



## Artificial Intelligence Provides Real Solutions for Space Exploration

A small company in northern California has been making a big difference in the world of space exploration with artificial intelligence (AI) solutions for NASA. Stottler Henke Associates applies AI and other advanced software technology for education and training, planning and scheduling, knowledge management and discovery, decision support, and computer security and reliability.

Based out of San Mateo, Stottler Henke was established in 1988 and has been a recognized leader of innovation in its industry.

Company president Richard Stottler explained the Stottler Henke arena of AI as “the mimicking of human thought processes to solve problems.” And since the early 1990s, the company has been overcoming numerous challenges for NASA through AI and other software programs.

The company first began working with engineers at Kennedy Space Center’s Mission Planning Office as part of the Center’s SBIR program and developed the

Automated Manifest Planner (AMP). This unique program automates resource selection and scheduling for many planning scenarios in space flight. AMP also helps develop the long-term shuttle processing schedule and launch dates. AMP has been used for all shuttle missions since 1993.

Based on the success of AMP, Stottler Henke received another SBIR award – from Johnson Space Center – to evolve AMP into a product that could schedule and plan the space shuttle crew’s activities while in space. The result was the Intelligent Flight Activities Planner (IFAP) that is now a part of NASA’s consolidated flight planning system.

AMP also served as a catalyst for another product – software that would manage the scheduling and planning at the Space Station Processing Facility at KSC. Stottler said the company “built a software architecture that made it very easy to customize for specific needs.” Dubbed Aurora™, this product has already been selected to be the onboard planner/scheduling system for astronauts on board Orion for future exploration missions following the shuttle program. Stottler Henke has seen tremendous success in the commercial sector as well with a major U.S. airplane manufacturer now using the system to build its new commercial aircraft.

Under another SBIR contract from NASA’s Marshall Space Flight Center, Stottler Henke developed TaskTutor Tool Kit™, a tutoring system used to train astronauts. The company applied the same technology to a product designed for the U.S. Air Force to train satellite operators.

EarthTutor, a training software for earth science satellite imagery applications, also was developed under the SBIR program at NASA’s Ames Research Center and is an official software of NASA.

Stottler Henke is currently working with researchers and trainers at Johnson Space Center to develop scenario-based training software that will help flight controllers and astronauts train for future exploration missions.

“We are proud of our longstanding partnership with NASA,” Stottler said. “It has been productive, and it demonstrates the value of public-private sector partnership in the technology sector.”



*One of Stottler-Henke’s signature software programs, the Automated Manifest Planner, has been used for planning and scheduling all shuttle missions since 1993.*

### About the NASA Innovative Partnerships Program

**Innovative Partnerships Program: Adding value to NASA and benefits to the nation.** The Innovative Partnerships Program provides specialized technology and capabilities for NASA’s mission directorates, programs and projects through investments and partnerships with industry, academia, government agencies and national laboratories. Program supports technology transfer through dual-use partnerships and licensing, while creating socio-economic benefits for the American public.