

Numerica teams up with NASA

Research center awarded 2-year \$600,000 contract

12:28 AM, Jul. 26, 2011
Fort Collins Coloradoan



Written by
David Young
DavidYoung@coloradoan.com

A Loveland research and development company will play a key role in the future of the nation's space exploration as it teams with NASA to improve space mission flights and design.

Numerica Corp., 4850 Hahns Peak Drive, Loveland, was awarded a two-year, \$600,000 Small Business Innovation Research Phase II contract to help improve flight mission design for NASA.

The contract announcement made Monday is the second NASA contract awarded in as many weeks to Numerica, resulting in \$1.2 million coming to a primary employer in the Northern Colorado economy. The news comes on the heels of the end of the space shuttle program, which has sparked the public's interest in NASA.

Randy Paffenroth, Numerica program director, is leading efforts to compute and manage uncertainty in flight trajectories, which ultimately will offer NASA solutions to optimize its space mission design. The two separate contracts are Numerica's first venture with NASA.

Paffenroth said they will be developing mathematic algorithms and software for spacecrafts in order to improve fuel efficiency and managing uncertainty.

The aim is to program unmanned spacecrafts to travel to places such as Jupiter using as little fuel as possible and reducing unknown travel risks.

"We want to pick trajectories that are not only fuel efficient but also eliminate uncertainty," he said.

With the other contract, which Paffenroth said could eventually roll into his project, Numerica will develop collision prediction capabilities for unmanned aircraft systems operating in the National Airspace System. The NAS is a complex and shared network of people, procedures, equipment and infrastructure that ensures safe and timely air transportation in the United States and over large portions of the world's oceans.

Incorporating unmanned vehicles into national airspace is beneficial to missions in the areas of scientific research, national security, emergency response and disaster relief.

However, such vehicles are underutilized in these areas because they lack reliable collision-avoidance technology to ensure safe operation in the NAS, according to Numerica.

"Our technical teams thrive on the challenging problems NASA-related missions present," said Numerica President Jeff Poore in a statement. "It's exciting and rewarding to help NASA realize program success in space, and to explore commercial applications for this technology."

With the new contracts, the company, which has added seven new positions in the past year, stands to add more primary jobs to the region, Paffenroth said.

The company will collaborate with scientists at Goddard Space Flight Center in Greenbelt, Md., as well as the Jet Propulsion Laboratory in Pasadena, Calif., on the project for NASA.

The contracts are unrelated to the planned Aerospace and Clean Energy Park in south Loveland, but Paffenroth said the two may overlap in the future.