

CAPABILITIES CHART

ALTAIRS APPLICATIONS FOR EVERY NEED

Our comprehensive, open-architecture solutions data analytics, simulation and high-performance computing, enable design and optimization for high performance, innovative, and sustainable products and processes in an increasingly connected world.

SIMULATION

ELECTRONIC SYSTEM DESIGN

Altair APA

	Altair	APA
Wireless Connectivity, Including 5G	●	
PCB Design & Verification	●	
PCB Manufacture & Assembly Simulation	●	
System & Circuit Simulation	●	
Microcontroller Firmware Development	●	
Thermal Analysis	●	●
Electromagnetic Compatibility (EMC)	●	●
Networking Planning & Spectrum Management	●	
eMotor Design	●	
Sensor & Actuator Design	●	
EDA Job Scheduling	●	
Embedded System Design	●	
Touchscreen		●

FLUIDS & THERMAL

	Altair	APA
Flow, Heat Transfer & Turbulence	●	●
External Aerodynamics	●	●
Particle-based Fluid Dynamics	●	
Cosimulation with Discrete Element Modeling	●	
Fluid System Design	●	●
Paint Shop Process		●
Combustion		●

INDUSTRIAL DESIGN

	Altair	APA
3D Product Design	●	
3D Rendering & Animation	●	

MANUFACTURING

	Altair	APA
Additive Manufacturing	●	●
Casting	●	●
Extrusion	●	
Injection Molding	●	●
Metal Forming	●	●
Polyurethane Foams	●	
Process Manufacturing	●	●

MANUFACTURING (CONT.)

Altair APA

	Altair	APA
Forging		●
Design Life-cycle Management		●

MULTIPHYSICS

	Altair	APA
Multi-body Systems	●	●
Multi-Disciplinary System	●	●
Fluid-Structure Interaction	●	●
Thermomechanical Simulation	●	
Multi-Disciplinary Optimization	●	●
Multiphysics Workflows	●	●
Uncertainly Quantification		●

STRUCTURES

	Altair	APA
Simulation-driven Design	●	●
Structural Optimization	●	●
Modeling & Visualization	●	●
Linear & Nonlinear Analysis	●	●
Composite Design	●	●
Crash & Impact	●	●
Noise & Vibration	●	●
Durability	●	●
Material Information	●	●
Augmented Data Analytics	●	

SYSTEM MODELING

	Altair	APA
Model-based Development	●	●
Math, Scripting, & Data Analysis	●	●
Multi-body Dynamics	●	●
Discrete Element Modeling	●	●
Model-based Systems Engineering (MBSE)/Systems Requirements		●

SIMULATION (CONT.)

OPTIMIZATION	Altair	APA
Multidisciplinary	●	●
Data-mining	●	
Machine Learning (ML)	●	
Topology Optimization	●	
Design Exploration	●	●

HIGH-PERFORMANCE COMPUTING

HPC & CLOUD	Altair	APA
Workload Management	●	
HPC Usability & Remote Visualization	●	
License Management	●	
Cloud Bursting	●	
Turnkey HPC	●	
Cost Allocation & Management	●	
Job & Policy Simulation	●	

DATA ANALYTICS & AI

DATA ANALYTICS & AI	Altair	APA
Data Transformation	●	
Predictive Analytics & Machine Learning	●	
Real-Time Data Visualization	●	
Data Automation & Distribution	●	
Content Management	●	
Robotic Process Automation		●

INTERNET OF THINGS (IOT)

IoT	Altair	APA
Device Management	●	
Edge Orchestration	●	
Stream Processing	●	
Data Storage	●	
Application Enablement	●	
Real-Time Dashboards	●	

	ENTERPRISE SUITE (ENT)	MULTIPHYSICS/MECHATRONICS ENGINEER (MME)	MECHANICAL ENGINEER (ME)	PRODUCT ENGINEER (PE)	CONCEPT ENGINEER (CE)	MECHANICAL DESIGNER (MD)	INDUSTRIAL DESIGNER (ID)	DATA ANALYST (DA)
SYSTEMS MODELING	●	●	●	●	●	○	○	
FLUIDS & THERMAL	●	●	●	○	○			
MANUFACTURING	●	●	●	●	○			
MULTIPHYSICS	●	●	●	○				
STRUCTURES	●	●	●	○	○	○		
ELECTRONIC SYSTEM DESIGN	●	●	○	○	○			
INDUSTRIAL DESIGN	●	●	●	●	●	●	●	
OPTIMIZATION	●	●	●	○	○			
DATA ANALYTICS & AI	●							●
INTERNET OF THINGS	●	●						

○ Partial ● Complete

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