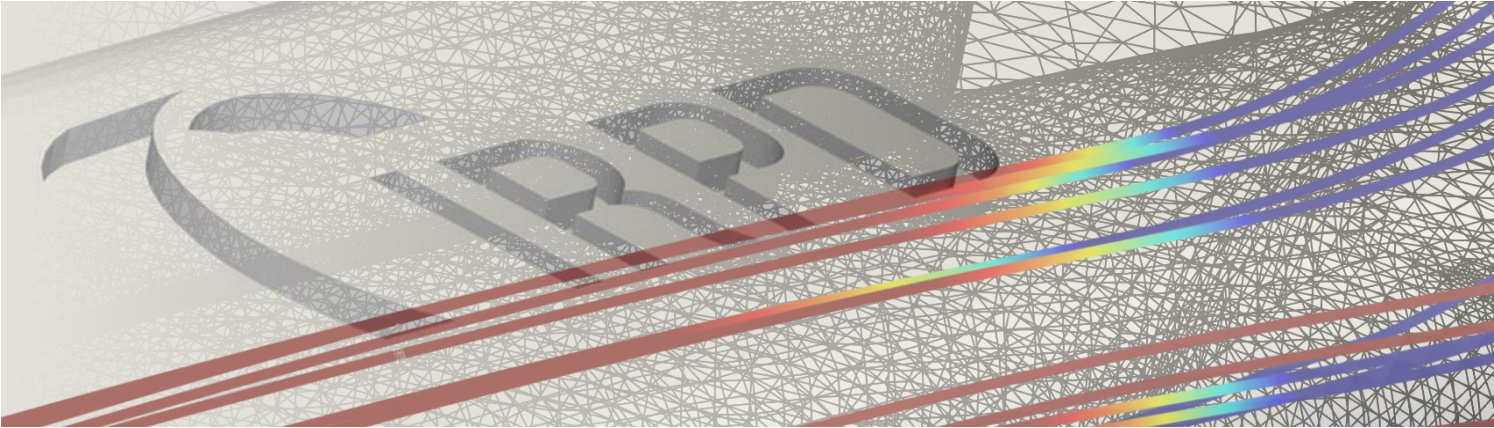


IRPD SERVICES // SIMULATIONS



RANGE OF SERVICES

Our specialists at IRPD have a broad expertise in the field of numerical calculations for various simulations and virtual product development.

In addition to the know-how for **FEM** calculations on stresses, deformations and temperature fields, we have in particular the necessary competence for fluid mechanical simulations (**CFD**, Computational Fluid Dynamics). Thus, for example, problems related to velocity, pressure loss, turbulence or heat transfer can be solved on complex components.

With our knowledge we offer our customers an economic and fast alternative to water or wind tunnel tests as well as cost-intensive prototypes.

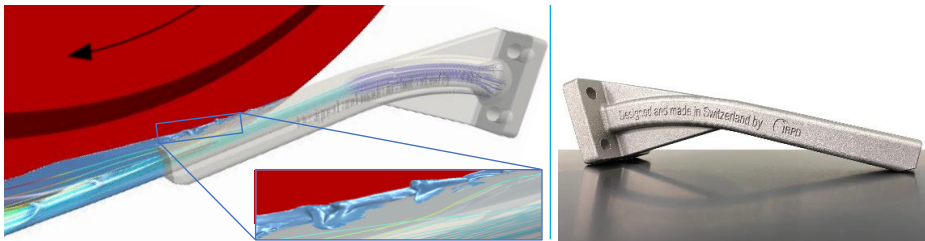


Figure (left): using multiphase flow simulation, a coolant nozzle design was developed that guarantees optimum flow conditions in the nozzle as well as high efficiency in coolant application to the grinding wheel for a coupled cutting & grinding application. (right): additively manufactured coolant nozzle made of chrome steel 1.4404

TOOL CHAIN

For our simulations, we rely on our tool chain consisting of software from the providers Ansys, OpenFOAM and ParaView.

ALL FROM ONE SOURCE

In addition to our well-known 3D printing expertise in the additive manufacturing processes LPBF (Laser Powder Bed Fusion) and SLS (Selective Laser Sintering), our simulation know-how enables us to realize technologically advanced and exceptional solutions that meet the requirement "form follows function".

Our additive manufacturing processes at the St. Gallen site are ideally suited to materialize component geometries optimized by means of simulation.

This form of symbiosis between simulation-supported component development and additive component manufacturing is absolutely unique in Switzerland.

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