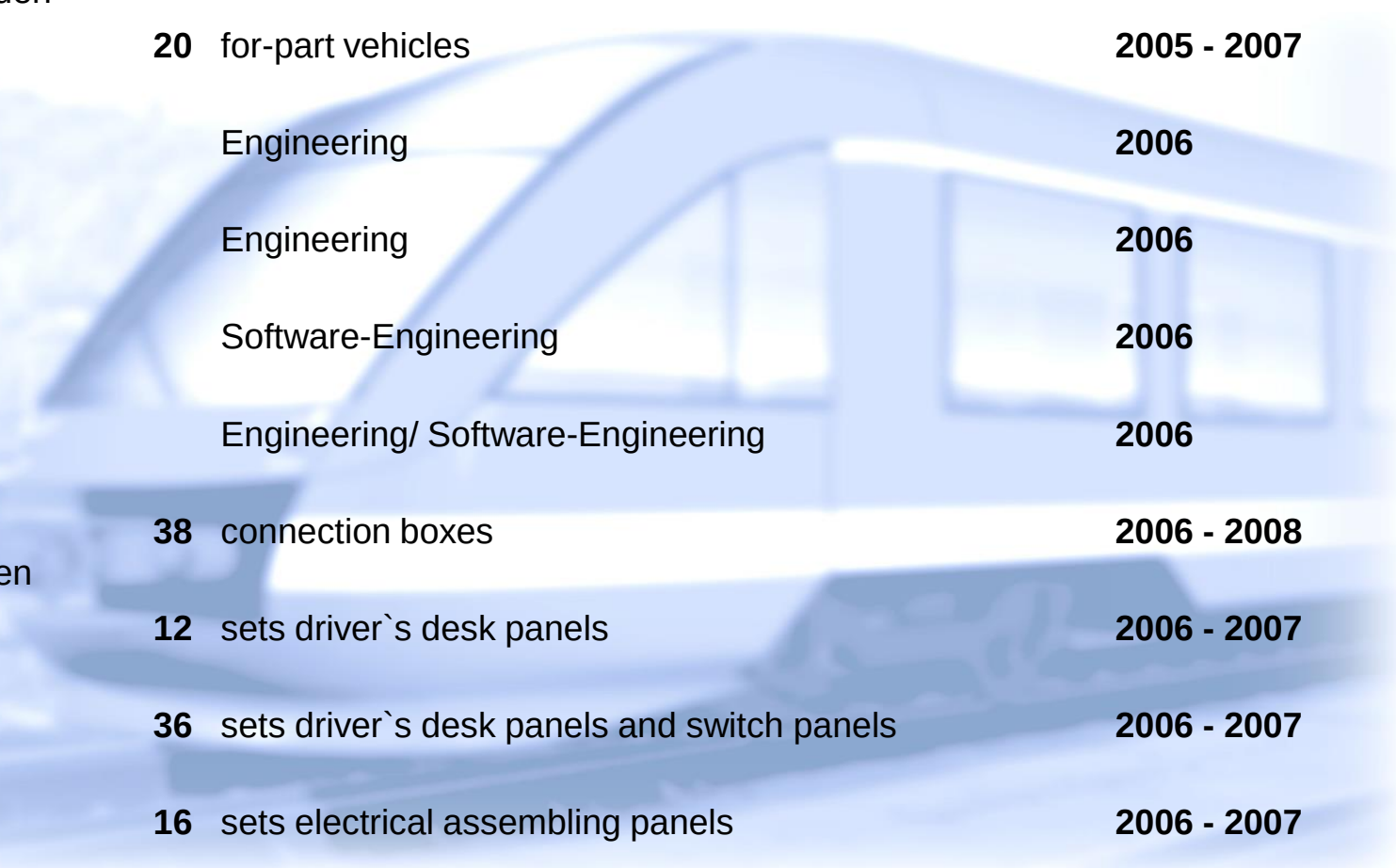
Tourist Train for DB	2 dining cars	1996
Verona for DB	20 dining cars (refurbishment)	1997 – 2000
Passenger Cars for Indian Railways	21 Passenger Cars with air condition and kitchen	1997 - 2000
Generator Cars for Indian Railways	3 Generator Cars with 2 x 315kVA	1998 - 2000
LVT/S for Hessische Landesbahn HLB	5 one-part vehicles with one diesel engine	1998
LVT/S f. Karsdorfer Eisenbahn Ges. KEG	18 one-part vehicles with one diesel engine	1998
Driver's desk for BOMBARDIER	15 driver's desk for double deck coach	1998
VT 640 for DB	30 one-part vehicles with one diesel engine	1998 - 1999
VT 641 for DB / SNCF	40 one-part vehicles with two diesel engines	1998 - 1999
EBO LINT 41 for LNVG Niedersachsen	23 two-part vehicles with two diesel engines	1999 - 2000
EBO LINT 41H for DEG	9 two-part vehicles with two diesel engines	2000

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Regio-Shuttle for different regional railways	56	sets switch-gear cabinet	as of 1999
VT648 for DB	6	two-part vehicles with two diesel engines	2000
EBO LINT 41 for SYNTUS / Netherlands	11+9+3	two-part vehicles with two diesel engines	2000
EBO LINT 41 for Stadtwerke Schwerin	6	two-part vehicles with two diesel engines	2000
EBO LINT 41 for HHA-AKN	5+1	two-part vehicles with two diesel engines	2001
Category 2000 for OSE Greece	15	two-part train formations with 3 traction diesel engines and 1 diesel engine unit	2002 - 2003
Driver`s desk for BOMBARDIER	9	driver`s desk for double deck coach	2003
Driver`s desk People Mover for Siemens Matra France	210	driver`s cab control panels	2003 - 2005
ITINO for BOMBARDIER/ RMV	22	sets switch panels and cabinets	2004 - 2005
Flirt for Stadler Rail AG	80	sets driver`s desk panels	2004 – 2006
GTW Turbo for Stadler Rail AG	55	sets electrical assembling panels	2004 – 2007

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Spatz for Stadler Rail AG	5 sets driver`s desk panels and switch cabinets	2004
switch panels ITINO for BOMBARDIER / Sweden	5 two-part vehicles	2005
switch panels U-Bahn for BOMBARDIER/BVB	20 for-part vehicles	2005 - 2007
FLIRT MAV for Stadler Rail AG	Engineering	2006
TILO for Stadler Rail AG	Engineering	2006
GTW ARRIVA for Stadler Rail AG	Software-Engineering	2006
GTW ST for Stadler Rail AG	Engineering/ Software-Engineering	2006
OTU Skanetrafiken for BOMBARDIER/Sweden	38 connection boxes	2006 - 2008
Flirt SOB /TRN for Stadler Rail AG	12 sets driver`s desk panels	2006 - 2007
GTW ARRIVA for Stadler Rail AG	36 sets driver`s desk panels and switch panels	2006 - 2007
TILO for Stadler Rail AG	16 sets electrical assembling panels	2006 - 2007



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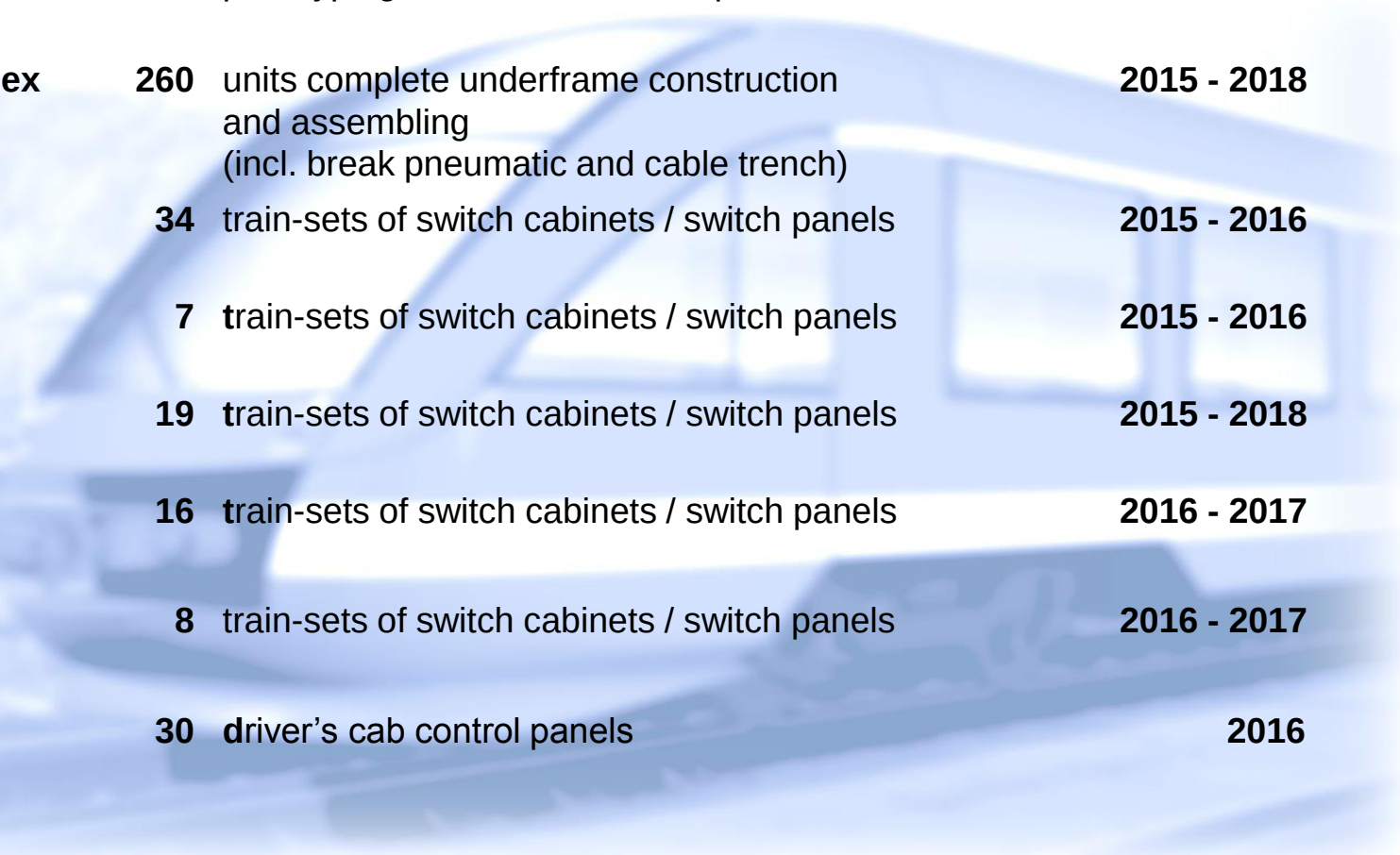
TANGO tram way for Stadler Rail AG	Engineering/ Software-Engineering	2006 - 2008
Flirt MAV for Stadler Rail AG	25 sets driver`s desk panels	2007 - 2008
switch panels ET425 for BOMBARDIER/SIEMENS	26 sets INDUSI panels	2007- 2008
switch panels ITINO for BOMBARDIER/ RMV	4 two-part vehicles	2008
Driver`s desk People Mover for Schaltbau France	32 driver`s cab control panels for Korea	2008 - 2009
switch panels ITINO for BOMBARDIER / Sweden	13 two-part vehicles	2008 - 2009
Flirt Algerian for Stadler Rail AG	44 sets HB and S1 units	2008 - 2009
Talent 2 for Center Systems	642 sets manufacturing of cable units	2008 - 2012
Talent 2 for BOMBARDIER	642 driver`s cab control panels	2008 - 2013
Driver Desk`s VAL 208 for Siemens SAS France	52 driver`s cab control panels for Toulous	2010 - 2011

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Driver Desk's DOSTO for PCS / BOMBARDIER	22 driver's cab control panels	2011 - 2012
Flirt Helsinki for Stadler Rail AG	24 sets of switch cabinets / switch panels	2011 - 2013
Flirt Belarus for Stadler Rail AG	7 sets of switch cabinets / switch panels	2011 - 2012
GTW Turbo for Stadler Rail AG	12 sets of switch cabinets / switch panels	2012 - 2013
Flirt Olten for Stadler Rail AG	13 sets of switch cabinets / switch panels	2012 - 2013
Driver Desk's DOSTO for PCS / BOMBARDIER	9 driver's cab control panels	2013 - 2014
Flirt Helsinki for Stadler Rail AG	9 sets of switch cabinets / switch panels	2013 - 2014
GTW Turbo for Stadler Rail AG	3 sets of switch cabinets / switch panels	2013 - 2014
SBB-Underframe Twindex for Huber + Suhner AG / Bombardier	54 units complete underframe construction prototyping and assembling (incl. break pneumatic and cable trench)	2013 - 2015
Driver Desk's ICX for Siemens AG	14 prototyping the driver's cab control panels	2014 - 2015
Aero Express Moscou for Stadler Rail AG	25 complete train sets (incl. switch cabinets/panels, all cable trenches)	2014 - 2017

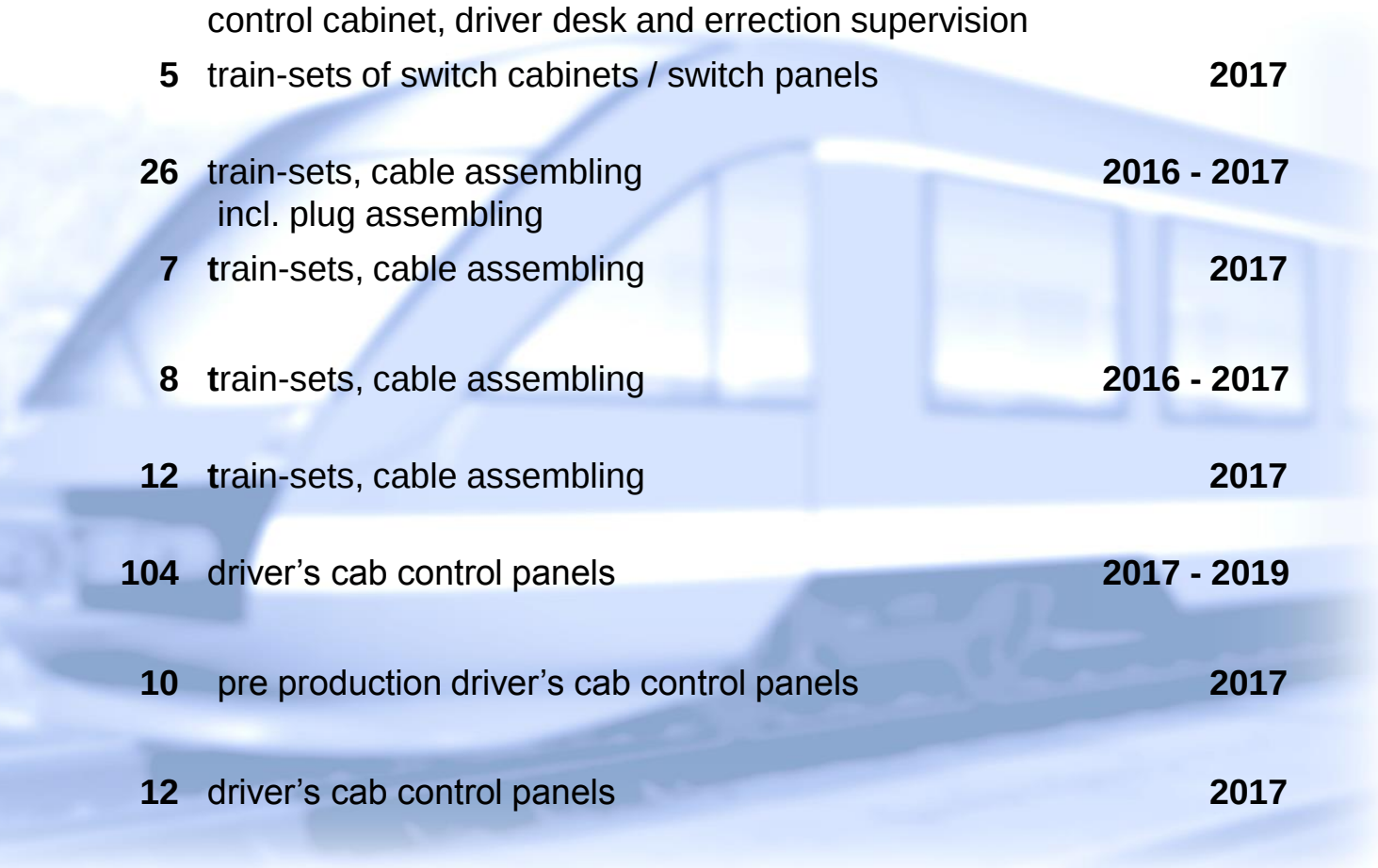
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Talent 2 for BOMBARDIER	200 driver's cab control panels	2014 - 2017
ET490 / Regio Hamburg for BOMBARDIER	16 prototyping driver's cab control panels	2014 - 2017
SBB-Underframe Twindex for Huber + Suhner AG / Bombardier	260 units complete underframe construction and assembling (incl. break pneumatic and cable trench)	2015 - 2018
Flirt Helsinki for Stadler Rail AG	34 train-sets of switch cabinets / switch panels	2015 - 2016
Flirt Olten for Stadler Rail AG	7 train-sets of switch cabinets / switch panels	2015 - 2016
RV-Option for Stadler Rail AG	19 train-sets of switch cabinets / switch panels	2015 - 2018
Westbahn II for Stadler Rail AG	16 train-sets of switch cabinets / switch panels	2016 - 2017
Aarhus for Stadler Rail AG	8 train-sets of switch cabinets / switch panels	2016 - 2017
Talent 2 for BOMBARDIER	30 driver's cab control panels	2016



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Harsco Europe Gotthardtunnel	11 train-sets electrical equipment consisting of: high voltage switch cabinet, control cabinet, driver desk and errection supervision	2016 - 2017
Flirt Helsinki for Stadler Rail AG	5 train-sets of switch cabinets / switch panels	2017
Helsinki for Stadler Rail AG	26 train-sets, cable assembling incl. plug assembling	2016 - 2017
TBG for Stadler Rail AG	7 train-sets, cable assembling	2017
BLT for Stadler Rail AG	8 train-sets, cable assembling	2016 - 2017
BTW for Huber & Suhner	12 train-sets, cable assembling	2017
ET490 / Regio Hamburg for BOMBARDIER	104 driver's cab control panels	2017 - 2019
Driver Desks ICx for Siemens AG	10 pre production driver's cab control panels	2017
Talent 3 for BOMBARDIER	12 driver's cab control panels	2017



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Talent 3 ÖBB for BOMBARDIER	16 driver's cab control panels	2017
Flirt SOB Stadler Rail AG	11 train sets of switch cabintes / switch panels	2017
Flirt HWN2 Stadler Rail AG	5 train sets of switch cabintes / switch panels	2017
Flirt Flex SBB Stadler Rail AG	7 train sets of switch cabintes / switch panels	2017
Fire Protection Systems Stadler Rail SOB Wagner Rail	13 train sets	2017
U-Bahn München Wagner Rail	50 train sets fire protection systems installation and commissioning	2017
Talent 3 ÖBB for BOMBARDIER	126 drivers cab control panels	2018
Flirt Tilo Stadler Rail AG	5 trains sets of switch cabinets / switch panels	2018
DoSto Israel for BOMBARDIER / Knorr Powertech	11 driver's cab control panels	2018 – 2019

