Wabtec CORPORATION

Faiveley Transport
a Wabtec Company

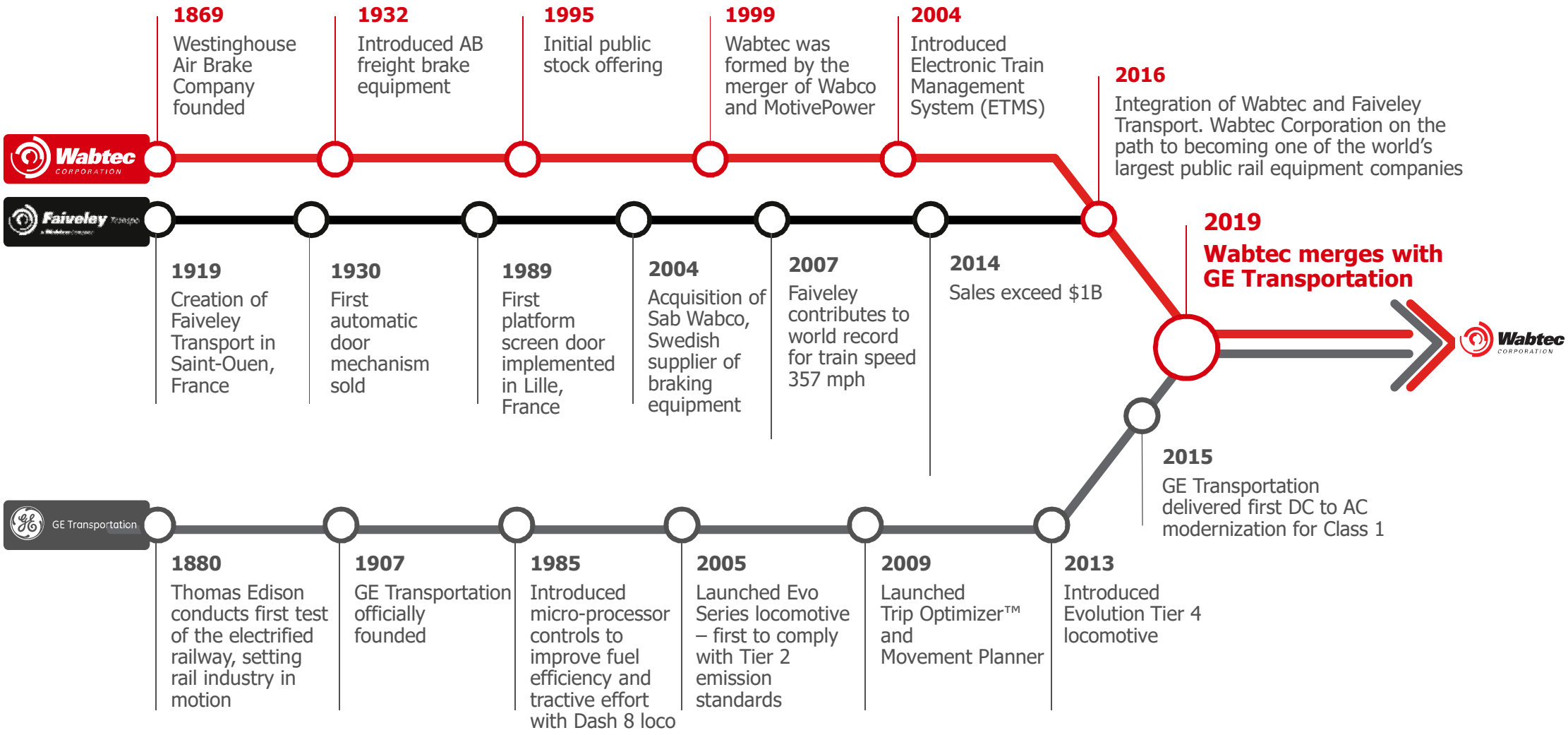
The **Wabtec Group,** whom Faiveley Transport belongs to, is a Locomotives and Railway Equipment Manufacturer with HQ based in USA. An international group present in all continents (30 countries) with about 20 000 employees.

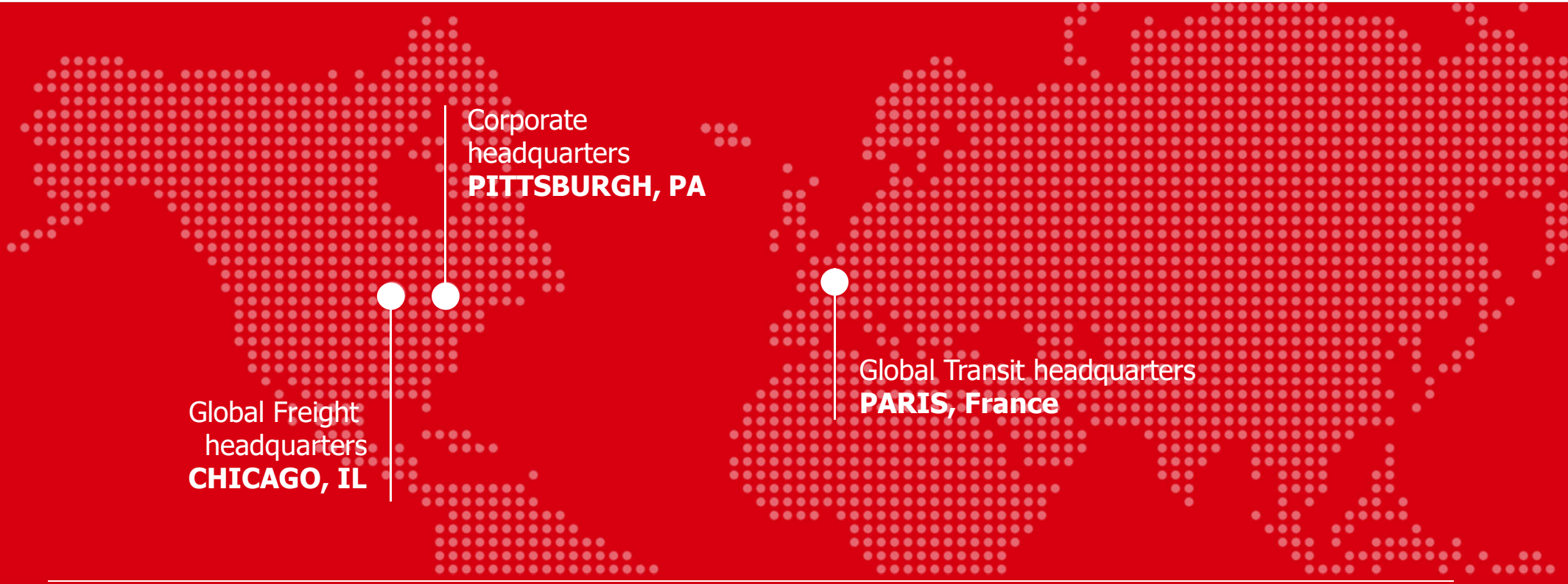
Faiveley Transport (26 countries – 12 000 employees), which manages the Transit Segment, i.e. all the activities related to trains for passengers, is based in France (Genevilliers – Paris Area). With a business line focused on the rail industry, Faiveley Transport is organized in 4 groups: Energy, Comfort & Access; Brakes & Safety; Friction & Power Collection; Transit Services. Its industrial capacity and recognized expertise in Engineering, Project Management and testing validation have resulted in the market's broadest offering. It provides innovative applications to meet evolving expectations.

Faiveley Transport Italy is the Centre of Competence "Brake Control and OnBoard Singnaling" in the Faiveley Transit, Brakes& Safety Organization.

Wabtec Group

Nearly four centuries of collective innovation





27K
EMPLOYEES

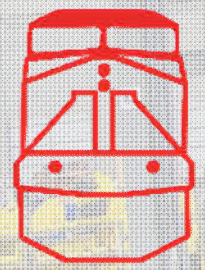
50
COUNTRIES

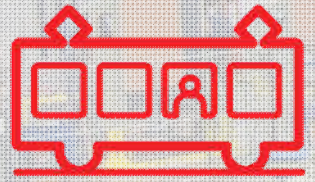
$8B
REVENUE

FORTUNE
500
COMPANY

Global and diversified portfolio

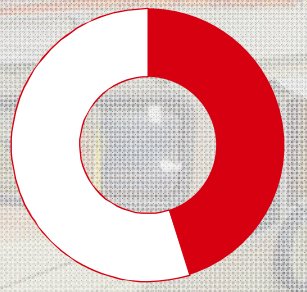
Business





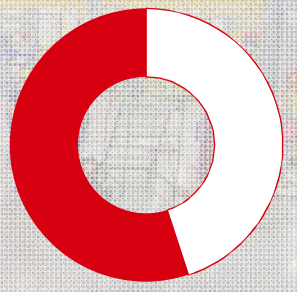
~65% Freight **~35%** Transit

Geography



~45% revenues from US
~55% revenues outside US

Market



~55% Aftermarket
~45% OEM

WABTEC Transit Segment Brake & Safety Group – Europe Business Unit

B&S Europe

Geographical View

FT Amiens
Employees: 372
Sales 2018: 112 M$
Budget 2019: 135 M$

FT Schwab
Employees: 80
Sales 2018: 23,7 M$
Budget 2019: 28 M$

FT BRAKES ITALY

FT Piossasco
Employees: 506
Sales 2018: 158 M$
Budget 2019: 180 M$

Poli SRL
Employees: 105
Sales 2018: 18,7 M$
Budget 2019: 18 M$

Vapor Europe
Employees: 34
Sales 2018: 7800 K$
Budget 2019: 12 M€

FT GERMANY

FT Witten
Employees: 332
Sales 2018: 163 M$
Budget 2019: 150 M$

FT Nowe
Employees: 41
Sales 2018: 7,5 M$
Budget 2019: 10 M$

Wabtec MZT
Employees: 298
Sales 2018: 18 M$
Budget 2019: 19 M$

WABTEC South Africa
Employees: 54
Sales 2018: 11,8 M$
Budget 2019: 12 M$

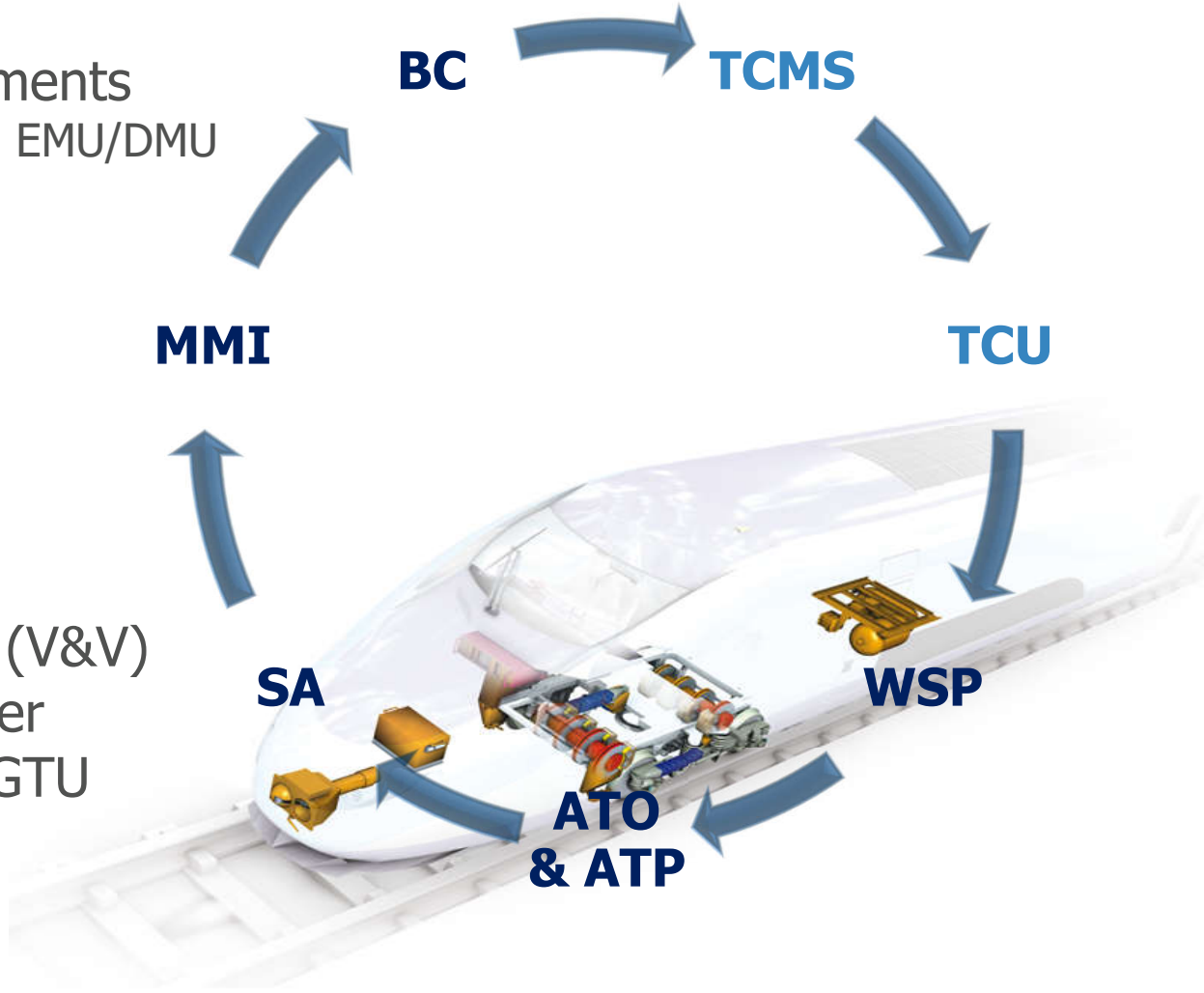
9 Sites (586 ML$ sales) – 1820 Employees

Brake and Safety

Competence Centre

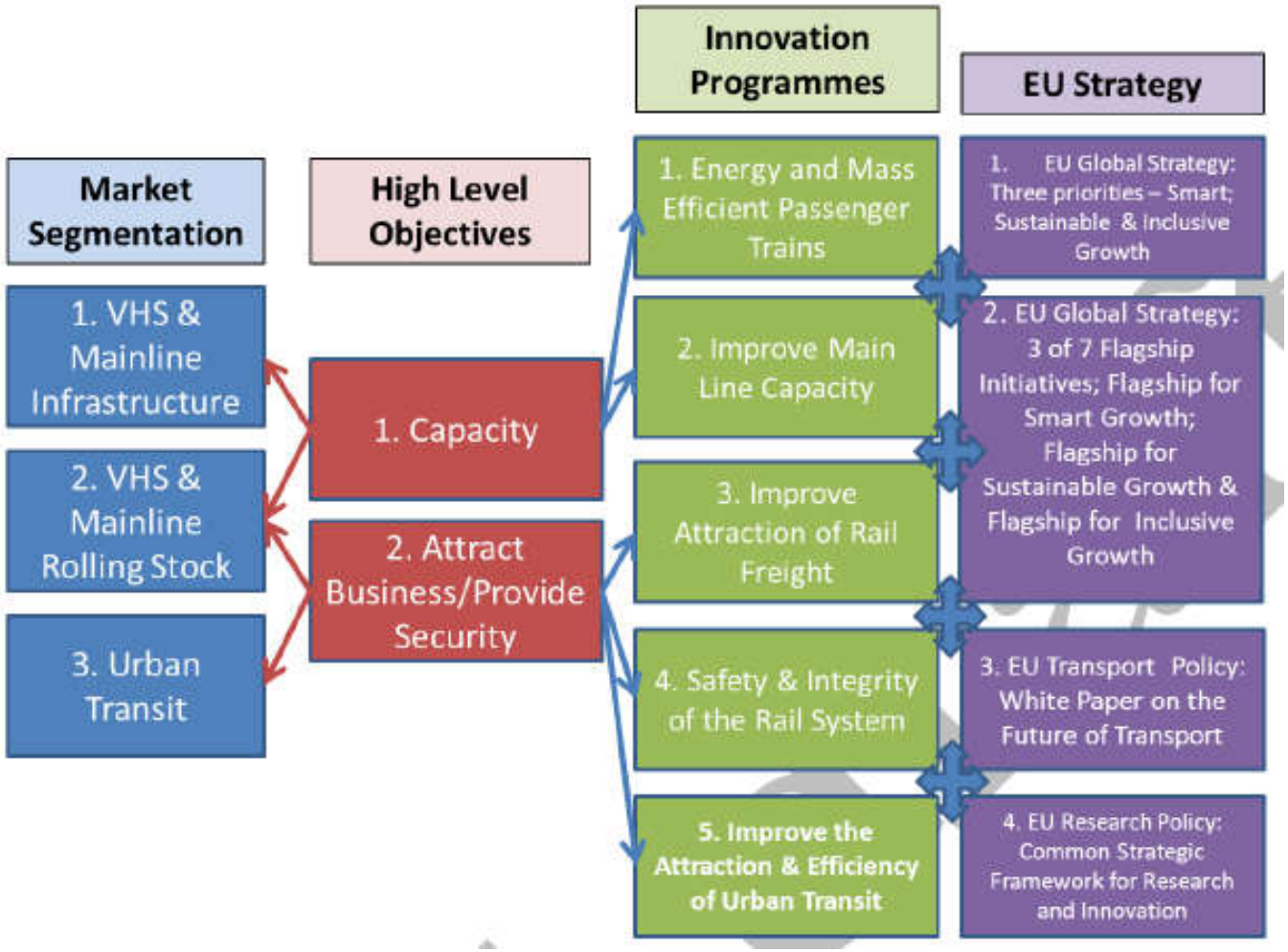
- Brake Control cover all market segments
  (Metro, High Speed Train, Locomotive and EMU/DMU trains)

- Center of Competence for:
  - Wheel Slide Protection System
  - ATO & ATP on board
  - High SIL Electronic
  - Condtion Base Maintenance
  - Software Design and Validation (V&V)
  - Oil free compressor and Air Dryer
  - Integration: brake frame and AGTU

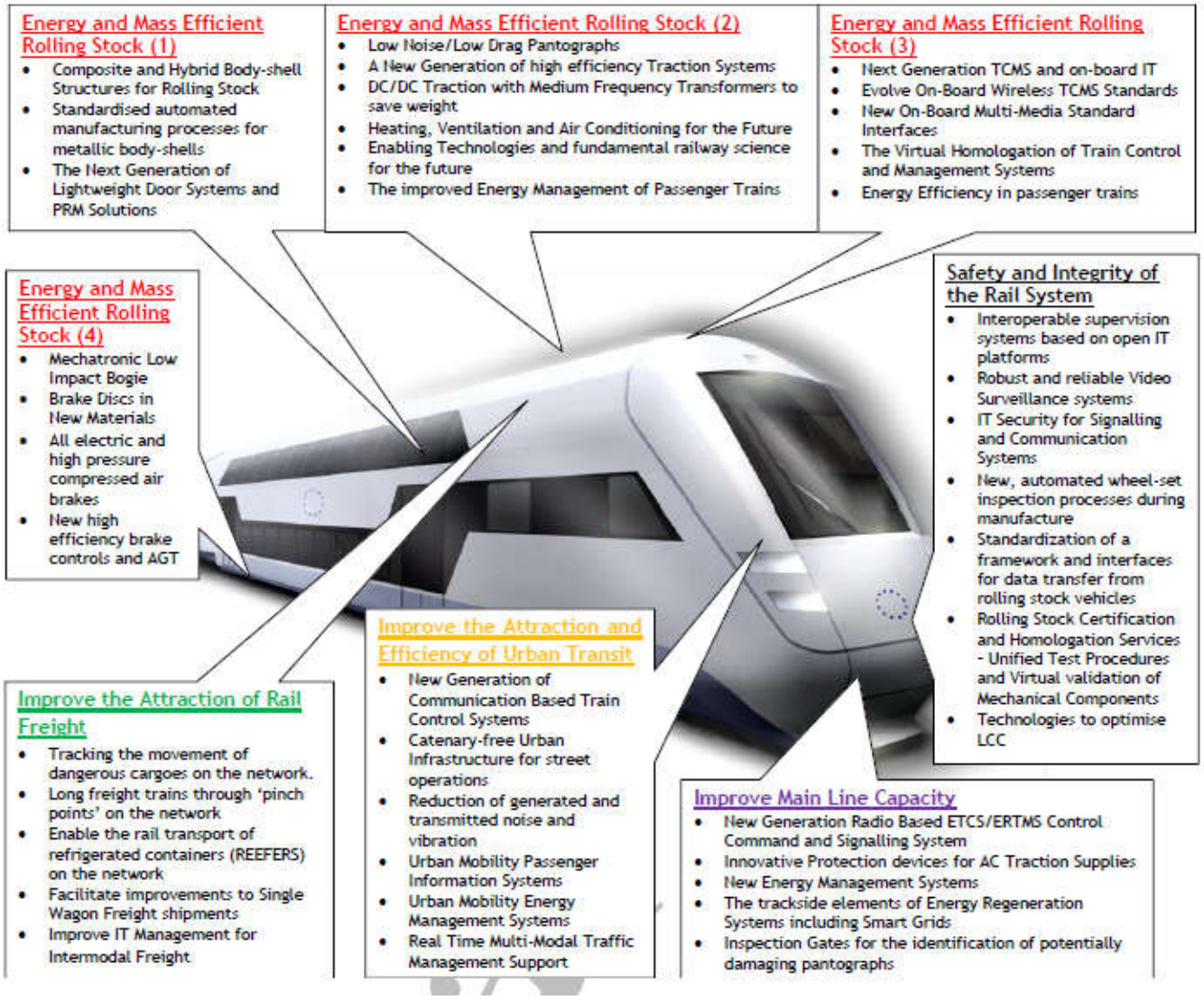


Con

S2R structure



S2R research areas



Faiveley participation to S2R

- Faiveley will join Shift 2 Rail participating to two Technology Research and Demonstrators

  - **IP1 TD5 “TCMS & BRAKES”**
  - **IP5 TD1 “ FREIGHT TRAIN ELECTRIFICATION”**

IP1 TD5 TCMS & BRAKES

Subtask
Electro-Mechanic Brake for Railway Applications
Friction Pairing Tread Brake Unit
High Safety Level electronic Solutions for TCMS and Brake Control
Next Generation Eddy Current Brake
Adhesion Management Improvement
Disk Eddy Current Brake
Innovative solutions and materials for N&V reduction in AGTU

IP5 TD1 FREIGHT Electrification

Subtask
“By wire” Communication and Electro-Pneumatic Brake System
Distributed Power LONG TRAIN
Friction Brake Technologies, Disk Brakes, WSP
Wagon and goods health monitoring and Data Transmission, Tracking, Condition Based Maintenance
Brake Module Kit
Autonomous Train Operation
Automatic Couplers