

# PACESETTER

News From the Office of Technology Policy ■ Spring 1997



## White House and Governors to Work Together in Innovation Partnership

Early in February, the White House and the nation's governors announced an agreement to form a new "U.S. Innovation Partnership" to foster economic growth through the development and use of new technologies.

"By working together, the states and Federal R&D agencies can strengthen our national innovation system," said Commerce Under Secretary for Technology Dr. Mary L. Good. "Innovation drives economic growth and raises living standards," Good noted, "and each of the partners to this new effort brings unique strengths and perspectives."

Federal R&D focuses on basic research, federal missions, and developing emerging and enabling technologies; states often work directly with companies to bring knowledge into the commercial marketplace. "Working together, we can maximize the impact of science and technology on jobs, economic growth, and living standards," Good explained.

Under the new partnership, the White House and Federal agencies will work with states on such issues as:

- Removing regulatory barriers to the adoption of new technologies in areas such as telemedicine, environmental technologies, and the building and construction industries
- Developing programs to stimulate technology investments in rural and other states that traditionally receive less Federal research funding
- Addressing the issues associated with the expansion of electronic commerce
- Expanding the capacity of the Manufacturing Extension Partnership to help modernize the nation's 380,000 small- and medium-sized manufacturers.

The "U.S. Innovation Partnership" is the result of efforts by representatives of seventeen states, working through the staff of the National Governors' Association (NGA), and an inter-agency state-federal working group chaired by Dr. Good of the Commerce Department's Technology Administration.

The two groups were first brought together by White House Science Advisor Dr. Jack Gibbons in an effort to implement the recommendations of the State-Federal Technology Partnership Task Force.

"Now the real partnership begins. Now we begin to transform our Federal science and technology system into a truly national system, one where states will play an increasing role," said Dr. Good. ■

## The True Cost Of Budget Cuts

Graham R. Mitchell,  
Assistant Secretary for Technology Policy,  
Department of Commerce

There's little doubt 1997 will prove to be a challenging year. Together with William Daley, the newly appointed Secretary of Commerce, we'll face the 105th Congress as tough decisions are made regarding our nation's fiscal health and economic future.



■ Graham R. Mitchell

Science and technology programs can expect increased scrutiny as lawmakers work to balance today's budget with tomorrow's needs. As taxpayers and voters, we all have a stake in a federal government that is lean, professional and responsive to the desires of the American public.

But while budget priorities are being debated, we must also consider the choices in the context of increased global competition. Too often we fall victim when clichés such as "corporate welfare" are tossed about without definition or example.

America has been a world leader in the 20th century because 30 years ago we invested in the future. That same kind of commitment is required today to maintain our position into the 21st century.

As we tighten our belts, let's not hold the future hostage by shortchanging the investments needed for continued leadership and growth. ■

### IN THIS ISSUE

Innovation Partnership

Page 1 ►►

Machine Translation: Breaking the Language Barrier

Reports Update

Page 2 ►►

National Medal of Technology: A Call for New Nominations

Page 5 ►►

■ Under Secretary Good listens as Vice President Gore announces USIP initiative at the National Governors meeting in Washington, D.C. February, 1997.



## 機械翻訳センター

## Breaking Through the Language Barrier

## The Machine Translation Center for Japanese Science and Technology Literature at the U.S. Department of Commerce

Last May, Commerce Secretary Kantor and Japan's Minister of State for Science and Technology Nakagawa signed an agreement establishing the Machine Translation Center for Japanese Science and Technology Literature at the U.S. Department of Commerce. The Center was established through joint cooperation with the Japan Science and Technology Corporation (JST) and the Office of Technology Policy at the U.S. Department of Commerce. The Center uses the JST Japanese-English MTS System.

The purpose of the Center is to demonstrate the usability of machine translation (MT) as a tool to help ease the language barrier U.S. researchers face in accessing Japanese S&T information.

The JST system was chosen because it is uniquely designed to handle scientific and technical documents. In addition, JST and Commerce's Japan



■ Signing of the implementing arrangement to establish the Japanese Translation Center.

Technology Program have been partnering in many different ways over the years in disseminating Japanese scientific and technical (S&T) information in the United States.

Response to the service has been very favorable. Though the majority of requests come from consultants and corporate librarians, the end users typically are researchers or experts in particular technology areas.

The service is aiding U.S. competitiveness by providing translations for companies so that they can better understand and respond to their competition. By and large, most users have requested patents to be translated. Patent tracking is one of the most typical forms of competitive intelligence, or of benchmarking the competition.

MT can also be used as a filtering mechanism to determine the general content matter of a document rather than having the document hand-translated. This saves on the high cost of Japanese-English translations, particularly if the documents turn out to be irrelevant. Machine translation, can also bring more businesses to professional translators. If people use it to separate the "wheat from the chaffe," they are more likely to have the "wheat" hand-translated.

One of the purposes of providing this service is to expose people to the benefits of MT, so that for their future translation needs, they will either set up their own MT systems in-house or use commercial services.

Use of the service at the U.S. Department of Commerce is open to anyone from a U.S. organization, including those from universities, companies, non-profits, trade associations, institutes, government agencies and individuals. Users are provided with raw output only: documents are not post-edited or "polished up" by a professional translator. There are no charges for the translations.

If you have any questions, contact Patti O'Neill-Brown, Ph.D (A.B.D.), Director, Machine Translation Center for Japanese Science and Technology Literature at: [poneillbrown@doc.gov](mailto:poneillbrown@doc.gov) or 202.482.6805. ■

## Office of Technology Policy Reports Update

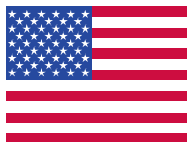
■ **Trends In Japanese Textile Technology**

This report describes the strategies and technologies that have propelled Japan to the forefront of apparel textile innovation. Practically every facet of the industry is covered — from technological advances in fiber and yarn manufacturing, fabric making, apparel design and production, and the development of related equipment to the economics of offshore production and the role of government. But most importantly, the textile industry's long history of striving for upgraded quality in product and process technology, and more recently, its accelerating globalization to counter the threat of imports into its domestic market, provide insight into how Japan likely will face the challenges of a strong yen, a maturing economy, and structural change and deregulation of its industries in the coming years. ■

■ **The Basic Steel Industry**

This report on the basic steel industry discusses how advances in technology and industry restructuring have led to a U.S. steel industry substantially more competitive than it was 10 years ago. However, the industry still faces challenges from less developed countries, from the continuing pressure of environmental regulations, and from pricing pressures related to surplus capacity. Within the industry, the integrated producers, with their high fixed costs and lingering costs of their large retiree population, face special challenges from electric arc furnace mills, which have been investing heavily in new production technology and have adopted new human resources practices to improve productivity. A brief description of the financial performance of the industry is also included. ■

## Innovative Solar Power Plant To Be Developed Through Joint Venture



The new solar power generation system project is made possible by a \$5.3 million grant from the U.S.-Israel Science and Technology Commission.

On March 10, 1997, Under Secretary of Commerce for Technology Mary L. Good presided over a ceremony for the U.S.-Israel Science and Technology Commission (USISTC) to launch a new joint venture at the U.S. Space and Rocket Center in Huntsville, AL.

A \$5.3 million agreement funded under the USISTC will enable this partnership among American and Israeli entities to develop a new solar power generation system from a combination of technological innovations developed by the individual partners. The private organizations involved in the project are:

- McDonnell Douglas
- Ormat Industries Ltd.
- Rotem Industries Ltd.
- Yeda Research & Development Ltd.
- Weizmann Institute of Science

The project is designed to demonstrate the commercial feasibility of an advanced solar-powered plant capable of generating hundreds of kilowatts to tens of megawatts of power and with the operational flexibility to guarantee electricity even during inclement weather.

The system will be modular in construction, enabling the user to adapt the system to match a changing power demand—from solar to gas to a combination of the two—and therefore forgo the expense of building new and additional facilities. Through this unique combination of features, the new system has the potential for expanding the market for solar power by addressing previously unmet needs and thereby leading to the creation of high-quality jobs.

In less than three years, the American-Israeli team will develop an operational 300-400 kilowatt system located at the Weizmann Institute solar test facility. This system will be equipped with highly

reflective mirrors (heliostats), which track the sun on two axes and reflect sunlight up to another reflector atop a central tower. The reflector will redirect the sunlight back to an air receiver on the ground which will directly convert highly concentrated sunlight into heat and act as an external combustor for a gas turbine.

“Unlike present solar power generation plants, the U.S.-Israeli design will permit the flexibility of operating directly from solar energy, directly from gas, or in combination between solar and gas at the highest efficiency,” said Dr. Robert Drubka, program manager for McDonnell Douglas.

In 1993, President Clinton and the late Israeli Prime Minister Rabin established the USISTC to promote peace through economic growth. Through the awarding of grants, the Commission encourages cooperation between the high-tech sectors in the U.S. and Israel to create technology-based jobs for both countries in the 21st Century.

This joint venture is part of the Clinton Administration’s initiative to bolster the Middle East peace process through economic development and to promote scientific and technological collaboration between the two countries. The Secretary of Commerce, William M. Daley, serves as co-chairman of the group, along with his Israeli counterpart, Natan Sharansky, Minister of Industry and Trade. The Technology Administration at the U.S. Department of Commerce acts as the U.S. secretariat for the USISTC.

“There is no simple solution to peace in the Middle East, but the

USISTC is pleased to be a part of this effort to help establish political stability through economic growth. And we know that technological innovation is the engine of economic growth,” said Under Secretary Good.

McDonnell Douglas is the team leader and responsible for system engineering and integration, heliostat field, master control system, tower and tower reflector. Ormat is responsible for the power conversion system and the fluid loop integration. Rotem is responsible for the



■ Key representatives from U.S. industry, Israel, and the Department of Commerce gather at a ceremony to kick-off the solar power plant project.

air receiver and its associated optics which transforms the concentrated solar energy into high pressure, high temperature air. The Weizmann Institute—a center of scientific research and graduate study—and Yeda are responsible for the transfer of unique solar technologies to industry.■



The Office of Technology Policy (OTP) is publishing a series of industry sector reports that examine the strengths, weaknesses, opportunities and obstacles faced by American business today.

### Meeting the Challenge: U.S. Industry Faces the 21st Century

What does it take to be competitive in today's global economy? The Office of Technology Policy (OTP) is publishing a series of industry sector reports that attempt to answer that question by examining the opportunities and obstacles faced by American business today. "Meeting the Challenge: U.S. Industry Faces the 21st Century" is an ambitious effort to follow up on earlier efforts published in "Listening to Industry." Drawing principally from the experience and insight of some 150 experts in organizations, industry, academia and government, these studies provide a framework for government policy that reflects the concerns and perspectives of U.S. industry. Two new reports due this summer are previewed below.

■ **Biotechnology**-The biotechnology industry is defined by the technologies used to make its products, not the products themselves. As a result, biotechnology is involved in a wide range of activities, from the breeding of plants and animals to the protection of our environment. Two important factors have contributed to the industry's rapid growth. First, federal investment in research related to

biotechnology has provided a cadre of trained experts and knowledge. Equally important, is the ability of the industry to attract capital for the development of new products. The future challenge is competition from foreign firms, and the strength of intellectual property protection by domestic and foreign laws, and the U.S. health care system.

■ **Environment**-What is the cost of being green? Our new study will show that a crisis exists in most of the U.S. environmental products and services industry. This report is the first to describe the industry, to characterize its U.S. and foreign markets, and to identify the rapidly shifting drivers that stunt the growth by "repelling capital." The study proposes solutions offered by the industry itself to enhance both the industry's competitive position and its capability to contribute to a dynamic, world economy. The study will be previewed at a May White House environmental conference, and the June meeting of Air and Waste Management Association.

Copies of OTP reports are available on our home page or by calling 202.482.3037.■

### In Memory of Great American Innovators

**H. Joseph Gerber (1924-1996)**  
Founder & Board Chairman,  
Gerber Scientific Inc.  
1994 National Medal of  
Technology Winner

"For his past and continuing technical leadership in the invention, development and commercialization of manufacturing automation systems for a wide variety of industries—most notably apparel—which have made those industries more efficient and cost effective in today's worldwide competitive environment."

**David Packard (1912-1996)**  
Hewlett-Packard Company  
1988 National Medal of  
Technology Winner

"For extraordinary and unselfish leadership in both industry and government, particularly in widely diversified technological fields which strengthened the competitiveness and defense capabilities of the United States."

### Museum to Showcase Medal of Technology Winners



■ Kids enjoy the hands-on exhibits at the Tech Museum in San Jose, California.

The U. S. Department of Commerce has partnered with the San Jose Tech Museum of Innovation to

develop a National Medal of Technology exhibit celebrating the American spirit of creativity, commitment to innovation and technological achievement. The exhibit, which will be permanently housed at The Tech Museum's future \$59 million home scheduled to open in late 1998, will serve as a prototype for a national traveling exhibit. The

new multimedia and interactive Medal of Technology exhibit will be integrated into the "Innovations" theme already selected as a major gallery in the new museum facility. A \$50 thousand planning grant from the U.S. Department of Commerce will fund development of the conceptual design.

"The fact that twenty percent of the National Medal of Technology winners over the past twelve years have come from Silicon Valley area is a clear reflection of the region's technological leadership. The Technology Administration is very excited to

partner with The Tech Museum, itself a powerhouse of creativity, in developing a national prototype exhibit that celebrates American innovation and inspires future generations of innovators," said Mary L. Good, Under Secretary of Technology.

The Tech Museum is a private, non-profit education resource currently located at 145 W. San Carlos Street in downtown San Jose.■

For more information on this project, contact: Judith Fritz, Director of Educational Programs,  
Telephone 408.279.7182  
e-mail judithf@thetech.org.



## National Medal of Technology

*"For their vision, their genius and their constant commitment to making America a better place and the world a better place."*

**President William J. Clinton**

*The National Medals of Science & Technology Awards Ceremony  
The White House, July 26, 1996*

The American spirit of innovation has always been at the heart of our country's economic strength and prosperity. As the new century approaches, we are challenged to keep expanding the frontiers of knowledge to maintain our nation's global competitiveness. The National Medal of Technology recognizes American innovators whose vision, intellect, creativity and sheer determination have made profound and lasting contributions to our economy and quality of life.

Established by Congress in 1980 as part of the Stevenson-Wydler Technology Innovation Act, the Medal is awarded for technological breakthroughs resulting in the creation of new or significantly improved products, processes or services. The President of the United States first presented this prestigious award in 1985.

A distinguished, independent committee representing both private and public sectors evaluates the merits of all candidates nominated through an open, competitive solicitation process. The U.S. Department of Commerce's Office of Technology Policy is responsible for administering the National Medal of Technology. Committee recommendations are forwarded to the Secretary of Commerce who then makes recommendations to the President of the United States for final decision.

Each year the National Medal of Technology awards are presented by the President in a joint White House ceremony with the National Medals of Science. (The National Medal of Science is administered by



■ President Clinton congratulates the 1996 National Medal of Technology winners.

the National Science Foundation.) An awards dinner sponsored by the National Science and Technology Medals Foundation and other events are planned around the White House ceremony.

For over a decade, the Medal has celebrated the extraordinary achievements of American trailblazers, fostering a national legacy and inspiring future innovators. Of the 106 Medals of Technology awarded since 1985, ninety-eight have been awarded to individuals or teams. Eight have been awarded to companies. Winners of the 1996 awards presented on July 26, 1996 are Charles Kaman, chairman and chief executive officer of Kaman Corporation; Stephanie Kwolek, research chemist (Ret.) and consultant for The DuPont Company; James C. Morgan, chairman and chief executive officer of Applied Materials, Inc.; Peter H. Rose, president of Krytek Corporation. A special posthumous award was accepted by Mrs. Ronald H. Brown on behalf of the late U.S. Department of Commerce Secretary Ronald H. Brown. ■

## Call for New Nominations

If you know of an individual, team or company deserving of recognition for outstanding technological innovation and leadership, send for a 1998 National Medal of Technology Nomination Packet.

Nominations will be accepted for achievements that have strengthened the American economy and standard of living through:

- Product and process innovation
- Technology transfer
- Advanced manufacturing technology
- Technology management, and/or
- Human resource development

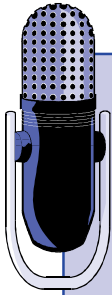
Nomination packets for individuals/teams or companies/divisions become available during National Science and Technology Week, April 20-26 through mid-September 1997. Nominations for 1998 must be submitted to the Office of Technology Policy no later than close of business September 30, 1997. ■

For more information or to receive your 1998 National Medal of Technology nomination packet, contact: Katie Wolf, Director National Medal of Technology, Office of Technology Policy Room 4228  
14th & Constitution Avenue, NW, Washington, DC 20230  
Phone 202.482.5572  
e-mail nmt@mail.ta.doc.gov  
URL www.nmt.gov.

### IMPORTANT DATES FOR THE 1998 PROGRAM:

- Kick-off for 1998 nomination period: April 20-26 (National Science & Technology Week)
- Final due date for 1998 nominations: September 30, 1997 (Close of Business)

From the Lab to the Marketplace, Americans who are recognized for their vision, their genius, and their commitment to innovation.



## Something to Talk About! In the Next PACESETTER

### UPCOMING ARTICLES

The 1997 National Medal of  
Technology Awards Ceremony

### UPCOMING REPORTS

#### ***Meeting the Challenge: U.S. Faces the 21st Century: The U.S. Biotechnology Industry***

A look at the markets for biotech products and  
the factors that impact competition.

#### ***Innovation and Technology Policy in the People's Republic of China***

Details about the development of China's tech-  
nology policy and issues critical to U.S. com-  
panies negotiating technology transactions.

#### ***Korea's Strategy for Leadership in Research and Development***

The science and technology infrastructure and  
strategies for technological innovations to  
improve Korea's competitive standing in  
worldwide markets.

The **PACESETTER** is a publication of the Office of Technology Policy, a divi-  
sion of the United States Department of Commerce Technology Administration.  
Any mention of organizations, companies or products is for informational  
purposes only; it does not imply any recommendation or endorsement.

#### ■ **Editors**

Cheryl Mendonsa, Director, Public Affairs  
Kathleen Sullivan, Public Affairs

#### ■ **Directors of the Office of Technology Policy**

Graham R. Mitchell  
Assistant Secretary for Technology Policy

Kelly H. Carnes  
Deputy Assistant Secretary for Technology Policy

#### ■ **Comments and inquiries**

Cheryl Mendonsa, OTP Public Affairs  
Phone 202.482.8321

#### ■ **World Wide Web Address**

<http://www.ta.doc.gov/otp>

#### ■ **Design and Layout**

Alpha MicroDesigns, Inc.

Special thanks to McDonnell Douglas for  
providing the cover graphic of a Solar Array.



## United States Department of Commerce

Technology Administration  
Office of Technology Policy  
Room 4814C HCHB  
Washington, DC 20230  
Official Business  
Penalty for private use \$300.00

PRESORTED  
FIRST-CLASS MAIL  
POSTAGE & FEES PAID  
TECH. ADM.  
PERMIT NO. G-797