



# ELECTRIC MULTIPLE UNIT, 1.5 KV 1000 MM GAUGE

SSIF, Piedmont Italy

In 2022, Stadler and SSIF (Piedmont, Italy) signed a framework agreement for the supply of up to 16 meter-gauge motorized cars, to be combined in different configurations of 2, 3 and 4 -car EMUs, designed in compliance with the latest safety and environmental standards.

Each car has a motor and a trailer bogie. The low-floor portion in the end-cars enables people to get on and off easily, particularly those with reduced mobility.

Each car is equipped with a motor and a trailer bogie, with very low axle load. The distributed electric propulsion ensures excellent adhesion and optimum tractive effort in all weather conditions. To allow a safe cross-border operation between Italy and Switzerland, the EMUs are equipped with the ZBMS automatic train protection. All the main components are easily accessible for routine maintenance.

Each end-car features low-floor vestibules to allow an easy access on board of all passengers including those with reduced mobility. Dedicated sliding steps allow as well a comfortable boarding from 250mm height platforms. One end-car is equipped with a universal PRM toilet. The train also features areas for passengers with bikes and wheelchairs. Comfortable seats, wide panoramic windows, LED lighting, 220V and USB plugs at each seat, a modern WiFi and an integrated passenger information system, complete the feature set-up to make the passenger travel pleasant and enjoyable.

[www.stadlerrail.com](http://www.stadlerrail.com)

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## Technical features

### Technology

- Electric units with modern, functional, bright interiors and lightweight aluminum alloy car bodies
- Embedded multiple-unit control
- ZBMS automatic train protection for cross-border operation between Italy and Switzerland

### Comfort

- Large vestibules either side with low-floors provide easy access for passengers with reduced mobility and older travellers
- 1 PRM Toilet in the low floor section
- Independent HVAC systems in passenger carriages and driver cabs
- Air suspension for bogies to ensure maximum running quality and optimum comfort for passengers
- Efficient energy-saving LED lighting
- Passenger information system and CCTV
- Connection to on board Wifi network
- 220V and USB power outlets at seats

### Personnel

- Ergonomically designed, functional driver's cab complies with new EN 15227 crash standards and has independent access doors for the train drivers

### Reliability/Availability/Maintainability/Safety

- Each vehicle has its own propulsion system, which brings higher performances and reliability
- Air-cooled electronic converter and high efficiency asynchronous traction motors
- Traction unit according to EN 45545 and UNI 11565 for fire detection and firefighting

## Vehicle data

<b>Rail operator</b>	SSIF, Piedmont Italy
<b>Operated line</b>	Domodossola – Locarno
<b>Gauge</b>	1000 mm
<b>Drive system</b>	Electric 1.5 kV DC
<b>Axle arrangement</b>	Bo' 2' + 2' Bo' Bo' 2' + 2' Bo' + 2' Bo' Bo' 2' + 2' Bo' + Bo' 2' + 2' Bo'
<b>Number of vehicles</b>	16 cars (Frame contract ) 6 cars (First order)
<b>Delivery</b>	2026
<b>Total seats</b>	65 (2-cars), 111 (3-cars), 144 (4-cars)
<b>Flip-up seats</b>	6
<b>Standing capacity (5 pers./m²)</b>	122 (2-cars), 159 (3-cars), 196 (4-cars)
<b>Floor height</b>	
Low-floor at entrance	450 mm
High-floor	970 mm
<b>Door width</b>	1200 mm
<b>Length over buffers</b>	34 460 mm (2 cars) 48 930 mm (3 cars) 63 400 mm (4 cars)
<b>Vehicle width</b>	2650 mm
<b>Vehicle height</b>	3898 mm
<b>Bogie wheelbase</b>	
Motor bogie	1900 mm
Trailer bogie	1700 mm
<b>Wheel diameter (motor bogie)</b>	730 mm (new)
<b>Wheel diameter (trailer bogie)</b>	750 mm (new)
<b>Max. power to wheels</b>	8 x 175 kW (4-cars)
<b>Tractive effort at start-up</b>	160 kN (4-cars)
<b>Acceleration at start-up</b>	1.1 m/s²
<b>Design speed</b>	110 km/h
<b>Operational speed</b>	60 km/h