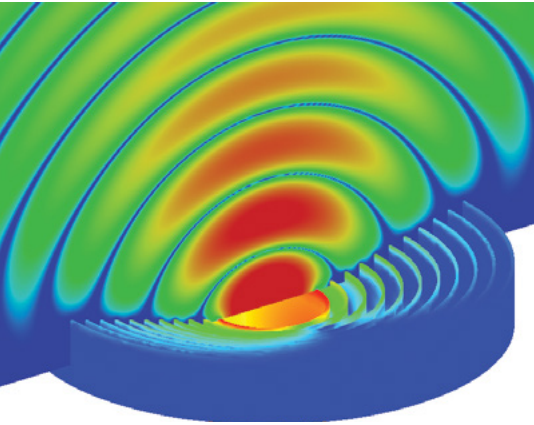




# **ELECTROMAGNETICS**

[altair.com/electromagnetics](https://altair.com/electromagnetics)

Altair software is used across industries to solve a broad range of electromagnetic problems from static to low and high frequencies. Whether your application requires multiple frequency and time-domain techniques with true hybridization to enable the efficient exploration of a broad spectrum of electromagnetic performance, or the simulation of magneto static, steady-state and transient conditions, we have the tools you need.

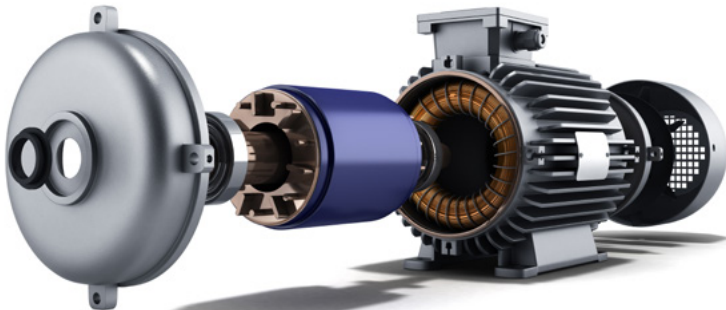


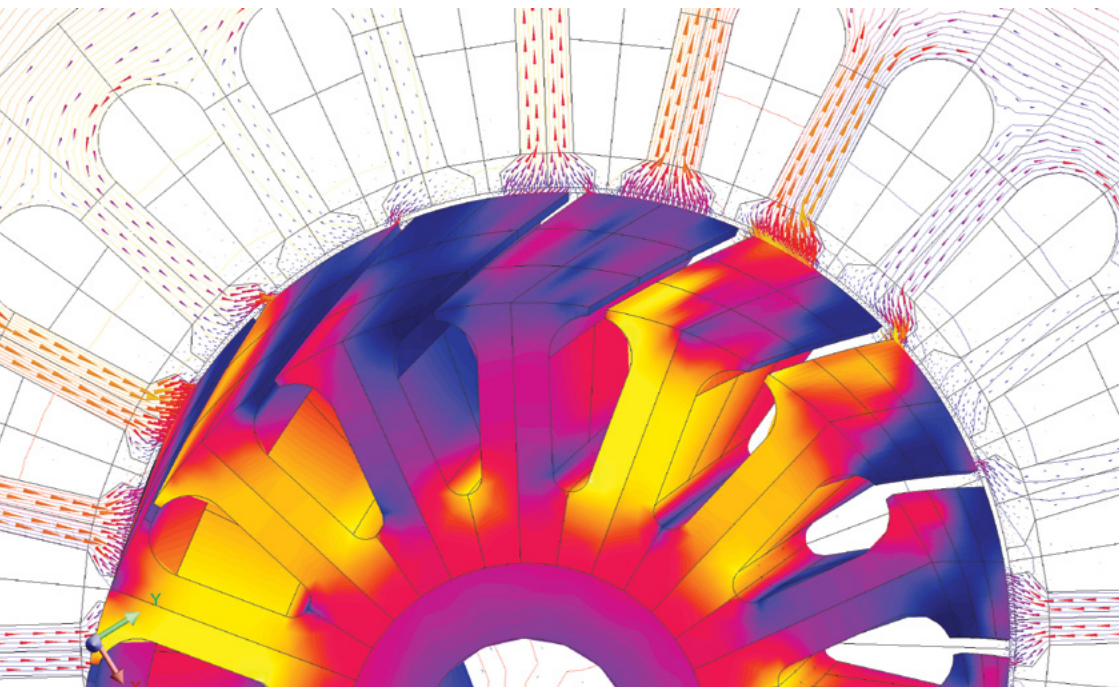
## ANTENNA DESIGN AND PLACEMENT

Altair Feko™ is widely used in the design of radio and TV, wireless, cellular, communication, remote keyless entry, tire pressure monitoring, satellite positioning, radars, RFID, and other antennas. The Feko® method of moments (MoM) solver is used for antenna design. Model decomposition is possible with accelerated full-wave methods like multi-level fast multipole method (MLFMM), or asymptotic methods like physical optics (PO), ray launching geometrical optics (RL-GO) or Uniform Theory of Diffraction (UTD).

## MOTOR DESIGN

Altair FluxMotor™ is dedicated to the simulation-driven design of electric rotating machines. It enables users to build from standard or customized parts, add windings, and change materials to quickly develop a concept design. Then, with the power of the Altair Flux™ solver, users can run a selection of tests, try different configurations, compare results, and optimize performance within an intuitive interface specific to motor development.



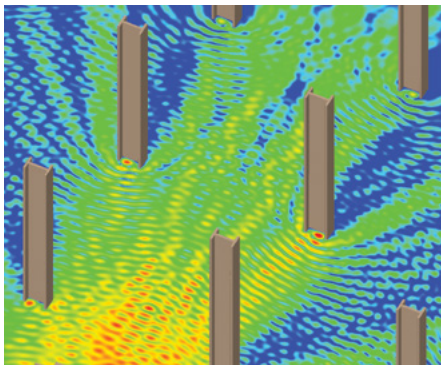


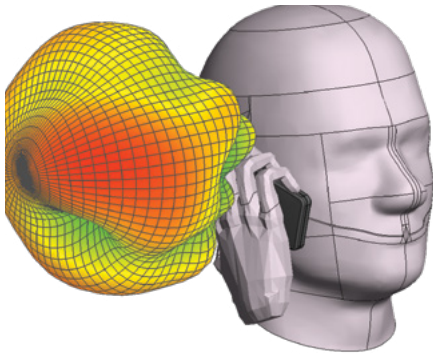
## ELECTROMECHANICAL MACHINES

Flux models even the most complex electromechanical systems with proven accuracy. It provides multiphysics capabilities – magneto static, steady-state, and transient conditions, along with electrical and thermal properties – to optimize machine performance, efficiency, dimensions, cost, and weight. Flux can model rotating machines with 2D, skew, or 3D representations. It is used in the development of many sensors and actuators, in addition to high-power electrical equipment including transformers, insulator, power bars, and circuit breakers.

## WAVE PROPAGATION

Feko is a leading tool for wireless propagation modeling and radio network planning for broadcast, cellular, WiFi, and other applications. It includes highly accurate, fast empirical, semi-empirical, rigorous 3D ray tracing models, plus the unique dominant path model (DPM). It simulates a wide range of scenarios, including rural, urban, indoor, and vehicular. This enables simulated radiation patterns of new antenna designs to be evaluated in a network context.





## EMC AND EMI

Electromagnetic compatibility (EMC) and electromagnetic interference (EMI) have become key topics with the proliferation of connected devices, both for component integration and satisfying EMC regulatory requirements. Flux can evaluate the magnetic field radiated by power cables and busbars, and the effect of external fields on the operation of sensors or actuators. Feko can simulate both the radiation and irradiation of cables, antennas, and devices to inform the design of effective shielding.

## BIO-ELECTROMAGNETICS

Feko provides insight into the interactions of electromagnetic fields inside or close to the body. Feko offers a database of human body models to simulate applications including mobile and wireless devices, hearing aids, magnetic resonance imaging (MRI), and medical implants. Analysis of biological tissue ensures that enough signal is radiated while complying with regulations that limit the specific absorption rate (SAR) and the temperature increase in the body.

Learn how Altair can help you [altair.com/electromagnetics](https://www.altair.com/electromagnetics)

### **Expanded Options. Faster Results. Better Products.**

The Altair Partner Alliance (APA) provides customers with access to a broad spectrum of complementary software products using their existing Altair license. Customers benefit from unmatched flexibility and access, resulting in maximum software utilization, productivity and ROI.

Third-party electromagnetics solutions within the APA support cost-effective development of microwave systems and components, including antennas. Through the synthesis and optimization of circuits for multiband, broadband, multi-antenna and tunable antenna systems APA software offer increased computational efficiency.

Find out what the APA has to offer you at [altair.com/APA](https://www.altair.com/APA)

# DISCOVER HOW ALTAIR CAN REVOLUTIONIZE YOUR APPROACH TO INNOVATION

Altair pioneered a patented, units-based, subscription licensing model for software which has transformed the way our customers streamline product innovation and get to market faster. Customers have full access to all our software instantly, including more than 150 partner products, and can run these applications on-demand locally or in the cloud. Packaged as a comprehensive set of applications, our units-based structure is scalable, shareable, and more cost effective than obtaining individual licenses.

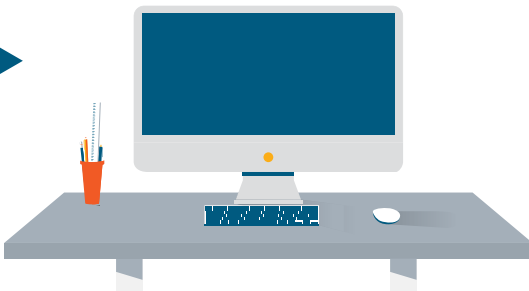
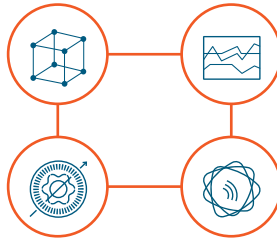


## POOL OF UNITS

Users draw units from the pool to access multiple products, across any location.

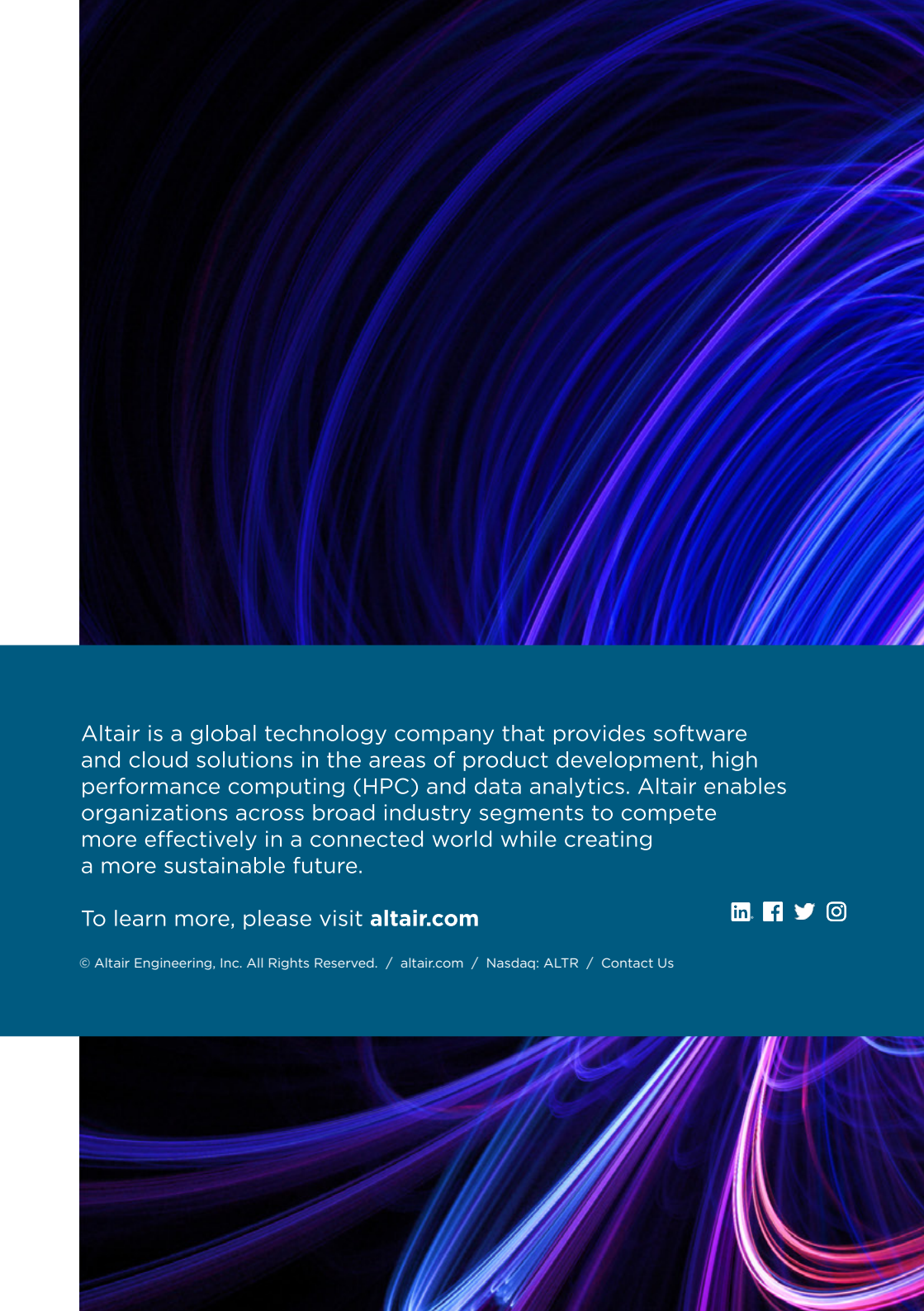
## CHOICE OF APPLICATION

Maximizing software dollars through the flexibility of choice.



## FREEDOM TO USE HOWEVER NEEDED

Best of all, you can maintain your license and run workloads anywhere your team's infrastructure is located, on your workstations, servers and HPC resources that are on premises, in the cloud or in a hybrid environment.



Altair is a global technology company that provides software and cloud solutions in the areas of product development, high performance computing (HPC) and data analytics. Altair enables organizations across broad industry segments to compete more effectively in a connected world while creating a more sustainable future.

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