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# Critical And Strategic Materials Industry Has A New Voice In Washington, D.C.

**A new Washington, D.C., advocacy group has been formed to promote government policies aimed at reviving domestic production of strategic and critical materials. The new Strategic Materials Advisory Council is comprised of former senior U.S. government defense and materials officials and industry executives. They are concerned about the national and economic security threats associated with the country's dependence on foreign suppliers of critical minerals and metals.**

The not-for-profit group is aggressively challenging the large multinational companies that do not consider the national security implications of sourcing supplies from overseas. The group is also challenging government policy makers who focus on reducing the price of imported materials with no consideration of promoting domestic production.

The council "aims to provide demonstrable change to the strategic and critical materials industry, serving as an outlet for support and a vehicle for policy change," it says in its mission statement. It will "utilize its collective experience and first-hand knowledge of the supply chain to frame industry concerns and convey the importance of safeguarding our national interests to senior policy makers."

The council has already challenged the U.S. Department of Commerce and the U.S. Chamber of Commerce. In a letter to the Commerce Department's International Trade Administration it states that "multinational corporate executives with an eye toward expanding their international markets in a difficult domestic U.S. economy cannot be allowed to monopolize the issues surrounding critical materials and use them as a bargaining chip for access to those markets."

It says the U.S. government is focusing "only on end-users and consumers," which "could lead policymakers to overlook the risks and vulnerabilities associated with our nation's overreliance on foreign producers for many critical and strategic raw materials." The security of the U.S. national supply chain for these materials "is at a critical juncture and we can ill afford to let foreign interests with foreign policy and military agendas not allied with our interests, control production."

The new council has also ques-

*(Continued on page six)*

## *Union Workers Are Classified Poor*

A union wage is no longer enough for a family of four to survive. The new-hire wage tier structure that was negotiated by the United Auto Workers provided workers with as little as $11.25 per hour. But for a family of four, that wage is below poverty level. The result: there are union workers who depend on the federal government to help feed them. A wage of $13.97 makes a worker with three dependents eligible for Food Stamps, known by the government as the Supplemental Nutrition Assistance Program (SNAP).

But even the $11.25 an hour wage is not what most starting workers are earning, since they are having to pay between $200 and $400 per month on premiums for health care. "We have three Tower International plants that have a third tier [wage] that is $11.25 an hour with a premium share for a month that is close to $300," says Cindy Estrada, Vice President of the United Automobile, Aerospace and Agricultural, Implement

*(Continued on page eight)*

# A Solution To China's Problems: Ship 300 Million Chinese To Africa

China has problems trying to create jobs for 1.34 billion people and enough food to feed them all. A potential solution: move 300 million Chinese to Africa, according to Li Ruogu, head of the Chinese Export-Import Bank. Africa has plenty of untapped agricultural land that could be put into production with the help of Chinese farmers. "There is no harm in allowing [Chinese] farmers to leave the country to become farm owners" in Africa, said Li, as quoted by Elizabeth Economy, director of Asia Studies at the Council of Foreign Relations. "Li promised that the bank would support this effort through 'investment, project development and help with the sale of products,' " according to Economy.

With 400 of China's 600 rivers destroyed by industrial pollution along with other problems associated with rapid industrialization and urbanization, China is having difficulty increasing agricultural production. It also has serious challenges in trying to find jobs for 800 million peasants.

As a result, China is trying to buy agricultural land in Africa, Latin America and Southeast Asia, though there has been resistance. "In Kazakhstan, for example, there were protests in 2010 over Chinese plans to lease one million hectares of farmland to grow soy and other crops," notes Economy. "And a Chinese attempt to lease almost 3 million hectares in Philippines failed in the face of substantial opposition."

China's attempt to buy large parcels of land has raised strong objections in Argentina. Argentine biologist and environmental activist Prof. Raul Montenegro "has spoken explicit about the challenge posed by China," notes Economy in testimony earlier this year before the U.S.-China Economic and Security Review Commission. In reference to a proposal for the Beidahuang Group

(Continued on page ten)

# President's Mfg. Partnership Proposes Mfg. Strategy

The White House has been busy putting together a strategy to revive American manufacturing. The Advanced Manufacturing Partnership (AMP) Working Group, chaired by MIT president Susan Hockfield and Dow Chemical Co. CEO Andrew Liveris, has released a blueprint of policy steps aimed at improving the business climate, worker training and enabling innovation in the manufacturing sector. The group says steps must be taken now to assure that most of the manufacturing companies in the United States embrace advanced manufacturing, because many small and medium-sized U.S. firms "operate largely outside the present innovation system," says AMP in a report released by the President's Council of Advisors on Science and Technology. "The United States will only lead in advanced manufacturing if all companies are able to participate in the transformations made possible through innovations in manufacturing."

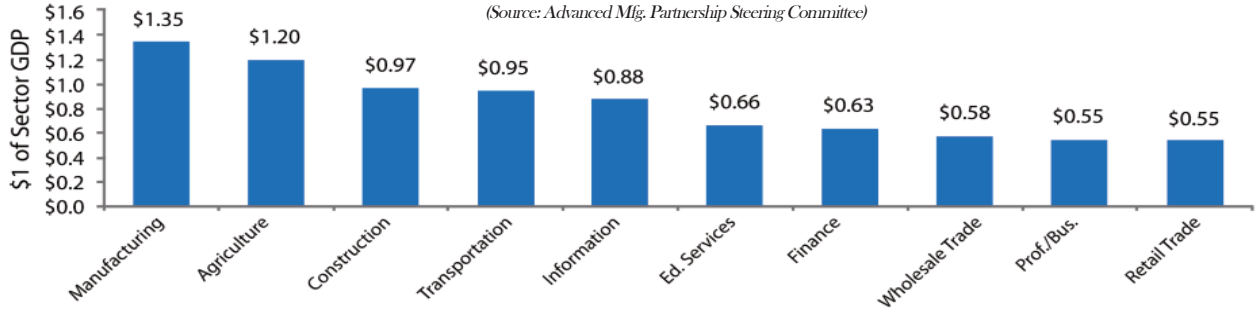
The group makes 16 specific recommendations including the creation of a National Network of Manufacturing Innovation Institutes; increasing funding for "top-cross-cutting technologies"; encouraging a new generation of collaboration between universities and companies; creating an "advertising campaign to correct public misconceptions about manufacturing"; investing in community colleges and returning veterans; creating a skills certification and accreditation system; enhancing advanced manufacturing programs at universities; enacting tax reforms that "can level the playing field for domestic manufacturers"; streamline regulations; sign new free trade agreements like the recent ones with Colombia, Korea and Panama and the proposed TransPacific Partnership; and do something about energy.

The majority of private sector "experts consulted" for the study came from large multinational companies and universities. Few domestic manufacturing firms were represented among those who were thanked by the AMP Steering Committee in its report. Honeywell alone had 17 of the 133 people listed as helping with the study, with other private-sector representatives from Dow, Corning, Caterpillar, Procter and Gamble and Intel.

The "Report to the President on Capturing Domestic Competitive Advantage in Advanced Manufacturing" is located at http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_amp_steering_committee_report_final_july_17_2012.pdf.

Economic Activity Generated By $1 of Sector Output, 2010

*(Source: Advanced Mfg. Partnership Steering Committee)*



# Feds Are Not Helping Competitiveness Of The U.S. Business Jet Industry

The U.S. business jet aircraft industry is mired in deep recession and the U.S. federal government is making matters worse, according to an assessment by the U.S. International Trade Commission (ITC).

Global sales of business jets have plummeted, with the delivery of only 485 aircraft last year, down from 1,121 from 2008, a decline of 57 percent. The declines were caused mostly by the lack of credit that "weighed on potential buyers," but the downturn is being exacerbated by government policies that are not conducive to business in the United States.

The total global value of business jets delivered fell from $13.5 billion in 2008 to $7.3 billion in 2011.

U.S. production as a percentage of total global production of business jets is also in free fall. In 2008, the United States commanded 83 percent of global production. But its share declined to 66.4 percent in 2009, falling further to 54 percent in 2010 before rising slightly to 57 percent in 2011.

The U.S. business jet workforce has gone through similar turmoil, with the two largest producers shedding thousands of workers. Cessna has cut its workforce by more than 51 percent, or by 8,000 workers, since 2008 and Hawker Beechcraft Corp. has eliminated 58 percent of its workforce (4,000 workers).

"The trend toward increased outsourcing of parts and systems is seen as diminishing the long-term prospects for increased employment at U.S. business jet manufacturers, but also the remaining workforce's capacity to innovate," says the ITC. "Some industry representatives have stated that several of the best ideas for manufacturing innovation have come from the shop floor. To the extent that production functions are increasingly decentralized and delegated to suppliers, the OEMs' workforce may be less able to create the incremental innovations that come from hands-on experience throughout the entire process. Nevertheless, most business jet manufacturers have emphasized that without the ability to cut costs by sourcing to lower-cost suppliers or shifting some of their operations to low-cost countries, the U.S. industry would not be able to remain competitive."

**Top Global Business Jet Manufacturers**
**Unit Sales**

| Company | Units in 2011 | Units in 2008 |
|---|---|---|
| Cessna (U.S.) | 183 | 466 |
| Bombadier (Canada) | 182 | 245 |
| Gulfstream (U.S.) | 107 | 156 |
| Embraer (Brazil) | 99 | 38 |
| Dassault (France) | 63 | 72 |
| Hawker Beechcraft (U.S.) | 30 | 160 |

*(Source, U.S. Dept. of Commerce, International Trade Administration)*

U.S. jet producers are soon to experience an onrush of competitors. "At least seven additional U.S. and foreign companies have expressed their intent to enter this industry," says the ITC. Four U.S.-based companies have announced plans to start producing business jets (Cirrus Aircraft, Eclipse Aerospace, Honda Aircraft Co. and SyberJet Aircraft USA). Cirrus is now owned by China Aviation Industry General Aircraft Co. Honda is undergoing certification of its HondaJet. Another competitor, Australian-based Diamond, is building a "D-Jet" in Canada where it is currently being certified. U.S.-based Spectrum Aeronautical and Stratos Aircraft are considering entering the market. The Chinese government has targeted the industry with financial incentives in its latest Five-Year Plan.

The new OEMs "will compete for a significant group of potential buyers (between 20 and 30 percent of existing customers) who are looking outside of their current aircraft manufacturer's products, in part because the current OEM may not offer an aircraft to satisfy the customers' changing preferences or missions," says the ITC.

Other trends and government policies could permanently alter the U.S. industry.

Unlike other regions of the world, there has been a sharp reduction in government-funded aerospace R&D, which "could significantly affect the U.S. industry's ability to compete in the future," says the ITC. Almost all of the U.S. industry's R&D requirements are self-funded. "This situation is in direct contrast to other nations, notably the EU which supports European aeronautics R&D with the goal of ensuring the long-term competitiveness of Europe's aeronautics industry," according to the ITC. In its current funding cycle running from 2007 to 2013, Europe increased its aeronautical funding by 147 percent and will spend $2.9 billion by 2013. "In contrast, NASA's aeronautical funding for a similar time period declined significantly," falling from $1.5 billion in 1994 to $569 million in 2012, notes the ITC. U.S. R&D is also not directed at industrial applications or performance. Instead, it is basic research at the "lower technology readiness levels, the results of which are not readily usable by U.S. industry," says the ITC.

The FAA's R&D budget has also been "unpredictable from one year to the next" and is focused on areas that are not related to improving the competitiveness of the U.S. industry such as air traffic management and safety.

There are also competitiveness issues with the slowness in the FAA's certification process for new aviation industry parts and systems due to a lack of federal funding for these activities. "Such issues, if not resolved, will continue to hamper the U.S. industry's ability to introduce new products and technologies, a key competitiveness issue," says the ITC. "New technologies introduced by U.S. companies, such as upgraded avionics and composite struc-

*(Continued on page four)*

# DOD's Telecom Equipment Report Won't Be Released

The Department of Defense has finished its "National Security Assessment" of the U.S. telecommunications networking industry, but it is not going to release the results. The assessment, conducted by the Commerce Department's Bureau of Industry and Security (BIS), was intended to identify the companies that are supplying the hardware and software systems that constitute the backbone of the U.S. telecommunications system. Its goal is to determine if the telecommunications infrastructure is vulnerable to cyber attacks as a result of "Trojan Horses" within the equipment and software that is being installed by commercial companies. Much of this equipment is now being produced outside the United States. The United States imported $238 billion in optoelectronics and information communications products in 2011 (compared to exports of $95 billion).

BIS distributed a 19-page survey in early 2011 to every telecommunications company in the United States, telling them to describe the manufacturers of equipment and software they were using in their facilities. Companies were required to fill out the survey or risk being fined $10,000 and "imprisonment of up to one year, or both." The "Facility-Level-Survey" was required of companies operating cellular wireless networks, cable TV and data networks, undersea cable landing stations, satellite, microwave and optical transmission systems, data centers, terrestrial wired networks, local exchanges, Internet service providers and others. The intent was to "help ensure the operational reliability of critical national information network infrastructure."

The survey asked companies to specify the 144 global networking device manufacturers that supply the U.S. market, including firms such as Hitachi, Huawei, Nokia, Toshiba and dozens of other foreign entities. It wanted to know exactly how companies protect their networks from cyber attacks; how they deal with "false hosts," network encryption issues, network forensics, real-time traffic analysis, firewalls, regression testing, validation of systems, penetration testing, scan software systems for malware and viruses, bug observation, remote access, memory analysis and security breaches. It asked how companies buy parts and systems, whether directly from OEMs and OCM manufacturers or through third-party parts vendors. DOD wanted to know whether they own or lease equipment; whether they disclose how their suppliers acquired parts and components either directly through the manufacturers, contract manufacturers, independent distributors, brokers, or through Internet purchases. And much more.

The survey is believed to have found that the United States is dependent on foreign sources of production for a majority of the potentially sensitive equipment being purchased by U.S. telecommunications carriers, and that there is little or no national security oversight into the vulnerabilities that might be intentionally being placed in that equipment by foreign agents, companies and governments.

*Manufacturing & Technology News* has submitted a Freedom of Information Act request seeking a copy of the report.

## Business Jets...(Continued from page three)

tures cannot reach the marketplace in a timely way because of the lengthy certification timeframe, currently averaging 3.5 years. As a result, with new generations of computer technology being born every six months, key parts in many aircraft systems will have generations-old computer technology on board when delivered."

Foreign certification agencies are also flooding the FAA with requests for test and production data on U.S. certified aircraft "with no commensurate increase in staff or funding" to provide that information to foreign agencies. "As a result of these issues, certain U.S. business jet firms have reportedly considered shifting production of complete aircraft outside of the United States to countries where certification agencies are more responsive to their commercial needs," says the ITC.

The U.S. industry also faces a hostile political environment, where it is castigated for catering to wealthy corporate elite. President Obama's rhetoric hasn't helped. Moreover, Congress is considering policies "that could increase the cost of owning and operating a business jet, creating an environment of uncertainty among potential business jet purchasers." A $100 usage tax that would be assessed each time an aircraft is flown is being considered. And the approaching expiration on December 31, 2012, of the bonus depreciation rate in the tax code for the purchase of new aircraft "is likely [to] dampen demand for new business jets."

Training and education are also becoming a competitiveness issue, says the ITC. In 2006, there were 4,500 students enrolled in U.S. graduate aerospace engineering programs, but one in three of them were foreign students. At the undergraduate level, only 2,800 students in the United States received an aerospace engineering bachelor's degree in 2007, and "only a fraction of theses are likely to enter aviation and more specifically the business jet industry," says the ITC.

"The overall outcome for the U.S. business jet industry of these long-term trends is unclear; however, the effects of certain near-term developments, such as the global recession, the difficulties faced by some purchasers in obtaining business jet financing, and increased competition in the business jet environment are more readily identified. These developments could impede the return of business jet deliveries to their former levels, making it more difficult for U.S. manufacturers to respond to their long-term challenges."

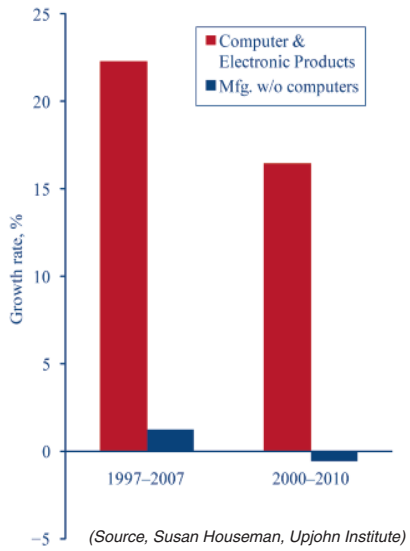
# Productivity Growth & Automation Did Not Cause Manufacturing Job Plunge

What are believed to have been large gains in productivity and output in the manufacturing sector over the last decade have not occurred due to faulty data from the federal government, according to the Upjohn Institute for Employment Research. The loss of one-third of all U.S. manufacturing jobs cannot be attributed to increased productivity and automation, but to the shift of manufacturing capacity to Asia.

"The rapid output and productivity growth of the manufacturing sector is largely attributable to one small industry: computers and electronic products," according to Upjohn analyst Susan Houseman. These industries make up only about 10 percent of the U.S. manufacturing sector, but account for all of the growth in U.S. output and productivity, due to normal performance improvements (Moore's Law) of semiconductors and integrated circuits. "The extraordinary output growth in the U.S. computer industry does not signal U.S. competitiveness in manufacturing computer and electronic products, and productivity growth has not caused the steep employment declines in this industry," says Houseman.

The findings run counter to the common argument made by economists that the United States remains the biggest and most productive manufacturing economy in the world, and that there does not need to be a national policy to boost competitiveness of the U.S. manufacturing sector or manufacturing employment. The manufacturing policy naysayers claim that the rapid declines in manufacturing employment since 2000 are part of a long-term trend caused by increased productivity. But that is not the case, according to Houseman's research.

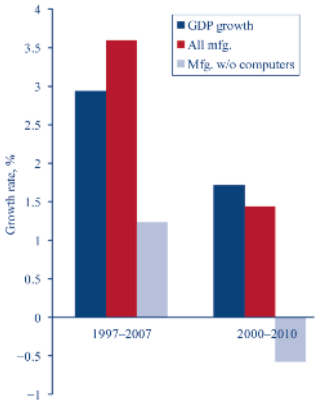
**Average Annual Growth Rates of Real Value Added in Computers and Manufacturing Without Computers**




(Source, Susan Houseman, Upjohn Institute)

What accounts for almost all of the growth in real value added in manufacturing is the price indexes the government uses for computers and semiconductors. Prices for semiconductors and computers fell by an average of 21 percent annually from 1998 to 2010, while shipments based on the increased power of such devices increased by 13 percent per year. "Such rapid price drops imply that for the same dollar value of computer shipments, the quality-adjusted quantity (real value) is 13 times higher in 2010 than in 1998," writes Houseman in a new paper.

**Average Annual Growth Rates of Real GDP and Manufacturing Value Added**




(Source, Susan Houseman, Upjohn Institute)

"Underpinning the computer industry's rapid productivity growth, however, are price deflators that, when adjusted for quality improvements, are rapidly falling. The productivity growth in the computer industry largely reflects research and development innovations, and product improvements do not cause job losses. Today's computer may be in some statistical sense the equivalent of, say, 13 computers in 1998, but that does not, in and of itself, mean that fewer workers are needed to manufacture a computer today than in the past. In fact, job losses in the computer industry are attributable to the shift of electronics product manufacturing to Asia."

In the paper, Houseman concludes: "Strong output and productivity statistics have led many to dismiss out-of-hand concerns about the international competitiveness of U.S. manufacturing. The computer and electronics products industry, however, is driving these high growth rates in the aggregate statistics, despite the fact that this industry accounts for only about 10 percent of the sector's value added and employment. The irony is that high output growth in the computer industry is a poor metric of the competitiveness of U.S. factories in making computer and related electronic products. The manufacturing of these products has largely moved to Asia. Competition from foreign suppliers, not high productivity growth, is responsible for the sharp employment declines in the computer industry.

"Understanding the international competitiveness of manufacturing and the consequences of import competition for workers and businesses is critical for developing sound manufacturing policy. As a start, analysts and policymakers should recognize that the aggregate output and productivity statistics are not representative of what is happening in most of manufacturing."

The analysis, titled "The Debate Over the State of U.S. Manufacturing: How the Computer Industry Affects the Numbers and Perceptions," is located at http://research.upjohn.org/cgi/viewcontent.cgi?article=1197&context=empl_research.

# *Voice For Critical And Strategic Materials...**(Continued from page one)*

tioned the U.S. Chamber of Commerce's lobbying effort to strike provisions in the 2013 Defense Authorization Act aimed at requiring the Pentagon to purchase specialty metals and titanium from U.S. producers. The Chamber of Commerce is lobbying against five amendments to the 2013 Authorization bill (HR-4310) because they "send precisely the wrong message to countries overseas about how to manage domestic procurement systems" and should be "rejected," says the Chamber of Commerce in a letter to Congress signed also by the Emergency Committee for American Trade, the Semiconductor Industry Association and the Semiconductor Equipment and Materials International.

The Chamber is controlled by companies that "would prefer to outsource their U.S. supply chain," says Jeffery Green, organizer of the Strategic Materials Advisory Council and president of J.A. Green & Co., of Washington, D.C. "How can you call yourself the U.S. Chamber when you are only worried about the OEMs?" he asks. Small American suppliers and producers deserve a voice as well, he adds.

The Strategic Materials Advisory Council says the Chamber's opposition to an amendment that requires DOD to conduct a "Jobs Impact Statement" on potential contracts sponsored by Rep. Christopher Murphy (D-Conn.) "seems to run counter to the Chamber's historical positions. For decades, the Chamber has supported American business. As Rep. Murphy highlighted in his speech on the House floor, American businesses have lost millions of jobs in recent years. The amendment allows DOD to consider the potential employment impacts when awarding contracts. It does not mandate this consideration, but instead creates the possibility of reversing a declining trend in critical industries, a trend in which important labor skills and intellectual capital have relocated to foreign countries."

The Chamber did not agree. The provisions "undermine the ability of the U.S. government to procure the highest-quality goods and services at the best value, consistent with international obligations, and U.S. government efforts to promote more open procurement overseas for U.S. industries," said the Chamber in a letter to the House asking that the amendments be eliminated from the final bill. "The provisions limit the source of raw materials to domestic producers, designate certain materials as critical to national security (such as specialty metals), require DOD to purchase U.S. made titanium, and would provide the Department of Defense authority to take a Jobs Impact Statement by potential contractors into consideration in awarding procurements."

The Materials Council says it is important for domestic producers to counter the influence of the big multinational companies. An example: General Electric CEO Jeffery Immelt is head of President Obama's Jobs and Competitiveness Council. "GE's supply chain is highly dependent on China for their lighting division and that is where the administration is looking — at the users of the materials rather than the producers," says Green. "It's a lot easier for a big multinational to come in and say don't mess with my supply chain than it is for a new producer of the materials who says I need help in getting through the burgeoning red tape and I need the government to show confidence in me so I can go to the market and raise capital and try to bring some of this production back. It's a David and Goliath fight."

The organization's website is www.strategicmaterials.org/. Here are the initial members of the council,

- **Dean Popps** served at the Department of Defense from 2003 to 2010, two years as acting assistant secretary for Acquisition, Technology and Logistics and three years as director of Iraq Reconstruction and Program Management.
- **VADM Barry Costello** had a long career in the Navy before retiring in 2007. He served on the Joint Chiefs of Staff; as a Senate Liaison in the Navy's Office of Legislative Affairs and Chief of Legislative Affairs.
- **Robert Latiff** was a Major General in the Air Force until his retirement in 2006. He is currently a professor at the University of Notre Dame and at George Mason University. He is the chairman of the National Materials and Manufacturing Board and is a member of the Air Force Studies Board at the National Academies of Sciences. His last active duty assignment was at the National Reconnaissance Office where he served as director of Advanced Systems and Technology. He has a Ph.D. and M.S. in materials sciences from the University of Notre Dame.
- **Maj. Gen Jeffrey Reimer** is currently COO of InDyne Inc., after a 34-year career in the Air Force where he was responsible for all acquisition activities for the F-22.
- **Cornel Holder** is the former administrator of the Defense Logistics Agency's Defense National Stockpile Center, whose mission is to reduce U.S. dependence on foreign sources of strategic and critical materials during national emergencies.
- **Gareth Hatch** is founding principal of Technology Metals Research and is president of Innovation Metals Corp. based outside of Chicago. He is also the founding editor of *Terra Magnetic* and is the editor of the IEEE's Magnetics Society newsletter.
- **James Hedrick** is president of Hedrick Consultants and is on the board for a number of rare earth and strategic metals companies in Australia, Canada and the United States. He retired from the U.S. Geological Survey in 2010, where he was a rare-earth commodity specialist for 32 years.
- **Jack Lifton** is the founding principal of Technology Metals Research. He has worked for 48 years as a marketing and manufacturing executive in the high-temperature metallurgical industry.
- **Stephanie Sanok** is an analyst at the Center for Strategic and International Studies and focuses on international security issues.
- **Jeffery Green**, president of J.A. Green & Co., worked for 15 years on Capitol Hill, serving on the House Armed Services Committee involved in defense trade, acquisition policy and industrial base issues. Green continues to serve in the Air Force Reserves.

# Old Industrial Equipment Is In High Demand Due To Auto Sales

**The industrial equipment auction business has changed dramatically over the past five years. The industry has gone from having too much used equipment to sell to few buyers to not having enough equipment to sell to too many buyers. The reason: Americans are buying cars again.**

"In 2008, we were awarded the contract to handle all the GM and Chrysler auctions in bankruptcy," says Stephan Wolf, managing partner of Hilco Industrial, one of the country's largest auction companies. "Today, it's been the fastest most dramatic turnaround we have ever seen in an industry."

But not every industry is as fortunate. "Certain industries are disappearing," including the U.S. paper industry, says Wolf. "If you are in anything other than toilet paper and paper towels, those markets are disappearing like the textile business was 20 years ago."

There is also retrenchment in the coal-fired power plant industry, as more plants are converted to natural gas. Manufacturing companies making products for the depressed housing market, such as fixtures, furniture and windows, are also having a difficult time, and are selling off production equipment. The U.S. solar industry is closing much of its manufacturing capacity. The construction equipment industry is also being hit by the continued downturn.

But for some industries, there is a vibrant market for used industrial equipment, especially in the automotive supply chain. "We're seeing a shift from the initial buyers being Asian to a lot of buyers being domestic," says Wolf. "You had shrinkage in the supplier base but now people are scrambling to increase capacity. We are seeing a huge amount of reinvestment back into these plants. It's been very positive."

A few years ago, the Chinese were buying large pieces of used U.S. industrial equipment, but that has largely stopped. "The Chinese philosophy is they will not buy it if they can build it," says Wolf. "In a lot of industries, they had not mastered the engineering, so they would buy initially the large equipment, copy it and create their own manufacturing base, and they are no longer in the market."

It wasn't long ago that it was difficult to sell a used industrial press, but now it's hard to find one. "In the United States, the shift went away from smokestack industries with the thought that we were going to have a recovery in industries involved in new technologies, like hybrid and electric vehicles," says Wolf. "But if you look at the sales statistics, the market isn't being driven by electric cars and hybrids. It's still conventional gas cars. Everyone got caught off guard here."

Wolf says there is a growing sense that too much production has shifted to China and there are problems with timely delivery and quality. "We are seeing a lot of pullback," he says. "It's similar to what we saw with NAFTA and Mexico. A lot went down there and then it came back and we found out that maybe this is the solution for 20 percent of the manufacturing capacity, but it's not a 100-percent solution."

The recent recession was also unnecessarily destructive to the U.S. industrial base because banks were in a panic and refused to lend to companies that were still viable. "So many companies were closing because they couldn't find buyers. It was like a field of dreams and nobody would show up. There was no lending base for manufacturing," says Wolf. "Manufacturing became a dirty word and the banks were reluctant to lend. We saw a lot of companies on that auction block that should have been saved. Today, companies that would have been on the auction block are being purchased outright. If you think about it, the prices are low for a smart buyer and he can add capacity and buy a customer base at a significant discount at a great deal. Companies are starting to build," says Wolf. "It's all positive signs."

## *U.S. R&D Tax Credit Is Less Attractive*

The United States no longer has the best financial incentive in place to conduct research and development. In fact, since the United States was the first country in the world to promote R&D through a tax incentive in 1981, it has fallen to 27th place worldwide in the attractiveness of its R&D tax credit. And that non-permanent incentive is in jeopardy of being eliminated outright, due to the political impasse over taxes, the desire to simplify the tax code and reduce the corporate tax rate and the perception that the R&D tax credit is another form of corporate welfare.

"The fact that we have fallen to 27th ought to be a wakeup call to Congress to increase the R&D tax credit, modernize it and make it permanent," says Rob Atkinson, president of the Information Technology Innovation Foundation (ITIF).

The U.S. R&D incentive provides a company with a 14 percent credit on R&D spending that is above the 50 percent of the base amount of R&D being conducted. There is a legislative proposal (HR-942) to increase that amount to 20 percent, but even if that bill were to pass, the credit would still rank 15th best in the world. To get to fifth place globally, the credit would have to be raised to 50 percent.

Increasing the rate to 20 percent would create 162,000 new jobs, generate an additional 3,850 utility patents and add $66 billion to the U.S. GDP, according to ITIF. That does not include the "spillover" effects of the additional R&D that are generally not captured in economic data.

The ITIF study, "We're #27!: The United States Lags Far Behind in R&D Tax Incentive Generosity," is located at http://www2.itif.org/2012-were-27-b-index-tax.pdf.

# Poor Workers...(From page one)

Workers of America (UAW). "That is criminal."

Another unionized American Axle plant in Three Rivers, Michigan, "used to have a food bank for other workers in the community who weren't in the union," Estrada says. "Today, the food bank is for workers in the plant because the new rate there is $11 an hour."

How many union workers are on Food Stamps? "It's a really hard number to get because a lot of companies don't want to report it," says Estrada. "They are embarrassed about it."

Since only 7 percent of all private sector workers are members of unions, the problem runs much deeper, since non-union wages tend to be lower. As such, the federal government is subsidizing companies that are not paying their workers enough to afford food. The Department of Agriculture says that 40 percent of the 46 million Americans who are on the SNAP program live in households with earnings. (Another 21 percent of them receive Social Security income.) The number of people on Food Stamps has skyrocketed, from only 17 million in 2000. The cost of the program ballooned to $84 billion in 2012, up from $70 billion in 2010. (The figure does not include another $19 billion for the school lunch program.)

*Manufacturing & Technology News* asked the U.S. Department of Agriculture to provide it with the names of companies whose employees are receiving Food Stamps. "Federal regulations do not require applicants to provide the name of their employer on the SNAP application," said a USDA spokesman. "The State may ask the client to provide pay stubs or other employment documentation in order to verify their income."

Do the managers of companies realize that if they don't pay workers enough to purchase food then the workers won't have enough money to buy their products? "It's really sad, because they all acknowledge that to me, but that's about it," Estrada replies.

The UAW has decided that the second- and third-tier structure of wages they have been negotiating for new hires will be discontinued. "We are going to bring them up to the first tier but it's taken a lot because the companies don't want it," says Estrada. "They want to keep the tiers. They came to us to get it during the crisis."

When asked if she has started seeing any signs of "insourcing," Estrada says there has been only one U.S. automobile company that is discussing it with her. Again, however, the low starting wage is a tough hurdle. "The company floated a number, which was $11 an hour, and their new HR guy said that these are jobs for kids in high school who can take them to help supplement their parents' finances," says Estrada. "I said that is not who gets these jobs. It's people with families trying to find a job because there are so few jobs. But he still said that they can help the family out. I'm like, 'Oh, God.' "

The UAW is trying to get companies that have outsourced production overseas to start looking at the total landed costs of products rather than just focusing on labor costs. This has proven difficult. "What is scaring me is that while we know that there are other costs other than labor costs, I am not sure why it is still very difficult for them to look at the whole company costs and the total landed costs, other than just looking at a very low [overseas labor] rate."

Most companies are fixated on the "penny sheets" that describe all of the costs associated with a labor contract, including wages, benefits, vacation pay, medical and life insurance. "The amount of money we can save a company is not reflected in the penny sheets," says Estrada.

She says the UAW has embraced lean as a way for companies to become more competitive, but managers have difficulty with the new union role. During negotiations with Ford at one of its frame plants, management wanted the union to make $21 million in concessions. "We pushed back the vice president at Ford and said we had to look at the rest of the company beyond labor costs," says Estrada. "It took nine months, but we eliminated $20 million of waste that was happening in the company with very little change to the flexibility of the contract. But the savings don't show up in the penny sheet and what we didn't fix was the management-to-worker ratio which was really out of whack."

This is also true of automotive parts and components supply companies. "When you look at the management and the horrible business practices you see in the suppliers, they are very top heavy in supervision and then the executive pay is totally excessive," says Estrada. "What I see that is very scary for the future is that their lean programs are very surface. They are not strong. They don't go very much beyond the top leadership and it's not filtered into the management ranks. They are not getting the input and knowledge from the workforce that they can. They want the results of lean without doing the real

(Continued on next page)

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# European Commission Seeking World's Best Researchers

**The European Commission is gearing up to spend billions of dollars on research and development. In its latest call for proposals, the EU's Seventh Framework Program will fund projects with a total of 8.1 billion euro, "the largest set of calls for proposals ever," according to the European Commission.**

The EU has identified dozens of areas of research that will receive funding, including sustainable supplies of raw materials for the EU; sustainable low-carbon urban environments; space technologies dealing with exploration and weather; information and communication technologies in health, materials, neuro-sciences and neuro-robotics; bio-based products and processes; and many more.

With the elevated level of funding, the EU wants to attract the best researchers in the world to Europe. "Making Europe a destination for world-class researchers remains a key priority," says the EU in its description of the new spending plan. "The European Research Council (ERC) is investing in the very best young and senior researchers, of any nationality, based in or moving to Europe, to carry out their pioneering frontier research projects. By supporting the very best talent in all areas, the ERC contributes to creating new jobs for the research community in Europe."

The EU will spend 220 million euro to promote the use of promising existing research results "whether derived from EU or non-EU funding," says the EU. "This includes support to develop research project results or to build networks-initiatives to make this happen."

Funding for information and communication technologies will be boosted to nearly 1.5 billion euro. "The EU will invest in research which strengthens Europe's scientific and technology base, helps drive and stimulate product, service and process innovation and creativity through information and communication technology use and ensures that progress is rapidly transformed into benefits," says the EU. "Cloud computing is a focal point, with the launch of the European Cloud Partnership later in 2012."

The Seventh Framework program includes new initiatives to commercialize technology and address major global challenges. A new European Innovation Partnership (EIP) program will bring together the public and private sectors to address issues related to climate change, energy and food security, health and aging populations. All of these areas "present opportunities for new business," says the EU. The partnerships "aim to give the EU a first-mover advantage in these markets. Up to five EIPs will be supported, including the EIP pilot action on Active and Healthy Aging."

Since the Seventh Framework Program started in 2007, the total budget for the program has been 55 billion euro, involving 19,000 projects and 79,000 participants. To see the call for announcements, go to http://ec.europa.eu/research/participants/portal/page/fp7_calls. To see partnership requests for these calls, set your browser to http://cordis.europa.eu/partners/web/guest/calls.

# Poor Workers...(From page eight)

work to get them. The suppliers are also afraid to work with GM, Ford and Chrysler because they know that the savings they get they are going to take, so they want to be very secretive."

Estrada says that as lean is introduced, waste is eliminated and company performance improvement leads to increased business and job growth. "We have to be engaged in doing it and making sure we give the workers the skills and having discussions at the local management level to start pushing it at their level," says Estrada. "It's not just the lean programs, but demanding a different seat at the table. The problem is, we go in and negotiate every three or four years, but the committee and the workers don't really understand the business. They understand it at bargaining time in terms of the company giving a PowerPoint on what their goals are and the state of the company, but not on a day-to-day basis. It is very hard to get a seat at the table. And when you are paying workers $11 an hour, how much are they really going to care about the product?"

When Estrada hears the common lament that the country has 600,000 job openings for skilled manufacturing workers, she winces. "It's just another way of not wanting to deal with the problem," she says. "The real truth is there are workers out there, but they have to be paid a little better. If you are only willing to pay skilled trades $19 an hour, that is why you are having a hard time finding them, because [companies] won't pay workers what they are used to getting paid. We have to pay them a little better and we have to train our other workers."

# U.S. Helps Its Foreign Competitors Improve Their Manufacturing Performance

The U.S. federal government is helping improve the conditions and fortunes of one of the American textile industry's toughest foreign competitors. The U.S. Department of Labor is funding the International Labor Organization's "Better Work Vietnam" project to improve the conditions and the competitiveness of apparel and textile factories that sell their output to companies like Wal-Mart, L.L. Bean, Nike and Gap. The Australian government and Switzerland's State Secretariat for Economic Affairs also support the ILO program.

"Concerns of unfair workplace practices in garment factories around the world have led importers and their customers in destination countries to increasingly demand that apparel be produced in conditions free from worker exploitation or abuse," says the ILO. To make it easier for these companies to run factory audits, the ILO created the Better Work Vietnam program so that international buyers do not have to conduct their own audits, saving them time and money.

"We get orders from our international buyers who have their own global companies to supply," says Jong Gon Lee, manager of operations at Nobland Vietnam, a company with a textile factory that employs 2,000 workers, 80 percent of whom are women. "They are expected to ensure that the factories are meeting various requirements including labor standards. Either each buyer has to come and do an audit of conditions or they can rely on Vietnam's Better Work program to come in and do it for them." The ILO says the program "brings together policy makers, employers, workers and international buyers with a common goal of improving working conditions in Vietnamese factories while promoting their productivity and competitiveness."

The two million people working in Vietnamese textile factories have an average take-home pay of $120 per month. They also get benefits that include fuel subsidies for their scooters, an attendance bonus and health care that is provided by an on-site doctor, a nurse and a pharmacist, according to the International Labor Organization.

There are 165 factories involved in the program, employing 250,000 workers and covering 20 percent of exporting factories in Vietnam. ILO expects participation to grow to 375 factories by 2014. In 2011, the ILO program assessed 117 factories. "Eighty-five percent of participating factories developed improvement plans," says the ILO. "In addition to assessments of factory conditions and improvements, Better Work Vietnam offers training to workers and managers on a variety of workplace issues, with a particular focus on those affecting the garment industry."

The United States had a $13-billion trade deficit with Vietnam in 2011, with imports of Vietnamese products totaling $17.5 billion, and exports to Vietnam worth $4.3 billion. For the five months ending in May 2012, imports from Vietnam exceeded U.S. exports to Vietnam by a factor of four, with the U.S. running a trade deficit of $6 billion on imports of $7.7 billion and exports of $1.7 billion.

For the five months ending in May, the biggest category of U.S. exports to Vietnam was computer and electronic products (at $327 million). But even in this high-tech sector, the U.S. ran a trade deficit with Vietnam, which exported $550 million worth of products to the United States. The second largest export sector to Vietnam for the United States was agricultural products and food at $534 million. In this category, too, the United States ran a trade deficit with Vietnam, which exported $558 million worth of product to the United States (for a trade deficit of $24 million). Vietnam exported $4 billion worth of apparel, leather and allied products to the United States during the first five months of 2012. The U.S. exported almost 100 times less of the same products to Vietnam during that period: $44 million.

## China Africa...(Continued from page nine)

to lease and develop 300,000 hectares of farmland in the Patagonian Province of Rio Negor, Argentina, Montenegro said: "On a global level, China is the country most affected by the extension, intensity and economic impact of land degradation. So it is difficult to believe that they won't make the same mistake with their land in Rio Negro as they have in their own country."

Argentina passed a law in December 2011 placing a 20 percent cap on the amount of land that can be owned by foreigners, with no single nationality owning more than 30 percent. "Moreover, per buyer, there will be a 1,000-hectare limit," says Economy.

Brazil is considering banning all land purchases by Chinese buyers, since China does not allow private ownership of land. Brazil's former trade minister and current head of China-Brazil Business Council has said that most Chinese foreign land purchases would be made by the Chinese government.

"Sometimes you don't know whether the investments are looking for Brazil as a market or whether they correspond to strategic purposes of the Chinese government," says Economy. "Brazilians are trying to be smart about Chinese investments by ensuring that the Chinese will not only buy soybeans from Brazil but also manufacture soy oil in Brazil rather than in China."

Economy believes the United States needs to take a similar stance toward China. "The United States should start thinking through the rules of the road for Chinese companies as they begin to seek more investment opportunities in the United States," she said. "It is worth exploring — as Brazil has done — the opportunity to match Chinese regulations with those in the United States. For example, China itself does not allow private ownership of farmland and has cautioned local governments against granting large-scale or long-term leases. It also bans foreign companies from buying mines and oil fields. How to welcome Chinese investment in the United States while protecting U.S. interests is an issue that urgently needs attention, perhaps in cooperation with other countries."