

# Cluster 4 – Digital, Industry and Space

## Advanced Materials and Manufacturing Technologies for Space Applications

Prof. Dr. Thorsten Döhring  
Department of Engineering, TH Aschaffenburg



TH Aschaffenburg  
university of applied sciences

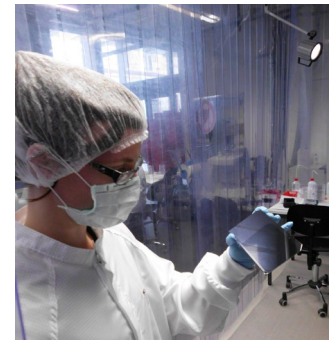
### Project Objective:

The goal of this project is to develop satellite components for space-based astronomical satellite payloads. Thereby advanced materials like iridium and innovative manufacturing technologies will be applied. After environmental testing and space qualifications tests it is planned to do an astronomical experiment with a stratospheric balloon or a sounding rocket. The work is embedded in ACCASI („Aschaffenburg Competence Center for Astronomical and Space Instrumentation“)



### Own / existing expertise:

Coating technology, iridium coatings, DC magnetron sputtering, RF magnetron sputtering, surface inspection, white light interferometry, optical and infrared filters, X-ray telescopes, astronomical instrumentation, satellite components, polarimetry, coating stress compensation, glass technology, proposals for space equipment, project management



### Own / existing working package(s) in project

An astronomical X-ray telescope by use of iridium coated mirrors will be developed at Aschaffenburg University. The X-ray mirror reflectivity will be measured at the synchrotron facility BESSY. A corresponding testing of the telescope at the X-ray test facility PANTER of the Max-Planck Institute is foreseen.

### Expertise / working packages needed

X-ray detector technology, stratospheric balloons, sounding rockets, CubeSat technology, industrial X-ray applications, x-ray sources, transmission electron microscopy, catalytic reactions on iridium, environmental testing, space qualification

**Links:** <https://www.th-ab.de/eng/about-the-university/organisation/labor/beschichtungstechnik/>

**Contact:** [thorsten.doehring@th-ab.de](mailto:thorsten.doehring@th-ab.de)

