
CONCEPT SELECTION IN THE AUTOMOTIVE INDUSTRY WITH EXAMPLESBylund N. - *Volvo and Ford (DEU)*

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The paper describes the requirement fulfilment complexity and the resulting difficulties in concept selection in the automotive industry, with examples from a practitioners point of view. The lifecycle has been reduced so that more and more models come out in a shorter time span. However the manufacturing equipment needs often to be reused in order to be amortised in a longer time span, this means that a concept decision is influenced from earlier concepts and will potentially have a long time impact. Furthermore when several brands merge into an automotive group, a concept decision will influence and will be influenced by several brands and their specific history and unique requirements.

INTEGRAL COLLABORATIVE DECISION MODEL IN ORDER TO SUPPORT PROJECT DEFINITION PHASE MANAGEMENTJankovic M., Bocquet J.C., Stal Le Cardinal J., Bavoux J-M. - *Ecole Centrale de Paris (FRA)*

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The Project Definition phase is one of the most important phases in the New Product and Process Development. This is also a collaborative decision making phase. The existing project management methodology and tools do not permit adequate management of this phase. In this paper, we develop an integral collaborative decision-making model. The goal of this conceptual model is to identify the intrinsic elements for successful decision-making. This model was used to support the collaborative decision-making of the project team, but also to structure and manage Project Definition phase. This second part is realised through the development of the project management tool applied in the Project Definition phase in PSA Peugeot Citroen.

IMPACT INDICATORS IN TRANSPORT INFRASTRUCTURES: A NEW MARKET FOR ENGINEERING DESIGN RESEARCHERSVidal R., López-Mesa B. - *Universitat Jaume I (ESP)*

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Indicators are a very important guide in decision making since they translate knowledge into easy-to-handle information units. This paper aims to draw attention to a not very explored "market" for engineering design researchers, by discussing the current state-of-the-art of impact indicators for transport infrastructures and the possibilities of more representative results by means of engineering design methodologies, such as life cycle assessment, life cycle cost, and risk analysis. The contribution of these methodologies in the definition and development of indicators has been scarce for the moment; however, the complexity of the impact of infrastructures demands a more comprehensive approach that could be provided by these methodologies.

THE DIGITAL MATURITY MAP - MOTIVATION FOR AN EDM BASED VALIDATION METHODMueller M., Baer T., Weber C. - *DaimlerChrysler AG (DEU)*

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Throughout the assembly process chain in the automotive industry digital methods such as DMU or tools of the digital factory are used. Despite these improvements, it remains challenging to define a balanced validation process: How to cope with different requirements in a cross-domain scenario? How to allow the stakeholders their own, appropriate view of data and information? A holistic view of maturity and coverage is essential. Based on some fundamental definitions, this contribution introduces a maturity map as a new approach to specify requirements for an CAx/EDM concept, aiming at a seamless digital validation strategie in cross-domain environments.

MULTIPLE MODELS IN THE MULTI-ATTRIBUTE CONCEPT DESIGN OF FAST FERRIESGrubišić I., Munić I. - *University of Zagreb (HRV)*

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Decision-making with multiple multi-attribute models is addressed. Selection between monohull and catamaran configuration for a fast ferry is presented, based on the multi-attribute procedure. Each of the ship types is defined within a generic concept design model that is structured in advance and calibrated for the respective ship type. A three step procedure is proposed to deal with multiple design models. It was found that the search for common Pareto frontier is not necessary. Mutual dominance of the preferred designs is sufficient for reaching decision. A necessary condition for correct decision-making, when dealing with multiple generic models, is a common definition and an equal number of design attributes extracted from all models.
