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Congress Reacts To Continued Hemorrhage Of U.S. High-Tech Industrial Base With A Policy Based On 'Trusted Sources'

Congress is growing increasingly worried about the Department of Defense's ability to buy "trusted" components for national security systems from a supply chain that is increasingly shifting offshore.

In its latest Defense Authorization Act for Fiscal Year 2009, Congress directs the Pentagon to develop strategies for assuring "trusted" sources for printed circuit boards, semiconductors, electronics and even batteries. It defines the terms "trust" as referring to "the high confidence by the Department of Defense in the national ability to secure national security systems by assessing the integrity of the people and processes used to design, generate, manufacture and distribute national security critical components."

In the version of the authorization (HR-5658) that passed the House on May 22, Congress directs the Secretary of Defense to conduct a "comprehensive assessment" of acquisition programs "to identify vulnerabilities in the supply chain of each program's information processing system that potentially comprise the level of trust in such systems" including microcircuits, software and firmware. It wants the Secretary of Defense to identify a lead organization within the military to develop "an integrated strategy for ensuring trust in the supply chain for acquisition programs."

A department-wide strategy dealing with "trust" should "be sufficiently specific to provide guidance for the planning, programming, budgeting and execution process in order to ensure acquisition programs have necessary resources to implement all appropriate elements of the strategy," says the authorization bill. Congress wants a report within 12 months from the Secretary of Defense describing the strategy.

In the area of application specific integrated circuits (ASICs), Congress directs the Secretary of Defense to issue a policy requiring all ASICs used in the military "to employ only trusted foundry services to fabricate their custom-designed integrated circuits."

In the area of printed circuit boards (PCBs), Congress wants the DOD to name an "executive agent" to oversee activities related to assuring a trusted supply and technological development. The initiative is in response to a 2005 National Academy of Sciences report describing a United States circuit board industry that no longer dominates technologically and accounts for about 10 percent of global production. Without a printed circuit board industrial base, the Defense Department risks not having access to state-of-the-art designs for

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EADS Tanker Win Over Boeing Will Lead To Transformation Of DOD Procurement Rules

Congress has reacted to the recent Air Force selection of the European air tanker over Boeing with legislation requiring the military to consider the impact on American jobs and industrial base when awarding military contracts.

In the annual Defense Authorization Act for Fiscal Year 2009 that passed the House on May 22, Congress requires the Secretary of Defense to develop regulations to consider the potential impact on the "domestic industrial base during source selection" of a contract that has foreign bidders. The legislation would require a similar analysis of subcontractors on major weapons systems.

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China's Currency Doesn't Match China's Growth

China's decision on July 1, 2005, to allow the value of its yuan to "float" against the U.S. dollar within a basket of currencies has led to a 16 percent adjustment in the currency, from 8.62 yuan per dollar to 7.0. But that change pales in comparison to the growth in China's GDP over that period, its trade surplus with the United States and its foreign exchange reserves, according to an analysis by International Advisory Services Group, a Washington, D.C.-based lobbying and consulting firm.

Between July 1, 2005, and May 1, 2008, China's GDP has surged from 16,241 billion yuan to 24,596 billion yuan. Its trade surplus with the United States has increased by 29 percent, from $181 billion to $232 billion. And China's foreign exchange reserves have increased by 137 percent, from $711 billion to $1,682 billion.

The 16 percent nominal appreciation of the yuan over that period "has not yet appreciably slowed China's economic growth nor brought any balance to U.S.-China trade," writes IAS president Charles Blum. "Most astoundingly, China continues to amass foreign exchange reserves at a rate of $44 billion per month. China's unprecedented build-up of reserves is net of its purchases for foreign assets, which have intensified in the period since the initial revaluation."

As such, China remains the major source of global economic and financial instability, Blum contends. "Under IMF rules, countries are obliged to avoid using exchange rates to prevent the adjustment of imbalances in trade flows and balance of payments," he says. "China continues to flout that basic rule of the international monetary system."

The yuan's appreciation so far "is grossly inadequate," Blum adds. "The delay in making a meaningful start at a substantial revaluation in real terms means that China ultimately will have to make a much larger adjustment than was required in 2005 to bring better balance to its trade and payments flows, i.e. to fulfill its obligations under the IMF articles."

Projected Increase In Health Spending To Sap U.S. Wealth

Growth in health care spending this year should reach almost 7 percent, and is expected to remain at that level for the next 10 years, according to the Centers for Medicare and Medicaid Services at the Department of Health and Human Services. "As a percent of gross domestic product, health care spending is projected to increase to 16.3 percent in 2008 from 16.0 percent in 2006," says the CMS. "By the end of the projection period (2017), health care spending in the United States is expected to reach just over $4.3 trillion and comprise 19.5 percent of GDP."

Medicare spending surged by 18.7 percent in 2006, due to the introduction of the Medicare Part D drug benefit program, but is expected to slow to a 6.5 percent growth rate in 2007. Public spending on health care is expected to increase by 6.8 percent in 2008, and "growth is then expected to gradually increase toward the end of the projection period, as the leading edge of the baby boom generation begins to enroll in Medicare."

Growth in private health expenditures, which includes out-of-pocket expenses and private health insurance spending, is expected to increase by 6.3 percent in 2007, following growth of 5.4 percent in 2006. The slowdown in growth in 2006 was attributed to the introduction of the government prescription drug program.

"Private spending growth is expected to peak in 2009 at 6.6 percent, then decelerate through 2017 in response to projected slower economic growth in the latter years of the projection period," says the Medicare and Medicaid Services office. The full projection is located at http://www.cms.hhs.gov/NationalHealthExpendData/03_NationalHealthAccountsProjected.asp#TopOfPage.

NIST Invites Research Construction Grant Proposals

The National Institute of Standards and Technology (NIST) is seeking applicants for a one-time grant program for the construction of science research buildings. The congressionally directed program, which NIST did not request, has $29 million for awards that are expected to range in size from $10 million to $15 million.

"Grants will be made on a competitive basis to institutions of higher education and non-profit organizations," says NIST. Winners will be selected "based on the degree to which the proposed project complements Department of Commerce science and technology programs; the applicant's experience in promoting national impacts through research outcomes, training, cooperation with federal programs and opportunities for visiting researchers; the amount of additional funding the applicant is prepared to supply; and other factors."

The deadline for submitting applications is July 21. Winners will be announced in September. Go to http://www.grants.gov and type 11.615 in the "grant search" quick link box.

DOE Runs Fuel Cell Competition

The Energy Department will award $130 million to companies, universities and national labs for R&D into hydrogen fuel cells. DOE hopes to award 50 projects for research into automotive, stationary and portable power systems. It will require a minimum 20 percent private sector cost share for research projects and a 50 percent cost share for demonstration projects. Applications are due by Aug. 27, 2008: http://www.hydrogen.energy.gov/.

Science Committee Hearing On Globalization

American Workers Pay The Price For Executive Compensation

The social compact that existed over the past century between American corporations and the people who worked for them, their families and their communities has been severed, according to half a dozen witnesses testifying before a House Science subcommittee hearing. The financial consequences have been severe for millions of Americans.

Corporate America's focus on profits and stock options for chief executives has resulted in the greatest imbalance of wealth since the 1920s. America's middle class is not benefiting from steady improvements in productivity, nor from the shift of production offshore, said those testifying.

There will be a political backlash to this situation at some point in the future, said participants in the May 21 hearing before the House Science Committee's oversight and investigations subcommittee at a hearing entitled "American Decline or Renewal? Globalizing Jobs and Technology."

"With the onset of globalization, the capital, know-how and technology that once made American workers the most productive in the world are being transferred overseas to other workers who will do the same job for a fraction of the wage," said Ralph Gomory, president emeritus of the Alfred P. Sloan Foundation and former director of research at IBM. "This makes for excellent corporate profits, but it leaves American workers out and it will leave most Americans as losers, not winners from globalization."

Corporations, their officers and directors are being driven almost solely by profit, a motivation that did not exist until the 1980s. Prior to that time, many large corporate CEOs such as Reginald Jones of General Electric, felt responsible not only to shareholders but to employees, the communities in which they operated, American industry and the nation. "That sense of broad responsibility was at that time — and I remember it myself — pervasive in American industry," said Gomory.

But in the years since, "that view of corporate leadership has been largely replaced by the idea that the business of business is solely to make a profit for shareholders and that, in the pursuit of profits or shareholder value, all other values should be sacrificed," Gomory told the hearing.

The focus on profits came about by a "radical change" in the way corporate executives were compensated, noted Margaret Mendenhall Blair, professor of law at Vanderbilt University Law School. The advent of stock options and the tax advantages that were provided relative to compensation in shares meant executives could make a lot of money by taking undue risks to increase share value. Many of these risks put the enterprise in peril. Yet corporate leaders were not penalized for taking a company into the grave.

Focusing solely on profits and share price imposes "high costs on creditors, employees, the communities where the corporations operate or other stakeholders, or sometimes even on the long-run ability of the corporation itself to compete effectively for market share or to develop the next technology," said Blair.

Stock options have led to the greatest disparity in pay between CEOs and workers since the 1920s. The lucrative executive packages are being driven by corporate boards that are made up of CEOs of other companies who sit on other corporate boards.

"The compensation being tied to the share price and the sheer volume of shares given to leading executives is such that for most people, that amount of wealth is overwhelming," said Gomory.

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Industry Reduces CO_2 Emissions

U.S. carbon dioxide emissions increased by 1.6 percent last year, to 5,984 million metric tons, up from 5,888 million metric tons in 2006 , according to the Energy Information Administration. But the U.S. industrial sector's emissions declined by 0.1 percent, "continuing a trend of falling emissions since 2004," says EIA.

The increase in air pollution also was not as high as economic growth. GDP increased by 2.2 percent, while energy demand rose by 1.7 percent, "indicating that energy intensity (energy use per unit of GDP) fell by 0.5 percent," says the EIA.

Almost all of the increase in emissions was due to residential and commercial heating and cooling. Cold weather conditions (heating-degree days increased by 6.7 percent) in the winter and hot weather (cooling-degree days increased by 2.6 percent) in the summer increased demand for heating and cooling services, with a higher carbon intensity of electricity generation. The use of natural gas to heat the residential sector increased by 8.3 percent, while use of residential electricity increased by 3.9 percent. Electrical generation accounted for 40 percent of all carbon dioxide emissions last year, and they increased by 3 percent or by 71 million metric tons.

Transportation emissions increased by 0.1 percent, and account for one-third of total carbon dioxide emissions.

"Total U.S. energy-related carbon dioxide emissions have grown by 19.4 percent since 1990," says EIA. "The carbon dioxide intensity of the economy fell by 26.6 percent or 1.8 percent per year."

The report is located at http://www.eia.doe.gov/oiaf/1605/flash/flash.html.

Federal Government Sponsors Dueling Competitiveness Events

The White House Office of Science and Technology Policy (OSTP) has set a date for the congressionally mandated "Science and Technology Summit." But the event is in direct conflict with one that is being sponsored by the Commerce Department on virtually the same dates. That event, titled "The Americas Competitiveness Forum: Promoting Prosperity and Economic Opportunity," is being hosted by the International Trade Administration in Atlanta, Ga., on August 17 to 19.

The OSTP summit will be held August 18 - 19 at the Oak Ridge National Laboratory in Tennessee. The theme is "Science, Technology and American Competitiveness: Progress and Direction Forward." Among the speakers: Secretary of Education Margaret Spellings; National Semiconductor CEO Brian Hall; IBM senior vice president for research and development Jack Kelly; Sen. Lamar Alexander (R-Tenn.) and Tennessee Reps. Bart Gordon (D) and Zach Wamp (R). Congress required the White House to convene the summit when it passed the 2007 America COMPETES Act.

The OSTP event "will focus on assessing the status of consensus policy recommendations to strengthen long-term U.S. economic competitiveness through science and technology," says OSTP. "Among the policy proposals that will be reviewed at the summit is President Bush's American Competitiveness Initiative, a package of priority investments and policies related to research and development, the science and engineering workforce and math and science education."

The Commerce Department event will include economic and education ministers, business executives, academics, and non-profit leaders "to engage in a dynamic discussion on innovative ways to create jobs, fight poverty and strengthen democratic governance in the Western Hemisphere."

To register for the OSTP event, go to http://www.ornl.gov/natlscitechsummit/index.shtml. For information on the Commerce Department event go to http://www.competitivenessforum.com/.

Interstates Hurt By High Gas Prices

The high price of gasoline will soon bite into the money the federal government has to spend on highways. Americans traveled 245 billion vehicle miles in March 2008, 4.3 percent less than in March 2007. It is the first time since 1979 that travel on public roads fell from March-to-March and "is the sharpest yearly drop for any month in the Federal Highway Administration history," says the FHA. From November 2006, cumulative vehicle miles traveled have fallen by 17.3 billion miles.

"That Americans are driving less underscores the challenges facing the Highway Trust Fund and its reliance on the federal gasoline excise tax," says acting Federal Highway Administrator Jim Ray. Adds DOT spokesman Doug Hecox: "As gas tax revenue decreases, the available resources through the Highway Trust Fund that states have come to rely heavily on will also decline, even as costs of highway construction and maintenance — chiefly materials costs right now, like steel, asphalt and concrete — skyrocket. New methods of funding highways and bridges are needed and, if this trend continues, those new methods will be needed sooner rather than later."

The FHWA does not yet have information on what the decline in tax revenue will be. "The IRS gives us a once-annually audit statement, [and] we also get mid-year statements from OMB, but we don't have either yet," says Hecox.

Asia Fuels Growth In Steel Production And Consumption

Global steel demand, production and capacity continue to grow at rapid rates, thanks in large part to the surging economies of developing nations, according to the OECD. "Global steelmaking capacity continues to increase rapidly," says a May 23 market update from the OECD Steel Committee. "This could impact the market negatively if demand growth slows more than expected."

Global steel production capacity is expected to increase from 1,560 million metric tons in 2007 to 1,849 million metric tons in 2010, an increase of 18.6 percent. "Most of this increase will take place in Asia," says the OECD.

China will account for half of the additional capacity between 2007 and 2010. But India, Vietnam and Thailand "also have ambitious plans to expand capacity."

Russia, which will phase out all of its open hearth furnaces by 2015, is expanding capacity with "several important mini-mill projects and through significant modernization of existing facilities," says the OECD.

Iran and other Middle Eastern countries that are flush with oil cash are adding capacity. Latin American production capacity is also expected to increase rapidly, "especially in Brazil where significant expansion of domestic demand and projects to produce semi-finished products for export are attracting investment, including by foreign firms."

Chinese steel consumption surged by 13 percent in 2007 to 408 million metric tons. "Growth in machinery and automotive manufacturing, shipbuilding and construction are likely to continue to support steel demand going forward."

India's steel consumption increased by 11 percent to 51 million metric tons. In Russia, steel consumption increased by 13.5 percent to almost 40 million metric tons, driven by high demand in the oil and gas industry. Brazilian steel demand surged last year by 19 percent to 22 million metric tons, "reflecting the buoyant domestic construction, automotive and capital goods sectors," says the OECD.

In Africa, consumption reached 25 million metric tons and in the Middle East, it reached 44 million metric tons.

China Slows Down Its Reform Of Non-Complying Trade Issues

China is not doing a very good job of fixing its trade system, according to a report from the Government Accountability Office (GAO). Between 2002 and 2007, the United States Trade Representative identified 180 Chinese trade compliance problems. "GAO analysis showed that China resolved a quarter of these issues, but made no progress on one-third of them," says the GAO in an audit of the USTR's assessments of Chinese trade practices. "China's progress in resolving compliance issues varied by trade area and has been slowing over time, especially since 2004, when most progress was made."

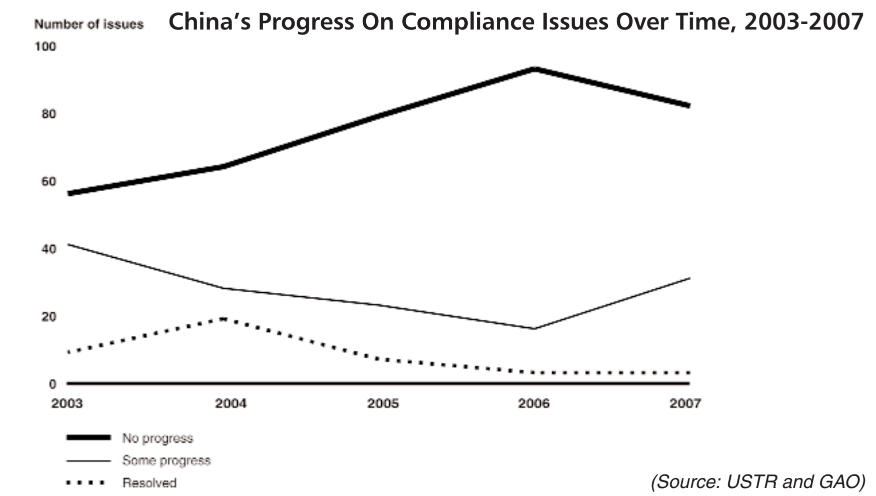
GAO audited the USTR's annual report it submits to Congress on Chinese trade problems from 2002 to 2007. It says the reports do not contain "the systematic analysis needed to clearly understand China's compliance situation." They do not provide a means to track progress on issues raised in earlier-year reports. "Therefore, we conducted a systematic content analysis of USTR's annual reports in order to quantify the number, type and disposition of trade issues," says the GAO analysis.

It found that it is difficult to determine if China is making progress in reforming the 180 unfair trade practice that the USTR has identified. "The USTR does not formally assess its progress or measure its results as we have recommended in our past reviews of other USTR plans," says the GAO audit. "Furthermore, the report has not been updated to reflect developments such as the creation of the Treasury-led Strategic Economic Dialogue and U.S. trade actions against China."

GAO recommends that the USTR clearly identify the number, type and disposition of the trade issues that it is pursuing with China and report progress in its annual report to Congress. It recommends that the USTR provide some idea as to the economic importance of individual compliance issues, so that they can be prioritized.

The report notes that the USTR has doubled its China compliance staff from five positions in 2003 to 10 positions in 2007. The Commerce Department's Import Administration has seen its China trade staff increase from nine positions in 2003 to 55 in 2007. Commerce's Manufacturing & Services division at the International Trade Administration now has 10 staff members devoted to Chinese trade issues, up from zero in 2003. In all, the U.S. government has increased its China trade staff from 60 in 2003 to 135 in 2007.

The 64-page report entitled "U.S.-China Trade: USTR's China Compliance Reports and Plans Could Be Improved," is located at http://www.gao.gov/new.items/d08405.pdf.



(Source: USTR and GAO)

Think Tank In India Says Developing World Has Little To Gain From Doha Round

Developing countries "should pull the plug" on the Doha Round of trade negotiations because they have little if anything to gain by the conclusion of the round, according to Research and Information System for Developing Countries (RIS), a think tank based in New Dehli, India.

Projected gains from the new trade regime would amount to 0.2 percent of GDP for developing nations — enough to reduce poverty for only 2.5 million people, argues RIS. The gains would amount to $3.13 per capita in the developing countries, or less than a penny a day. Moreover, developing countries will lose $63 billion in tariffs they collect on imports, and they would experience a reduction in exports. Wealthy countries would see per capita gains that would be 25 times those of people living in developing countries, says RIS.

"Given the proliferation of lofty rhetoric about Doha and poverty reduction, the public can be excused for thinking this agreement is all about poverty and development," says RIS.

Estimates made by World Bank officials in 2003 of Doha's impact — rising global GDP of $520 billion and the reduction of people living in poverty by 144 million — "are still echoed in editorials and statements by public officials, even though they are now considered exaggerated and obsolete." New projections show that global gains in 2015 would be $96 billion, with $16 billion going to the developing world.

"Other economic projections of Doha have come up with different estimates, but all are of the same order of magnitude," says the study, "Back to the Drawing Board: No Basis for Concluding the Doha Round of Negotiations," which is located at http://www.ase.tufts.edu/gdae/Pubs/rp/RISPolicyBrief36DohaMay08.pdf.

Congress Is Concerned About 'Trusted' Parts...

(Continued from page one)

future military weapons, nor the ability to replace boards needed in existing weapons systems.

The Senate Armed Services Committee notes that printed circuit board technologies "are critical components of numerous defense systems and cost the Department roughly $500 million annually," says the Senate Defense Authorization for 2009. "There are strong and growing concerns related to the development of next-generation capabilities, to preserving assured access to trusted sources of technology due to a diminishing domestic manufacturing base, and even to the trustworthiness of existing supplies of printed circuit board technology being used for military systems."

The authorization says that DOD's efforts to deal with this situation "have been under funded and disjointed in the past." An executive agent "can raise the profile of risk issues related to printed circuit board technological, as well as production and acquisition issues, and help ensure that these concerns are better addressed in future budgets, plans and programs."

The executive agent will develop a roadmap that assures the Defense Department "has access to manufacturing capabilities and expertise" needed to meet future military requirements. The agent will "assure that continuing expertise in printed circuit board [technology] is available to the Department."

In the semiconductor area, Congress tells DOD to begin an assessment of standards used to procure commercial semiconductors. The undersecretary of Defense for Acquisition Technology and Logistics "shall conduct an assessment of various methods for verification of trust of the semiconductors procured by the Department of Defense from commercial sources for utilization in mission critical components of potentially vulnerable defense systems," says the authorization bill. The assessment will identify the existing methods used to determine if a semiconductor made by a commercial company can be trusted for use in a military weapon system. As more leading-edge semiconductor capability shifts out of the United States, DOD needs to work with the national laboratories, institutions of higher education and private sector organizations that are currently developing weapons systems to determine trusted sources of supply. DOD must also assess the research and development efforts "necessary to develop methods for verification of trust of semiconductors to meet the needs of the Department of Defense," says Congress. The assessment must be completed by December 31, 2009.

Elsewhere in the authorization bill, Congress directs the Secretary of Defense to work with the Energy Department on creating a multi-year technology roadmap for the development of advanced battery manufacturing capabilities and a supply chain "necessary to ensure that the Department of Defense has assured access to advanced battery technologies," says section 212 of the Senate version of the act. The roadmap would identify current and future "capability" gaps, cost savings goals and "assured technology access goals that require advances in battery technology and manufacturing capabilities."

The DOD must describe "specific" research technology and manufacturing "timelines and estimates of funding necessary for achieving such goals and milestones," says the authorization bill.

The battery roadmap will also describe "specific mechanisms for coordinating the activities of federal agencies, state and local governments, coalition partners, private industry and academia covered by the roadmap," which will be submitted to Congress a year after passage of the authorization bill.

In other areas of technology, congressional authorizers direct DOD to study the feasibility of deploying solar energy systems at forward operating locations. The study will examine the potential of solar power to reduce fuel needed to provide electricity at forward-operating locations. It will determine "the extent to which such reduction will decrease the risk of casualties by reducing the number of convoys needed to supply fuel to forward operating locations." The study, to be conducted by March 1, 2009, will determine the cost of using solar energy compared to current electricity-generating methods, solar's operational requirements and its environmental benefits.

Congress is seeking a similar study due on the same date on the potential of creating coal-to-liquid fuels.

Congress is also worried about the nation's industrial ability to produce a new generation of small arms for the military. It directs the Secretary of Defense to generate a report 120 days after the passage of the authorization describing the health of the small arms industrial base. It wants to know the current inventory of small arms, the acquisition objectives of DOD and the budgetary status of small arms programs including pistols, carbines, rifles, light, medium and heavy machine guns.

Included in the report will be a plan "for a joint acquisition strategy for small arms modernization, with emphasis on a possible near-term competition for a new pistol and carbine," says the authorization bill in Sec. 142. The report will contain an analysis of current small arms research and development programs, and an analysis of current "capability gaps."

China Auto Parts Export Surge

China exported $41 billion worth of autos and auto parts last year, an increase of 45 percent over 2006, according to the Chinese Association of Automobile Manufacturers. The United States was the number-one destination for Chinese made auto parts, worth $22 billion, representing more than half the total. China also exported 612,700 automobiles, up 79 percent from 2006. Exports of auto parts accounted for 70 percent of total exports, or $28 billion. Exports of automobile electronics reached $4.8 billion, up from $2.2 billion in 2005. Exports of tires increased from $3.4 billion in 2005, to $4.5 billion in 2006, to $6.2 billion in 2007. Exports of auto glass increased from $2 billion in 2005 to $3 billion in 2006 to $5 billion in 2007. Exports of auto lamps jumped from $3 billion in 2005, to $4 billion in 2006 to $7 billion in 2007. Chinese exports of autos and auto parts to Russia increased by 322 percent in value in 2007.

CEO Pay = Lack Of Competitiveness...

(Continued from page three)

Additional pressure is being exerted on the executives by a small group of financially oriented shareholders who drive up share prices any time workers are laid off, pensions are cut or capacity is shifted offshore. "It is a distortion," said Gomory. "And I think it is one that we do not need."

Executive compensation in the United States "has no parallel anywhere else," said Bruce Scott, a professor of business administration at the Harvard Business School. When the Financial Accounting Standards Board did not require stock options to be included in a company's P&L statement, it provided "directors the right to give people free money, and this is what they did," said Scott. "You can raise your earnings and raise your stock price by doing a deal with the Chinese — you can do it any way you want. It is the transactions that drive the stock and that drives your compensation. It is really a pernicious system. I would find a way to outlaw the stock option entirely, and that may sound really weird."

The idea that corporations have a legal duty to maximize shareholder value and profits is, at best, "a misleading overstatement and, at worst, this claim is false," said Blair. "There is no statutory requirement in the U.S. that corporations must maximize profits or that directors are responsible for maximizing share value."

James Copland, chairman of Copland Industries/Copland Fabrics of Burlington, N.C., told the hearing: "Every American deserves the right to provide for his family, to own a home and to educate his kids, but our flawed manufacturing and trade policies are taking this away. Our constitutional preamble says a 'government of the people, by the people and for the people.' We have forgotten about the words, 'for the people.' Our country should be ashamed — totally ashamed — of what our government has done to working people in America. People are angry now, and when they connect the dots — and they are going to connect them — they are going to know where to focus their anger."

To download the prepared testimony or view an archived Webcast from the hearing, set your browser to http://science.house.gov/publications/hearings_markups_details.aspx?NewsID=2199.

Congress Has To Legislate Automobile Innovation

Real-time fuel efficiency gauges would be a requirement on all vehicles, allowing drivers to know exactly how much fuel they are consuming while they are driving, under legislation introduced by U.S. Sens. Gordon Smith (R-Ore.) and John Kerry (D-Mass.). "Utilizing this practical technology in our vehicles can drastically reduce our fuel consumption and provide needed financial relief for American families," says Smith.

The bill would require all passenger vehicles and light duty trucks manufactured or sold in the United States starting with model year 2013 to display real-time and average fuel economy in a location visible to the driver. "When the driver accelerates, they would instantly see an increase in fuel consumption on the gauge, prompting them to drive smarter," say the two senators. "A recent study by Nissan showed that when drivers have this immediate feedback, they get up to 10 percent greater fuel efficiency by modifying their driving."

QUOTABLE:

"For a very long time, most of the work of the world was done on farms or in small shops. An individual could learn the printing trade or shoe making and graduate to his own shop; a family could run a farm. In both cases an individual or very small groups of people could grow crops or make shoes that could be sold to others and thus have the money to supply what was not made at home.

"But today, the goods we consume cannot be made at home, they are complex and require large organizations to create them. You cannot manufacture a car in your garage; it takes a large-scale organization to do it. The food you eat is not produced by a family on a nearby farm, but is made by large organizations on highly mechanized farms with machinery produced by other large organizations. The food itself then travels on highly organized transportation networks to get to huge outlets, where nearby you can pick up a refrigerator made by another large organization and a television set that no individual or small group could ever build.

"The same is true of services; there is no way to build your own telephone service. And even medicine, one of the last strongholds of the individual practitioner, is rapidly agglomerating into large-scale enterprises.

"A person must now be part of an organization that makes or distributes the complex goods and services that people buy today. Being part of an organization is what people must do to earn a living and support themselves and their families. The fundamental social role of corporations and other businesses is to enable people to participate in the production of the goods and services that are consumed in the modern world; the corporation enables them to earn a share of the value produced for themselves.

"How well [are] America's global corporations fulfilling that fundamental purpose today[?] In the last few decades the shift in corporate motivation toward emphasizing profits above everything else has had a deleterious effect on the way they are fulfilling that role. That deleterious effect is now being enormously accelerated through globalization."

— Ralph Gomory, Research Professor, NYU Stern School of Business, President Emeritus, Alfred P. Sloan Foundation and Former Head of Research at IBM.

New DOD Regs...*(From page one)*

Congress tells DOD to develop regulations within 120 days to address how the purchase of major weapons systems will impact U.S. jobs. The regulations will "allow the source selection authority to consider impacts on the domestic industrial base as an evaluation factor during the source selection process," says the authorization bill, which is named in honor of retiring Rep. Duncan Hunter (R-Calif.), former chairman of the House Armed Services Committee and a staunch supporter of "Buy America" proposals. Economic factors were not considered in selecting the EADS tanker aircraft over Boeing, although some DOD acquisition officials said they would like to have had them included in their assessment criteria.

Contracting officers responsible for selecting winners should be given the "flexibility" to determine the importance of industrial impacts, says the legislation. The regulations should "provide defense acquisition officials with the authority to impose penalties on the contractor awarded the contract resulting from the source selection, including fines and contract termination, if (A) the domestic industrial base evaluation factor was used during source selection; (B) the evaluation factor had a material effect on the outcome of the source selection; and (C) the official determines that the potential contractor knowingly or willfully misrepresented impacts to the domestic industrial base during source selection," says the legislation.

As part of the regulation, DOD will be required to determine whether major acquisitions will impact domestic capabilities for the production of critical supplies, the number of jobs that would be affected, and the "creation or maintenance of domestic scientific and technological competencies or manufacturing skills."

Congress directs the Secretary of Defense to notify it at least 30 days prior to the issuance of a request for proposal for any major defense acquisition program "that will not use a domestic industrial base evaluation factor during the source selection process," states the authorization bill. The Secretary of Defense will have to justify his or her decision for not including domestic industrial base evaluation criteria, and include an assessment of potential impacts on the industrial base.

In a separate proposal (Sec. 807), Congress tells the Secretary of Defense to "prescribe regulations regarding the comprehensive evaluation of a proposal for a major defense acquisition program for which a significant proportion of the research, design, development, manufacturing, assembly, or test and evaluation will be performed outside the United States."

The regulation would require a foreign bidder on a major weapon system to provide a "breakdown of costs not borne by the offeror as a result of activities performed outside the United States." These include costs that are assumed by foreign governments but are covered by U.S. companies, "such as...health care, retirement compensation and workman's compensation," says the new law.

Contracting officers that are considering the proposal would have to include advantages to overseas companies "in any cost and price analysis performed." Contracting officers would have "to certify, prior to source selection, that the contracting officer has no reasonable grounds to believe that the final assessed prices excluded any cost or other element (such as the monetary policy of a foreign government) that other offerors performing in the United States could not also exclude."

This new regulation will also apply to subcontractors "at any tier if the subcontractor is expected to perform outside the United States a significant portion of the research, design, development, manufacturing, assembly or test and evaluation under the proposal being evaluated."

Airbus Orders On The Rise

EADS, the maker of the Airbus civilian aircraft, is slowly turning itself around. The company had a record number of orders last year, 1,341 aircraft, which increased its backlog to 3,421 aircraft. In 2007, it made 453 Airbus deliveries to airlines around the world, up from 434 the year before.

The company is doing well with its Eurocopter, receiving 802 new orders, for a backlog of 1,388 units and making 488 deliveries last year.

The company's order book increased by 29 percent, from $263 billion at the end of 2006, to $339 billion at the end of 2007.

Total revenues were down last year by 1 percent to $39.1 billion (from $39.4 billion in 2006) and its EBIT rate sagged by 87 percent to 0.05. Net income in 2007 was a negative 446 million euro (negative 1.1 percent of revenue), down from a positive 99 million euro (0.3 percent of revenue) in 2006.

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LETTER TO THE EDITOR

In his letter that appeared in the April 17 issue of *Manufacturing & Technology News*, David Huether of the National Association of Manufacturers attacked us by name and suggested that Americans' lived experience of manufacturing decline — and the effect that trade deals have had on this trend —- is somehow a myth.

Huether's boss, NAM President John Engler, has repeatedly touted a United States Trade Representative (USTR) fact sheet that claims U.S. manufacturing output increased during the post NAFTA-WTO era relative to the prior period. It is a way to change the subject from the undisputed data showing that the United States has lost 3 million net manufacturing jobs since establishment of the WTO and NAFTA.

In spite of claims made by NAM and the Bush administration, the Census Bureau's Annual Survey of Manufactures found that U.S. manufacturing value-added (what was actually produced in the United States minus imported inputs) increased 13 percent between 1993 and 2006 — the exact same rate as between 1980 and 1993. (The value of shipments, which does not subtract imported inputs, grew 17 percent during the latter period.)

Indeed, manufacturing imports in 2007 reached an all-time high with a value of $1.5 trillion, or nearly 70 percent more than manufacturing exports.

This gets to Huether's attack on the statement by United Steel Workers (USW) President Leo Gerard that the workers Gerard represents are not producing more, but rather are being displaced by imports and are being unemployed by offshoring. Huether knows well that total manufacturing output is not a measure of the value-added domestically but also includes the value of imported inputs — i.e. imported inputs not made by the United Steel Workers and other U.S. union workers. While NAM and others continue to push more of the same failed trade policy, it is also clear that the Free Trade Agreements they push do not help boost exports.

I revealed another USTR statistical stunt through which the large FTA countries with which the U.S. has large deficits are excluded so as to deliver another favorite USTR claim: U.S. export growth is faster with countries with which the U.S. has an FTA. In fact, U.S. exports to the 14 nations with whom we have FTAs increased only 25 percent over 2001-2007 — a full 12 percentage points lower than our growth rate to non-FTA nations. To the extent that NAM's members desire growing export markets, it is clear that our FTAs are not an effective delivery mechanism.

Indeed, the United States has large trade deficits with all of its major FTA partners and with the group of FTA nations as a whole. When you add to this the millions of Americans who lost or missed out on potential manufacturing jobs due to our trade deficit under NAFTA and WTO, it is clear that our trade policies are due for an overhaul.

Thus, what is shocking are not my statements, per Huether's letter, but that the National Association of Manufacturers continues to deny the damage being caused to American manufacturing by the failed trade agreements NAM has pushed. With the damage so apparent, it is no wonder that a bloc of NAM member companies has been battling against the NAM's rigid orthodoxy in favor of more of the same trade policy.

— Lori Wallach, Director, Public Citizen's Global Trade Watch

NAM & Deloitte: Mfgrs. Are Happy With NAFTA

The majority of manufacturers in North America say that NAFTA has been good for their business, which is "contrary to popular perceptions," according to a survey conducted by the National Association of Manufacturers and Deloitte. "Only a small percent say that NAFTA has hurt them."

The "Made in America" survey revealed that the majority of manufacturing companies believe their operations in the United States are competitive globally, and that the country is still the best place to open new production capacity. "Survey respondents said the U.S. tops their list of likely places for expansion of operations, including production," say NAM and Deloitte. Forty-four percent said they would be expanding production in the United States over the next three years, followed by 37 percent in Mexico and 37 percent in China. "The U.S. also ranked number one in other areas for expansion including sales, engineering and R&D."

The biggest barrier cited by the manufacturers surveyed by NAM and Deloitte to making production more competitive in the United States was labor unions (42 percent), followed by labor costs (39 percent), government bureaucracy (38 percent), tax policy (28 percent) and the cost of raw materials (24 percent).

Auto Suppliers Are Hurt By Slowdown In Sales

Small- and medium-sized automotive industry suppliers are falling on tough times, according to a report from the *Financial Times*. "The reverberations of weakening U.S. motor vehicle sales are being felt far beyond carmakers' assembly plants," says the publication. Falling orders, tightening credit markets and high raw material costs are hurting suppliers, many of which are quietly going out of business. "A lot have closed that didn't make the newspaper," said Gerald Fedchun, president of Canada's Automotive Parts Manufacturers' Association. "It's not that they go bankrupt. They just sell the machinery, pay severance pay and close."

Light vehicle sales were down by 8 percent in the United States during the first quarter of this year. Total U.S. output is expected to drop to 14.1 million vehicles. Asian manufacturers are expected to reduce U.S. output by 2 percent this year. European companies are expected to increase production, however, due to the weak dollar. Suppliers that have recently been downgraded by JP Morgan include Lear, Magna International, TRW, Visteon, Tenneco and American Axle.

Manufacturing Skills Standards Council

Training The Industrial Athlete For the Future

BY LEO REDDY

The Manufacturing Skill Standards Council (MSSC) is on the cutting edge of a historic change in the way industrialized nations train their workforce. Fast-moving technologies are not only transforming the nature of work, but also the nature of the worker.

IT-based equipment and processes are rapidly transforming industrial occupations. Computer numerical controls have transformed machining. "Friction stir" processes will revolutionize the world of welding. Emerging industries based upon nanotechnologies and materials, bioengineering, and alternative energies will re-define industrial occupations. Automation and robotics are virtually eliminating the low-skilled worker. "Employment in high-skilled manufacturing jobs rose 37 percent between 1983 and 2002, while low-skilled factory jobs dropped 25 percent," says a recent study from the Federal Reserve Bank of New York.

To keep pace with technological change, the factory worker of the future needs to be able to fill a variety of occupations over time. He or she needs to be equipped with stronger core academic and employability skills — in computers, math, science, communications, problem-solving, teamwork, customer awareness — to be readily trainable in a multidisciplinary, multi-occupational context. The MSSC calls this agile, flexible knowledge worker the "Industrial Athlete of the Future."

As of this writing, the United States remains the pioneer in consciously trying to build this kind of next generation industrial worker with stronger "core competencies." In 1998, the federal National Skill Standards Board (NSSB), formed under the National Skill Standards Act, officially recognized the MSSC as the "Voluntary Partnership" in manufacturing. The MSSC was responsible for developing industry-led standards, assessments and certifications common across all manufacturing sectors and all production and production support occupations: entry-level through first line of supervision.

The manufacturing community strongly endorsed this approach. Over 700 companies, 4,000 workers, 15 industrial unions, 350 educational institutions, 350 subject matter experts, and $9 million in public and private funding were involved in drafting and validating the standards. The MSSC standards, officially endorsed by the NSSB in 2001, have since formed the basis of the federal definition of advanced manufacturing workforce competencies in both the U.S. Departments of Labor and Education.

Since 2001, the MSSC itself has built a comprehensive system for the MSSC-Certified Production Technician (CPT), applicable to the seven million-plus workers in manufacturing production occupations today. In addition to core academic and employability skills, individuals receiving MSSC CPT certificates must also demonstrate knowledge of the critical work functions of production common across all manufacturing sectors: safety, quality practices & measurement, manufacturing processes & production, and maintenance awareness.

Organized around these four production functions, the MSSC "CPT" system tools include courses (including fully on-line "Fast Track" courses for production workers), textbooks, instructor training, assessment centers, diagnostic tools and credentials. Companies may use the MSSC System Tools both in their own training centers and in cooperation with area community-tech colleges and high schools.

The MSSC "CPT" model is analogous to the widely-used Automotive Service Excellence (ASE) certification system for auto service technicians. Like "ASE," the MSSC aims to qualify front-line workers across most of the nation's factory floors. The MSSC's rapidly growing infrastructure for delivering its certification system tools now includes over 1100 testing sites and 150 MSSC-Certified Teachers.

On its tenth anniversary this spring, the MSSC announced a complete update of its standards, assessments, and courses to ensure that its "CPT" system represents best practice in advanced, high-performance and globally competitive companies. With its updated tools and expanding infrastructure, the MSSC is now focused on nationwide implementation.

The timing could not be better. Manufacturers are overdue in building a pipeline of production workers able to replace Baby Boomer retirements, which will hit manufacturing harder than any other economic sector. The nationwide MSSC certification system for core competencies, if widely adopted, has the tools to quickly fill that pipeline — with "Industrial Athletes of the Future."

MSSC's "Value Proposition" for Companies:

- A pipeline of certified production workers;
- Sharply decreased recruitment costs;
- Elimination of remedial training costs;
- Tool to benchmark workforce against national standards;
- Skills gap identification to increase ROI on training; and
- An aid for attracting qualified, motivated workers.

— Leo Reddy, Chairman and CEO of MSSC, is also the founder of the National Coalition for Advanced Manufacturing, which initially formed the MSSC. He can be reached via e-mail at Leoreddy@aol.com. The MSSC's Web site is located at www.msscusa.org