SIEMENS

DIGITAL INDUSTRIES SOFTWARE

Leveraging the power of multidisciplinary design and optimization

How can you accelerate product development in your A&D process?

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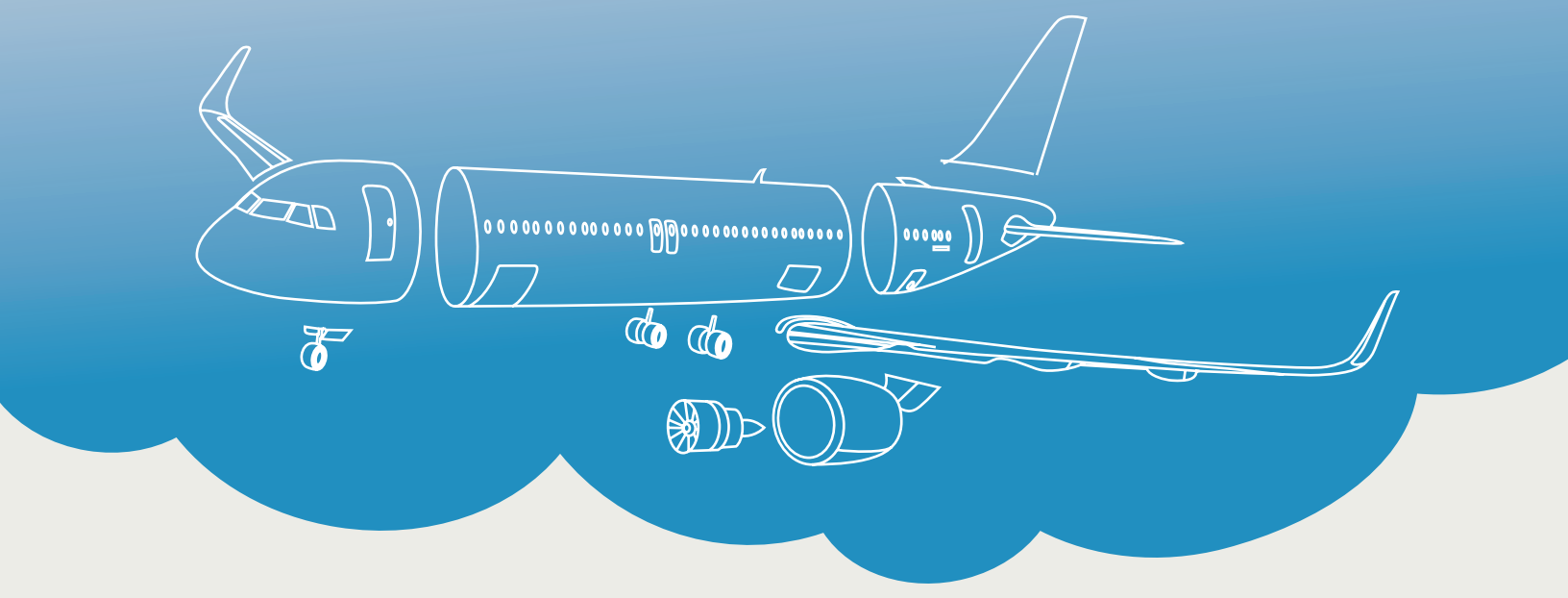
What is multidisciplinary design and optimization?

Multidisciplinary design and optimization (MDO) provide a comprehensive design solution that integrates critical aspects of product development, including mechanical, electrical, electronics and software design. With the powerful connection between design and simulation and the connection to the systems design, customers can achieve certifiable designs quickly by shifting to an interdisciplinary, closed-loop design approach.



Learn how you can unlock the Siemens Xcelerator open digital business platform to connect high-level architecture to streamline product development in your aerospace and defense (A&D) processes.

Challenges

- **Pressure to reduce program cost and schedule**
- **Increasing aircraft and subsystems complexity**
- **Increased electrification of products**
- **Globalization of supply chain, increasing complexity program and integration**

Of product launches are delayed

Source: Gartner

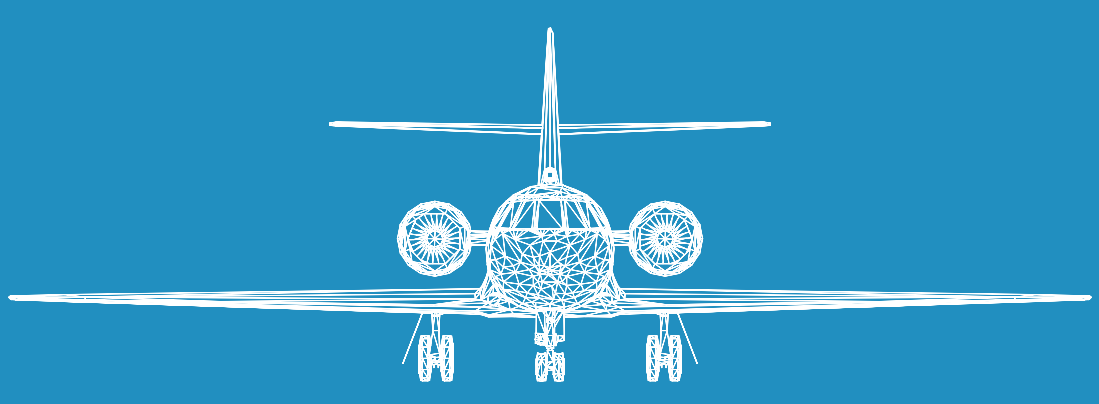
Say each engineering discipline (mechanical, E/E, software) have their own sets of software tools and systems

Source: Deloitte

How do you bring innovative designs with improved manufacturability and high performance to market faster?

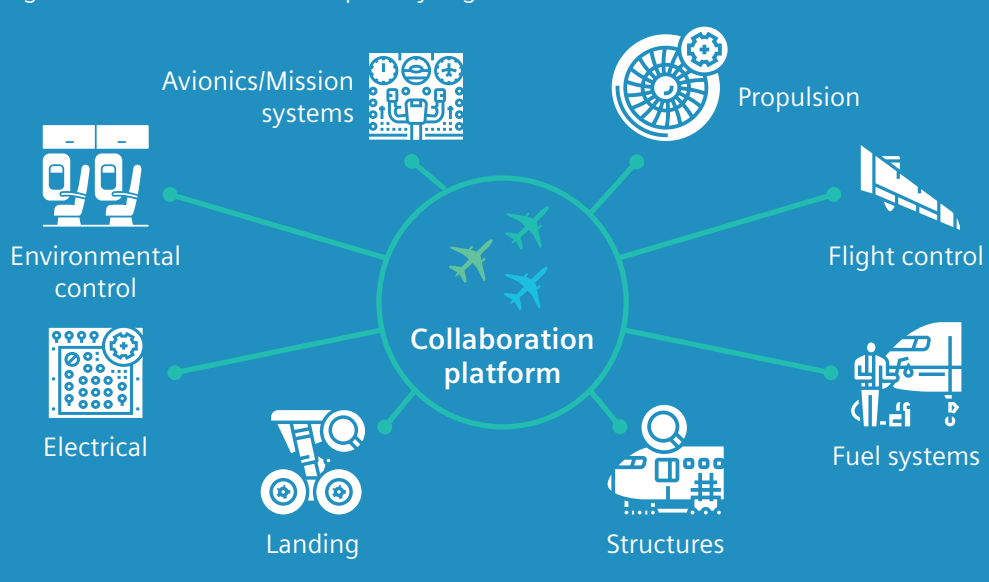
First – Establish an authoritative source of truth

Manage the complete design in one single collaborative environment with a holistic digital twin to create a transparent source of truth. Break down the organizational silos that hinder progress, build trust and foster collaboration.



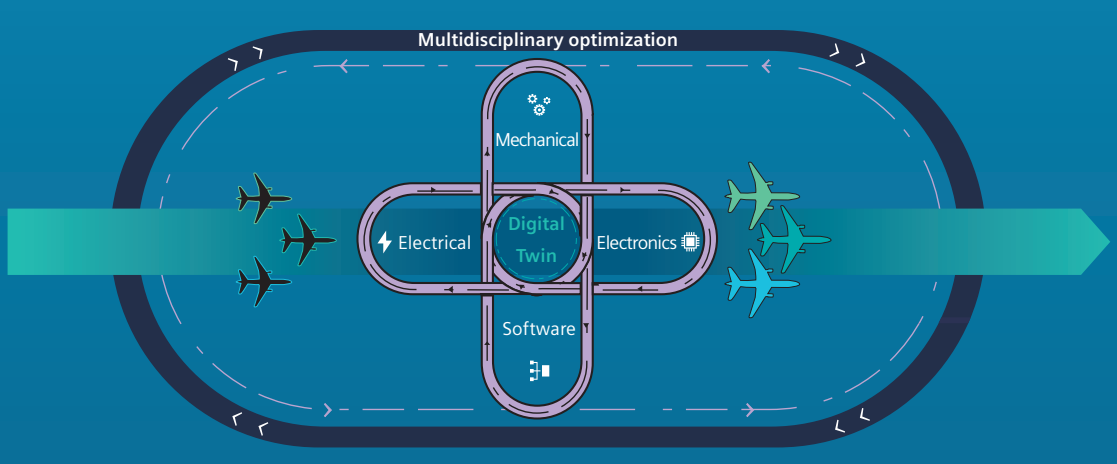
Next – Integrate all aspects of design

Quickly and easily iterate and evolve dynamic designs to drive innovation and optimization while exploring the design more thoroughly across domains with a better context of the surrounding subsystems and components. Prevent miscommunication and errors and minimize the risks of late-stage changes with comprehensive, configuration-driven multidisciplinary digital twin.



Finally – Embrace dynamic design and iterative processes

Leverage digital technologies to combine all aspects of product design, including electronics, mechanical and electrical to streamline the entire product development process from product inception to manufacturing. Use best-in-class simulation and optimization software to analyze, understand and perfect every aspect of design.



By following these steps, companies can:

- ☑ **Stay ahead of the curve and remain competitive in the ever-evolving A&D industry**
- ☑ **Implement these elements in one place to streamline product development processes**
- ☑ **Enhance collaboration among teams**
- ☑ **Validate performance**
- ☑ **Optimize overall design**
- ☑ **Adopt faster and more cost-efficient new product introduction**

What's next?

Discover how Siemens A&D multidisciplinary design and optimization solutions can help you bring innovative designs to market faster.

Learn more

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