



December 28, 2020

## BETA CAE Systems announces the release of the v21.1.0 of its software suite

### About this release

Consistently trying to minimize simulation turnaround time and accelerate the automatic setup for workflows and processes, BETA CAE Systems proudly presents the release of v21.1.0 of its software suite.

The brand new version offers a plethora of features to unlock new potential for simulation in design and analysis, as well as a range of upgrades and performance improvements for existing workflows.

Do not miss:

- The promising entries of Electronic CAD (eCAD) and Electromagnetics, as well as Thermal for structural applications, as simulation fields of analysis.
- The progressing NVH capabilities from pre- to post-processing.
- The impressively accelerated performance in Crash & Safety post-processing processes.
- The augmented pre-processing potential with the advancements in ANSA VR.
- The continuously enriched capabilities of Machine Learning integration in KOMVOS through ANSA.

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## Release Highlights

### Diversifying multidisciplinary capabilities in ANSA

The introduction of Electronic CAD (eCAD), as well as Electromagnetics, triggers a new potential in our pre-processing fields of expertise and widen the areas of simulation to new perspectives.

In a similar manner, the introduction of Thermal support for Marc and Pam-Crash solvers paves the way for more efficient pre-processing methods.

One step further, and loyal to our goal to provide steady, but at the same time efficient and swift model management techniques, we empowered Modular Environment with extended capabilities. Collaboration with remote users is now further facilitated, allowing the transfer of DM objects between different DMs, the benefits of which are further augmented by the new capability of data compression.

From the discipline-oriented perspective, the already introduced Marc interface gains ground with even more dedicated capabilities, whereas Actran offers extended functionality with numerous additional features. In a similar manner, Crash & Safety fields offer a progressing interface for Impetus solver, along with numerous newly introduced tools for other applications, such as Marionette Positioning for Pam-Crash analysis.

Not to be missed, the enriched optimization capabilities that vest the new version with a new potential for topology optimization, as well as the ability to morph and modify models through VR and Collaboration in ANSA.

### Optimization gaining ground with EPILYSIS

The brand new v21.1.0 heads straight for uplifted optimization with the output of shape optimization results in HDF5 format for SOL200. On top of that, enhancements in Contacts algorithm, in sectors such as Penetration checking and output of intermediate results, give boost to the accuracy in engineering solutions and come hand-in-hand with noteworthy enhancements in memory and disk usage peaks reported in .f04 file.

### Elevating post-processing capabilities with META

Boosting graphics performance even more, the brand new GPU Accelerated Smooth Light Calculations provide faster first animation loop with less memory consumption, whereas the ability to place annotations around models in real-time, ensures more dynamic post-processing interaction.

Moreover, acknowledging and further promoting post-processing needs and capabilities in the area of Web Collaboration, its interface has arrived with an uplifted look & feel, hosting pages, windows and states for even smoother user interaction.

Vast developments have also taken place in the NVH domain, by the direct support of enforced excitation on tire patch in Modal Response and FRF Assembly, using the large mass method.

Other areas that have recently gained ground in META v21.1.0 are the Crash & Safety, hosting a new tool for the automatic report generation of Human Body Models results. This comes along with a significant speed-up when reading FEMZIP LS-DYNA results, by providing the ability to select and read multiple results simultaneously. On top of that, major performance improvements have also been tracked in ERF and ERF FEMZIP. Specifically, the loading time of ERF and ERF FEMZIP files has been accelerated by approximately 30-35% for both loading geometry and results. The aforementioned implementations, coupled with the support of ERF FEMZIP v11 libraries, boost the overall performance to even greater extend.

### Machine Learning in BETA products branching out

Further expanding Machine Learning (ML) potential via its integration in KOMVOS through ANSA, as implemented in prior versions, the brand new version offers advanced capabilities for incremental learning, as well as a fine tuning of Machine Learning parameters, such as Train / Test ratio, Cross Validation and Confidence level.

On top of that, the introduction and implementation of ML Toolkit v2.0, the new version of Tensorflow (2.2.1), offers an updated and synchronized packaging for both Linux & Windows.

For more details about the new software features, enhancements and corrections please, refer to the Release Notes document.

## Compatibility and Supported Platforms

ANSA files saved by all the first and second point releases of a major version are compatible to each other. New major versions can read files saved by previous ones but not vice versa.

META Project files saved from version 21.1.0 are compatible and can be opened by META version 16.0.0 or later. To be readable by META versions earlier than v16.0.0, they have to be saved selecting the option "Version 16.0.0" or "Version <16.0.0".

Support for Mac OS has been discontinued.

Support for 32-bit platform has been discontinued for all operating systems.

## Download

### Where to download from

Customers who are served directly by BETA CAE Systems, or its subsidiaries, may download the new software, examples and documentation from their account on our server. They can access their account through the "sign in" link at our [web site](#).

Contact us if you miss your account details. The Downloads menu items give you access to the public downloads.

Customers who are served by a local business agent should contact the [local support channel](#) for software distribution details.

### What to download

All files required for the installation of this version reside in the folders named "**BETA\_CAE\_Systems\_v21.1.0**" and are dated as of **December 28, 2020**. These files should replace any pre-releases or other files downloaded prior to that date.

The distribution of this version of our pre- and post-processing suite is packaged in one, single, unified installation file, that invokes the respective installer and guides the procedure for the installation of the required components.

For the installation of the software on each platform type, download from the respective folders, the .sh file for Linux or the .msi file for Windows.

In addition to the above, optionally, the META Viewer is available to be downloaded for each supported platform.

The tutorials and the example files reside in the folder named "TUTORIALS". This folder includes the complete package of the tutorials and example files, and a package with only the updated ones.

The Abaqus libraries required for the post-processing of Abaqus .odb files are included in the installation package and can be optionally unpacked.

Earlier software releases are also available in the sub-directory called "Previous\_Versions" or in a folder named after the product and version number.