



The **University of Applied Sciences Munich** and **Infineon Technologies AG** are looking for an interested and qualified student for a voluntary internship followed by a master thesis on:

Prototyping and requirements engineering of a casing for a NV-center based Quantum Computer (QC)

Infineon Technologies AG is a world leader in semiconductor solutions that make life easier, safer and greener. In the 2020 fiscal year (ending 30 September), Infineon reported revenue of more than €8.5 billion with a workforce of some 46,700 people worldwide.

In order to exploit the high potential of Quantum Computing (QC) we need to build reliable hardware. Most universal-gate QCs are based on a kind of mainframe system and require sufficiently large infrastructures cooled down to low temperatures. A NV-center based QC, in turn, offers an alternative approach having the advantage of being smaller in size and being operated at room temperature. This allows us to build an infrastructure-independent and mobile QC. Such QCs might be integrated offline for the optimization of complex production and logistics processes or even in mobile uses case as autonomous driving cars. The goal of this Master thesis is to build a casing of a NV-center based QC.

More concretely, the aim of the thesis is to:

- Build a first prototype of a housing for a NV-center based QC relying on a given list of requirements
- Demonstrate the device to our partners and iterate the prototype

Requirements:

- Enrollment in a technical master program
- Interest quantum computing
- Good English and German communication and presentation skills
- Ability to work with different partners (physicists & optical engineers)
- Good analytical thinking
- Ability to work in cross-functional teams with different cultures from all over the world

If you are interested, please send your application with your curriculum vitae and transcripts of records by email to:

- Hans Ehm: hans.ehm@infineon.com or
- Peter Leibl: peter.leibl@hm.edu