



# Computer scientist, development engineer (m/f/d) – FPGA-based real-time power electronics simulation

Location: Paderborn / ID: RTDS-EED-FPGA

As a software developer for FPGA-based technologies for the real-time simulation of power electronics you are responsible for the further development, implementation, and commissioning of FPGA-based approaches for the real-time simulation of power electronics circuits. Your work will focus in particular on providing generic approaches for hardware-in-the-loop (HIL) simulations for electromobility applications.

## Your Tasks

- Implement interfaces and calculate sequences in VHDL and higher description languages for FPGA-based programming as well as commissioning on dSPACE systems
- Design and implement prototypical new ideas for the real-time simulation of power electronics applications in MATLAB®/Simulink®
- Develop and maintain existing algorithms for the real-time simulation of power electronics
- Prepare application-specific feasibility studies
- Cooperate closely with other FPGA developers

## Your Qualifications

- A degree in natural sciences or technical studies (Master's or Bachelor's degree in Computer Science, Electrical Engineering, or comparable)
- Good knowledge of FPGA programming, ideally VHDL
- Experience in working with model-based development in MATLAB®/Simulink®
- Knowledge of power electronics and the MATLAB®/Simulink® Simscape Electrical toolbox is an advantage
- Experience in working with real-time systems is beneficial
- Systematic way of working as well as an analytical and conceptual approach
- Strong communication skills and ability to work in a team
- Very good German and good English skills

People all over the world use means of transport that have been developed, tested, and validated with dSPACE solutions. As a global technology leader for simulation and validation solutions, dSPACE is a partner along the entire innovation chain, from the initial idea to supporting series production.



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