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NAM Says The Time Has Come For China To Re-Value Its Currency

It has become "imperative" for the Department of Treasury to declare that China is manipulating its currency, says Pat Mears, director of international commercial affairs at the National Association of Manufacturers. Further evidence of China's manipulation is that nation's growing currency reserves. They have risen to $848 billion, and are now the largest in the world, surpassing those of Japan's at $837 billion.

"China's currency reserves are nearing half of China's total gross domestic product," Mears notes. "Rather than tying up that much of its economy in low-interest official holdings — primarily in U.S. dollars — China could be using those funds to build internal economic strength. China continues to buy dollars to keep its currency suppressed below market values in order to fuel export-led growth, but it's high time for this to stop. It's distorting global trade flows and distorting China's economy."

China's reserves grew $220 billion in the past 12 months. "Not coincidentally, that was the size of its trade surplus with the United States last year," says Mears.

The Treasury Department is expected to issue its bi-annual assessment on currency manipulation at the end of April. In previous reports, it has used China's trade data instead of import and export figures from the United States government in its analysis of China's currency. It has refused to label China as being a country that manipulates its currency despite demands from an increasingly agitated and frustrated community of U.S. manufacturers and workers.

DOD's 'Innovation Fund' Falls By The Wayside

The Department of Defense's Office of Industrial Policy has decided not to pursue a $100-million program aimed at helping small- and medium-sized companies overcome the "valley of death" in commercializing innovative technologies that can be used in a variety of advanced weapons systems. The "Innovation Base Investment Fund" that was described in the office's five major "Defense Industrial Base Capabilities Studies" was considered to be a priority means to address the problem. But the fund proved to be politically unfeasible, says Gary Powell, who spoke with *Manufacturing & Technology News* while he was acting director of Office of the Deputy Under Secretary of Defense for Industrial Policy.

"It was a 'fund' as opposed to a program," explains Powell. "We envisioned that Congress would appropriate a certain dollar level for us and we'd sit that in a basket here in DOD and as we had good ideas, we'd vet those ideas in DOD and reach into that fund and pull out whatever dollars we needed and we could do that really quickly."

But his office found that "funds are really hard to do," Powell notes. "The comptroller doesn't like them, the DOD leadership doesn't like them and the Congress doesn't like them."

The Industrial Policy shop still believes there are technological deficiencies in many areas and that the "valley of death" still exists. But there are other programs in place to address these issues. Many of the programs run by the Director of Defense Research and Engineering, including Mantech, Title III, and the Advanced Concept Technology Demonstration (ACTD) and Technology Transition programs, have similar objectives. Funding for the Small Business Innovation Research (SBIR) program can also be directed to areas identified as needing support by the Defense Industrial Base Capabilities Studies completed by the Industrial Policy shop with the help of Booz Allen.

"So rather than try to develop a brand new fund, we're going to try to tweak those programs and leverage the existing funds," says Powell. "We're having preliminary meetings with

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Energy Programs Could See Big Boost In Spending

President Bush's Advanced Energy Initiative (AEI) will replace "more than 75 percent of U.S. oil imports from the Middle East by 2025," according to the President's Office of Science and Technology Policy.

The goal sounds lofty, but it really isn't.

Of total U.S. consumption of 21.93 million barrels per day in January, 2006, only 1.9 million barrels per day — or 9 percent of total U.S. consumption — came from Middle Eastern countries: 1.438 million barrels per day from Saudi Arabia, 532,000 from Iraq and 73,000 from Kuwait, according to the Energy Information Administration. Daily imports from Canada, the largest exporter to the United States, averaged 1.8 million barrels. Total daily imports were 13.2 million barrels per day, or 60 percent of total U.S. consumption.

Nonetheless, the President's initiative would provide additional funding for numerous energy technologies, while reducing funding for others. Here's a chart of the federal energy spending proposals as provided by the

Proposed Spending For Federal Government's Advanced Energy Initiative

Program (funding in millions)	2006 Enacted	2007 Budget	2007-2006 ($)	2007-2006 (%)
Energy Efficiency and Renewable Energy (EERE) Programs				
Hydrogen Technology	80	114	34	42%
Fuel Cell Technology	75	82	7	9%
Vehicle Technology	182	166	-16	-9%
Biomass	91	150	59	65%
Solar	83	148	65	78%
Wind	39	44	5	13%
Geothermal	23	0	-23	-100%
Program Management (pro-rata)	58	67	9	0%
Subtotal, EERE	**632**	**771**	**139**	**22%**
Fossil Energy (FE) Programs				
Clean Coal/Fossil Energy R&D (Coal Research Initiative)	314	281	-33	-11%
Other Power Generation / Stationary Fuel Cells	62	64	2	3%
Program Management (pro-rata)	86	99	14	16%
Subtotal, FE	**461**	**444**	**-17**	**-4%**
Nuclear Energy (NE) Programs				
Global Nuclear Energy Partnership/Adv. Fuel Cycle Initiative	79	250	171	216%
Generation IV	54	31	-23	-43%
Nuclear Power 2010	65	54	-11	-17%
Nuclear Hydrogen Initiative	25	19	-6	-24%
Program Management (pro-rata)	28	38	10	34%
Subtotal, NE	**251**	**392**	**141**	**56%**
Science Programs				
ITER fusion project	25	60	35	140%
Fusion (not including ITER)	263	259	-4	-2%
Solar	28	62	34	121%
Biomass	28	35	7	25%
Hydrogen	58	101	43	74%
Program Management (pro-rata)	19	22	4	21%
Subtotal, Science	**421**	**539**	**119**	**28%**
Total, Advanced Energy Initiative	**1,765**	**2,146**	**381**	**22%**

Changing Of Guard At DOD Industrial Policy Office

William Greenwalt has been chosen to be the next Deputy Under Secretary of Defense for Industrial Policy. Greenwalt joins the Pentagon from the U.S. Senate, where he was a professional staff member on the Armed Services Committee and was responsible for defense acquisition policy and issues regarding the industrial base, export controls and management reforms. In his new position at the Pentagon, he will be responsible for assessing the health of the industrial base and for decisions regarding domestic and foreign defense mergers and acquisitions.

"For the past year, [Greenwalt] has served as deputy to the staff director and provided oversight and management direction over all aspects of the committee's activities," writes Ken Krieg, Undersecretary of Defense for Acquisition, Technology and Logistics, under whom Greenwalt will serve. "He was also lead staff member for the subcommittee on readiness and management support (Sen. John Ensign, chairman) and the subcommittee on strategic forces (Sen. Jeff Sessions, chairman)."

Those who know Greenwalt say he is respected among both Republicans and Democrats for his knowledge of subjects related to the defense industrial base and manufacturing, and that he is not an ideologue. He is expected to take a different approach to the issue from his predecessor in the job, Suzanne Patrick, who was combative in making the argument that the defense industrial base was strong and vibrant, despite mounting concerns to the contrary. Patrick is now working as a consultant with L-3 Communication Systems on investment banking issues.

NCMS: To Get In The Swing, Cooperation Is The Thing

Manufacturers in the United States have to find ways to work together on common problems and opportunities or they won't be able to compete with overseas rivals that are applying the benefits of collaboration, says Richard Pearson, president of the National Center for Manufacturing Sciences. "While we're spending time sorting out government/industry/university relationships, we're losing our advantage," says Pearson. "We don't have the [German] Fraunhofer Institute here. We don't have the mindset of Japan to bring things together. We need to begin thinking differently."

BY RICHARD McCORMACK

Pearson: **"The 'Four-Ds' are becoming the 'Five-Ds': Manufacturing is dirty, dark, dangerous, dull and now disappearing."**

The 20-year-old, Ann Arbor, Mich.-based NCMS has struggled over the years to foster collaboration between companies, but it has survived and is now growing. Its membership has increased by 50 percent since Pearson came out of retirement from Ford and assumed the presidency of NCMS. "We're approaching a critical mass situation and now we're pretty comfortable," he says in a recent interview with *Manufacturing & Technology News*.

But there is a lot to do. The overall health of manufacturing sciences in the country "is not quite on life support yet, but it's ill," says Pearson. "It's ill because people have written it off. That's a dangerous thing. The 'Four-Ds' are becoming the 'Five-Ds': Manufacturing is dirty, dark, dangerous, dull and now disappearing," he says. "If people have that mindset, they're not investing their intellectual capital in it."

The United States probably isn't going to recover the manufacturing that it has lost, so it is imperative for the country to commercialize emerging technologies in nano, biomedical and hydrogen. These areas have the potential to spur a generation of innovation and industry, "so shame on us if we allow them to go someplace else," says Pearson. "The whole thing for me is uncapping the reserve of intellectual capital in this country that we are not using and that other countries are using to their advantage and to our disadvantage. The national labs, universities and manufacturing research labs are all isolated. They're all working on their own important subjects, but as a nation we're going down the tubes and other nations have found ways to bring all of these together."

Many of these new areas of potential industrial growth require a convergence of the two types of manufacturing: discrete, (the making of parts or such things as automobiles or planes), and processing (the production of chemicals, fluids or gasoline), and are therefore ripe for collaboration.

The fuel cell industry is a good example of this convergence. "Nobody is bringing them together right now," says Pearson. "How do we begin to bring people from these two industries into the convergence society? Engineers will come to the fuel cell industry from every discipline, but who will be the engineer who knows all the disciplines?"

Every company pursuing fuel cells is facing similar technical challenges, for instance in the areas of leak testing, seals and membrane testing. Yet most of these companies hesitate before they collaborate, thinking they're going to expose their secrets to competitors. "We have to collaborate in the areas that everybody has problems with so that down the road the whole industry will benefit," says the NCMS boss. "Down the road, they're going to get used to some elements of

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Cleveland Mfg. Center Embraces Innovation

WIRE-Net, the Cleveland, Ohio-based manufacturing assistance and lobbying center, is expanding its operations to provide services to manufacturers needing to embrace innovation in order to survive. The group's new "Total Innovation Initiative" aims at helping companies with less than $25 million in sales. "In recent years, the number of companies requesting help with people, process and product innovation has grown well beyond this large industrial base" in Northeast Ohio, says John Colm, WIRE-Net president. Last year, the organization provided services to 300 companies, and is hiring engineers to help serve more this year. "WIRE-Net needs to be able to match our service delivery capability to respond to their immediate needs." WIRE-Net has been operating for 18 years and has 200 manufacturing related member companies: http://www.wire-net.org.

Collaboration's The Thing...(From page three)

collaboration and they will find that maybe some of their intellectual property is not as unique as they think it is and it will lend to more areas of collaboration. Our philosophy is you can always find reasons not to collaborate; anybody can do that, but let's find the areas where you can collaborate so that seed can germinate to other opportunities. What worries me with the fuel cell industry is that it's entirely possible the United States won't be leading it. That's scary and it doesn't make any sense."

NCMS believes its successful eight-year program with the Defense Department — called Commercial Technologies for Maintenance Activities (CTMA) — can be a model for projects in other industries. "We are a neutral third party and don't have a technology agenda," Pearson explains. "Our role is to take a technology need, find the best people and the best technology and put the best team together to satisfy that need. The real homerun is when we bring people in from other industries."

When companies from different industries begin working together and form alliances, they become committed advocates for this type of research activity, Pearson explains.

Environmental issues provide another opportunity for NCMS. It has started working with the Environmental Protection Agency on developing industry solutions to "take-back" laws. Its Sustainable Product Initiative is assessing foreign regulations and industry response. These laws are changing how companies select materials and manufacture their products. "We wanted to get ahead of that so that we could get industry involved and excited about this rather than having a battle with regulators," says Pearson. "We need to come together without having to go through that war. We're just getting started on this and we're starting to see some good energy. This is a good role for NCMS as a neutral facilitator. The EPA likes the philosophy of this. Every industry could be affected by sustainability — appliances, automotive, aerospace, electronic, construction — you just go on and on and on. These regulations are happening throughout the world and if we don't think about it now, it's just going to be another reason for manufacturing to go someplace else. We have to think ahead of the wave so that we're not slapped by everybody else's tsunami of requirements."

The biggest problem NCMS faces is getting seed funding, because it is often viewed as being "corporate welfare." What those who label it as such are missing, says Pearson, "is that no one company wants to solve all of society's problems. They're willing to put a little bit in, but it will take an awful lot up front for one company to begin to solve all of these problems and if they fix them then everybody else benefits, yet they haven't put anything in from the beginning. So that's where the seed money should go: to areas where the broadest application of those technologies can be used. Society at large will benefit and then society will buy into this solution rather than calling it something it may not be."

NCMS is the largest cross-industry collaborative manufacturing research consortium in the United States. Some facts:

- Twenty years of experience in the formation and management of complex, multi-partner collaborative R&D programs.
- Only consortial effort in the U.S. devoted exclusively to manufacturing technologies, processes and practices.
- Backed by dues-paying corporate members representing virtually every sector of the manufacturing community.
- Staffed internally with a diverse array of technical and administrative capabilities.
- Organized under the National Cooperative Research Act of 1984; formed in 1986.
- Headquartered in Ann Arbor, Mich., with offices in Washington, D.C. and Bremerton, Wash.

NCMS Track Record:

- 151 Department of Defense projects totaling $376 million.
- 322 Projects — $579 million in collaboration funds involving over 1,000 companies and 37 universities.
- Eight Department of Commerce National Institute of Standards and Technology projects totaling $115 million.
- Eight Department of Energy projects totaling $60 million.
- Ten EPA projects totaling $7.7 million.
- Seven State of Michigan projects totaling $1 million.
- NCMS has been awarded 4 Defense Manufacturing Excellence awards.
- NCMS won four consecutive R&D 100 Awards.
- NCMS has negotiated more than 57 CRADAs or MOUs between government and industry.

Aerospace Lobbyist Opens His Own Shop

Jon Etherton, a well-known and respected executive in the Washington defense and aerospace community, has left his post at the Aerospace Industries Association to start his own consulting firm. Etherton, who was with AIA for seven years as vice president of legislative affairs, had worked in the Senate for 18 years prior to that, 14 of which were on the Armed Services Committee. His new firm, Etherton and Associates based in Burke, Va., will focus on federal acquisition and contract policy issues and science and technology programs. Jon can be reached at jon@ethertonandassociates.com or via phone: 703-455-6301.

Congress Demands Release Of Doctored Report On Outsourcing

BY KEN JACOBSON

House Science Committee Chairman Sherwood Boehlert (R-N.Y.) on April 13 signed a request for documents produced by the Technology Administration (TA) in the course of its controversial 2004 study of offshoring, thereby obliging the Commerce Department to hand over the material and ending a skirmish between the panel's Republicans and Democrats *(MTN*, Apr. 4, p. 3).

The presence of the chairman's signature on the letter, which also carries that of the panel's ranking minority member, Rep. Bart Gordon (D-Tenn.), transformed into an official congressional request one that Commerce had chosen to consider under the Freedom of Information Act — and had denied — when Science Committee Democrats presented it on their own last year.

Transmitted late Thursday to the new head of TA, Under Secretary of Commerce for Technology Robert Cresanti, Boehlert and Gordon's letter asked that two copies each of the following documents be delivered to the committee "no later than April 24":

1. "The 45-page draft report prepared by [TA's team leader for the report] dated July 2004.

2. "...[D]raft working papers" — focusing on information technology, software, pharmaceuticals, and education and workforce preparation — "prepared by the five career TA analysts [and] submitted to [the team leader] in late May and early June of 2004"

3. "...[D]raft working papers on international issues...submitted to [the team leader] at approximately the same time as the other working papers..."

4. An "expanded draft working paper related to workforce globalization in the information technology services and software industries...dated June 2004."

Science Committee Democrats have long wanted access to material generated during the study, for which up to $335,000 was set aside in Fiscal Year 2004, over and above a 12-page paper titled "Six-Month Assessment of Workforce Globalization in Certain Knowledge-Based Industries" that TA released in September 2005.

While Boehlert initially declined to join in the Democrats' request, he and Gordon worked out a deal following a March 29 markup at which committee Republicans defeated a Democratic resolution (H.Res. 717) calling on Commerce to hand over the documents but failed under House rules to put the matter to rest

"In return for your agreeing to sign the document request," Gordon wrote in a letter to Boehlert also dated April 13, "I agree to the following:

1. "The Minority will not initiate any additional requests (legislatively or otherwise) nor follow-up on any previous requests for any documents relating to the offshoring report to the Department of Commerce or other Administration officials;

2. "I would discourage any efforts made by other Minority Members of the Committee to instigate such requests and would support your position should any such matter come to a vote in the Committee."

The terms of the deal appear to put to rest any lingering anxieties on Boehlert's part that the panel's Democrats were on a "prolonged fishing expedition" motivated by what he suspected to be "political gamesmanship."

While the deal will likely assuage minority members' curiosity as to the fruits of TA's research on high-tech offshoring, in the Minority Views filed with H.Res. 717 the Democrats said they "remain convinced that the process of scrubbing the original analysis out of the subsequent drafts is a subject worthy of review by the Committee."

Detailing their concerns about this process, the Minority Views noted that TA "analysts were told to remove all citations and sourcing in their analytical reports" before turning them into the team leader, who then used them in preparing the 45-page report the committee has requested.

"This version of the report appears to have gone into the inter-agency and intra-agency clearance process," the Views state. "By March 2005, after having gone through undetermined edits in Commerce, it was just 14 pages in length. By September 2005, after 'final clearance,' the Department of Commerce released a 12-page 'summary' of the report."

Members of the committee's Democratic staff, according to the Minority Views, were subsequently "told that the 12-page summary was actually composed during the late summer of 2005 and 'back-dated' to June 23, 2004, to comply with the original language from Appropriations."

And following the release of the "summary," according to the Democrats' Views, "analysts at TA, in varying degrees, indicated to Committee staff that the contents of the report did not accurately or completely reflect their findings. Further, of the 12 pages, five pages are occupied with a summary of general policy observations that no staff member at TA would identify as a TA work product."

While calling the anticipated batch of documents "good enough for now, because the goal was to understand what is happening in the employment marketplace," Dan Pearson, deputy staff director for the committee's Democrats, held open the possibility of tracing the report's progress through the Executive Branch — but not until the next Congress.

At that point, he told *MTN*, "if we're still interested, we can always come back and begin to look at the decision making within the department and what happened with the report."

Senators Try To Save Advanced Technology Program

BY KEN JACOBSON

Two dozen senators have signed a letter circulated by Sens. Carl Levin (D-Mich.) and Mike DeWine (R-Ohio) that calls on the Senate Appropriations Subcommittee on Commerce, Justice & Science to provide $140 million for the Advanced Technology Program (ATP) in Fiscal Year 2007.

The program, funded for 2006 at $80 million, was zeroed out for the third straight year by President Bush in his 2007 budget request. The Bush administration's attempt to kill ATP dates back to FY2004, for which it requested $27 million, a sum meant to do no more than cover close-out costs.

While holding onto all 19 senators who joined them in signing a similar letter last year, Levin and DeWine managed to attract three newcomers this time around: Sens. Daniel Akaka (D-Hawaii), Dick Durbin (D-Ill.) and Chuck Schumer (D-N.Y.). Both years, Sens. Olympia Snowe (R-Maine), John Warner (R-Va.) and DeWine have been the only GOP names on the list of signatories.

The $140-million figure represents both ATP's funding level for 2005 and that passed by the Senate for the current year. It was in conference with the House, which had denied the program funding in line with the administration's wishes, that its 2006 appropriation fell to $80 million.

Dated April 6 and addressed to the Senate Appropriations subcommittee's chairman, Sen. Richard Shelby (R-Ala.), and ranking minority member, Sen. Barbara Mikulski (D-Md.), the letter argues that ATP "enables U.S. companies to develop the next generation of breakthrough technologies that allows our country to compete against foreign rivals who often employ large and effective programs to support their industries."

It builds on the March 16 adoption of a floor amendment (S.Amdt. 3031) to the Senate-passed version of the Budget Resolution (S.Con.Res. 83) that states ATP should get $140 million in 2007. The Senate agreed to the amendment, offered by Levin and DeWine, by unanimous consent; a similar Sense of the Senate measure last year passed on a 53-46 vote.

On the House side, ATP got some support from House Science Committee Chairman Sherwood Boehlert (R-N.Y.), who spoke up in its behalf before the House Appropriations Subcommittee on Science, State, Justice & Commerce at a hearing April 6.

Placing ATP fifth on his list of programs for which he hoped appropriators might find "additional funds," Boehlert told them: "At a time when the Augustine Report is calling for additional research programs to spur U.S. industrial competitiveness, we should not be dismantling a proven program that serves that goal."

Ahead of ATP on Boehlert's priority list were the National Science Foundation's Education and Human Resources Directorate; the Manufacturing Extension Partnership, which, like ATP, is managed by the National Institute of Science and Technology; and two NASA bureaus, the Science Mission Directorate and the Aeronautics Research Mission Directorate.

Senators Signing This Year's ATP Support Letter:

- Daniel Akaka (D-Hawaii)
- Evan Bayh (D-Ind.)
- Joseph Biden (D-Del.)
- Jeff Bingaman (D-N.M.)
- Mark Dayton (D-Minn.)
- Mike DeWine (R-Ohio)
- Christopher Dodd (D-Conn.)
- Dick Durbin (D-Ill.)
- Diane Feinstein (D-Calif.)
- Tim Johnson (D-S.D.)
- Edward Kennedy (D-Mass.)
- John Kerry (D-Mass.)
- Herb Kohl (D-Wisc.)
- Frank Lautenberg (D-N.J.)
- Carl Levin (D-Mich.)
- Joseph Lieberman (D-Conn.)
- Bill Nelson (D-Fla.)
- Mark Pryor (D-Ark.)
- Jack Reed (D-R.I.)
- John Rockefeller (D-W.V.)
- Chuck Schumer (D-N.Y.)
- Olympia Snowe (R-Maine)
- Debbie Stabenow (D-Mich.)
- John Warner (R-Va.)

Senators Seek Funding For Defense Manufacturing Research Program

Four U.S. senators are asking the appropriations committee to fund the newly created "High-Performance Defense Manufacturing Technology Research and Development" program. The senators want $5 million to be added to the program created in last year's Defense Authorization bill.

The program "will facilitate the development of improved manufacturing process technologies that will promote faster and affordable low-volume manufacturing," write Sens. Joseph Lieberman (D-Conn.), Jeff Bingaman (D-N.M.), Susan Collins (R-Maine) and Jack Reed (D-R.I.) in a letter to the Appropriations Committee chairman and ranking member. "It also directs the DOD to partner with existing programs like the Manufacturing Extension Partnership program to assist U.S. defense manufacturers in adopting these new technologies. The transition of these new technologies to the defense manufacturing base will make it cheaper and more efficient for DOD to build weapons systems, thereby improving military capabilities and reducing defense costs."

The program would fund a Defense Department R&D effort to develop new manufacturing processes and technologies and an IT network linking tiers of manufacturers to their suppliers and customers. The Defense ManTech program would create testbeds to help transition the technologies into the defense manufacturing base.

"Last year, the Senate unanimously approved an amendment to the Defense Appropriations bill for $5 million to carry out these provisions," write the four senators to Appropriations Committee chairman Ted Stevens (R-Alaska) and ranking member Daniel Inouye (D-Hawaii). "Unfortunately, this amendment was lost in conference last year, and it is critical that we secure funding this year so that these programs can be implemented most effectively."

National Academies' Manufacturing Board Runs Out Of Work To Do

The National Academies' Board on Manufacturing and Engineering Design (BMED) is running out of projects, and its management recently changed. After five years on the job, Toni Marechaux has left her position as director of the board. She has been replaced by Gary Fischman, a materials scientist who's been with the academies for a year. Marechaux, an active participant in the manufacturing policy community in Washington, has taken a job with Strategic Analysis Inc., as senior scientist.

BMED is now in the process of reassessing its future. The work of the board "has come to a lull," says Fischman. "We want to redevelop it and invite anybody to give us suggestions for the path forward. At the moment we're kind of quiet."

The Manufacturing Board has finished most of its major projects, the last being an assessment of the U.S. printed circuit board industry. It is currently working on a currency counterfeiting technology report that will be done in about a year, but other than that, it has nothing on its plate.

Board chairs Herm Reininga and Tom Hartwick are working with Fischman to help determine the manufacturing issues worthy of study. "I can't say what they are yet because they're in the pot stewing," says Fischman, who is also in charge of the Academies' Materials Advisory Board.

Fischman does not expect any major new manufacturing projects to start up until later this year or early next year. "There was no money left in" the manufacturing studies area, says Fischman. "It's been hard to find new projects. We have to understand what it is our sponsors want."

Fischman can be reached at gfisch@nas.edu or 202-334-3505. Marechaux's new phone is 703-253-4701 or via e-mail at tmarechaux@sainc.com. BMED's Web site is http://www.nationalacademies.org/bmed.

Members of the National Academies' Board on Manufacturing and Engineering Design:
Carol Adkins, Director, Manufacturing and Science & Technology Center, Sandia National Laboratories
Gregory Auner, Director, Smart Sensor and Integrated Microsystems, Wayne State University
Ron Blackwell, Chief Economist, AFL-CIO
Robert Fontana, Research Staff Member, Hitachi Global Storage Technologies
Paul Germeraad, President, Intellectual Assets, Inc.
Thomas Hartwick, Technical Advisor and Consultant
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Diana Long, Manager, Workforce Development, Robert C. Byrd Institute for Flexible Manufacturing
Manish Mehta, Executive Director, Industry Forums and Technologies Research Corporation, NCMS
Nabil Nasr, Director, Center for Integrated Manufacturing Studies, Rochester Institute of Technology
Angelo Ninivaggi, Director of Legal Services, Plexus Corp.
James O'Dwyer, Director, Discovery Research, PPG Industries
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Herm Reininga, Senior Vice President, Rockwell Collins
Lawrence Rhoades, President and Chief Executive Officer, Extrude Hone Corporation
Denise Swink, Consultant
Alfonso Velosa, Associate Director, Market & Business Strategies, Gartner Consulting
Bevlee Watford, Associate Dean of Academic Affairs, Virginia Polytechnic Institute and State University
Jack White, Program Director, Altarum

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Interview: Former TCI & Global Crossing CEO Leo Hindery

Excessive CEO Pay Promotes Outsourcing And The Loss Of The American Middle Class

Leo Hindery, a former big-time CEO, has some bones to pick with the nation's corporate culture in general and the conduct of its chief executives in particular. It's not that the system has been unkind to him personally — on the contrary. By all accounts, the man who piloted former cable-TV giant TCI into its merger with AT&T, and whose months-long tenure atop Global Crossing yielded him returns galore, has left the world of the corner office with sensational wealth. But according to Hindery, what's good for the corporation, its CEO and its shareholders may no longer be good for the country. "At risk," he writes in his recent book, *It Takes a CEO: It's Time to Lead with Integrity*, "is the entire way of life that we've come to treasure in America."

So, what's the problem? CEOs are looking no further than the interests of their shareholders, which may seem the natural order of the Universe but is actually, Hindery argues, a very recent trend. Meanwhile, the shareholders of today are not even the shareholders of a few years back: They keep the average big-cap stock only one-tenth as long now as they did at the end of the '90s.

In an environment marked by huge monetary rewards that are based on short-term performance and isolate executives from the world of their workers, contends Hindery, unbridled offshoring appears justified. But he sees its logical result — "a country of corporate headquarters and no employees," from which the middle class has vanished — as "unsustainable."

What Hindery suggests is that, if America is to have a future, we must go back to it. He advocates a return to "enlightened management," claiming it's revealed as sober realism — rather than sentimentality — as soon as one looks beyond the next quarterly report. But he knows change won't come easily. For, while he writes that in America "there are certain very important things that only a CEO can tackle," he admits to having "lost faith" in the current crop of corporate leaders.

Hindery, who is currently the managing partner of New York-based InterMedia Partners, explained his concerns and his vision to Ken Jacobson last week.

Question: Is a corporation's sole purpose to maximize value for its shareholders?

Hindery: Something has happened in these last ten years that's striking. A dramatic change began to occur in the latter part of the '90s: A policy that, formally and informally, had stood the nation in good stead for 95 years went flying out the window, and everything went awry.

All the way back at the turn of the last century, J.P. Morgan and some of the noble, perhaps exceptional CEOs of the time were pointing out that corporations had multiple constituencies. But there was also some extremely aggressive, almost felonious behavior by the Robber Barons. The misbehaviors that led to the Depression really codified the debate. Coming out of the Depression, business schools were formed and "enlightened management" became a phrase of art. Meanwhile, all during this period, the compensation of chief executives held very consistently at about 15 to 20 times that of average employees. There were lots of profits made by owners, but compensation was pretty standard and stayed in a range that, by anybody's measure, was acceptable.

After the Second World War, lots of attention was paid to Alfred Sloan at General Motors, to "good management practices," to the guys at IBM and Hewlett-Packard and the major New York banks.

In 1981, the Business Roundtable, the aggregation of the nation's big CEOs, talked specifically about employees, shareholders, community, customers and the nation, saying that all were our constituencies, all needed to be served. They did this without any sort of antagonism or controversy, without any particular urging other than a couple of members' saying: "Let's codify what we're already doing." Very noble. Throughout that time as well, the greatest CEOs in the country made 15 to 20 times what the average employee made.

By the mid-'90s, something went absolutely goofy. In part, it was globalization, where the profitability of these companies could — on the surface — be greatly enhanced by really pushing down on employee practices: by shipping jobs offshore, by being more aggressive on benefits.

In the decade ending in 2005, CEO compensation jumped from 15 to 20 times average employee to 475 times, all similarly calculated. And in 2004 — after Enron, after WorldCom, after Tyco, after all of that — the same Business Roundtable codified shareholders as the only constituency of the corporation.

If that is in fact the only constituency, then you should cut benefits to the lowest possible level, you should cut salaries to the lowest possible level, you should offshore every job that you possibly can, you should put as much effluent into the water as the law allows minus a little bit — you should do lots of really aggressive things, you should have no sense of community responsibility. You should push all of these things to the limit if you have only shareholders to be responsible for.

I think it's an era of greed, an era of excessive executive compensation by anybody's measure. I think

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it's due to the temptations of globalization, not the responsibilities of globalization. And things have gone so far awry that, without any sense of guilt, the same Business Roundtable that once said "multiple constituencies evenly addressed" now says "one constituency only."

Q: With globalization it seems as if the interests of corporations, especially of the larger ones, are no longer in line with, and are even coming into conflict with, the needs of the national economy. Are there constraints, legal or otherwise, that would cause a corporation or a CEO to pursue interests that are not necessarily those of the national economy?

Hindery: None of these behaviors is in the interest of the national economy. When earlier chief executives of General Electric were asked about their supreme obligation, each of them, very consistently, said: "It's to keep the General Electric Company successful and around into the very long term." And they would then jump right to the conclusion that the best way to do that — the best thing for the General Electric Company — was to have a vibrant middle class that was growing from the bottom up. That goes away in today's environment.

If it's "shareholders only," then all of what I call the "misbehaviors" are pretty well justified — not that I find that acceptable.

What's unfortunate is that this comes at a time when the size of the United States, its geography, its immigration composition and the non-fungibililty of its jobs are coming back to bite it really hard. As a country, we are not as capable of reacting to the effects of globalization as other Western societies are. We're bigger; our labor force doesn't move around; it's not fungible; and half the people are positioned only to do semi-skilled kinds of labor, but they're being whacked and losing their jobs.

The services components that were thought to make up for these losses are being offshored at roughly the same rates today as on the manufacturing side. So we're not doing a very good job, structurally or politically or regulatorily, of reacting to all of this. If we continue down this path of "shareholders only," these behaviors only get further embedded rather than being addressed.

Q: The U.S. economy is still based on mass consumption. Where are the customers going to come from?

Hindery: How does Wal-Mart, which has 1.3 million employees and purveys to more consumers than any company in the history of the globe, believe that after eviscerating the middle class through low salaries, poor benefits, destroying small downtown America, and buying excessively offshore it's got any customers a decade hence to buy in its stores? I don't know.

Q: What is the reason for this disconnect?

Hindery: It's because the compensation of the guys at the top is such that they are not thinking into the long term. A couple of things are going on concurrently, both of which are very dangerous. One is that the average high-capitalization security in the United States is now being held for around three to four months. That's down from three to four years a half dozen years ago — it's been that dramatic — and it's the onset of the hedge fund. So when you ask a shareholder to stick with you into the long term — "for the long-term benefit of this company" — that shareholder says: "What are you talking about? I'm going to be around three months. What did you do this last three months" — not the "last three years," and certainly not "the next three years" — "that either improved or deteriorated the value of my stock?" So there's that pressure.

Hindery: "The compensation of the guys at the top is such that they are not thinking into the long term."

Two, if the average chief executive in the United States makes 475 times what his or her average employee makes, and you say, "Gosh, ten years from now we're not going to have any customers," he or she says: "It's no skin off of my nose. I won't even be here in ten years, and my compensation is so rewarding to me."

There are some great studies about CEOs who have offshored jobs — excessively, in my opinion — whose compensation has risen because in the very short term the profitability of the company rises. And a lot of their compensation is stock based, so as the stock price rises,

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they make even more money. I think that when the average CEO made 15 or 20 times what his or her average employee made, everyone was pretty much in the same boat rowing in the same direction. I don't have that sense anymore.

Q: Do you believe the argument being made by business groups like the Chamber of Commerce and the Conference Board that offshoring is in line with the U.S. national interests?

Hindery: No economy can survive the offshoring of both manufacturing and services concurrently. In fact, no society can even take excessive offshoring of manufacturing alone. Half of society has to find semi-skilled positions to comfortably employ themselves and raise their families, so you can't completely eviscerate that side of your economy. In the last four or five years, we have lost 5 million jobs offshore: 3 million in manufacturing, 2 million in services. Over the next ten years, we will lose, inescapably, another 14 million jobs: 7 million manufacturing jobs, 3.4 million IT-type jobs and roughly 3.3 million service jobs.

> "No economy can survive the offshoring of both manufacturing and services concurrently."

The only job growth in America today is in homeland security, which is all cost and no productivity, and in low service jobs of the sort that you find in health spas and Wal-Mart. That is an unsustainable combination. It will destroy the middle class and, as a consequence, destroy the country.

Now, a CEO probably should offshore if he thinks that his obligation is to shareholders only and short term only, and that the survival of the company is not his long-term responsibility. CEOs have to decide not just if it's more than "shareholders only," which I believe is their ethical and moral obligation, but also whether long term is as powerful a driver as short term. If not, you should run these companies to be in-and-out gone in a year's time. You hold a fire sale, a liquidation. You move everything offshore as quickly as you can, at which point you just pick up your marbles and go home: All profit is earned from overseas activities. You try to sell services and products into the United States, but you're a country of corporate headquarters and no employees.

Going back to the GE chief executive, when he used to say, "My supreme obligation is the long-term, successful survival of my company," the emphasis was on the phrase "long term." He would then say: "If that is my obligation, what do I do?" Well, the answer is, you have a vibrant middle class growing from the bottom up. And all kinds of political and corporate behaviors ensue from that construct. If it is shareholders only and not qualified by long term — not employees, not community, not nation, not customers — a lot of this stuff is quite justified.

Q: What kinds of changes can you see that might make it possible to bring company behavior more in line with national interest?

Hindery: When CEOs' compensation became so excessive, I gave up on any belief that they will reform themselves sufficiently to address these problems. This is no longer a group of individuals who will police themselves back to respectability. So my remediation now is third party, and it comes in several forms.

I would aggressively attack excessive executive compensation through taxes and penalties. I would reform government purchasing, which is about 19 percent of the U.S. economy, to favor U.S.-produced goods and services, not go in the other direction. I would reform health care instantly and, similarly, seek to reform pensions and social security in a way that would remove some of the incentives to send jobs offshore — one of the greatest being a wheezing, broken health-care system. I would spend our own government resources on R&D that emphasized the retention of U.S. jobs, not the exportation of U.S. jobs.

Those are the remedial actions I would take, none of which germinate from the CEO community, as I've lost faith in that community to make these fixes.

Another thing I would do is to acknowledge that this dislocation is going to continue, that almost unavoidably 7 million more manufacturing jobs and 7 million service jobs will be lost over the next 10 years. We owe these women and men: It's a supreme obligation to make their landing soft. And I don't mean try to educate them out of their predicament — that's actually insensitive. If you're within the last 10 or 15 years of your career, reeducation is a facile solution.

Also, if I have no interest in relocating my family to chase a job, why do I as a policy maker sit here and suggest that a woman or man from Kannapolis, N.C., should move willy-nilly around the country? Their legacy is there, they grew up there, their children are in school there, they have a home there. This premise — that a woman or man who loses a textile job in the Carolinas can move to some other place — is rude. You'd better find them jobs to replace the ones they've lost, and not at Wal-Mart. So you have to have a Marshall Plan for all 50 states for when jobs are lost. And jobs are going to be lost, because whatever solutions I'm talking about are not instant and we've got to do something.

The last thing I'd do is enforce trade agreements and insist on anti-subsidy behavior by foreign governments. State governments in India and China especially are using subsidies to exacerbate offshoring, which is contrary to GATT and contrary to the multilateral trade agreement practices that we should have.

Q: Can you identify any way a CEO might be able to survive and prosper in today's environment other than

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simply by becoming a master of the quarterly statement and of such paths to its improvement as outsourcing?

Hindery: CEOs, who use lobbying and resources to influence all kinds of things here in Washington, need to pick up the phone and say to this administration and to this Congress: "Reform health care right now." How dare the chief executive of General Motors try to shift all the blame for the travails of that company today onto the employees when he has hidden out on health-care reform the entire time he's been its steward! He comes down to Washington and complains about this and about that, he cries over spilt milk on his labor agreement, yet when the 2004 campaign for president was in full bloom, he was nowhere on reforming health care in America — nowhere. So I've lost a lot of faith in these guys. Why aren't they down here helping reform health care in ways that are productive? But, again, the day the Business Roundtable re-embraces its 1981 policy, we're on a pathway to resolution.

Q: What do you think of the leadership in the U.S. auto industry?

Hindery: It's unconscionable that the auto industry in the U.S., and most notably GM, can turn out such ugly cars year after year and not change its senior management. A lot of the ills of General Motors would be resolved if it produced a car that was as efficient and attractive as some of its competitors. And, again, it's unconscionable that the fingers keep getting pointed at the employees of General Motors — who don't design cars but just make them — and that assembly-line practices have been so compromised that quality has deteriorated in these vehicles. I'm not insensitive to the problems that Mr. Wagoner has in trying to reconcile his labor force with the realities of his marketplace, but his marketplace is his obligation: He is paid to produce attractive, reliable and functional automobiles, and he's failed in that for a decade. I would buy a General Motors car in a minute if it was the right car, and I'm a little tired of the UAW being the whipping boy for poorly designed automobiles.

Q: What kind of pressures is the issue of environmental degradation going to put on CEOs, and how might they deal constructively with whatever conflicts they have?

Hindery: This is one area where I'm actually fairly bullish and optimistic. Most industry in America does a pretty good job of acknowledging environmental obligation, with the notable exception of the energy industry: It continues to resist fuel efficiency, and many of its efforts, I believe, are token at best.

I happened to be watching the Masters' over the weekend, and the ExxonMobil ads made me gag. They would sprinkle in good-feeling ads about their alternative energy practices after having had the most profitable quarter in the history of American industry based on marking up oil. I found it so disingenuous as to be rude.

But the larger issue on the environment is offshore. The most dangerous pollutant in the history of mankind is mercury, and of the mercury that falls on the continental United States in any given year, a third is airborne particulates out of China. It's bad enough that I have to worry about unfair labor practices involving youth and sub-minimum wages in China, it's bad enough that I have to react to unfair subsidy of jobs from the state in China, but the reality that mercury poisoning in the U.S. is coming from unscrubbed plants in China is just a little hard to take on top of that.

> *"It's unconscionable that the auto industry in the U.S., and most notably GM, can turn out such ugly cars year after year and not change its senior management."*

Q: If you were looking at the world from the office of the CEO of a Fortune 500 company today what would you say: "Well, I can't do anything about this, I just have to go along with the tide if I'm going to stay here"? Or could you survive in the current climate with ideas such as those you have?

Hindery: As a lone wolf, probably not. But with just a little bit of support, the answer is that you can survive and succeed. I can make more money for shareholders with an engaged, supportive workforce that is fairly compensated and has appropriate benefits. They work harder, they're happier, customer relations are better. I believe that, I will always believe that, I will go to my grave believing that. If the measure that I'm held to is months, not years, I'll fail. If the shareholder community stood up and said, "We're going to measure you only over a few months of financial performance," I'd get fired. But If I'm persuasive enough to get them to embrace that middle- to longer-term sense of corporate survival, I can be very successful.

Conference Board Hosts Big Outsourcing Conference

"Making Sure Outsourcing Pays Off" is the theme for the Conference Board's annual Strategic Outsourcing Conference, scheduled for April 27-28 in New York City. Among topics to be addressed are "Successful Practices of Highly Effective 'Services Globalization' Firms" and "General Motors' Movement to a Multi-Supplier Model." Executives will have a chance to "compare notes" at the meeting with "peers who are in the process of fine-tuning their outsourcing initiatives and [to] benefit from their cumulative experiences," says Hannah Sohn, the Conference Board's program director. More information on the 2006 Strategic Outsourcing Conference, being "presented with assistance from Booz Allen Hamilton and Alsbridge," is to be found online at http://www.conference-board.org/conferences/conference.cfm?id=1079.

U.S. Government Funds Industrial Tech. Development Program In India

The U.S. and India have agreed to contribute a total of $30 million to a Bi-National Science and Technology Endowment Fund whose income will support joint R&D projects that are to be chosen competitively and show "potential to jump from the laboratory into the private sector," according to a U.S. State Department document.

Work funded under the endowment, whose establishment was announced when President Bush visited India last month, "will span a broad spectrum of topics of mutual priority," the statement said.

The $30 million, to be put up by the two governments on an equal basis, will be invested in India. At a 6 percent return, an estimate based on current Indian interest rates, the fund would provide around $1.5 million to $2 million in financing per year. "Additional contributions [to the endowment] are anticipated to be added from private sources" at a later date, the State Department document said.

Topics envisioned for support under the fund, whose implementation is still under discussion, include:

- Advanced materials and nanotechnology science;
- Clean energy technologies;
- Cyber-security;
- Biotechnology, health and infectious diseases;
- Climate science;
- Basic space, atmospheric and earth sciences;
- Clean water technologies;
- Marine sciences;
- Hydrology and watershed management; and
- Natural resource and wildlife conservation management.

Calling the move a "positive step," Charles Wessner of the U.S. National Academies' Board on Science, Engineering and Technology Policy (STEP) said it "highlights the worldwide focus on the need to commercialize publicly funded research in cooperation with the private sector.

"Countries all over the world are adopting programs to accelerate commercialization of high-tech products," he added, noting that these are "often, though not always, modeled on proven U.S. programs like the Small Business Innovation Research Program and the Advanced Technology Program."

STEP has scheduled a conference on "India's Changing Innovation System: Achievements, Challenges, and Opportunities for Cooperation" for June 16 in Washington, D.C.

In Research & Development, China Is On The Rise

In the race for global dominance in science and technology, China is surging forward while Europe and Japan are losing ground and the United States "is maintaining its position across a variety of measures," according to the latest "Science and Engineering Indicators" from the National Science Board. But the United States can't wait for a "Sputnik" event to start addressing serious shortfalls. The decline in U.S. government support for R&D "has been very steep," the report notes in its opening paragraphs. The federal government share of U.S. R&D spending fell from 46 percent in 1990 to a low of 26 percent in 2001. "Changes after September 11, 2001, largely in defense and national security R&D, brought it back up to 31 percent in 2004."

Industry is spending a lot more on R&D, but a greater percentage of that is heading to other countries. R&D expenditures by U.S.-owned companies abroad rose from about $12 billion in 1994 to $21 billion in 2002, says the report. International alliances among companies conducting joint R&D rose from 183 in 1990 to 342 in 2001.

Meanwhile, China has become the world's third largest R&D performer, behind only the United States and Japan. R&D spending in China rose to $84.6 billion in 2003, up from only $12.4 billion in 1991, or an annual increase of 17 percent. China's R&D expenditures have increased at an even faster rate over the past five years: 24 percent annually, says the NSB.

"China's R&D expenditures are rapidly approaching those of Japan," says the report. "OECD data show China's investment at 17 percent of Japan's in 1991 but at 74 percent of Japan's in 2003. Relative to the EU-25, the comparable Chinese figures were 10 percent and 40 percent, and relative to the United States, the increase was from 8 percent to 30 percent....Such a rapid advance on the leading R&D performing countries and regions would still be unprecedented in recent history. China's industrial research workforce has expanded from 16 percent of the size of the U.S. counterpart in 1991 to 42 percent in little more than a decade."

The Science & Technology Indicators are located at http://www.nsf.gov/statistics/seind06/.

Innovation Fund...

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DDR&E and Small Business to let them know what we're doing and try to establish better working relationships."

The Industrial Policy office is currently going through the five Defense Industrial Base Capabilities Studies it has produced over the past two years and is determining the best implementation strategies to assure the existence of a industrial base that is reliable, cost effective and sufficient to meet current and projected requirements. That assessment should be completed this summer.