



Iveco Group (MI: IVG) is a global automotive leader active in the Commercial & Specialty Vehicles, Powertrain, and related Financial Services arenas. Each of its eight brands is a major force in its specific business: IVECO, a pioneering commercial vehicles brand that designs, manufactures, and markets heavy, medium, and light-duty trucks; FPT Industrial, a global leader in a vast array of advanced powertrain technologies in the agriculture, construction, marine, power generation, and commercial vehicles sectors; IVECO BUS and HEULIEZ, mass-transit and premium bus and coach brands; Iveco Defence Vehicles, for highly-specialised defence and civil protection equipment; ASTRA, a leader in large-scale heavy-duty quarry and construction vehicles; Magirus, the industry-reputed firefighting vehicle and equipment manufacturer; and IVECO CAPITAL, the financing arm which supports them all. Iveco Group employs approximately 34,000 people around the world and has 29 manufacturing plants and 31 R&D centres.

FPT Motorenforschung AG in Arbon has around 250 highly qualified employees working with commitment and acknowledged success. As the main innovation center for FPT Industrial, the site is involved in developing future powertrain solutions (not only in electrified powertrains, hybrids and fuel cells, but also novel engines concepts and alternative fuels) and is therefore at the forefront of a transition towards a future of alternative propulsion systems.

We would like to fill the following position as soon as possible:

Electric Drives Engineer

As a member of the Electric Drives Team in the Electrified Powertrain Engineering division of FPT Industrial, you will be part of a highly skilled team driven to design and engineer best-in-class electric machines and power electronics. You will develop and integrate high performance and high-density electric drives into hybrid and full electric powertrains. You will be contributing to the development of advanced concepts as well as their implementation for application to on-road vehicles and off-road applications.

Your tasks

- Working in a multidisciplinary team, develop and deliver best-in-class electric machines and power electronics designs for FPT Industrial electrified powertrain product portfolio for hybrid and full electric powertrains
- Perform design analysis using modelling and simulation techniques
- Connect the organization to the latest technology developments and trends in industry in terms of materials, processes and topologies. Also monitor market and competitors' product portfolio
- Study, invent and implement new electric machine technologies to meet our product lines requirement but also in competition to the state of art solutions in the market

- Continuously evaluate new technologies and validate existing designs to develop the most power dense, efficient, low cost, and reliable electric motors
- Technically liaise with system and subsystem suppliers in electric machines field
- Manage suppliers when and where necessary
- Plan and supervise test series on rig (components), bench and vehicle (total system)
- Communicate results and make presentations that describe analysis and solutions
- Collaborate closely with various internal departments / laboratories and universities
- Specify component technical requirements (State of Requirements) and evaluate supplier technical proposals (Sourcing and technical reviews)
- Define, manage and supervise supplier and internal component development and validation activities: drawings and technical documentation release, virtual simulation, design and installation FMEA, test plans (DVP)
- Support problem solving and troubleshooting activities

Your profile

Basic Qualifications:

- University / engineering school degree in electrical engineering, several years of experience in a similar role. PhD profiles preferred
- A good understanding of system and component interactions for traction/propulsion eDrives
- Expertise in Electrical Motors for Automotive Applications, On/Off road vehicles from design to manufacturing
- 5+ years of experience with:
 - eDrives Design, Simulation and Analysis based on Analytical models or Numerical/FEA tools and of electric drives.
 - eDrives for xEV (hybrids, BEV, FCEV)
 - High voltage Motor development, prototyping and testing
 - Motor Control/Advanced Motor Control and condition monitoring
- Good English and German (preferred) skills (spoken and written), Italian skills would be an asset
- You are a highly motivated self-starter and team-player with very good communication skills

Preferred Qualifications:

- Strong knowledge and understanding of electric machine physics, modelling, and technologies
- Good knowledge and understanding of Inverters / Power Electronics and Motor Control and condition monitoring

- Deep understanding in mechanics, dynamics, thermal analysis and material properties
- Knowledge of modelling and design tools (CAD, FEM/FEA) for mechanical design and static and dynamic structural analysis for virtual validation
- Good knowledge of Design Standards and materials specification and properties, Experience with FMEA, DVP
- Knowledge on fatigue analysis and mechanical wearing and ageing processes of electrical motor in general but more in details for electric motor for traction/propulsion
- Good understanding of manufacturing processes for electrical motors and the key challenges
- Technical understanding of inverters and combined constraints with electric motor (insulation, current and voltage rating, ...)
- Good technical understanding of electromagnetic compatibility (EMC)
- Proficient coding skills with preference for MATLAB experience

Interested?

Please send your application to recruitment.arbon@cnhind.com

FPT Motorenforschung AG, Schlossgasse 2, CH-9320 Arbon, Tel. +41 71 44 77 477,
www.fpt-motorenforschung.ch