

# DITECFER

DISTRICTFORRAILTECHNOLOGIES  
HIGHSPEEDSAFETY&SECURITY

*WHAT THE CORE ASPECTS  
OF RAIL BUSINESS ARE  
WHERE PERFORMANCE NEEDS  
TO BE IMPROVED?  
HOW TO CREATE RIGHT INCENTIVES?*

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*RAIL CLUSTERS POINT OF VIEW*

*VERONICA ELENA BOCCI*

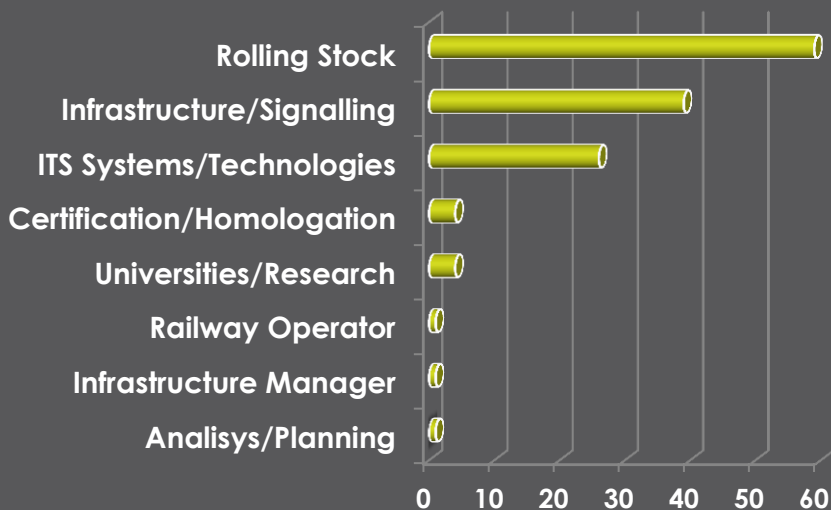
*DITECFER COORDINATOR*



**Tuscany**

- ✓ 125 Enterprises
- ✓ 4 Universities + CNR-National Research Council
- ✓ Laboratories specialised in the Railway sector

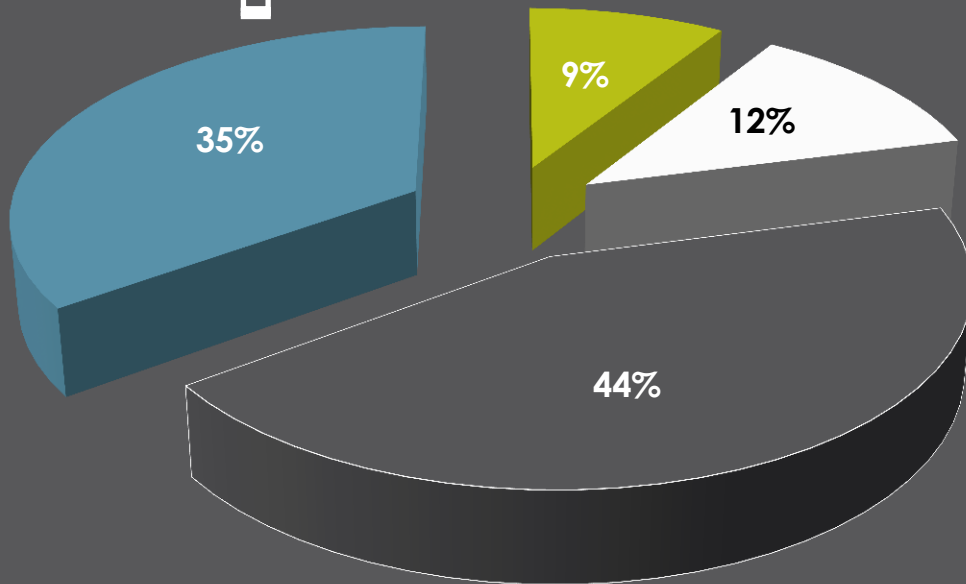
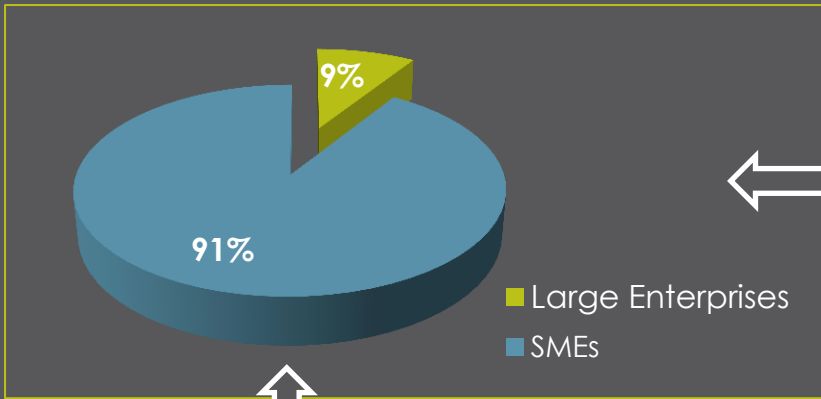
- Rolling Stock Certification and Homologation
- Acoustic
- Dynamic Modelling and Mechatronics (MDM Lab)
- Formal Methods and Tools Laboratory (FMT)
- Human Interfaces in Information Systems (HIIS)
- Mechanics of Materials and Structures (MMS)
- Signals and Images (SI)
- Wireless Networks (WN)
- SW Engineering and Dependable Computing Lab. (SEDC)
- System and Software Evaluation Center (SSE)
- ELEcTronics for Real-Time Applications (ELETTRA)
- Integration of Information Systems
- Perceptual Robotics (PERCRO)
- Real Time Systems Laboratory (RETIS)
- Communication (TECIP)



# ENTERPRISES' DIMENSION IN OUR CLUSTER

« **SMEs** represent **90%** of all businesses in the **EU**. They are the backbone of its economy. They generate 2 out of every 3 jobs. »

(Commission Recommendation of 6 May 2003 concerning the definition of SME – Background)



WE ARE ON AVERAGE

- Large Enterprises (> 250 empl.)
- Medium Enterprises (< 250 empl.)
- Small Enterprises (< 50 empl.)
- Micro Enterprises (< 10 empl.)



(A, D, E, F, I, PL, SW, UK)

~ 100 Large Enterprises  
> 1,000 SMEs

1 seat in ERRAC as SMEs  
through the Cluster *iTrans*



**ESCP** <sup>4</sup> **i**  
**PERES**  
Partnership

...R&D for real markets



## European Strategic Cluster Partnerships – Going International (ESCP-4i) Charter

We, the undersigned, have agreed to establish a **European Strategic Cluster Partnership – Going International (ESCP-4i)** called, **PERES – Promoting European Rail Excellence outside EU** upon the invitation of the European Commission's Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROWTH).

We, hereby, commit to work on a joint cooperation agenda with the aim to support the internationalisation of our SME members towards third countries beyond Europe and thereby, to contribute to the European Commission's objectives to boost growth, jobs and investment in Europe.

	<u>2030</u>	<u>2050</u>
Reliability	No target	+100%
Capacity	No target	+100%
Accessibility	No target	No target
Maintainability	No target	-50%
Interoperability / Standardisation	No target	No target
Intermodality	+30%	+50%
Safety	No target	No target
Security	No target	No target

The Railway sector is affording several **competitive and societal challenges** at European and International level

**EU** and **ERRAC** have defined the targets to be reached by 2030 and 2050 by the Rail industry

	<u>2030</u>	<u>2050</u>
Energy efficiency	+30%	+50%
Noise, Vibrations	-5/10 Db	-100%
CO <sub>2</sub>	-50%	-100%
Nox, PM10	-40%	-100%
Waste management	+15%	No target
Electromagnetic emissions	No target	No target

## Cluster Tecnologico Nazionale Trasporti Italia 2020

### Strategic Research Agenda 2014-2020

#### WORKING GROUP FERROVIARIO

##### Schede

##### G2: PRODUCTION (FROM LINEAR TO CIRCULAR ECONOMY)

Section: WP <b>COMPARA</b>		T.M.1-1 COMPLEMENTARY SOLUTIONS			
Macro area: PRODUCTION					
Area of intervention: Design and production process and technology					
Strategic Specific Objectives	Strategic Initiatives	2020		2020	
		KPI	%	KPI	%
<b>Challenge: Energy Efficiency</b>					
1. Processi di produzione innovativi per giuntone metallici cassa a <b>comparazione</b> [TM.4] ANSALDO SREDA	Miglioramento processo costruttivo	0,0	0,0	0,0	0,0
<b>Challenge: Safety</b>					
2. V. n. 2	0,0	0,0	0,0	0,0	0,0
<b>Challenge: Reliability</b>					
3. Sviluppo di procedure per effettuare test di sistema e di integrazione in laboratorio piuttosto che sul campo al fine di ridurre i tempi, i costi e la manodopera necessario per effettuare tali test. [TM.1] ANSALDO SIS	Riduzione dei costi Riduzione del tempo necessario a realizzare i test	0,5	50%	1	90%
<b>Challenge: Reliability</b>					
4. Valutazione in automatico della voce di servizio durante comunicazioni "Cassa-Cassa" di tipo GSM/GSM-R, da SS8 a SS7 mentre il treno è in corsa, al fine di caratterizzare l'affidabilità e sicurezza delle comunicazioni "Cassa-Cassa" [TM.2] DATILLO / CTR	Affidabilità nelle comunicazioni telefonate in condizioni di emergenza	2	0,0	4	0,0

Section: WP <b>COMPARA</b>		T.M.1 COMPLEMENTARY SOLUTIONS			
Macro area: PRODUCTION					
Area of intervention: Retrofitting, maintenance and logistics					
Strategic Specific Objectives	Strategic Initiatives	2020		2020	
		KPI	%	KPI	%
<b>Challenge: Reliability</b>					
1. Sviluppo di un sistema di scansione delle superfici esterne del veicolo ad integrazione con impianto automatico di verniciatura esterne cassa per ottimizzazione tempi e costi in fase di <b>comparazione</b> di veicoli ferroviari, adatto anche ad attività di manutenzione straordinaria e pulizia veicoli. [TM.2] ARGOS ENGINEERING	Riduzione costi per attività di verniciature in fase di <b>comparazione</b>	15%	5%	55%	10%

##### G2: SYSTEM OF SYSTEMS

Section: WP <b>COMPARA</b>		T.M.1 COMPLEMENTARY SOLUTIONS			
Macro area: SYSTEM OF SYSTEMS					
Area of intervention: Light Rail Transport (LRT) Concept design					
Strategic Specific Objectives	Strategic Initiatives	2020		2020	
		KPI	%	KPI	%
<b>Challenge: Noise and vibrations</b>					

- ✓ Too “bottom up” is chaos
- ✓ Meaningful
- ✓ Consistent
- ✓ Comparable
- ✓ Reliable
- ✓ Really useful, not just “more bureaucracy”

## **Our small lesson (1):**

*Like for Railway Operators / Infrastructure Managers, also from our Companies' point of view KPIs can be both an internal and external "tool": to measure and to better communicate to Customers the "Value" of the systems we develop.*

*Since contributing to the achievement of RO/IMs' KPIs, the KPIs applying to Technical Systems developers/manufacturers should be in line with them.*

## **Our small lesson (2):**

*For SMEs, most of them having not a recognizable "brand", having its systems "assessed" (benchmark to come?) through common KPIs could be a concrete help when presenting to the market.*

*Therefore we are in favor of a shared EU KPIs platform helping to use the same "language" when assessing efficiency and effectiveness of Rail services and products at EU level.*