

Modern embedded systems provide critical every-day services in applications as diverse as smart cities, smart production, or connected cars. Regarding their hardware and software, “dependability” summarizes aspects such as safety, security, real-time, and maintainability that allow the users to put trust into their continuous service. However, today’s approaches to design and implement such embedded systems do not guarantee dependability. Thus,

the Embedded Automotive Systems Group (EAS) at TU Graz offers the position of

## **1 University Assistant with Doctorate - PostDoc (f/m/d)**

**in the field of Dependable Embedded Systems Design**

**from March 1, 2021 – Dec 31, 2023, 40h/Week, at TU Graz Campus Inffeldgasse, Graz, Austria.**

The Dependable Embedded Systems Lab (DES Lab) is a cooperation project between Graz University of Technology and Silicon Austria Labs, Graz. The prospective candidate is expected to perform basic research with a strong focus on *compositional software design*. An open question in this area is, for example, how to handle side effects between dynamically composed software modules or guarantee their compatibility and correct behavior/interaction with regard to functional and non-functional aspects.

The position is integrated into the Embedded Automotive Systems Group (Prof. Marcel Baunach) which focuses on embedded processors and operating system architectures. Thus, the candidate is expected to support these research directions in order to further shape and execute the group’s research agenda. This includes collaboration with project partners and allied research groups, the scientific community, and experts or scientists from industry and academia. It also includes teaching duties and the co-supervision of PhD students. *The possibility to pursue a habilitation is given in general.*

**Requirements:** Completed doctoral studies with very good grades in Information/Computer/Software Engineering, Computer Science, Information Science, Telematics, Electrical Engineering, or related studies.

### **Your profile:**

Candidates should have experience and very good knowledge in several of the following areas:

- architecture of embedded operating systems or basic software
- formal methods and verification (e.g., for non-functional requirements/properties)
- model based software design
- design, development, and verification of hardware and software for modular embedded systems

Candidates should show:

- outstanding academic performance, including a topic-specific publication record
- very good proficiency in written and spoken English (German or the willingness to learn it is appreciated)
- high motivation, self-initiative, and a sense of responsibility
- ability to work independently in an interdisciplinary and international team
- willingness to do scientific research, publish research results, and support open-source software
- willingness to teach courses and co-supervise PhD/MSc/BSc students
- experience with scientific projects and international cooperation

**Salary:** €3,889 gross (14x/year) according to level B1 of the collective agreement for university employees.

**Application:** Please send your motivation letter, curriculum vitae, publication record, certificates of graduation, supporting documents and links regarding professional activities to [dekanat.etit@tugraz.at](mailto:dekanat.etit@tugraz.at), quoting the **reference number 4480/20/039 no later than 17 January 2021**.

*Please ensure that your application makes direct reference to at least one or more topics listed above by describing your interests for future research. Briefly but clearly state in your letter of motivation how you would like to contribute your professional skills to the project and the working group. Generic letters of application will be rejected immediately.*

TU Graz aims to increase the diversity in the research groups and therefore expressly invites all people with relevant qualifications to apply. Applicants must not be discriminated in personnel selection procedures on the grounds of gender, ethnicity, religion, age, sexual orientation (anti-discrimination).

**Contact in case of Questions:** Prof. Dr. Marcel Baunach, Institute of Technical Informatics, [baunach@tugraz.at](mailto:baunach@tugraz.at)

**Reference number: 4480/20/039**  
**Deadline: 17 January 2021**