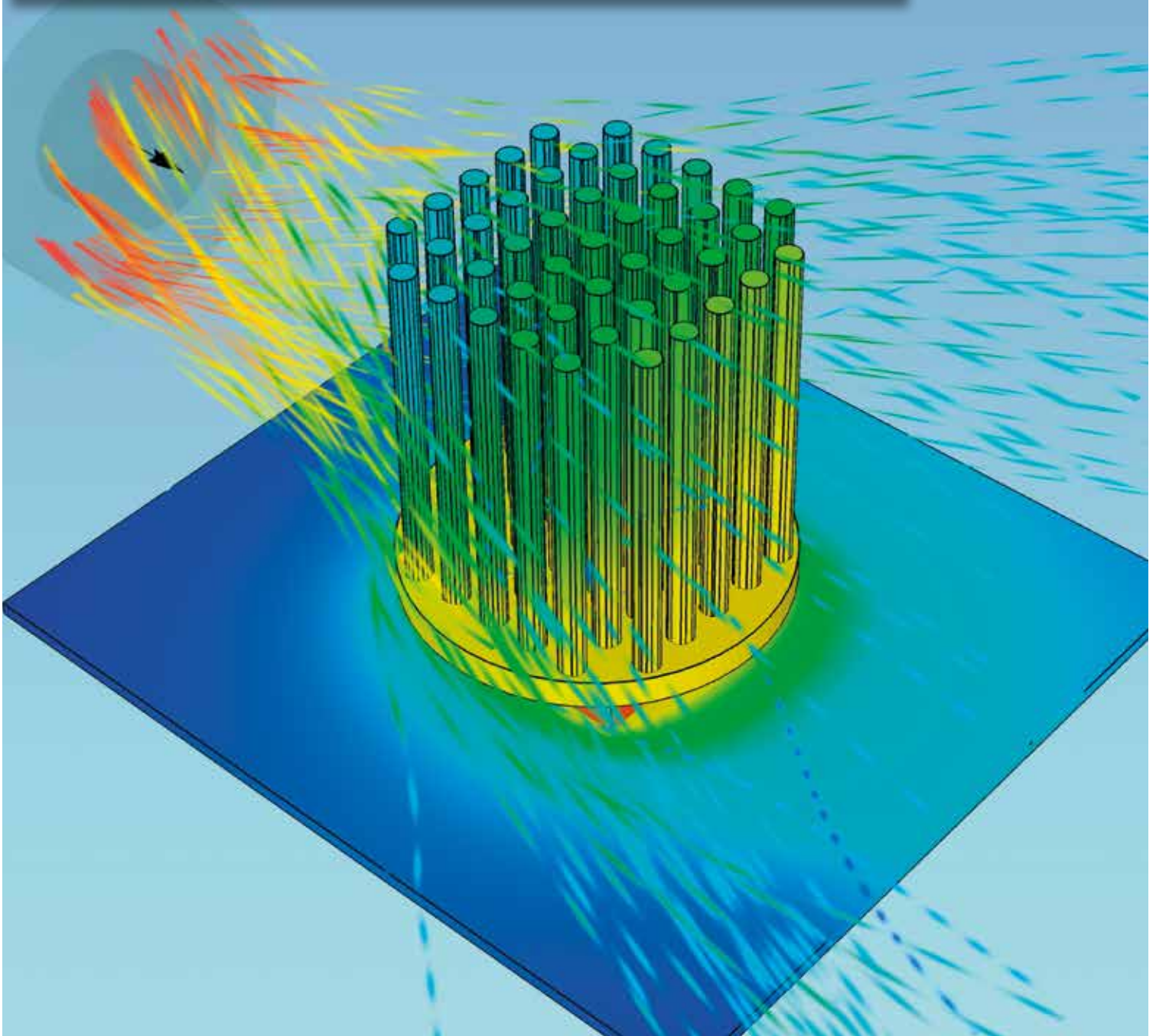# CFD SIMULATION
THERMAL MANAGEMENT CONSULTING

THERMAL SIMULATION

CFD SIMULATION
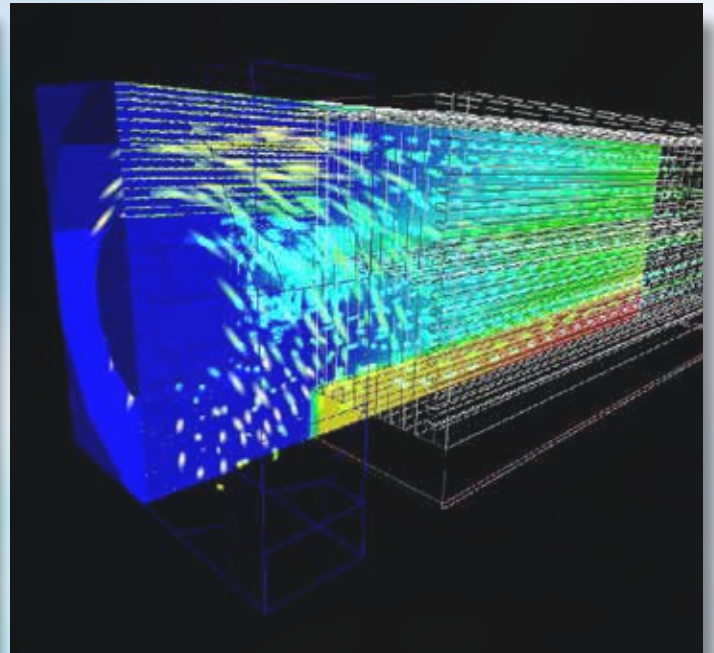## THERMAL MANAGEMENT CONSULTING
THERMAL SIMULATION

OUR SERVICES

☐ Evaluation and elaboration of cooling concepts
☐ Analysis of existing simulation results
☐ Thermal and fluid dynamic simulations
  with 6SigmaET:
  – From system to component level
  – Distribution of air flow, air temperatures, pressures,
    temperatures of solids
  – Fan operating points, pressure drops
☐ Optimisation of flow pattern and heat transfer,
  heat sinks, fans
☐ Failure mode and post mortem analysis
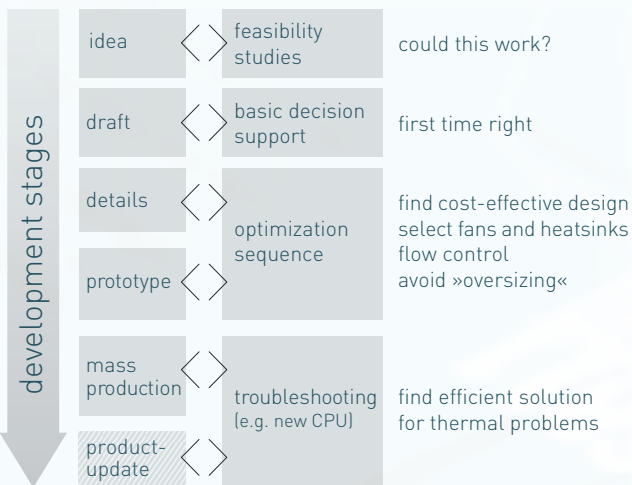☐ Product upgrading and redesign

BENEFITS

☐ Rapid feasibility studies
☐ Early problem identification
☐ Cost-efficiency of simulation vs. product redesign
☐ Easy variant analysis
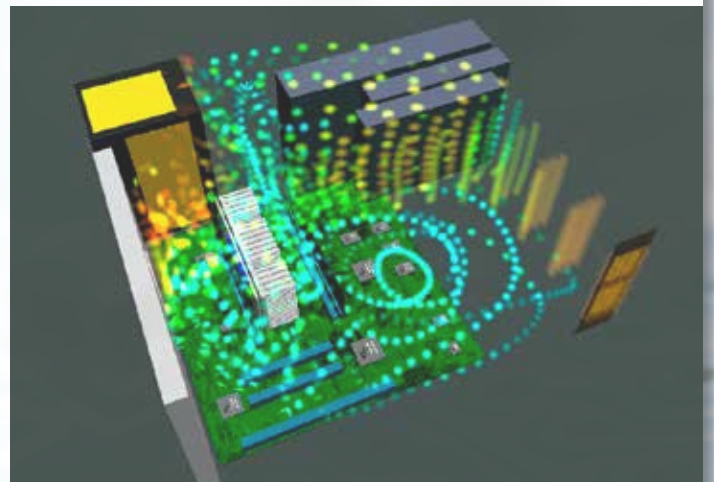☐ Accelerated Time-to-Market and Design-to-Cost
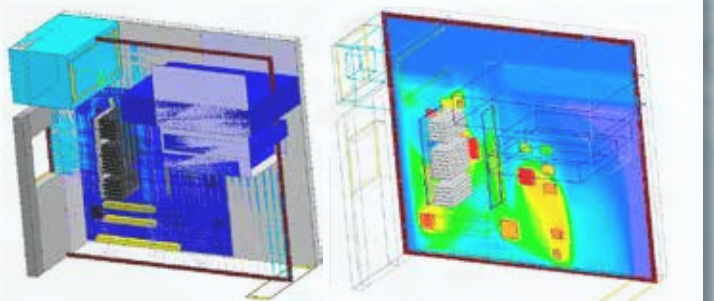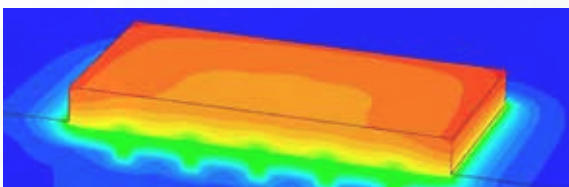
Please contact us as your development partner.

DEVELOPMENT STAGES SIMULATION

development stages

idea	feasibility studies	could this work?
draft	basic decision support	first time right
details		find cost-effective design
prototype	optimization sequence	select fans and heatsinks, flow control, avoid »oversizing«
mass production	troubleshooting (e.g. new CPU)	find efficient solution for thermal problems
product-update		

SIMULATION EXAMPLE PERSONAL COMPUTER

TIM GAP FILLER ELASTOMER COMPACT MODEL
with structural THERMAL VIAS

☐ PC cooling
☐ Flow distribution
☐ Temperature distribution air / solids
☐ Optimisation strategies for CPU heat sinks, e.g. hood
  as air duct
☐ Identification of a vortex with rotating air at high
  temperature without significant heat source.
  Counteraction e.g entrance air deflection plate

Further information
www.dr-breier-consulting.de