Endeavour to bring high-tech 'sunroom' to ISS

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The US space shuttle Endeavour will carry the last major component needed to complete the International Space Station and a high-tech "sunroom" called a cupola next week, officials said Friday.

The shuttle is due to blast off on February 7 from the Kennedy Space Center at Cape Canaveral in Florida on the last night launch before the shuttle program is set to be mothballed at the end of September.

"The main goal of this mission is to deliver Node 3, also called Tranquility, and the cupola to the International Space Station, or ISS," said Kwatsi Alibaruho, lead shuttle flight director for the mission.

"Tranquility will contain life-support systems that will enable continued

human presence aboard the ISS," Alibaruho told a news conference.

He described the cupola as a "windowed robotics viewing station from which astronauts will have the opportunity not only to monitor a wide variety of ISS operations but also to study our home planet."

The cupola, which will be berthed on the European-built Tranquility module by Endeavour astronauts during the mission, will be "the key thing" on the huge module, said Robert Dempsey, the lead station flight director.

"A robotic work station will be placed in there and with the views they have from the seven windows, the crews will be able to do all kinds of robotic operations," Dempsey said.

"They will be able to look out and use the robotic arm to capture and berth visiting vehicles," he said.

Along with enhancing the space station's technical capabilities, having the new, windowed area on the ISS will help to improve quality of life for crews who sometimes spend several months on the orbiting international laboratory.

"It's a very gruelling training and operations regime that the crew goes through and they're separated from their families for a long time," Dempsey said.

But once the cupola is in place, crews will be able to raise the protective shutters on its multi-paned windows and look out over "a beautiful view of the universe," according to Alibaruho.

One of the pieces of exercise equipment on the ISS will be placed in front of the cupola to give the space station's crewmembers "that stop-

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The mission of the six-member crew of Endeavour is scheduled to last around two weeks. While at the ISS, where Endeavour is due to arrive and dock on the third day of the mission, two crew members will make three space walks.

Besides bringing Tranquility and the cupola to the space station, the Endeavour crew will also repair a piece of equipment which takes urine and transforms it into drinking water.

"It has not been functioning since the fall of last year," said Dempsey.

The first ISS module -- called Zarya, which means sunrise in Russian -- was carried up into space in 1998 and the first full-time crew arrived two years later.

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