

THE GENERATION AND MAINTENANCE OF THE 150% COMMON MODEL AT CEVT

¹Jesper Bäcklund*, ²Giannis Haralampidis

¹China Euro Vehicle Technology (CEVT) AB, Sweden

²BETA CAE Systems SA, Greece

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ABSTRACT –

In this work ANSA and SPDRM work seamlessly together to provide an efficient environment for the generation and maintenance of multi-configured vehicle models, commonly referred to as the “150% model”.

At the heart of the procedure lies a simple but very important rule: “no part should be modelled twice; existing models should be reused wherever possible”. In other words, all disciplines must share the same modelling techniques as long as possible and the resulting models should be suitable for cross discipline simulations. This rule can be relatively easily applied in the isolated case of a single vehicle configuration, but scaling it up to cover the wide spectrum of vehicle configurations and variants of today is a major challenge.

This work will focus on how CEVT has adopted and expanded the Common Model concept in order to create, utilize and maintain a multi-configured 150% common model as a single source of information from which all individual vehicle variants can be produced and become readily available for downstream CAE processes. Key elements to these procedures are the tight integration of ANSA to SPDRM and the Python-based automation and standardization enhancements achieved through the ANSA Task Manager.

Last, but not least, the effect of the adopted methodology to the overall reduction in CAE lead-time is discussed.