

## **Cost Valuation Method for Development Concurrent, Phase Appropriate Requirement Valuation Using the Example of Load Carrier Development in the Lithium-Ion-Battery Production**

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**Abstract :** In the past years electric mobility became part of a public discussion. The trend to fully electrified vehicles instead of vehicles fueled with fossil energy has notably gained momentum. Today nearly every big car manufacturer produces and sells fully electrified vehicles, but electrified vehicles are still not as competitive as conventional powered vehicles. As the traction battery states the largest cost driver, lowering its price is a crucial objective. In addition to improvements in product and production processes a non-negligible, but widely underestimated cost driver of production can be found in logistics, since the production technology is not continuous yet and neither are the logistics systems. This paper presents an approach to evaluate cost factors on different designs of load carrier systems. Due to numerous interdependencies, the combination of costs factors for a particular scenario is not transparent. This is effecting actions for cost reduction negatively, but still cost reduction is one of the major goals for simultaneous engineering processes. Therefore a concurrent and phase appropriate cost valuation method is necessary to serve cost transparency. In this paper the four phases of this cost valuation method are defined and explained, which based upon a new approach integrating the logistics development process in to the integrated product and process development.

**Keywords :** research and development, technology and innovation, lithium-ion-battery production, load carrier development process, cost valuation method

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