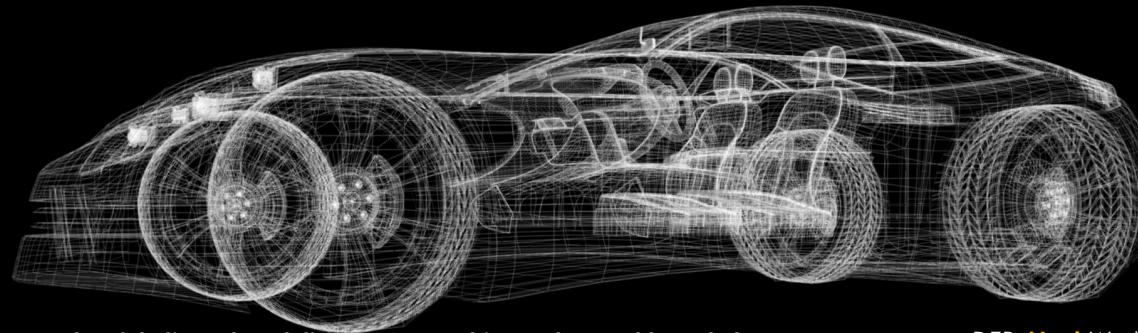# Automotive solutions

VEHICLE INTERIORS & EXTERIORS

- **DEP Mesh**Works has a good set of automated and dedicated modeling, Mid-plane QUAD meshing and assembly tools for:
  - Complete front & rear fascia, headlamp
  - Complete IP
  - Seating system
  - Door system
- **DEP Concept**Works to build heat stakes, locators, clips, dog houses in simple or multi way directly at the FE level
- Parameterization and optimization of energy management features for head impact
- Comfort optimization for seating systems
- Reverse windage DOE based optimization with MOLDFLOW

BODYSTRUCTURES & CLOSURES

- **DEP Concept**Works to build whole BIW model (members, joints, arms, pillars, etc) from scratch directly at the FE level for early design phases
- Full vehicle morphing & Body Swap of CAE and/or CAD data
- Very fast counter measures creation and model updates usign morphing and design enablers
- Reverse engineering from scanned data using unique accelerator tools
- Alternative material based BIW concepts facilitators
- Automated modeling tools for Crash, CFD, NVH, etc. based performance evaluation and homologation
- Lightweighting using parametric model technology and Multi Disciplinary Optimization (MDO)
- Parameterization and optimization for:
  - BIW sub assemblies
  - Bumbers, crash boxes
  - Vehicle exteriors and aerodynamics
  - Weld and/or adhesive layout
  - Taylored sections
  - Reduced Order Modeling (ROM)
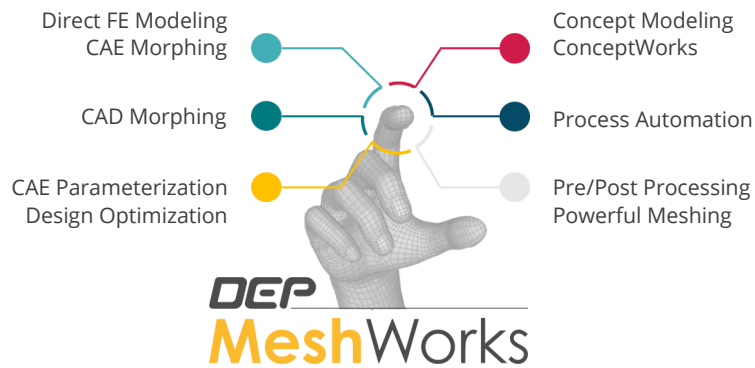- Reduced Order Modeling tools for static & dynamic load cases with close correlation

POWERTRAIN

- **DEP Mesh**Works has extensive set of automated and dedicated modeling, TETRA meshing and assembly tools for:
  - Complete Powertrain and its components
  - Gear train
  - Battery system
- Engine, transmission and axle system morphing and parameterization
- Lightweighting using parametric model technology and Multi Disciplinary Optimization (MDO)
- Rapid morphing and design space creation for topology optimization
- Convertion of optimization concepts into realized models using unique accelerator tools
- Minimalist design approach directly at the FE level

CHASSIS

- **DEP Mesh**Works has toolsets for automatic modeling, HEXA meshing and assembly of:
  - Suspensions
  - Brakes modeling
  - Chassis components
  - Tires
- **DEP Concept**Works to build from scratch directly at the FE level chassis model
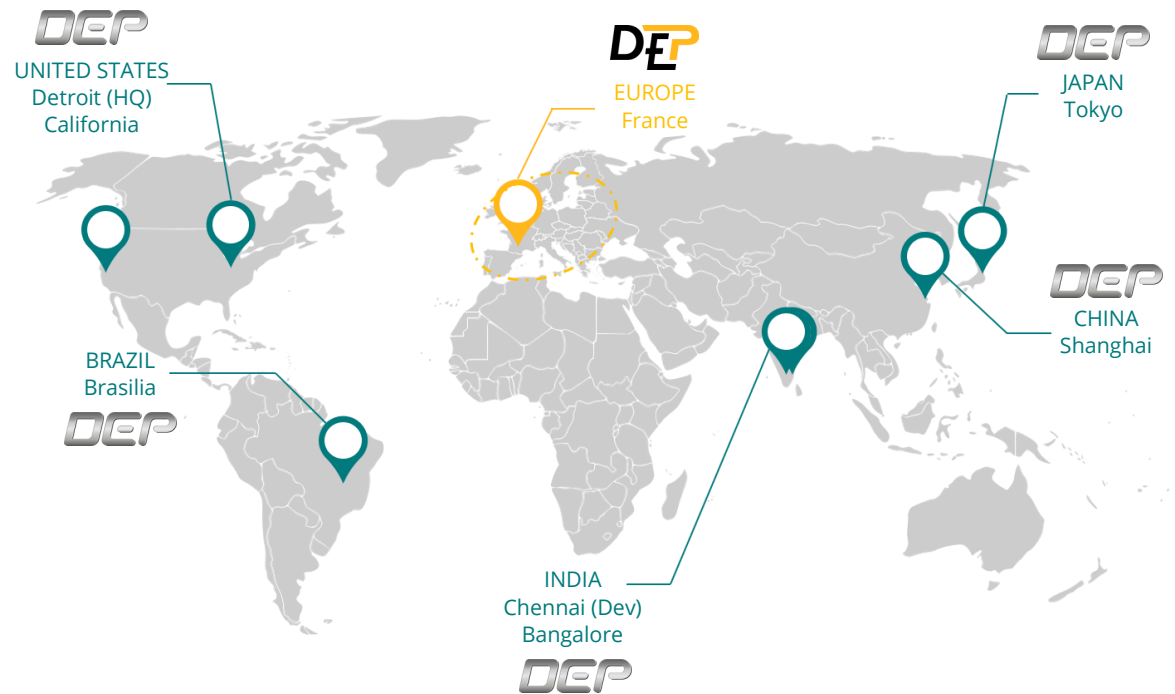- Parameterization and optimization of suspensions, chassis frame and tire grooves

DEP MeshWorks

Direct FE Modeling
CAE Morphing

Concept Modeling
ConceptWorks

CAD Morphing

Process Automation

CAE Parameterization
Design Optimization

Pre/Post Processing
Powerful Meshing

DEP MeshWorks

A software designed by CAE engineers for CAE engineers

DEP Mesh Works is a reference for morphing and design directly at the FE level on the market for 20 years.

DEP Mesh Works is an integrated CAE platform that accelerates the product development process. It contains a meshing engine combining performance and user-friendlyness for an overall gain in productivity. It is a specialized software for rapid concept modeling, automated morphing at FE and CAD level, parameterization and optimization, involving rapid concept CAE and CAD model generation.

DEP Mesh Works is edited by Detroit Engineered Products.

More information at **depeurope.com**

CAE Expertise

Innovation

Training

DEP Dynas+ Engineering Products

Software Development

Technical Support

Software Distribution

UNITED STATES
Detroit (HQ)
California

EUROPE
France

JAPAN
Tokyo

BRAZIL
Brasilia

CHINA
Shanghai

INDIA
Chennai (Dev)
Bangalore

Dynas+ Engineering Products is **DEP Mesh**Works Europe Technical Centre.

Dynas+ Group is a technical engineering group specialized in numerical modelling, which provides its customers (automotive, defense, aeronautics, space, consumer goods, etc) digital solutions to support and optimize the studies and development of their products.

Dynas+ Group choose **DEP Mesh**Works for its engineering departement, ensuring drastic time savings in all modelling workflows.

Dynas+ Group

+33 5 61 44 54 98
dynasplus-group.com

NUMERICAL SIMULATION

REQUEST DEMO
email@depeurope.com