Detroit Engineered products (DEP), is an engineering services, product development, software development, consulting and talent acquisition company. Since its inception in 1998 in Troy, USA, DEP is now a global company with footprints in Europe, China, Korea, Japan, and India. DEP uses the accelerated and transformed product development process, accomplished by utilizing our proprietary platform, DEP MeshWorks, which rapidly reduces the development time of products for all segments. The MeshWorks platform delivers tool sets that accelerate virtual validation activities associated with powertrain development across all stages for both conventional and electric powertrain.

Latest MeshWorks, features modules and tools that adds substantial depth and robustness for FE/CFD pre & post processing and customizable engineering process automation environment, all in an easy to use graphical interface. Tools like rib addition, feature removal, model checker, fuse welding, wall thickness reduction options, design space building tools and other model assembly tools have accelerated the way engineers perform model changes for what if studies and optimization.

MeshWorks core integral pillar are its main differentiators, the integrated modeler, parametric modeler, associative modeler and automated modeler. The benefits of these core functionalities are reduced CAE model building time upto 40 to 50%, 2x to 10x time reduction for all processes, performance improvement, design optimization, weight reduction, etc.

DEP

Smarter solutions. Realized.

AUTOMOTIVE SOLUTIONS

Bodystructures:
- Body structures synthesis using ConceptWorks
- Lightweighting using parametric model technology and MDO
- Realizing alternate material based BIW concepts
- Crash, NVH, etc. based performance evaluation and homologation

Interiors & Exteriors:
- Automated modeling tools for plastic components
- Realization and optimization of energy management features for head impact
- Comfort optimization for seating systems

Closures:
- Model building and model integration tools
- Morphing to realize quick concepts
- Parametric model based optimization
- Alternate material concepts

Design Enablers:
- Weld parametrization and optimization
- Counter measures creation, parametrization and optimization
- Adhesive layout optimization

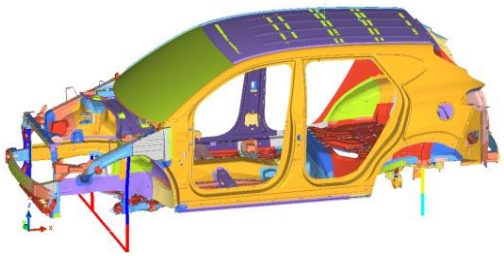
Chassis & Suspension:
- Hex Meshing tools for Chassis Components
- Morphing and Parametrization
- Hex modeling tools for tires
- Morphing to realize tire profile and optimize tire groove patterns

Powertrain:
- Performance optimization of complete PT and its components.
- Mass Efficiency Strategies
- In-cylinder sensing technology
- Modeling tools for battery

Powered by DEP MeshWorks

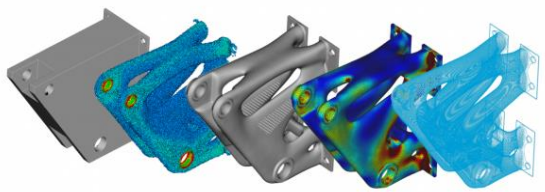
Concept Engineering

- Structural synthesis using ConceptWorks
- Reduction in Product Development (PD) time by using a unique transformed PD approach
- Create variants rapidly using FEA Model synthesis across models and platforms
- Rapid CAD data morphing
- New optimized models arrived at quickly by using legacy data



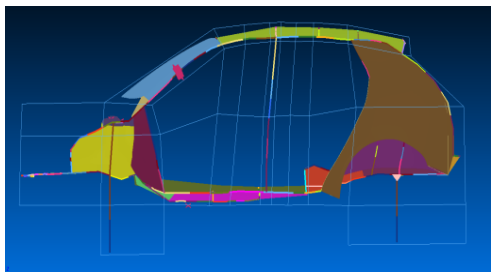
Topology Optimization

- Rapid Morphing & Design space creation
- Convert optimization concepts into realized models using unique accelerator tools
- Minimalist design approach
- Create and remove structures for weight optimization



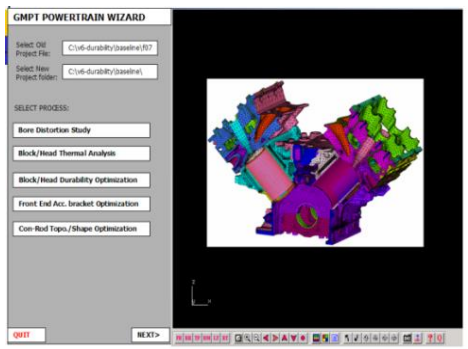
Parametric Model based Optimization

- Single and Multi disciplinary
- Single and Multi objective
- DoE based optimization
- 3G+ Approach



High end engineering

- CAE Process Automation
- Methods & tools development for vehicle and powertrain application
- High accuracy CAE to test correlation
- Battery systems and electric motors modeling
- Testing collaborations



Full Vehicle

- Full vehicle modeling and assembly
- Full vehicle crash and occupant safety
- BIW, trim BIW and full vehicle NVH
- Body durability
- Vehicle bumper safety and optimization
- Closure system modeling assembly, analysis and optimization
- Vehicle exterior and aerodynamics
- Full vehicle morphing and parameterization
- SDO and MDO
- Program level support

Powertrain and Driveline

- Block-head durability
- Engine durability & NVH
- Mount and accessory bracket tuning
- Engine CFD and thermal analysis
- Crank train multi-body dynamics
- Transmission durability & NVH
- Gear train modeling and gear noise
- Transmission sealability
- Powertrain dynamics
- Topology optimization and shape optimization
- Engine, transmission and axle system morphing and parameterization
- MDO Studies
- Battery system modeling & assembly
- Program level support

Chassis and Suspension

- Suspension modeling and assembly
- Suspension model parameterization and optimization
- Chassis frame parameterization and optimization
- Brake modeling and assembly
- Chassis durability & NVH
- Tire groove parameterization and optimization
- Program level support

Vehicle Interiors & Exteriors

- Complete front & rear fascia, headlamp, modeling, and assembly tools
- Complete IP modeling and assembly, safety, NVH, durability & optimization
- Seating system modeling and assembly, safety, NVH, durability & optimization
- Door system modeling and assembly, safety, & durability
- Regulatory assessment for hard trims
- Program level support

Email us: email@depusa.com | Visit our Website: www.depusa.com
USA: MI (HQ) : Detroit Engineered Products, 850 East Long Lake Road, Troy, MI 48085, USA. I Phone: +1-248-269 7130
INDIA : DEP India Pvt. Ltd., #2/86, 7th Avenue, Ashok Nagar, Chennai – 600 083, India I Phone: +91 44 42141453
BANGALORE : DEP India Pvt. Ltd., 4th Floor, Gamma Block, Sigma Soft Tech Park , HAL – Whitefield Main Rd , Bangalore 560066