Detroit Engineered Products (DEP) is an Engineering Solutions and Product Development company. Since its inception in 1998 in Troy, Michigan, 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.

Rapid time to market of new products across several industry sectors such as automotive, defense, aerospace, energy, oil & gas, consumer products and heavy equipment is a unique value proposition delivered to clients via DEP's world class engineers and the DEP MeshWorks platform.

DEP

Smarter solutions. Realized.

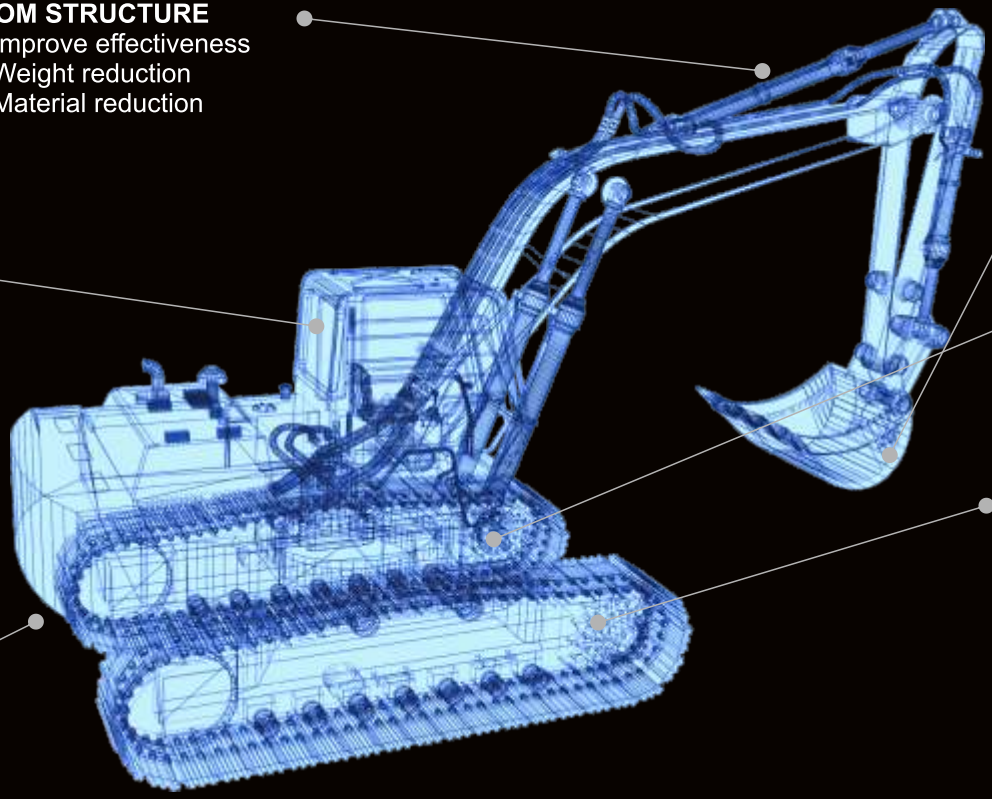
HEAVY ENGINEERING SOLUTIONS

BOOM STRUCTURE
- Improve effectiveness
- Weight reduction
- Material reduction

BUCKET
- Morphing and parametrization

CABIN
- Strengthen structure
- Light weighting
- Operator noise response
- NVH
- Create family of cabins rapidly by using morphing technique

POWERTRAIN
- Performance optimization of complete PT and its components
- Mass efficiency strategies
- In- cylinder sensing technology



FRAME
- Durability
- Optimization
- NVH

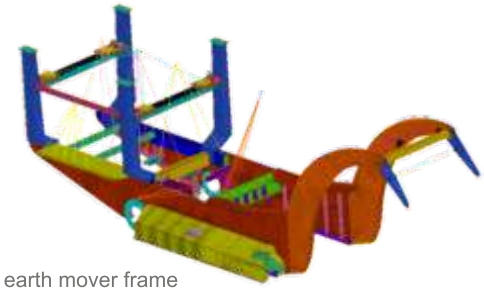
GEAR SYSTEM ANALYSIS
- Stress Analysis and Optimization for Axle

WELD OPTIMIZATION

Powered by DEP MeshWorks

Earth Mover frame optimization and parametrization

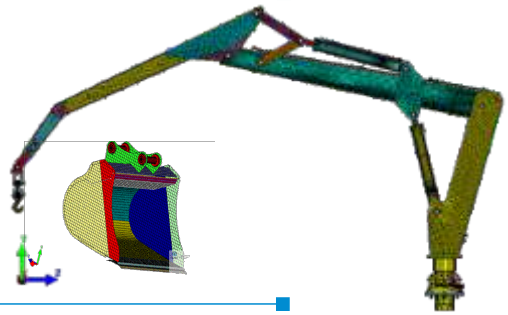
- Shape parameter and thickness based optimization
- Optimize Material procurement



Optimization of earth mover frame

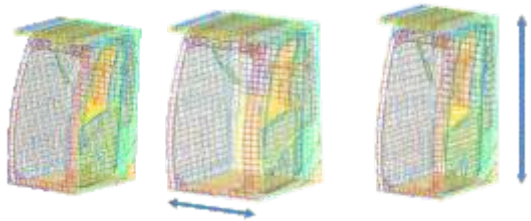
Morphing and parameterization of boom sections and buckets

- Keeping hydraulic harness intact for boom structures
- Quick morphing for buckets for after market requirements
- Optimize Material procurement



Parameterization of cabin structure

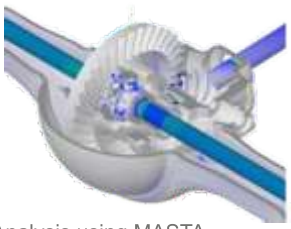
- Parametric cabin changes increase in the height and width of the cabin done rapidly
- Mesh morphing technology used without changing controls and other ergonomics



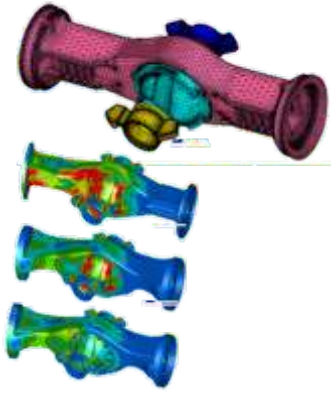
Parametric increase in width and height achieved rapidly

Axles and differential housing optimization

- Stress analysis
- Shape parameter based optimization for axle and differential housing
- Gear system analysis for NVH



Gear System Analysis using MASTA



Shape parameters for axle housing and differential housing using MeshWorks

Cabin and Boom Structures

- Morphing, parameterization and optimization
- CAE modeling and assembly
- Rollover Protection
- Durability

Powertrain and Driveline

- Block-head durability
- Engine assembly NVH
- Mount and accessory bracket tuning
- Engine CFD and Thermal analysis
- Crank train Multi-body Dynamics
- Transmission housing durability analysis
- Transmission assembly NVH
- Gear train modeling and Gear Noise
- Transmission seal ability
- Powertrain dynamics
- Topology optimization & shape optimization
- Engine, transmission and axle system morphing and parameterization.
- MDO studies

Cabin Interiors

- Complete IP modeling and assembly, NVH, durability and optimization
- Regulatory assessment

Call us: 248-269-7130 I Email us: email@depusa.com I Visit our website: www.depusa.com

Detroit Engineered Products, Inc., 850 East Long Lake Rd., Troy, MI 48085, USA