ELECTROMAGNETICS ENGINEER
3DEXPERIENCE USER ROLE

EASILY ANALYZE AND OPTIMIZE ELECTROMAGNETIC COMPONENTS AND SYSTEMS FOR MAXIMUM PERFORMANCE AND RELIABILITY

The SIMULIA Electromagnetics Engineer role delivers electromagnetic simulation powered by industry proven CST Studio Suite technology in a seamless, intuitive, and modern user interface connected with the **3D**EXPERIENCE® platform.

It enables designers and engineers to perform electromagnetic simulations from low to high frequency (static to optical), including the optimization of antennas, microwave components and electro-mechanical devices. SIMULIA Electromagnetics Engineer enables design teams to improve product performance, reduce time-to-market and minimize device malfunctions, warranty claims and recalls.

SIMULIA Electromagnetics Engineer offers a broad range of solution methods with a unique capability to identify and mitigate electromagnetic compatibility (EMC) and electromagnetic interference (EMI) risks in electronic devices. Additionally, the technology can be applied to simulation of human body exposure to electromagnetic fields. Electromagnetics Engineer ensures that the device passes any certification tests required by regulatory and industry standards first time.

Key Functionalities

The SIMULIA Electromagnetics Engineer role delivers proven best-in-class CST Studio Suite technology used in leading technology and engineering companies around the world. It offers:

- Powerful simulation methods such as the unique finite integration technique (FIT), the classical finite element method (FEM), the transmission line matrix method (TLM), and also hybrid simulation methods.

- Specialized solvers for applications such as motors, printed circuit boards, cable harnesses and filters

- Coupled simulations: system-level, multiphysics, field/circuit co-simulation to deliver an unprecedented simulation reliability and accuracy

- An All-in-one fully parametric design environment for modeling

- A wide range of complex material models

- Powerful post-processing and visualization tools

- Built-in optimizers

- High-performance computing on workstations and on clusters: multi-threading, GPU and hardware acceleration, distributed computing and MPI multi-process parallelization (like MPI).

- Cloud computing* on the **3D**EXPERIENCE platform to submit and monitor CST Studio Suite jobs from anywhere

Simulation management and CAD collaboration leveraging the 3DEXPERIENCE platform

The SIMULIA Electromagnetics Engineer role leverages the **3D**EXPERIENCE platform for team collaboration, product version control and knowledge capture, making simulation data a true corporate asset.

It provides tight associativity with CATIA* and SOLIDWORKS* so that simulation and CAD data always remain synchronized even after design changes. The embedded search engine allows users to easily find data such as geometry, material and simulation models, thus improving productivity by always having the data readily available.

Results visualization and post-processing

The Simulation Review application, included in the SIMULIA Electromagnetics Engineer role, offers web-based visualization of the geometry and simulation results allowing users and teams a unique way to collaborate around simulation assets. Lightweight visualization of models and results on the **3D**EXPERIENCE platform help decision makers understand simulation results by experiencing them and quickly generate engrossing imagery and data visualization for reports.

Predefined post-processing templates offer solutions for a variety of key performance indicators (KPIs) such as antenna performance, efficiency mapping for electrical motors, field analysis for MRI, and versatile general-purpose templates to create custom analysis scenarios.
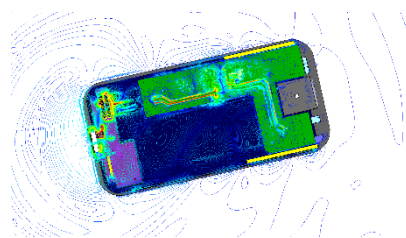

Image 1: Optimize product design with Electromagnetics Engineer

Part of a complete SIMULIA portfolio

SIMULIA Electromagnetics Engineer is one of the roles among the complete **3D**EXPERIENCE portfolio, covering many different disciplines. Manufacturing companies can find solutions to their many evolving needs. From design simulation to design optimization, from multiphysics simulation to simulation process management, SIMULIA delivers realistic simulation applications that enable users to reveal the world we live in.

* Pre-requisites may apply

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