

SIEMENS

Ingenuity for life

Capital Load Analyzer

Reduces aerospace electrical compliance and certification risk

Benefits

- Higher first-time quality: Users are able to analyze the entire design correctly – anytime and at every stage
- Eliminates manual hand-off for faster, error-free designs: The electrical digital twin in Capital provides accurate, up-to-date, electrical system design as the project evolves throughout the development phases
- Reach key milestones sooner: The Capital suite of compliance tools uncover problems/errors as they occur – not late in the program – eliminating costly iterations and missed critical milestones

Automating complex electrical system analysis and reporting in the era of more electric aircraft

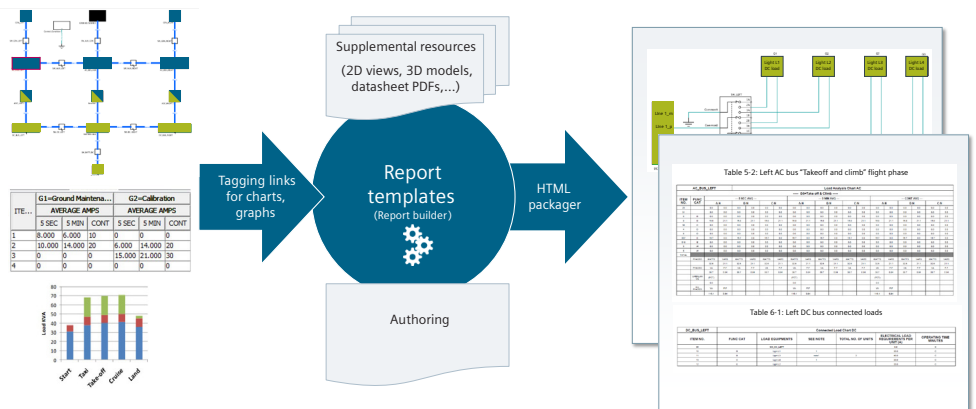
Electrical complexity in aerospace continues to increase. Delivering aircraft that comply with all standards and regulations on time is getting more difficult as electrification grows throughout the modern aircraft. The risk of achieving timely compliance for these electrical designs has increased in line with electrical complexity.

Compliance is now even more costly as manual and disconnected approaches are employed to analyze and evaluate

electrical systems. Current methods for verification and analysis rely on fragmented data and are typically conducted manually using drawings and spreadsheets after major electrical design work has been completed. Uncovering problems late in the program forces costly design iterations. It also places critical milestones, such as customer acceptance and type certification (TC) at risk, which can significantly impact aircraft revenue.

New Capital Load Analyzer reduces electrical compliance risk

The new Siemens Capital™ Load Analyzer software eases the pain, frustration, and costs associated with aircraft electrical design compliance and certification. Capital Load Analyzer is one of the industry's first electrical system technologies to leverage automation and digital data continuity to facilitate regulatory compliance for electrical load analysis.



The new Capital compliance offering features integrated reporting, which allows teams to automatically populate a report using their own template format – then automatically refresh report data using live designs in Capital.

Capital Load Analyzer

Features

- Built-in, constraint-based design guides
- Sophisticated design analysis from start to finish
- Evaluates all aircraft configurations directly from design data
- Automated report generation
- Automatically extracts data into a single reporting template
- Rules-based design verification
- Modern electrical capabilities assist in reaching key milestones: type certification (TC) and customer acceptance

This new tool draws upon Capital's electrical digital twin to perform accurate and rapid load analysis on the current version of the electrical system. It predicts power demand for the aircraft's entire electrical system as each user designs it, to ensure sufficient power for each phase of flight, even emergency conditions. It then automatically reports these analysis results in the user's preferred format, accelerating the creation of the compliance evidence you need.

Capital Load Analyzer:

- Provides a platform electrical systems design and integration environment that models, manages, analyzes, and reports electrical load characteristics for compliance on all platform configurations
- Supports built-in, constraint-based design guides to enable engineers to design in regulatory compliance from the very beginning: comply-by-construction
- Includes rule-based checking, and a variety of sophisticated analysis capabilities, to ensure accurate and complete verification by interrogating the electrical digital twin of each platform configuration
- Automates report generation, sourcing analysis results and variant configurations directly from the electrical digital twin

Data management for comprehensive analysis and reporting

Capital Load Analyzer automatically extracts all electrical load analysis data into the user's own reporting template for easy and efficient report generation. This technology pulls data directly from the electrical design so the user can see

the impact of design changes at any time and at any stage of the design process. The ability to quickly generate real-time reports enables users to monitor design tasks and identify potential issues early in the design process, thereby mitigating program risk. The Capital Load Analyzer product reports electrical load results for each design configuration and variant, even for emergency conditions.

Applying modern methods to mitigate electrical compliance risk

Capital Load Analyzer allows platform development teams to reduce compliance risk by performing accurate, rapid, and continuous load analysis and reporting, as the electrical system evolves. This helps to ensure all aspects of the electrical design meet regulatory requirements throughout the entire development life cycle and accelerates the demonstration of regulatory compliance.

With the adoption of this new technology from Siemens, users are now able to automate and manage this important compliance data throughout all platform configurations. Users also reduce program risk while meeting certification and customer acceptance milestones. Finally, teams avoid costly design iterations, enabling program leaders and their team members to deliver on their commitments.

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