# Simcenter FLOEFD Extended Design Exploration module

## Design exploration and optimization for Simcenter FLOEFD

**Benefits**
- Expand CFD capabilities with design exploration and optimization
- Identify higher-performing families of designs
- Discover better designs faster
- Use simulation to drive innovation
- Minimize simulation time and cost

**Features**
- Powerful design exploration engine embedded in Simcenter FLOEFD
- Robust optimization and search functionality using SHERPA algorithm
- Leverages multiple global and local search strategies
- Intelligent adaptive search

Simcenter™ FLOEFD™, the award-winning frontloading computational fluid dynamics (CFD) software from Siemens Digital Industries Software, works inside computer-aided design (CAD) software

to simulate fluid flow and heat transfer using 3D CAD models without the need for data translations or copies. Simcenter FLOEFD now offers the option of adding a powerful new design exploration and optimization engine through the Simcenter FLOEFD Extended Design Exploration module.

With the module, you can extend the Simcenter FLOEFD parametric study and design comparison functions to drive innovation through design exploration, moving beyond troubleshooting and evaluating designs to discovering better designs faster.

The efficient and robust optimization and search functionality of the HEEDS SHERPA algorithm embedded in Simcenter FLOEFD leverages multiple global and local search strategies and
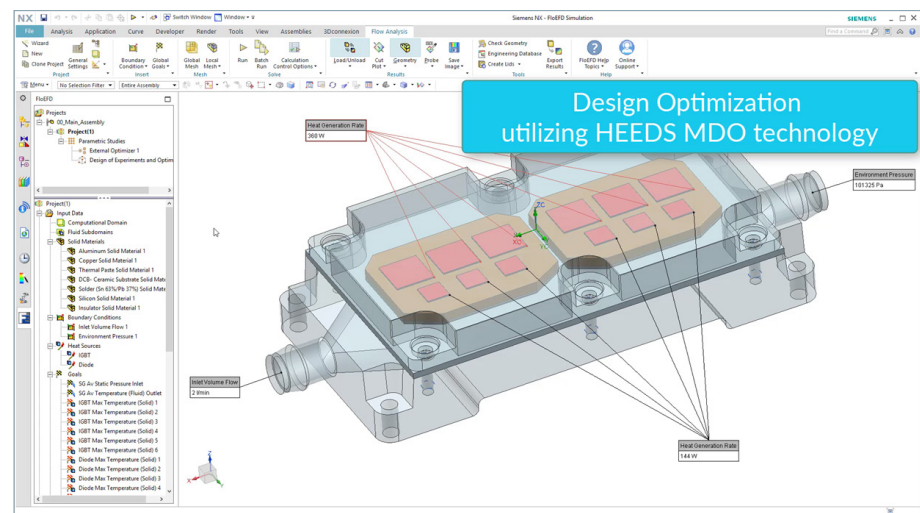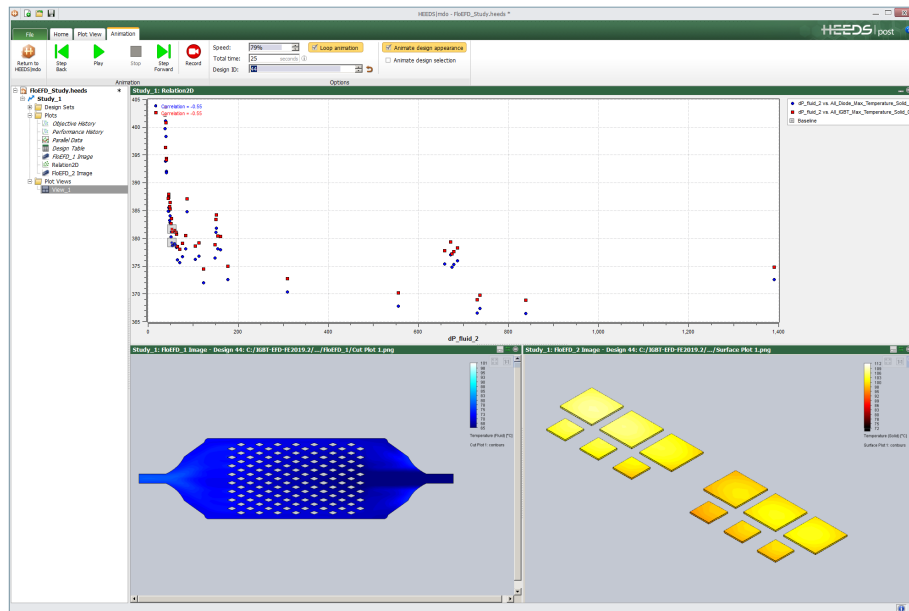


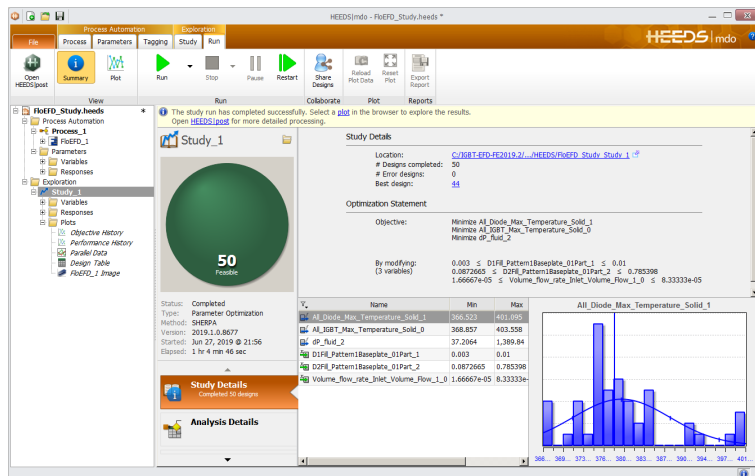Design Optimization utilizing HEEDS MDO technology

A multi-parameter geometry optimization of an IGBT power electronics liquid-cooled cold plate design helped reduce pressure loss and maximum temperature.

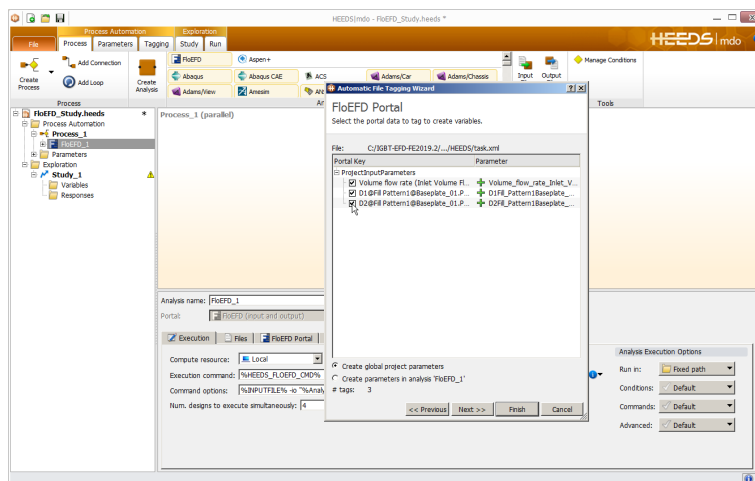# Simcenter FLOEFD Extended Design Exploration module



adapts the search as it learns more about the design space. It doesn't require specialized algorithmic search expertise and incorporates user intuition through its collaborative search capabilities. The process allows you to identify higher-performing families of designs with minimal simulation time and cost.





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