



## EURO6000 ELECTRIC LOCOMOTIVE

Alpha Trains for Captrain España

Stadler and the leasing company Alpha Trains have signed a framework agreement for the supply of Co'Co 'electric locomotives of the EURO6000 type that includes Iberian gauge locomotives (1,668 mm) to operate freight transport services on the conventional Spanish network and standard gauge locomotives (1,435 mm) to circulate in France, Luxembourg and on Spanish lines of this gauge, as well as to carry out cross-border transport services. In addition, the locomotives can be fitted with "universal" bogies that allow the easy change of wheelsets in a workshop. A large part of these locomotives will be used by Captrain España, a subsidiary of the French railway operator SNCF.

The powerful six-axle electric locomotives belong to the EURODUAL family and can run on 1.5 kV DC, 3 kV DC and 25 kV AC overhead lines at speeds up to 120 km/h. The EURO6000s feature a compact design, lightweight monocoque structure, AC/AC transmission system, six motorized wheelsets as well as a state-of-the-art adhesion control system. With an output exceeding 6 MW and a tractive effort of up to 500 kN, they are characterised by their high performance, which in many cases, enables the transport of longer and heavier trains with a single locomotive. They also offer excellent comfort, safety and visibility for drivers. Featuring cutting-edge technology that exceeds TSI requirements, the EURO6000 locomotives offer high hauling capability, low energy consumption, reduced LCC and carbon-free rail freight transport operations.

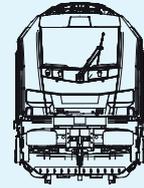
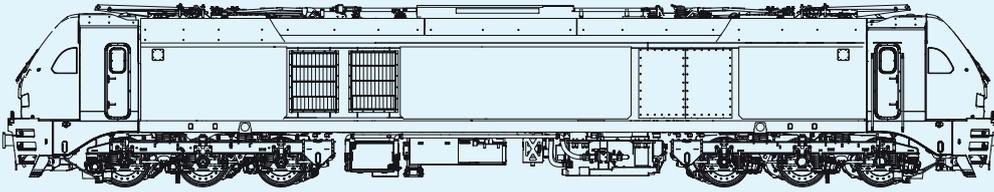
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## Technical features

### Technology

- Applications: rail freight transport
- Based on proven models such as the EURODUAL locomotive
- High starting and continuous tractive effort
- Highly efficient AC traction system with IGBT. One inverter per axle for improved adhesion performance
- High-performance electric brake with energy recovery
- Latest 3-axle bogie technology: high adhesion, low track forces
- Lightweight monocoque structure made of carbon steel, high strength steel and oxidation-resistant steel
- Cross-border operations

### Comfort / Personnel

- Two driver's cabs with HVAC and universal central desk designed according to safety and ergonomic criteria
- High cab comfort, safety and visibility, beyond TSI requirements
- Full cab insulation

### Reliability / Availability / Maintainability / Safety

- Reduced operation and maintenance costs
- Reliable operations: high level of in-built redundancy and in-service proven components from first class suppliers
- Designed to minimise downtimes and costs during maintenance tasks
- Latest generation of vehicle control system including advanced remote diagnosis system
- TSI compliant
- LED lighting

## Vehicle data

<b>Customer</b>	Alpha Trains / Captrain España	
<b>Locomotive type</b>	Electric MS	
<b>Track gauge</b>	1 435 mm	1 668 mm
<b>Operational area</b>	ES / FR / LU (Op. BE)	ES (Op. PT)
<b>Signalling system</b>	ETCS BL3 + KVB + ASFA v4	ASFA v4
<b>Comissioning</b>	2022	2022
<b>Axle arrangement</b>	Co'Co'	
<b>Electric power supply</b>	25 kV AC + 1.5 kV DC + 3 kV DC	
<b>Transmission</b>	AC/AC	
<b>Power at wheel rim</b>	6 170 kW @ 25 kV AC	6 170 kW @ 3 kV DC
		4 100 kW @ 1.5 kV DC
<b>Maximum speed</b>	120 km/h	
<b>Starting tractive effort</b>	500 kN	
<b>Continuous tractive effort</b>	430 kN	
<b>Brake system</b>	Pneumatic: Dynamic: regenerative / rheostatic	
<b>Suspension</b>	Primary: coil springs Secondary: rubber-metal springs Vertical and horizontal dampers	