

MANUFACTURING & TECHNOLOGY NEWS

COVERING INNOVATION, GLOBALIZATION AND INDUSTRIAL COMPETITIVENESS

PUBLISHERS & PRODUCERS, P.O. BOX 36, ANNANDALE, VA 22003

PHONE: 703-750-2664 FAX: 703-750-0064 URL: WWW.MANUFACTURINGNEWS.COM

Monday, February 6, 2006

Volume 13, No. 3

NAM Finds U.S. Innovation Engine Is Shifting Offshore

BY KEN JACOBSON

U.S. industry's investment in research and development appears to be languishing. It fell to 63 percent of total domestic R&D in 2003, down from its peak level of 70 percent in 2000, reflecting an annual 1.6 percent drop in real terms over the period. But American firms' R&D spending "has not been quite as weak" as those numbers indicate, according to a new report on innovation in manufacturing, and here's why not: It is rapidly being shifted overseas.

"Funds provided for foreign-performed R&D have grown by almost 73 percent between 1999 and 2003, with a 36 percent increase in the number of firms

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Competitiveness Moves Onto The National Agenda

Politicians Actuate Academies' 'Gathering Storm' Report

The U.S. Senate is jumping on board the competitiveness issue. Nineteen senators have co-sponsored legislation aimed at doubling the budget for research in the physical sciences and making the R&D tax credit permanent.

The group is being led by a bi-partisan team of senators who hold senior positions on committees that provide funding for the initiative, which amounts to \$9.5 billion for the first year. They were buoyed by President Bush's State of the Union Address in which he proposed his own "American Competitiveness Initiative." Both proposals are built upon the recent report from the National Academies entitled "Rising Above The Gathering Storm."

The Senate co-sponsors of the "Protecting America's

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DSB To Develop Technology Strategy For Military

The Defense Science Board (DSB) will undertake a fundamental review of U.S. defense strategy in light of rapidly changing technological and geo-political circumstances. The 2006 "Summer Study on 21st Century Strategic Technology Vectors" is intended to provide DOD with a "technology roadmap" aimed at helping it deal with new challenges from "non-state" adversaries and the spread of dual-use technologies.

"Today, adversaries (both State and non State) have moved away from massed forces to mitigate U.S. combat capabilities," writes Kenneth Krieg, Undersecretary of Defense for Acquisition, Technology and Logistics, in a memorandum to the chairman of the DSB. "Dual-use

BY RICHARD McCORMACK

technology bestows strategic capability to small groups for relatively low investments and also

allows both State and non-State adversaries to economically develop effective countermeasures which lessen U.S. capabilities. The very nature of dual-use technology creates strategic uncertainty about any group's capabilities."

But these are only part of the new challenges confronting the military. Non-state adversaries are embedding themselves in "safe havens against U.S. military capabilities." And the military itself is confronting an entirely new set of mission requirements. It is now

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DSB Study...(From one)

engaged in costly and difficult "stability operations" and is expected to provide "domestic civil support during catastrophic natural incidents or WMD events," writes Krieg. "The next generation of DOD capabilities must counter or negate safe havens and provide more effective capability in new mission areas."

The summer study is intended to:

- "Review previous attempts (both successful and not) by DOD to identify critical technologies in order to derive lessons that would help illuminate the current challenge;
- "Identify the National Security objectives for the 21st Century and the operational missions that the U.S. military will be called upon to support these objectives;
- "Identify new operational capabilities needed for the proposed missions;
- "Identify the critical science technology and other related enablers of the desired capabilities. In addition, the study should identify the initiatives and developments needed to achieve these enablers including human capital and industrial base issues;
- "Assess current S&T investment plans' relevance to the needed operational capabilities and enablers and recommend needed changes to the plans;
- "Identify mechanisms to accelerate and assure the transition of technology into U.S. military capabilities;
- "Review, and recommend changes as needed, the current processes by which national security objectives and needed operational capabilities are used to develop and prioritize science, technology and other related enablers and how those enablers are then developed."

The review will be led by Ted Gold, a private consultant who was recently chief technology officer at Science Applications International Corporation, and Bill Graham, chairman and CEO of National Security Research Inc.

Commerce Dept. Convenes Cross Agency Mfg. Working Group

Representatives from 17 federal agencies have convened an "Interagency Working Group on Manufacturing" aimed at improving the competitiveness of U.S. industry. The group, led by Commerce Department Assistant Secretary for Manufacturing & Services Al Frink, has established five subcommittees addressing trade, health care, workforce education, technology and innovation and lowering structural costs.

The group held a meeting in January that was "very successful," says Frink. "There was a positive spirit in the room. Virtually to the person, they said they were very excited to be there. It convinced me that they are coming into this with a positive attitude toward accomplishment...We're interested in results, not just scratching off that we are meeting on a regular basis."

The creation of the group was proposed in the "Manufacturing In America" report produced in early 2004 by the Commerce Department after a series of nation-wide outreach meetings with manufacturers. The group will meet three times per year.

Meanwhile, Frink continues to chair the "Manufacturing Council," a private-sector group of manufacturing executives providing input into government policies. This group, too, is results-oriented, says Frink, and it believes it is making a difference.

President Bush used material produced by the council for tort reform and energy legislation. In the lead-up to the CAFTA vote in Congress last year, Bush visited one of the council member's textile production facilities in North Carolina the day before Congress voted in favor of the trade accord. "The choice of [visiting] a textile manufacturer in the face of a lot of resistance to free trade agreements especially in the textile industry was a pivotal aspect, since CAFTA won by only two votes," says Frink. "It's up to me to show [the Manufacturing Council members] that their work is making a difference. I have to challenge myself with that all the time."

The 17 participating agencies of the Interagency Working Group on Manufacturing are:

- Department of Commerce
- Department of State
- Department of the Treasury
- Department of Defense
- Department of Justice
- Department of Agriculture
- Department of Labor
- Department of Health and Human Services,
- Department of Transportation
- Department of Energy
- Department of Education
- Department of Homeland Security
- Environmental Protection Agency
- Office of Management and Budget
- United States Trade Representative
- Small Business Administration
- Export-Import Bank

Members of the Manufacturing Council are:

- Chairman — Don Wainwright
- Vice-Chair — Karen Buchwald Wright
- George Gonzalez, President and CEO Aerospace Integration Corporation
- Fred Keller, Chairman and CEO, Cascade Engineering
- James McGregor, President, Morgal Machine Tool and Ohio Stamping
- Wayne Murdy, Chairman and CEO, Newmont Mining Corporation
- Michael Nowak, President and CEO, Coating Excellence International
- James Owens, Chairman and CEO, Caterpillar, Inc.
- James Padilla, COO, Ford Motor Company
- Charles Pizzi, President and CEO, Tasty Baking Company
- Harding Stowe, President and CEO, R.L. Stowe Mills, Inc.
- Markos Tambakeras, Chairman, President and CEO, Kennametal

Defense Mantech Program Gets An Unexpected Shot In The Arm

The Manufacturing Technology Program (ManTech) at the Department of Defense (DOD), which has stagnated for about a decade, has been given a nice boost. The 2006 Defense Appropriations Act (PL 109-148), signed into law on December 30, boosts ManTech's funding to \$264 million this year, up 10 percent from last year's \$237 million. That is well above the administration's request of \$181.4 million, which would have amounted to more than a 23 percent decline.

Signed just one week later, the 2006 Defense Authorization Act (PL 109-163) creates a pilot program "to identify and transition advanced manufacturing processes and technologies" that promise the defense manufacturing base "significant productivity and efficiency gains."

House and Senate conferees on the Authorization act said "rapidly developing technology coupled with an increasingly competitive global economic and security environment makes the importance of maintaining a robust domestic manufacturing base a continuing national security concern." A "reinvigorated ManTech," they asserted, "could lead to a stronger defense manufacturing base."

Sen. Joseph Lieberman (D-Conn.), speaking on the Senate floor in support of the measure in November, warned fellow Senators that because of the way manufacturing research is managed and funded at DOD, "programs currently under way at ManTech are short-term focused projects addressing immediate needs."

Yet, he argued, "ManTech needs to balance the current shorter-term portfolio by including a focus on longer-term, higher-risk manufacturing processes and technology development that are industry game-changers and yield big efficiencies and cost savings to DOD."

But if the legislation makes possible increased risks, Lieberman explained, it also includes mechanisms that can mitigate them. "Because the prototyping and engineering development stages are

extremely expensive, collaborative facilities and test beds...should be established to severely reduce the risk, cost and time of development for new technologies."

As an added benefit, collaborative facilities might also "educate and train researchers and employees to help assure smooth production process implementation." Seen as "cost shared with both large and small participating firms," they would be "world-class centers for production development [that] could potentially solve a key DOD problem in technology transition."

As for which technology areas might be roadmapped, Lieberman suggested that consideration be given to "next-generation technologies such as advanced micromanufacturing and nanomanufacturing, other emerging process technologies, model-based enterprise, intelligent systems, enterprise integration and knowledge applications."

In his floor statement, Lieberman acknowledged that the ManTech language is based on manufacturing

recommendations contained in the National Innovation Initiative (NII) released in late 2004 by the Council on Competitiveness.

In fact, provisions similar to many of those above are also to be found in the National Innovation Act of 2005 (S. 2109), a broader legislative attempt to implement NII ideas that Lieberman and Sen. John Ensign (R-Nev.) introduced in December (MTN, Dec. 22, 2005, p. 1).

Additional provisions under the Authorization for Mantech in Subtitle D, "High-Performance Defense Manufacturing Technology Research and Development," call for:

- "Development of prototypes and test beds to validate the manufacturing processes and technologies selected for transition under the pilot program";
- Efforts to secure the "cooperation of industry in adopting" them via both the Department of Commerce's Manufacturing Extension Partnership program and "the identification of incentives for industry to incorporate and utilize" them; and
- Cooperation with the private sector in roadmapping activity to begin by January 2007, following identification of "an area of technology where the development of an industry-prepared roadmap for new manufacturing and technology processes applicable to defense manufacturing requirements" would benefit DOD.

Dell To Hire Thousands Of People In India

Dell Computer has announced plans to hire 5,000 more employees in India, on top of the 10,000 people it has working there now, and will build a new manufacturing plant in a bid to increase its share of the Indian market. The market for computers in India is projected to increase from four million units this year to 10 million in the next three to five years. Dell holds only 4 percent of the Indian computer market. "The time is right for the second phase of expansion in contact center activities, research and development and consideration of a manufacturing site," said Dell Chief Executive Officer, Kevin Rollins in Dehli. The company has a global market share in computers of 18 percent.

U.S. Innovation Shifting Offshore...*(Continued from page one)*

funding foreign R&D," according to *U.S. Manufacturing Innovation at Risk*, authored by economists Joel Popkin and Kathryn Kobe.

"Among manufacturing companies the increase in funding has been smaller, showing a 42 percent increase, from \$12.5 billion in 1999 to \$17.8 billion in 2003," they state in the report, released last week by The Manufacturing Institute of the National Association of Manufacturers and the Council of Manufacturing Associations.

The latter figure equates to just shy of 15 percent of the \$123 billion spent in 2003 by manufacturing industries on R&D inside the U.S. Total domestic R&D spending by private industry in 2003 was \$204 billion, of which manufacturing's \$123 billion represents 60 percent. Overall U.S. domestic R&D spending, \$290 billion, accounted for 40 percent of all R&D spending in the industrial world.

The growth of R&D overseas is among the chief concerns of Popkin and Kobe's report, which cites manufacturing productivity as "key" to global competition and argues that, if not reversed, recent negative trends in domestic manufacturing "and the innovation process it spawns" will imperil "long-term U.S. economic growth and competitiveness."

Even if U.S. firms weren't sending their R&D work offshore, "recent trends in manufacturing output growth overseas and the relatively modest growth in domestic manufacturing output [make it] inevitable that the U.S. share of worldwide R&D will shrink," the report states.

"As foreign R&D grows, there will be increased demand for the inputs to the innovation process in those countries," Popkin and Kobe predict. "They will develop more advanced educational systems and turn out increasing numbers of trained workers in the science and engineering fields as well." And rapidly growing economies, by their very nature, "are the site of new plants using many of the latest technologies available."

This upward spiral abroad contrasts to a prospective downward spiral at home. The authors call today's low U.S. rates of manufacturing capacity utilization — 78 percent for finished goods, 82 percent for intermediate goods — "clearly disturbing."

"The present situation, in which considerable output is imported despite the availability of local production facilities," they argue, "reduces incentives to expand U.S. capacity. That in turn means that innovations embodied in new plants and equipment are not being introduced into the production process."

And innovations are not only embodied in new plants and equipment, they are made there. "As capital goods are improved in speed, accuracy and quality, they rely on and often lead to new processes to make their utilization more efficient," the report explains.

"Reaping the benefits of such improvements in manufacturing processes requires that human capital (labor skills) keep pace. This demand prompts investment in education and training. This process and the investment it promotes leads to productivity gains, the basis for higher living standards."

The slow growth of domestic R&D spending by U.S. industry is only one of "five clear warning signs" indicating that the nation's innovation process — and, consequently, its future economic growth, productivity and living standards — are in jeopardy. The others are:

- Manufacturing output: "Its 15 percent growth since the end of the recession [in November 2001] is only half the pace averaged in recoveries of the past half-century."

- Manufacturing capacity: "Since the end of the recession, total plant and equipment investment has risen at half the pace averaged in

recoveries of the past half-century. Manufacturing capacity has grown at less than 1 percent annually... (compared with 5 percent in the 1990s)."

- Global trade: "The U.S. share of global trade in manufactures has [fallen] from 13 percent in the 1990s to 10 percent in 2004... Furthermore, the United States now runs a trade deficit in Advanced Technology Products."

- Skilled workers: "The perception that manufacturing employment is unstable and lacks job opportunities discourages new workers from pursuing career paths in manufacturing [leading to] a growing shortage of skilled workers."

In their conclusion, Popkin and

The authors call today's low U.S. rates of manufacturing capacity utilization — 78 percent for finished goods, 82 percent for intermediate goods — "clearly disturbing."

Kobe urge attention to "those factors that will make U.S.-based production a viable and profitable business choice" in any response to the "warning signs" they have identified.

"Currently the U.S. economy and economic policy are consumption oriented," they observe. "That stance is justified, not incorrectly, on the role of consumption in stimulating production. But there is growing realization that the production so stimulated will not necessarily take place in the United States."

"Thus the emphasis of U.S. policy must be placed directly on accelerating production here."

The report is available online at http://www.nam.org/s_nam/bin.asp?CID=202515&DID=236300&DOC=FILE.PDF.

Counterfeiting Becomes A REALLY Big Business

“A newly released congressional report calls for ‘direct and forceful action’ by the federal government to halt the distribution of bogus goods,” according to an article in Discount Store News. “Product counterfeiting is a rapidly growing problem which seriously threatens the health and safety of consumers.”

The report, detailing the early involvement of organized crime in the counterfeiting business, was published in May 1984, and like many well-intentioned statements produced by government agencies world-wide on the subject of counterfeiting, it attracted brief press interest before disappearing from view. If the threat wasn’t serious enough to mandate action 22 years ago, is it any worse now?

Since 1984, one thing about counterfeiting has certainly changed: the scale and danger of the crime. It is approximately 100 times larger now than it was then. The organized crime gangs that were fingered in the government’s 1984 report have expanded their business into a sophisticated global enterprise. Yet the response from government, law enforcement and even the affected brands looks much the same. “Knockoff Incorporated” is now twice the size of Wal-Mart. Knockoffs account for 7 percent of world trade. Arguably it’s the business success story of the modern era.

Counterfeiters have diversified. In researching my book, *Knockoff The Deadly Trade In Counterfeit Goods*, I encountered everything from counterfeit tea bags, filled with the floor sweepings from a tea factory, to entire fake gasoline stations. There is little today that can’t be counterfeited for profit. We know about designer purses and watches, but that’s only 4 percent of the business today, and gives a fake impression of the fake business.

Counterfeiters now have also globalized successfully, free from tariffs, quotas and working visas; united by the desire for a quick buck. Since China’s accession to the WTO in 2001, its manufacturing centers have opened up to the West. Try Chaosan if you are

BY TIM PHILLIPS

shopping for fake electronics and CDs; try Wenzhou City for bogus auto spares; in Yuxiao County, it’s counterfeit cigarettes; and Jintan City has factories where you can get great deals on knockoff pesticides. Today, two-thirds of the counterfeits in the world come from mainland China, but centers for counterfeiting exist wherever there is low-cost manufacturing and lax law enforcement.

In Israel, Arabs and Jews co-operate to distribute counterfeit products. In Paraguay, investigators discovered a CD pressing plant run by Hong Kong Chinese. And in 2005 in Lagos, Nigeria, 17 Chinese entrepreneurs were discovered running an illegal CD pressing plant with 11 lines.

The counterfeiting trade exploded in 2001 due to the terrorist attacks. Tightened banking regulations meant it was harder for criminals to store cash, so reinvesting it in a cash-generative business like counterfeiting makes sense. The War on Terror changed priorities in law enforcement, diverting attention away from ‘harmless’ crimes like counterfeiting and focusing Customs inspectors’ attention on other threats.

It’s tough for consumers to decide there’s a problem when they see the same counterfeits openly on

sale in the flea markets, Internet sites and local stores where they live, week after week. Far from being intolerable — as the CEOs of the entertainment, clothing, drugs, auto and software business claim — a certain level of counterfeiting is clearly tolerated in the developed world. Consumers might forgive brand owners and governments when those counterfeits are purses, but they will not be so indulgent when they hear about the counterfeit cancer treatments, brake pads made from sawdust and bogus aircraft parts that are part of the business too.

Who tolerates this? We all do.

The military is often accused of fighting the previous war with its technology and tactics. It seems that those in charge of fighting the knockoff business have the same characteristic. No one can criticize those in the anti-counterfeiting business for lack of effort, but could the resources be used more productively?

First, many brand owners are still locked into the fallacy that their counterfeiting problem is their business alone. For example, for reasons not hard to understand, the auto business does not even try to measure the scale of counterfeiting in spare parts, or to estimate their effect on road safety. In many industries, information that may be useful to police and customs is rarely shared with them. There is no obligation and little incentive to inform customers of dangerous counterfeit products, and companies routinely work in isolation to enforce only against counterfeiters of their brand. If the counterfeiters switch brands, the problem has gone away — but it has actually just mutated. Recent history tells us that they will return. This is a long-term failure dressed up as a short-term success.

Law enforcement needs to accept the reality of the problem. One intellectual property lawyer told me that he was told by law enforcement that unless there was a dead body involved, “don’t even pick up the phone.” Law enforcement agencies are overwhelmed by counterfeiting problems, but this is no excuse for a

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Competitiveness... (From page one)

Competitive Edge (PACE) Acts” met with reporters in late January. They were thrilled by the number of people attending their press event, which filled a hearing room in the Dirksen Senate Office Building. “When we have an opportunity to talk about legislation like this, we don’t expect a crowd like this,” said Sen. Pete Domenici (R-N.M.), chairman of the Energy and Natural Resources Committee, upon his arrival to the press conference. Upon her entrance to the event, Sen. Barbara Mikulski (D-Md.) said: “Now we know we’re real: We have charts!”

The five Senators who spoke to reporters gushed about how the issue of addressing U.S. competitiveness has widespread bi-partisan support, unlike so much of everything else that happens in Congress. “We don’t expect the polarization of partisanship” to derail the proposal, said Domenici.

The proposed new funding for the physical sciences would be directed toward agencies like the Department of Energy, National Science Foundation and the National Institute of Standards and Technology. Most of the new money would not be spent on agencies’ mission-directed research. Instead, it will become part of the 8 percent of the agencies’ discretionary accounts that fund innovative, big-payoff ideas that have the potential to transform the U.S. economy. Finding money for high-risk research is critical, otherwise the United States economy may not provide the U.S. government with funding to pay for such things as the Iraq War, prescription drug benefits, rebuilding after Hurricane Katrina, and the retirement of the Baby Boom generation, said Sen. Lamar Alexander (R-Tenn.), co-sponsor of the PACE legislation. “It’s a small price for assuring our standard of living. If we don’t do it, we’re not going to have an economy to pay the bills.”

It’s essential for the U.S. Congress to fund every aspect of the PACE bill, which incorporates all 20 recommendations from the National Academies’ “Gathering Storm” report. “We need to do it all,” said Alexander. “Our goal is not to get to the 50 yard line. We want to score.” The “Gathering Storm” report, added Kay Bailey Hutchinson (R-Texas), has become “the blueprint for the future.”

Norm Augustine, former CEO of Lockheed Martin and the chairman of the National Academies’ committee that produced the “Gathering Storm” report, said he’s pleased with the response the report has received since it was released late last year. “The reaction has been more positive than virtually anything I’ve ever worked on,” he told *Manufacturing & Technology News* after the press conference. “I think there is a genuine concern that we have to do something different. The stars are aligned to do something now and so far we have far exceeded what I expected in terms of a [political]

reaction.”

There was a full-court press on President Bush to endorse the proposal. Sen. Alexander has met with the President and his top advisors. He said Bush was “very receptive, very interested, he knows the issues and knows about the report.” The administration was active in helping draft the PACE legislation, which closely mirrors the President’s own initiative. “I am looking for two things from the president,” said Alexander. “One is to put it on the national agenda; only the President can do that. The second thing he can do is jump behind the whole report. We need to do it all. We need presidential leadership to do that. It will be much easier if he’s behind it. In a \$2.6-trillion budget, we ought to be able to find \$9 billion a year to keep our edge in science and technology.”

In his State of the Union address, President Bush devoted 323 words to his “American Competitiveness

Initiative,” which includes about 90 percent of what is contained in the PACE bill, Domenici told *Manufacturing & Technology News* after the President’s State of the Union speech in the Capitol’s Statuary Hall. “This is a big, big initiative — more than \$50 billion over 10 years,” Domenici said.

The President’s words were “a big boost,” added Rep. Vernon Ehlers (R-Mich.), also in Statuary Hall. “But it’s not going to change things over night.”

Rep. Mike Honda (D-Calif.) said he wasn’t sure if the proposal will pan out: “He talked about specific research programs; so nanotechnology will do well or supercomputing, but we’ll see whether that happens without hurting items in other categories.”

Augustine said passage of the legislation would particularly help the U.S. aerospace industry. “It disproportionately impacts aerospace in a favorable sense because aerospace depends on U.S. citizens with security clearances for much of what it does,” he said. “We can’t hire foreign people without security clearances to provide us with innovation and creativity. Our problem is much more acute because we can’t outsource. We don’t think our software can be written in Bangalore because of security issues. So, whatever this does for industry as a whole, aerospace is probably in greater need of this kind of thing than almost any other industry I can think of.”

A lot of Americans need to be concerned about their jobs, said Augustine. Jobs that were considered safe from being outsourced are no longer safe from being outsourced, Augustine said. “The guy who takes orders at McDonald’s could soon be gone,” he relayed.

“McDonald’s now has an experiment where you go in the drive-in, you give them your order and it goes up to a satellite 23,000 miles, comes back to a central location to people who are experts at taking orders and they type them in and then back to the guy making hamburgers and fries. McDonald’s has increased its throughput by 20 percent and has cut its error rate in

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“If we don’t do it, we’re not going to have an economy to pay the bills.”

Rise Of Asia Means U.S. Has No Time To Balk, Says Baucus

Senator ~~Max Baucus~~ (D-Mont.) went to Asia in January after not visiting for 43 years

and came back convinced the world has changed and that the United States had better change with it. "Last week, I saw India's future. I saw the future in the faces of competent young engineering students at Delhi's Indian Institute of Technology," he told the National Press Club in a luncheon speech. He saw new subways. He saw Bangalore's modern architecture. He saw the future "in the eyes of Indian government leaders who are bent on making the 21st century India's the world's engine."

He went to China and saw much the same thing: gleaming super-highways burrowing through brightly lit tunnels; robots stacking shelves of the Chinese company that produces the IBM ThinkPad. He saw teams of Chinese researchers at Microsoft's Beijing lab "determined to discover the next big thing." He saw new cars that have replaced bicycles. He saw capitalists, entrepreneurs and a confident middle class "ready for the future." He saw advanced technology; people fixated on quality, innovation and performance. He met people with vision and a focus on economic growth and prosperity.

Then he came back home to the United States,

where he sees a paltry number of students studying the sciences and engineering; ever-lower rankings among students on international comparisons in math, reading and science; healthcare costs that are crippling the private sector; and colossal debts that are unsustainable. "Too few think about the day our debts come due," Baucus told the scribes.

He realized that in international trade, the U.S. government has "distanced" itself from Asia and has focused instead on "pursuing politically motivated trade agreements with very small countries of little economic significance that create few jobs here at home," Baucus said. "By not pushing to open the world's biggest market and not explaining the importance of trade, this administration fosters a surging protectionism. These are the facts," he said repeatedly in a rhetorical style used to drive home the point.

Policymakers in India and China are making "deliberate" choices to grow their economies by encouraging investment, creating incentives,

BY RICHARD McCORMACK

abandoning centralized planning and protectionism, embracing fiscal and monetary discipline,

investing in infrastructure, science and technology, and universities that they hope will rival the Ivy Leagues.

"What do we choose?" Baucus asks. "We must choose a path to greater economic competitiveness, but first we must see the facts for what they are."

Another "fact" is the U.S. business community isn't showing up to take advantage of the fastest growing world markets. There are dozens of large infrastructure projects in India and China, each worth hundreds of millions of dollars. "But what did we learn? Indian government and business leaders remind me in every meeting in India that American companies are not there. These opportunities are instead going to Malaysian, French, Korean and other investors," said Baucus. "We're not showing up."

In China, U.S. involvement is concentrated in only a few places. Baucus visited Chongqing in central China, which has a population of 33 million people. "When I met with the few American businessmen there, they told me opportunities for Americans existed in every sector in Chongqing. Challenge and opportunity — that's what China and India present to the United

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Competitiveness... (Continued from page six)

half. That central location happens to be in Colorado Springs, but it doesn't take too much of an imagination to put it somewhere else."

The PACE Act sponsors were asked by *Manufacturing & Technology News* about the wisdom of substantially increasing spending on research and development when the bigger problem is the lack of investment in U.S. production. What's the sense of investing so much money in R&D if there is no production base to take advantage of it, the group of five Senators and Augustine were asked.

"You really have a point," Domenici responded. "But I think right now that investment is hard to come by because they don't see much daylight. But when you have this underpinning coming, the daylight will be much more visible and the investment will come. I can tell you that in the development of nuclear power it's going to happen. The renaissance is gigantic and it's happening. It may fool you."

To view all the provisions of the PACE bill, which includes funding for 30,000 students to pursue undergraduate degrees in the sciences, mathematics and engineering, the creation of an Energy - Advanced Research Projects Agency and the bolstering of the R&D tax credit, go to http://energy.senate.gov/public/index.cfm?FuseAction=IssueItems.View&IssueItem_ID=31

To view President Bush's American Competitiveness Initiative, set your browser to <http://www.whitehouse.gov/stateoftheunion/2006/aci/aci06-booklet.pdf>.

This Might Be The Year For Earmark Reform

A proposal by the leadership of the House of Representatives to require that earmarks be identified with the member of Congress requesting them along with a justification for how the money will be spent “would do little to virtually nothing to rein in earmarks,” says Rep. Jeff Flake, (R-Ariz.). “The problem isn’t an unwillingness by members to identify themselves with their earmarks — just read their press releases — it’s the inability of any other members to challenge the spending.”

Earmarks have skyrocketed during Republican control of Congress. In 1994, there were 4,126 earmarks (or “pork-barrel” projects) in all congressional appropriations bills. Last year, that number almost quadrupled to 15,268. Earmarks are considered another form of political corruption — using taxpayer dollars to curry favor from local businesses, universities and voters.

Flake is working with Sen. John McCain (R-Ariz.) on requiring that earmarks be included in the actual text of spending bills rather than the committee or conference reports that accompany bills. “This would give members of Congress an opportunity to eliminate projects that are wasteful and unnecessary when bills come to the House floor,” says Flake. “Anyone who defends the current practice of adding earmarks to conference reports at the last minute

where they cannot be viewed or challenged is not serious about reforming the earmark process.”

On the Senate side, Sens. McCain and Tom Coburn (R-Okla.) have distributed a “dear colleague” letter to every Senator warning them that they intend to “challenge future violations of Senate Rules” when earmarks are placed in appropriations conference reports at the last minute. This practice “stifles debate and empowers well-heeled lobbyists at the expense of those who cannot afford access to power,” the two senators write. Most earmarks are inserted into bills “in the dark, behind closed doors.” The practice “undermines the confidence of the American public in Congress because [it] is not open, fair or competitive.

“We are committed to doing all we can to halt this egregious earmarking practice and plan to challenge future legislative earmarks that come to the Senate floor,” say McCain and Coburn. “This will give all Senators the opportunity to learn the merits of proposed earmarked projects and affirm or reject them. Even though votes on earmarks will undoubtedly be quite time-consuming, we sincerely believe that American taxpayers are entitled to a more thorough debate and disclosure about how their money is being spent.”

Baucus...*(from preceding page)*

States, and to meet the challenge is to take advantage of the opportunity. We need to show up. We need to be there; 80 percent of life is showing up — just being there. It is incredible. You wouldn’t believe — every meeting I had over there with lots of different people they all said, ‘Hey, where are you? Where are the Americans? We want you. You’re not here.’ Other companies and other countries are there, and I know that the Indians want us. It’s just a huge opportunity.”

The United States has to look at every facet of its international competitive posture and address shortfalls in education, energy, health, savings, research, tax and international trade. “We have to start tackling these questions now,” said Baucus. “We have to work on it all. We should not be afraid to think bigger in each of these areas. For example, we should give a lot of thought about establishing national schools for the brightest young American minds, like the enormously successful Indian Institutes of Technology. We could harness our collective creativity by offering multi-million-dollar awards for the solutions to challenging problems, similar to the X-Prize recently awarded for the first privately funded manned space vehicle.”

Baucus believes Americans are beginning to understand the scope of the problem. “Congress responds to what the people back home want,” he says.

“It’s slow — you’re beginning to see legislation introduced, more discussion around these problems, more articles written, more people speaking that address them. Because the problems are so real, it’s going to force us to look more at the facts honestly. We no longer have the luxury of indulging in an ideology of partisanship. This is a huge challenge that’s going to force us to work together. That’s why I’m here today, frankly, to report back what I see, what I sense and what I feel is a way to try to help get us together in a non-partisan way and just get the job done. Hey, we’re in this together as Americans and we’ve got to stick together as Americas. Get the politics out of this and put everything on the table — nothing’s off the table — and find some solutions. I can see the day — and it’s not too far down the road — where finally something snaps, and we in America as a critical mass just get it and we start working on it and it will be really exciting because, you know, it’s America. We’ve done it in the past, whether it’s the 30s, the depression and the wars, and Sputnik. We’ve responded. I think most Americans sense there’s a problem or they’ve been frustrated and don’t know quite why.”

Every institution in the country has to be involved in addressing America’s competitiveness challenge: business, labor, the press, government and people who hold elected offices. “It’s a whole new paradigm,” said Baucus. “It’s a whole new mindset.”

PEOPLE ON THE MOVE

Bill Bonvillian, one of the U.S. Senate's most respected legislative aides, is leaving his position with Sen. Joseph Lieberman (D-Conn.) to take over the Washington office of the Massachusetts Institute of Technology. Bonvillian is replacing Jack Crowley who is retiring after 14 years of service.

In his 17 years as Lieberman's legislative director and chief counsel, Bonvillian left his imprint on some of the most important pieces of legislation regarding science, technology and industry, including the recently introduced National Innovation Act (S-2109), the National Nanotechnology R&D Act, the R&D Doubling Act and the Enterprise Zone Act, among others. "My loss is most surely MIT's gain," said Lieberman in a Senate floor tribute to Bonvillian.

Bonvillian, a rare sage among congressional aides, says he will now be able to devote his full attention to science, technology and industrial issues. As Lieberman's LD, he focused on a wide range of other issues. "I'm just going to be watching from a different vantage point and be working with [MIT emeritus president] Chuck Vest who is deeply concerned about this stuff," says Bonvillian.



Bill Bonvillian With His Ex-Boss, Sen. Joseph Lieberman (D-Conn.).

Science and tech issues are gaining more support than at any time since he started working for Lieberman, Bonvillian notes. The National Innovation Act already has 24 co-sponsors. Similar bills addressing U.S. competitiveness issues are being introduced. "These are bills that will put different templates in front of the committees for them to play with and there is good overlap between them," says Bonvillian. "The committees rule here, so nothing is going to happen unless it goes through committee," and that is guaranteed, given the various senators involved with the legislation.

Bonvillian was Lieberman's first intern when Lieberman was first elected to the Connecticut State Senate. "We rode from New Haven to the State Capitol in Hartford in my old copper-colored Pinto several times a week after his classes at Yale Divinity School," Lieberman recalled. "I am proud to call Bill a trusted adviser and lifelong friend."

Jim Schollaert, director of industry relations at the Washington, D.C.-based American Manufacturing Trade Action Coalition, has left that organization. He has started a new firm called Made in USA Strategies. The former chief of the textile trade division at the State Department can be reached at 703-524-7197 or via e-mail at jim.schollaert@verizon.net.

The Association of University Technology Managers has appointed its first executive director, **Vicki Loise**. The Northbrook, Ill.-based group says its recent "dynamic" growth requires a full-time executive. Loise, who joins the group from her position as development director for the National Parent Teachers Association, will help "improve relationships with related industry organizations," says AUTM. The group has 3,300 members representing 300 universities, research institutions and teaching hospitals.

The International Trade Administration at the Commerce Department has found a replacement for its former leader Grant Aldonas, who left last year to join the Washington law firm of Akin Gump Strauss Hauer & Feld. **Franklin Lavin** was sworn into the post as Under Secretary for International Trade in November. He is in charge of 2,500 employees and is responsible for developing U.S. trade policy, administering trade laws, resolving market access issues and promoting trade for U.S. businesses overseas. ITA has a budget of \$400 million.

Lavin was U.S. Ambassador to Singapore from 2001 to 2005. Between 1996 and 2001, he worked as a banker and venture capitalist for Bank of America and Citibank in Hong Kong and Singapore. During the first Bush administration, he served as deputy assistant secretary of commerce for Asia and the Pacific. During the Reagan administration, he served in the White House as director of the Office of Political Affairs. He graduated from the School of Foreign Service at Georgetown University and received an M.Sc. in Chinese language and history, also from Georgetown.

Harris Miller, the outspoken president of the Information Technology Association of America (ITAA), has left the organization to pursue "personal interests." The Arlington, Va.-based group has named Robert Laurence, vice president of public sector for Sybase, as the organization's interim president. Laurence has been chairman of the ITAA board of directors and served as chairman of the World Information Technology and Services Alliance, of which ITAA is the secretariat. Miller was president of the group for 10 years. The ITAA board of directors is conducting a search for a permanent president.

The National Center for Advanced Technology (NCAT), run by the Aerospace Industries Association, has a new president: **Michael Romanowski**, vice president of civil aviation at AIA. Romanowski will keep his current position at AIA. NCAT is a non-profit research and education foundation that has been associated with AIA for the past 10 years. Its latest big project is directing the Next Generation Air Transportation Institute, an organization that provides private-sector input into the efforts of the governments' Joint Planning and Development Office.

(Continued on next page)

Counterfeiting... *(Continued from page five)*

lack of coordinated and forceful action.

In the United States, the best example of this is New York's Office of Midtown enforcement, where a group of brand owners cooperate with the police in high-profile raids on Manhattan warehouses known to contain counterfeit goods. The raids are deliberate shows of strength. The brand owners, many of whom are competitors in daily life, stand together against a common enemy.

Too often we're fighting a sophisticated global crime business with patchy local resources. Much of law enforcement against counterfeiting is regional or at best national; it needs the intelligence that global corporations can provide to work effectively.

Ultimately though, if there were no customers, there would be no knockoff business. If counterfeits become commonplace then we educate a generation of consumers that intellectual property has little value — at precisely the moment the developed world, with its high cost of manufacturing, is coming to rely on it as the engine of development. Some industries sue customers who pirate their product: The Business Software Alliance is trying to educate its way out of the problem, experimenting with teaching the concept of intellectual property to eight year olds in elementary schools in Virginia. "We conducted research in 2004 asking 1,000 eight to 18 year olds about piracy," says Debbi Mayster at the BSA. "We found that they generally

understood what piracy was. But they still do it."

It's time to stop pretending this problem can be fixed by calls to action, trade delegations and piecemeal private enforcement. Zero tolerance of counterfeiters through coordinated action between brand owners and law enforcement, married to the education of the next generation of consumers in the value of IP will be time consuming and expensive — but it's not something that can be left to the federal government, or another 22 years may pass. Manufacturing industries and consumers are already paying the price of counterfeiting, and that price is getting steeper every day.

—Tim Phillips is author of the recently published book "Knockoff: The Deadly Trade In Counterfeit Goods" published by Kogan Page.

People On The Move... *(From page six)*

There has been turnover on the United States - China Economic and Security Review Commission. Vice Chairman **Roger Robinson** was unexpectedly not re-appointed to the commission for another two-year term by Sen. Majority Leader Bill Frist (R-Tenn.). While there was speculation that Robinson's views on how the U.S. should deal with the rise of China were considered to be too "confrontational," others associated with the commission said he no longer had time to devote to the organization. Frist has not yet nominated his replacement.

Meanwhile, two new people have been nominated by House Speaker Dennis Hastert (R-Ill.) to replace outgoing commissioners Stephen Bryen and June Teufel Dreyer. The two new commissioners are Peter Brooks and Kerri Houston.

Peter Brooks is a senior fellow for national security affairs and director of the Asian Studies Center at the Heritage Foundation. Before joining Heritage, Brooks served in the Bush administration as Deputy Assistant Secretary of Defense for Asian and Pacific Affairs. Prior to that, he served as a Republican staffer on the House International Relations Committee. He was an intelligence officer in the CIA, and worked on international issues for the State Department at the United Nations. Brooks also worked for SAIC, E-Systems and TASC and is a graduate of the Naval Academy.

The second new member of the U.S.-China Commission is **Kerri Houston**, vice president of policy at the conservative think-tank Frontiers of Freedom.

Houston is "a public policy analyst and expert in media, marketing and external relations for public policy institutes," says her bio on the Frontiers of Freedom Web site. "Her areas of expertise include tax, social security reform and healthcare." No mention is made of any knowledge of U.S.-Chinese affairs.

Prior to joining Frontiers of Freedom, the bio states, Houston was the national field director of the American Conservative Union. "A strong proponent of individual and economic liberty, Ms. Houston is a Brain Trust columnist for Investor's Business Daily," says the bio. She is a member of the National Paycheck Protection Working Group and an advisor to the Texas Conservative Coalition's Health and Human Services Task Force. She serves on the board of GOPUSA.com. "Well known for her dedication to presenting public policy in a way that will 'pass the dinner table test,' Ms. Houston brings a sharp wit and a practical spin to here areas of expertise," says the bio. Frontiers of Freedom was created in 1995 by retired Sen. Malcolm Wallop (R-Wy.), who served in the Senate for 18 years. "Sen. Wallop was the first elected official to propose a space-based missile defense system," says the third sentence of his bio on the Frontiers of Freedom Web site.

The American Machine Tool Distributors' Association has a new president. **John Healy** joins the trade association from his position as CEO of 360Solutions Group, a Washington, D.C.-based logistics and supply chain firm. He replaces Ralph Nappi, who was with AMTDA for 19 years. Healy is former president of the National Pallet & Container Association, and CEO of the Grain Elevator & Processing Society in Minneapolis, Minn.

Union Membership Holds Steady; AFL-CIO Boss Says Good Jobs Are Being 'Slaughtered'

Union membership held steady last year at 12.5 percent of all wage and salary workers in the United States, reports the Bureau of Labor Statistics. In the private sector, only 7.8 percent of workers were members of a union last year, as compared to 36.5 percent of government workers. A total of 15.7 million people, out of a total population of 300 million, were members of unions last year.

The AFL-CIO said the numbers were great, due to the fact that union membership increased by 213,000. This is a "significant increase," despite union density remaining at 12.5 percent. "In a political climate that is hostile to workers' rights, these numbers illustrate the extraordinary will of workers to gain a voice on the job despite enormous obstacles."

Grover Nordquist, the conservative leader of Americans for Tax Reform, "hailed" the new BLS numbers. They show that union membership in American "suffered yet another year of stagnation and decline," he said. Other data from the BLS report are "ominous for unions," Nordquist added. The percentage of union members over the age of 45 increased from 41.3 percent to 41.9 percent of all union members. The union membership rate among federal government employees fell from 29.9 percent to 27.8 percent. Union membership levels fell in Florida, Michigan and Pennsylvania. "Unions no longer represent the best interests of their workers," said Nordquist. "They represent the interests of union elites, who are too often aligned with the radical left wing of the Democratic Party. Increasingly, unions are little more than agitators for big government. When the majority of union members come from the beehive cubicles of government bureaucracy, it doesn't take a genius to figure out that higher taxes, more government and more dues-paying bureaucrats are good for increasingly-desperate union bosses."

AFL-CIO president John Sweeney counters that argument. The American labor movement "is the only organization that speaks exclusively for working families," he said during a luncheon speech Jan. 18 at the National Press Club in Washington.

Virtually every economic trend and political decision is going against working families, Sweeney said. The minimum wage hasn't budged since 1997, staying steady at \$5.15 an hour, yet during that same period of time "members of Congress have received a salary increase every year for the past seven years," Sweeney pointed out. Even Wal-Mart is calling for an increase in the minimum wage "because I quote," said Sweeney, "Our core consumers aren't making enough money to spend enough money." That's funny," Sweeney quipped, "I never though I'd agree with [Wal-Mart CEO] Lee Scott on anything."

The poverty rate was up last year, the first time on record that household incomes failed to increase for five straight years, a record that includes the Great Depression. "That depression followed the only other time in modern history when the White House, the Supreme Court and both houses of Congress all were controlled by one anti-working family and anti-union political party," he railed. "Our country was headed in the wrong direction then, so we took back control and charted a new course that spread the wealth and stopped the excesses of big business. It's time to take control again."

The union boss says that if there was a headline that would tell the story of the American experience in 2006 it would read: "The Senseless Slaughter of the Good American Job." This slaughter has been driven by corporations driven to compete in the global marketplace "by degrading work and workers rather than competing through ingenuity and innovation." The entrance of China, India and the Eastern Block into the global economic system absent rules to prevent the exploitation of workers has led to a "perfect storm of outsourcing, offshoring, tax evasion, layoffs, work speed-ups, wage cuts, health care cuts, pension cuts, shifting risk, bashing unions and shortchanging communities," Sweeney said. "It's a storm that has swamped the boats of middle-class workers...It's a self-destructive strategy because it leaves businesses with consumers who don't have enough money to spend or save. It leaves

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MANUFACTURING & TECHNOLOGY NEWS (ISSN No. 1078-2397) is a publication of

Publishers & Producers, P.O. Box 36, Annandale, VA 22003. On the Web at: www.manufacturingnews.com.

PHONE: 703-750-2664. FAX: 703-750-0064. E-MAIL: editor@manufacturingnews.com.

Annual Subscription Price: \$495. Frequency: Twenty-two times per year.

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Recent Reports, Resources, Analyses

2004 Joint Association Survey on Drilling Costs

says the U.S. oil and natural gas industry spent a record \$56.2 billion in 2004 on drilling, up 52 percent from \$36.9 billion in 2003, according to the American Petroleum Institute. The industry spent more drilling for natural gas than oil for the 17th consecutive year. Gas drilling expenditures accounted for 65 percent of the total, compared to 22 percent for oil and 13 percent for dry holes. Operators spent \$11.4 billion offshore in 2004 where 99 percent of exploration remains confined to the Gulf region. The report (Order No. N90055) is available (for a fee) from the American Petroleum Institute's statistics department by calling 202-682-8375.

Renewables 2005: Global Status Report

from the Renewable Energy Policy Network provides an overview of the growing worldwide markets for renewable energy systems. It is located at <http://www.worldwatch.org/brain/media/pdf/pubs/ren21/ren21-2.pdf>.

Residential Natural Gas Market Survey

from the American Gas Association finds the proportion of new, single-family homes heated with natural gas or propane rose to 70 percent in 2003, up by 2 percentage points over the previous year, "marking a continued consumer preference for gas heat," says the American Gas Association (AGA). Of the remaining new single-family homes without gas heat, 27 percent used electricity, 2 percent used oil and 1 percent used wood or kerosene, according to its annual end-use survey.

"In all, 967,000 single-family homes heated with gas were completed in 2003," says AGA. In the Midwest, 92 percent of new homes were built with gas heat; in the Western region, 91 percent; Northeast, 70 percent; and in the South, 48 percent. Overall, more than 63 million American households had natural gas service in 2003 (or 62 percent of all U.S. households). Copies of the survey (Catalog #F00005) can be ordered by telephone (201) 966-1131. AGA members pay \$30; nonmembers pay \$90.

Energy Options and Health Benefit Beijing

Case Study, from the U.S. Environmental Protection Agency, says an EPA team that supported Chinese researchers has outlined a strategy to dramatically reduce emissions of greenhouse gases in China. "With clean energy technologies and policies in Beijing the city could reduce annual emissions of carbon dioxide by up to 22 percent in 2010," says the EPA study, sponsored by EPA's Integrated Environmental Strategies Program. It is located at <http://www.epa.gov/ies>.

Prospective Evaluation of Applied Energy Research and Development at the Department of Energy: A First Look Forward

(2005), from the National Academies' Board on Energy and Environmental Systems, 138 pages, is located at <http://books.nap.edu/catalog/11277.html>.

Climate Change Technology Strategic Plan

from the Department of Energy investigates the use of advanced technology to address climate change and how

the government should spend \$3 billion on the subject. It is located at <http://www.climate-technology.gov>.

Model of Global Climate Change to 2300

says that if humans continue to use fossil fuels in a business-as-usual manner for the next two centuries, "the polar ice caps will be depleted, ocean sea levels will rise by seven meters and median air temperatures will soar to 14.5 degrees F. warmer than current day."

The simulation conducted by scientists at Lawrence Livermore National Laboratory, found that the Arctic and Antarctic regions would heat up by more than 20 degrees C. Land in the Arctic region would undergo an "alarming" change from ice to tundra to boreal forests, says lead author Govindasamy Bala of the Livermore Laboratory's Energy and Environment Directorate.

"The temperature estimate is actually conservative because the model didn't take into consideration changing land use such as deforestation and build-out of cities into outlying wilderness areas," Bala said. Today's level of atmospheric carbon dioxide is 380 parts per million (ppm). By the year 2300, the model predicts that amount would nearly quadruple to 1,423 ppm. "In reality, we may be worse off than we predict," said Bala. The research appeared in the Nov. 1 issue of the American Meteorological Society's *Journal of Climate*.

European Commission's Environment Directorate

has launched a weekly alert service intended to disseminate information about the EU's Environmental Action Program to policymakers and the general public. It will also provide information on EU research results and projects. To sign up for the bulletin, "Science for Environment Policy," go to http://europa.eu.int/comm/environment/integration/research_alert_en.htm.

2005 Crop Production Summary

from the Department of Agriculture says the U.S. agriculture industry had a very good year in 2005. Cotton production reached a new record at 23.1 million bales, 2 percent above the 22.5 million-bale record set in 2004. Corn and soybean production were also strong, both with the second largest output in history. Corn produced for grain totaled 11.1 billion bushels in 2005, down 6 percent from the 2004 record of 11.8 billion bushels. Soybeans came in at 3.09 billion bushels, 1 percent below the 2004 record of 3.12 billion bushels. To view the Department of Agriculture report, go to <http://www.usda.gov/nass/PUBS/TODAYRPT/cropan06.txt>.

Preliminary Births for 2004

says the number of births in the United States increased by 1 percent in 2004 to 4.1 million. The general fertility rate in 2004 was up slightly to 66.3 live births per 1,000 women aged 15-44, compared to 66.1 live births per 1,000 women in 2003. Childbearing by unmarried women reached a record high of almost 1.5 million births in 2004, up 4 percent from 2003. In 2004, 35.7 percent of all births were to unmarried women. Births to older women

(Continued on next page)

Reports... (Continued from page 12)

continue to increase. From 2003 to 2004, the birth rate for women aged 35-39 years rose by 4 percent. The birth rate for women 40-44 years increased 3 percent. The report, from the CDC's National Center for Health Statistics, is located on the CDC Web site at www.cdc.gov/nchs.

Global Population Aging In The 21st Century and Its Economic Implications, a report from the Congressional Budget Office, is available at <http://www.cbo.gov/ftpdocs/69xx/doc6952/12-12-Global.pdf>.

2004 Service Annual Survey: Truck Transportation, Couriers and Messengers, from the Census Bureau, says the truck and warehousing industries are growing at a healthy clip. Revenues for the sector reached \$266 billion in 2004, up from \$246 billion the year before. Truck transportation reached \$186 billion in 2004, up 10.4 percent. For-hire, local general freight trucking revenues grew 8 percent to \$20 billion. Long-distance general freight revenues increased 11 percent to \$105 billion. Motor carrier revenues were up 10.5 percent to \$175 billion. Revenue from hazardous materials shipments increased 9.4 percent to \$10 billion. The survey is located at <http://www.census.gov/econ/www/servmenu.html>.

Automotive Forecasting Services Hybrid-Electric Vehicle Outlook from J.D. Power & Associates says sales of hybrid cars are projected to grow by 268 percent between 2005 and 2012, from 212,000 vehicles to 780,000 vehicles. "There are currently only 11 hybrid models available in the U.S. market and by 2012 that number could increase to 52," says Anthony Pratt, manager of global powertrain forecasting for J.D. Power. By 2012 consumers will have the opportunity to purchase a hybrid vehicle in nearly every segment of the automobile industry, including full-size pickup trucks, minivans and luxury cars.

The Impact of Offshore IT Software and Services on the U.S. Economy and the IT Industry, from the Information Technology Association of America, says the impact of outsourcing is beneficial to the U.S. economy. The study is located at <http://www.ita.org>.

Global Warming's Increasingly Visible Impacts, a 43-page report from Environmental Defense, is available at http://www.environmentaldefense.org/documents/4891_GlobalWarmingImpacts.pdf.

The Fuel Tax and Alternatives for Transportation Funding says fuel taxes can remain the primary source of highway funding for at least another decade, "but eventually replacing them with a system that meters road use and charges drivers accordingly could benefit travelers and the public." The report is available from the National Academies' Transportation Research Board at <http://www.nap.edu/catalog/11568.html/>.

Supporting Economic Development: Community College Support for Specialized Training, a report from the Center for Regional Economic Competitiveness, finds that community colleges are increasing specialized training and that "manufacturing industries are prime beneficiaries of these efforts." The 13-page study was funded by the National Institute of Standards and Technology's Manufacturing Extension Partnership program and is located at: <http://www.creconline.com/ccsurvey.pdf>.

Short-Term Energy Outlook from the Energy Information Administration says the price of oil, natural gas and electricity should remain high this year before moderating slightly in 2007. Dramatic reductions in the price of oil "are not anticipated," says EIA. It projects the price of oil to average \$63 a barrel this year, before dropping to \$60 per barrel in 2007. Global demand for oil should increase by 1.6 million barrels per day in 2006. "Despite this strong projected growth in demand, world spare oil production capacity is projected to increase during 2006 and 2007 as non-OPEC and OPEC supplies increase," says EIA. "This increase in spare capacity is expected to ease the current tightness in world oil markets and moderate the world oil price increase seen during the past year. Non-OPEC supply, which grew by an average of 800,000 bb/d between 1995-2005, is projected to grow by 900,000 bb/d in 2006 and by 1.7 million bb/d in 2007."

Natural gas prices are expected to remain high as well this year, but U.S. production is projected to increase by 3.8 percent. Total liquefied natural gas imports for 2006 are projected to increase from their 2005 level of 750 billion cubic feet to 950 billion cubic feet in 2006, says EIA. "LNG imports in 2007 are expected to reach 1,200 billion cubic feet."

DOD TechMatch is a new Web portal for companies to monitor research and development opportunities in dozens of different technologies from the Department of Defense. The program provides "comprehensive, searchable information on nearly 120 DOD laboratories," says the new service. "Our mission is to assist DOD technology transfer from the DOD laboratory system to the commercial sector and to assist technology transition from the industrial and academic communities into the DOD." Registered users will have access to DOD research and development opportunities provided by FedBizOpps, Grants.gov and the Small Business Innovation Research program within 72 hours of a pre-solicitation notice. Companies can keep abreast of DOD conferences and major meetings, and information on technologies and patents that are available for licensing. To sign up for the service, which is run by the Air Force Research Laboratory on behalf of the Deputy Undersecretary of Defense for Advanced Systems and Concepts, go to <http://www.dodtechmatch.com>.

Consider Joining the Association for Manufacturing Excellence, <http://www.ame.org> (224-232-5980), and the Society of Manufacturing Engineers <http://www.sme.org/join> (313-271-1500 ext. 4599). A joint membership is available for both organizations for \$186.75.

NASA Restructures Aero

NASA's Aeronautics Research Mission Directorate (ARMD) officially announced a "comprehensive restructuring" of its programs, confirming a tilt toward basic research. NASA Associate Administrator Lisa Porter, who heads up ARMD, says four "key objectives" will guide NASA in "returning to long-term investment in cutting-edge fundamental research in traditional aeronautics disciplines":

- "Re-establish [NASA's] commitment to mastering the science of subsonic (rotary and fixed wing), supersonic, and hypersonic flight;
- "Protect and maintain NASA's key aeronautics research & test facilities as national assets;
- "Focus research in areas that are appropriate to NASA's unique capabilities; [and]
- "Directly address the needs of the Next Generation Air Transportation System in partnership with the Joint Planning and Development Office," an entity co-managed by NASA and the Federal Aviation Administration that coordinates all federal research related to air transportation.

ARMD will create an Aeronautics Test Program designed to "ensure NASA wind tunnels and air-breathing propulsion test facilities are available to meet [federal] research requirements and those of other national partners," says the agency. The test program will support three research areas: Fundamental Aeronautics, Airspace Systems, and Aviation Safety.

The Aeronautics Test program "will make decisions regarding the strategic use, operations, maintenance and investment" for facilities at three NASA Research Centers: Ames at Moffett Field, Calif; Glenn in Cleveland, Ohio; and Langley in Hampton, Va.

These centers were named in report language accompanying the NASA Authorization Act of 2005, signed into law last December 30 (PL 109-155), forbidding NASA to "close or mothball" numerous aeronautics test facilities pending a review and subsequent certification to Congress that any "proposed closure will not have an adverse impact on NASA's ability to execute" a national policy covering aeronautics R&D through 2020 whose formulation the act also requires.

MEP: In For Another Slogging

The Manufacturing Extension Partnership program, which will once again be the target of a substantial budget cut in the President's 2007 budget submission to Congress, is providing the country with billions of dollars worth of benefits, according to an assessment of the program's impact. MEP helped create or retain \$4.532 billion in sales for small manufacturers during 2004, according to a survey of 4,644 companies served by MEP centers throughout the country.

MEP clients reported \$721 million in cost savings from the program's assistance; the creation or retention of 43,624 jobs; and increased investment of \$941 million, according to the American Small Manufacturers Coalition, the Washington-based trade group representing manufacturing extension centers.

Fifty-nine MEP-affiliated centers in 350 locations served 16,448 clients in 2005. Since 1996, "the program has helped manufacturers create or retain more than 218,000 jobs, create or retain over \$18.088 billion in sales, generate more than \$3.384 billion in cost savings and invest more than \$5.558 billion in modernization investment," says the ASMC.

The MEP program received an appropriation of \$107.5 million for the current fiscal year. The program is funded one-third by the federal government, one-third by the states and one-third by fees paid by manufacturers for services. The 2007 budget request from the Bush administration is reportedly for \$50 million, meaning small- and medium-sized manufacturers once again must be galvanized to petition Congress to restore funding.

Unions... (From page 11)

government with more demand for public services and subsidies and fewer taxpayers to pay for them. For a capitalistic democracy that runs on equal parts, hope, self-sufficiency, innovation, productivity and civic participation, the corporate-driven strategy of destroying good jobs is worse than senseless. It's suicidal, and we have no hope of changing it unless we confront it."

If he were President of the United States, here's what Sweeney would do:

- Demand that workers' rights be afforded as much protection as corporate interests in all present and

future trade agreements;

- Make it illegal for companies to buy or sell merchandise or services manufactured or provided under sweatshop working conditions;
- Repeal tax laws that encourage corporations to send jobs overseas;
- Require that all goods and services paid for with tax dollars at any level of government be produced or provided in the United States;
- Tell Congress to pass universal health coverage so corporations can compete in the global marketplace;
- Tell corporate America to rejoin the national community by investing in worker education and training and pay less to their executives;
- Propose a budget that doubles

spending on education and job training and that restores the college loan program;

- Raise the minimum wage;
 - Expose the 150 major U.S. corporations that are using the bankruptcy courts to abandon their commitments to provide guaranteed pensions;
 - Ask every member of Congress to sign on as a sponsor of the "Employer Free Choice Act," which "guarantees the freedom of American workers to come together in unions and bargain for a better life," Sweeney said.
- "Of course, we don't expect President Bush to do any of those things."