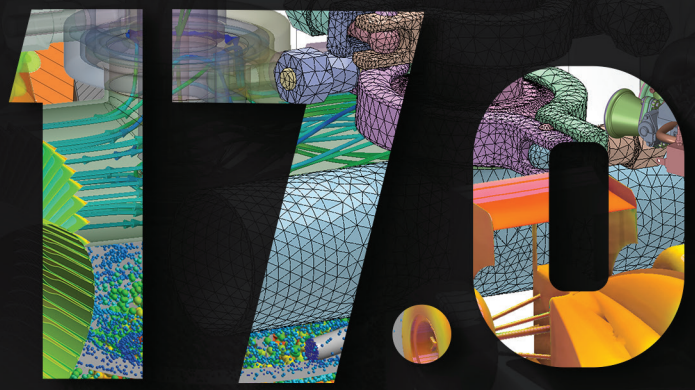
ANSYS®



ANSYS 17.0 Capabilities

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● = Fully Supported
▲ = Limited Capability
□ = Requires more than 1 product

	ANSYS Mechanical Enterprise	ANSYS Mechanical Premium	ANSYS Mechanical Pro	ANSYS DesignSpace	ANSYS Autodyn	ANSYS LS-DYNA	ANSYS AIM
STRUCTURES							
Strength Analysis							
Static	●	●	●	●			●
Buckling - Linear	●	●	●	●			
Buckling - Nonlinear	●	●			●	●	
Substructuring	●						
Geometric Nonlinearity							
Large Strain	●	●	●		●	●	
Large Deflection	●	●	●		●	●	●
Material Models							
Linear Material Models	●	●	●	●	●	●	●
Rate Dependant Plasticity	●				●	●	
Rate Independent Plasticity	●	●			●	●	
Rate Dependent Hyperelasticity	●				●	●	
Rate Independent Hyperelasticity	●	●			●	●	
Viscoelasticity	●				●	●	
Creep	●						
Reactive Materials	●				●		
Contact Modeling							
Bonded / No Separation Sliding	●	●	●	●	●	●	●
Pretension (bolts, etc.)	●	●	●	●			
Joints	●	●	●			●	●
Spot Welds	●	●	●		●	●	
Nonlinear Contact Modeling							
Rough	●	●	●	▲	●	●	●
Frictionless	●	●	●	▲	●	●	●
Friction	●	●	●		●	●	●
Gaskets	●						
Cyclic Symmetry Analysis	●	●	●			●	
Rezoning	●				●		
Adaptive Remeshing	●				●	●	
Submodeling	●	●	●			●	
Element Birth and Death	●				▲	▲	
Fracture Mechanics	●						
Vibration							
Modal	●	●	●	●			●
Spectrum	●	●					
Harmonic	●	●					
Random Vibration	●	●					
Rotordynamics	●	●					
Super Elements & Component Mode Synthesis	●						
Mistuning	●						

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	ANSYS Mechanical Enterprise	ANSYS Mechanical Premium	ANSYS Mechanical Pro	ANSYS DesignSpace	ANSYS Autodyn	ANSYS LS-DYNA	ANSYS AIM
Thermal							
Conduction	●	●	●	●	●	●	●
Convection	●	●	●	●			●
Radiation	●	●	●				●
Phase Change	●	●	●		●	●	
Steady State	●	●	●	●			●
Transient	●	●	●				
Motion							
Rigid Body Mechanisms	●	●					
Rigid/Flexible Transient	●						
Impact							
Interactive Prep/Post and Solution					●		
Remapping in Space					●		
Remapping Solution Methods					●		
Mass Scaling	●				●	●	
De-Zoning					●		
Part Activation and Deactivation					●		
Part Addition/Removal During a Simulation					●		
Erosion Based on Multiple Criteria	●				●	●	
Natural Fragmentation	●				●		
Euler Solver					●		
2D Solver	●				●	●	
Implicit-Explicit Deformations	▲				●	●	
Implicit-Explicit Material States	▲				●		
Durability							
Stress-Life (SN)	●	●	●				●
Strain-Life (EN)	●	●	●				●
Dang Van							
Safety Factor	●	●	●				
Composite Materials							
Material Definitions	●	●			●	●	
Layers Definitions	●	▲			●	●	
Solid Extrusion	●						
First-ply Failure	●	●					
Last-Ply failure	●						
Delamination	●				●	●	
Draping	●						
HPC – Structures							
Parallel Solving on Local PC Option	●	●	●	●	●	●	●
Parallel Solving over Network Option	●	●	●		●	●	
CPU Support	●	●	●		●	●	●
GPU Support	●	●	●				

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	ANSYS Mechanical Enterprise	ANSYS Mechanical Premium	ANSYS Mechanical Pro	ANSYS DesignSpace	ANSYS Autodyn	ANSYS LS-DYNA	ANSYS AIM
MULTIPHYSICS							
Platform Technologies							
Advanced, Automated Data Exchange	●	●	●				●
Accurate Data Interpolation Between	●	●	●				●
Dissimilar Meshes	●	▲	▲				
Drag-n-Drop Multiphysics	●						●
Direct Coupling Between Physics	●						●
Collaborative Workflows	●						
Fully Managed Co-Simulation	●						
Flexible Solver Coupling Options	●						
Fluid-Structure Interaction							
Force Induced Motion	□	□ ▲	□ ▲				●
Fluid Thermal Deformation	□	□ ▲	□ ▲				●
Electro-Thermal Interaction							
Conduction Cooled Electronics	□	□ ▲	□ ▲				
High Frequency Thermal Management	□	□ ▲	□ ▲				
Electromechanical Thermal Management	□	□ ▲	□ ▲				
Other Coupled Interactions							
Vibro-Acoustics	●						
Acoustics-Structural	□						
Electric-Magnetic	●						
Electrostatic-Structural	●						
Magnetic-Structural	●						
Electromagnetic-Thermal	●						
Piezoelectric	●						
Piezoresistive	●						
Thermal-Electric	●						●
Thermal-Structural	●	●	●	●			●
Thermal-Electric-Structural	●						●

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	ANSYS CFD								
	ANSYS FLUENT	ANSYS CFX	ANSYS POLYFLOW	ANSYS Forte	ANSYS CFD FLO	ANSYS CFD Professional	ANSYS FENSAP-ICE	ANSYS Chemkin	ANSYS AIM
FLUIDS									
General Solver Capabilities									
Comprehensive Inlet and Outlet Conditions	●	●	●	●	●	●	●		
Steady-State Flow	●	●	●	●	●	●	●	●	●
Transient Flow	●	●	●	●	●		●	●	
2-D and 3-D Flow	●	▲	●	▲	▲	▲	●		
Time Dependent Boundary Conditions	●	●	●	●	●		●	●	
Customizable Materials Library	●	●		●	●	●	●	●	●
Fan Model	●	●			●		●		
Periodic domains	●	●	●	●	●	●	●		
Dynamic/moving-deforming mesh	●	●	●	●	●		●		
Overset Mesh	●								
Immersed-solid/MST method for moving parts		●	●		●				
Flow-driven solid motion (6DOF)	●	●			●				
Pressure-based coupled solver	●	●	●	●	●	●	●	●	●
Density-based coupled solver	●							●	
Automatic on-the-fly mesh generation with dynamic refinement	●			●				●	
Dynamic Solution-Adaptive Mesh refinement	●	●		●	●	●	▲	●	
Single Phase, non reacting flows									
Incompressible Flow	●	●	●		●	●		●	●
Compressible Flow	●	●		●	●		●	●	●
Porous Media	●	●			●			●	
Non-Newtonian Viscosity	●	●	●		●				
Turbulence - Isotropic	●	●		●	●	●	●		●
Turbulence - Anisotropic (RSM)	●	●			●				
Turbulence - Unsteady (LES/SAS/DES)	●	●							
Turbulence - Laminar/Turbulent Transition	●	●					●		●
Flow Pathlines (Massless)	●	●	●		●	●			●
Fan Model	●	●			●		●		
Acoustics (Source Export)	●	●			●				
Acoustics (Noise Prediction)	●								
Heat Transfer									
Natural Convection	●	●			●			●	●
Conduction & Conjugate Heat Transfer	●	●			●	●	●	●	●
Internal Radiation - Participating Media	●	●	●		●			●	
Internal Radiation - Transparent Media	●	●						●	
External Radiation	●	●						●	●
Solar Radiation & Load	●	●							

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	ANSYS FLUENT	ANSYS CFX	ANSYS POLYFLOW	ANSYS Forte	ANSYS CFD FLO	ANSYS CFD Professional	ANSYS FENSAP-ICE	ANSYS Chemkin	ANSYS AIM
Particles Flows (Multiphase)									
Coupled Discrete Phase Modeling	●	●		●			●	●	
Inert Particle Tracking (With Mass)	●	●							
Liquid Droplet (Incl. Evaporation)	●	●		●			●		
Combusting Particles	●	●		●				●	
Multicomponent Droplets	●	●		●			●		
Discrete Element Model (DEM)	●								
Break-Up And Coalescence	●	●		●			●		
Free Surface Flows (Multiphase)									
Implicit And Explicit VOF	●	●	●		●				
Coupled Level Set/VOF	●	●			●				
Open Channel Flow And Wave	●	●							
Surface Tension	●	●		●	●				
Phase Change	●	●		●	●				
Cavitation	●	●		●	●				
Dispersed Multiphase Flows (Multiphase)									
Mixture Fraction	●	●							
Eulerian Model	●	●		●			●		
Boiling Model	●	●		●					
Surface Tension	●	●		●					
Phase Change	●	●		●			●	●	
Drag And Lift	●	●		●			●		
Wall Lubrication	●	●		●					
Heat And Mass Transfer	●	●		●			●	●	
Population Balance	●	●		●				●	
Reactions Between Phases	●	●		●				●	
Reacting Flows									
Species Transport	●	●		●	●			●	
Non-Premixed Combustion	●	●		●				●	
Premixed Combustion	●	●		●				●	
Partially Premixed Combustion	●	●		●				●	
Composition PDF Transport	●	●							
Finite Rate Chemistry	●	●		●				●	
Pollutants And Soot Modeling	●	●		●				●	
Sparse chemistry solver with dynamic cell clustering and dynamic adaptive chemistry	●			●				●	
Ability to use Model Fuel Library mechanisms	●			●				●	

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	ANSYS FLUENT	ANSYS CFX	ANSYS POLYFLOW	ANSYS Forte	ANSYS CFD FLO	ANSYS CFD Professional	ANSYS FENSAP-ICE	ANSYS Chemkin	ANSYS AIM
Flame-speed from Fuel-component Library				●					
DPIK Spark-ignition Model				●					
Flame-propagation using level-set method (G-equation)				●					
Internal Combustion Engine Specific Solution	●	●		●				●	
0-D/1-D/2-D reactor models and reactor networks								●	
Plasma reactions								●	
Comprehensive surface-kinetics	●							●	
Chemical and phase equilibrium	●							●	
Flamelet table generation	●							●	
Flamespeed and ignition table generation								●	
Reaction sensitivity, uncertainty and path analysis								●	
Surrogate blend optimizer								●	
Mechanism Reduction								●	
Turbomachinery									
MRF/Frozen-Rotor	●	●							
Sliding-Mesh/Stage	●	●							
Transient Blade Row		●							
Blade Flutter Analysis		●							
Forced Response Analysis		●							
In-Flight Icing									
Simulates Droplet Sizes							●		
Simulates Ice Growth and Performs Visibility Studies							●		
Models Heat Transfer Anti- and De-icing Heat Loads							●		
Rotating frame of reference for the analysis of turbomachines, rotors and propellers							●		
Model ice accretion at engine face (Fan and IGV) and within any number of successive compressor stages							▲		
Aerodynamic degradation (CFD) meets the requirements of Appendix C, Appendix D (Ice Crystals) and Appendix O (SLD)							●		

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	ANSYS FLUENT	ANSYS CFX	ANSYS POLYFLOW	ANSYS Forte	ANSYS CFD FLO	ANSYS CFD Professional	ANSYS FENSAP-ICE	ANSYS Chemkin	ANSYS AIM
Shape Optimization									
Adjoint Solver for Sensitivity Analysis	●								
Mesh Morphing	▲								
High Rheology Material									
Viscoelasticity			●						
Specialty Extrusion Models			●						
Specialty Blow Molding Models			●						
Specialty Fiber Spinning Models	●								
HPC – Fluids									
Parallel Solving On Local PC Option	●	●	●	●	●	●	●		●
Parallel Solving Over Network Option	●	●	●	●	●	●	●		
CPU Support	●	●	●	●	●	●	●		●
GPU Support	●		●						
MULTIPHYSICS									
Platform Technologies									
Advanced, Automated Data Exchange	●	●	●		●	●	●		●
Accurate Data Interpolation Between Dissimilar Meshes	●	●			●	●	●		●
Drag-n-Drop Multiphysics	●	●	●		●	●			
Direct Coupling Between Physics	●	●			●	●			●
Collaborative Workflows	●	●			●	●			●
Fully Managed Co-Simulation	●								
Flexible Solver Coupling Options	●	●			●	●	●		
Fluid-Structure Interaction									
Force Induced Motion	●	●			●	●			●
Fluid Thermal Deformation	●	●			●	●			●
Electro-Thermal Interaction									
Convection Cooled Electronics	●								
Conduction Cooled Electronics	●								
High Frequency Thermal Management	●								
Electromechanical Thermal Management	●								
Other Coupled Interactions									
Aero-Acoustics	●								
Acoustics-Structural	●	●							
Fluid Magnetohydrodynamics	▲								

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	Maxwell	ANSYS HFSS	SIwave-DC	SIwave-PI	ANSYS SIwave	Q3D Extractor	ANSYS Icepak
ELECTRONICS							
Low Frequency Electromagnetics							
Electrostatics	●						
AC Conduction	●						
DC Conduction	●						
Magnetostatics	●						
Adaptive Field Mesh	●						
AC Harmonic Magnetic	●						
Electric Transient	●						
HPC Frequency Sweeps	●						
HPC Enabled Matrix Multiprocessing	●						
HPC Time Distribution Solver	●						
Magnetic Transient							
Translational Motion	●						
Fully Automatic Symmetrical Mesh Generation	●						
Layered Mesh Generation	●						
Rotational Motion	●						
Non-Cylindrical Motion	●						
Advanced Embedded Circuit Coupling	●						
Circuit Coupling with Adaptive Time Stepping	●						
Direct and Iterative Matrix Solvers	●						
Advanced Magnetic Modeling							
Vector Hysteresis Modeling	●						
Nonlinear Reduced Order Models	●						
Frequency Dependent Reduced Order Models	●						
Equivalent Model Extraction (Linear-Motion, Rotational-Motion, No-Motion)	●						
Nonlinear Anisotropic Materials	●						
Functional Magnetization Direction	●						
Magnetization/De-magnetization Modeling	●						
Temperature De-magnetization Modeling	●						
Core Loss computation	●						
Lamination Modeling	●						
High Frequency Electromagnetics							
Frequency and Time Domain Analysis		●					
Eigenmode Analysis		●					
Hybrid Finite Element/Integral Equation Analysis		●					

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	Maxwell	ANSYS HFSS	SIwave-DC	SIwave-PI	ANSYS SIwave	Q3D Extractor	ANSYS Icepak
Modal Wave Port Excitation		●					
Lumped, Voltage and Current Excitations		●					
Floquet Excitations		●					
Incident Wave Excitation		●					
Magnetic Ferrite Bias Excitation		●					
Terminal Solutions		●					
Perfect Electric and Magnetic Boundary		●					
Finite Conductivity Boundaries		●					
Lumped RLC Boundary		●					
Symmetry Boundary		●					
Periodic Boundary		●					
Frequency dependant materials		●					
Higher and Mixed order Elements		●					
Curvilinear Elements		●					
Fully automated adaptive mesh refinement		●					
S,Y,Z Matrix Results		●					
E, H, J, P Field Results		●					
Direct and Iterative Matrix Solvers		●					
HPC Frequency Sweeps		●					
HPC Enabled Matrix Multiprocessing		●					
HPC Distributed Hybrid Solving		●					
Antenna Parameter Calculation		●					
Infinite and Finite Antenna Array Calculations		●					
Radar Cross Section calculation		●					
FSS, EBG and Metamaterial Calculation		●					
Specific Absorption Rate Calculation		●					
EMI/EMC Calculation		●					
System Level EMI and RFI analysis		●					
Power and Signal Integrity							
Board Simulation Capabilities							
Electronics Desktop 3D Layout GUI		●	●	●	●		
ECAD Translation (Altium, Cadence, Mentor, Pulsonix, & Zuken)		●	●	●	●		
MCAD (.sat) Generation from ECAD		●	●	●	●		
Lead Frame Editor		●	●	●	●		
DC Voltage, Current and Power Analysis for PKG/PCB			●	●	●		
DC Joule Heating with ANSYS Icepak			●	●	●	●	●

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	Maxwell	ANSYS HFSS	SIwave-DC	SIwave-PI	ANSYS SIwave	Q3D Extractor	ANSYS Icepak
Passive Excitation Plane Resonance Analysis				●	●		
Driven Excitation Plane Resonance Analysis				●	●		
Automated Decoupling Analysis				●	●		
Capacitor Loop Inductance Analysis				●	●		
AC SYZ Analysis - PI, SI, & EMI		●		●	●		
Dynamically Linked Electromagnetic Field Solvers		●		●	●		
Chip, Package, PCB Analysis (CPM)		●		●	●		
HPC SYZ Speed Up		●		●	●		
Near-Field EMI Analysis					●		
Far-Field EMI Analysis					●		
Characteristic Impedance (Zo) PKG/PCB Scan					●		
Full PCB/PKG Cross-talk Scanning					●		
TDR Analysis		●			●		
Transient IBIS Circuit Analysis					●		
SerDes IBIS-AMI Circuit Analysis					●		
Macro-Modeling (Network Data Explorer)		●	●	●	●		
Steady State AC (LNA) Analysis		●			●		
Virtual Compliance - DDRx, GDDRx, & LPDDRx					●		
Synopsys HSPICE Integration					●		
Cadence PSPICE Support					●		
Electromagnetically Circuit Driven Field Solvers		●					
RLCG Parasitic Extraction							
DCRL, ACRL & CG Solver			●	●	●	●	
IC Packaging RLCG IBIS Extraction for Signals & Power			●	●	●	●	
Touchpanel RLCG Unit Cell Extraction			●	●	●	●	
Adaptive Meshing for Accurate Extraction						●	
Bus Bar RLCG Extraction						●	
Power Inverter & Converter Component Extraction						●	
Specialized Thin Plane Solver for Touchpanel Extraction						●	
HPC Acceleration for DCRL, ACRL, and CG						●	
3D Component Library						●	

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	Maxwell	ANSYS HFSS	SIwave-DC	SIwave-PI	ANSYS SIwave	Q3D Extractor	ANSYS Icepak
Reduced RLCG Matrix Operations						●	
SPICE equivalent Modeling Export						●	
DCRL & ACRL Joule Heating Analysis with Icepak						●	
Macro-modeling (Network Data Explorer)						●	
2D Transmission Line Modeling Toolkit						●	
2D Cable Modeling Toolkit						●	
Electronics Cooling							
Multi-mode Heat Transfer							●
Steady-state and Transient							●
CFD Analysis							●
Turbulent Heat Transfer							●
Multiple-fluid Analysis							●
Species Transport							●
Solar Loading							●
Reduced Order Flow and Thermal							●
Network Modeling							●
Joule Heating Analysis	●	●	●	●	●	●	●
Thermo-electric Cooler Modeling							●
Thermostat Modeling							●
Package Characterization							●
Data Center Modeling							●
Multiphysics							
Platform Technologies							
Advanced, Automated Data Exchange	●	●					
Accurate Data Interpolation Between	●	●					
Dissimilar Meshes	●	●					
Drag-n-Drop Multiphysics	●	●					
Direct Coupling Between Physics	●	●					
Collaborative Workflows	●	●					
Fully Managed Co-Simulation	●	●					
Flexible Solver Coupling Options	●	●					
Electro-Thermal Interaction							
Convection Cooled Electronics		●					●
Conduction Cooled Electronics		●					●
High Frequency Thermal Management		●					
Electromechanical Thermal Management	●						

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	PowerArtist	Pathfinder Totem	ANSYS	Readhawk
SEMICONDUCTOR				
Integrated Circuit Reliability				
Static and Dynamic Power EM (Electromigration) Analysis			●	●
Signal EM Analysis for Average, RMS and Peak			●	●
Foundry Certified EM Rules Support for Advanced Nodes			●	●
Temperature-Dependent EM Analysis			●	●
CTM and Package Aware Thermal Analysis			●	●
Self-Heat Calculation for FinFET Nodes			●	●
Transistor-level Dynamic Signal EM Analysis			●	
Transistor-level Vectorless Signal EM Analysis			●	
Transistor-level Dynamic Power EM Analysis			●	
Layout Based ESD Analysis		●		
Bump to Bump, Bump to Clamp, Clamp to Clamp Connectivity Check		●		
Bump to Bump, Bump to Clamp, Clamp to Clamp Resistance Check		●		
HBM/MM/CDM ESD Analysis		●		
Resistance and Current Density Based ESD Analysis		●		
Guard Ring Weakness Checking		●		
IC Power Efficiency				
RTL Inference Based Power Analysis	●			
Simulation Based (FSDB, VCD, SAIF) and Vectorless Power Analysis	●			
Physically Aware RTL Clock Tree and Wire Capacitance Modeling	●			
Power Hotspot Identification by Logical Hierarchy, Design and Power Category	●			
Average and Time Based Power Analysis	●			
UPF / CPF Based What-If RTL Power Exploration of Power Domains	●			
PACE Model Generation	●			
Cross Probing Between Power Annotated Schematics, Waveforms and HDL	●			
Sequential and Combinatorial Power Reduction Algorithms	●			

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	PowerArtist	Pathfinder Totem	ANSYS	Readhawk
Block-level Data and Clock Gating Opportunity Identification	●			
15 Clock, Memory and Logic Power Reduction Techniques	●			
Power Reduction Opportunity Identification for Clock, Memory and Logic	●			
Peak and di/dt Cycle Selection from FSDB	●			
RTL Power Driven Early Chip and Package Power Grid Planning	●			
Standard Power Metrics Reporting	●			
Tcl Based UI to OADB Power Database for Custom Reports	●			
On/Off State Power Leakage Analysis			●	●
Voltage Island Ramp-up / Ramp-down Analysis				●
In-Rush Current Analysis				●
Driver / Receiver Hot-Pair Analysis				●
Mixed-Mode Ramp-up and On-State Analysis				●
Power Gate/Switch Id-Sat Check				●
Driver/Receiver Differential Voltage Check				●
Power Gate Optimization				●
Power Gate Delay Optimization				●
Mixed-Mode VCD and Vectorless Power Analysis			●	●
Low Power IP/Block Analysis				●
Power Gated IP Analysis				●
Automatic Switch Identification and Characterization			●	
Switched RAM Analysis			●	●
LDO / Voltage Regulator Based Low Power Analysis			●	●

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	ANSYS Simplorer	ANSYS SCADE System	ANSYS SCADE Suite	ANSYS SCADE Display
SYSTEMS & EMBEDDED SOFTWARE				
Virtual Systems Prototyping				
Integrated Graphical Modeling Environment	●			
Standard Modeling Languages and Exchange Formats	●			
Extensive Model Libraries	●			
Reduced Order Modeling (ROM)	●			
Power Electronic Device And Module Characterization	●			
Model Import Interfaces	●			
Rapid Prototyping	●			
Modelica Library Integration	●			
Model-based Systems Engineering				
Model-Based System Design		●		
Functional Decomposition		●		
Architecture Decomposition		●		
Allocation Of Functions To Components		●		
Model Checks		●		
System Model Diff/Merge		●		
System / Software Bi-Directional Sync		●		
Model Sharing And IP Protection		●		
Model-Based Interface Control Document Production		●		
Configurable For Industry Standards (IMA, AUTOSAR, Etc.)		●		
Product configuration for avionics developers		●		
Embedded Control Software Development				
Data Flow And State Machine Design And Simulation Capabilities			●	
Extensive Set Of Libraries Delivered As Design Examples			●	
Simulation Capabilities			●	
Record And Playback Scenarios			●	
Integration In To Configuration Management Environment			●	
Plant Model Co-Simulation Including FMI			●	
Coverage Analysis For Requirements-Based Tests			●	

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	ANSYS Simplorer	ANSYS SCADE System	ANSYS SCADE Suite	ANSYS SCADE Display
Formal Verification			●	
Timing And Stack Optimization			●	
Worst Case Execution Time Estimates On Target			●	
Verification Of Stack Space Requirements			●	
Certified Code Generation For DO-178C, EN 50128, ISO 26262, IEC 61508			●	
Certification Kits For DO-178C, EN50128, ISO 26262, IEC 61508			●	
Man-Machine Interface Software				
Model-Based Prototyping And Specification Of MMIs				●
Support Of OpenGl, OpenGl SC and OpenGL ES				●
Integration In To Configuration Management Environment				●
Font Management				●
Optimization Of Graphical Specifications				●
Plant Model Co-Simulation Including FMI				●
Automatic Generation Of iOS and Android Projects				●
Certified Code Generation For DO-178C, EN 50128, ISO 26262, IEC 61508				●
Certification Kits For DO-178C, EN50128, ISO 26262, IEC 61508				●
Testing capabilities				●

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	ANSYS AIM	ANSYS Enterprise	ANSYS Design Modeler	ANSYS SpaceClaim Direct Modeler
GEOMETRY				
Model Prep for CAE				
Open data from any CAD system	●	●	●	●
Edit designs and prepare them for simulation	●	●	●	●
Simplify geometry by removing features (eg rounds and holes)	●	●	●	●
Clean up and repair dirty geometry to create watertight solids	●	●	●	●
Create parameters on imported geometry to enable optimization of designs through analysis	●	●	●	●
Extract mid-surfaces/shells and beams solid models for efficient meshing and solving	●	●	●	●
Extract volumes/create inner fluid domains and outer air enclosures for CFD	●	●	●	●
Create shared topology among bodies to generate conformal meshes			●	●
Slicing of models into hex meshable bodies			●	●
Create weld bodies to simulate welds between shells			●	●
Define regions of symmetry for symmetric analysis			●	
Define named selections to aid in scoping of loads and boundary conditions	●	●	●	●
Define general CAD attributes			●	
2D drawing and editing tools			●	●
2D dimensioning and constraints			●	
Supply 3D markups and compare models to document changes to design teams	●	●		●
Repair and edit faceted files for further FEA topological optimization and CFD analysis	●	●		●
Early Concept Design (bid modeling/ brainstorming/concepting)				
Create new concepts quickly and easily with four tools: Pull, Move, Fill, Combine	●	●		●

● = Fully Supported
▲ = Limited Capability
□ = Requires more than 1 product

	ANSYS AIM	ANSYS Enterprise	ANSYS Design Modeler	ANSYS SpaceClaim Direct Modeler
Use Cut, Copy, Paste, etc for fast ideation from existing designs	●	●		●
Enable 2d and 3D communication and collaboration with 3D Markup, Dimensions, and Drawing tools	●	●		●
Create BOM to evaluate weights and lengths for cost calculations	●	●		●
Make real-time edits with customers in LiveReview	●	●		●
Use automated tools to repair dirty geometry	●	●	●	●
Use top down or bottom up modeling	●	●	●	●
Create 2D drawings	●	●		●
Import and edit large assemblies	●	●		●

ANSYS, Inc.
ANSYS, Inc.
Southpointe
2600 ANSYS Drive
Canonsburg, PA 15317
U.S.A.
724.746.3304
ansysinfo@ansys.com

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