

# **Product division Railway Vehicles Technologies**

## Standard-Gauge Railway

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## Attachments

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## Metro and Mass Transit

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## Services

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## Standard-Gauge Railway Core Vehicles

### MPV™ 4-axled



### OB 2-axled



### Road Rail Vehicles



## Standard-Gauge Railway

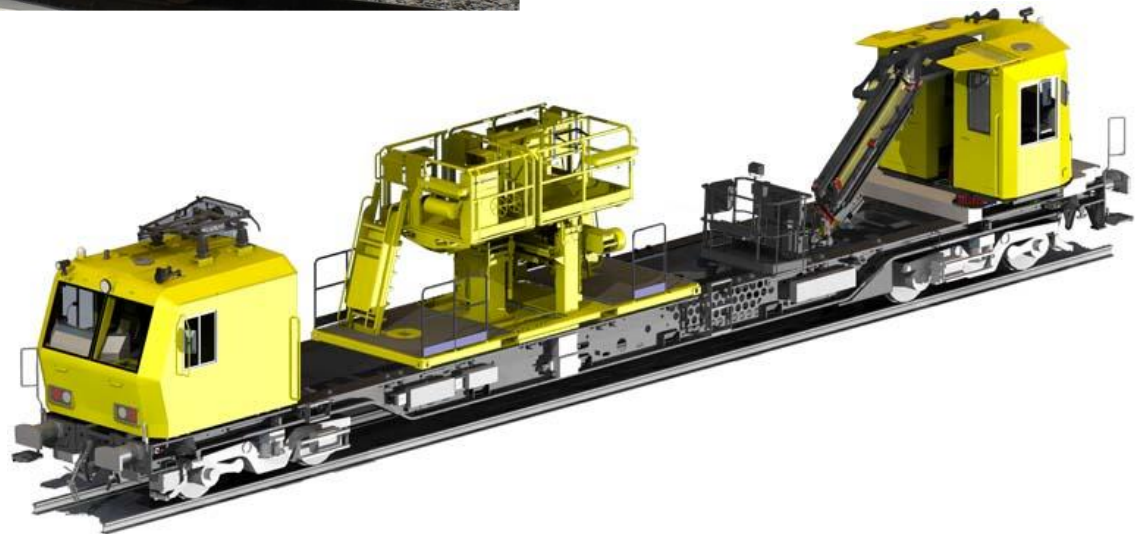
### **Construction and Maintenance of Tracks**

- Multi Purpose Vehicles (MPV™)
- Vehicles with Crane and Excavator
- Track Measuring
- Road Rail Vehicles
- **Fire Fighting and Rescue Trains**
- Fire Fighting Vehicle
- Equipment Vehicle
- Rescue Vehicle

### **Construction and Maintenance of Overhead Lines**

- Placing of foundations
- Mast-Setting
- Wiring Trains
- OHL Maintenance
- OHL Measuring
- Complete catenary reconstruction
- **Freight Transport**
- CargoShuttle





Catenary Maintenance Vehicle based on MPV™  
Infraspeed Maintenance - High Speed Line HSL-Zuid, Netherlands





Construction and Maintenance of Overhead Line Equipment  
SPL Powerlines





Construction and Maintenance of Overhead Line Equipment,  
Schweizerische Südostbahn SOB





Catenary Maintenance Vehicle based on MPV™ for THSRC,  
Taiwan High Speed Rail Corporation, Taiwan



Catenary Maintenance Vehicle based on MPV™ for THSRC,  
Taiwan High Speed Rail Corporation, Taiwan



Self Propelled Service Wagons  
Krani – Hubi – Combi for SBB  
Delivery as of 2008







MPV™ CTRL







MPV™ in Application for Track Maintenance



... with Crane

... with Piling Unit for Mast Foundation

**MPV™** in Application for OHL Construction

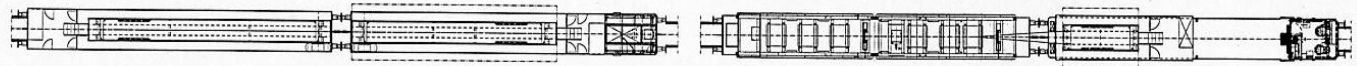
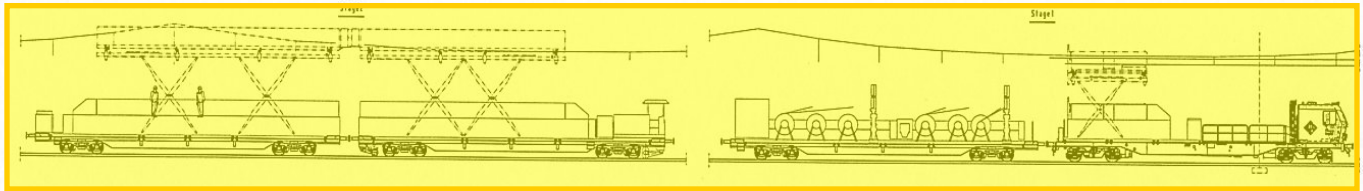




**High-Output Re-Wiring Train, WCRM**

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Direction of  
Working



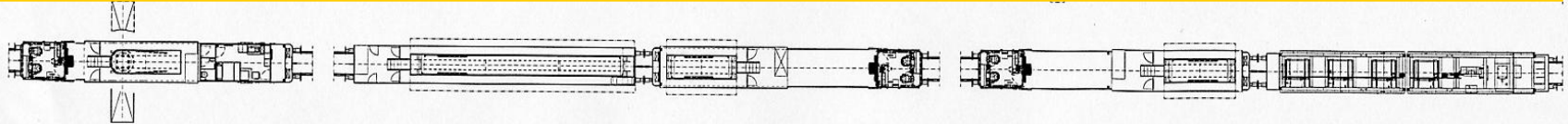
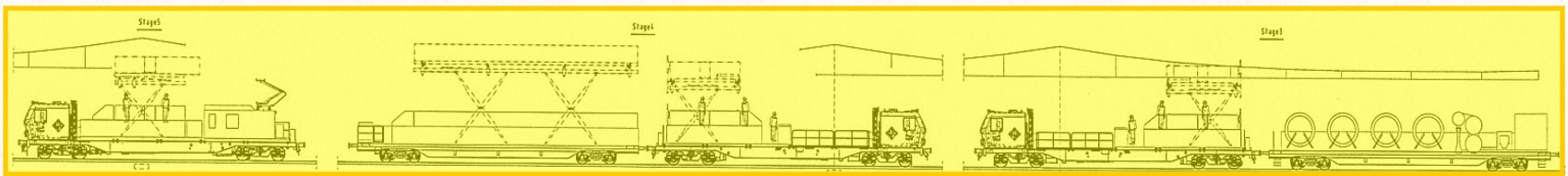
Stage 2

Stage 1

Stage 5

Stage 4

Stage 3



High- Output Re-Wiring Train based on MPV™ ; WCRM (West Coast Main Line / GB)





Re-Wiring Train



Re-Wiring Train Stage 1



Re-Wiring Train Stage 2

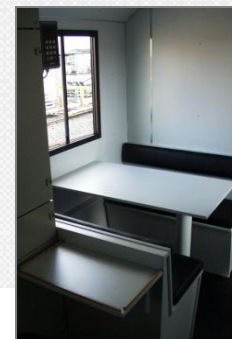


Re-Wiring Train Stage 3



Re-Wiring Train in Multitraction,  
8 Engines, 2120 kW





Re-Wiring Train Stage 5  
(Measuring Module)



Rhätische Bahn



Construction and Maintenance of Overhead Line Equipment



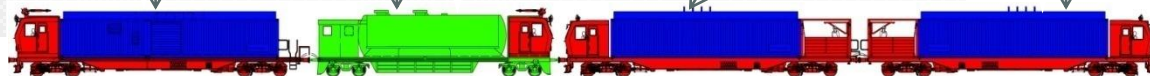


**Equipment Vehicle**  
(MPV and Equipment Container)

**Fire Fighting Vehicle**  
(Tank Wagon with Machinery plus Cab)

**Rescue Vehicle**  
(MPV and Rescue Container)

**Fire Fighting and Rescue Trains on MPV™ Basis**





FMU Commercial Trials using the  
MPV™ in the UK



CargoShuttle Australia





Track Maintenance Vehicle OB 100,  
equipped for summer season



Track Maintenance Vehicle OB 100

Construction and Maintenance of Tracks:  
Modern Vehicle for Deutsche Bahn AG, equipment for summer season



Track Maintenance Vehicle OB 100,  
equipment for winter season



Track Maintenance Vehicle OB 100,  
equipment for winter season

Construction and Maintenance of Tracks:  
Modern Vehicle for Deutsche Bahn AG,  
equipment for winter season with snow blower  
and additional snow plough or snow broom



## Road Rail Vehicles



Road Rail Basis Vehicle





Road Rail Vehicles

## Example:

Platform with GFK-  
basket





## Metro and Mass Transit



- **Track Construction Vehicles**
- **Rail Grinding Vehicles**
- **Rail Grinding Trailer**
- **Road Rail Vehicles**
- **Rail Crane Vehicles**
- **Ballast Dispensing Vehicles**
- **Rail Transport Vehicles**
- **...and Trailer Variants**



Extreme low and narrow Bi-Directional Maintenance Train  
Société des Transports Intercommunaux de Bruxelles (STIB), Tramway Bruxelles



Extreme low and narrow Bi-Directional Maintenance Train  
Société des Transports Intercommunaux de Bruxelles (STIB), Tramway Bruxelles





Rail Grinding Vehicle Warschau



Rail Grinding Vehicle VAG Nürnberg

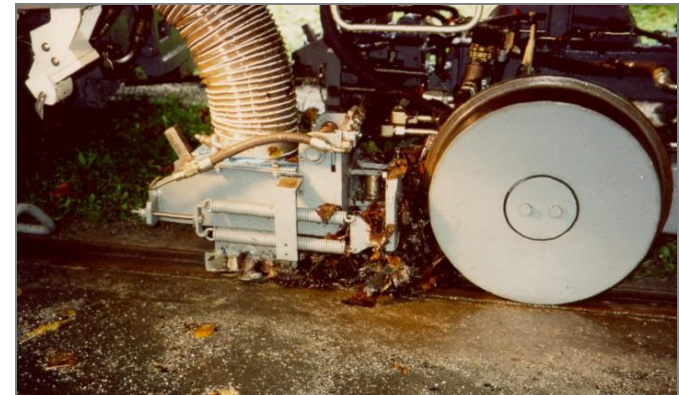
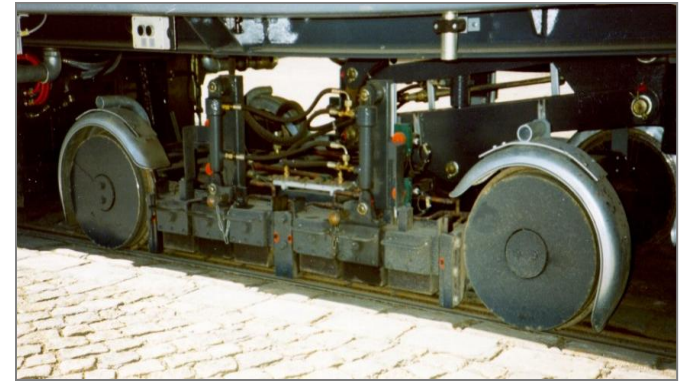


Rail Grinding Vehicle Helsinki



Rail Grinding Vehicle Freiburg

## Rail Grinding Vehicles



Cabin Rail Grinding Vehicle Essen





Track Maintenance Vehicle OB 50 for Metro  
Copenhagen



Track Maintenance Vehicle OB 40 for VAG  
Nürnberg

Construction and Maintenance of Tracks





OB 50 for Metro Copenhagen



Rail Crane Vehicle SK 40, Nürnberg

Construction and Maintenance of Tracks



Ballast Dispensing Vehicle SL 40 ,BVG Berlin

## Attachments



- **Sleeper Changing Unit Windhoff ASW with hydr. Sleeper Gripper**
- **Sleeper Layer ASL 5**
- **Mulcher AGM**
- **Ballast Broom Windhoff ASB with hydr. Running Gear**
- **Tamping Unit Windhoff AST 8**
- **Tamping Unit Windhoff AST 8-Sw**
- **Tamping Unit Windhoff AST 8- Suw**





Sleeper Changer  
Typ ASW



Ballast Broom  
Typ ASB



Sleeper Layer  
ASL 5



Mulcher  
Typ AGM



Tamping Unit Typ AST 8



Tamping Unit Typ AST 8 Suw

Attachment Units for Construction and Maintenance of Tracks



## Services



- Retrofit of Drive Capacity and Control Systems
- Updating of Brake Systems
- Adaption of Railway Supervision Systems
- Engineering





TM 232 (ex TM III) der SBB:  
Upgrading and Retrofitting of 52 Maintenance Vehicles



## Upgrading of LOKs





**Control cabinet in the cabin**



**Plu and sockets in the frame**



**Radar sensor with snow protector**



**Balisen-Antenna**

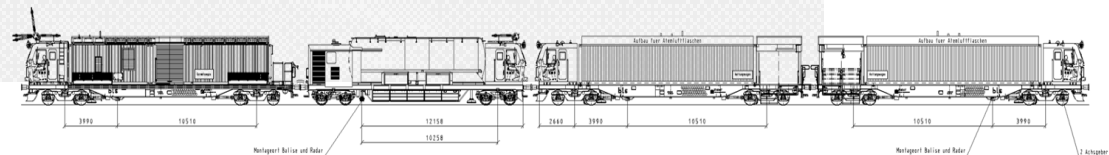


**Train radio a. ETCS Displays**

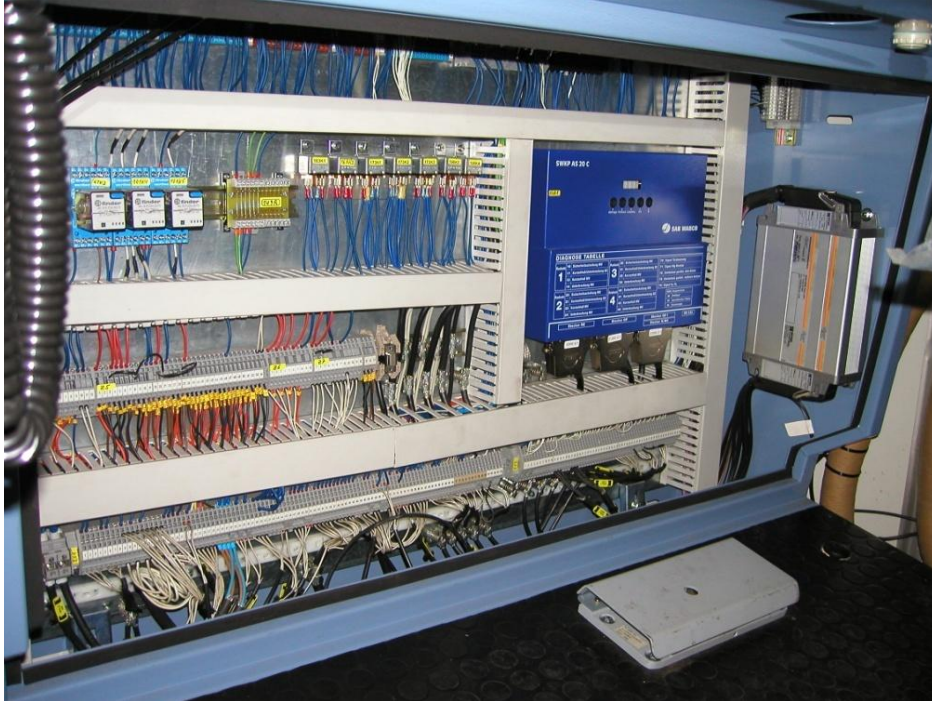


**Elektronical speedometer**

ETCS Retrofitting LRZ 04





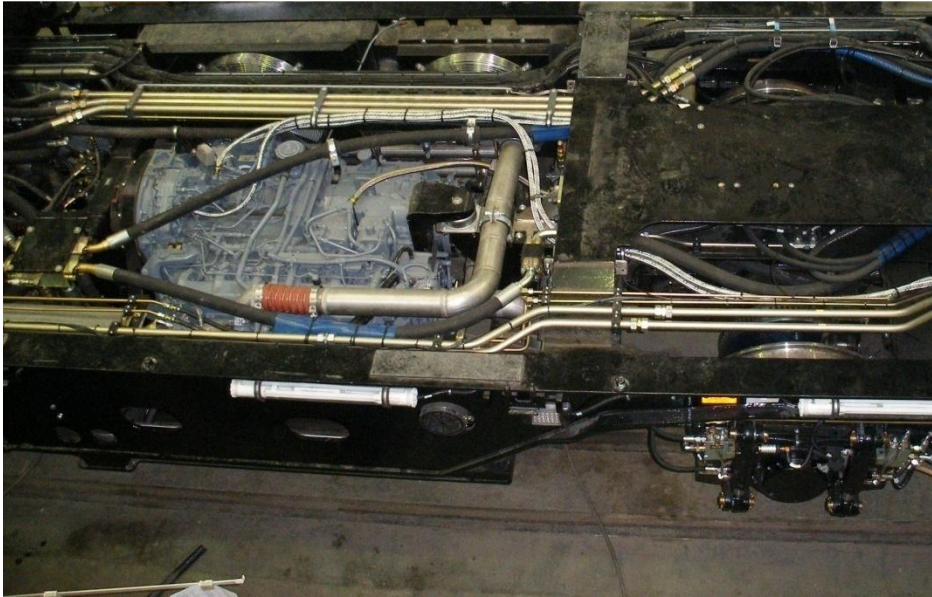


Examples of Electrical Cabinets

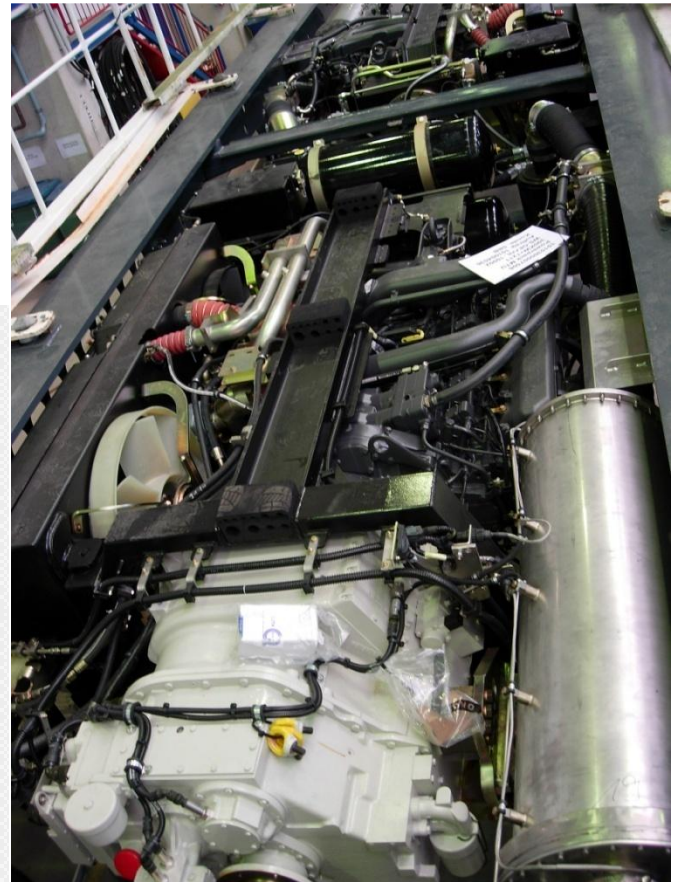


Drivers Desk with Railway Supervision Systems



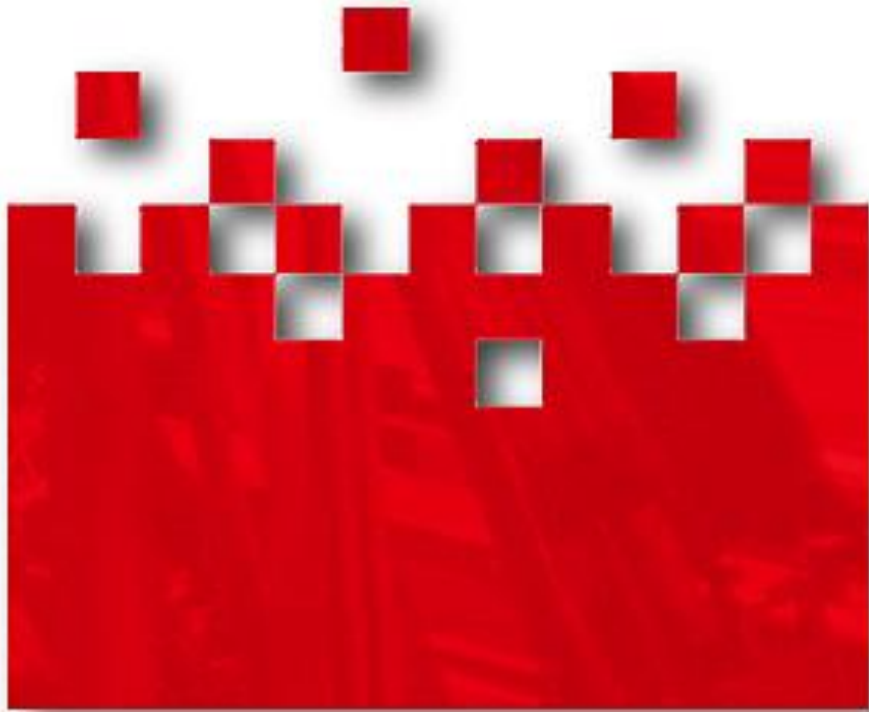


PowerPack MAN



PowerPack MTU





**Thank you very  
much for your kind  
attention!**