A NEW BOOST FOR MATERIAL SCIENCE

The Projekt MIRell is supported within the scope of the EXIST-Gründerstipendium provided by the Federal Ministry of Economics and Energy and the European Social Fund.

About the MIRell Photonics GmbH
MIRell Photonics is a start-up from Würzburg and was founded in 2017. The three founders have worked in research and want to push on the transfer from pure research to useful applications. During their research, they recognized the lack of analysers for applications in the mid-infrared region, which was the starting signal to develop their own solution.
How does ellipsometry work?

Light with well-defined polarisation is incidents at a specified angle upon the sample surface. At the interfaces of layer boundaries, light will be partially reflected and the polarisation will change depending on the material. This change in polarisation will be detected and analysed by software to make a physically correct model of the measured film system.

What is the meaning of the measured data?

The direct results of the calculated model are the film thickness and the refractive index for every film in the system. The refractive index characterises the behaviour of light in matter. It is based on material parameters like the concentration of donors or the material composition in semiconductor devices. The knowledge of these parameters is crucial for all photonic applications.