

CO-DESIGN TO TARGET DELIVER AEROSPACE PROGRAMS ON-TIME, ON-TARGET AND TO SPECIFICATION



SIGNIFICANTLY INCREASE COMPETITIVE ADVANTAGE

Over 50 percent of programs miss their delivery date. Programs are often delayed due to late stage issues being discovered in the manufacturing process that could have been prevented in the design phase. Today it is often very difficult to identify potential issues before the final system is assembled.

With the **Co-Design to Target** Industry Solution Experience, Original Equipment Manufacturers (OEMs) can integrate disparate tools, organizations and processes into a single stream to optimize form, fit and function in an integrated System Digital Mock-up (DMU). This System DMU can avoid many of the integration issues that significantly impact the cost and schedule of a program.

By connecting the dots, the **3DEXPERIENCE®** platform makes it possible to drive program convergence with a real-time view to Key Performance Indicators (KPIs) across all departments, sites and suppliers, allowing to proactively keep programs on track and gain significant competitive advantage.

Handle Technology Advancements

Aerospace is experiencing an innovation boom, with disruptive new technologies and new approaches driving unprecedented efficiencies that could change the trajectory of the industry as a whole. In 2009, the entire aviation industry committed to a set of ambitious climate action goals that target improving fuel efficiency by 1.5% per year between 2009 and 2020, reaching net carbon neutral growth from 2020 and reducing global net aviation carbon emissions by 50% by the year 2050 relative to 2005.

We are in the middle of an engineering revolution thanks to the convergence of three technologies: AI-driven design, additive manufacturing and introduction of new materials. **Co-Design to Target** focuses on bringing these three types of technologies together to create an optimized design that meets all requirements utilizing the collaborative approach of the **3DEXPERIENCE** platform.

This approach is essential in developing new products which integrate new technologies, ultimately making aircrafts lighter and more sustainable. **Co-Design to Target** integrates these designs among the different engineering disciplines through advanced collaboration capabilities, DMU reviews and takes into consideration manufacturing process constraints during the design process.

Manage Programs in Real-time

Traditionally, issues surface during periodic program management reviews and formal design reviews and audits. Now, using **Co-Design to Target** along with the **3DEXPERIENCE** platform, stakeholders can stay apprised of program status so issues and risks can be addressed before they become a problem. In addition, with the ability to view program status in real time, Program Managers have an instant view of all KPIs with full traceability to deliverables. This allows tighter control of the program while managing continuous change over its lifespan. The ability for a program to perform both proactive decision making and quicker response times can lead to keeping the program on-time and on-target.

Co-Design to Target integrates all engineering works-in-process with contracts management, program controls, systems engineering, design engineering, configuration management, data management, and subcontracts administration. Managing with this comprehensive and always current view of a program's status assures improved success, profitability and value to the customer.

Achieve Manufacturing Excellence by Design

Co-Design to Target reduces the complexity of the product development process by integrating "value streams." Consider that hundreds or even thousands of people work on developing the product definition during the detail design phase of a program, and that thousands of specifications cascade to sub-systems and components from top-level requirements.

Lean development is achieved and program targets met by providing an efficient way to integrate engineering teams. With **Co-Design to Target**, these teams work concurrently and collaborate in real-time to converge quicker on a detailed definition of each system and component. Using a Behavioral Digital Mock-Up allows architects (non-CAD users) to define systems installation and exhaustively validate systems installation architecture early. This saves many late, costly corrective actions that would occur if performed the traditional way (after 3D detailed design).

Finally, with **Co-Design to Target**, you can realize significant improvement in systems and equipment installation with a requirements-based 3D design that accelerates harness definition and later installation. Traceability and consumption of requirements in the design phase utilizing the **3DEXPERIENCE** platform insures accuracy of the design and provides verification that all requirements are being addressed. Manufacturing excellence can be achieved with continuous verification and validation through design using a Functional DMU for early system and network checks. By transforming the development phase of a program, **Co-Design to Target** results in significantly lowering costs and improving on-time delivery.

KEY BENEFITS

Take control of your program execution:

- Keep programs on specification, on-budget and on-schedule while improving system performance
- Integrate new technologies quicker and more efficient across multi-discipline engineering organizations
- Reach product definition maturity faster
- Ensure smooth manufacturing ramp-up and improved production rates



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