hofer powertrain	**hofer powertrain UK job specification**	**25.05.2017**

Job Title – Principal E-Machine Design Engineer

Date position required:	June 2017
Reports:	None
Salary:	Competitive
Benefits:	Pension
Site:	hofer powertrain UK, Warwick Innovation Centre, Warwick, CV34 6UW
Applications required by:	ASAP
Application format:	CV and covering letter

hofer powertrain – Part of the hofer AG (Group)

hofer, established in the 1980's, is a privately owned, German based, automotive engineering consultancy growing to in excess of 1,000 people over the next few years. We work with many of the world's automotive OEMs, Tier 1 suppliers and automotive technology centres and have numerous powertrain components in mass production; including hofer designed electric motors and hybrid modules to full dual clutch transmissions.

With numerous offices across Germany, Austria, Italy, America, China and the UK, hofer has a truly global presence allowing comprehensive support for powertrain projects across all vehicle sectors.

- Specific sites setup to support many of the German OEMs
- hofer mechatronik GmbH (Part of the hofer group) is the largest independent automotive hydraulics consultancy in the world
- Involved in many current and future AT, AMT, DCT and MT volume transmission design projects from clean sheet to production
- hofer has its own inverter / electric control technology and has designed hybrid modules and e-motors that are in production across the world
- Full design to production experience of hybrid powertrain technologies from energy storage to the road
- Full engine and motor driven test capability
- Production supplier to VAG group

As part of hofer group's global growth, and the continuing expansion of hofer powertrain UK, a vacancy has arisen for a Principal E-Machine Design Engineer to join the business at the Warwick office.

Reporting to the Chief Engineer of Electrical Systems, hofer powertrain UK seeks an Electrical Machine Design Engineer with experience of synchronous and asynchronous e-machine/motor design and development for production; particularly for automotive traction applications in EV and hybrid vehicles.

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The hofer powertrain UK Electrical department is currently involved in the customer-facing delivery of both hybrid and pure electric drivetrain solutions, supported by a team of over 110 e-machine; power electronics; electronic hardware and software specialists based in Würzburg and Lenting, Germany.

The key functions of the role:

Lead the design and delivery of e-machine solutions for customer applications, interfacing directly with the design teams in the UK and Germany and/or the appropriate hofer project team.

Capture, manage and develop e-machine hardware requirements; specifications and drawings, ensuring alignment between internal team(s), suppliers and the customer.

Design synchronous and asynchronous machines with analytical and FEM tools for electric drives in hybrid / electric vehicles. To include thermal design and modelling; electromagnetic simulation and design, and creation of full electrical machine models (e.g. thermal, performance, NVH).

Management and definition of e-machine mechanical interfaces and requirements.

Develop customer e-machine system(s) and components to the agreed requirements and processes, from concept level through to production.

Contribute to system and lead component-level safety case development, and follow industry standard techniques to ensure a robust design, e.g. FMEA.

Plan and action Design Verification (DV) and Production Validation (PV) activity at a component level.

Manage interfaces between the e-machine and the rest of the e-powertrain system, liaising with cross-functional teams within hofer and the customer.

Liaison with, including travel to, other hofer sites in order to co-ordinate design activities and ensure delivery is in line with the programme requirements.

Qualifications / Education / Experience required:

Degree or equivalent in a relevant Engineering or Science related discipline.

A minimum of 10 years' demonstrable electrical machine design experience in an automotive or similar engineering environment.

Proven experience of working on electrical machines for production applications and understanding their interfaces and integration into the powertrain system(s) and vehicle.

Good understanding of automotive HV standards; design methodologies and working practices.

Verifiable experience in e-machine Specification; Requirements Capture/Management and DV and PV processes.

Confident user of MS Office products and competent user of industry-standard simulation tools, e.g. MATLAB Simulink, dSPACE environments.

Highly experienced user of e-machine FEA; simulation and design packages, e.g. FEMAG; Speed; MotorCAD. Alternative experience of equivalent packages is acceptable.

Experience of delivering both permanent magnet and induction e-machine technologies; and the ability to select appropriate topologies and technologies to suit the end application.

Other beneficial attributes:

Familiarity with mechanical CAD packages such as CATIA or Creo.

Knowledge of German or other European languages.

Personal attributes:

Excellent attention to detail with good planning skills.

Strong communicator, capable of interacting with cross-functional teams both internally and externally.

Highly self-motivated and independent, with a willingness to seek guidance and involve others whenever required.

Remain focussed under pressure, familiar with working outside their normal comfort zone.

Proven record of operating in a customer-facing environment.