

Procurement project ZKL (Dual Mode Locomotive)

Project profile



Objective of the overall project

- **Partly Replacement of the outdated existing fleet with dual mode locomotives** in line with the DB Cargo fleet strategy for renewing and modernising shunting and diesel locomotives.
- The dual mode locomotive forms the basis for implementing a new locomotive deployment concept.
- **The objectives** of the dual mode locomotive deployment are...
 - **Reduction in energy costs** by using electrical energy instead of diesel
 - **Reduction in maintenance costs** by using modern vehicles with electric drive trains compared to old vehicles
 - **Increased productivity** through increased performance in the local area and increased locomotive utilisation
 - **Reduction of emissions** by reducing "driving with diesel under overhead lines"
 - **Creation of a modern workplace** compared to the existing vehicles, including upgrading the shunting driver's activities

General data of the project

- **Target:** Procurement of 146 dual mode locomotives currently on order for DB Cargo
- **Delivery curve:** delivery of the first vehicles in 2024
- **ETCS approval** in 2025, retrofitting of vehicles delivered to date
- **Further call-offs from the framework agreement** have been made to date by DB Bahnbaugruppe, DB S-Bahn Stuttgart and DB Fernverkehr

Vehicle parameters

▪ Designation	BR 249 / "Vectron Dual Mode Light"
▪ Power at the wheel E-mode	2,000 kW (2,200 kW in boost mode)
▪ Power at the wheel DE operation	750 kW (926 kW in boost mode)
▪ Starting tractive effort	300 kN
▪ Line category	CE/CM (max. 84 tonnes total weight)
▪ Field of application	Germany
▪ Vmax	120 km/h in electric and diesel mode
▪ Automatic train control	PZB & ETCS BL3
▪ Equipment	<ul style="list-style-type: none">• Radio remote control• Multiple traction (up to 4 locomotives)• Automatic starting mechanism• Semi-automatic brake test• Shunter's steps

Delivery curve (DBC vehicles ordered)

Year	2024	2025	2026	2027
selective	29	43	41	33
cumulative	29	72	113	146

Procurement project ZKL (Dual Mode Locomotive)

"Vectron Dual Mode Light" by Siemens Mobility GmbH



Procurement project DEHLo (DieselElectricHybridLoco)

Project profile



Objective of the overall project

- **Partly Replacement of the outdated existing fleet with hybrid locomotives** in line with the DB Cargo fleet strategy for renewing and modernising foreman shunters and diesel locomotives.
- Alongside the dual mode locomotive, the hybrid locomotive is another building block in the realisation of a new locomotive deployment concept.
- **The goals** of the hybrid locomotive deployment are...
 - **Reduction in energy costs** by storing braking energy in the traction battery & optimised engine running
 - **Reduction in maintenance costs** by using modern vehicles with electric drive trains compared to old vehicles
 - **Increased productivity** through increased performance in the local area and increased locomotive utilisation
 - **Reducing emissions** by being able to drive with zero emissions in certain areas
 - **Creation of a modern workplace** compared to the existing vehicles incl. upgrading the shunting driver's activities

General data of the project

- **Target:** Procurement of 50 hybrid locomotives currently on order for DB Cargo
- **Delivery curve:** delivery of the first vehicles in 2027
- **ETCS:** pre-fitting for operation on ETCS lines
- **Delivery interruption:** Locomotives will be produced for a locomotive rental company in 2028

Vehicle parameters

▪ Designation	BR 1018 / Project DEHLo / Toshiba
▪ Hybrid power on the wheel	750 kW
▪ Power on the wheel Battery operation	200 kW
▪ Starting tractive effort	300 kN
▪ Line category	CE/CM (max. 80 tonnes total weight)
▪ Field of application	Germany
▪ Vmax	100 km/h in hybrid mode
▪ Automatic train control	PZB & ETCS preparation
▪ Equipment	<ul style="list-style-type: none"> • Radio remote control • Multiple traction (up to 4 locomotives) • Automatic starting mechanism • Semi-automatic brake test • Zero emissions operation

Delivery curve (DBC vehicles ordered)

Year	2027	2028	2029	2030
selective	25	0	25	0
cumulative	25	25	50	50

Procurement project DEHLo (DieselElectricHybridLoco)

"HDB 800" by Toshiba Railway Europe GmbH



Procurement project HSL (HybridShunterLoko)



Project profile

Objective of the overall project

- **Partly Replacement of the outdated existing fleet with hybrid locomotives** in line with the DB Cargo fleet strategy for renewing and modernising foreman shunters and diesel locomotives.
- Alongside the dual mode locomotive, the hybrid locomotive is another building block in the realisation of a new locomotive deployment concept.
- **The goals** of the hybrid locomotive deployment are...
 - **Reduction in energy costs** by storing braking energy in the traction battery & optimised engine running
 - **Reduction in maintenance costs** by using modern vehicles with electric drive trains compared to old vehicles
 - **Increased productivity** through increased performance in the local area and increased locomotive utilisation
 - **Reducing emissions** by being able to drive with zero emissions in certain areas
 - **Creation of a modern workplace** compared to the existing vehicles, including upgrading the shunting driver's activities

General data of the project

- **Target:** Procurement of 50 hybrid locomotives currently on order for DB Cargo
- **Delivery curve:** delivery of the first vehicles in 2026
- **ETCS:** Equipped with ETCS Baseline 3.6
- **Further call-offs from the framework agreement** have been made to date by DB Bahnbau Gruppe and FZI (DB Fahrzeuginstandhaltung)

Vehicle parameters

▪ Designation	BR 1020 / HSL project / Vossloh
▪ Hybrid power on the wheel	750 kW
▪ Power on the wheel Battery operation	300 kW
▪ Starting tractive effort	300 kN
▪ Line category	CE/CM (max. 84 tonnes total weight)
▪ Field of application	Germany
▪ Vmax	100 km/h in hybrid mode
▪ Automatic train control	PZB & ETCS BL 3.6
▪ Equipment	<ul style="list-style-type: none">• Radio remote control• Multiple traction (up to 4 locomotives)• Automatic starting mechanism• Semi-automatic brake test• Zero emissions operation

Delivery curve (DBC vehicles ordered)

Year	2026	2027	2028	2029
selective	6	44	0	0
cumulative	6	50	50	50

Procurement project HSL (HybridShunterLoko)

"Modula" / "DM 20" by Vossloh Rolling Stock GmbH

