Application Of A Pump Virtue Prototype For Manufacturing And Supply Chain Management Quality

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Abstract

In this article a virtue prototype is further developed into applications to include features and options for manufacturing and supplier teams to check opportunities for continually improvement of product quality. The virtue prototype developed during product develop stage have been correlated to DV and vehicle test and have high confidence in material properties, boundary conditions and level of simplifications when performing Multiphysics simulations. The virtual prototype model therefore can be adjusted as a virtual test plat form with confidence to allow further simulations with or without minor changes to explore interested topics, which lead to improvements in machining, assembly process, production line control, etc. The APP feature of COMSOL is used to allow interactive check and parameter tuning for those teams. For different component of the pump product, different app was developed for specific issues. All Apps are using the same virtual prototype model to ensure consistency of result to allow reliable engineering judgement.