

# Curriculum Vitae

Frea Matteo

## CURRENT POSITION

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### Head of R&D

Wabtec | 2019–present

Accomplished manager with 15 years of experience in leading project for R&D department and devising innovative strategies for railway safety systems.

Demonstrated success in coordinating funded research programs.

Contributing to the intellectual property growth of the company. Inventor of 25 + patents for the Wabtec corporation and I'm managing the surveillance of competitor's patents.

Manager of a multi competence team of 25 senior engineers working on safety relevant applications including electronic, control, mechanical, pneumatic, software, RAMS for brake systems.

Coordinator of Flagship Area 4 (sustainability & energy efficiency) within Europe's Rail funded program, for the Wabtec Transit division, including brake, HVAC and pantograph.

Promoting and supporting new product introduction, together with sales & marketing team.

## PROFESSIONAL BACKGROUND

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### System innovation Eng.

Wabtec | 2016–2019

Development of adhesion management solution (Distance Master TM) from the concept to the homologation and market introduction.

Implementation of adaptive controls techniques into safety relevant applications (e.g., WSP).

Design and validation of complex hardware-in-the loop architecture for brake system validation (i.e., Multi-axle roller rig).

Work package leader for multiple projects within Shift2Rail funded program (PINTA, PIVOT..) driving the technologies from concept to train demonstration (TRL9) and operational service (EuskoTren).

Cultivate solid and productive rapport with universities of Aachen (DE), Huddersfield (UK) and Milan to develop mathematical rail adhesion model.

### Validation manager

RAICAM | 2014–2016

Leading the team responsible for the characterization and validation of friction materials for automotive braking pads.

Implemented new engineering methods to improve operations, minimize operating costs, and effect greater utilization of labor and materials.

### Software team leader (UIC & high-speed platform)

Wabtec | 2012–2014

Software development for brake control system of high-speed train, ensuring quality and process assessment.

Led the project ETR 1000, Regiolis, R2N from design to commercial service.

## **EDUCATION AND TRAININGS:**

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Master's degree in physics of advanced Technologies, Materials and Electronic devices

Department of Physics, University of Turin

Vote: 110/110 with honor

Final Degree Project: Design and development of a multi-function optical CMOS sensor for internal automotive application, C.O.CRF (Fiat Research Centre) in Turin.

Bachelor's degree in physics

Department of Physics, University of Turin

Vote: 110/110withhonour

Final Degree Project: Application of an isotropic magneto-resistive sensors for vehicle identification, C.O.CRF (Fiat Research Centre) in Turin.

## **EXTRAS:**

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Speaker or chairman at various conferences/event, like: WCRR, EuroBrake, Modern Rolling stocks, Railway Brake & Friction, UIC congress, Shift2Rail dissemination events.

Inventor of 25+ patents for Wabtec corporation.

**PIOSSASCO, November 2023**

*Mattia Frea*