

PERFORMING TRADE STUDIES: A MISSILE DEVELOPMENT INSTANCE BASED ON AGILE SYSTEMS ENGINEERING

Renan Miranda Richter (Instituto Tecnológico de Aeronáutica)

Olympio Lucchini Coutinho (Instituto Tecnológico de Aeronáutica)

Luis Loures (Instituto Tecnológico de Aeronáutica)

Jonas Fulindi (Instituto Tecnológico de Aeronáutica)

Abstract: This paper brings an overview of Agile Systems Engineering mainly focused on performing trade studies at the development of a missile. Agile methods generally promote a disciplined project management process that encourages frequent inspection and adaptation, teamwork, self-organization and accountability. Performing trade studies are a crucial instance in this type of process that by adopting some mathematical considerations the best requirements and solutions were achieved. Analyzing propellant candidates to a missile project and how to evaluate the effectiveness of each one, the work shows the tradeoff method, merging the best solutions to reduce project risk and improve quality of engineering data.