

# Press-Telegram

Long Beach, California

WEDNESDAY, July 27, 2005

## AlphaSTAR watches with hope

**Aerospace:** Firm helped analyze Columbia disaster to improve shuttle safety.

**By Felix Sanchez**  
Staff writer

LONG BEACH — There were a lot of bleary eyes Tuesday at AlphaSTAR Corp. headquarters on Pacific Coast Highway in Long Beach.

When Space Shuttle Discovery successfully launched from Kennedy Space Center in Florida, it capped a nearly three-year process for AlphaSTAR and a team of NASA and Boeing Co. engineers who have worked to get the spacecraft back into orbit

PLEASE SEE **FLIGHT / A6**

### NERVOUSNESS AND CELEBRATION



■ A morning of anxiety turned into a moment of triumph as Discovery lifted off in Florida Tuesday / A8

Onlookers celebrate a magic moment at Cape Canaveral / AP

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# FLIGHT: Boeing sought AlphaSTAR

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after the Columbia disaster of 2003.

AlphaSTAR was involved in the Columbia investigation, and the company was chosen to devise key "failure prediction" software to simulate the damage caused to Columbia's orbiter when insulating foam fell off and hit the leading edge of its left wing.

That re-creation was used by NASA and Boeing to help find the impact's effect on the wing, how big a hole it made in the heat tiles, the fracture pattern and how deep it went.

The goal was to devise new ways to prevent something similar from happening in the future.

Like NASA officials in the wake of the launch, AlphaSTAR executives were pointing toward Discovery's successful return to Earth before saying the mission was a success.

Late Tuesday, NASA officials were eyeing chunks of debris that launch film showed around the shuttle.

"We're certainly hoping for a successful return 13 days from now," said Kay Matin, AlphaSTAR's chief operating officer and president. "That's going to be the total global success."

Matin watched the early morning launch from home before heading into the office.

"Absolutely, we were up this morning watching," Matin said. "We sent a congratulatory e-mail to NASA. We're very honored to have been a part of the Boeing and NASA team and for them having the confidence in us to do this investigation. It truly was an honor."

Company CEO Frank Abdi, speaking from an Ohio technology conference, found a place with several TVs to watch the blast-off.

There has been tremendous pressure for the Boeing and NASA disaster analysis teams leading to the Tuesday launch — postponed earlier because of a fuel gauge sensor glitch — Matin said.

That nervousness transferred to

AlphaSTAR, even though Matin said the company was only indirectly involved with the disaster analysis and then subsequent work to prevent a repeat.

But Boeing, knowing AlphaSTAR's previous work with the aerospace industry, including close work with NASA, sought out the company for its software.

AlphaSTAR software detailed how damage to the shuttle's wing might have occurred, showing the flow path of the hot gases that entered through damaged tile areas and cracks, and showing the thermal dynamics at play and how the shuttle's tiles broke down.

"It was one of the tools, one of the means of research in their trying to put the pieces together to show what happened," Matin said.

AlphaSTAR, at 5199 E Pacific Coast Highway, has 25 employees and is primarily focused on developing state-of-the-art engineering software for structural mechanics, fluid dynamics and computational electromagnetic and automated manufacturing.

In addition to AlphaSTAR, Boeing Co. plants around Southern California worked with the latest shuttle reconfigurations or during the early history of the shuttle.

The plant in Palmdale is the designated center for overhaul and repair for some shuttle requirements. In Huntington Beach, workers helped develop thermal protection system repairs, Orbiter sensor systems and wing leading edge impact sensors.

Boeing is NASA's largest contractor. The NASA Systems Division is responsible for preparing critical NASA payloads for space flight at Kennedy Space Center.

In 1996, Boeing merged with the Rockwell International Corp., whose Rocketdyne division built the main engines for the space shuttle program.

Rockwell's Downey compound once employed more than 25,000 people at the height of the space race, and built main components of the space shuttles before Boeing closed the plants and relocated the division to Orange County.

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When Space Shuttle Discovery successfully launched from Kennedy Space Center in Florida, it nearly capped a three-year process for Alpha STAR and a team of NASA and Boeing Co. engineers who have worked to get the spacecraft back into orbit after the Columbia disaster of 2003.

Alpha STAR was involved in the Columbia investigation, and the company was chosen to devise key "failure prediction" software to simulate the damage caused to Columbia's orbiter when insulating foam fell off and hit the leading edge of its left wing.

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