



Ansys Launches Moxie to Enhance System Model Validation Processes

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Moxie decreases development costs and expedites time to market by enabling engineers to optimize system designs earlier in the product lifecycle

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Ansys_Moxie_in_a_virtual_environment

/ Key Highlights

- Ansys is empowering engineers to reduce development time, increase productivity and rapidly validate system models with Moxie
- By collaborating with cutting-edge, model-based systems engineering (MBSE) and mission modeling tools, Moxie virtually executes systems modeling language (SysML) to ensure system models satisfy mission-level objectives

[Ansys](#) (NASDAQ: ANSS) is equipping engineering teams to cut development time, boost productivity and speed innovation through the launch of Moxie. The new product enables engineers to run and analyze SysML behavioral models in virtual environments and confirm these designs represent systems that will satisfy mission performance requirements—from military aircraft performing reconnaissance to automated cars navigating cities to satellites capturing photos of forest fires.

Defining systems requirements with formalized SysML is becoming increasingly popular. However, if engineering teams do not evaluate and validate SysML architectures within a physics-based, virtual representation of their system's operating environment, there is significant programmatic risk that the physical system resulting from the virtual system design will not satisfy mission performance objectives. A next-gen digital mission engineering solution, Moxie uniquely delivers continuous event detection during simulation runs, synchronizes execution of multiple simulation technologies and provides customizable levels of simulation fidelity.

Moxie reduces programmatic risk and costly rework by integrating SysML authoring tools with mission modeling tools such as AGI's Systems Tool Kit (STK). Running SysML behavioral architectures in virtual operating environments enables engineers to validate system models against mission-level requirements rather than waiting to perform validation in the lifecycle when physical systems are available. Using Moxie, engineers also gain the unique ability to virtually assess their systems against potential new use cases — a task that would be too expensive or impossible to complete with physical systems.

"Moxie allows the Parsons team to model operational functions in our MBSE tool, Cameo, using state machine and activity diagrams and evaluate those processes in STK. This expands upon our current capability of requirements trace and complements our Phoenix Model Center MBSE capability," said Stephen Thomas, technical director at Parsons. "We have been demonstrating this capability to model all the activities related to missile defense and evaluate how those processes affect the performance requirements of the sensors, interceptors and command and control."

"Through our acquisition of AGI and the introduction of Moxie, Ansys is empowering engineers to virtually evaluate and improve their SysML behavioral models within real-world environments, using time-synchronized, event-based, executable architectures," said Shane Emswiler, senior vice president at Ansys. "By analyzing and validating their system models against mission-level requirements earlier in the product lifecycle, engineers can confidently and cost-effectively forecast mission outcomes and appraise capability performance."

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