



**CNH Industrial** CNH Industrial is a global leader in the capital goods sector that, through its various businesses, designs, produces and sells agricultural and construction equipment, trucks, commercial vehicles, buses and specialty vehicles, in addition to a broad portfolio of powertrain applications. Across its 12 brands, 64 manufacturing plants, 49 research and development centers and a workforce of more than 70'000 people, CNH Industrial is present in 180 countries giving it a unique competitive position.

**FPT Motorenforschung AG** in Arbon has around 250 highly qualified employees working with commitment and acknowledged success. Our activities: all aspects of engine research and development, particularly diesel engines with direct injection and aftertreatment systems for road vehicles and off-road applications. Investing in the future and providing new jobs, we are looking for a

## **System Development Engineer – Testing (f/m)**

As a member of the System Development 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 electrical systems and architectures for FPT Industrial electrified powertrain product portfolio. Starting from given specifications, you will define and execute functional verification tests at system and components level, at test bench and on vehicle, verifying compliance with expected functional and performances requirements. You will work in a collaborative team environment. You will be contributing to the development of advanced concepts as well as their implementation for application to on-road vehicles and non-road applications.

### **Your tasks**

- Working in a multidisciplinary team, develop and deliver best-in-class electric system architectures for FPT Industrial electrified powertrain product portfolio for hybrid and full electric powertrains
- Analysis of requirements and of component technical documentation
- Support definition of functional, acceptance and qualification test plan to be executed at supplier's facilities, or internal facilities, or in an external qualified laboratory.
- Design the experiment and identify required equipment and instrumentation
- Support the definition of mechanical, electrical, hardware/software interfaces required to carry out the testing activity.
- Define bill of material required for the test set-up
- Plan and execute experimental activity at test rig, on vehicle at rolling test bench or on-road.
- Execute and support problem solving and troubleshooting activities
- Communicate results and make presentations that describe analysis and solutions
- Collaborate closely with various internal departments / laboratories and universities



## **Your profile**

### Basic Qualifications:

- You have a university degree in electrical, electronic or mechatronic engineering, few years of experience in a similar role
- Background on applied mechanics for road vehicles
- Background on electronics: circuit, devices (transistors, operational amplifiers, digital and logic circuits)
- A good understanding of electrical measurement tools
- Proven experience with CAN network interface (message map definition, data acquisition and post-processing, interactive CAN analysis tools)
- 1+ years of experience on;
  - Testing of electrical/electronic components at test bench
  - Use of electrical and electronic measurement tools (digital scopes, power meters, spectrum analyser) and data acquisition (temperature sensors, voltage/current probe, torque/speed sensors, liquid/gas flow-rate measurements, data processing and analysis, cooling circuits, lubrication systems)
  - Electrical measurement on electrical system with AC and DC hazardous voltage (e.g. 230/400V 50/60 Hz, 600V DC, ...)
  - Electrical measurement on power electronics with switching components.
- Background on signal processing (analog to digital conversion, analog and digital filters, signal statistics, harmonic and spectral analysis, Fourier transform)
- Basic experience with tools for drawings of electrical schematic
- You have good German and English skills (spoken and written), Italian skills would be an asset – Arbon
- You have good Italian and English skills (spoken and written), German skills would be an asset - Turin
- You are a highly motivated self-starter and team-player with very good communication skills

### Preferred Qualifications:

- Strong technical understanding of components for electrified powertrain: rotating machines, DCDC, ACDC, DCAC converters, battery systems.
- Sound knowledge on electrical engineering: electrical circuit analysis and design, components (insulation, cables, fuses, contactors, relays, sources, power and signal circuit boards, measuring instrumentation)
- Sound background on electromagnetic compatibility: understanding of disturbances and conducted/radiated emission measurements
- Experience with safety critical electronic product development for automotive/commercial vehicle electrified applications
- Experience on high voltage (>60V DC) Fuel Cell and Battery system
- Experience with FMEA, DVP, ISO 26262, relevant automotive/industrial vehicle standards
- Self-motivated with the ability to manage multiple tasks
- Good technical communication skills

## **Interested?**

For further information please contact Mrs. S.Tur – Tel. +41 (0) 71 447 71 82. Please send your application to Human Resources: [recruitment.arbon@cnhind.com](mailto:recruitment.arbon@cnhind.com)