

Title (en)
METHOD FOR COMPUTER-SUPPORTED DEVELOPMENT OF AN OVERALL SYSTEM CONSISTING OF SUBSYSTEMS

Title (de)
VERFAHREN ZUR COMPUTERUNTERSTÜTZTEN ENTWICKLUNG EINES AUS TEILSYSTEMEN BESTEHENDEN GESAMTSYSTEMS

Title (fr)
PROCÉDÉ DE DÉVELOPPEMENT ASSISTÉ PAR ORDINATEUR D'UN SYSTÈME GLOBAL COMPOSÉ DE SYSTÈMES PARTIELS

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Application
EP 16718633 A 20160415

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Abstract (en)
[origin: WO2016173862A1] The invention relates substantially to a method for computer-supported development of an overall system consisting of subsystems, in which a combination of real products and virtual behaviour models simulated in real-time are used in the phases of the right branch of the V-model, wherein the development steps "MIL", "SIL" and "VPIL" each comprise an environment model, a reusable multiphysics model and a software, and the development step "HIL" comprises, in addition to the environment model, another remaining physics unit for simulation of the parts of the hardware of a product that are only virtually present. In this way, the method enables a temporally parallel and spatially divided integration and a corresponding test of components on various levels, i.e. the right-hand branch of a V-model, which can be performed to a large extent by the system developer. Open-loop and closed-loop control functions or processes for the overall system level can already be developed in this way for example, even though all of the subsystems are not yet present. No parallel systems are required, on which new processes are run-in in advance. Safety-critical systems can, for example, be tested entirely in the laboratory, before a test of the real overall system is carried out in the real environment of same. Some of the key components of the development method according to the invention, such as real-time multiphysics models from the simulation and automatic system tests of development step "HIL", are advantageously reusable.

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