Midwife to Global Megaprojects Given More Time to Deliver

PARIS—Mark Zoback, a geophysicist at Stanford University, wants to drill a hole 10 kilometers into California's famous San Andreas fault to probe the geological forces that cause earthquakes. The project, says Zoback, would cost somewhere in the neighborhood of $150 million, a price tag too high for any funding agency in the United States in today's harsh fiscal climate.

End of story? Not quite: Zoback may yet get to drill his hole thanks, at least in part, to the Megascience Forum—a program to foster international scientific cooperation set up in June 1992 by the Paris-based Organization for Economic Cooperation and Development (OECD), the so-called "rich countries' club" of 25 leading industrial democracies. The forum organized a meeting of deep-drilling experts in November 1992 that provided the initial impetus for an agreement, signed last February by the U.S. National Science Foundation and the GeoForschungsZentrum in Potsdam, Germany, to collaborate on the planning and funding of continental drilling projects. And Zoback's proposal is among those being actively considered for funding by the program.

The forum "was very helpful in bringing people together from around the world," says Zoback, who adds: "Was it critical? I'd say not. Was it useful? I would say, definitely." And in interviews with *Science*, several scientists around the world echoed this somewhat muted praise for the accomplishments of the forum. "I think they did a very good job of improving communications in some areas," says Burton Richter, director of the Stanford Linear Accelerator Center. But in his own field of high-energy physics, Richter says, "I would say the Megascience Forum has not accomplished a lot. The field is very international already."

Despite such skepticism, governments seem to find the forum valuable: At a meeting in Paris last week, the science ministers of the OECD countries voted to extend its mandate for another 3 years. They also agreed to strengthen the links between scientists and the government officials who hold the purse strings. Speaking at a press conference immediately afterward, Jo Ritzen, minister for education, science, and culture of the Netherlands, predicted that these changes would make the Megascience Forum a cornerstone in a new effort by the world's leading industrial countries to promote the "internationalization of science policy."

If so, that would be something of a change from the way the forum has been operating. French astrophysicist Françoise Praderie, who is returning to her post at the Paris Observatory after 3 years as the forum's coordinator, says until now it has had a "fairly limited mandate. ... Countries wanted to see how it would do." It has been mostly a talk shop for science policy officials, but it has also provided neutral ground for scientists and science administrators to meet and discuss possible joint projects. Thus far its role in even its most important claimed successes—such as the continental-drilling program and Japan's decision to participate in the Large Hadron Collider at CERN, Europe's high-energy physics lab near Geneva—has been more as a catalyst than a dealmaker.

OECD PHOTO OCDE

Matchmakers. Stefan Michalowski *(left)* takes over this month from the Megascience Forum's original coordinator, Françoise Praderie.

The forum's main activity has been to organize so-called "experts' meetings" in six key areas: astronomy, deep drilling, global change research, oceanography, synchrotron radiation and neutron beams, and particle physics. Although participants in these meetings contacted by *Science* agreed that they were useful in sharing information and identifying possible future projects, many argued that much more needed to be done to bring scientists together with the funding agencies that will ultimately foot the bills.

Now the science ministers have decided to give the forum a much more concrete mission. According to Stefan Michalowski, who took over from Praderie as coordinator on 1 October, "The ministers want it to focus more on solving specific problems, with somewhat less emphasis on general questions and policy discussions." Under its new mandate, the forum will play host to working groups, limited to individual scientific fields or projects, where government officials from at least three OECD countries will meet interested scientists and science administrators. As a result, says Michalowski, a physicist who previously worked in the U.S. State Department's Office of Science, Technology, and Health, the forum should now begin to function more actively as a "matchmaker" for countries who want to get together on expensive scientific projects.

Hubert Curien, the former French research minister who first proposed the Megascience Forum with D. Allan Bromley, science adviser to President Bush, and the science ministers of Germany and Italy, welcomes the change. "We need to focus on projects of interest for the future," Curien told *Science*, "and not have very large and vague discussions about the future of humanity. If [the forum] takes this direction, it can help." Praderie agrees: "Scientists are organized and know how to find their partners." But when it comes to putting together multination consortia to pay for expensive programs, "the [national] funding agencies are less well coordinated internationally than the scientists."

Reinhard Scherm, director of the Institut Laue-Langevin in Grenoble, France—home to the world's most powerful neutron source—says that a more direct role for the forum in midwifing international projects "is an extremely good idea." Scherm's own field is one in which the forum has had little impact so far: After two experts' meetings organized by the forum, little coordination in the field has emerged, despite the fact that, as Scherm puts it, "people were screaming for more neutron flux."

The future looked even bleaker after the cancellation earlier this year of the United States' $2.8 billion Advanced Neutron Source (*Science*, 17 February, p. 952). Although there are plans for new top-rank neutron sources in development, none has yet won firm backing. "You could look into the future ... and see nothing," says Andrew Taylor, director of the United Kingdom's ISIS pulsed neutron source near Oxford. "Perhaps [the forum] will make it easier for us to communicate with our governments and get them to back us," says Taylor.

While most scientists are taking a wait-and-see attitude about what the Megascience Forum will accomplish under its new mandate, Praderie says the ultimate responsibility for its success or failure will lie with those who sponsor it. "Governments cannot indefinitely put words in documents, talk together, and then not do anything. One day or another they will start to do something," she says, adding: "At least that is what we hope."

–Michael Balter