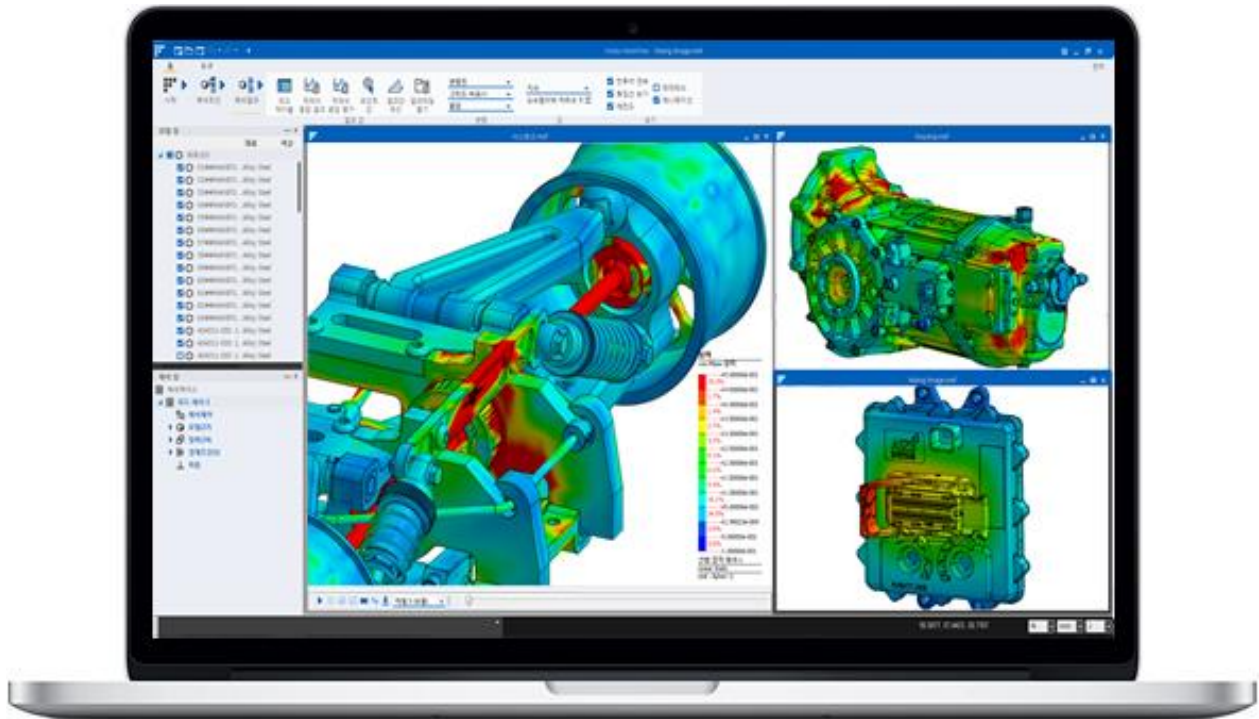


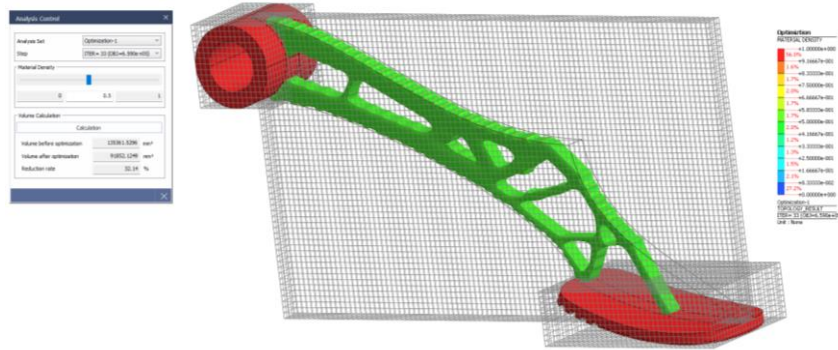
MeshFree 2023 Release Note



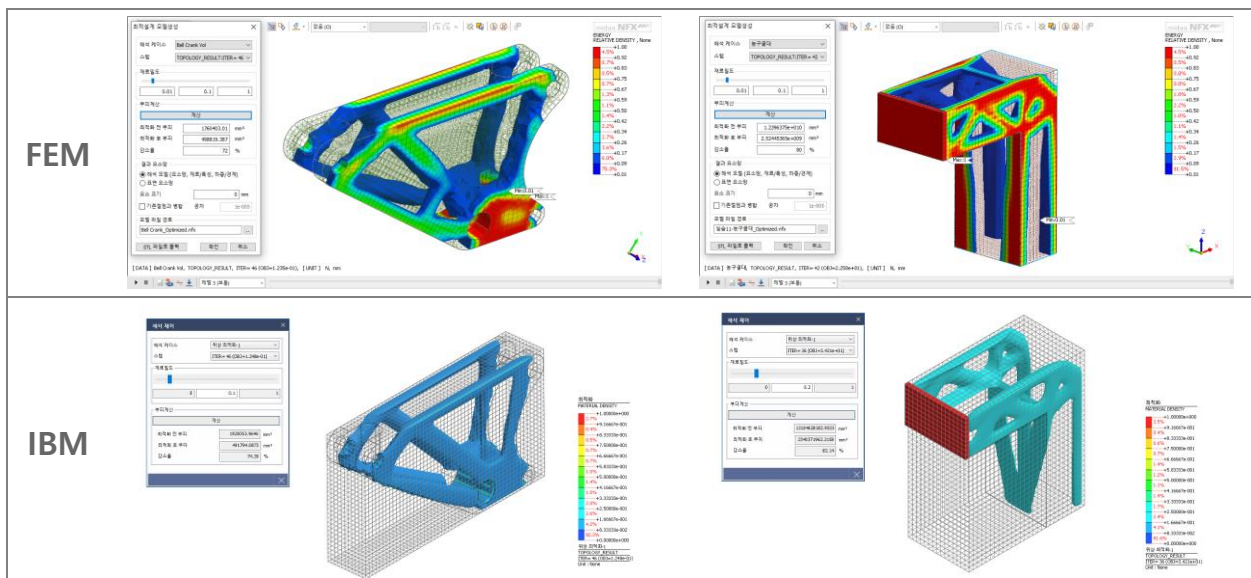
Contact with the new world

In August 2018, we released MeshFree 1.0 with slight changes to the existing CAE technology. Smaller technological changes that are freer to create meshes have innovatively overcome FEM-based technical limitations that have occupied the CAE market for more than half a century. MeshFree leads the change in the CAE process in the design stage, which allows design engineers to perform analysis by themselves using the beautiful model prototypes designed by design engineers to verify the performance of design products and perform optimal design. In MeshFree 2023, to establish itself as a more reliable partner, the ease of use has been strengthened, and efforts have been made for continuous improvement to improve reliability.

Improved Topology Optimization Results for Shape Boundary Constraints



MeshFree is an algorithm based on the IBM (Implicit Boundary Method) that generates a grid for analysis. In previous versions, an issue was identified where the local topology optimization density calculations fluctuated in shape boundary regions with multiple surfaces. To address this, improvements were made to ensure that the density calculations during the computation process adhere to the normal range of 0.0 to 1.0, taking into account boundary recognition and stiffness density considerations. Further validation was conducted by comparing and verifying the trends and effectiveness of the results with the FEM (Finite Element Method) algorithm.



Additional Bug Fixes

< Fixing CAD Interface Recognition Error >

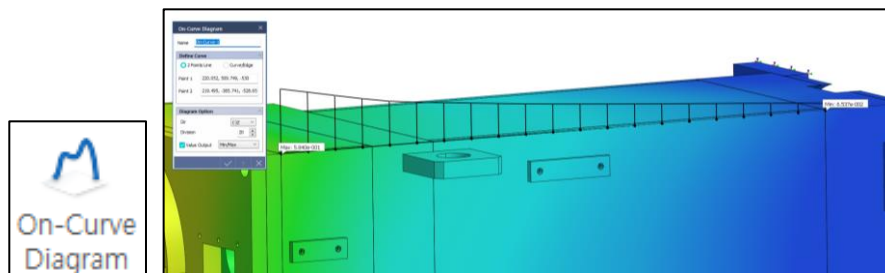


We have identified an issue in the web authentication method where the modules for SolidEdge and CATIA v4,5 in the CAD interface options were displayed and applied incorrectly. However, the problem has been resolved, and they are now functioning correctly.

< Improvement of 1000 Error Related to License Packing Module >

We have identified an issue where certain security programs were mistakenly detecting and blocking the software due to changes in the license packing module. However, we have addressed this problem and made necessary improvements to ensure that there are no security issues arising from certain option changes.

<Fixed Anomalous Termination Error in Result Curve Calculation>



We have identified an issue where the application of the curve function for the result values was causing abnormal terminations in certain customer PC environments after completing the MeshFree analysis. However, we have resolved this error by modifying the curve function to perform correctly for the entire analysis module.

CAD Interface Update

Type	Extension	Version
Parasolid	x_t, xmt_txt, x_b, xmt_bin	9.0 ~ 34.0
ACIS	sat, sab, asat, asab	R1 ~ 2023.1.0
STEP	stp, step	AP203, AP214, AP242
IGES	igs, iges	Up to 5.3
Pro-E / Creo	prt, prt.*, asm, asm.*	16 ~ Creo 9.0
SolidWorks	sldprt, sldasm, slddrw	98 ~ 2023
CATIA V4	model, exp, session	4.1.9 ~ 4.2.4
CATIA V5	CATPart, CATProduct	V5 R8 ~ V5-6R2022
Unigraphics	prt	11 ~ NX2007
Inventor Part	ipt	V6 ~ V2023
Inventor Assembly	iam	V11 ~ V2023
SolidEdge	par, asm, psm	V18 ~ SE2023

Support for the latest version of the CAD interface may be delayed depending on the supplier's update environment. If the newest version is not supported, please convert it to a neutral file such as Parasolid or STEP file format. We will do our best to reflect on the latest version of CAD quickly.