

FERRMED FREIGHT LOCOMOTIVE CONCEPT

by



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Promotion du Grand Axe Ferroviaire de marchandises
Scandinavie-Rhin-Rhône-Méditerranée Occidentale A.S.B.L

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TECHNICAL PARAMETERS

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Power required

Train gross weight	Slope	Speed	Power at wheel rim
3.600 t	0 ‰	40 km/h	1.178 kW
		60 km/h	2.075 kW
		100 km/h	5.093 kW
		120 km/h	7.215 kW
	4 ‰	40 km/h	2.800 kW
		60 km/h	4.509 kW
		100 km/h	9.149 kW
		120 km/h	12.324 kW
	12 ‰	40 km/h	6.045 kW
		60 km/h	9.376 kW
		100 km/h	17.261 kW
		120 km/h	22.058 kW
18 ‰	40 km/h	8.479 kW	
	60 km/h	13.027 kW	
	100 km/h	23.346 kW	
	120 km/h	29.360 kW	

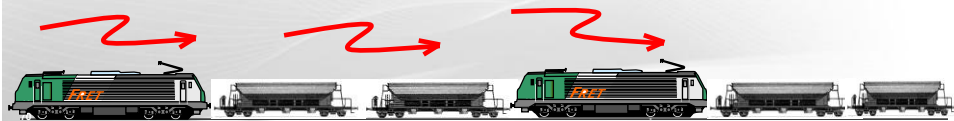
More than one locomotive is required



Multiple Traction - UIC coupling



High constraints on the UIC coupling



Reduced constraints on the UIC coupling
But necessity to have a radio control or two drivers



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Multiple Traction – FERRMED Standards

- Automatic coupling which accepts higher efforts than UIC coupling
- Possibility to connect the distributed locomotives through the new FERRMED wagons



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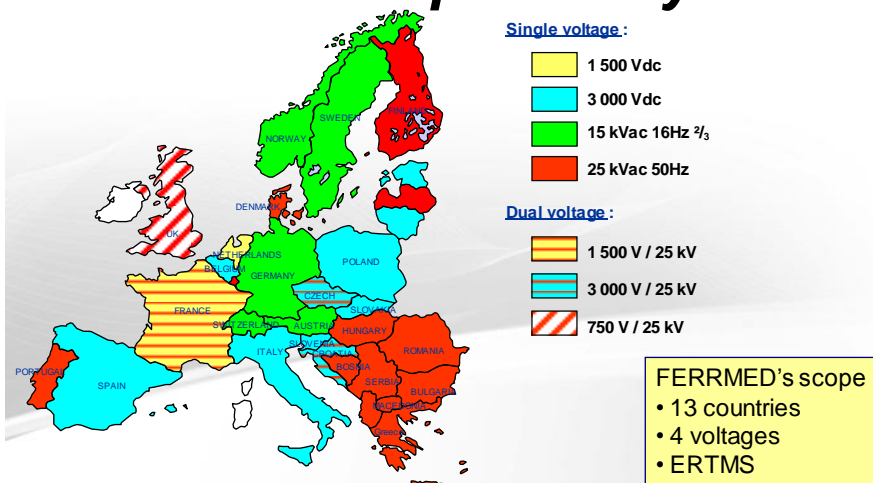


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Interoperability



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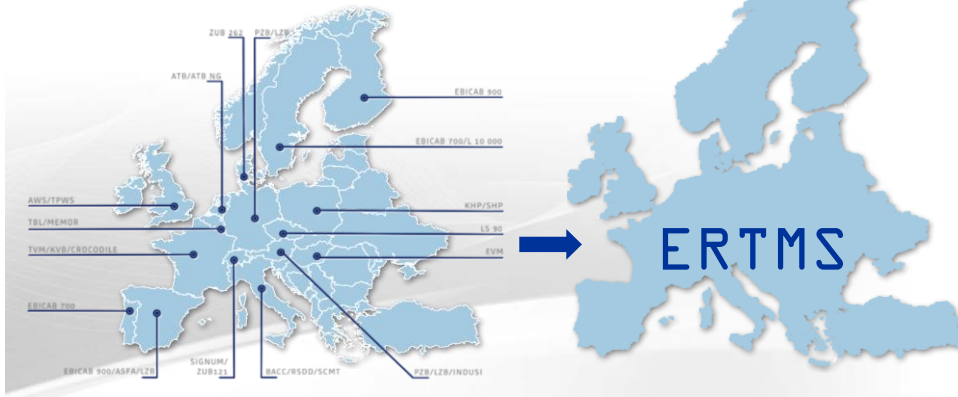


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Interoperability



A European initiative for a unique



Cross Acceptance

Cross Acceptance – The „Pillars“ creating the European „Web“



Agreement achieved:

- F – D 13/03/06 locos
- D – NL – I – CH – A 07/06/07 M. of U.
- F – D 16/04/08 locos, trains
- F – B – L – NL 22/12/08 locos, trains
- F – CH 20/03/09 locos, trains
- F – E 13/05/09 locos, trains

Agreement programmed:

- D – B: Dialog
- D – PL: Dialog
- D – CZ: Dialog
- F – I: Dialog

Others (following ERA proposal)

Trains = trains and multiple units

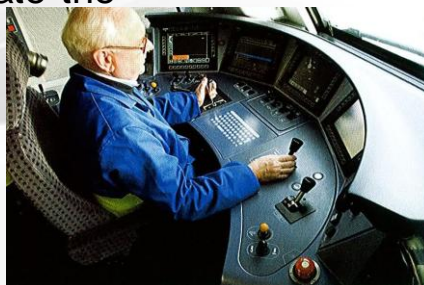
Ideal case : Locomotive certified in only one European country and which could operate in all European countries (like truck)



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Comfort

- Driving Advice System : management of energy consumption
- Driver Desk : European Driver's Desk (EUDD+) which will facilitate the interoperability in Europe



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Faiveley S.A.

Engineers
Industrie de Catalunya

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Comfort

- Ergonomic design of the cabin (noise, vibration)
- Air conditioning, refrigerator, oven, toilets, bed



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Environmental aspects

- Energy consumption : Aerodynamic design, Driving Advice System, variable speed blowers
- Noise : Acoustic insulation of the cabin, new materials for the braking system

