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

Tuesday, April 4, 2006 Volume 13, No. 7

STAMPEDE TO FAST GROWING MARKETS HAS ONLY JUST BEGUN

Organizational Structures Must Change In Order To Capitalize On 'Massive Shift' Offshore

"A large portion of global commerce is in the process of quickly migrating from established markets to rapidly developing economies," according to the Boston Consulting Group. "A massive shift is under way in the world's economic center of gravity. Today the prize for getting global organization right is huge — as is the price to be paid for getting it wrong."

Companies expect to dramatically increase investment in manufacturing, sourcing, sales and R&D activity in rapidly growing economies through 2010, says the consulting firm. "Almost all of the companies we surveyed plan to increase their investments in rapidly developing economies significantly in 2006" due to continuing cost and capital advantages, an increasingly talented workforce, the migration of customers and the emergence of indigenous suppliers and competitors in those markets.

In 2005, 10 percent of the big companies surveyed by BCG said they manufactured 50 percent or more of their products in these fast growing markets. By 2010, that level is expected to top 25 percent. By 2010, 20 percent of companies expect to be sourcing more than 50 percent of their goods in these markets, up from 7 percent in 2005. Sixteen percent expect 50 percent or more of their sales to be in these markets by 2010, up from 7 percent in 2005. In the area of R&D, only 2 percent of companies said they were conducting 50 percent or more of their research in fast emerging markets in 2005. By 2010, that will increase to 9 percent.

A whopping 67 percent said they plan to "significantly increase" investment in sales operations in these markets; 51

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U.S. Machine Tool Consumption Is About Half That Of China's

China's installation of machine tools was almost double that of the United States last year, despite having an economy that is about one-tenth the size as measured by GDP, according to the annual tally from the *Metalworking Insiders' Report*.

The United States led the world in machine tool consumption throughout the 1990s, but plunged from that position in 2001. With consumption of $5.8 billion last year, the United States was in third place behind China ($10.9 billion) and Japan ($7.5 billion).

U.S. machine tool consumption rose by 14 percent last year. Chinese consumption rose by 15 percent. Japan's consumption was up by 27 percent. Machine tool consumption is considered to be one of the best measures of industrial vigor.

On the production side, the United States ranked in sixth place in the world, more than four times below Japan, the leading producer at $13.3 billion. U.S. production of machine tools last year stood at $3.2 billion, which put it behind Taiwan in fifth place at $3.3 billion, Italy in fourth place at $4.9 billion, China in third at $5 billion, Germany in second at $9.5 billion, and Japan leading the world at $13.3 billion.

"China made substantial gains in production in 2005, moving ahead of Italy into third place in the world," says the *Metalworking Insiders' Report*. China's production of machine tools increased by 23 percent. Japan's was up by 28 percent. Taiwan's output was up by 10 percent; South Korea experienced a 19 percent increase in machine tool production. India's machine tool production

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Nanotechnology Is Not Quite Ready For Prime Time

A lot more companies have started research and development efforts aimed at applying nanotechnology to their products, according to a survey if 600 companies conducted by the National Center for Manufacturing Sciences (NCMS). But there are still no "true" nanotechnology products on the market today, and traditional manufacturers are "preoccupied" with other issues, particularly regarding their short-term profitability. Enlightened companies are preparing now for a potential paradigm shift in their business.

"The survey found that organizations are proceeding cautiously in the development and commercialization of innovations such as active three-dimensional nanotechnology products that involve more direct human, social and environmental impacts," says the survey. "The nanomanufacturing industry for second generation (potentially disruptive) nanotechnology products is still in its infancy — there are as yet no commercial devices based on true nanotechnology."

Conditions are not quite ripe for the industry to blossom, even though the survey found that the United States has the world's best research, development and entrepreneurial infrastructure in place to take advantage of the technology. Companies are also taking the technology seriously, with 70 percent of the respondents indicating that they have "medium to high" levels of organizational capacity to pursue nanomanufacturing. Fifty-two percent say manufacturing is a "high priority" for development in their organizations, with 20 percent — mainly from the Midwest and Northeast — saying it's a low priority.

"Large-scale, market driven investments have been somewhat inhibited due to the lack of broader, in-depth understanding of nanotechnology's complex material-process-property phenomena and its interactions with humans and the environment," says an NCMS analysis of the findings. "These issues uphold the perception of uncertainty and long lead times in the industry. Therefore, the near-term impact of nanotechnology is likely to be fragmented, product-specific and evolutionary rather than revolutionary."

There are many challenges confronting the introduction of nanotechnology, including funding, commercialization strategies, intellectual property rights and the potential for local, state and federal regulations, according to the survey, conducted on behalf of the National Science Foundation. "While there is much exploratory partnering and co-development within the industry, it will accelerate when early nanotechnology applications crossing the 'valley-of-death' are able to demonstrate unquestionably superior performance of existing macro-scale products and systems at affordable cost, improved margins and higher reliability. Large-scale, market-driven investments have been somewhat inhibited due to the lack of broader, in-depth understanding of nanotechnology's complex material-process-property phenomena and its interactions with humans and the environment...[E]xecutive attitudes indicates that while new applications will grow in the near-term largely by entrepreneurial means (e.g. technology push to seek niche applications), the longer-term growth of a nanomanufacturing venture would depend on the organization's core competency to vertically integrate and partner with end users on the basis of platform nanotechnologies as well as its ability to meet defined performance objectives (i.e. market pull factors) that help meet the customers' bottom line."

Despite the difficult technology transition, the survey found that there are many new products and processes under development. Nanoscale materials, manipulation tools and measurement devices are now being applied to the consumer products, digital storage, photovoltaics and semiconductor manufacturing industries, the survey points out. "Myriad new applications of advanced nanocoatings, nanofilms and nanoparticles are being developed for introduction in the near-term (three to five years) on a broader range of durable goods, consumer electronics and medical products," says NCMS. "Nanoproduct applications are also being developed for the next generation semiconductor, energy, chemical catalysis and pharmaceutical/biomedical products. These would eventually mature into convergence products with higher sensory complexity, self assembly and autonomous functionality, offering greater potential for achieving the envisioned economic and societal impact."

Government investment is essential, according to the "unanimous" consent of the survey respondents. "Government support will expedite improved fundamental understanding of nanotechnology and further clarify its potential," says NCMS.

There is a link to the survey on the NCMS home page at http://www.ncms.org or at NSF (http://www.nsf.gov/nano/) or by typing the following URL into your browser: http://www.ncms.org/publications/PDF/05NCMSNanotechnologySurveyAbstract.pdf.

Electronics Technology Roadmap Preview

The International Electronics Manufacturing Initiative (iNEMI) will hold a workshop on May 17 to provide companies with a preview of key findings in its 2007 Technology Roadmap. The event, at consortium headquarters in Herndon, Va., will provide participants "the advantage of gaining early insight into the anticipated future direction of the electronics industry," says Chuck Richardson, iNEMI staff manager of roadmapping. The workshop will include presentations from the 19 technology working groups, and is open to non-iNEMI members. For information or to register, go to http://www.inemi.org/cms/calendar/iNEMI_Roadmap_North_American_workshop.html.

Republicans On Science Committee Vote In Favor Of Commerce Department's Snub Of Congress

The House Science Committee last week clashed, at times colorfully, over whether to bow to a Department of Commerce decision to deny the panel's Democratic members access to material generated during a congressionally mandated study of offshoring. The panel failed, however, to settle the matter in a way that satisfied House rules.

BY KEN JACOBSON

Consequently, the committee will be called back into session Wednesday, April 5, to deal, for a second time, with a Democratic resolution (H.Res. 717) designed to force Commerce to hand over the study's final draft.

While the resolution itself was defeated on March 29, a motion that would have reported it with an unfavorable recommendation to the full House fell short of passage, necessitating further balloting.

Leading up to the votes during the committee meeting was what might be characterized as a debate between the committee chairman, Rep. Sherwood Boehlert (R-N.Y.), and its minority members over the utility — and the significance — of insisting that Commerce make available the work of the Technology Administration (TA) analysts who conducted the offshoring study.

Boehlert, in stern tones that later softened somewhat, began by deriding the Democrats' resolution as "political gamesmanship" and a "partisan distraction." It was, he predicted, "just the beginning of a prolonged fishing expedition that will raise all sorts of disputes related to congressional access to Executive Branch deliberations."

"I jealously guard the rights of the minority," he said in his opening statement. But he added: "I'm not willing to get into a drawn-out legal dispute that could make it more difficult for Congress to get documents in the future on issues that really matter."

The current issue matters not, he argued, because a "new and more extensive" report in the works at the National Academy for Public Administration (NAPA) would "cover the same questions, only with greater care and thoughtfulness" than the TA report. Additionally, he said, because "no one who was directly involved [in] bungling" the TA report's handling "is still in government, there is nothing at stake in reviewing their actions."

"When we should be working together to come up with ways to keep jobs in this country," Boehlert declared, "we're instead fomenting needless fights across party lines that will make it harder to work together."

Democrats framed the issue differently, of course. Their leader, Ranking Minority Member Bart Gordon (D-Tenn.), couched the tug-of-war with Commerce in terms of the committee's oversight responsibilities. "It's about doing our job," he stated. "The politics is not Democrats vs. Republicans, the politics is this: I think the Legislative Branch ought to be an equal branch. And I think that when we request information and use taxpayers' dollars to pay for it, we ought to be able to get that information."

Speculating that the hold-up of TA's report could be attributed to "some middle-level guy over there

(Continued on next page)

One Republican Says Dems Are Right

Rep. Dana Rohrabacher (R-Calif.), labeling the Bush administration "arrogant and restrictive" in its handling of information, declared at a House Science Committee markup March 29 that he was voting "reluctantly and as a matter of obligation" to Chairman Sherwood Boehlert (R-N.Y.) against a Democratic measure designed to pry the draft of a controversial offshoring report out of the Commerce Department.

"If I was just going by the arguments, I would be voting with the other side of the aisle on this question," he said during debate on H.Res. 717, denying that Boehlert's "claim of political gamesmanship or partisanship" on the Democrats' part was "enough to negate the validity of [their] request."

For one thing, Rohrabacher explained, "there's political partisanship on both sides of the aisle." For another, he insisted, "democracy and politics are tied." That might be "one of the flaws of democracy," he said, but it "also gives an energy to a democratic system that perhaps simply the search for responsible government decision making would not."

As to Commerce's unwillingness to release the offshoring material, he stated: "In some of the areas of national security, I know that we've got to make sure we overpower the instincts for political gamesmanship to make sure that our national security isn't hurt. But, in areas beyond national security, I think that the administration has been overly restrictive. And I think that the denial of [the committee Democrats'] request, and just the reaction to this request, indicates that there's something wrong on our side of this debate."

Pointing to possible future repercussions, Rohrabacher asked: "Will we as Republicans, when we are in the minority, expect to get information that we need in order to make it part of the public debate?" For this reason, he said, he "would not have made the same decision" as Boehlert had to oppose the Democrats' position.

He then turned to outsourcing itself, calling it "a byproduct of globalization, which I think our country has rushed into without regard to what kind of effect it will have on the prosperity or the rights — economic and political — of our own people.

"I think," he added," it deserves a lot more examination than it's been given."

Republicans: Commerce Snub Is Okay...

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who thinks he's doing somebody a favor because this report will probably mention there's outsourcing going on," Gordon maintained there was "no embarrassment" to the administration in recognizing outsourcing's existence.

Likening the TA study to the National Academies' recent "Rising Above the Gathering Storm," he said: "When we received the Augustine Report, it had some bad news, but we weren't afraid of it. We didn't think it was a partisan jab; we embraced it."

While several other Democrats simply reiterated Gordon's demand to see how $335,000 — or, as Boehlert corrected them, "no more than $335,000" — of the taxpayers' money had been used, Rep. Lynn Woolsey (D-Calif.) made explicit a mistrust of the current administration.

"There's a lot of reports that have come out in this country in the last few years," she said. "They've been scrubbed — on the environment, on the war. We want to make sure this information is not scrubbed before we get it. That's what we're asking for."

In addition to vigorous debate, last week's markup featured a generous portion of the unexpected:

• Rep. Dana Rohrabacher (R-Calif.), the only member of the majority aside from Boehlert to speak during the markup, declared support for the Democrats' resolution — saying he would vote against it only out of loyalty to his chairman (see box on page three).

• Boehlert confused those familiar with the issue by claiming in his opening statement: "Every bit of data — every bit of data — that was gathered for the report was provided to the National Academy of Public Administration....Moreover, the [TA] analysts have been made available for interview by those preparing the NAPA report."

Were the statement's apparent meaning fact, the proceedings would have been moot, since TA's releasing documents to NAPA would have precluded it from withholding them from the committee's Democrats. For the remainder of the markup, Boehlert referred exclusively to the meetings of TA analysts with NAPA researchers; his chief of staff, David Goldston, told *MTN* afterwards that the wording initially used by Boehlert "wasn't intended to be misleading" and promised greater clarity "in our future statements."

[For the record, *MTN* checked with NAPA's director for the project, Kenneth Ryder, who said that NAPA researchers "never got data or tables" from the Commerce Department beyond the 12-page report. He said that speaking with the TA analysts was "very helpful," noting that they identified numerous public sources from which they had obtained data used in their study.]

• When Gordon praised Boehlert, who recently announced he will not run for reelection, as "a man of the House" in a tribute that began his opening statement, Democrats rose spontaneously to applaud — to be followed only belatedly, and somewhat hesitantly, by their blinking Republican colleagues.

Meanwhile, Gordon was repeatedly referred to as "Mr. Barton" by colleagues on his own side of the aisle who, eliding his first and last names, produced the name of Rep. Joe Barton (R-Texas), the chairman of the House Energy and Commerce Committee.

• After the committee's Republicans had voted the resolution itself down by 19-14, enough of them wandered away and enough Democratic members showed up so that a subsequent vote, needed to report it out with an adverse recommendation, failed by deadlocking at 17-17. Caught by surprise, legislators were momentarily stumped as to what would come next.

Left to the majority, it appears, is the possibility of offering a motion to report out H.Res. 717 without recommendation. If the measure leaves the committee with a recommendation that is either adverse or neutral, it is unlikely ever to reach the House floor; a positive recommendation appears highly improbable.

But should the panel fail entirely to report out the resolution within a 14-day window that ends this week, rules pertaining to Resolutions of Inquiry — which is what H.Res. 717 is — would allow Democrats to force the measure to be taken up by the full House.

Although the resolution was much in dispute, members of both parties found common ground in their concern about outsourcing itself. "There isn't a member of Congress on either side of the aisle who would not like to see more jobs created and retained in this country," Boehlert said in his opening statement. "The whole innovation debate is about finding ways to counter or compensate for outsourcing."

No one disagreed. And Rep. Darlene Hooley (D-Ore.), referring to Boehlert's characterization of the TA report as "200 pages of raw data" that had then been "condensed into a 45-page report," offered her own analysis: "I suspect that whatever raw data is in that 200 pages is minor compared to our not knowing what's in those 200 pages."

An archived webcast of this illuminating and, at times, highly entertaining markup can be accessed online from http://www.house.gov/science/webcast/index.htm.

Huge Interest Among Students In Wanting To Assess Health Of Defense Base

A lot of college students would love to work at the Office of the Deputy Under Secretary of Defense for Industrial Policy. The office received an "overwhelming response" of more than 300 applications for three available summer intern positions. They were promised exciting jobs assessing the health of selected defense industry sectors, researching suppliers of critical technologies, reviewing technologies and industrial base concerns, analyzing foreign direct investment trends in U.S. defense markets, reviewing mergers, and assessing regulatory reforms related to the Committee for Foreign Investments in the United States. The office will make its final selections on April 7.

Productivity Of U.S. Shipbuilding Industry Is Closing In On Foreign Rivals

The six major naval shipyards are catching up to their international rivals in productivity and efficiency, according to a benchmarking assessment recently commissioned by the Department of Defense. When compared to seven international shipyards, the U.S. yards have substantially narrowed the performance gap.

"There has been a marked increase in the rate of improvement in the U.S. yards over the last five years," says the report from DOD's Office of Industrial Policy. "This is the result of substantial capital expenditures by several yards and a concerted, industry-wide effort to employ a higher level of technology. Although individual U.S. yards still have some way to go and there are some large gaps in key elements, at an industry level, the technology gap with the international shipbuilders is closing."

Comparisons can be difficult to make, however. The U.S. yards are producing more complicated ships than, say Korean yards, which will turn out 50 to 60 ships per year.

But in every category of measure save for "outfit manufacturing and storage" the U.S. yards still lag behind the international yards. The largest gaps occur in steelwork production and pre-erection activities. There are smaller gaps in design, engineering and production engineering, design for production and planning.

"To build the complex vessels produced by the U.S. yards most effectively, the averages in these groups [design and engineering] should lead the international yards, which tend to build less complicated vessels," the benchmarking survey points out.

"The industry is now generally well equipped to achieve internationally comparable levels of productivity in naval construction," the report concludes. "However, there are major opportunities for improvement in the 'soft' areas including design, production engineering, planning, estimating, logistics, accuracy control and manpower and organization...The high inherent work content in U.S. naval vessels also contributes to the perception of poor overall productivity."

The analysis also found that suppliers of materials and equipment account for a higher proportion of vessel cost than the shipyard added value "and have significant influence on cost and schedule adherence."

The report, "First Marine International Findings for the Global Shipbuilding Industrial Base Benchmarking Study," is available at http://www.acq.osd.mil/ip/docs/fmi_industry_report.pdf.

Revolving Door At Tech Administration; Will NIST Hire 600 Researchers?

Only a day following a March 27 announcement by the Technology Administration of Robert Cresanti's confirmation as Under Secretary of Commerce for Technology — the head TA post — came word that Dan Caprio, who has served as Assistant Deputy Secretary for Technology Policy since July 2004, will leave. Caprio will join the Progress & Freedom Foundation (PFF), which describes itself as "a market-oriented think tank that studies the digital revolution and its implications for public policy." He was to leave TA effective April 7, a Commerce official said.

At PFF, Caprio is to assume two posts: executive vice president, which is a new position, and senior fellow. "I have always admired PFF and benefited from its events and scholarship," Caprio said in the organization's announcement of his appointment. "The insight and knowledge that PFF brings to the digital policy debate has never been more important."

Cresanti, confirmed by the Senate on March 16, will find it lonely at TA. The posts of Deputy Under Secretary for Technology and Assistant Secretary for Technology Policy are currently vacant and, following Caprio's departure this Friday, Cresanti's will be the only one of four TA secretarial positions filled.

With the administration aiming to cut TA's budget from $5.9 million in the current fiscal year to $1.5 million for 2007, it's uncertain how much company Cresanti is likely to have in the future. TA's staff, should the administration's funding request prevail, is slated to shrink from 20 full-time equivalent employees to five.

The announcement from the Commerce Department of Cresanti's arrival states that he will "oversee" the operations of the National Institute of Standards and Technology, which "plans to add an additional 600 researchers."

But that number "isn't quite what it appears to be on the surface," writes a NIST spokesman in response to a query from *Manufacturing & Technology News*. "It was derived thusly: if you look at the total number of researchers (FTEs and guest researchers from industry, foreign countries and other government agencies) that NIST can support with existing FY 2006 dollars (about 3,300) and extrapolate using the funding that NIST would receive in FY 2007 if the President's proposed budget — including the 12 initiatives — goes through as submitted, then NIST could support a total of 3,900 researchers — or plus 600. Don't put out the 'help wanted' ads just yet. There's a little matter of the budget process to get through first."

Stampede To Emerging Markets...

(Continued from page one)

percent said they will "significantly increase" investment in manufacturing, with another 29 percent saying they plan on a "slight" increase in manufacturing investment.

Industries that are mature in the United States are booming in the fast growing economies, with annual growth rates of 20 to 50 percent or more per year. As a result, American companies that pride themselves on the mundane aspects of protecting market share and reducing costs "must be prepared to invest — quickly, decisively, repeatedly and often in advance of demand — to acquire the right talent and resources to capture that growth" in the emerging markets, says BCG. "This requirement entails a fundamentally different mindset and skill set in the people leading these operations. It also means that frontline managers must be constantly building and adapting their organizations or they risk diminished growth."

The big companies that BCG surveyed say their sales from these markets will increase from 21 percent of overall sales in 2005 to 34 percent in 2010. But only 18 percent of their employees, 13 percent of their assets and 10 percent of their top 200 managers are located in these markets.

This misalignment poses challenges, particularly since these markets are so dynamic and different. "For expatriate managers, unfamiliar legal and employment practices, compounded by pervasive cultural differences, all add to the tension," says the analysis. "Companies must learn to function effectively and grow while competing with lower-cost local companies with better ties to regulators, deciphering rapidly developing regulations, decoding unfamiliar customer preferences and mastering unique local business practices."

There are massive changes taking place in every aspect of these societies and markets: customer needs are changing; competition from foreign and local companies is growing, distribution channels are diversifying; infrastructure and resources are questionable; and recruiting is a challenge. Huge risks are also present. Protecting intellectual property, preparing for political upheaval, and creating an organization that can deal effectively with all of this pose additional challenges for managers. "The ways of doing things that historically served the company well may not meet the demands of rapidly developing economies' markets and organizations."

Companies that are successfully operating in the fast-growing markets are developing organizations that overcome misalignments of personnel and thinking. The key ingredients to success are having an engaged leadership, developing collaborative structures, continuously attracting talent, and developing common processes, platforms and core values.

"Senior leaders in the most successful organizations are distinguished by high levels of engagement in rapidly growing economies," says BCG. "They actively set direction, ensure senior-level sponsorship, orchestrate resources and overcome barriers."

The 28-page report, "Organizing for Global Advantage in China, India and Other Rapidly Developing Economies," is located at http://www.bcg.com/publications/files/Organizing_for_Global_Advantage_in_China_India_and_Other_Rapidly_Developing_Economies_Mar06.pdf.

NAM Wants To Get Tough On Trade Enforcement

The National Association of Manufacturers has created a new "trade compliance working group" to work with U.S. government agencies alerting them to unfair trade practices and to make sure foreign countries are complying with trade rules. NAM is also creating a trade compliance "hot line" for smaller manufacturers to raise issues concerning unfair trade.

The trade compliance working group will be led by Wendell Willkie, general counsel at MeadWestvaco and former chief counsel at the Commerce Department during the first Bush administration. "It fits hand in glove with U.S. Trade Representative Rob Portman's new effort to obtain compliance with trade obligations and to enforce U.S. trade laws," says NAM president John Engler. Adds Willkie: "Our working group will be coordinating with offices in the Commerce Department and the U.S. Trade Representative with an eye to developing a roadmap for companies when they encounter problems in international trade. We won't hesitate to recommend improvements to the system if we believe that is necessary."

Meanwhile, NAM says it will support legislation introduced by Sens. Charles Grassley (R-Iowa) and Max Baucus (D-Mont.) aimed at beefing up U.S. enforcement of trade agreements and to identify and potentially punish countries that manipulate their currencies. The U.S. Trade Enhancement Act of 2006, "represents the most significant overhaul of U.S. legislation to monitor currency practices since 1988," says a bill summary from the two senators. "It puts more teeth in the enforcement process and imposes hard triggers for action to address misaligned currencies that hurt the U.S. economy."

NAM says the bill has some "good ideas," but doesn't address all problems that manufacturers are encountering, such as the application of countervailing duties to offset subsidies in non-market economies such as China.

Goldman Sachs: Spending On IT To Post Modest Gains

Corporate spending on information technologies should pick up modestly this year, according to the latest IT spending survey conducted by Goldman Sachs. "We are seeing further signs of less constrained IT budgets, some improving vertical end markets, stronger technology product cycles and an improved Europe relative to a year ago that lead us to ultimately expect stronger spending in 2006," says the survey. Improvements in the market for IT equipment, software and services are a "whisper, not a scream."

Spending plans have calmed down in recent months, but there is a greater percentage of companies (19 percent) that expect spending growth to exceed 10 percent this year, compared to only 10 percent at the same time last year.

Companies are planning to spend the largest amount of their IT resources this year on security systems, followed by application integration, and compliance and risk management. "Business process management dropped to number 16 from number seven in our prior survey, which was surprising to us given our view of the traction in this market segment from vendors such as IBM, TIBCO and WebMethods," says the 30-page analysis.

When asking corporations which companies are gaining share in IT spending dollars, Goldman Sachs found that in the enterprise server segment, Dell is back on top while Sun Microsystems is losing share. In PC's, Hewlett Packard is joining Dell in gaining share, while Lenovo is losing share. In storage, IBM and EMC are gaining; Sun is losing. In software, the "usual suspects" are gaining share: SAP, Citrix, Microsoft, Vmware, Red Hat, Business Objects, EMC, Cognos and Google. Losing share are Novell and CA.

In the area of offshore outsourcing, interest remains high. "For now, it does appear that the pendulum has swung back in favor of the domestic multinational IT services providers, but given our expectation for sustained industry growth of 25 percent or better, it is apparent that demand for offshore services is not expected to slow in the short term," says the analysis. "Our outlook for the offshore space remains positive and we believe that current adoption trends will continue to face strong demand tailwinds for core application maintenance and development services. In addition, adoption and expansion into new service areas provide incremental growth opportunities, which we believe should help sustain the current growth trajectory and further expand the addressable market for offshore service providers. Offshore companies that seem well positioned include Cognizant, Infosys, Satyam and Wipro. As for the traditional U.S. IT services companies, we believe that Accenture, Affiliated Computer Services and IBM remain best positioned because of their more aggressive offshore strategy relative to their peers."

Twenty percent of the companies surveyed say they are considering offshore delivery for IT services outside of traditional maintenance and development, which represents "a source of growth for offshore companies that should help support the current growth trajectory," says Goldman Sachs. "We believe the market opportunity for offshoring will continue to expand with the introduction of new service offerings and clients' willingness to adopt the offshore model in new areas."

The companies that should benefit most from growing IT spending are eBay, Google, Marvell, Qualcomm and Satyam. Goldman Sach's top "value" picks are Automated Data Processing, First Data, HP, Microsoft and Seagate Technology.

For more information on the "IT Spending Survey," contact Laura Conigliaro at laura.conigliaro@gs.com.

Manufacturing Extension Program Receives Ringing Endorsements

A record number of U.S. senators has signed a dear colleague letter to the appropriations committee chairman who controls the budget for the Manufacturing Extension Partnership program asking for full funding for next year. The Bush administration requested $46 million for MEP, down from the $104.6 million the program received for the current fiscal year.

Sixty-three senators signed the letter sponsored by the Senate Manufacturing Task Force. In the House, a similar letter garnered 223 signatures.

Governors have also gotten involved in lobbying for the program. Twenty-six governors have sent letters to the White House seeking support for MEP, which is cost-shared with the states.

The Senate letter said that MEP "is one of the most successful federal/state partnerships in government. Manufacturing is one of our greatest economic strengths and MEP is an invaluable program that helps manufacturers improve productivity and compete in the global marketplace."

Washington trade associations and lobbying groups have also recommended the program be funded next year, including the National Association of Manufacturers, the U.S. Chamber of Commerce, Motor & Equipment Manufacturers Association, and the Precision Metalforming Association.

The 59 MEP centers have 350 locations throughout the country. They served 16,448 companies in 2005, leading to direct cost savings of $721 million and creating or retaining over $4.532 billion in sales. "The program also helped manufacturers create or retain 43,624 jobs and increase investment of $941 million back into the economy based on an independent survey of 4,644 clients served by the program in federal fiscal year 2004," says the American Small Manufactures Coalition.

Machine Tools...

(Continued fom page one)

increased by 50 percent last year. U.S. production was up 1 percent.

"As a block, five Asian nations (Japan, the Peoples Republic of China, Taiwan, South Korea and India) account for $24.7 billion, or 47.6 percent of the survey total production; a year ago they held a 44.1 percent share."

China consumes more than one-fifth of world production. "Its voracious appetite increasingly is being satisfied by its own machine-tool producers, however, starting to move away from a still-strong reliance on imports," says the analysis.

Total exports by the 28 countries surveyed rose by 14 percent last year, or $3.6 billion. "The United States is one of only three machine-tool economies that show a decline in exports (by 6 percent to $1.2 billion), despite trade-promotion activities on the part of its major trade associations," says the survey. "Insiders attribute the slip variously to a growth in the home market, currency fluctuations that no longer give the dollar a boost, the mix of machine types produced in America, and/or U.S. government restrictions or inactions. Whatever the formula, Japanese builders appear to have got it right. That country increased its exports 27 percent in 2005 and that came on top of a 16 percent yen-based increase the year before." Japan exported about half of its production.

As far as per capita consumption of machine tools, the United States ranked in 15th place last year, at $19.87. Switzerland was in first place at $110.27, followed by Taiwan ($96.38), Korea ($75.43), Germany ($64.39), and Japan ($59.12). Even Croatia ($25.26) was ahead of the United States in per capita consumption. China ranked in 23rd place at $8.39; India was in the 28th spot at $0.94.

The complete report is located at http://www.gardnerweb.com/consump/survey.html.

Ten Largest Consumers Of Machine Tools

	Country	2005 $-Millions	2004 $-Millions	% Change in U.S. $s
1.	China	10,900.0	9,456.0	15%
2.	Japan	7,527.8	5,942.7	27%
3.	United States	5,822.6	5,093.0	14%
4.	Germany	5,307.4	5,111.2	4%
5.	Korea, Rep. of	3,665.6	3,058.6	20%
6.	Italy	3,2938	3,280.3	0%
7.	Taiwan	2,192.6	2,617.0	-16%
8.	Canada	1,428.9	1,200.1	19%
9.	France	1,423.2	1,180.0	21%
10.	Spain	1,087.4	1,032.9	5%

Ten Largest Producers Of Machine Tools

	Country	2005 $-Millions	2004 (rev.) $-Millions	% Change in U.S. $s
1.	Japan	13,258.6	10,572.9	25%
2.	Germany	9,508.7	8,959.1	6%
3.	China,	5,000.0	4,080.0	23%
4.	Italy	4,878.6	4,639.2	5%
5.	Taiwan	3,295.1	2,883.6	14%
6.	United States	3,169.4	3,131.7	1%
7.	Korea, Rep. of	2,815.6	2,362.2	19%
8.	Switzerland	2,635.1	2,333.1	13%
9.	Spain	1,141.4	1,020.5	12%
10.	Canada	949.1	814.4	17%

A Rare Mfg. Executive Tries Again At Congress

A manufacturing company owner from upstate New York has decided to run for Congress, targeting a powerful House Republican for his seat. Jack Davis, who ran two years ago against Rep. Thomas Reynolds for a district that stretches from the western Rochester to the eastern Buffalo suburbs, announced his candidacy on Thursday, March 30. He will make the loss of jobs due to the free trade policies of the federal government a centerpiece of his campaign.

Davis, 73, won 45 percent of the vote in the 2004 election, but says he was not familiar with the district or campaign tactics necessary to win. Davis, a life-long Republican who switched to the Democratic Party when he saw that Republicans were embracing free trade at the expense of jobs in his district, spent $1.2 million of his own money on his campaign in 2004. He intends to do the same this time around.

Davis says he is "on a mission to save American jobs, farms and industries" and is well positioned to do so, given his credentials as the owner of a manufacturing company (I Squared R Element). "I am a businessman, not a career politician," he says. "I know what it takes to build prosperous businesses in Western New York and I know how to reverse the loss of jobs and reverse the declining U.S. economy."

He claims that Reynolds is "committed to the special interests that give him money, send jobs overseas and sell out New York and America." He points out that Reynolds took $12,000 from Duke Cunningham, the congressman who's in prison for taking bribes.

Meanwhile, Reynolds, chairman of the National Republican Congressional Committee, says he will stress the good work he is doing for his constituents, in assuring that local military bases stay open and the federal Manufacturing Extension Partnership (MEP) remains fully funded at $106 million. MEP "is an incredibly important federal investment for our local manufacturers, and I will fight hard to ensure that our manufacturers receive this vital funding," he said at the Firth Rixson Monroe plant in Rochester on March 18. The problem with manufacturing in New York, says Reynolds, is not free trade but high energy costs, high workers' comp rates, which average $12,000, and high local and state taxes, which are 48 percent higher than the national average.

You can view Davis's engrossing announcement speech at http://www.manufacturingews.com/news/06/0404/davis.html.

Pentagon Finds That Defense Industrial Base Is Mostly Healthy, But Some Areas Pose Challenges

The U.S. defense industrial base is generally healthy and appears to be "well positioned to supply the most critical technologies enabling 21st century warfare," according to the annual assessment conducted by the Defense Department's Undersecretary of Defense for Industrial Policy. "Nevertheless, there are and will always be problem areas that the Department must address."

Business is very good for the big defense contractors, the Industrial Policy office notes. Profits for General Dynamics, Lockheed Martin and Boeing are much higher than those for comparable industrial companies like Alcoa, Caterpillar, General Electric and Ford. "Defense assets are plenty attractive to the merger and acquisition communities as measured by the large number of antitrust and foreign investment reviews in 2005," says the Industrial Policy office.

Nevertheless, there are industrial sectors that are weak. In the area of microelectronics, DOD had to create a "Trusted Foundry Access Program" in 2004 so that it could have an "assured" supply of integrated circuits made in the United States. The contract with IBM "is the first step in a broader strategy to maintain long-term access to leading-edge integrated circuit products and to ensure that defense-specific integrated circuits built for sensitive DOD systems can be trusted," says the Industrial Policy office.

Software development is another area of worry. Contractors are shifting work offshore in search of lower-cost programmers. As this happens, "the potential security ramifications inherent in malicious code (e.g. Trojan horses, back doors and time bombs) increases," say the "Annual Industrial Capabilities Report to Congress." "In addition, the potential exists for a more strategic problem: prospective loss of intellectual capability, particularly in microelectronics, as research, development and design work threatens to follow production work to cost-saving offshore facilities."

Another area of weakness was surge capacity of companies providing body armor to troops in the field. Within a year after the start of the Iraq War, DOD requirements for the backing material used in body armor quadrupled and the sole domestic supplier — Honeywell — was not able to keep up with demand. As a result, Dutch State Mines, headquartered in the Netherlands, built a new production facility in Greenville, N.C., "significantly increasing domestic production capacity," says the IP office.

This example points out the need for the Pentagon to "carefully balance the costs associated with maintaining excess production capacity for operationally critical items in order to respond to a sudden accelerated production requirement, the unavoidable lead time necessary to fund and established increased production capabilities for those items and the risks associated with having only a marginal peacetime production capacity on which to draw should sudden accelerated production become necessary."

The annual assessment by the Industrial Policy office provides a summary of the industrial base studies conducted by DOD and the military services last year. Studies found a wide array of strengths and weaknesses in the defense industrial base. Here are some examples:

Precision Guided Munitions Industrial Base: "Funding predictability for precision guided munitions requirements remains a challenge for optimal industrial planning. Bottlenecks in the supplier base still exist; there is limited excess production capacity available to support further production acceleration of key components such as thermal batteries, inertial measurement units and global positioning system receivers."

Future Combat Systems Industrial Capability: "While quite a few industrial base risks were identified, none presented unacceptable risk at this point in the program."

Tactical communications: "With the exception of flat-panel displays, the health of the commercial communications sector is excellent."

Sensors: "The contractor base for the sensor sector is financially healthy, [but] obsolescence is becoming a major factor in the continued support of major weapons systems."

Polyacrylonitrile (PAN) Carbon Fiber: "Domestic suppliers are viable and worldwide PAN carbon fiber demand is increasing....Congress [should] end the administratively-imposed PAN carbon fiber restriction."

Large Forged Alloy Components Used in Landing Gears: "Declining sales over the past five years have impacted the financial health of the primary suppliers of aerospace forgings, resulting in lagging profits and limited capital investment/modernization."

Aeronautic structures: "There are no apparent bottlenecks in the supply of structural components and assemblies."

Gas Turbine Engine Bearings. "Machines in domestically-owned bearing facilities have an average age of 19 years compared to a 12-year average in foreign-owned facilities."

High Energy Lasers and High-Power Microwaves: "Overall, the industry is financially healthy."

Large Power Transformers: "There is a dependency of U.S. power generating companies on foreign suppliers for large power transformers. The cost/benefit analysis concluded that it would not be economically feasible to establish a domestic source for these transformers."

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GUEST EDITORIAL:

Are There Too Few Engineers? Enough Of The Shortage Shouting

BY BILL REED

"When my colleagues get a letter from a constituent who has been displaced by foreign workers, they should write back to them and say, 'It is the policy of this government to displace you, to move you into a lower economic income category, because we believe in cheap labor and we believe the politics of open borders helps our party.' "

— *Rep. Tom Tancredo (R-Colo.)*

For the past 50 years, there have been cries of an impeding "crisis" caused by shortages of engineers and scientists. It has not come to pass, and won't. Yet Congress, bowing at the alter of corporate donations, paid trips and bribes has done whatever it can to pass legislation that benefits America's large transnational corporations at the expense of American engineers.

The following quote appeared in *Forbes* magazine in 1956: "Since 1947 the number of scientists and engineers employed has gone from 575,000 to 900,000. Engineers now start at $400 per month in contrast to less than $250 nine years ago. It is estimated that there is a current need for 45,000 engineers a year. We graduate only 23,000. Four-hundred men trained as nuclear scientists graduate each year. Twelve hundred are needed. The most challenging aspect of the problem lies in the fact that today only 16 percent of university students major in science or engineering, down from 25 percent since 1950, while in Russia over one-third of all students major in engineering."

Stunning isn't it! — that the story remains the same for nearly 50 years, with the only difference now being a different group of people shouting "shortage!"

We have heard from the AeA, the National Science Foundation, the Information Technology Association of America, Compete America — you name them, they all say that there is a "future crisis" in training qualified American workers. These shortages seem to always be just over the horizon, and never materialize.

In October 2000, through some unethical maneuvering, the House of Representatives, with only 40 members present and on a voice vote, voted to accept the "American Competitiveness in the 21st Century Act of 2000" (S-2045). Isn't it ironic that a bill whose main purpose was to import foreign workers willing to work for less money and replace American citizens in the country's best and most important jobs is called the "American Competitiveness in the Twenty-First Century Act?"

"This is not a popular bill with the public," said Rep. Tom Davis (R-Va.). "It's popular with the CEOs. This is a very important issue for the high-tech executives who give the money."

Sen. Robert Bennett (R-Utah) stated: "Once it's clear [that the visa bill] is going to get through, everybody signs up so nobody can be in the position of being accused of being against high tech. There were, in fact, a whole lot of folks against it, but because [members of Congress] are tapping the high-tech community for campaign contributions, they don't want to admit that in public."

Rep. Dana Rohrabacher (R-Calif.) said: "This legislation is nothing more than a betrayal of American working people."

Over and over again Congress has given the corporate and academic lobbies nearly all they have asked for. Industry's thirst for cheap foreign labor simply cannot be quenched. Foreign labor is the drug of choice for the captains of industry.

Three organizations, in particular, have ballyhooed engineering shortages with little regard for the facts.

AeA

AeA, which states on its Web site that it is "formerly the American Electronics Association," produced a report in the early 1980s that was widely quoted as saying the country faced a crisis level shortage of engineers by 2010. Members of Congress, the National Science Foundation, the national media as well as all of the major trade journals quoted this survey.

Only after several years did AeA admit that its survey only indicated a "shortage of electronic engineers" and should not have implied a "shortage of all engineers." In early 1986, Pat Hill Hubbard of AeA stated: "The electrical engineering shortage no longer exists." In fact, there was never a shortage of engineers.

In an article in the AeA publication "Update," Hubbard said the portrayal of the study's main thesis was an "unfortunate editorial misrepresentation" and a problem of "semantics."

The AeA survey resulted in billions of dollars being funneled to academia to increase and enlarge the engineering schools to produce more engineers. But the universities receiving the largesse were rejecting many Americans including minorities at the same time they were before Congress requesting additional funding and recruiting overseas.

National Science Foundation

The National Science Foundation is the most anti-engineer organization in the government. The May 12, 1986, issue of *Electronic Engineering Times* carried a story with the following statements: "A high-ranking National Science Foundation official [Mr. Nam Suh] told engineering vice presidents last week that America engineers are overpaid and less productive than their foreign counterparts. When pressed later to clarify his remark, Suh said bluntly 'Yes, I think American engineers are overpaid.' " Mr. Suh was the assistant director for engineering at NSF at the time.

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Engineers...

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The article continued: "In his speech, Suh said there is a shortage of engineers, a contention with which few engineering groups concur. He told *EE Times* afterward: 'We need to improve the quality of them and the number of them.' "

The term "them" is telling of the attitude still prevalent at NSF and throughout government and industry. But engineers are not a "them" — or a product to be bought, sold or traded.

In April, 1992, the National Science Foundation's unofficial, bootleg study entitled "Future Scarcities of Scientists and Engineers: Problems and Solutions," which was produced in 1989, was discredited in a Congressional hearing because of its poor methodology, lack of peer review and the unusual distribution method used to get it to the media. The shortages projected had failed to materialize.

This report was quoted extensively in Rep. Bruce Morrison's (D-Conn.) 1990 immigration hearings and was the basis for nearly tripling from 25,000 to 65,000 the number of foreign engineers and scientists allowed into the United States.

From the very beginning, labor economists and statisticians — including those inside the Science Foundation — scoffed at the methodology of this study as seriously flawed. Yet the study's claims of shortages were used in speeches and testimony by the Foundation's director, university administrators and members of Congress. They appeared in countless articles and news stories. The myth took on a life of its own that was slowed only when the engineering community publicly attacked it.

At an April 8, 1992, hearing of the House Science Committee's subcommittee on investigations and oversight, chairman Howard Wolpe (D-Mich.) said about the report: "The credibility of the National Science Foundation is seriously damaged when it is so careless about its product." Rep. Sherwood Boehlert (R-N.Y.), ranking minority member, said at the same hearing that the NSF Director's shortfall prediction "delivered up in the context of growing concerns about the nation's competitive standing, was the equivalent to shouting 'Fire!' in a crowded theater. That number was based on very tenuous data and analysis. In short, a mistake was made. Let's figure out how to avoid similar mistakes and then move on."

The NSF's answer to the criticism was even more bizarre. The agency claimed it never said there was a "shortage" of engineers. Instead it said there was a "shortfall." My dictionary defines shortfall as: "A failure to attain a specified amount or level: shortage"; or: "The amount by which a supply falls short of expectation, need or demand."

Information Technology Association of America and the Department of Commerce

ITAA issued a series of reports indicating a shortage of IT workers, which was — at best —interesting fiction. The Department of Commerce issued its own report parroting the first ITAA report. After reviewing a September 1997 Commerce Department report on the shortage of information technology workers, the Government Accountability Office concluded that the study "has serious analytical and methodological weaknesses that undermine the credibility of its conclusion that a shortage of IT workers exists."

The GAO study also criticized a 1997 survey by the Information Technology Association of America, which reported 190,000 unfilled IT jobs in 1996. "With only a 14 percent response rate in its random survey, ITAA did not have enough basis for any generalizations about the population being surveyed," the GAO study concluded. A later ITAA survey, reporting 346,000 unfilled IT positions, had a response rate of 36 percent. Unfilled positions do not translate to a shortage.

For any sound generalizations, the response rate should be at least 75 percent, the GAO said. Again, Congress responded by nearly doubling the numbers of H-1b foreign workers allowed into the country, increasing the total from 65,000 to 115,000 for one year and nearly tripling to 195,000 for two additional years.

In order to "prove" that there was a shortage, many U.S.-based multinationals responding to the ITAA survey included all of their worldwide vacancies. Vacancies in Europe or Asia do not translate to shortages in America!

Who are the players who recently are providing reports and studies supporting the H-1b increase? To no one's surprise, it is AeA, the Information Technology Association of America, The Chamber of Commerce, the Computer Research Association and a relative newcomer — a group called "Compete America." So where is the National Science Foundation in all of this? It used taxpayer money to fund the Computer Research Association (CRA) study.

Should the U.S. Congress create public policy based on an AeA-funded study, given their shoddy track record of predictions and the companies that they represent? The members of AeA, ITAA and Compete America are largely

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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.
Editor & Publisher: Richard A. McCormack (richard@manufacturingnews.com)
Senior Editor: Ken Jacobson (202-462-2472, ken@manufacturingnews.com)
Web Technical Coordinator: Krishna Shah (krishna@manufacturingnews.com)
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WTO Applauds U.S. Trade Policies

The willingness of the United States to keep its markets open has led to robust economic growth that has benefited both U.S. consumers and its trading partners, says the World Trade Organization in an assessment of U.S. trade practices. "Nonetheless, market access barriers and other distorting measures, notably subsidies, persist in a few but important areas. Addressing these distortions would benefit U.S. consumers and taxpayers and help strengthen the global economy."

The openness of the U.S. market is fostering economic growth by allowing U.S. producers and consumers to access cheap goods, services and capital from abroad, says the WTO's recently released "Trade Policy Review of the United States."

"It is therefore important to maintain this openness by pre-empting possible protectionist sentiment," says the WTO.

The United States' activist policy of liberalizing trade is good, as well as its pursuit of free trade agreements (FTAs) with individual countries. The United States had three FTAs at the start of the Bush administration and now has 15. "However, the increasing number of FTAs in which the United States participates raises concerns about administrative resources being distracted away from the multilateral system, trade or investment diversion and interests being created that could complicate multilateral negotiations," says the review.

The WTO is also pleased by the fact that anti-dumping duties are decreasing. There were 274 antidumping measures in force last year, affecting mainly iron and steel, chemicals, pharmaceuticals, agricultural and forestry products. These duties covered an import volume of 0.1 percent in 2003. "However, anti-dumping investigations initiations decreased in 2004 and the first half of 2005," the WTO notes. "This should mitigate concerns that investigation initiations may affect exporters to the U.S. market, as most investigation initiations involve the imposition of preliminary duties," says the report, located at http://www.wto.org/

Engineer Shortage... *(From page 11)*

transnational corporations. Many of the same companies belong to all three organizations. The word transnational means "transcending national borders" and, I might add, "owing allegiance to no-one."

These companies insist on access to the "world's best and brightest." Yet the people they import are generally average in their skills and abilities compared to American workers in the same industry.

To date, there has been no credible study that has indicated a shortage of American engineering or scientific talent has ever existed. There is no evidence that any major engineering, technical or private-sector program has been canceled due to a lack of engineering or scientific talent.

Not all the studies predict an economically debilitating shortage of engineers. Michael Teitlebaum of the Alfred P. Sloan Foundation told the Congressional Caucus on Science and Technology that a 2002 RAND study said "rising science and engineering unemployment in 1990s while the overall economy is doing well, is a strong indicator of developing surpluses of workers, not shortages." The quote continues: "Neither earnings patterns nor unemployment patterns indicate [a science and engineering] shortage in the data we were able to find."

The RAND study reached the following conclusion: "Altogether, the data do not portray the kind of vigorous employment and earnings prospects that would be expected to draw increasing numbers of bright and informed young people into the [science & engineering] fields."

Moreover, the Department of Labor isn't projecting a shortage of engineering and technical workers. Here are their projections for selected occupations through the year 2012, as provided in the Bureau of Labor Statistics Occupational Outlook Handbook 2004/2005:

- Computer programmers: Grow about as fast as average;
- Mathematicians: Expected to decline;
- Aerospace Engineers: Expected to decline;
- Agricultural Engineers: Grow about as fast as average;
- Biomedical Engineers: Faster than average;
- Chemical Engineers: Little or no growth;
- Civil Engineers: Grow more slowly than average;
- Computer Hardware Engineers: Grow more slowly than average;
- Electrical Electronic Engineers: Slower growth than average;
- Environmental Engineers: Much faster growth than average;
- Industrial Engineers: Grow about as fast as average;
- Materials Engineers: Grow more slowly than average;
- Mechanical Engineers: Grow more slowly than average;
- Mining & Geological Engineers: Expected to decline;
- Nuclear Engineers: Little or no growth;
- Petroleum Engineers: Expected to decline;
- Atmospheric Scientists: Grow about as fast as average;
- Chemists & Materials Scientists: Average growth;
- Environmental Scientists & Geoscientists: Grow about as fast as average; and
- Physicist & Astronomers: Grow more slowly than average.

Of the 20 occupations listed above only Biomedical Engineers is "faster than average" and only Environmental Engineers is "much faster than average." Four are expected to decline, six are expected to grow "about as fast as average," the remaining eight are expected to "grow more slowly than average" or have "little or no growth."

How many times must industry "cry wolf" before Congress figures it out and does the right and moral thing for both the nation and its workers? It should no longer be the policy of the United States government to displace American workers and move them into lower economic income brackets. It is time to focus on America's workforce and not on the multinational's endless drive for cheap labor. Can the nation endure another 50 years of the same corporate donations, paid trips and bribes?

— Billy E. Reed is past President of the American Engineering Association (www.aea.org), a national, multidisciplinary non-profit organization dedicated to preserving jobs for the American technical workforce.

Defense Base... (Continued from page nine)

Batteries: "The majority of the companies reviewed can meet the future demand for batteries and estimated manufacturing capacity is sufficient to meet future surge requirements."

Clothing & Textiles: "Industrial capabilities required to manufacture military footwear and clothing and the industrial capabilities required to design and manufacture military shelters are considered at 'low risk.' "

Joint Services Lightweight Suit Ensemble: "[The] maximum production rate has fluctuated due to material limitations in the supply chain, specifically carbon beads and liner fabric. In January 2004, Bluecher developed their own beads in their manufacturing plant in Germany. Ongoing field and chemical testing showed that the liner fabric made with the Bluecher beads met or exceeded the parameters of the current approved liner fabric. Production quantities have increased from 86,000 suits per month in October 2004 to 128,000 per month starting in April 2005."

Solid Rocket Motor Subtier Industrial Base: "The study team assessed 13 contractors and concluded that the most critical suppliers were the sole U.S. supplier of ammonium perchlorate and a foreign-owned sole U.S. supplier of binder for propellant composition that is used in approximately 90 percent of DOD programs and all Missile Defense Agency programs. AP (propellant oxiders) affects all DOD, NASA and MDA programs. American Pacific Corp., the Department's sole AP supplier, has recently had to absorb additional charges for legacy environmental remediation, increases in electrical power and contend with the normal escalation of labor and materials costs. The combination of these increased fixed costs when compounded by a decline in demand, is putting significant financial pressures on American Pacific. The binder supplier could potentially close or exit the market as early as the end of 2006."

In other areas of interest, the Industrial Capabilities Report says the Defense Department was engaged in 65 cases involving foreign acquisitions of U.S. companies that fell under the purview of the Committee for Foreign Investments in the U.S. (CFIUS). Twelve percent of the transactions involved U.S. firms that were determined to be important to the defense industrial base. "In 23 cases, the Department, acting under its own industrial security regulations that apply to firms with classified contracts, remedied concerns about foreign ownership, control and influence by imposing risk mitigation measures on the acquiring firm," the report notes. "In five other transactions, CFIUS member agencies negotiated risk mitigation agreements unrelated to the industrial security regulations. In one case, a 45-day investigation was initiated to supplement the initial 30-day review. The total dollar value of all 2005 CFIUS transactions was $29.7 billion."

The report, which also describes merger and acquisition activity in the defense industry last year, is located at: http://www.acq.osd.mil/ip/docs/annual_ind_cap_rpt_to_congress-2006.pdf.

New D.C. Think Tank Will Think About Innovation

A new think tank has opened in the nation's capital focusing on issues involving innovation, productivity and the digital economy. The Information Technology and Innovation Foundation (ITIF) was launched last week by its newly appointed president Robert Atkinson, who was vice president of the Progressive Policy Institute from 1998 until last month and director of its Technology and New Economy Project.

ITIF was created in partnership with the Information Technology Industry Council (ITC) and bills itself as a "non-partisan public policy think tank committed to articulating and advancing a pro-productivity, pro-innovation and pro-technology public policy agenda internationally, in Washington and [in] the states."

To underscore its non-partisan nature, ITIF has chosen as its co-chairs former House members from opposite sides of the aisle: Republican Jennifer Dunn and Democrat Calvin Dooley. The announcement of its founding features endorsements from two Democrats, Sen. Joseph Lieberman of Connecticut and Rep. Adam Smith of Washington, and two Republicans, Sen. Orrin Hatch of Utah and Rep. Fred Upton of Michigan.

Atkinson tells *Manufacturing & Technology News* that he hopes the new organization can capitalize on "broad, bipartisan support" to perform a pair of functions he sees as unfilled in Washington innovation-policy circles:

• Developing specific, actionable policy proposals. "A lot of what I see is either pretty 'micro' or pretty vague," he says. "I think we need to be able to say: 'Here are four things you could use to draft up legislation if you're so inclined.' "

• Pushing the envelope on some debates. "Consensus comes too quickly sometimes, and it can be too narrowly focused," Atkinson observes, naming the competitiveness debate as an example. "While training more scientists and engineers and funding more basic research are both very important, I don't think that's the answer."

He contrasts the latter approach — which he calls the "build-it-and-they-will-come solution" — with strategies he hopes ITIF will develop to attract companies to invest in "high-value-added, innovation based activities" in the United States.

Atkinson has placed an assessment of the R&D tax credit near the top of ITIF's list of projects. Its object will be to examine policies of other countries — EU nations and Canada among them — to determine what the U.S. might do to make its credits more effective. That work, says Atkinson, may prove the first step toward a "further analysis of corporate tax credits generally and what they do — or fail to do — to promote U.S. competitiveness and innovation."

More information on ITIF is available online at www.innovationpolicy.org; more information on ITI can be found at www.itic.org.

— *KEN JACOBSON*

LETTERS TO THE EDITOR

Here are letters received concerning the article that ran on the front page in the last issue of *Manufacturing & Technology News* titled "China Trade Will Considerably Boost U.S. Wealth, Argues U.S.-China Business Council."

Your March 17 article on the China Business Forum report was a very thorough review of the main arguments of the report and was a noteworthy contribution to the current debate on U.S.-China trade. Thanks for the great coverage.

Two points nevertheless bear correcting so that the record is complete. First, the report itself does not state that the "huge trade imbalance with China is a good thing," as the article says in its opening sentence. The report does say that the U.S. economy benefits overall from trade and investment with China but makes no such characterization of the U.S.-China trade imbalance.

Second, the report was published by the China Business Forum, the educational and research arm of the U.S.-China Business Council, not the Council itself. The forum was established to promote broad-based policy discussion and greater understanding in the United States and China of the bilateral commercial relationship. The forum hired Oxford Economics and The Signal Group to undertake the study and its results represent their independent analysis.

— Catherine Gelb, Executive Director, The China Business Forum

What has happened to the traditional position that manufacturing creates wealth? If everyone else is so anxious to establish a manufacturing base, why are we giving it up? If the Chinese feel that a service economy is great, why are they not focused on that as their strategic economic pursuit? A second concern: What about the strategic implications of erosion of the U.S. manufacturing capabilities? What would Europe and Asia look like today if the U.S. had a minimal manufacturing capacity in 1941?

— Phil Waldrop, pwaldrop@georgiasouthern.edu

The argument that displacement of manufacturing workers to service industries is of little or no consequence has been used before. During the industrial revolution, millions of people left the farms and rural communities and came to the big city to work in factories. But agriculture still stayed within the country or the continent, and so the skills needed to grow vegetables and raise cattle were not entirely lost.

We now face a different problem: we graduate so few new tool and die makers that, in a generation, we may well not be able to sustain our own manufacturing ability because no one will be able to design, build, operate and maintain machinery.

Imagine how vulnerable we would be if we couldn't grow our own food. That hasn't happened. While oranges and kiwis now come from far away, basic, essential staples still come from hundreds rather than thousands of miles away.

However, when there's no one who can build a mold or a die and no one to pour and roll steel, we will be exceedingly vulnerable to the costs and interruptions of long-distance shipping, to blockade, to goodness-knows-what future circumstance.

— Michael Wagner, michael@hamond.com

"The U.S. trade deficit can be attributed in large part to the unwillingness of Americans to save..." LIARS! How about a 30:1 wage disparity, currency manipulation, free capital (communist "accounting") and subsidized energy?

What happens when there are no longer enough U.S. scientists and engineers to maintain U.S. military superiority? What kind of condition will the U.S. be in then, when it no longer controls access to the world's resources? This is what happens when Ivy League geniuses (with degrees in humanities + MBAs and nothing low-class and geeky like scientists or engineers) run things.

— Bill Gilwood, wgilwood@unsin.com

So we are to lose 500k jobs in the manufacturing sector only to be "saved" by the 500k-job increase in the service sector? Nowhere does your article mention wage disparity between the two sectors. When I lose my middle-class manufacturing job because of offshoring, I'll be the greeter you see the next time you visit the Wal-Mart to buy cheap foreign-sweatshop goods.

— Brian Smith, Brian.Smith@photomask.com

QUOTABLE:

"As London is the market of England, to which the best of all things find their way, so Rome was the market of the Mediterranean world; but there was this difference between the two, that in Rome the articles were not paid for. Money, indeed, might be given, but it was money which had not been earned, and which therefore would come to its end at last. Rome lived upon its principal till ruin stared it in the face. Industry is the only true source of wealth, and there was no industry in Rome. By day the Ostia road was crowded with carts and muleteers, carrying to the great city the silks and spices of the East, the marble of Asia Minor, the timber of the Atlas, the grain of Africa and Egypt; and the carts brought nothing out but loads of dung. That was their return cargo. London turns dirt into gold. Rome turned gold into dirt. And how, it may be asked, was the money spent? The answer is not difficult to give. Rome kept open house. It gave a dinner party every day; the emperor and his favorites dined upon nightingales and flamingo tongues, on oysters from Britain, and on fishes from the Black Sea; the guards received their rations; and bacon, wine, oil, and loaves were served out gratis to the people. Sometimes entertainments were given in which a collection of animals as costly as that in Regent's Park was killed for the amusement of the people. Constantine transferred the capital to Constantinople; and now two dinners were given every day. Egypt found the bread for one, and Africa found it for the other. The governors became satraps, the peasantry became serfs, the merchants and land owners were robbed and ruined, the empire stopped payment, the legions of the frontier marched on the metropolis, the dikes were deserted, and then came the deluge."

— "The Martyrdom of Man," by Winwood Reade, 1872.