

ESCAD Engineering GmbH optimizes finite element computations by using Mathcad

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ESCAD Engineering is an internationally active company in aeronautics and astronautics. In close coordination with customers, complete solutions were developed, from component development, through tool and prototype construction, and all the way to complete production and assembly lines. Capabilities include the implementation of consistently lightweight designs, verification procedures using proven computational methods, the design of innovative wings or fuselage structures and the optimization of hydraulic drive systems.

ESCAD
A E R O S P A C E

The challenge

- The evaluation of model results, which were calculated with the aid of Finite Element Methods (FEM), was too cumbersome and confusing using the available spreadsheet programs

The solution

- ESCAD Engineering, guided by INNEO Solutions GmbH, decided upon using Mathcad for evaluating the results from the FE computations
- Visualization of the results from the FE computations now also takes place in Mathcad

Results

- Today, Mathcad is used to replace spreadsheet programs where an evaluation using these programs could only be accomplished in a very laborious manner
- Because of the better clarity in Mathcad, computations from other users can be understood better and errors can be avoided

"Even during programming, Mathcad presents mathematical formulas particularly clearly. This is very helpful when looking for errors. Even the use of large matrices is much clearer than with the usual programming languages and spreadsheet programs."

Dr. Marco Bruns, Computational Engineer, ESCAD Engineering, Germany