Model Based Systems Engineering for the future of combat aircraft development

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Model Based Systems Engineering's value proposition

- Coordinates system design activity
- Delivers collaboration across the business
- Provides tools and methods that manage and support complex programs
- Provides an auditable digital thread through developmental and operational lifecycles
- De-risks project timescales and deliverables

Why consider investing in MBSE?

Today's products, such as those of future combat aircraft, combat vehicle and defence systems, are often characterised by large and complex systems of systems with intricate mixes of mechanical, electronic and software content. Research suggests as much as 75% of product development information is exchanged through in-company emails and flat, disconnected files.

Companies struggle to adequately cope using contemporary, often disconnected tools and workflow, data exchange and collaboration due to the highly interconnected and interdependent nature of these large systems. In such environments, where customers face numerous business, operational and technical issues, an interconnected digital platform that supports systems model engineering methods has become essential.

Who benefits from MBSE?

MBSE is particularly suited to industries such as future air combat, vehicle and defence systems and those of aerospace, automotive and other high tech businesses.Their products contain high levels of interconnected technology with systems of different domains often combining mechanical, electronic and software components.

Many such products require immense expertise in their design and manufacture and it has become increasingly difficult to coordinate and collaborate across technologies and personnel, especially in organisations that have disaggregated design, engineering and manufacturing operations.

How does MBSE add value to your programs?

MBSE aims to co-ordinate the maximum possible number of design activities and collaborators during product development. By delivering an interconnected and managed single source of information, MBSE allows companies to manage technical, commercial and compliance challenges in a collaborative manner to de-risk project outcomes.

MBSE enables straightforward collaboration between different components of the same product development program whatever their discipline and location. The data Hub creates a single, common means of information exchange.

What outcomes might MBSE deliver?

- Projects delivered in time and to cost
- Better collaboration and minimisation of mistakes due to data processing
- Processing information faster
- Fluidity in tasks performed by stakeholders in the same programme
- Faster identification of issues through controlling Change Management
- Faster time to market for products with large development cycle
- Results observable during program execution
- Produces highest potential quality of product at program end
- Delivers significant ROI