Europe, some are boldly predicting that ITER will be built in France, in line with the E.U.'s position that it's Cadarache or nothing. Going even further, President Jacques Chirac said on French television on 4 May that France was "on the verge of getting ITER sited at Cadarache."

E.U. officials are more reticent than the French. One senior official says he is "confident of a resolution," but it is still "a very delicate situation." Japan's Ministry of Education put out a statement strongly denying it has given up trying to bring ITER to Rokkasho. Researchers are staying quiet for fear of jeopardizing the deal, but the politicking appears to have added a fusion development facility that was not originally on the negotiating table. "I think it's important that an additional facility is now included, because ITER alone is not going to provide all the data we need to move toward commercialization," says Yoshikazu Okumura of the Japan Atomic Energy Research Institute.

Politicians from the six ITER partners are now looking to wrap things up at a late June meeting in Moscow. The venue is symbolic: It was here in 1985 that Soviet researchers persuaded President Mikhail Gorbachev to approach Western leaders with the idea of working together on a global fusion research project that would benefit society and reduce international tensions. For a while, ITER seemed more likely to do the opposite. But the injured feelings may soon pass into history.

–DANIEL CLERY AND DENNIS NORMILE

NASA ASTRONOMY

New Space Telescope May Be Scaled Back

Faced with a $1 billion cost overrun, NASA managers last week began to search for cheaper designs for the $3.5 billion James Webb Space Telescope (JWST). But astronomers say the initial attempt to scale back the complexity of the spacecraft and its instruments is a nonstarter for the mission slated for a 2011 launch as a follow-on to the Hubble Space Telescope.

The crisis comes just as the decision not to send a space shuttle servicing mission to Hubble seems likely to be overturned by NASA's new chief Michael Griffin. Some scientists worry that extending the life of Hubble into the next decade could add to the pressure to scale back Webb, which is the top priority in the astronomy community's decadal plan put together under the auspices of the National Academies.

Named for one of NASA's first administrators, Webb will use its 6.5-meter mirror and four major instruments to observe primarily the infrared portion of the spectrum, peering back in time to the era of galaxy formation and piercing interstellar dust to get close-up views of other planetary systems. It may also provide clues to the elusive nature of dark matter. The telescope's science team includes Europeans, Americans, and Canadians.

Until just a few weeks ago, astronomers thought the telescope was on track despite a budget request this year from NASA to trim $55 million from its account over the next 5 years. That's before its prime contractor, Northrop Grumman, wrote NASA that the telescope would cost $309 million above the previous estimate, according to John Mather, NASA's JWST project director. The largest chunk of that increase was a shift in the spacecraft testing from a facility operated by NASA's Lewis Research Center in Cleveland, Ohio, to Johnson Space Center in Houston, Texas. The Lewis facility proved inadequate for handling the full spacecraft, and alterations would have been too costly. Additional technical changes to the design have added nearly $100 million to the cost.

It's also going to cost more to launch the telescope. It was originally slated to fly on a U.S. rocket before the European Space Agency (ESA) offered an Ariane 5 as its major contribution to the program. The offer provoked complaints from U.S. industry and other government agencies, but after months of wrangling, the White House has given Griffin authority to use the European rocket, which he is expected to do shortly. Accommodating Webb on Ariane, combined with a likely 1-year launch delay, bumps up its price, as does an increased reserve fund ordered by NASA. New rules that require NASA projects to include all costs associated with the program mean another $100 million. When you add it all up, according to JWST program scientist Eric Smith, the total overrun is approximately $1 billion.

To reduce JWST costs, NASA managers last week suggested returning to a scaled-back version proposed in the mid-1990s. Under that plan, JWST's mirror would be only 4 meters in diameter, and its ability to detect certain wavelengths would be significantly reduced. As a result, data on some objects would take as much as 25 times longer to gather than with the current design. The telescope's expected lifetime also would be halved, to 5 years.

"It would not be scientifically sensible to fly that mission," says Peter Jakobsen, ESA's study scientist for JWST. Other scientists agree. In a meeting last week with NASA officials, the JWST science team rejected the alternative as unacceptable. "It is clear to scientists that almost all science would be lost" in this plan, says Mather.

Webb woes. NASA's next-generation telescope has suddenly gotten $1 billion more expensive.

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NASA managers have given scientists a couple of weeks to come up with a better alternative. But their job won't be easy. "If the funding is not compatible with breakthrough science, then [more] money needs to be moved to JWST, or it should be canceled," says George Rieke, an astronomer at the University of Arizona in Tucson who is a co–principal investigator on one instrument. Adds Mather: "It's a scary moment."

–ANDREW LAWLER

With reporting by Govert Schilling.

Published by AAAS