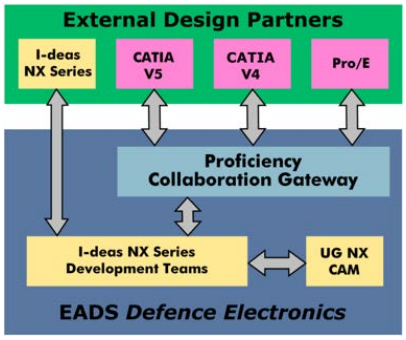
CASE STUDY: EADS Defence Electronics Enhances Design Collaboration with Proficiency for A400M Project

"With the Collaboration Gateway, we have found a way to meet the format requirements of our customer and partner companies, resulting in a full and unlimited data transfer between the different CAD systems in use. It allows us to better manage data, and to save costs associated with a complex, extended, multi-CAD design environment."

-Rudolf Hetterich, Dipl.-Ing., Senior Manager of Mechanical Engineering for EADS Defence Electronics

Implementation Goals

Achieving commonality of components for the A400M means reusing features from existing Airbus aircraft, as well as collaborating with design partners using incompatible engineering applications. Even when a suitable component is found, it frequently requires modeling in the several different design systems being used by the partners. One EADS goal is to eliminate manual model recreation to accelerate product development.



Overview

EADS is Europe's premier aerospace and defense company and is the second largest aerospace and defense company in the world. EADS Defence Electronics is one of the leading suppliers of defense electronics in Europe.

Design reuse is one of the keys to the success of the A300 series and will be instrumental for the success of the A400M. Proficiency's solutions enable EADS partners or divisions to collaboratively use engineering models despite differing design tools. Well-proven and economical features from existing aircraft can be used in the A400M and revised to rapidly respond to changing geopolitical requirements.

Challenges

To support the EADS strategic corporate goal of strengthening the defense sector, EADS Defence Electronics needed an innovative approach to help collaboratively develop the military systems of the new A400M military transport aircraft Participating in the working practice known as Airbus Concurrent Engineering, or "ACE", Defence Electronics needs to work together with other Centers of Competence (CoCs) in real time despite geographical distance and disparate design systems. The Business Unit receives design models in one CAD format from suppliers, works with components in another format, and delivers native parametric models to Airbus in yet another format.

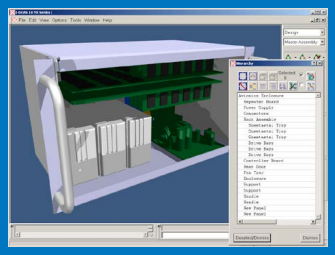
Solution

Defence Electronics chose Proficiency to provide the key functionality required to collaboratively develop and successfully launch the A400M into a new market segment of heavy tactical military transport aircraft. Engineers at Defence Electronics complete designs in UGS PLM Solutions' I-deas NX Series while integrating partner provided components designed in Dassault Systèmes CATIA V4, Dassault Systèmes CATIA V5, and PTC's Pro/ENGINEER. The completed system assembly will be delivered to Airbus in native feature-based CATIA V5 format. The savings to Defence Electronics are significant and immediate.

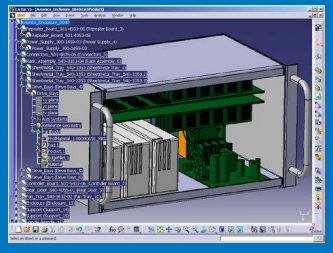
Result

Proficiency has enabled EADS Defence Electronics to remove the cost and time associated with older methods of data exchange. Previously, designers shared "dumb" solids (via IGES or STEP) with their partners. All parameters that governed the models form, fit, or function were lost. Recipients had little choice but to manually re-master the parametric features required to complete the design. This wasted time and effort was repeated during each design iteration, compounding the problem and increasing program delays.

Defence Electronics chose Proficiency to streamline design creation and automate delivery of CAD models, thus eliminating the inefficiencies in their traditional design process. Upon completion of the design process, intelligent 3D assemblies (including assembly structure, features, history, constraints, etc.) are then delivered to Airbus in the required CATIA v5 format, again without manual remodeling.



A component integrated in an I-deas assembly



As delivered in CATIA V5

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