

**EUROPEAN  
CURRICULUM VITAE  
FORMAT**



**PERSONAL INFORMATION**

Name	<b>FIRPO, PIERLUIGI</b>
Address	<b>68A, Via dei Carabigi, I-17011 Albisola Superiore (SAVONA)</b>
Telephone	<b>+ 39 335 7364382</b>
Fax	
E-mail	<b>pierluigi.firpo@gmail.com</b>
Nationality	Italian
Date of birth	07/01/1966

**WORK EXPERIENCE**

- Dates (from – to)
  - Name and address of employer
    - Type of business or sector
    - Occupation or position held
  - Main activities and responsibilities
- FROM OCTOBER, 2008**  
Bombardier Transportation Italy S.p.A. – 2, Via Tecnomasio, I-17047, VADO LIGURE (SV)  
Railway Rolling Stocks Manufacturer  
Technical Director of the Vado Ligure Site  
Assignment of responsibilities and obligations foreseen by the Italian Law, with functions of promoting and representing to third parties (clients, institutions, associations, university, etc.), from the technical point of view, products and activities developed and manufactured in the site.
- FROM MARCH, 2014 TO JUNE, 2014**  
Bombardier Transportation Italy S.p.A. – 2, Via Tecnomasio, I-17047, VADO LIGURE (SV)  
Railway Rolling Stocks Manufacturer  
Interim Head of System Integration WMA (Western Europe, Middle East and Africa) Region  
Organise and launch the WMA Regional function and take care of starting up team and activities, including selection, assessment and appointment of candidates for N-4 roles.
- FROM OCTOBER, 2008**  
Bombardier Transportation Italy S.p.A. – 2, Via Tecnomasio, I-17047, VADO LIGURE (SV)  
Railway Rolling Stocks Manufacturer  
Head of Engineering Italy (Passenger Division, then Mainline&Metros Division, then WMA Region)

• Main activities and responsibilities

Managing the engineering activities carried out in Italy, relevant to development and manufacturing of products and solutions for passengers transportation.

Main activities carried out within my team:

**HS/VHS**

2008, today – V300ZEFIRO/Frecciarossa1000 (VHS – 360kph)

- Partnership with AnsaldoBreda with BT as technical leader
- Joint Platform Definition and Planning
- Product Definition for Trenitalia Tender (50 trains)
- Pre-Bid and Bid preparation
- Bid submission & Contract award (October 2010)
- Project Launch and Execution
- Testing&Authorisation Campaign (on-going)
- First delivery to customer June 2015

2012 – V300ZEFIRO/Turkey (VHS – 300kph)

- Partnership with AnsaldoBreda with BT as technical leader
- Product Definition for TCDD Tender (6 trains, 3kV Traction removal, Restaurant car concept, changes to Layout, Multimedia, PIS/CCTV, Homologation in Turkey)
- Pre-Bid and Bid preparation
- Bid submission (November 2012, tender lost)

2013 – V300ZEFIRO/Frecciarossa1000 France-Belgium Option (300kph)

- Partnership with AnsaldoBreda with BT as technical leader
- Product Definition for France-Belgium Option (10 trains)
- Bid preparation
- Bid submission (November 2013, on hold)

2012, 2013 – HS/VHS Turkey (HS/VHS – 250kph/300kph)

- HS/VHS BT Products Maturity Assessment
- Product Selection and Assessment
- Product Definition for expected tenders for HS and VHS

**DMU Single Deck**

2010 AGC 3-cars for FNM

- Product Selection and Assessment
- Product Definition for FNM Tender (11 trains)
- Product Adaptation to customer and IT authorization requirements (Signalling, fire Protection, Layout)
- Bid preparation
- Bid submission (April 2010, tender lost)

**EMU Single Deck**

2011, 2012 – Polis 4/5-cars for Trenitalia

- Product Selection and Assessment
- Product Definition for Trenitalia Tender (70 trains)
- Product Adaptation to customer, IT authorization and TSI requirements
- Main changes: IT systems installation, TCMS upgrade, Layout variants, carbody extension, 3kV Traction, adaptation to TSI compliance (crash resistance and absorption mainly)
- Pre-Bid and Bid preparation
- Bid submission (June 2012, tender lost)

**EMU Double Deck**

2013, today – SBB TWINDEXX

- Electrical Design, including wiring diagrams and electrical integration

**Regional Trains Single/Double Deck**

2014, today – Regional Train Product for Italian market

- Product Selection and Assessment for suitability for Italian application (Signalling, Fire Protection, Gauge, 3kV Traction, Functions and Operability)
- Support to International Platform Team for Product Definition

- Dates (from – to)
- Name and address of employer
  - Type of business or sector
  - Occupation or position held
- Main activities and responsibilities

**FROM MAY, 2007 TO OCTOBER, 2008**

D'Appolonia Spa, Via San Nazaro, 19, Genoa-16145, Italy  
 Engineering and Consulting in Industry, Energy and Transport fields  
 Manager

Manager of the Business Unit Transport Systems. The mandate of the B.U. was to provide services of technical consultancy and assistance to clients in the transport engineering field, including railways, urban transport systems and roads. Among the others, such services include:

- Safety and conformity certification processes for systems, fixed installations, rolling stocks and relevant technologies
- Safety, security and risk analyses, including risk analyses of tunnels
- Fire Risk and Fire Protection
- RAMS and LCC
- System Engineering, including interface management and O&M
- Test&Commissioning programs for systems, plants, products and rolling stocks.

The B.U. was composed of about 25 people for an annual turnover of about 2,5 M€

- Dates (from – to)
- Name and address of employer
  - Type of business or sector
  - Occupation or position held
- Main activities and responsibilities

**FROM JANUARY, 2006 TO MAY, 2007**

D'Appolonia Spa, Via San Nazaro, 19, Genoa-16145, Italy  
 Engineering and Consulting in Industry, Energy and Transport fields  
 Manager

Manager of the Business Unit Railway Systems and Technologies. The mandate of the B.U. was to provide services of assistance to clients in the railway field on safety and conformity certification processes, on risk analyses and on test&commissioning programs for systems, plants, products and rolling stocks.

- Dates (from – to)
- Name and address of employer
  - Type of business or sector
  - Occupation or position held
- Main activities and responsibilities

**FROM MARCH 2004 TO DECEMBER 2005**

D'Appolonia Spa, Via San Nazaro, 19, Genoa-16145, Italy  
 Engineering and Consulting in Industry, Energy and Transport fields  
 Manager

Manager of the Verification and Validation Area within the Transport Division. Namely, I took care of the Start-Up of the new area performing market analysis, strategic planning and recruiting. The technical activities dealt with V&V, Risk Analysis, RAMS and assistance to certification processes for technologies applied in railway safety-critical applications (e.g. signalling and command and control systems). During this period I achieved and managed a service contract with CESIFER about the definition of technical rules for the homologation of rolling stocks on the national railway network, according to international standards and in view of the RS TSI full application.

- Dates (from – to)
- Name and address of employer
  - Type of business or sector
  - Occupation or position held
- Main activities and responsibilities

**FROM SEPTEMBER 2001 TO FEBRUARY 2004**

Consorzio SciroTÜV – 25/6a, Via Fieschi, I-16121, GENOVA  
 Notified Body for Railway Interoperability Certification according to the Directive 96/48/EC  
 Member of Board of Directors and Managing Director

Setting up of the consortium (associates Sciro S.p.A., TÜV Rheinland Italia s.r.l. and TÜV InterTraffic GmbH), preparation of the industrial plan, achievement of the appointment as Notified Body for the subsystems rolling stock, infrastructure, control, command and signalling, energy and maintenance and all the constituents of the Trans-european High Speed Railway Network, by the Italian Ministry of Transport and Infrastructures, Start-up of operation. In particular, during this period SciroTÜV achieved contracts from RFI about the safety assessment of the ERTMS based Signalling System for the Italian High Speed Railway Lines and from rolling stocks manufacturers for assessment and certification of rolling stocks (Alstom for Pendolino and ANSLADOBREDA for Double Deck Intercity Trains supplied to Morocco Railways).

- Dates (from – to)
- Name and address of employer
  - Type of business or sector
  - Occupation or position held
- Main activities and responsibilities

**FROM JULY 1998 TO FEBRUARY 2004**

Sciro S.p.A. – 5/6, Via Gavotti, I-16128, GENOVA  
 Consulting Company in the Transport Field  
 Consultant

RAMS Area Manager. During this period I managed many relevant to Hazard&Risk Analysis, RAM Planning and Analysis, Verification&Validation and Assessment of safety-critical systems for railway applications, according to the CENELC standards EN50126, EN50128, EN50129 and other related norms. The most important applications dealt with were related to signalling and command and control systems like Italian ATC, ERTMS/ETCS, SCC (Sistema di Comando e Controllo), ACS (Solid State Interlocking) and PAI-PL (Automatic Protection of Level Crossings). Main clients were Railtrack, Italferr, Ferrovie dello Stato, General Electric Transportation Systems, Ansaldo and Alstom.

- Dates (from – to)
- Name and address of employer
  - Type of business or sector
  - Occupation or position held
- Main activities and responsibilities

**FROM JULY 1994 TO JUNE 1998**

Sciro S.p.A. – 25/6a, Via Fieschi, I-16121, GENOVA  
 Consulting Company in the Transport Field  
 Consultant

Project Engineer for Activities relevant to Electronic Design, development of SW Applications for Control of Electric Machines and, subsequently, Project Manager for RAMS Activities in the Railway Transport Field. During this period, I worked for two years as RAM Expert (consultant) in the EEIG ERTMS Users Group, based in Brussels, and collaborated to draw-up the ERTMS/ETCS RAMS Specifications

- Dates (from – to)
- Name and address of employer
  - Type of business or sector
  - Occupation or position held
- Main activities and responsibilities

**FROM 1991 TO 1994**

University of Genova, Faculty of Engineering, Via all'Opera Pia 13a, Genoa-16145, Italy  
 Education

Ph. D. Student and Assistant Researcher

Research activities on development of Electromechanical Simulators for Railway and Metro-rail systems and development and application of innovative methodologies and tools for RAMS analysis of Guided Transport Systems.

## EDUCATION AND TRAINING

- Dates (from – to)
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered

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- Dates (from – to)
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
- Title of qualification awarded

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- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
- Title of qualification awarded

### 2013

Ashridge Business Management School – Management Training Academy

Leadership/Business Management

### 2011

BT Training – Making Great Leaders

Leadership

### FROM 1991 TO 1994

University of Genoa – Department of Electrical Engineering

Electromechanical Simulators for Railway and Metro-rail Systems.

Ph. D. in Electrical Engineering

### FROM 1985 TO 1991

University of Genoa, Faculty of Engineering

Industrial Electronics

Graduated in Electronics Engineering

**PERSONAL SKILLS  
AND COMPETENCES**

MOTHER TONGUE

ITALIAN

OTHER LANGUAGES

- Reading skills
- Writing skills
- Verbal skills

**ENGLISH**

Excellent  
Excellent  
Excellent

- Reading skills
- Writing skills
- Verbal skills

**FRENCH**

Good  
Basic  
Basic

- Reading skills
- Writing skills
- Verbal skills

**GERMAN**

Basic  
Basic  
Basic

SOCIAL SKILLS  
AND COMPETENCES

Working experiences in International contexts, related to positions covered within Bombardier Transportation and, formerly, in European projects and working groups (ERTMS Users Group, ESROG), to scientific activity and to participation at a considerable number of international conferences interfacing people of several nationalities, allowed me to develop an attitude to face multicultural environments and to emphasize my communication ability.

ORGANISATIONAL SKILLS  
AND COMPETENCES

Business Management (as Managing Director of *SciroTÜV* for more than 3 years)

Management and coordination of international teams.

Outline Product Strategy vs market demand and Manage and Plan Product Lifecycle in the field of Railway applications, especially concerning Rolling Stock and Signalling fields.

TECHNICAL SKILLS  
AND COMPETENCES

Expert user of standard computer tools such as the Microsoft Office suite.

As Engineering Manager, high level knowledge of PDM, CATIA V5, E3, SysML, etc.

The use of many specific tools for RAMS modeling and analysis is an important part of my background, as well as the development and use of models and simulators for railway and metrorail systems (Matlab, Fortran, C and C++ languages in UNIX, DOS and Windows environments)

ARTISTIC SKILLS  
AND COMPETENCES

Interior and exterior architecture, playing bass guitar.

OTHER SKILLS  
AND COMPETENCES

Since June until November 1994 I joined the Project "Hosting and Training of Researchers on the Study and Testing of Components and Systems for Urban and Rail Electrical Transport" of the European Community, working at C.R.I.S. Ansaldo Via Nuova delle Breccie 260 – Napoli, within the program "Human Capital and Mobility - Access to Large Installations" on the research subject "Control of Motor Drive Systems: Modelling and Testing".

DRIVING LICENCE(S)

Car and Motorbike

**Major Projects – Selected List**

Project description:

Development of the Platform Concept of the new Very High Speed Train V300Zefiro in partnership with AnsaldoBreda. The platform V300Zefiro, conceived for the international market, is the basis for the train jointly proposed by Bombardier and AnsaldoBreda to Trenitalia within the Tender for 50 New Generation High Speed Trains, for operation in Italy and in other seven european countries (France, Germany, Spain, Belgium, Netherlands, Austria and Switzerland) at a maximum speed of 360km/h.

The project included platform concept development, preparation of the Bid for the Trenitalia Tender and start up of the development activities after the joint venture

Bombardier/AnsaldoBreda resulted the winner of such Tender in august 2010.

Period: 2008-today

Organisation: Bombardier Transportation

Role in Project: Direct, up to the tender phase, as strategic and coordination support to Product Management and Platform Project Engineering especially focussing on technical relationships with the customer Trenitalia and with the National railway Safety Agency (ANSF).

Indirect, from project startup phase, as line manager of the Vado Ligure Team in charge to design driver cabin, to take care of Requirements and Homologation issues and to develop the Train to Wayside communication system and Telediagnosics.

Direct, ad interim from the project startup phase, as coordinator of the Vehicle and Production Engineering with the task of starting up the activities with an appropriate distribution of tasks between Hennigsdorf, Vasteraas and Vado Ligure sites.

Project description:

Development and application of a dynamic system, including models of the railway process and appropriate SW tools, for global risk assessment of the Italian railway network traffic and operation. The system will support the assessment and verification of the global safety performance of the italian railway network, in order to lead identifying measures to improve the overall safety level and to plan and prioritise investments accordingly. The final client is the italian railway infrastructure manager RFI, namely the structure responsible for the Safety Management System. The project is organised in two phases: development of a functional model and development of a methodology for the risk assesement and analysis. In particular, D'Appolonia works in partnership with the Notified Body SciroTUV, who has been appointed as group leader by the final client, and has in charge the development of the methodology for risk assessment and analysis.

Period: 2006-2008

Organisation: D'Appolonia

Role in Project: Direct, as Project Technical Advisor within the responsibility of Managing the B.U. Transport Systems

Project description:

Functional Model of the Rolling Stock Subsystem within the Feasibility Study for the Apportionment of Safety Targets and Safety Requirements in the relevant Technical Specification of Interoperability undertaken by the Safety Unit of the European Railway Agency (ERA) as foreseen by the Mandate received by ERA itself from the European Commission.

D'Appolonia has been contracted upon assignment of the relevant European Tender launched by ERA.

Period: 2006-2007

Organisation: D'Appolonia

Role in Project: Direct, as Project Technical Advisor within the responsibility of Managing the B.U. Transport Systems



Project description:

Residual Risk Assessment for the ERTMS Level 2 Signalling System (SSAV) installed on the Rome-Naples High Speed/Capacity Railway Line, as resulting from the Final Design, Commissioning and pre-revenue service phases. The project includes the start-up of the risk monitoring process during the revenue service, targeted to the continuous improvement of the overall safety level, as required by the national law, defined by the national infrastructure owner (Disp. 13/2001 and 15/2004), relevant to the RFI Safety Management System. As a further development it is foreseen to extend the assessment and the monitoring process from the SSAV to the overall railway system on the HS/HC Rome-Naples Line and, subsequently on all the other lines of the Italian HS/HC System.

Period: 2006-2007

Organisation: D'Appolonia

Role in Project: Direct, as Project Technical Advisor within the responsibility of Managing the B.U. Railway Systems and Technologies

Project description:

Definition, Classification and Tracing of the Requirements for Technical Approval of Motor and Hauled Rolling Stocks: support to CESIFER structure within RFI, for the definition of a Technical Specification in actuation of the "Disposizione n. 1/2003 del Gestore dell'Infrastruttura Nazionale", national regulation relevant to the Technical Approval of Motor and Hauled Rolling Stocks for running on the Italian railway infrastructure. The activity includes setting up and commissioning of a Requirements Management System based on a suitable software tool.

Period: 2005-2007

Organisation: D'Appolonia

Role in Project: Direct, as Project Technical Advisor within the responsibility of Managing the B.U. Railway Systems and Technologies

Project description:

Feasibility Study for the start up of Railway Technological Products Certification activities within RFI: support to the Conformity Certification structure within RFI for assessing the technical, organisational and financial aspects relevant to the realisation and EN17025 accreditation of an Integrated Testing Laboratory to perform qualification, homologation, acceptance and certification tests on electrical, electromechanical, mechanical or electronic technologies for railway applications.

Period: 2005

Organisation: D'Appolonia

Role in Project: Direct, as Project Manager and Technical Advisor within the responsibility of Managing the Verification and Validation Area

Project description:

V&V and Test&Commissioning activities for the Signalling and Automation System of the Italian High Speed/High Capacity Railway System. Activity includes services in support to the Saturno Consortium, responsible for the supply of all the technologies, and to Alstom, on the Rome-Naples Line application, responsible for the realization of the Train Separation Subsystem and for the Yard Equipment. The Project dealt with the Rome-Naples and Turin-Novara Lines commissioning, occurred respectively in December 2005 and April 2006, and is currently in progress for the Milano-Bologna Line.

Period: 2004-2005

Organisation: D'Appolonia

Role in Project: Direct, as Support/Tutoring to the Alstom Safety Manager, to take care and to manage the external relationships and interfaces with the Final Client, with the Assessor and with the Consortium of Technologies suppliers for the Italian High Speed System (Consorzio Saturno) during the activation of the Train Separation System on the Rome-Naples Line and indirect, as Manager of the Area/B.U. of competence for the activities in support to Saturno.

ADDITIONAL INFORMATION  
(CTND)

Project description:

Several Independent Safety Assessment Projects including manufacturer's Safety and Quality Management auditing and Technical Assessment of Technologies: Bombardier Interlocking (client RFI), General Electric LX Protection (client RFI), Alstom 83,3 Hz Generator (client RFI), TEKFER Remote Axle Counter Clearance (client RFI), Track Warning AG Working Sites Protection (client RFI), D145 Shunting Locomotives Remote Control (client ANSALDOBREDA), Signalling Systems of the Italian High Speed Railway – Rome-Naples G.A (client RFI).

Period: 2002-2004

Organisation: SciroTÜV

Role in Project: Indirect, as Managing Director of the SciroTÜV Consortium.

Project description:

Constitution, organization, start-up and Notification Procedure, as Notified Body for Railway Interoperability Certification, of the SciroTÜV Consortium, including organisation and preparation of the Dossier of the Documentation necessary for the presentation of the application for Notification to the Italian Infrastructure and Transport Ministry and coordination of the ministry inspections at the SciroTÜV premises (appointment achieved in march 2003).

Period: 2001-2003

Organisation: SciroTÜV

Role in Project: Direct, as Managing Director of the SciroTÜV Consortium.

**Publications – Top15 out of more than 50**

Firpo, P., M. Fracchia and S. Savio, 1993, "Locomotive Drive Harmonic Pollution in AC Traction Systems", IEEE International Conference ISIE '93, 1-3 June, Budapest, Hungary.

Firpo, P., S. Savio and G. Sciutto, 1994, "Fail Safe Digital Systems in Railway Applications: a Comparative Analysis", WCRR '94 World Congress on Railway Research, 14-16 November, Paris, France.

Firpo, P. and S. Savio, 1995, "Optimized Train Running Curve for Electrical Energy Saving in Autotransformer Supplied AC Railway Systems", IEE International Conference on "Electric Railways in a United Europe" RAILINK '95, 27-30 March, Amsterdam, Netherlands.

Firpo, P., G. Cosulich and S. Savio, 1995, "RAM Related Performances of High Speed Railway Multivoltage Vehicles: a Probabilistic Approach Based on Stochastic Reward Nets", IEEE International Conference on Electric Power Engineering Stockholm Power Tech, 18-22 June, Stockholm, Sweden.

Firpo, P., G. Cosulich and S. Savio, 1996, "RAMS Targets Allocation: State of the Art and Innovation", WCRR '96 World Congress on Railway Research, 17-19 June, Colorado Springs, USA.

Firpo, P., G. Cosulich and S. Savio, 1996, "Power Electronics Reliability Impact on Service Dependability for Railway Systems: a Real Case Study", IEEE International Conference on Industrial Electronics ISIE '96, 17-20 June, Warsaw, Poland.

Firpo, P., G. F. D'Addio and S. Savio, 1997, "Optimized Reliability Centered Maintenance of Vehicles Electrical Drives for High Speed Railway Applications", IEEE International Symposium on Industrial Electronics ISIE '97, 7 -11 July, Guimarães, Portugal.

Firpo, P., M. Berieau and G. F. D'Addio and U. Foschi, 1997, "Overview on the RAMS Process for the ERTMS Control/Command System Special Focus on Specification Phase ", WCRR '97 World Congress on Railway Research, 16 -19 November, Firenze, Italia.

Firpo, P., G.F. D'Addio and S. Savio, 1998, "Reliability Centered Maintenance: a solution to optimise mass transit system cost effectiveness", IEE International Conference on Developments in Mass Transit Systems, 20 - 23 April, London, UK.

Firpo, P., M. Berieau and U. Foschi, T. Freneaux, 1999, "La Fase di Specifica nel Processo RAMS del Sistema ERTMS/ETCS ", Ingegneria Ferroviaria, Numero 1-2 January-February.

Firpo, P., G. Cosulich and M. Scordato, E. Stafferini, 1999, "Probabilistic Risk Assessment for Track Invasion and Breakdown Events in Railway Lines", WCRR '99 World Congress on Railway Research, 18 - 22 November, Tokio, Japan.

Firpo, P., V. Fazio and S. Savio, 2000, "An Innovative Procedure for Reliability Assessment of Power Electronics Equipped Systems: a Real Case Study", IEEE International Symposium on Industrial Electronics ISIE 2000, 4 – 8 December, Puebla, Mexico.

Firpo, P., E. M. El Kursi, H. Krebs and B. Le Trung, 2001, "Minimale Endogene Mortalität (MEM) – Ein Universelles Sicherheitskriterium", ETR (Eisenbahntechnische Rundschau/RTR Railway Technical Review), Issue 12/2000

Firpo, P., V. Fazio and S. Savio, 2001, "Impact of signalling and automation failure modes on railway operation: assessment by simulation" WCRR 2001, 25-29 November, Cologne, Germany.

Firpo, P., G. Pietronave, C. Quaglierini, S. Savio and R. Vom Hövel, 2003, "The use of complementary technologies for ensuring system safety in railway systems with high degree of automation", WCRR '03 World Congress on Railway Research, 28 September - 1 October, Edinburgh, Scotland.

ADDITIONAL INFORMATION  
(CTND)

**Mobility**

Available for commuting on weekly basis across Europe, within Italian employment contract

No limitations regarding business travels

**Family Status**

Married with two daughters

**Hobbies and interests**

Playing volley and beach volley, playing bass guitar, playing and listening good music (I like to say: let your feelings make some noise)

ANNEXES

N.A.

PRIVACY

I hereby authorise the use of my personal details solely for circulation within the receiving organisation.

