



December 27, 2021

BETA CAE Systems announces the release of the v22.1.0 of its software suite

About this release

Following the introduction of v22.x.x series, v22.1.0 comes as a culmination of our efforts to constantly provide you with new tools and features that will accelerate your processes, while same time, eliminate error-prone factors throughout your simulation workflows.

Loyal to our commitment to fulfill your requests and requirements, the new version brings forward brand new solutions to long-awaited problems, and enhances capabilities, execution speed, and performance.

Do not miss:

- The major repackaging and upgrade of KOMVOS, as a direct DM-process executor, embedding SPDRM-driven related actions.
- The evident boost in the Graphics performance of ANSA & META.
- The extended VR & AR capabilities of our software, towards a more collaborative perspective.
- The accelerated solution time in EPILYSIS.
- The plethora of new toolbars in META, in areas such as NVH and Crash & Safety

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Release Highlights

Evolutionary upgrade with KOMVOS

KOMVOS has undergone a major repackaging of its feature list, as well as licensing offer, packing as standard functionality the 'Subsystem Build' and 'Load Case Composer' processes (formerly offered as scripting extensions).

As for its general features, a revamped main toolbar and database workspace, offers access to primary workspaces and facilitating data browsing. These, together with a data tree focus, provide a handy alternative to filters for the isolation of particular simulation data.

Regarding results viewing, following the META concept, users can now directly connect to ASAM ODS-compliant test result servers to browse and view measurement data.

Moreover, a main assets of the new KOMVOS v22.1.0, is the direct connection to SPDRM. This offers the ability to browse and execute SPDRM Process Templates and monitor the progress of all processes, providing more SPDRM data views in the info tabs in combination with SPDRM Generic and DM Item-specific script actions.

Closing with Machine Learning in KOMVOS, noteworthy enhancements have taken place in 2D and 3D results training and prediction, as well as in incremental learning, where Design Variable based predictors with 3D results can be updated using innovative incremental learning methods.

Elevating User Experience in ANSA

The core of model build has been enriched with numerous handy implementations. In specific, transformed, and renumbered Base Modules are re-used across Simulation Models and Loadcases and a new build action allows Loadcase Headers to generate their FE-representation before output. On top of that, following the unification concept of DM BETA products, users can now start building a Next Iteration directly through the DM Browser in META or KOMVOS.

Isogeometric Analysis (IGA) has undergone several enhancements. Not only surfaces can be morphed though Ortho Boxes and IGA workflows have been uplifted, thanks to the support of smooth splines using Bezier extraction.

In the Crash & Safety area, apart from the continuous support of EuroNCAP protocols (v9.0, for instance, in current version), Seatbelt Tool has been upgraded with effortless seatbelt passing through 3D slipping ring and buckle.

New tools and features have been introduced in the NVH area as well. As representative highlights, the new connector type Hydro Mount minimizes complexity of Hydro Mount modeling, whereas the introduction of Gauge Optimization from within NVH Console allows the creation of a ready-to-run SOL200 solver file through a simplified interface.

Speaking of Optimization, new options in this field, in compliance with the new DOE algorithms, elevate optimization experience in the new version.

Virtual Reality is constantly gaining ground in ANSA, embedding Collaboration aspects as well. Some highlights of the latest implementations are the introduction of sliding of morph boxes, as well as the real time perception and interpretation of a scene with physical objects in AR.

Accelerated Performance in EPILYSIS

Apart from a significantly decreased solution time thanks to the support of Message Passing Interface (MPI), a noteworthy speed-up has also taken place in the output of large HDF5 files, as well as in the Data recovery of ESE, EKE and DISPLACEMENT results for a large number of modes.

Empowering META with a plethora of new features

Model handling and animation have been further accelerated in various cases such as for models with a combination of shells, solids and line elements, where a performance increase of up to x6.8 times can be experienced while keeping the GPU memory consumption low (NVIDIA GPUs).

Similarly to ANSA, a combination of VR and AR developments, are now complied with Collaboration implementations in areas such as Acoustic Analysis, where the user can actually hear the noise in a vehicle cabin based on CAE calculated results or test results.

Brand new toolbars have been added, such as for Grid/Panel/Modal Participation Analysis, to run What-If scenarios and spot candidate areas for a CAE-driven design improvement. In conjunction with new entries in the NVH field, such as the Hydro Mount connector in FRF Assembly or the Stress / Strain results in Transient Response, these toolbars elevate NVH capabilities in META.

Body stiffness evaluation can benefit a lot by the new methodology "Opening Distortion Fingerprint" which can be seamlessly applied through the respective new toolbar, using data deriving either from measurements or from dynamic FE simulations, as well as from Multi-Body Dynamics simulations.

Toolbars are always a highlight in the Crash & Safety area as well in this version:

The Deployable Bonnet Systems Assessment toolbar is a new tool for the automatic assessment of Deployable Bonnet Systems for Pedestrian protection according to Euro NCAP, whereas the FMVSS 226 Toolbar allows the evaluation and reporting of FMVSS 226 Ejection Mitigation results.

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

New Documentation

New Documentation in ANSA

Tutorials

- Topo Mesh: Map Block
- Decks: ANSA - META for TAITherm

New Documentation in META

User Guides

- Toolbar User Guides: Opening Distortion Fingerprint
- Crash – Safety: FMVSS-226 Toolbar
- Crash – Safety: Deployable Bonnet Systems Assessment
- NVH: Participation Analysis

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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 22.1.0 are compatible and can be opened by META version 16.0.0 or later.

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_v22.1.0**" and are dated as of **December 27, 2021**. 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.