



MIDAS  
**MESH FREE**







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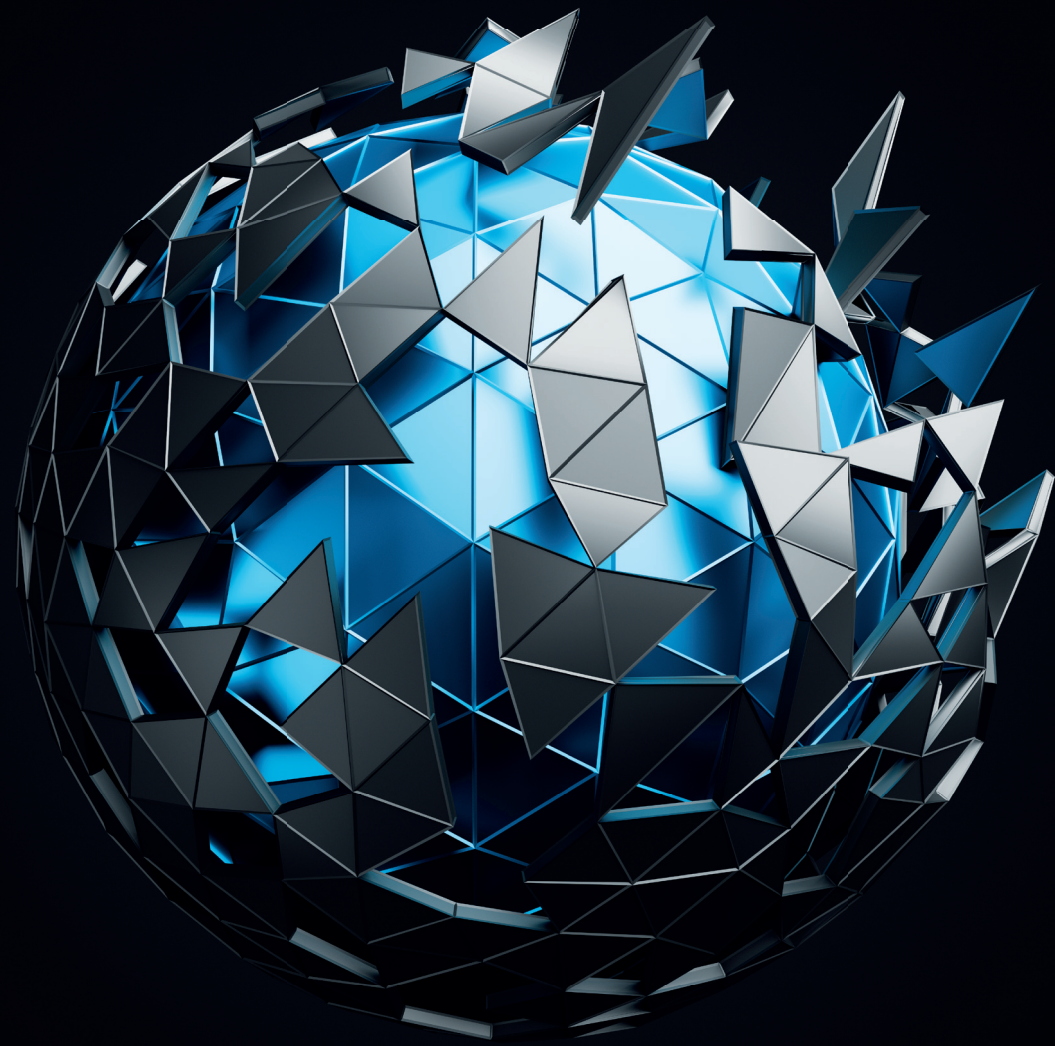
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About MIDAS IT



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## Meet brand-new CAE

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●

### Only experts can use it?

“CAE is complicated, difficult, and time-consuming because of the many tasks involved in the mesh generation. It can only be used by a specialist or a person exclusively in charge.”

We broke this stereotypical image of CAE.

●

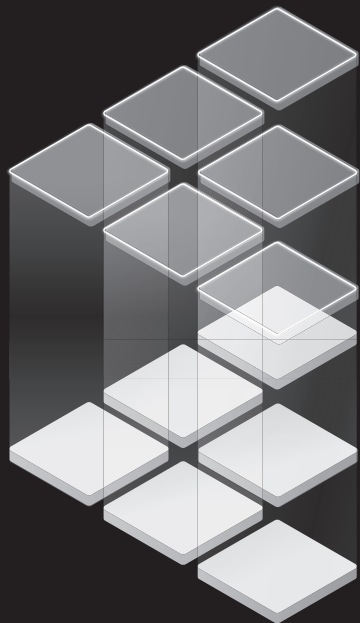
### Everything starts from the origin.

In order to completely eliminate the limitations and inefficiencies of traditional CAE, we have planned and developed everything completely from the beginning.



New Design Tool

# MESHFREE



MESHFREE is a cutting-edge design and analysis technology developed through the collaboration with SAMSUNG Electronics.

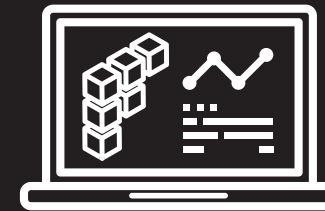
It performs simulation of the original model you have designed without any modification.

Until now, it took a lot of time and money to obtain the result.

However, MESHFREE will provide the opportunities to validate their design through the analysis quickly, easily and accurately for everyone.

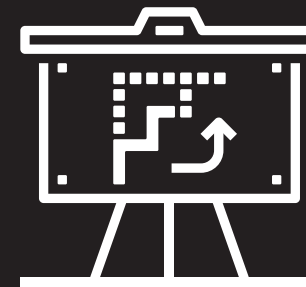
From now on, engineers can concentrate on more valuable tasks.

**Now your technical know-how with MeshFree will be your competitive edge.**



## Analysis directly from 3D CAD Model

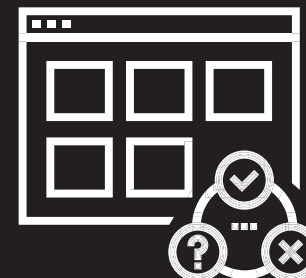
Conventional FEM required tedious and time consuming model idealization and cleanup process. However, MeshFree has the latest, efficient and effective numerical analysis algorithm that can simulate using the original 3D CAD model itself.



## Simple 3-step Analysis Process

It is possible to start the simulation immediately after installation. 3-step intuitive workflow makes it easy for anyone to use. It will minimize the learning time and enable you to verify the working design model in a short time. Now, design engineers can quickly verify the performance of a model at the design stage.

It provides a revolutionary process over existing methods that required knowledge, manpower, and cost.



## Powerful Design Modification

The ultimate goal of the simulation is to find out the possible flaw of the design product on the computer and to suggest a solution to the problem. MeshFree is able to use the 3D CAD model prototype as it is, and it has strong advantages in terms of the design modifications because it can generate the grid mesh independently of the complex shape. In addition, it automatically recognizes the changed part of the design, updates the model and automatically reflects the existing load and boundary conditions. Therefore it can be operated efficiently by eliminating unnecessary work that can occur repeatedly.

The ultimate goal of the simulation is  
**to find and solve problems at the design stage.**

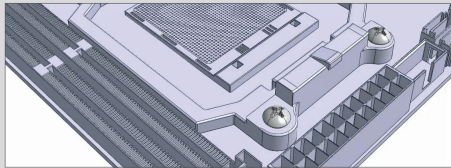
Find problems  
in design products  
in advance on computer



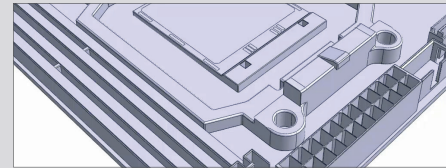
**Predict, Analyze, Judge, Solve**  
Until a reasonable solution to the problem is  
obtained, design modifications and repetitive  
analysis are required.



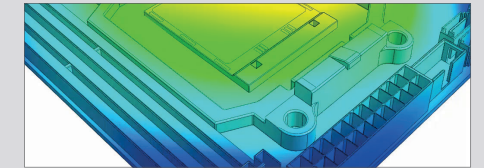
Suggest a solution  
to the problem



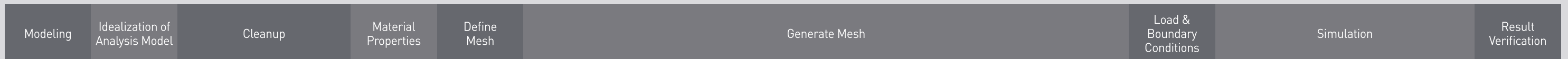
CAD model simplification and cleanup  
\* Manual & time-consuming



Mesh generation and analysis  
\* Success rate of automatic  
mesh generation & quality of mesh



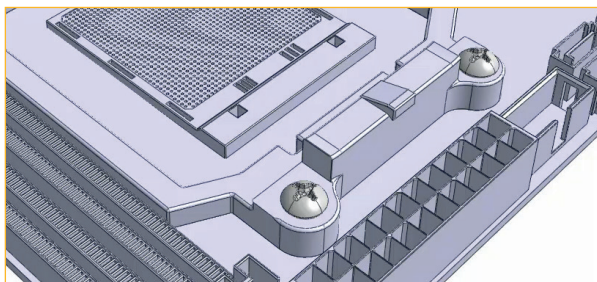
○ ————— Idealization cleanup mesh generation takes up more than 70% ————— ○ ————— Analyze simulation result takes up less than 30% ————— ○



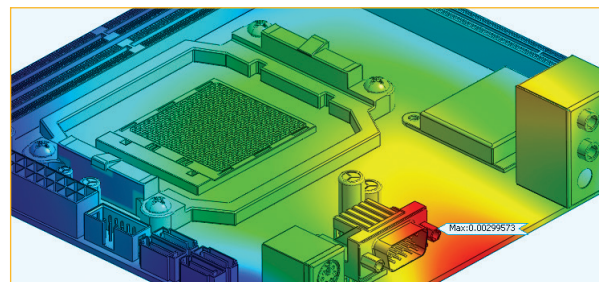
## MESHFREE 3-STEP and AUTO UPDATE



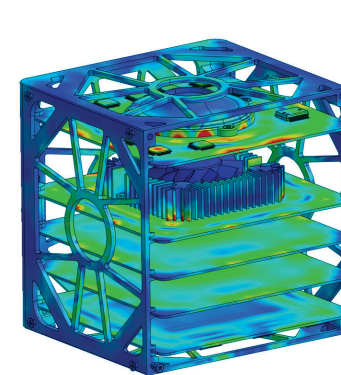
○ ————— At least 60% shortening analysis process ————— ○



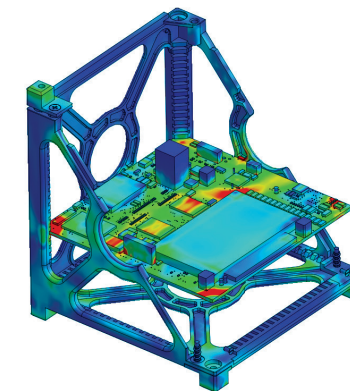
Perform  
analysis



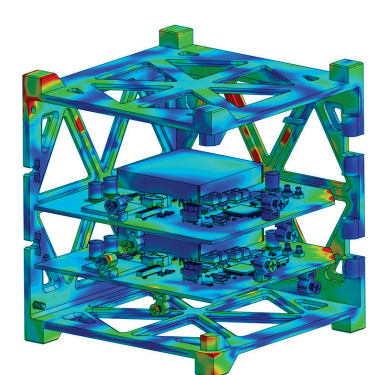
Various design proposals can be reviewed.  
Derive the optimal design ensuring safety, usability and  
economical viability.



Alt #1



Alt #2



Alt #2



# MESHFREE MAIN FEATURES

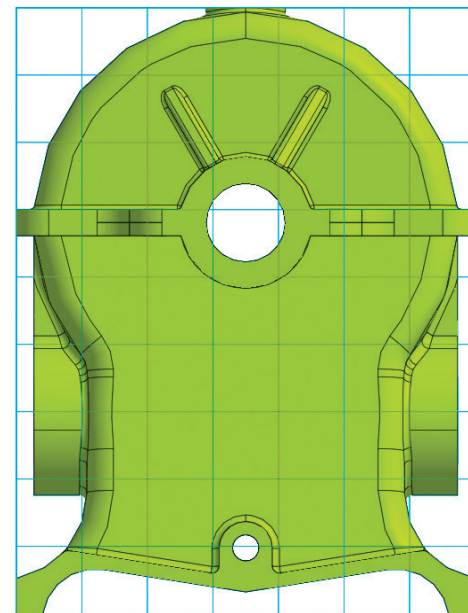
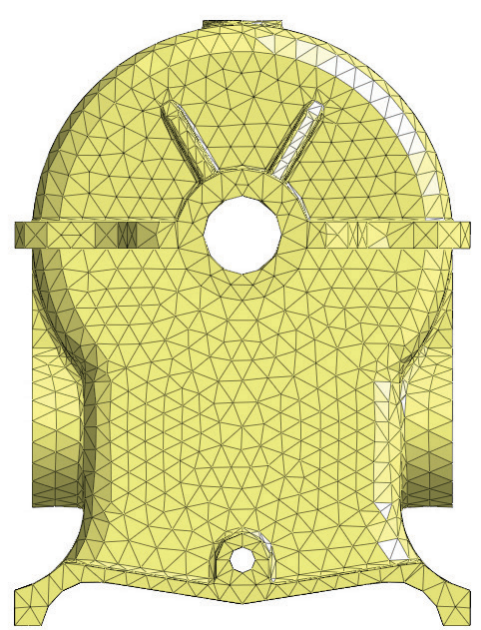
To overcome the limitations of existing mesh,  
we have successfully developed new and innovative  
analysis technology.

midas MeshFree is an innovative CAE program  
for engineers in mechanical field.





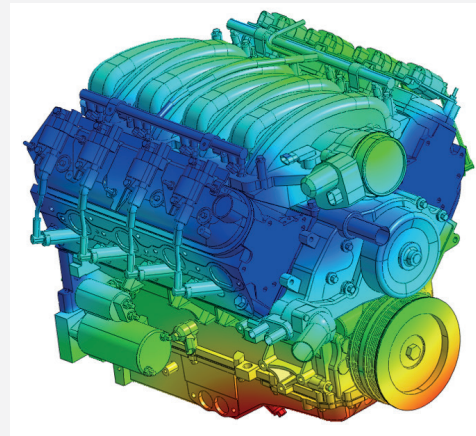
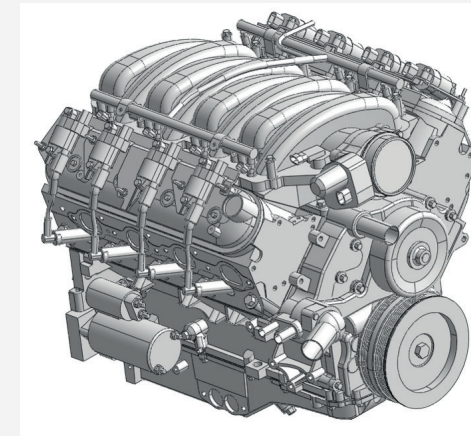
## Mesh Free



- Generation of mesh depending on the geometry
- Simplification & cleanup for high-quality mesh generation
- Mesh quality problems and limitations of automated processing

- Analysis using simple background grid
- Analysis regardless of the complexity of the geometry
- Elimination of inefficiencies
- Technology developed specifically for design phase analysis

## Comprehensive Design Tool



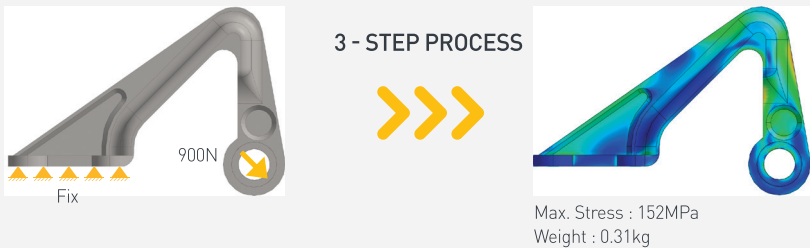
Any **complex geometry** can be analyzed.

Complex models can be simulated easily.

Models with complex geometry or models which were impossible to analyzed using conventional FEA can be analyzed.

# Auto-update for Design Modification

Conduct performance verification by automatically considering design modifications that change continuously during the design process



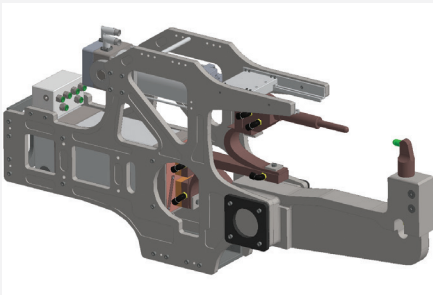
**Auto-update**  
Apply the same analysis condition to the modified model



## Highlights of Auto-update

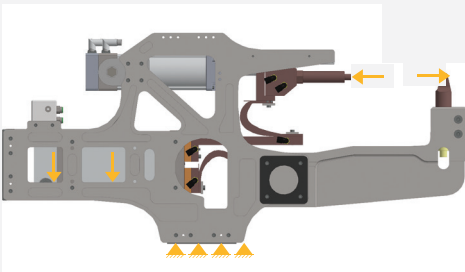
- Automatically reflect the modified model.
- Apply the same load & boundary conditions as original design.
- Import model and perform analysis at the same time.
- 3-step process is also omitted to perform analysis of modified model efficiently.

# Simple and Intuitive 3-STEP Process



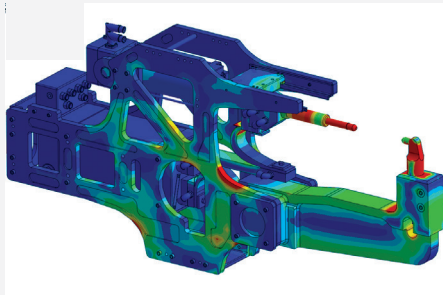
## STEP 1 Import 3D CAD Directly

- Supports all commercial CAD programs (Solidworks, Inventor, Catia, NX, Solid Edge, Creo etc.)
- Automatic input of material information defined in CAD
- Define automatic contact between parts of assembly model



## STEP 2 Input Load & Boundary Conditions

- Guide to constraint & load conditions according to analysis type
- Assign constraint and load condition to CAD model
- Provide various static, dynamic and thermal loads

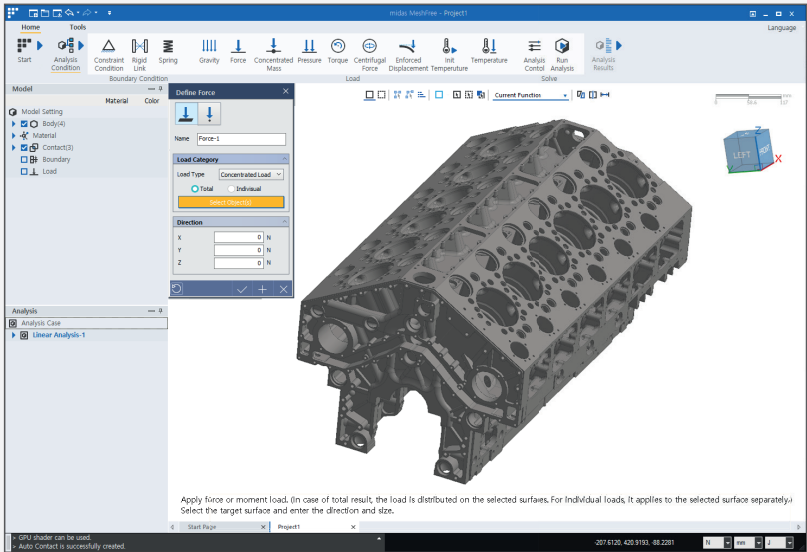


## STEP 3 Analysis & Results Checking using the Latest Technology

- Direct analysis using CAD model with latest analysis technology
- Reduction of total analysis time and high success rate of analysis compared to the conventional FEM
- Various post processing function considering user's convenience

# SMART GUIDE

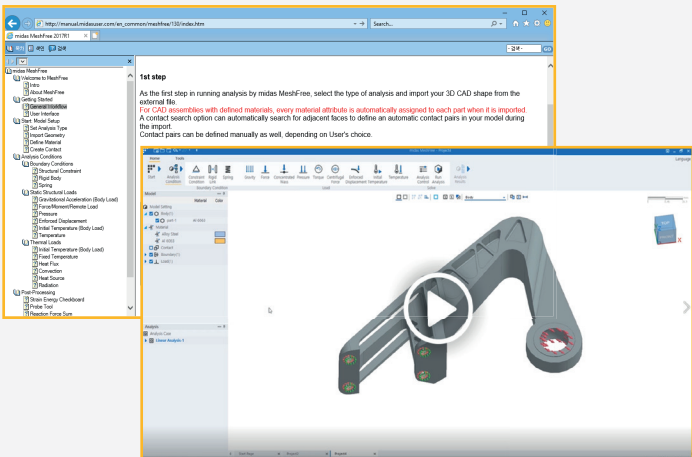
Guide to make sure anyone can use it.



Provides important explanations and instructions of the functions at the bottom of the model window

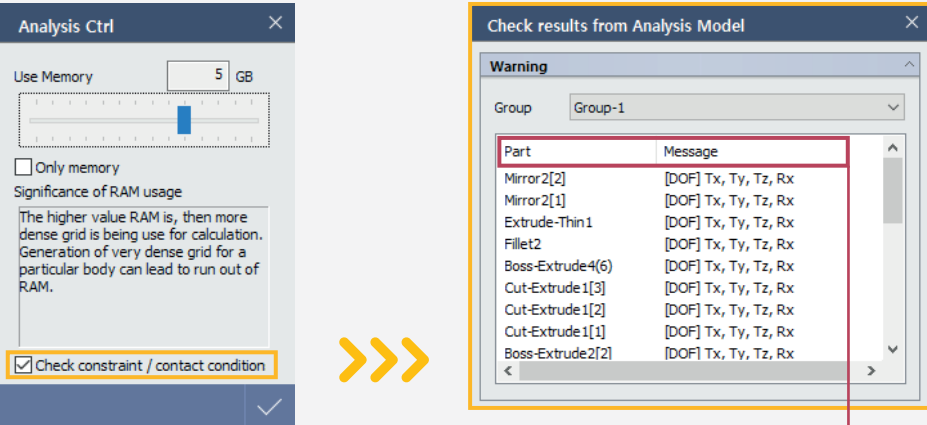


Connect online help and video tutorials



# SMART REVIEW

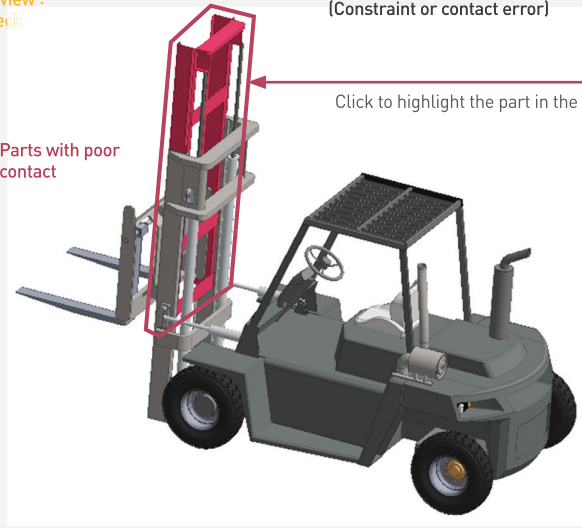
Check errors and reliability in advance.



Analysis model review : Singular error check



List of parts that are not properly constrained (Constraint or contact error)



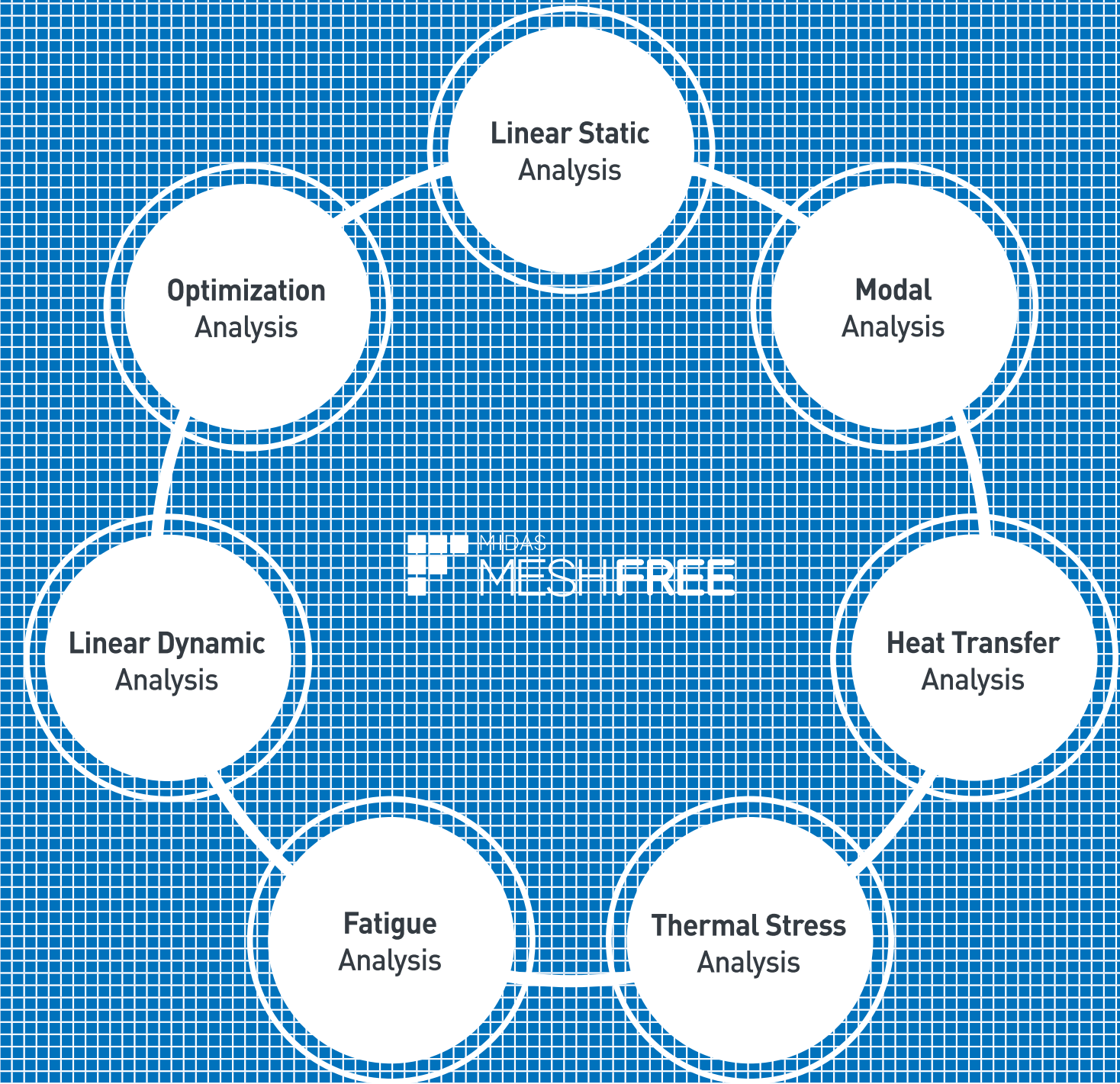
Click to highlight the part in the work screen

- Check and guide appropriate constraints which is the most difficult and intrusive part for the beginners
- Useful check of constraints and contact conditions in large assembly models



# MESHFREE ANALYSIS FUNCTIONS

MeshFree provides the powerful analysis features required during the design phase and optimal design techniques for efficient design work.





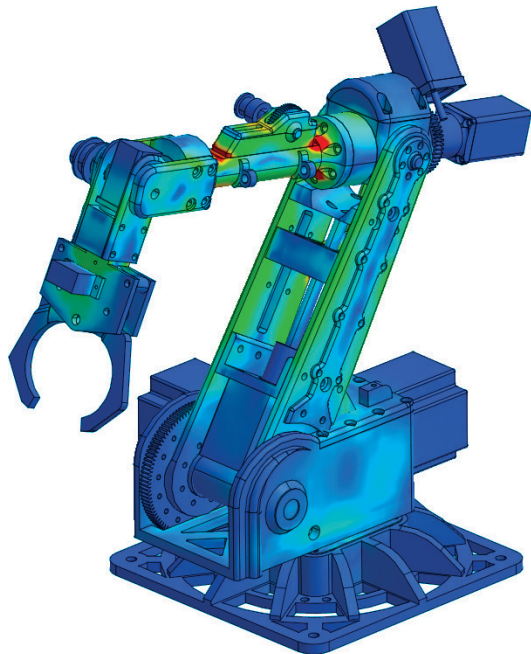
# Linear Static Analysis

Analyze large and sophisticated models quickly and accurately.

- Displacement / Stress / Safety Factor Results
- Thermal Deformation / Stress due to Temperature Difference
- Possible to Consider Prestress
- Result Combination using Sub-cases by Load Conditions
- Linear Contact: Welded Behavior, Sliding
- Practical Load / Boundary Conditions

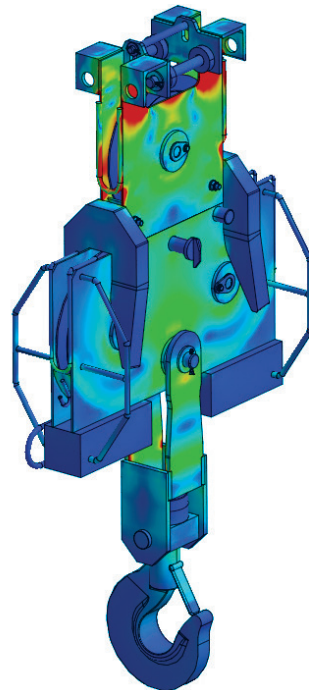
## Crane Strength Safety Evaluation

- Structural safety review of applied load at crane operation
- Perform analysis by welded contact and sliding contact to 232 parts



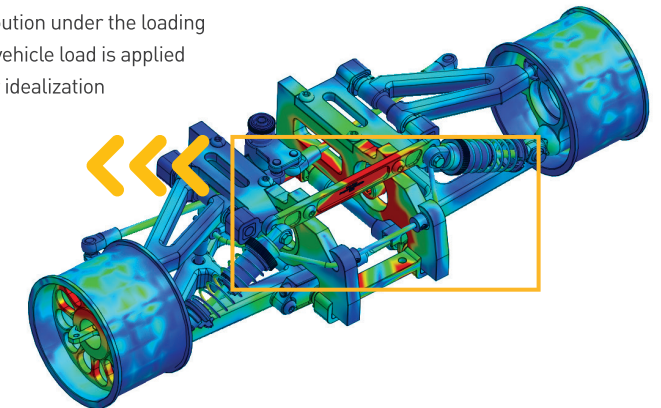
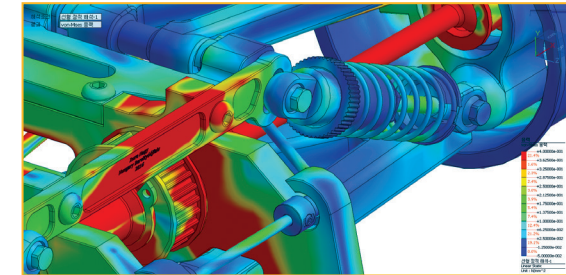
## Stiffness Evaluation during the Operation of Robot Arm

- Structural safety evaluation of robot arm considering various load conditions
- Strength review of major parts of structure



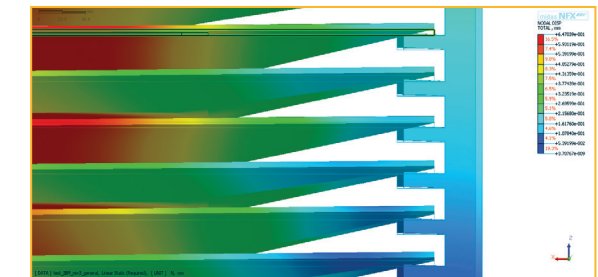
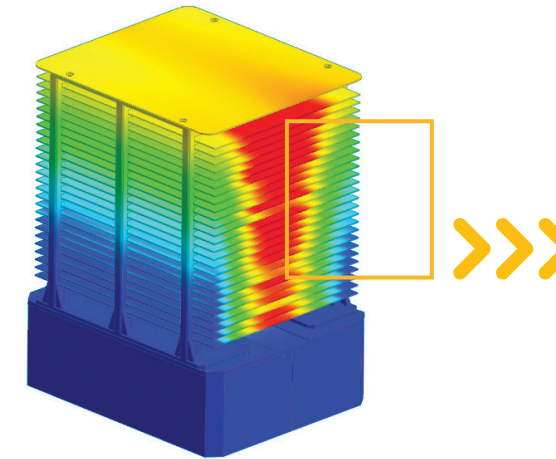
## Structural Safety Analysis of Suspension of Vehicle

- Structural safety review through suspension displacement and stress distribution under the loading
- Analysis of maximum displacement and stress component occurring when vehicle load is applied
- Analysis using original CAD model prototype without model simplification or idealization



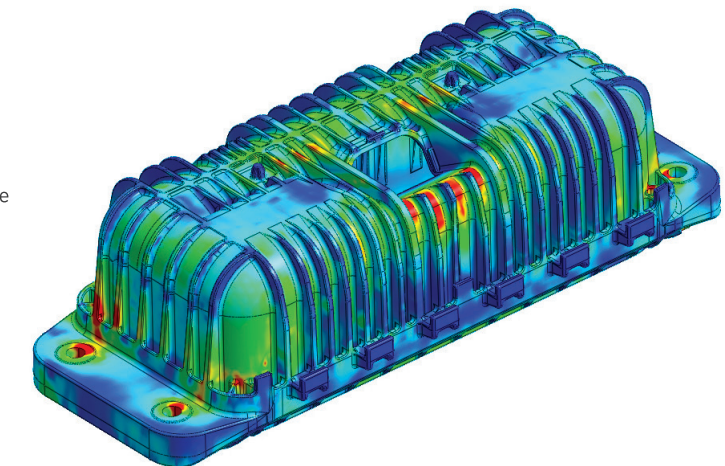
## Examination of Glass Deflection by Temperature Load

- Examination of deflection of glass when applying temperature load
- Linear general contact conditions to create the identical environment as the working environment



## Evaluation of Housing Stiffness

- Models with complex NURBS patches and sliver faces
- Perform stiffness evaluation using CAD model prototype without simplification process
- Traditional FEM system: 3 days including cleanup and mesh generation
- MeshFree: 35 minutes





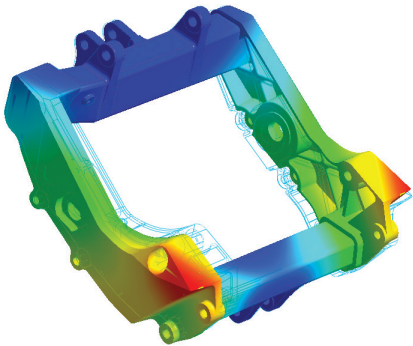
# Modal Analysis

Fast eigenvalue analysis of large assembly model is possible.

- Natural Frequencies and Mode Shapes
- Calculation of Modal Participation Rate, Effective Mass and Calculation Error Check
- Strum Sequence Check within the Specified Eigenvalue Range (Check for Missing Eigenvalues)
- Possible to Consider Prestress
- Linear Contact: Welded Behavior, Sliding

## Comparison of Natural Frequency of Subframe

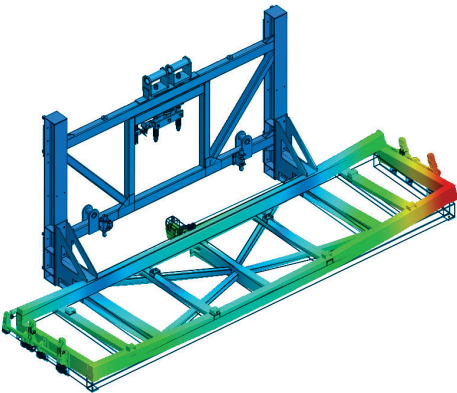
- Review of resonance possibility during the operation of lifting frame through natural frequency analysis



Mode	MeshFree	FEM	ERROR
1 <sup>st</sup> Mode	466.06 Hz	460.41 Hz	1 %
2 <sup>nd</sup> Mode	593.59 Hz	589.25 Hz	1 %
3 <sup>rd</sup> Mode	647.70 Hz	637.27 Hz	2 %
4 <sup>th</sup> Mode	777.91 Hz	765.28 Hz	2 %
5 <sup>th</sup> Mode	1064.02 Hz	1052.14 Hz	1 %
6 <sup>th</sup> Mode	1289.17 Hz	1265.91 Hz	2 %

## Dynamic Analysis of Lifting Frame

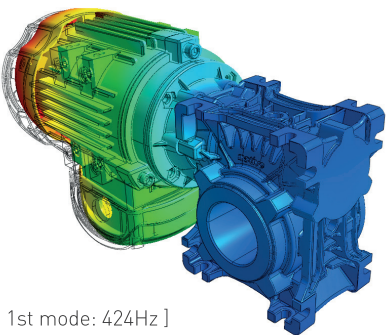
- Review of resonance possibility during the operation of lifting frame through natural frequency analysis



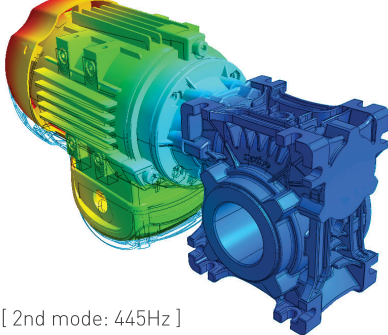
Mode Table									
MODE NUMBER	EIGENVALUE	RADIANS	CYCLES	REAL EIGENVALUES			ORTHOGONALITY	ERROR MEASURE	
				GENERALIZED MASS	GENERALIZED STIFFNESS	PERIOD			
1	1.0649e+005	3.2633e+002	5.1937e+001	1.9254e+002	1.0000e+000	1.0649e+005	0.0000e+000	1.9622e-007	
2	1.0740e+005	3.2772e+002	5.2158e+001	1.9172e+002	1.0000e+000	1.0740e+005	0.0000e+000	9.8299e-008	
3	6.3672e+005	7.9795e+002	1.2700e+002	7.8742e+002	1.0000e+000	6.3672e+005	0.0000e+000	2.5742e-005	
4	1.1279e+006	1.0620e+003	1.6903e+002	9.9162e+002	1.0000e+000	1.1279e+006	0.0000e+000	3.4769e-008	
5	2.9798e+006	1.7262e+003	2.7474e+002	3.6399e+003	1.0000e+000	2.9798e+006	0.0000e+000	3.3412e-007	
6	7.5585e+006	2.7493e+003	4.3784e+002	2.2814e+003	1.0000e+000	7.5585e+006	0.0000e+000	9.8674e-008	
7	3.9968e+007	6.3220e+003	1.0002e+003	9.9365e+004	1.0000e+000	3.9968e+007	0.0000e+000	3.8666e-008	
8	5.1435e+007	7.1718e+003	1.1414e+003	8.7609e+004	1.0000e+000	5.1435e+007	0.0000e+000	4.4682e-009	
9	1.0497e+008	1.0246e+004	1.6206e+003	6.1120e+004	1.0000e+000	1.0497e+008	0.0000e+000	1.9993e-009	
10	1.1563e+008	1.0753e+004	1.7114e+003	5.9431e+004	1.0000e+000	1.1563e+008	0.0000e+000	7.6999e-009	
MODAL EFFECTIVE MASS									
MODE NUMBER	T1	T2	T3	R1	R2	R3			
1	3.0482e+008	7.2025e+004	4.6007e+004	1.0735e+001	4.0282e+005	2.9300e+005			
2	1.1024e+003	2.0300e+008	1.2311e+008	3.0019e+006	1.4028e+001	1.0050e+001			
3	7.0156e+007	5.4439e+012	4.7467e+011	6.8415e+010	2.7163e+001	7.0862e+001			
4	0.0000e+000	5.1813e+004	7.2781e+004	1.1277e+003	3.3853e+008	5.7147e+009			
5	1.9693e+004	9.9326e+012	6.1115e+012	2.9719e+009	4.7657e+001	2.8603e+001			
6	3.5455e+012	1.6754e+005	1.3410e+004	3.4085e+001	1.5178e+010	9.4032e+009			
7	3.1287e+005	4.0126e+012	0.0000e+000	1.9038e+008	1.7470e+001	2.8474e+002			
8	5.4992e+012	2.2020e+005	9.0094e+006	2.8524e+002	3.9115e+008	5.4402e+009			
9	6.7112e+008	0.0000e+000	0.0000e+000	8.8214e+010	5.7189e+004	5.2896e+005			
10	0.0000e+000	4.0028e+006	6.7843e+007	8.4287e+003	4.4444e+010	2.7856e+011			
TOTAL	1.3314e+003	1.2833e+003	1.3317e+003	4.8638e+001	1.0771e+000	1.1251e+000			

## Dynamic Analysis of Gearbox

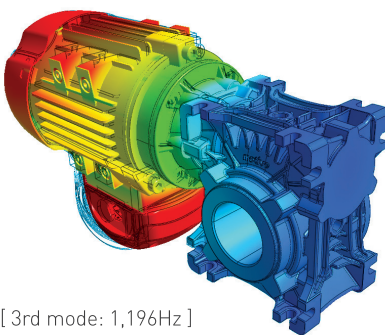
- Generation of vibration in gearbox by motor
- Review and elimination of resonance effect on gearbox due to vibration



[ 1st mode: 424Hz ]



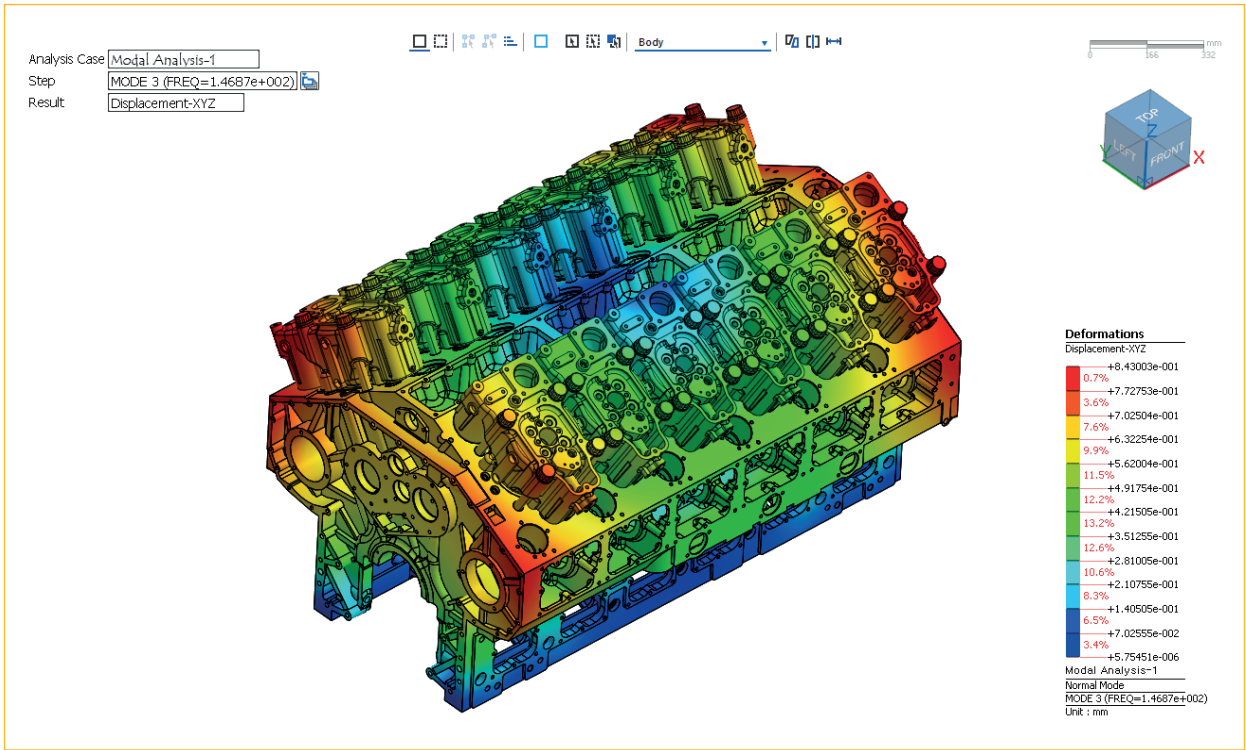
[ 2nd mode: 445Hz ]



[ 3rd mode: 1,196Hz ]

## Natural Frequency Analysis of Engine Block

- Modal analysis of engine block consisting of 140 parts
- Perform natural vibration analysis using the design model without idealization of mass and spring elements



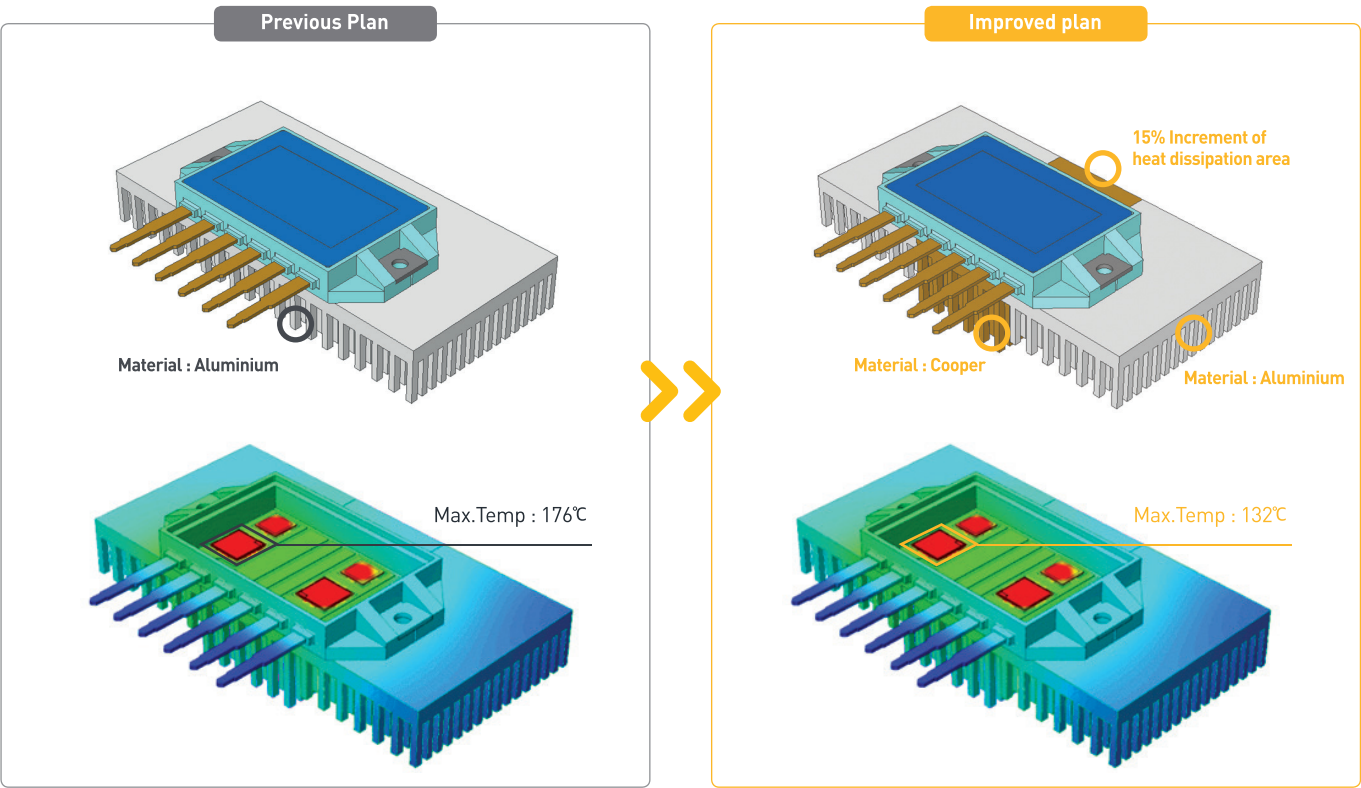
# Heat Transfer / Thermal Stress Analysis

Convenient and effective heat transfer / thermal stress analysis is possible by supporting practical conditions.

- Heat Transfer Analysis
- Supports Various Loading Conditions such as Heat Generation, Conduction, Convection, Radiation and Heat Flux
- Thermal Contact for Conduction between Discontinuous Parts

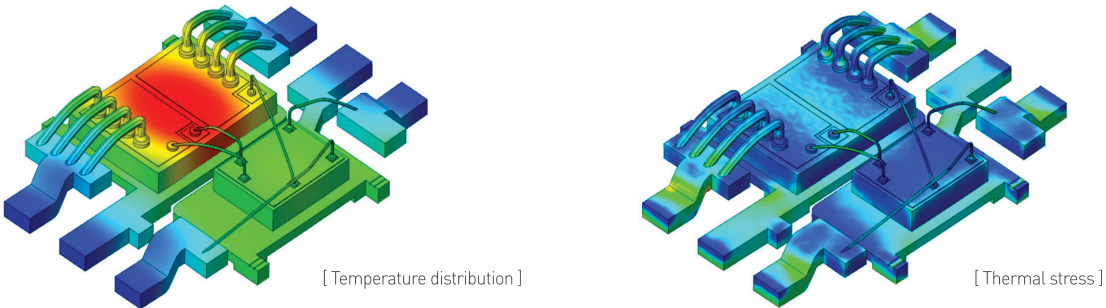
## Improvement of Cooling Performance on MOSFET Heatsink

- Improvement of cooling performance by increasing area of heat dissipation
- Improvement of cooling performance by material modification



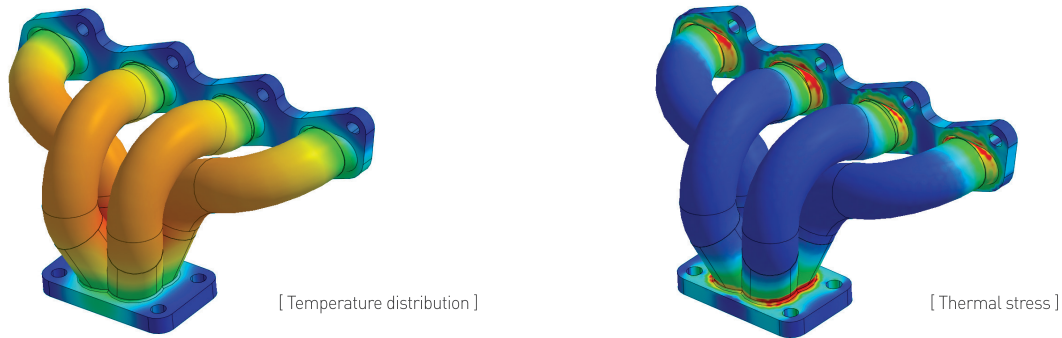
## Safety Verification of Chip Through Displacement / Stress Analysis due to Heat Generation

- Review of chip temperature distribution by heat generation
- Verification of design safety through thermal stress analysis at maximum temperature



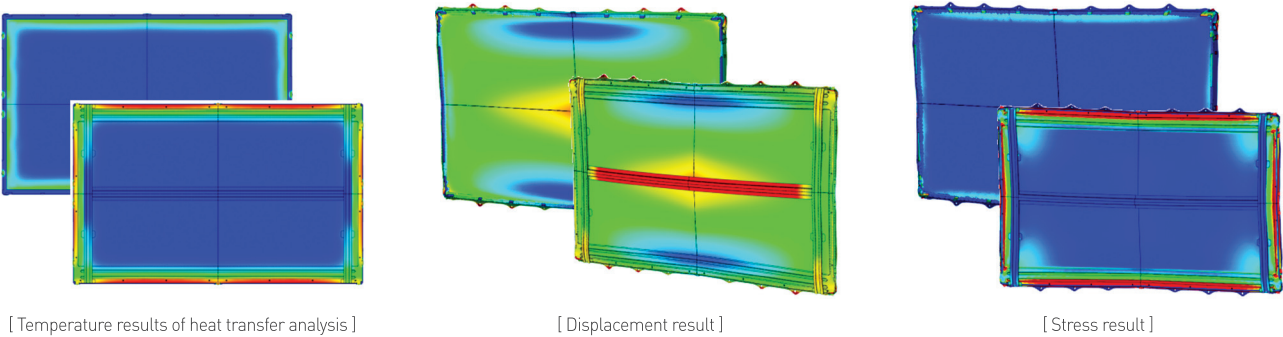
## Analysis of Temperature Distribution and Thermal Stress of Manifold for Automobile

- Examination of temperature distribution of manifold by gas emission
- Safety verification through analysis of manifold deformation and stress by thermal expansion



## Heat Transfer / Thermal Stress Analysis of LCD TV

- Examination of temperature distribution of whole BLU caused by heat of PKG
- Examination of product safety through thermal stress analysis





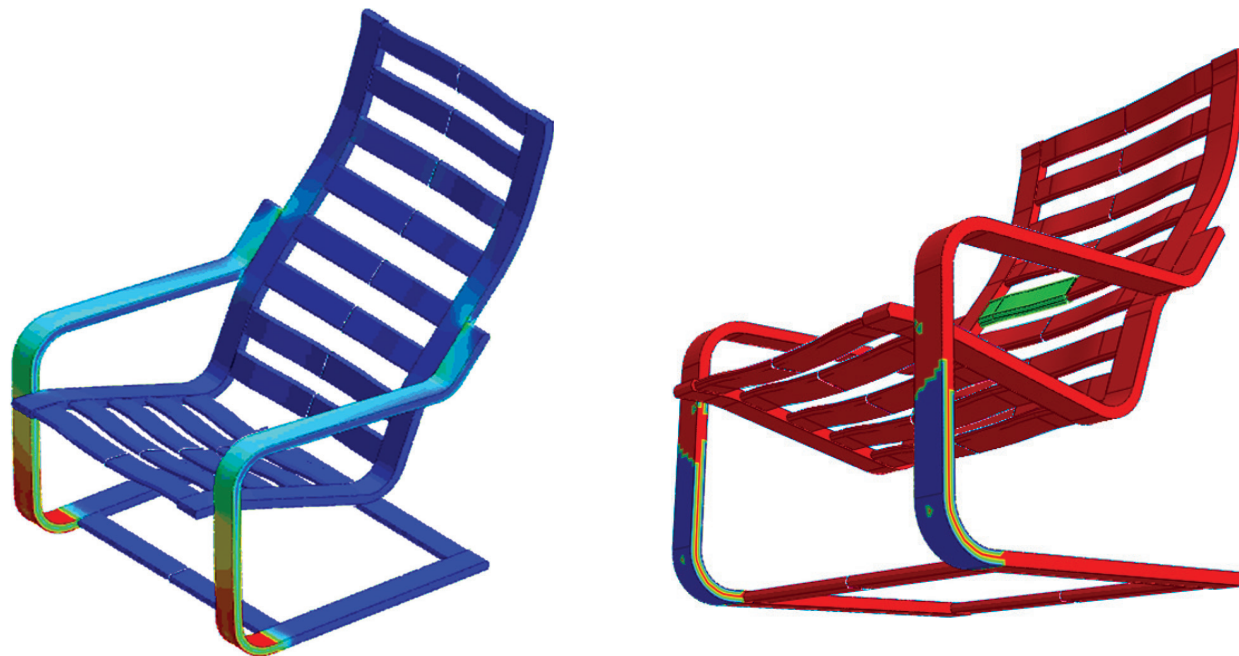
# Fatigue Analysis

Durability check is available as independent function.

- Damage, Fatigue Life Results
- Rainflow Counting, Mean Stress Correction Options
- Select Evaluation Stress (Signed Von-mises, Absolute Maximum Principal Stress)
- Linear S-N Curve Function

## Review Fatigue Life of Chair

- Examination of stress distribution when the chair is occupied
- Examination of endurance life expectancy using S-N function

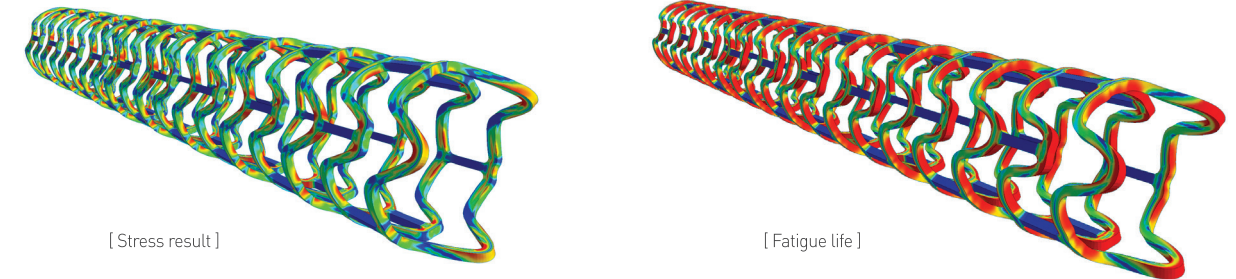


[ Stress result ]

[ Endurance life ]

## Endurance Life Analysis of Stent for Cardiovascular

- Review on stress distribution for pressure loads repeatedly acting on the stent
- Examination of stent life span using S-N function

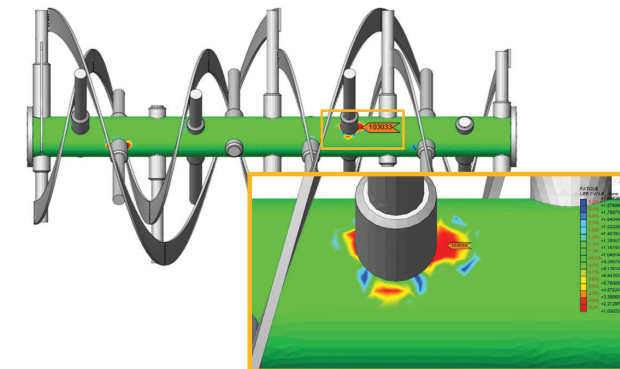


[ Stress result ]

[ Fatigue life ]

## Fatigue Durability of Blender Structures

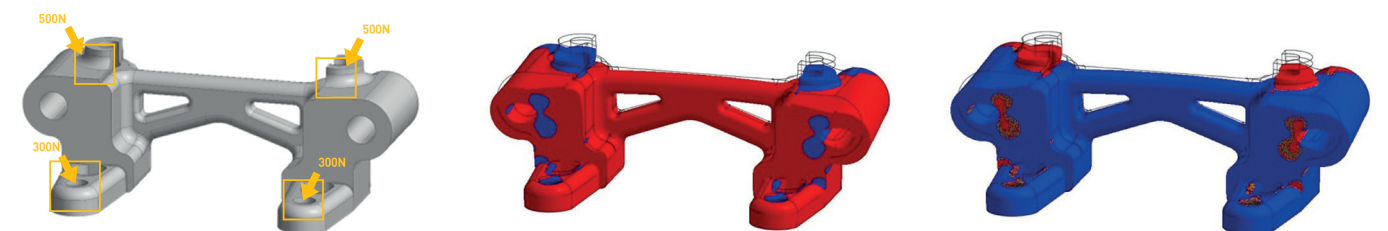
- Fatigue safety examination of blender in operation
- Check fatigue durability after reviewing Static Analysis for complex geometry



Mean Stress Correction	Model-1		Model-2		Model-3	
	No. of Life Cycle		No. of Life Cycle		No. of Life Cycle	
	Max	Min	Max	Min	Max	Min
Case-1	1.00E+6	1.00E+6	1.00E+6	9.97E+5	1.00E+6	1.00E+6
Case-2	1.83E+6	8.38E+5	1.88E+6	2.99E+5	1.95E+6	3.80E+5
Case-3	1.96E+6	2.01E+5	1.99E+6	1.03E+5	1.97E+6	1.32E+5

## Fatigue Life Prediction of Bracket

- Stress and fatigue life analysis due to load applied to each part of bracket
- Stress analysis of bracket contact area according to load
- Review on fatigue life according to load



[ Fatigue life result due to load ]

[ Damage result due to load ]

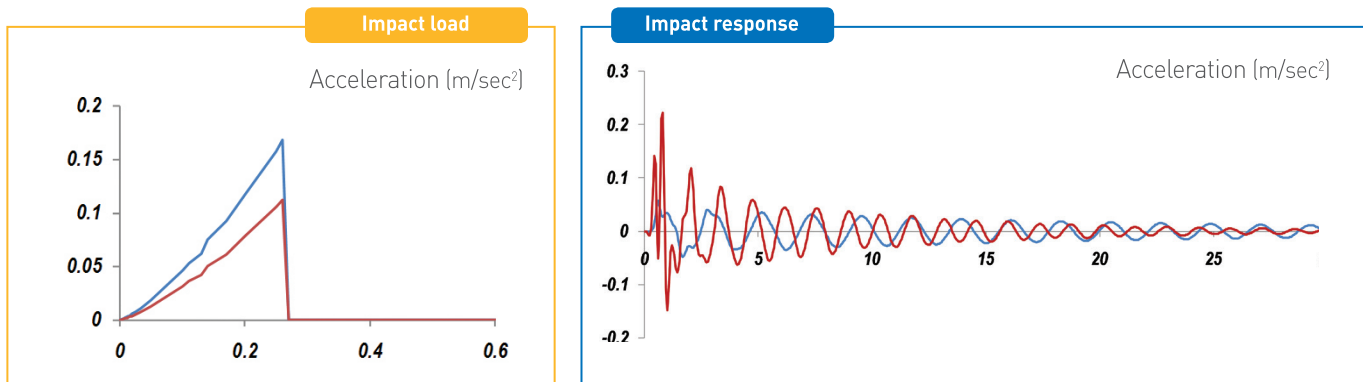
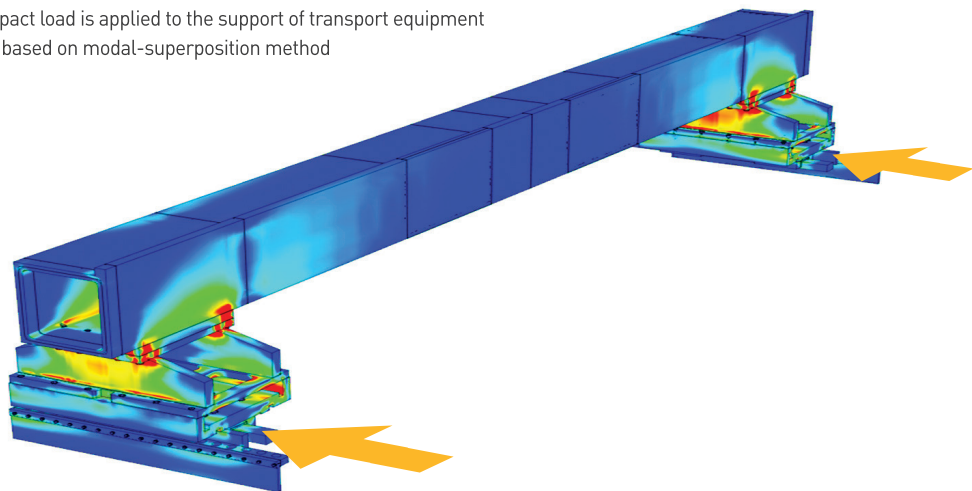
# Linear Dynamic Analysis

Using the direct method and modal method, it is possible to perform the analysis considering reliability and efficiency.

- Direct Method and Modal Method Analysis
- Transient Response Analysis
- Frequency Response Analysis
- Random Vibration Analysis
- Response Spectrum Analysis
- Various Damping Effects (Modal / Structure, Frequency Dependent)
- Design Spectrum Database for International Standards

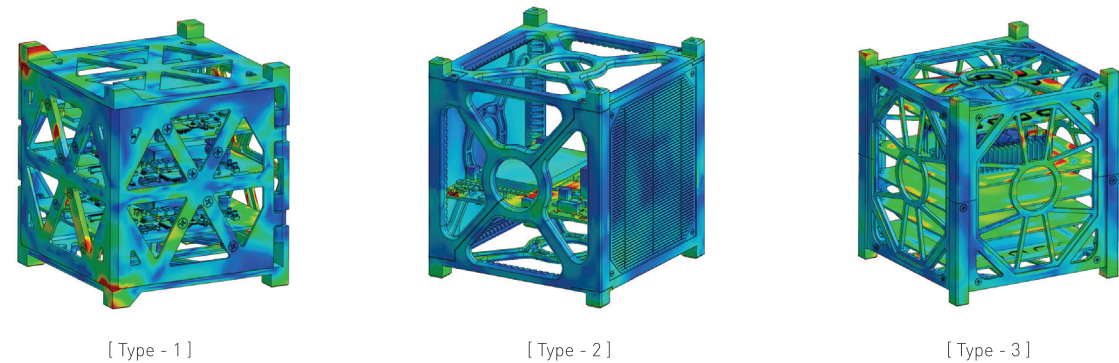
## Impact Response Analysis of Transport Equipment

- Safety examination when impact load is applied to the support of transport equipment
- Transient response analysis based on modal-superposition method



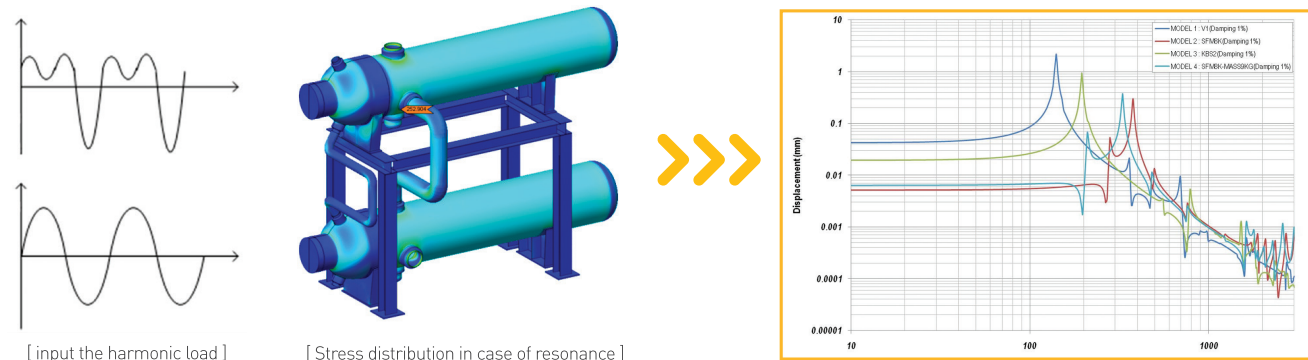
## Cube-type Satellite Random Vibration Analysis

- Random vibration safety check for various types of cube-type satellites
- 3-sigma RMS stress review for each direction



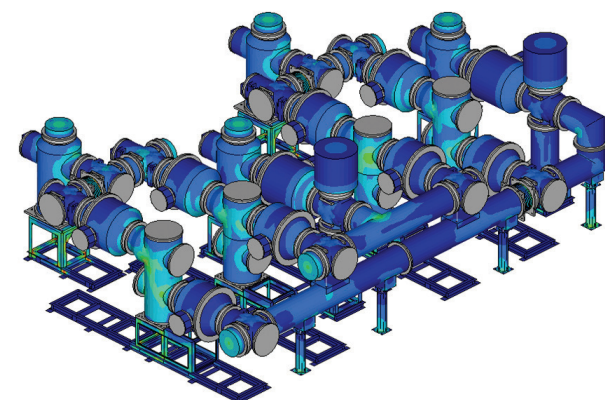
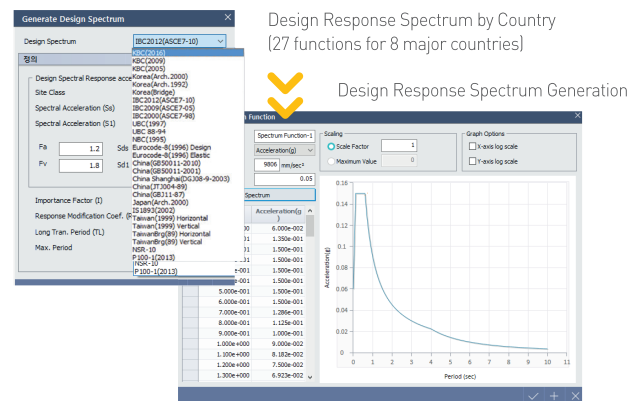
## Safety Evaluation of Plant Structure by Vibration Load

- Input the harmonic load by analyzing the modal component
- Analyze frequency response to check whether there is crack in the structure and piping



## Seismic Analysis of Gas Insulated Switchgear

- Seismic verification of gas insulated switchgear installed in earthquake-prone area
- Safety verification considering seismic load and operating load





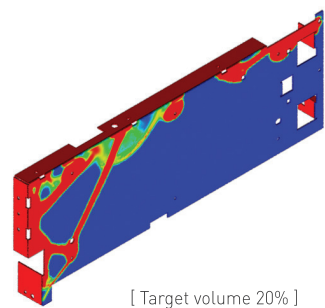
# Phase Optimization

Static / mode analysis and phase optimization analysis considering manufacturing process is possible.

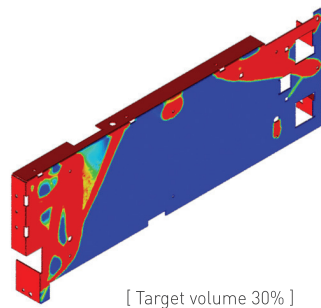
- **Optimized Analysis Function with Static Analysis and Dynamic Analysis**
  - Linear Static Analysis
  - Modal Analysis
- **Analysis Function Considering Manufacturing Process Conditions**
  - Design Limitation / Constraint Settings such as Stress, Displacement, Volume, Draw Direction and Symmetric Condition
- **Simultaneous Optimization Analysis considering Various Operating Conditions / Load Conditions**

## Optimization of Bracket Geometry to Maintain Rigidity

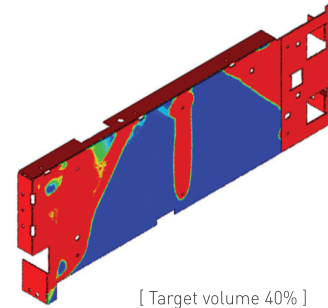
- Optimal design that can maintain the stiffness of the bracket applied to the product keeping it as light as possible
- Optimize the desired volume to be used (up to 40% reduction in target volume)



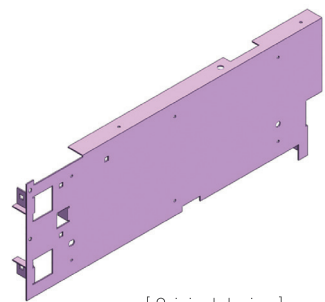
[ Target volume 20% ]



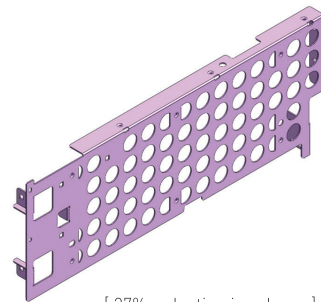
[ Target volume 30% ]



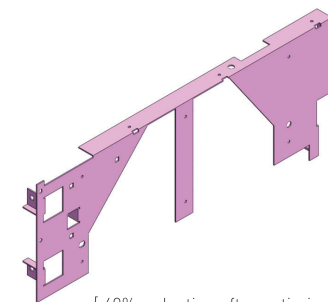
[ Target volume 40% ]



[ Original design ]



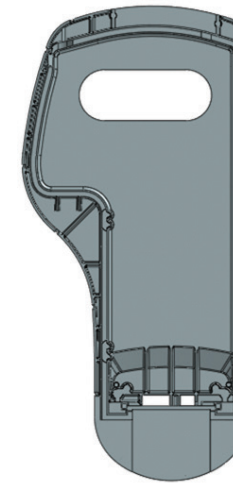
[ 27% reduction in volume ]



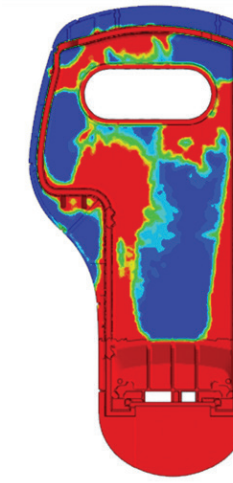
[ 40% reduction after optimization ]

## Weight Optimization of Plastic Injection Molding

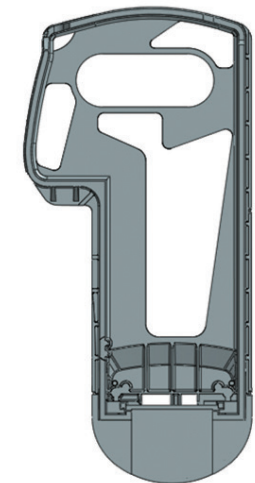
- It is necessary to develop a design with reduced weight that can maintain the target performance.
- 22% reduction in weight by using optimal design technique.



[ Original model ]



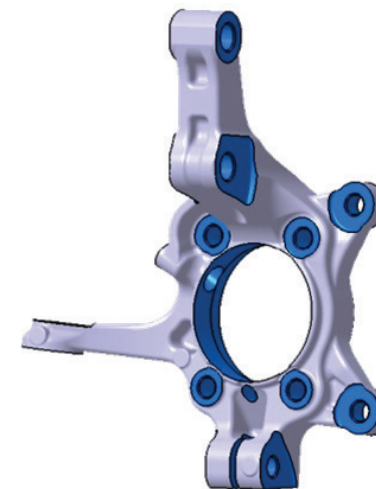
[ Phase optimization design result ]



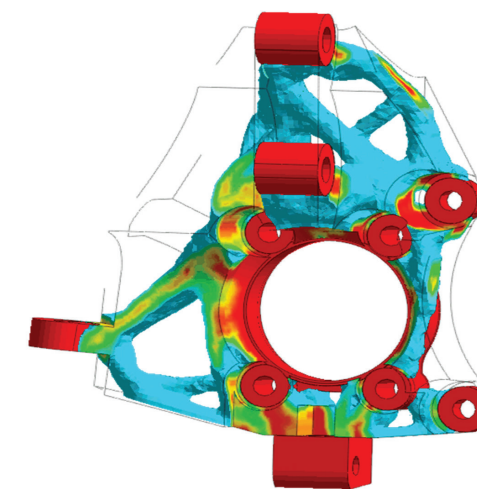
[ Optimized model ]  
23% weight reduction

## Optimized Shape of Automobile Knuckle with Multiple Loads

- Optimal design of vehicle knuckle with multiple loading conditions
- The volume change is small, but the performance is improved by 39% compared to the existing one.



[ Original model ]



[ Phase optimization design result ]



[ Optimized model ]  
23% weight reduction

# Reliability of Results

NAFEMS reference results for unit model, comparison of FEM analysis results for practical model

**NAFEMS**  
Theoretical Value  
and  
Verification

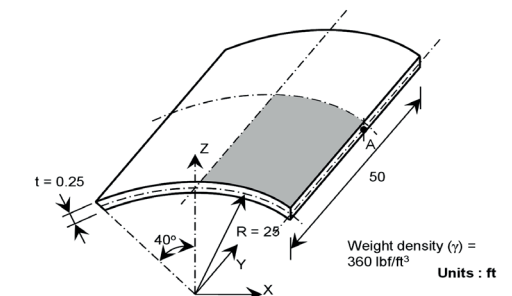
Comparison  
with  
**FEM Results**

Comparison  
with  
**Practical Model**

# NAFEMS Theoretical Value and Verification

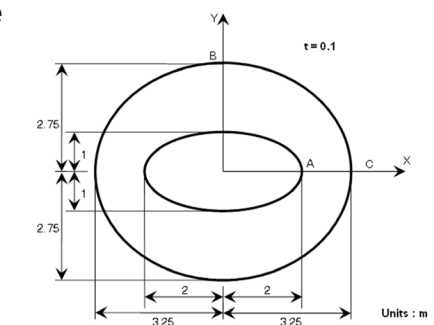
## Scordellis-Lo barrel vault (gravity load)

	Vertical displacement at point A [ft]
Reference	- 0.3024
MeshFree	- 0.3025
% Difference (MeshFree/Theory)	0.04%



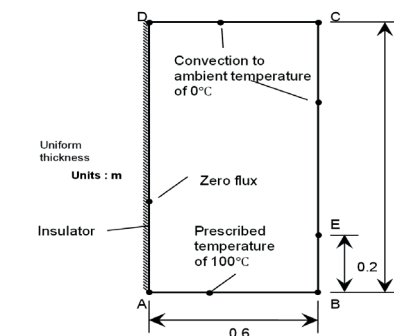
## Elliptic membrane under uniform outward pressure

	Stress_yy at point A
Reference	92.7 MPa
MeshFree	92.6 MPa
% Difference (MeshFree/Theory)	0.11%




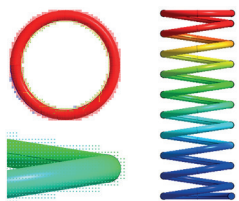

## Two-dimensional heat transfer with convection

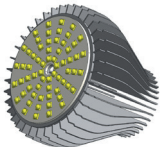
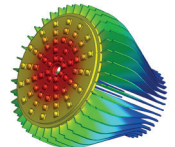
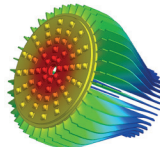
	Temperature at point E
Reference	18.3
MeshFree	18.1
% Difference (MeshFree/Theory)	1.10%

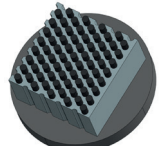
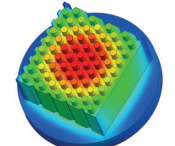
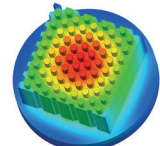




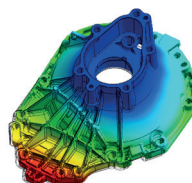
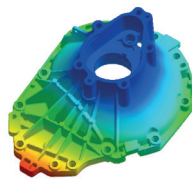
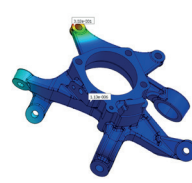

# Comparison with FEM Results

Model	MeshFree		FEM	
				
Results	1st Mode	24.8 Hz	1st Mode	24.8 Hz
	2nd Mode	24.9 Hz	2nd Mode	25.0 Hz
	Max. displacement	0.0733 mm	Max. displacement	0.0730 mm
	Max. stress	2.86 MPa	Max. stress	2.90 MPa

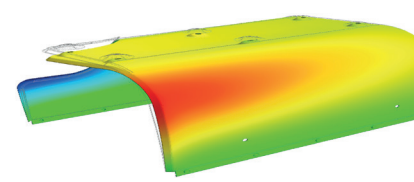
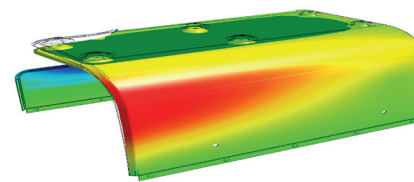
Model	MeshFree		FEM	
				
Results	Max. temperature	144 [°C]	Max. temperature	142 [°C]

Model	MeshFree		FEM	
				
Results	Max. temperature	42.7 [°C]	Max. temperature	43.7 [°C]

# Comparison with Practical Model

			
MeshFree	FEM	MeshFree	FEM
0.197 mm	0.197 mm	0.3016 mm	0.3033 mm

	
MeshFree	FEM
0.55 mm	0.56 mm

	
MeshFree	FEM
- 20.0 mm	- 21.0 mm



# About MIDAS IT

The background of the slide is a 3D grid of dark grey cubes, creating a perspective effect that recedes into the distance. On the right side of the grid, there is a small, distinct cluster of white cubes, some of which are slightly taller than the others, forming a small, abstract structure.

---

INTRODUCTION

CORE BUSINESS

MIDAS FAMILY PROGRAM

GLOBAL NETWORK



# Introduction

## We better human life with creative technology and add to human happiness with compassion

MIDAS IT develops and distributes engineering software and provides total solution service for structural engineering and web business.

MIDAS IT holds the world's top technology in the core engineering analysis fields such as computer graphics simulation, advanced analysis and optimal design. MIDAS Family Programs have been applied to all the engineering and industrial applications for the safety and economic feasibility analysis and they holds the largest market share in the world's construction field. MIDAS IT has the vision to grow as the global engineering solution developer and distributor. MIDAS IT will continuously devote itself to achieve the technological independence of Korea and to create the standard technology of the world.

### The Engineer that MIDAS IT desires

(what a successful  
engineer is)

#### Public interest

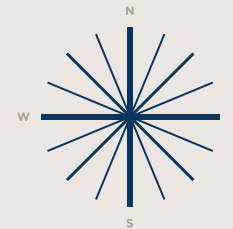
We follow the interest of  
the public based on accountability  
and determination.

#### Action

A technologist's knowledge should  
not be blocked however it should continue to  
spread for human happiness.

#### Sharing

An engineer's ability is given by nature to  
be able to share it with those that may  
not be as experienced as him.



#### MIDAS IT Compass Spirit

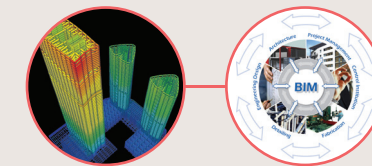
The needle of a compass constantly  
adjusts its position to always point  
to the same direction, and therefore  
symbolizes directedness, innovation  
and persistence. With a compass-like  
spirit MIDAS IT navigates toward the  
right values with unwavering passion  
and inventive perspective.

# Core Business

## Architecture, Engineering & Construction

Building, Bridge, Tunnel, Stadium, Plant, etc.

### AEC SOLUTIONS



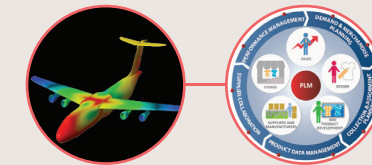
**CAE**  
Present to Mid-term  
(2011 ~ 2020)

**CAD / CAED**  
Mid-to Long-term  
(2011 ~ 2020)

## Mechanical Design Automation

Machine, Vehicle, Shipbuilding, Aerospace, misc.

### MDA SOLUTIONS



**CAE**  
Present to Mid-term  
(2011 ~ 2020)

**CAD / CAED**  
Mid-to Long-term  
(2015 ~ 2020)

CAE : Computer Aided Engineering  
CAD : Computer Aided Design  
CAED : Computer Aided  
Engineering Design

## Market

Sustainable growth

Medicine  
Ergonomics  
Engineering

Aerospace  
Engineering

Robotics  
Engineering

Future  
Residence  
Engineering

Future  
Transport  
Engineering

Neuro  
Engineering

## Technology

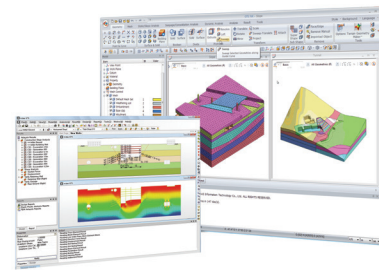
Extendibility and  
convergence

# MIDAS Family Program

MIDAS Family Programs are advanced CAE solutions that have been and are being developed using the latest technology.

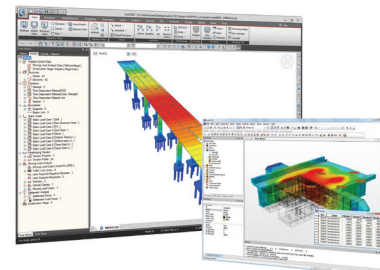
**GTS NX**  
Geotechnical  
Analysis System

**SoilWorks**  
Geotechnical  
Solutions for  
Practical Design



**midas Civil**  
Integrated Solution  
System for Bridge  
and Civil Structures

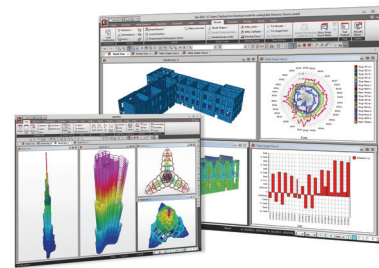
**midas FEA**  
Advanced Nonlinear  
and Detailed  
Analysis System



**midas Gen**  
Integrated System for  
Building and General  
Structures

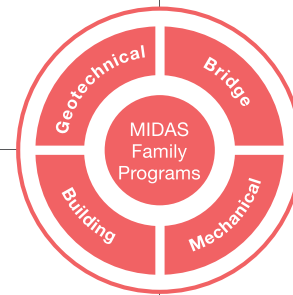
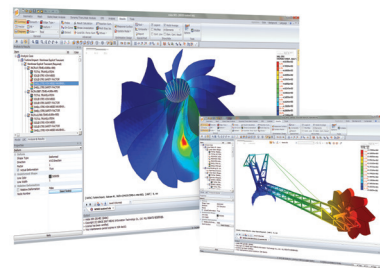
**midas nGen**  
Next Generation  
Solution for Building  
Analysis and Design

**midas Design+**  
Structural  
engineer's tools



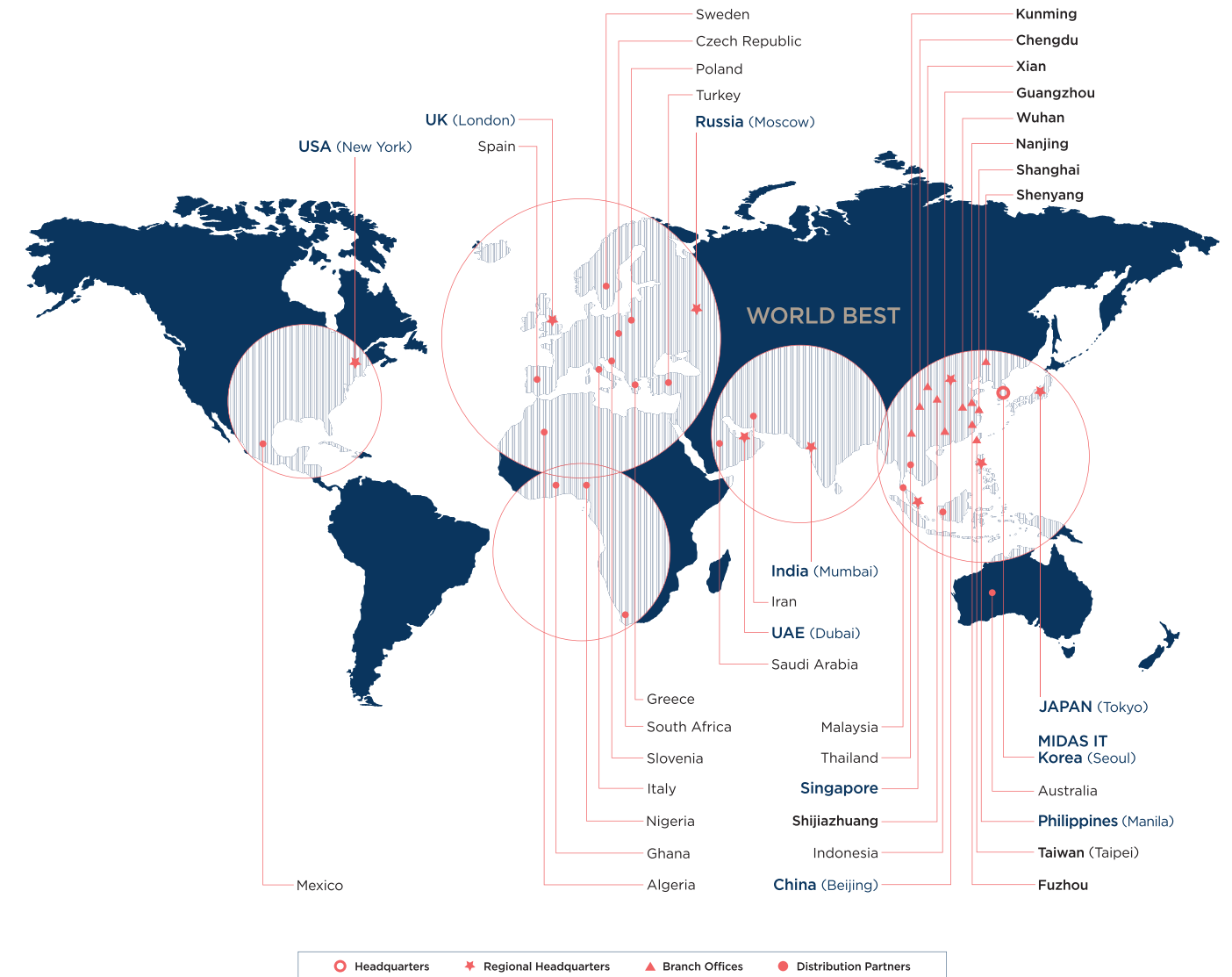
**midas NFX**  
Total Solutions for  
Mechanical Engineering  
in Structural Mechanics  
and CFD

**midas MESHFREE**  
Innovative Analysis  
and Design Tool for  
Mechanical Engineers



# Global Network

MIDAS software is distributed over 110 countries through 9 overseas corporate offices and 35 regional business partners around the world.







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[www.midasMeshFree.com](http://www.midasMeshFree.com)