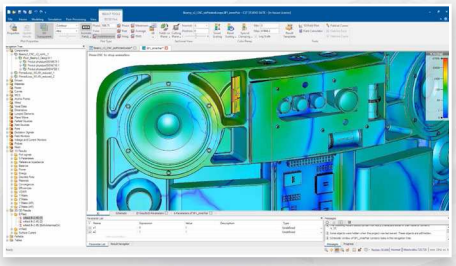
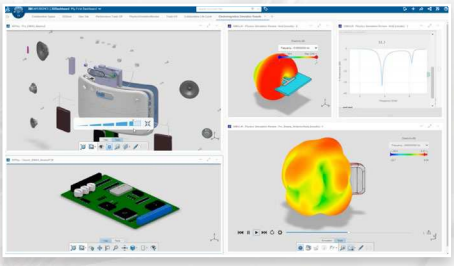
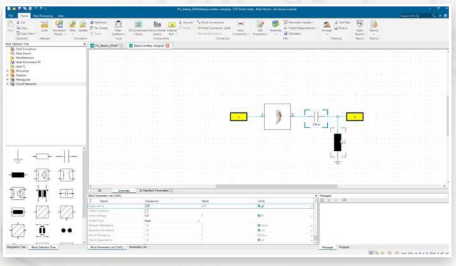
SIMULIA

COMPUTER AIDED TECHNOLOGY

CST STUDIO SUITE

EM Solvers & CAD Compatibility

Advanced engineering simulation software is capable of many things, but these capabilities may be spread amongst an array of products or add-ons with varying degrees of integration. This may have a huge impact on what you buy, how well it works, what you can do with it, and, ultimately, the quality of the engineering.

Here you will find a table detailing some common CST capabilities and how they are packaged. Your CATI account manager will help you put this information into perspective with respect to your engineering processes and ambitions.

High-Frequency Solvers		CST Solution
Time Domain	*The transient solver's finite integration technique (FIT) calculates broadband S-parameters from one single calculation by applying DFTs to time signals. The transmission line method (TLM) is also available.*	Base Package
Frequency Domain	*A classical approach to solving Maxwell's equations with time-harmonic dependence using the finite element method (FEM) and adaptive tetrahedral meshing with multiple broadband sweep solutions.*	Base Package
Eigenmode	*Calculate the frequencies and corresponding electromagnetic field patterns when no excitation is applied.*	Base Package
Integral Equation	*Discretize the object boundary using the multilevel fast multipole method (MLFMM) for electrically large models.*	Base Package
Asymptotic	*Frequency domain analysis based on a raytracing technique, typically used for scattering or antenna placement for electrically very large domains.*	Base Package
Multilayer	*Simulate multilayer geometries accurately and efficiently using the method of moments (MoM).*	Base Package
Low-Frequency Solvers		**CST Solution**
Low Frequency - Frequency Domain	*Simulate the time-harmonic behavior in low-frequency systems, useful for coils, wireless power transfer, and electric motor design.*	Base Package
Low Frequency - Time Domain	*Evaluate transient behavior, including eddy currents, non-linear effects, motion, and resistive-capacitive effects, useful for electric motor design.*	Base Package
Partial RLC	*Calculate equivalent circuit parameters in the frequency domain, including partial inductances, partial resistances, and partial capacitances.*	Base Package
Static Solvers		**CST Solution**
Electrostatic	*Simulate static electric fields.*	Base Package
Magnetostatic	*Simulate static magnetic fields.*	Base Package
Stationary Current	*Simulate the flow of DC currents through a device, especially with lossy components.*	Base Package

Multiphysics Solvers		CST Solution
Steady State Thermal	*Calculate the stationary temperature distribution of a system, supporting many heat sources, including human bio-heat and particle collisions.*	Base Package
Transient Thermal	*Calculate how a system heats over time, including human bio-heat and particle collisions.*	Base Package
Conjugate Heat Transfer	*Calculate the heating of a device with thermal and fluid dynamics simulation methods.*	Base Package
Mechanical	*Calculate the displacement and deformation of structures using linear or nonlinear methods.*	Base Package

Particle Dynamics Solvers		CST Solution
Particle-in-Cell	*Calculate both particle trajectory and electromagnetic fields in the time domain, taking into account the space charge effects and mutual coupling between the two.*	Base Package
Particle Tracking	*Simulate particle trajectories through electromagnetic fields.*	Base Package
Wakefield	*Calculate the fields around a particle beam and the wakefields produced through interactions with discontinuities.*	Base Package

PCB Solvers		CST Solution
PCBs & Packages	*Calculate signal integrity (SI), power integrity (PI), and electromagnetic compatibility (EMC) analysis on printed circuit boards (PCB).*	Base Package

Cable Solvers		CST Solution
Cable Suite	*Calculate, in 3D, signal integrity (SI), conducted emission (CE), radiated emission (RE), and electromagnetic susceptibility (EMS) of complex cable structures in electrically large systems.*	Base Package

Circuits & Systems		CST Solution
Schematic	*Design systems and circuits with this powerful and easy-to-use schematic design tool.*	Base Package
Assembly	*Integrate complex structures for synthesis and optimization with this layout tool.*	Base Package

Enhancements & Addons		CST Solution
Design Study & Optimization	*Do parametric design and optimization studies with fully-integrated optimization tools built into every design module.*	Base Package
Hardware Acceleration	*Leverage all your CPU cores and GPU devices to greatly accelerate your simulation computations.*	Base Package: unlimited CPU cores for 2 sockets
Integrated Design Modules	*Antenna Magus (antenna design), Fest3D (mode-matching filter design), Spark3D (multipaction analysis), and Filter3D (cavity filter optimization)*	Additional Line Items

Native Two-Way CAD Integration	CST Solution
SOLIDWORKS (2013 - 2021)	Base Package
PTC Creo Elements (5.0)	Base Package
PTC Creo Parametric (3.0)	Base Package

Static Import: 3D CAD	CST Solution
ACIS SAT/SAB (R1 - 2020 1.0)	Base Package
CATIA V5/V6 (V5R8 - V5-6R2021)	Base Package
CATIA V4 (4.1.9 - 4.2.4)	Base Package
SOLIDWORKS (2003 - 2021)	Base Package
Solid Edge (V18 - SE2020)	Base Package
Parasolid (9.0.x - 33.0.x)	Base Package
Autodesk Inventor (V11 - 2021)	Base Package
Siemens NX (NX 1 - NX 1926)	Base Package
PTC Creo (16 - Creo 7.0)	Base Package

Static Import: 3D General	CST Solution
STEP (203, 214, 242)	Base Package
IGES (up to 5.3)	Base Package

EDA Import: 2D CAD	CST Solution
DXF	Base Package
GDSII	Base Package
Gerber	Additional Line Item

EDA Import: EDA	CST Solution
Cadence Allegro PCB / APD / SiP	EDA Token
Mentor Graphics Expedition	EDA Token
Mentor Graphics HyperLynx	EDA Token
Mentor Graphics PADs	EDA Token
ODB++	EDA Token
IPC-2581	EDA Token

LEARN MORE ABOUT CST TECHNOLOGY

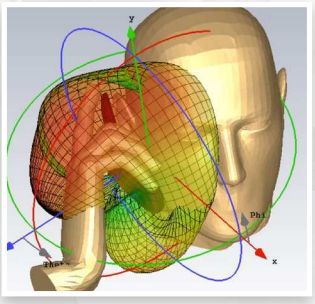
WEBINAR

CST STUDIO SUITE & SOLIDWORKS FOR ELECTROMAGNETIC DESIGN

*This e-seminar is **an introduction to CST Studio Suite**, a 3D electromagnetic simulator with unmatched speed, ease of use, and breadth of capability. Coming from the makers of SOLIDWORKS, it is also your **best choice for a well-integrated design-and-simulation solution**.*

HIGHLIGHTS:

- *Quick EM background*
- *History of CST software*
- *Benefits of simulation*
- *Key technologies & industries*
- *SOLIDWORKS integration*



WATCH NOW

BROCHURE

CST STUDIO SUITE

***Getting your design right the first time** is the ideal for product development. With virtual prototyping, electromagnetic simulation can help you to cut down design iteration cycles.*

*This substantial brochure will give you **a great look at CST Studio Suite**'s many capabilities and applications that will improve your engineering process.*

READ NOW