

Europe sets modest goals for space

European Space Agency sees flat funding for science but gears up for stronger ties with NASA on human spaceflight.

Edwin Cartlidge

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S. Corvaja/ESA

The European Space Agency's ministerial council met in Naples, Italy, this week to thrash out project funding.

Europe's space chiefs are hailing the two-day meeting at which research ministers hammered out Europe's priorities in space as a success, despite them getting less money than they had hoped. At the 20–21 November meeting in Naples, Italy, the ministers agreed to give the European Space Agency (ESA) €10.1 billion (US\$13 billion) over the next several years, somewhat less than the total €12 billion cost of the project proposals considered at the meeting.

The level of funding is a significant achievement given current economic difficulties, says Jean-Jacques Dordain, ESA's director-general. He adds that he is pleased that ministers managed to strike deals on a number of thorny issues, including how to replace the Ariane 5 satellite-launching rocket and how to fund Europe's contribution to the International Space Station (ISS).

"It was a very difficult meeting," he says. "There was a lot of stress, a lot of discussions. But we can say it was a big success. Space is no longer about expenses, it is an investment."

The ministers from ESA's member countries, which currently number 20, meet every few years to set funding levels for all of the agency's activities. All member states have to contribute towards the mandatory activities, centred on the scientific programme, which develops space-based telescopes and other scientific instruments, and they can then choose which of the other areas, such as telecommunications, navigation, Earth observation or launcher development, they participate in. With flat funding of about €500 million per year for 2013–17, the scientific programme takes a cut in real terms, although it is not yet clear which missions will be affected as a result.

Another programme to take a hit was Earth observation. The programme's director Volker Liebig had initially hoped to receive €1.9 billion over five years for environmental monitoring satellites, but had to settle for €1 billion over four years. He says that was partly a result of Spain, France and Italy reducing their contributions, and partly because ESA will also pay €808 million towards a new generation of European weather-forecasting satellites, Metop-SG. "We have to discuss with scientists in the next few weeks what to do," he says. "But we will not be able to develop all the science satellites we wanted to. We will probably have to postpone one mission."

But ministers did find a solution of sorts to the question of Ariane 5. Germany argued that ESA should continue to develop an upgraded version of the rocket known as Ariane 5 Midlife Evolution (5ME), which can carry payloads 20% heavier than its namesake and could put satellites in higher orbits. But France believed it was better to start building a new Ariane 6 rocket that would be cheaper to launch and therefore more competitive.

In the end it was agreed that both projects should be developed over the next couple of years — with funding of about €600 million — and then both will be reviewed in 2014, with the goal that Ariane 5ME will launch in 2017 or 2018. "We are not talking about victories," insists Johann-Dietrich Wörner, chairman of the DLR, Germany's space agency. "We are talking about European solutions."

Another area of contention was what to do after the fifth and final Automated Transfer Vehicle (ATV) flies to the ISS in 2014. This European-made, unmanned cargo transporter was ESA's contribution towards the operating costs of the ISS, and France and Germany were again at odds over how those costs, totalling €450 million, should be paid during the second half of this decade. Germany backed a plan to adapt ATV technology to provide the propulsion and avionics for NASA's manned Orion capsule, which is being designed to carry astronauts beyond low-Earth orbit. France argued that Europe would do better to work on its own project.

But here too, Germany seems to have won, with ministers agreeing to pay their share of the ISS costs by going ahead with the Orion propulsion unit. This project will, unusually, involve the United Kingdom, which has tended not to participate in human-spaceflight activities. In this case the country will provide a one-off payment of £16 million (US\$25.5 million) towards the development of telecommunications and propulsion technology.

"This project has two plus points," says Wörner. "One is that it gives us the entrance ticket for the ISS. But it also means that ESA is a strong partner in human exploration with America."

For robotic exploration, meanwhile, there is mixed news. On 19 November, ESA's ruling council approved the involvement of Russia in the agency's twin ExoMars missions to measure trace gases in Mars' atmosphere and search for signs of life on the planet's surface, scheduled for launch in 2016 and 2018. The Russian space agency Roscosmos will provide two Proton rockets for the lift-off and so plug some of the funding gap left when NASA pulled out of the mission last year. But just ahead of the Naples meeting, Germany announced that it would abandon plans for a lunar lander because it could not gather enough support from other member states to pay for the €500-million mission. "This was a disappointment," says Wörner. "But not a big one."

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