

Concurrent Design and Engineering Services

Connect teams and streamline processes
to design the future

STARION



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Concurrent Design and Engineering Services

Concurrent design and engineering streamlines complex projects involving multidisciplinary teams starting from the early phases.

Starion is a pioneer in the implementation of concurrent design, providing solutions for over 20 years. We recognise how complicated it can be to organise and manage complex design and engineering projects, where decisions depend on many interdependent requirements. To address this, we have developed concurrent design services and purpose-built software that optimise the process, improving efficiency and accuracy, and reducing costs.

Our services range from setting up processes and facilities to leading concurrent design studies, providing training and hands-on support, and performing audits.

For complex systems, concurrent design can:

- Reduce design time by a factor of four
- Reduce cost by a factor of two
- Improve the quality of results.



Our unique, standards-based CDP4-COMET software is a powerful collaborative model-based system engineering (MBSE) platform that's ideal for concurrent design. Using CDP4-COMET, available open source, teams can interact and share engineering models, designs, data and documents in near real-time.

High quality outcomes – quickly and cost effectively

Our concurrent design and engineering solutions help you save money, accelerate schedules, reduce overall risk and provide better outcomes for your customers and end-users compared with traditional, sequential methods.

Our approach also supports decision-making by giving management a comprehensive, accurate overview of any complex system or product.

How does it work?

Concurrent design is a proven, powerful design methodology that is implemented starting from the early design phases and feasibility studies of complex projects. Stakeholders from different domains of expertise are brought together to undertake collaborative, fact-based decision-making, supported by MBSE techniques, to produce high quality results.

Why use concurrent design

Concurrent design can provide benefits for complex engineering projects in any sector, including space,

shipbuilding, defence, industrial plants and many other critical infrastructures. When security experts are involved, it is ideal for ensuring 'security by design' from the beginning, saving costs later. Overall, it can reduce costs, accelerate schedules and provide better outcomes for your organisation and end-users.

Use our concurrent design services to unleash your team's potential:

- Streamline your multidisciplinary team's communication and enhance decision-making
- Increase productivity – ensure every design session results in concrete decisions
- Reduce changes during later phases to save design time and costs
- Enable security by design through integration and analysis of security needs from day one
- Reduce the overall risk of any project.



Why Starion?

Two decades of expertise in concurrent design

Starion offers tailored engineering solutions, system development and security services across Europe. We have over 30 years of experience in the space, security and professional engineering services market and our experts have been providing concurrent design solutions for over 20 years.



Powerful solutions for effective concurrent design

Our experts provide a broad range of services to support the implementation of the concurrent design methodology in your organisation, and to customise it to meet your needs.

Facilitating projects

Our team can help you to structure the design cycle, engage stakeholders, facilitate sessions and optimise data capture and continuity throughout each project.

Collaborative sessions managed by our experts

We run creative concurrent design sessions bringing multidisciplinary teams together with the end-user to discuss all aspects of a complex product or system design. We provide soft-skill collaboration and hard-skill modelling support, giving your team insights into all options and trade-offs across the project's entire life cycle. The result is agile, constructive and efficient decision-making.

Training and support

We'll coach your experts to make the most of concurrent design sessions. When concurrent design becomes part of your standard working approach, we can train your team to run the sessions instead of us, continuing to provide support when you need it.

Facility design and build

Concurrent design works best face to face in a purpose-built environment. We can design a concurrent design facility (CDF) to get the best from your experts, and oversee its construction and setup.

Audits

Concurrent design works best when it's tailored for your needs. Based on a thorough assessment, we'll always be honest about whether it could work for you. When you are using it, our experts can visit your organisation periodically, and recertify the facility and the team as concurrent design experts.

CDP4-COMET: World-leading concurrent design platform

Our unique, standards-based CDP4-COMET software can be used independently by any organisation or as part of an overall Starion concurrent design service. With two options to choose from, it can support even the most demanding projects.



Applications and use cases

Concurrent design and engineering has applications across many sectors. In addition to hardware and software design, it can be used to optimise processes, analyse systems of systems and assess programmes of requirements.

Supporting ESA's Concurrent Design Facility (CDF)

Our CDP4-COMET software tool is used by the European Space Agency's Concurrent Design Facility (ESA CDF) to design new space missions. ESA teams are also using it for mission parameter databases, demonstrating its flexibility. Starion staff work onsite within the ESA CDF, where we are involved in the execution of CDF studies and maintenance of the facility.

Concurrent engineering at the Dutch Ministry of Defence

Starion has worked with the Dutch Command for Material and IT (COMMIT), part of the Dutch Ministry of Defence, since 2019 to apply the concurrent design methodology to major projects, including the specification of new naval vessels, helicopters, ground-based systems and IT infrastructure. We also coach and train their teams to maximise the success of the studies.

Streamlining complex processes in the maritime industry

We supported the implementation of concurrent design in the design phase for large luxury motor and sailing yacht construction, including onsite training. The improved team interaction resulted in higher quality design and cut the multidisciplinary design and engineering phases from 8 to 5 months.

LOTUS - Next generation tactical remotely piloted aircraft

We led the cybersecurity activities within the European Union's Low Observable Tactical Unmanned Air System (LOTUS) consortium, which is prototyping the next generation of tactical remotely piloted aircraft systems. Using CDP4-COMET, we enabled 'security by design', as well as optimising both avionics and ground station design.





CDP4-COMET – Enabling collaborative design

Starion's CDP4-COMET is an MBSE tool developed specifically to support concurrent design projects involving multidisciplinary teams. Instead of relying on multiple documents that can get out of synch and introduce errors, this model-based approach provides a 'single point of truth'.

CDP4-COMET is compliant with ECSS-E-TM-10-25A (Annex A and C) and supports many other standards to support data exchange, such as ReqIF.

Unleash your team's potential

- Design and parametrise a complex system, check, analyse and verify requirements, carry out all necessary calculations and validate models in near real time.
- Get access to a complete data set at any time and keep track of all the changes made on the model by the different team members.
- If your team prefers to model in other engineering tools and languages, CDP4-COMET can link to them and provide a unique shared reference point.
- Use our CDP4-COMET software development toolkit to integrate other tools within the ECSS-ETM-10-25A (Engineering Design Model Data Exchange) ecosystem without worrying about the intricacies of the standard.
- CDP4-COMET web services provide a high-performance REST API (ECSS-E-TM-10-25A Annex C) with full revision history. Export selected models to an ECSS-E-TM-10-25A Annex C.3 archive to exchange with other organisations.

Design and engineer faster with leaner processes

Implement the concurrent design methodology at your own pace using CDP4-COMET, with optional support and advice, training and onsite assistance. If your organisation's needs go beyond this, we can tailor a concurrent design implementation to meet your specific requirements.



Choose from two versions of CDP4-COMET

Explore the full potential of collaborative design with the most advanced concurrent design tool: CDP4-COMET.

- **Enterprise Edition** – For the most demanding concurrent design projects, with support from Starion’s experts.
- **Community Edition** – Free, with an open source licence. This offers an exceptionally low barrier to entry to our concurrent design platform and includes access to the source code and desktop or web application.

Starion CDP4-COMET features	Enterprise Edition	Community Edition
CDP4-COMET-IME desktop application and plugins	S	S
CDP4-COMET Excel integration	S	S
CDP4-COMET web application	S	S
CDP4-COMET web services	S	S
LDAP authentication	S	
Support*	S	

*Support services available with Enterprise Edition only; details dependent on service level agreement. Please ask us for more information.

Discover more CDP4-COMET features on the Starion website



“The concurrent design programme has made us more efficient and we see results far more quickly. And it has been invaluable for team building.”

Rajko Brokken – Change Manager, Dutch Command for Material and IT (COMMIT), Dutch Ministry of Defence

Starion concurrent design and engineering services

Contact us to find out more about our Concurrent Design and Engineering solutions and CDP4-COMET software. Email: info@stariongroup.eu



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