Europe Tries a Strategic Technology Initiative

Arguments for a European Research Coordination Agency (Eureka) have been political as much as technological and military as much as civilian

Just over 2 months ago, when the French government unveiled plans for an ambitious new scheme, popularly known as Eureka, to link a series of international collaborative research projects in different areas of advanced technology, the general reaction in many European capitals was skeptical. "It came out of the blue, and struck us at the time as an odd thing to do," says one official in Britain's Cabinet Office.

Since then, top-level diplomats and science policy advisers have been shuttling virtually nonstop around these same capitals knocking the French idea into acceptable shape. Comparable, if less dramatic, proposals have been prepared by the Brussels-based Commission of the European Economic Community (EEC) for the creation of what has become known as a "European Technological Community."

The result was the endorsement of a combination of the two projects on 29 June in Milan by the leaders of the 12 member states of the EEC during their biannual summit meeting. Although many details remain to be worked out, the meeting agreed to establish a formal mechanism to coordinate technological cooperation among European countries in a variety of areas.

The technological projects that have already been identified for possible inclusion in the framework of this initiative range from the creation of a European supercomputer, rivaling those which can at present only be bought from the United States, to a new generation of supersonic passenger aircraft, and perhaps even French plans for a miniature space shuttle. Strong emphasis has been placed on the argument that the main goal is to counter the "technology gap," which is said to be growing between Europe and the United States, and that the main products will be civilian technologies.

In the process of the last 2 months' negotiations, however, it has become clear that the arguments in favor of the initiative have been as much political as technological. In France, for example, the need for the rapid modernization of the economy, combined with "technological independence" from the United States is expected to play a significant role in next year's general elections; while the agreement reached at the Milan summit was closely tied to other moves aimed at tightening the political links between the various members of the EEC.

It has also become apparent that, although military arguments have been played down, they have been important in generating the political consensus. While France, for example, has spoken of the military dimensions of Eureka primarily in terms of a "spin-off," West German officials have already suggested that it could form part of a broader effort to create a European space defense system complementary to that being planned by the United States.

The U.S. economic recovery and the launching of the Strategic Defense Initiative have both strongly influenced debate in Europe on technological cooperation.

Two events have strongly influenced the debate in Europe over international cooperation in science and technology. The first is the fact that the United States has emerged more rapidly than Europe from the economic crisis of the beginning of the decade, encouraging (some might say leaving) Europe to find its own strategies for technological growth. One result has been increased political support for several cooperative research programs that have been launched at a European level in fields such as information technology (ESPRIT) and, more recently, telecommunications (RACE). Seen from Brussels, the idea of a European Technological Community endorsed at the Milan meeting is a logical extension of these initiatives.

The second event was the launch of the U.S. Strategic Defense Initiative (SDI) by President Reagan in March 1983 and the subsequent offer to Europe to participate in its research phase. Initial skepticism soon gave way to direct criticism of the arms control implications of SDI; yet this has itself now been overtaken by a third consideration, the impact that the SDI program, even at the research stage, will have on advanced technologies on both sides of the Atlantic.

Various fears are widely expressed in Europe. Some argue that SDI is merely a device to provide public subsidies for U.S. high-technology industries. Others talk of the dangers of a new "brain-drain" as European scientists are recruited for SDI research. Whatever the reality turns out to be, the SDI invitation/threat is already being used in Europe as a justification for a closer integration of its own R&D activities.

EEC commission president Jacques Delors, for example, has already proposed an extended program of collaborative research as the forum through which Europe can provide a common response to the U.S. invitation. Similarly, Yves Stourdze, director of the Center for the Study of Advanced Systems and Technologies in Paris, argues that Eureka is not intended as an alternative to SDI—or even as a challenge to the United States—but as a way of "helping Europe become a real partner" in such advanced technology projects.

French research minister Hubert Curien admits that the SDI initiative was a "catalyst" for Eureka. Certainly the French government's efforts to sell the idea in other European capitals was made easier by the angry reaction to a demand from U.S. Defense Secretary Caspar Weinberger that their response to the invitation to participate in the research should be received in Washington within 60 days.

From its earliest stages, however, it has seemed clear that the links between Eureka and SDI have not been merely historical or accidental. For example, little effort was made to hide the fact that the six areas outlined as candidates for collaboration by French Minister of External Relations, Roland Dumas when he first presented Eureka to the French cabinet in April—opto-electronics, new materials, supercomputers, lasers and particle beams, artificial intelligence, and

Proliferation Treaty Hinders SDI

Geneva. The commitments made by the United States and other countries under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), which was signed by the United States and the Soviet Union in 1968 and has since attracted over 120 other signatories, could present several obstacles to the implementation of the Reagan Administration's Strategic Defense Initiative (SDI), it was argued at a private colloquium in Geneva last week.

Several countries that have pledged themselves not to develop or acquire nuclear weapons claim that the SDI program, even in its research phase, violates an undertaking made by the nuclear weapons states that signed the treaty to take concrete steps to halt the global race in nuclear arms.

Moreover, U.S. officials admit that clauses in the treaty forbidding the exchange of nuclear technology for military purposes—or cooperation on research aimed at developing such technology—between states that possess nuclear weapons and those that do not, could restrict access to certain key technologies for European countries participating in the research. This applies in particular to the x-ray laser.

Both points were made in the course of a colloquium organized by the Geneva-based Groupe de Bellerive to discuss prospects for the next 5-year review conference on the effectiveness of the NPT, due to be held in the same city in September. The colloquium was organized by the group's president, Prince Sadruddin Aga Khan, the former United Nations High Commissioner for Refugees.

In a keynote address to the colloquium, Olof Palme, the Prime Minister of Sweden, said that, far from reducing the arms race, and despite the claims of President Reagan, the SDI only increases the threat of "vertical proliferation" between the two superpowers, in apparent contravention of article VI of the NPT. In short, the nuclear arms race would accelerate once again, Palme argued. Similar feelings were expressed by Mohammed Shaker, the Egyptian representative to the United Nations who is expected to be chosen as the chairman of the NPT review conference in September.

The possible conflict between the terms of the NPT and full European participation in SDI was raised by members of the environmentalist lobby group Greenpeace International, and is based on a legal interpretation commissioned by the organization from Eldon V. Greenberg, formerly general counsel of the National Oceanic and Atmospheric Administration and currently a Washington-based attorney.

Greenberg claims that the various articles in the treaty aimed at limiting the spread of nuclear weapons by placing restrictions on international cooperation could also be applied to those parts of the SDI program that involve nuclear technologies, such as the x-ray laser.

Indeed, Greenpeace points out that the physicist Edward Teller, who first dreamed up the idea of the hydrogen bomb–fired x-ray laser in the 1960's, had advocated at the time that the United States should not sign the NPT precisely because it would prevent this technology from being shared with U.S. allies.

Richard Perle, an assistant secretary of defense who has been in Europe discussing various aspects of the SDI program and its impact on relationships with the United States' European allies, admitted that parts of the SDI technology are not likely to be shared with Europe. Some of this, he said, would be the result of restrictions imposed by treaties such as the NPT, although he added that the number of technologies involved were "relatively minor."

Eric Fersht of Greenpeace said that the organization's intention in asking for a legal opinion was to raise public awareness in Europe of the type of limitations likely to be placed on European institutions that wished to take part in SDI. Such limitations have been one of the principal reasons why French President François Mitterrand declared that France—unlike Germany, Great Britain, and Italy—had no intention of participating in SDI and launched the European program Eureka as an alternative.

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high-speed microelectronics—closely mirrored the technologies receiving special attention under SDI.

Furthermore, the reaction of individual European countries to the French proposal has been conditioned not merely by whether they are prepared to accept the Gaullist rhetoric in which it has been dressed up but also by consideration of the political implications of accepting the U.S. SDI invitation (about which individual companies have had far fewer reservations than their governments).

Norway and Austria, for example, have already expressed their support for Eureka, both keen for international collaboration in high technology, but aware that participation in SDI could compromise their political neutrality. Significantly, the first project to be explicitly announced as a candidate for Eureka has been an agreement between the Norwegian company Norskdata and the French company Matra to produce a range of scientific microcomputers.

In contrast, Italy's response to both SDI and Eureka has, so far, been enthusiastic. As far as the American program is concerned, it is seen as a way of providing markets for high-technology companies that do not exist in Italy, as well as cementing ties with the United States that are stronger than those of other European countries.

"We have found a very good match between the type of technologies that the SDI people want to push forward and the type of thing that we are already doing," says Rafaelle Esposito, general manager of the Italian company Selenia which has considerable experience in space-based telecommunications systems and various fields of military electronics.

At the same time, Italian politicians are well aware that their economic, technological, and political futures are each closely tied to those of Europe as a whole. They have therefore been the strongest supporters of putting Eureka into the EEC commission in Brussels, worried that they would be marginalized by any noncommission based strategy that would be open to excessive domination by France.

"The real problem for the EEC is how to become a technological community, and not just an agricultural community; that is not possible unless we put together the research and development resources which we now spend at the national level," said Italian research minister Luigi Granelli in a recent interview in Rome.

Britain's response has been different

again. Initial skepticism toward Eureka has diminished, partly, say British officials, because France has agreed to let the private sector play a much larger role in selecting the technological targets, partly because it has persuaded France to agree that the major difficulties faced by European firms tend to be questions of market demand rather than technical ability, and partly because of growing concern that strong enthusiasm for SDI research among British companies and research institutions could have a distorting effect on domestic technological research.

However, with memories of Concorde still fresh, enthusiasm remains higher at the political than the technological level. One reason for this apparent paradox is that the key to Eureka lies in the evolution of the French/German axis, particularly as it is becoming expressed through various high-technology fields, including space, arms manufacturing, and national security. President Mitterrand has described Eureka, in a press conference during the Paris Air Show last month, as "a Franco-German idea," and because of its potential importance for the future of Europe, it is one that Britain cannot afford to ignore.

In West Germany, as in Britain, skepticism continues to reign in technological circles. Some projects, such as a scheme being launched by Siemens with the French company Bull to set up joint research laboratories to work on silicon chips and gallium arsenide, or to build large-scale computers, are unlikely to resist being offered the Eureka label—particularly if this gives them increased political security and extra government funding.

In general, however, German companies have fixed their sights more firmly on participation in SDI, which they see as a more effective vehicle both for pushing their high technology to its limits (for example in fields such as lasers and space vehicles), and providing the market pull that Eureka, without the comparable financial backing to the U.S. program, will inevitably lack.

German Research and Technology Minister Heinz Riesenhuber has been virtually silent on Eureka, his only public comment being that he felt many projects were "not ripe" for the approval by the Milan summit. Indeed, he is said in private to have raised doubts about whether, given the many strengths of German industry, a "technology gap" really exists between Europe and the United States.

Such doubts, however, have been more than overshadowed by the support that Eureka has, from its early stages, received from West Germany's foreign minister Hans-Dieter Genscher and, subsequently, from prominent members of the opposition Social Democrats, in particular former Chancellor Helmut Schmidt. According to foreign observers in Bonn, this enthusiasm has three separate roots, each of which has been played up by France in its attempts to woo German politicians away from SDI and into Eureka. The arguments are:

- That whether it likes it or not, West Germany's future security is tied to that of Europe, which in turn depends on its joint technological strength;
- Growing disillusionment with the unfulfilled promises of previous collaborative technological projects between Germany and the United States, epitomized by the costly experience of Spacelab; and

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- The possibility, already being raised in public by the German defense ministry, that Europe might launch its own space-based strategic defense system complementary to the SDI but aimed at defending against nuclear bombers and short- and medium-range missiles, including cruise.

Without denying the military dimension of Eureka, France has tried to play this down in public. Defense Minister Charles Hernu has talked merely in terms of "a common technological trunk which feeds both the civilian and military domains." Other French officials, however, have gone further, one being quoted (anonymously) as describing the civilian dimension as a lightning conductor deliberately intended to defuse controversy, since "in speaking about technology, you avoid the debate about strategy and you do not have to talk about NATO."

Indeed, the main markets for the high-speed computers that France and Germany want to develop together are expected to be in the military field.

There is also a credible logic in the proposal being circulated in Paris that closer French/German links in the twin fields of advanced technology and military planning could provide the basis for a joint security strategy under which France would continue to maintain its *force de frappe* (offering explicitly to include Germany under its nuclear umbrella) while, in return, Germany would become a strategic power through the separate route of space technology. Even President Mitterrand has publicly expressed sympathy for this suggestion.

The military dimension to Eureka, however, has only complicated the question of what type of institution should be responsible for overseeing the various projects it groups together.

Although France has dropped its earlier proposals for a fully fledged, independent organization, it has continued to argue in terms of a network of bilateral and multilateral agreements, with the implication that these would be coordinated, however loosely, by a small office in Paris.

French officials argue in public that the EEC commission suffers from excessive bureaucracy, and in private they say that the need for consensus between 12 member states on each issue inevitably puts a substantial brake on decision-making.

However, the commission itself has made a powerful bid to be allowed to run the program, arguing not only that it has both experience and legal responsibilities in certain key areas, such as the opening up of national markets to companies from other EEC countries, but also that any initiative will succeed only if it draws directly on research already being carried out under ESPRIT and RACE.

The drawback from the commission's point of view is that it has no responsibility for security issues. Indeed, several member states—including Denmark, Greece, and Ireland—have already indicated that they would have difficulties agreeing to a program which contained explicit military objectives, creating a major obstacle for Delors' plans to use the commission for negotiating with the United States over SDI.

Nevertheless, as the agreement reached at the Milan summit illustrates, support seems to be growing for the idea that Europe should take a leaf out of America's book by using an external threat (whether economic or military) as a justification for a new generation of demand-led technological research projects, a position which even Mrs. Thatcher's conservative government now seems prepared to swallow.

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