

Short description of the research project
Fatigue in nickel-based superalloys
under LCF and TMF conditions
funded by The Swedish Energy Agency and
SIEMENS Industrial Turbomachinery, Finspång, Sweden
(through the research programme KME)

The aim of the project is to

- Improve the knowledge regarding the mechanisms that govern crack initiation and propagation under TMF conditions and to develop models that can be used to predict the service life of hot components in gas turbines
- Support the incorporation of microstructural aspects on TMF damage into the alloy development process of nickel-based superalloys. This is important for the development of new materials which is necessary in order to meet the challenges with reduced CO₂ emissions and the introduction of new fuels.