



## 1st VMAP User Meeting 2024

# VMAP Working Group – Full Model Storage: Breaking the communication barriers among different solvers

*Thanasis Fassas,*

*BETA CAE Systems SA, Epanomi, Greece*

*Working Group Members: BETA CAE, HTW Berlin BMW, FhG SCAI, DLR*

It is a common situation, when working on multidisciplinary workflows, that several solvers are involved. One of the main characteristics of these processes is that the input for each of the involved solvers is the result file from a previous step. Consequently, engineers monitoring such processes must know how to use all these different solvers.

In particular, the engineers not only need to be able to set up a model for each solver, but also need to recognize and fix any incompatibility arising from a previous step. Unfortunately, this increases the complexity of an already demanding process.

Setting up a model in one pre-processor and pushing this same file format to different solvers would significantly facilitate such processes.

Using such a solver file format reduces a lot of procedural time. First of all, engineers do not have to define different files for each involved solver. Furthermore, it reduces the effort for learning all necessary solver formats. It also hides the complexity of the process since the incompatibilities among the different solver formats are eliminated.

As a result, it improves and speeds up the cooperation among all the departments participating in the process.

The capability to use one format, allows for more effective working ways. Adopting a new way of setting up a model, however, might cause result in extra effort. This fact raises the question of whether the benefits of the new approach would justify this extra effort. Thus, it is more than obvious the need for a pre-processor that supports this new era.

In this presentation, on the one hand, we will demonstrate the usage of the VMAP format in complex workflows and support the setup of an interoperable solver file. On the other hand, we will examine how a multidisciplinary pre-processor with solver interoperability capabilities can facilitate this new approach and allow the user to get the full benefits of this new VMAP.