Stellenbezeichnung: (Senior) eMotor Thermal Engineer (d/f/m)

Forward. For all.

Job Number: 56487  
Group: Magna Powertrain  
Division: New Products - Sankt Valentin  
Job Type: Permanent/Regular  
Location: SANKT VALENTIN, LANNACH, TRAISKIRCHEN

Group Introduction
Advancing mobility. Making automotive technology that is smarter, cleaner, and safer, while still fun to drive. And making it for everyone. That’s what we’re passionate about at Magna Powertrain. We do it by creating world-class powertrain solutions for conventional, hybrid, and pure electric vehicles. We’re making electrification more than a buzzword, we’re bringing it to the road. Innovation is what drives us and we drive innovation. Dream big and create the future of mobility at Magna Powertrain.

Your responsibilities
Are you enthusiastic about new technologies and innovative concepts? Do you have a broad technical knowledge and the ability to recognize complex relationships? Do you want to help shape the future drive systems of electric and hybrid vehicles? We are looking for a motivated engineer for research and development of electric traction motors. This position is critical for the development of high-performance, high efficiency and low-cost electric powertrain. You will be working within the eMotor advanced engineering team and developing thermal models for new motor types, new cooling systems and planning tests for thermal characterization and calibration. Additionally, you will work within pre-development and deal with the improvement and optimization of future E-Drive thermal systems.

Key Responsibilities
- Evaluation of the state of the art and new innovative technologies (including benchmarking) in the field of electric motor design with a focus on traction drives.
- Develop in-house core thermal models for various types of electrical machines and different winding topologies, including permanent magnet, induction and separate-excited machines; random winding, hair-pin winding, and concentrated winding.
- Collaborate with electromagnetic and thermal engineers to define, design and develop innovative motor cooling concepts.
- Incorporate various cooling strategies and thermal interface into the models: direct/indirect oil cooling, forced air cooling, natural cooling etc.
- Develop test rigs plans and create test profiles to validate thermal performance in transient and steady state conditions.
- Develop in-house tools to process the thermal data and calibrate thermal model, compile, document, and report test results.

Your qualifications
- Bachelor’s degree in electrical engineering, physics, or mechatronics or similar fields required, Master’s degree preferred.
- 3-5 years related work experience (intermediate) or 5-7 years related work experience (senior) required.
- Powertrain experience preferred.
- Experience/knowledge in designing and simulating electrical machines’ thermal behavior.
- Experience/Knowledge of lumped parameter thermal networks, finite element analyses and computational fluid dynamics for thermal modelling (e.g. Motor-CAD, JMAG, Ansys Fluent preferred).
- Strong mathematical and physical understanding on heat transfer.
- Matlab and/or Python programming skills.
- An understanding of the requirements of automotive technology and knowledge of the relevant standards are an advantage.
• Detail oriented personality with solid documentation and reporting skills combined with result orientation and independent way of working.
• Excellent written and verbal communication skills as well as teamwork skills.

What we offer
After starting an extensive and structured onboarding, where you will be supported by a mentor, you will be directly involved in the development, design and manufacturing of the world's most advanced (electric) mobility technologies. Exciting tasks and new challenges await you in a dynamic and motivated team. In addition, we offer you extensive social benefits.

Compensation
For this function, we offer an attractive compensation package that matches your individual experience and qualifications. The gross annual salary corresponding to the metal collective agreement for 38.5 hours is 56,000 € p.a. (metal collective agreement). Overpayment is possible according to your experience and educational background.

Benefits
As an international company, we offer attractive services such as various sports and health programs, numerous benefits at partner companies and the Magna Profit Sharing Program in addition to exciting tasks, flexible working hours and an extensive range of training and education opportunities.

Additional Information
This position has the potential to work out of 3 different locations
• Our St. Valentin site, with around 800 employees, is easily accessible both by private and public transport thanks to its excellent links to the Westautobahn and Westbahn railway lines. The unique natural and cultural landscape of the Mostviertel region around St. Valentin offers a wide range of leisure activities. Urban flair can be found in the nearby Upper Austrian capital Linz.
• Our location in Traiskirchen is only 20 kilometers away from Vienna and is easily accessible by car as well as by public transport. The location in the middle of a beautiful landscape close to the city is definitely recommendable as a place to live or work.
• Our Lannach site, with around 2,000 employees, can be easily reached from Graz via the highway in just 15 minutes, and the Styrians' favorite excursion destination - the South Styrian Wine Route - is also very close by for an evening outing.

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Would you like to find out more about career opportunities at Magna Powertrain | Engineering Center Steyr at the St. Valentin site?

Visit us on our Careers page!

At Magna, we believe that a diverse workforce is critical to our success. That’s why we are proud to be an equal opportunity employer. We hire on the basis of experience and qualifications, and in consideration of job requirements, regardless of, in particular, color, ancestry, religion, gender, origin, sexual orientation, age, citizenship, marital status, disability or gender identity. Magna takes the privacy of your personal information seriously. We discourage you from sending applications via email to comply with GDPR requirements and your local Data Privacy Law.