

# ISARail

GROUP INTRODUCTION

Professor

Mariano Bocchino

**CEO & Founder** 



# WE ARE ISARAIL

18 YEARS OF SUCCESSES



Inspection



Certification



Measuring



Consulting



**Training** 











# WORLD COVERAGE OF OUR ACCREDITATION



Recognized by ANSF (Railway National Safety Authority)



Recognized by ERA European Railway Agency)



Recognized by ILAC (Mutual Recognition Arrangement)



**Designated Body (VIS)** 

Notified Body #2424
ECM Certification Body

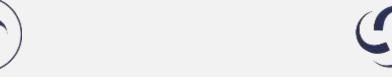


Inspection Body Type "A" | ISO/IEC 17020:2012
Product Certification Body | ISO/IEC 17065:2012



# **OVERALL OF ACTIVITIES**





**Inspection & Product Certification** 

TSI's Compliance - Notified Body

Italian National Technical Standard Compliance - Designed Body

ECM (Entity in Charge of Maintenance) Certification

**Independent Safety Assessment** 

**Independent Competent Person / Independent Checking Engineer** 

**Maintenance & Operation Mystery Audit & Inspection** 

CENELEC 50126/50128/50129 Compliance

Recognized Railway Training Center (ITS Founder Member)

Critical Area RPAS (Remotely Piloted Aircraft System) Supplier/Operator

**Engineering Consulting** 

**Verification & Validation Consulting** 

**RAMS Consulting** 

**System Integration Consulting** 

**Procurement Consulting** 

**Asset Management** 

**Operation Monitoring** 

Regulatory & Technical Specification Draft

**Measurement Instruments Development** 

**Diagnostic Tools Development** 

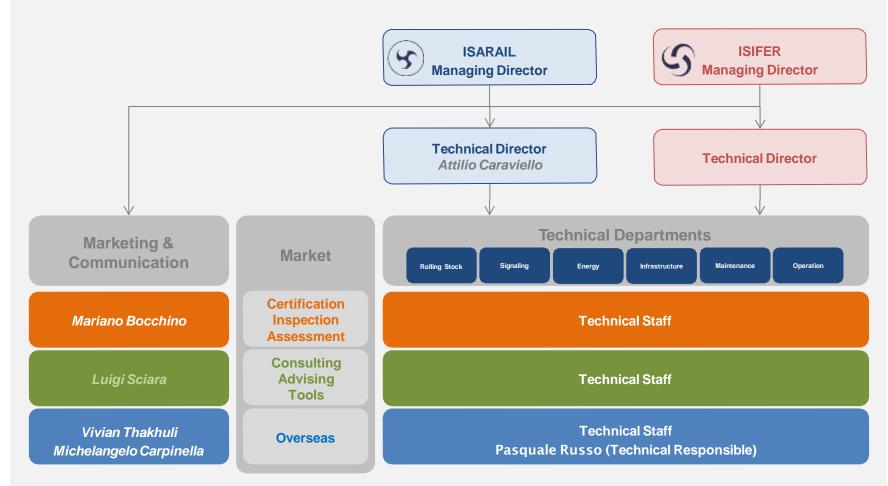
**ISARail** 



**ISIFER** 



### **MANAGEMENT ORGANIZATION**





# ISARAIL MAIN ACTIVITIES

(3)

Certification of All Italian High Speed Line (ERTMS L2)







Certification Italian Diagnostic High Speed Train (300 km/h)







Certification Riyadh Metro Line 1, 2, 3







Certification Metro Singapore DTL1 & DTL2 (Down Town Line)







### (F)

## ISARAIL BRIEF CV

#### ITALY:

(Civil Work, Infrastructure, Signaling, Energy, Operation, Diagnostic | Maintenance)

Homologation of SCMT (Italian ATP Signaling System) ≈ 1000 km

Certification of High Speed Lines (ERTMS L2) | Rome – Naples | Turin – Milan | Milan – Bologna | Bologna – Florence

Certification of All High Speed Line (ERTMS L2) interconnectors with traditional lines

Certification of Interlocking Ancona

Certification of Interlocking Gradara - Pesaro

Certification of Cattolica new Tunnels

Certification of new Airport Station in Trieste

Certification of new Line Corso Grosseto – Torino

Certification of structural sub-systems new line in Bologna

Certification of structural sub-systems new line in Trieste

Operation authorization to freight traffic for Ferrovie del Gargano

Certification of ATP Circumvesuviana

Line Cagliari – San Gavino (Trial Test Responsible of Unattended Diagnostic Track Measurement System)

Certification of Train Conformity Check System (Multifunctional Gate along Railway Line)

Members of Technical Evaluation Commission (Framework agreement with Italferr)

Designated Body of Ferrovie Nord (Framework agreement - 5 years)



### B

# ISARAIL BRIEF CV

#### **OVERSEAS:**

(Civil Work, Infrastructure, Signaling, Energy, Operation, Diagnostic | Maintenance)

#### UK:

Stepney Green – Abbey Wood WestBourne Park – Padding Mill Lane

#### **Germany:**

Ingbert – Hauptstuhl (ERTMS L1/L2)

#### Sweden:

Interlocking metro Stockholm

#### China:

Newwulongquan – Newchibi (ERTMS L2)

#### Egypt:

Arab El Raml – Alexandria (ERTMS L1)

#### Singapore:

Metro DTL 1 (Down Town Line, Put in Operation)
Metro DTL 2 (Down Town Line, Put in Operation)

#### Saudi Arabia:

Metro Riyhad Line 1, 2, 3 (Civil Work, Infrastructure, Energy, Rolling Stock, Stations, Depots)

#### USA:

PATCO - Port Authority Transit Corporation (Track Inspection) WMATA - Washington Metropolitan Area Transit Authority (Track Circuits Monitoring) SEPTA - Southeastern Pennsylvania Transportation Authority (Inspection Line Market-Frankford Line)



## ISARAIL BRIEF CV

#### **National Rolling Stocks:**

ALe601 Ansaldo - Trenitalia

Piano Ribassato 8238 Trenitalia

ALe126 Firema - EAV (Regional Undertaking)

Alfa2 EMU Firema - EAV (Regional Undertaking)

ALn663 Fiat - EAV (Regional Undertaking)

ALn668 Fiat - EAV (Regional Undertaking)

Ale200 Firema – FdG (Regional Undertaking)

Ale80 Firema - FdG (Regional Undertaking)

ALe088 Firema - FER (Regional Undertaking)

E640 Ansaldo - FER (Regional Undertaking)

ATR220 Pesa - FER (Regional Undertaking)

ALn 776 Fiat - FCU (Regional Undertaking)

EU43 Bombardier - Rail Traction Company

D753 Sistemi Territoriali (Regional Undertaking)

E402B Ansaldo - RFI (Diagnostic Train)

ETR 500 Y1 e Y2 Trevi – RFI (Diagnostic Train)

D343 Locomotor - RFI

#### **Rolling Stocks from EU:**

(Cross Acceptance Verification and Regulatory Compliance)

TGV Alstom - SNCF

BB36300 Alstom - SNCF

D100 - Vossloh

G2000 - Vossloh

E190 Siemens - OBB

BR189 Siemens - Rail Traction Company

#### **Metro Train:**

Inspiro Siemens – Riyadh Metro Lines L1, L2, L3

ETR210 Ansaldo – EAV



## ISARAIL BRIEF CV

#### On Track Machine:

Loko 741 Locomotor – CZ Loko

SM55 - NAEF

D214 Locomotor – ACMER

Badoni ABL Locomotor – Nuova Ralfo

D146 Firema Locomotor – Carrara Hub

LOK 6.90 Locotrack – Lucart

Matisa B66U - AFR

SAI400.EVO - Tecnofer

SALT700 - Tecnofer

MBF09 - DMA

O&K Locomotor – RFI

Arnold Junk Locomotor – RFI

KOF III Locomotor - RFI

HENSCHEL 500 – IPE Locomotor

COMETI 35T – IPE Locomotors
IPE 1501 & IPE 1502 – IPE Locomotors
MAK V100 Locomotor – IPE Locomotors
LDH 70 Locomotor – IPE Locomotors
LHB 110BB Locomotor – IPE Locomotors
DNL 1600 Locomotor – IPE Locomotors



# ISARAIL BRIEF CV

#### **ECM (Entity in Charge of Maintenance) Certification:**

#### **ITALY:**

Alstom - Regional Trains

Alstom - High Speed Trains

IPE Locomotori

Officine di Arquata

**ELEN** 

Monticelli Group

AFR Locomotori

SITAV

Eco Industria

#### **TURKEY:**

Yavuzlar Vagon

Mahir Yapi

**ASAS Otomotiv** 

Tamer Teknik

Taskin Teknik Makine

#### **Technical Regulatory Framework Drafting:**

RFI Diagnostic

FER Operation & Maintenance (Regional)

EAV Operation & Maintenance (Regional)

FBN Operation & Maintenance (Regional)

### Rolling Stock Maintenance Plan Assessments:

More than 10 individual accounts

### SGC (Competencies Management System) Certification:

More than 90 individual accounts

#### **Intermodal Container Certification:**

More than 1000 Container Certification



# ISARAIL BRIEF CV



SMS (Safety Management System) Conformity, Common Safety Method, Common Safety Indicator, Risk Evaluation

**NTV Alstom** 

Cargo Rail

Oceano Gate

**TPER** 

Dinazzano Po

EAV (Ente Autonomo Volturno) – Regional Railway FER (Ferrovie Emilia Romagna) – Regional Railway Ferrotranviaria – Regional Railway Ferrovie del Gargano – Regional Railway

#### **Constituents Certification:**

Doors, Windows, Brakes, Shock Absorbers, Bogies, Cab Radio, etc.

#### **Simulation & Tools:**

SCMT Simulator (Italian ATP System)
ERTMS Tools
Visual RBC

### Inspection and Surveillance through RPAS (Drone):

EAV (Ente Autonomo Volturno) – Regional Railway Ferrovie del Gargano – Regional Railway

#### **Training:**

System Life Cycle: Specification and Documentation according to CENELEC Norms - (CRRC)

Advanced Training on Design and Development of Railways Signaling Systems - (CRRC)

High Speed Rolling Stock - (CRRC)

TSI (Technical Specification of Interoperability) - (CRRC)

Fire Fighting Systems - (CRRC)



# **ISIFER MAIN ACTIVITIES**

8







Feasibility Study Freight Train



V&V Power Protection of Safety System

Feasibility Study Railway Line renovation (RPAS – Drone)







**Operation Diagnostic on High Speed Lines** 

Asset !..anagen.ent National Diagnostic System





# ISIFER BRIEF CV

### Functional Project Implementations Italy:

Metro Milano L4 (CBTC Metro)

Metro Napoli L1 (Traditional Metro)

Metro Napoli L6 (Traditional Metro)

Tramway Florence

#### **Turkey:**

Mersin – Toprakkale (ERTMS L1)

Gebze - Kosekoy (ERTMS L1)

#### Denmark:

Metro Copenaghen City Ringen (CBTC Metro)

#### China:

Metro Taipei Circular Line (CBTC Metro)

#### Greece:

Metro Salonicco (CBTC Metro)

#### Sweden:

Metro Stockholm (CBTC Metro)



# ISIFER BRIEF CV

#### Interlocking Verification & Validation

#### Italy:

Metro Milano L4 (CBTC Metro)

Metro Napoli L1 (Traditional Metro)

Metro Napoli L6 (Traditional Metro)

#### Turkey:

Mersin – Toprakkale (ERTMS L1)

Gebze - Kosekoy (ERTMS L1)

#### **Denmark:**

Metro Copenaghen City Ringen (CBTC Metro)

#### China:

Metro Taipei Circular Line (CBTC Metro)

#### Greece:

Metro Salonicco (CBTC Metro)

#### Sweden:

Metro Stockholm (CBTC Metro)

#### **Interlocking Configuration Implementations**

#### Italy:

Metro Napoli L1 (Traditional Metro)

Metro Napoli L6 (Traditional Metro)

Metro Roma B2 (Traditional Metro)

#### Turkey:

Mersin – Toprakkale (ERTMS L1)

#### **Denmark:**

Metro Copenaghen City Ringen (CBTC Metro)

#### China:

Metro Taipei Circular Line (CBTC Metro)



# ISIFER BRIEF CV

#### Interlocking Verification & Validation

#### Italy:

Metro Milano L4 (CBTC Metro)

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#### Turkey:

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#### **Denmark:**

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#### China:

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#### Greece:

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#### Sweden:

Metro Stockholm (CBTC Metro)

#### **Interlocking Configuration Implementations**

#### Italy:

Metro Napoli L1 (Traditional Metro)

Metro Napoli L6 (Traditional Metro)

Metro Roma B2 (Traditional Metro)

#### Turkey:

Mersin – Toprakkale (ERTMS L1)

#### **Denmark:**

Metro Copenaghen City Ringen (CBTC Metro)

#### China:

Metro Taipei Circular Line (CBTC Metro)



# ISIFER BRIEF CV

#### **Feasibility Study:**

TPER Freight Trains, Oceano Gate Freight Trains, FdG Line Renovation (RPAS – Drone)

#### **Safety Management System:**

RFI SIGS (Integrated Safety Management System)
SMS Development (Ferrovia Adriatica Sangritana, Ferrotranviaria and Oceano Gate)
Relevant Management Changes (Ferrotranviaria and Oceano Gate)

#### On Board ATP system (Train test activities):

Aln663, Aln668, D445, D146, MD Pilot and Caronte (Mermec) D345, D145 (ECM)

#### **Diagnostic System:**

Documents Implementation on conformity check EN 50126 (ESIM)

#### **RAMS Documents Implementation (Ducati):**

SIAP (Power Protection of Safety Systems)

#### **RAMS Documents Implementation (TESEO Consortium):**

D345, D445, D145, D146, MD Pilot

G

# ISIFER BRIEF CV

#### Tools:

CMMS (Computerized Maintenance Management System)

DMS (Document Management System)

WFM (Work Force Maintenance Management)

SCOOP (System Control of Operation Production)

VI Tube (Innovative Video Inspection of Railway Lines)

#### Simulators:

SAET (Analyzer of Trains Operation)

MISTRAL (Integrated Monitoring of the Signaling based on Automatic Assessment)

Headway and Train Separation Simulators

#### Instruments:

Handy (Analyzer of Automatic Block Track Circuit System)

Quasar (GSM GSM/R Speech Quality System)

ISiAB (Automatic Block Fix Monitoring) ISiTester

(Automatic Code Detection Calibartion) BALISi

(ERTMS Balise Tester)

Track Geometry Inspection



### (F)

# ISIFER BRIEF CV

#### **Platforms:**

Plinio (Diagnostic RFI Department Platform)

Way Safety (Quantitative/Qualitative Railway Asset Management Platform)

#### **Training:**

Acceptance and Put in Operation for Mermec

Risk Evaluation and Management for Ferrovia Adriatica Sangritana, Oceano Gate and Ferrotranviaria

Railway Safety Sub-Systems and Components for Tecnofer and RailSI

Competency Management System for various operators

Tutorship on Acceptance and Put in Operation for Mermec



# SAFETY INVESTMENTS



#### ITALIAN RAILWAYS DATA

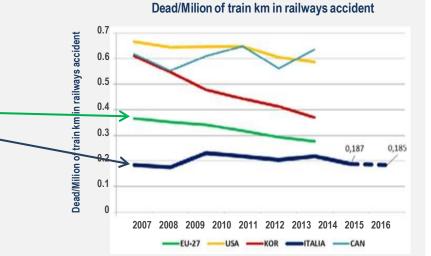
- Railways extension: 19.751 km
- High Speed Railways: 1.014 km (300 km/h) that connected the main city of Italy (Turin, Milan, Bologna, Florence, Rome and Naples)
- Passengers per year: 854 million
- Million of trains/km: 92 mln (National) + 310 mln (Regional) = Tot. ≈ 400 mln
- First railway line in Italy was Naples to Portici in 1839 (177 years ago)
- Tons of freight: 91 Milion
- Tons-km: 21 Billion

#### SAFETY REPORT

- European Railways are the safest one all over the world (green)
- Italian is the number one on top of them (blue)

In particular, the data shown in the chart reports:

"World Comparison – Dead/Million of trains km in railway accidents". (Source Italian Ministry of Transportation - 2017)



**International Comparison Scale** 



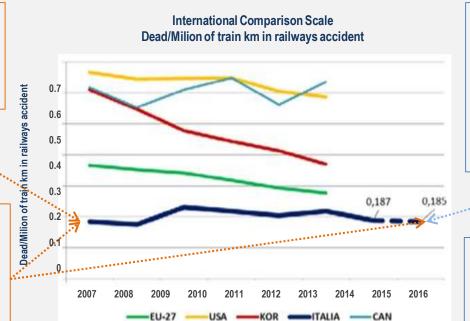
# **COST EFFECTIVENESS**

## 8

#### **CUTTING COSTS REPORT e.g.:**

 Costs for Current Maintenance of Infrastructure in 2007 was about
 4 Billion € – all of them from the Italian State

- In the last years in Italy we had a real competition in railways sector between different undertaking companies.
- Main competition is from State owned Companies and Private Companies



#### **CUTTING COSTS REPORT e.g.:**

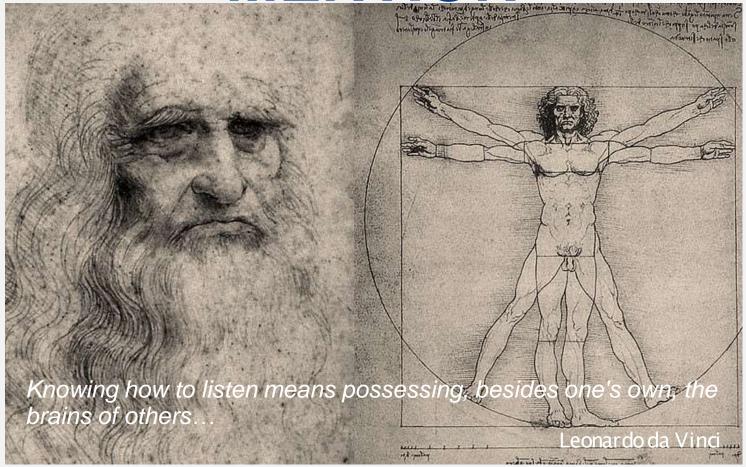
- Costs for Current Maintenance of Infrastructure in 2016 was about
   2 Billion €
  - -1.2 Billion from Railways Network Manager
  - 0.8 from Italian Infrastructure and Transportation Ministry (Italian State)

- Liberalization of market took a profit for Railways Network Manager through sale of time track on the lines.
- Thanks to those kind of profit, they spent 1.2 Billion € to fix current maintenance.

ISARail has a long history in the railways sector and has the intelligence experience in costs cutting, maintenance and high level safety in Railways. We combine our high level expertise and qualification in all areas relating on Railways fields like Asset Management, Data Analysis, Maintenance and Operation to produce results showed above, in a very new, open and complicated market.



# MENTION







# THANK YOU FOR YOUR ATTENTION

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