In November 2013, PKP Intercity ordered 20 electric multiple unit FLIRTs from the delivery consortium of Stadler Polska Sp. z o.o. and Newag SA. Stadler will also be responsible for technical maintenance of the vehicles for 15 years. The trains are for the main Warsaw, Szczecin, Gdynia, Olsztyn, Katowice and Kraków lines. They are designed for a speed of 160 km/h and fitted with ETCS Level 2 automatic train control. The trains, which are totally barrier-free, feature first- and second-class compartments and a bistro. The generous, air-conditioned interior allows the passengers to travel in comfort. A visual and acoustic passenger information system provides travellers with relevant information.
**Vehicle data**

- **Customer**: PKP Intercity S.A.
- **Area serviced**: Poland
- **Gauge**: 1435 mm
- **Designation**: ED160
- **Supply voltage**: 3 kVDC
- **Axle arrangement**: Bo’ 2’ 2’ 2’ 2’ + 2’ 2’ 2’ 2’ Bo’
- **Number of vehicles**: 20
- **Commissioning**: 2015
- **Seats**:
  - First class: 60
  - Second class: 294
- **Bistro benches**: 8
- **Tip-up seats**: 6
- **Floor height**: 1180 mm
- **Entrance width**: 940 mm
- **Axial thrust**: 1500 kN
- **Length over coupling**: 152900 mm
- **Vehicle width**: 2820 mm
- **Vehicle height**: 4120 mm
- **Bogie wheelbase**:
  - Motor bogie: 2500 mm
  - Jacobs trailer bogie: 2700 mm
  - Trailer bogie: 2500 mm
- **Driving wheel diameter, new**: 920 mm
- **Carrying wheel diameter, new**: 760 mm (UTB)/920 mm (TB)
- **Continuous output at wheel**: 2000 kW
- **Max. output at wheel**: 3000 kW
- **Starting acceleration, gross**: 0.6 m/s²
- **Maximum speed**: 160 km/h

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**Technical features**

**Technology**

- Lightweight car bodies in integral aluminium design in line with the latest standards for crashworthiness (EN 15227) and car body strength (EN 12663)
- Autocoupler
- Multiple unit train control with two vehicles
- Motor bogies and trailer bogies with pneumatic suspension
- Modern vehicle control system

**Comfort**

- Full access throughout the passenger compartments
- Bright, passenger-friendly interior
- High-floor (1'180 mm from top of rail in the entire passenger compartment)
- Spacious multifunctional zone
- Dining compartment with access for the disabled
- Eight entrance doors on each side
- HVAC for passenger compartments and driver’s cab
- Vacuum toilet system with disabled access

**Personnel**

- Ergonomically and comfortably designed working environment to prevent driver fatigue
- Staff compartment with private toilet and shower for bistro staff
- Train crew compartment

**Reliability/Availability/Maintainability/Safety**

- Modern passenger information system and video surveillance
- Ergonomic vehicle diagnostics with remote reading option to support status-based maintenance
- Redundant drive equipment with water-cooled IGBT power converters
- ETCS Level 2 and SHP automatic train control
- Complies with TSI LOC&PAS, TSI Noise, TSI SRT, TSI PRM and TSI CCS