In October 2004 and June 2010, Bogestra ordered a total of 45 (30 plus option on 15) Variobahn for service in Bochum, Gelsenkirchen and Herne. Another order for 42 plus 8 options followed in August 2015. The bi-directional vehicles have 100 per cent low-floor area throughout. The vehicles have been in service since 2008.

The Variobahn is a modern, modular tram system with defined interfaces and a high level of flexibility in terms of length, width, gauge and catenary voltage. This allows optimum adaptation to the customer’s needs. Unlike the first order in October 2004, the Variobahn now has a welded-in roof.

The generous carriage width makes for a spacious interior within the Variobahn, with a bright and welcoming passenger area.
Technical features

**Technology**
- Modular design based on main functions (head module, motor bogie module, passenger module, trailer bogie module)
- Bi-directional vehicle
- Body shell made from high-alloy steel
- Adhesive bonding technology for external panelling
- Length and width can be adjusted using selected modules and pitches

**Comfort**
- Constant floor level: 100 % low-floor
- Free seat configuration in the passenger modules
- Seats hung-mounted in the passenger modules
- Fully air-conditioned passenger compartment and driver’s cab

**Personnel**
- Ticket sales from the driver
- Ergonomically designed driver’s cab

**Reliability / Availability / Maintainability / Safety**
- Fire protection for vehicles that can be operated in tunnels

Vehicle data

**Customer**
Bochum-Gelsenkirchener Strassenbahnen AG (Bogestra)

**Areas serviced**
Cities of Bochum, Gelsenkirchen and Herne

**Number of vehicles**
45/42 + 8

**First delivery**
2008 + 2016

**Vehicle length**
29620 mm

**Vehicle width**
2300 mm

**Height (over roof-mounted components)**
3350 mm

**Access height from top of rail**
300 mm

**Floor height LF (100%)**
350 mm

**Aisle width**
520 mm

**Gauge**
1000 mm

**External sliding doors, 5 per side**

**Wheel diameter**
650/570 mm (new/worn)

**Driving wheels/carrying wheels**
8/4

**Catenary voltage**
600/750 V

**Drive system**
8 × 45 kW

**Max. speed**
70 km/h

**Seats**
56 (incl. 6 tip-up seats)/ 64 (incl. 20 tip-up seats)

**Standing capacity (4 pers./m²)**
128 / 116

**Min. curve radius**
18 m