Space station crew anticipating SpaceX Dragon's arrival

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As part of the COTS 3 objectives Dragon approaches the ISS, so astronauts can reach it with the robotic arm. Credit: NASA / SpaceX.

In a media chat on Wednesday three crew members from the International Space Station said they are anticipating the historic arrival of SpaceX's Dragon cargo ship to the ISS next month. "For all of us, we're very excited about it," said ISS Commander Dan Burbank. "Number one, for the sake of the Space Station, that is critical capability — to resupply the station and be able to return critical hardware, or payloads… And down the road it also affords capability to actually deliver crew to the station. I think that is very exciting."

Burbank called the first arrival of a commercial vehicle "the start of new era."

February 7, 2012 is the target date for the launch of the Dragon capsule.

It will arrive at the ISS one to three days later and once there, Dragon will begin the demonstrations related to the Commercial Orbital Transportation Services Phase 2 agreements (COTS 2) to show proper performance and control in the vicinity of the ISS, while remaining outside the Station's safe zone. Then, if all goes well, Dragon will receive approval to begin the COTS 3 activities, where it will gradually approach within a few meters of the ISS, allowing astronauts to reach out and grapple Dragon with the Station's robotic arm and then maneuver it carefully into one of the docking ports.

Burbank said Dragon's non-autonomous docking will put the astronauts at the center of activities for the vehicle's arrival. "Anytime we have a visiting vehicle, those are exciting, dynamic events that from the operational standpoint," he said.

SpaceX released this image on January 4, 2012 showing the Dragon spacecraft in final processing, getting ready to head to the ISS. Credit: SpaceX

But vehicles that come to the Station that need to be captured with the robotic arm offer an exceptional challenge for the crew. “From the standpoint of a pilot it is a fun, interesting, very dynamic activity and we are very much looking forward to it,” Burbank said. “It is the start of a new era, having commercial vehicles that come to Station.”

The Dragon will stay docked to the ISS for about a week while astronauts unload cargo and then re-load it with Earth-bound cargo. It will undock and return to Earth with a splashdown in the Pacific Ocean near the California coast.

NASA announced in December that the COTS 2 and 3 activities could be combined in one flight.

“This will be the first of many ‘wagon train’ wagons to bring us supplies,” said Flight Engineer Don Pettit. “One of the neat things about the SpaceX vehicle is that it will allow us to take significant payloads down, which is a real important thing since we no longer fly shuttles, we can’t take anything sizable back down from Space Station without it burning up. SpaceX will be our way to get…things back to the ground.”

In talking with the media, Burbank also spoke about his opportunity to capture stunning images of Comet Lovejoy from space, and encouraged the next generation of astronauts that now is the time to join the astronaut corps.

Pettit and ESA astronaut Andre Kuipers discussed science research currently being done on the ISS, such as human medical experiments. Kuipers was covered with monitoring systems to determine his cardiac response while doing different activities in space. There are also human life studies and engineering research, which Pettit described as “mundane things like how to make a toilet that works and to take the urine and process it and make it back into water… Now you can go into

the toilet and the machines will whir and grind and then you can go and make yourself a bag of coffee. We'll need these kinds of things if we are going to go far from Earth for long periods of time."

Watch the video of the entire conversation below.

Source: Universe Today