# PragTicA Project Abstract

PragTic freeware is a program intended for a fatigue calculation either as a post-processing of finite element analysis or at isolated point with no relation to the FEA data. PragTic was created as a response to the current situation in the practical industrial use of commercial fatigue solvers. These are too benevolently used by unskilled people, which are not sufficiently informed about weak points in the fatigue calculation course. A general intrinsic property of fatigue methods is that they are of empiric nature and thus any use outside of verified space is dangerous.

Producers of commercial systems do not provide any warranty on the use of the software itself or of the methods implemented in it. They even does not inform the user what extent of error they should expect if they use some computational method for some specific conditions of loading, specimen type, etc.

PragTicA consortium was thus established with several goals: 1) thorough analysis of the state of the art in specific fatigue areas; 2) a further development of PragTic so that it could be used for the most of common fatigue problems; 3) potential improvement of existing methods or development of new solutions with direct application and testing with PragTic; 4) experimental work trying to analyze potential experiments critical to the existing fatigue computation methods; 5) mutual comparison of different fatigue solvers including PragTic on retrieved experimental data; 6) open and clear Internet dissemination of all obtained results.

PragTicA project focuses on the fatigue areas concerning: a) notch effect analysis, b) fatigue calculation under multiaxial load conditions, c) seam and spot welded structures, d) riveted structures, e) composite components. PragTic's source code is offered for joint further development to all participants in the consortium.