

# FERRMED FREIGHT LOCOMOTIVE CONCEPT

by



Barcelona 27th May 2010



## FERRMED

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

**Enginyers**  
Industrials de Catalunya

## FERRMED FREIGHT LOCOMOTIVE CONCEPT

### CONCLUSIONS

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ALSTOM vossloh Faiveley  
TRANSPORT



## INTEROPERABILITY (I)

- Difficulties
- Policies
- Little interest from governments
- Lack of dedicated infrastructures

## INTEROPERABILITY (II)

- Answer

➤ **FERRMED Standards**

**Engineers**  
Industrials de Catalunya

## FERRMED TRAINS

**1.500 m**

**3.600 t ÷ 5.000 t**



**ALSTOM vossloh**

**Faiveley**  
TRANSPORT



**A<sup>+</sup>**

**Engineers**  
Industrials de Catalunya

## TRACTION (I)

- 12 motorized axles
- Multiple traction
- Required starting tractive effort for

**12 ‰**

**3.600 t → 600 kN**

**5.000 t → 800 kN**



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TRANSPORT



**A<sup>+</sup>**

## TRACTION (II)

- Automatic coupling
- Data bus
- Power for optional necessities of the train (refeet)
- Radio communication if required

## TRACTION (III)

### Minimun power needed

For the train

**7.000 ÷ 10.000 kW**

For the locomotive

**3.500 ÷ 5.000 kW**



## HOMOLOGATIONS

# Cross-Acceptance



## DRIVING CONFORT

- Cab with central desk able for interoperability
- Driving assistance system (DAS)
- Ergonomy
- Auxiliary and support equipments for driver



## Environmental issues

- Energy efficiency
- Exhaust emissions
- Noise impacts

