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Manufacturing attempts to retrench and move forward to reclaim lost ground.

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The senator speaks out about the energy crisis.

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Page numbers: 09, 11, 21, 23, 26, 29, 46, 49, 50
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Martin Spears explains how the 21st Century Manufacturing Network pays off for its participants.

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Allen Fowler of Dow and Henry Harmon of Columbia Natural Resources give two viewpoints on the rising cost of energy.

**Innovation Produces Results**
David Satterfield with a scorecard of results from the West Virginia Development Office.

**The Line**
Look in on important developments in the manufacturing industry.

**Manufacts**
Quick picks from statistics relevant to manufacturing.

**The Last Page**
Mark Glyptis, president of the Independent Steelworkers Union, ISG-Weirton, on why our nation needs a strong steel industry.

**Contact Us!**
If you have questions or comments about the magazine or would like to place an ad, contact RCBI at:
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**Next Issue:**
Dana Waldo, President and CEO of Appalachian Electric Power on environmental compliance issues.
A
When making the right move matters...

B
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TODAY’S MANUFACTURERS MUST have the ability to make important decisions with lightning speed, precision and abundant courage. It is not enough simply to be good at what you do. Relentless competition requires us to be more innovative, more flexible and, above all, more willing to take chances. Taking chances and successfully overcoming today’s challenges also requires a decision maker to have an appreciation of the complexities that surround their everyday life.


As the manufacturing sector attempts to retrench and move forward to reclaim lost ground and explore new and emerging markets in our economy, Capacity continues to explore concerns that will help determine the degree of the industry’s recovery and renewal. We are eager to continue a dialogue of ideas about where manufacturing is today and where it’s headed.

In this issue, Capacity brings you one-on-one interviews with West Virginia’s candidates who are vying to become our 34th Governor as well as America’s candidates interested in becoming the 44th President of the United States. Indeed, going into the next four years will bring additional change for our manufacturers and potentially offer positive impacts on the way we do business.

Capacity brings to the forefront a discussion about energy – its importance, its future, and its national and international impact on our economy. Senator Robert C. Byrd leads the discussion followed by Allan Fowler, President of Dow Chemical’s West Virginia operations, and Henry Harmon, President and CEO of Columbia Natural Resources.

We recognize Toyota Motor Manufacturing of West Virginia and emphasize the company’s importance to modern manufacturing practices, high employment and use of supply chain economics. Capacity pays tribute to Senator John D. “Jay” Rockefeller IV, for his role in making sure West Virginia has the opportunity to witness firsthand this remarkable company and its practices.

Dr. Tom S. Witt, the Director of the Bureau of Business and Economic Research and the Associate Dean for Research and Outreach in the College of Business and Economics at West Virginia University, and Dr. Richard K. Lester, Professor of Nuclear Engineering at the Massachusetts Institute of Technology, join Capacity in offering their “economic” perspectives on the success of manufacturing.

“You can’t give your competitor a 99-yard head start in a 100-yard dash and expect to win” – that’s how Mark Glyptis, president of the Independent Steelworkers Union, ISG-Weirton, sums up the disadvantage in the global marketplace under which U.S. steel manufacturers compete. Find out why, despite that, steelworkers in Weirton are gaining some optimism.

Capacity is pleased to bring to our home and your place of business these giants in their fields and much more – all with the goal of stating and restating THE IMPORTANCE OF MANUFACTURING.

We welcome our readers’ input. If you have a comment, suggestion or story idea, we hope you’ll contact us and share it. Our e-mail address is Capacity@rcbi.org.

Charlotte Weber is Director and CEO of the Robert C. Byrd Institute for Advanced Flexible Manufacturing.
THE MOST EXPERIENCED HEART PROGRAM IN THE TRI-STATE IS LEADING THE WAY IN CARDIAC CARE

Jeffrey E. George, M.D., Cardiothoracic Surgeon

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The United States faces an energy challenge of increasing proportion. We must address simultaneous concerns: an expanding energy appetite, an increasing dependence on imported resources, and an increasing eye on environmental impacts. Sadly, policymakers have, time and again, failed to craft a comprehensive approach that addresses these issues—a failure which continues to jeopardize our nation’s security, economic health, and environment.

Each passing week brings another new headline. Gas prices climb ever higher. Attacks on foreign oil production sites raise concerns about the stability of the world’s energy infrastructure. The price of natural gas is at a historic high, and consumers and manufacturers in West Virginia and across the country are struggling to pay their bills. Though some advocate reducing this pressure by importing liquefied natural gas, we must also recognize that this potentially will create a new and growing resource dependency.

More than 54 percent of the oil that Americans consume comes from foreign countries, especially OPEC producing nations. Instead of striving to disentangle ourselves from this foreign oil dependency, the Bush Administration seems intent on sinking our military and energy fortunes deeper into the sands of the Middle East.

The poor state of the electricity grid—the lifeline of our economy—is also a major concern. Decade-long efforts to deregulate electricity markets have, in some cases, led to market manipulation and fracturing rather than producing a more integrated, reliable system. Furthermore, economic and environmental regulations governing energy production and use are often in conflict with our disjointed energy policies. Continued uncertainties make investment decisions difficult and demonstrate that these ongoing debates must be resolved.

Sadly, our energy problems are being addressed with band-aid solutions. As with most policy proposals from the Bush White House, politics rules the day. The Administration’s proposals have favored the president’s contributors, neglected growing environmental problems, and ignored the concerns of American consumers.

Instead of focusing on record fuel costs, the Bush White House falsely proposes to expand drilling for oil, but offers little on energy conservation. Further, the Administration proposes to cut funding for energy technology research that would protect the environment while ensuring a stable fuel supply. Instead of providing clear direction, the White House tests the winds for the gusts of its political contributors.

I believe that we need a new approach. It is time for alternative strategies that go beyond the extremist debates and simplistic solutions that define our very demanding energy and environmental challenges. The nation needs a long-term energy plan that includes criteria and benchmarks by which to measure progress.

This comprehensive, cohesive approach must integrate four fundamental principles: diversity of energy sources to protect our nation’s security, fiscal soundness to ensure stakeholder support and increase economic growth, consumer protections to guard against fraud and manipulation, and safeguards to minimize energy’s environmental footprint.

A serious energy efficiency program, bolstered by the promotion of renewable energy and other clean, homegrown energy sources, provides a compass point for a U.S. energy strategy. At its core, we must rely on our nation’s domestic energy assets, especially coal. However, to do so requires that we think differently about coal. We must accelerate the deployment of commercial-scale technologies that move us away from simply burning coal toward the enhanced ability to transform coal into a variety of energy products.

We can begin to meet this challenge by deploying advanced power generation and carbon sequestration technologies as well as by producing hydrogen and synthetic fuels for use in other sectors of the economy. Parallel efforts must also be launched to resolve the outstanding environmental and regulatory issues attendant to coal production and reclamation. This requires sending clear regulatory and market signals which can significantly reconcile numerous environmental and climate change concerns, stimulate technology deployment, and set the stage for a renewed era for coal.

Furthermore, our nation must recognize the incredible impact that U.S. technologies and ideas can have in helping to meet other nations’ energy needs in a more sustainable way. We must work to open and expand international markets for a range of U.S. clean energy technologies and simultaneously address global energy security, economic, trade, and environmental objectives.

Pursuing this course will take steadfast leadership, hard work, and American ingenuity to move forward in a responsible, balanced, and intelligent way. It is time for industry, labor, academic, environmental, and community interests to work with policymakers to find common ground. Commonsense market-based and regulatory approaches, emerging technology platforms, and new policy perspectives can bring these divergent groups together. By doing so, we can champion a new energy and environmental legacy that will benefit all the world’s citizens.
CERNOBBIO, Italy—Samsung, the Korean electronics giant, has achieved rapid growth in recent years by embracing a strategy of in-house production and investment in manufacturing research and development. The company, with sales last year of $36.4 billion, up from $26 billion in 2001, focuses on keeping secret its “black box” manufacturing technologies and processes.

“If we got out of manufacturing, we lose,” Ji Oh Song, executive vice president of Samsung Electronics, told the Intelligent Manufacturing Systems (IMS) Global Challenges in a Manufacturing conference held here in May. Advanced manufacturing technologies “enable extreme productivity” and provide companies with a long-term competitive advantage, said Song. Co-locating research and development activities with manufacturing “is very important and leads to faster market domination.”

Samsung has no intention of losing its manufacturing advantage through outsourcing. A strategy that focuses on perfecting manufacturing processes and integrating suppliers is leading to the “rebirth of the manufacturing giants” such as Toyota and Dell Computer, Song told the audience of almost 500 international executives and researchers. These companies have embraced business models that emphasize the importance of manufacturing. The manufacturing giants are proving to be dominant in each of their respective industries. “Nobody else can copy them,” Song said.

Like Samsung, Toyota and Dell continue to increase profits and market share every year at the expense of competitors pursuing strategies that do not focus as heavily on developing their underlying manufacturing technologies.

Samsung views itself as a “manufacturing solutions provider” in all of its product lines, from home appliances to flat panel displays, cell phones, MP3 players, digital camcorders, laser printers and semiconductors.

The companies that are dominating their industry segments rely on technologies that focus on digital convergence, customized production equipment and unique product technologies.

Song is in charge of Samsung’s Mechantronics Center, which oversees the company’s Institute of Intelligent Systems, teams of manufacturing equipment and robotic systems researchers, and a precision optics group. Samsung’s primary business focus is on flexible automation and assembly, the efficient movement of material in its logistics operations, precision assembly and packaging, and machine intelligence-based inspection technologies.

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**Common Success Strategy Among Industrial Giants Is Keeping Manufacturing Secrets in a ‘Black Box’**

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**Samsung’s Strategy in Manufacturing: Speed and Minimum Capital Investment**

**Investment:**
- Practice strong simulation - saves vast capital investment through prediction by simulation
- Simulation Provides optimal level of equipment and factory space and optimization of local and global material flow
- Use in-house development of custom equipment and IT solutions for innovative products
- Maximize factory efficiency - less additional investment
- Continuous innovation for extreme productivity

**Research and Development:**
- Practice strict CAE, CAD, CAM, and CAT
- Serious management of product lifecycles
- Diversify technology sources and human resources
- Keep core technology in-house as long as possible
- Design for manufacturing

**Manufacturing:**
- Maximize each tool for efficiency
- Find the best operational conditions
- Customize equipment and operation software to increase yields
- Integrate IT solutions from ERP level to tool control level
- Translate and analyze raw data into explicit knowledge
- Customize and modify equipment, hardware, and software in-house

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Maytag is struggling to stay competitive, says company chairman and CEO Ralph Hake. Having 96 percent of the company’s workforce in the United States “is not an advantage for Maytag,” he told the Maytag annual meeting in mid-May, as reported by the Associated Press. “We must continue to change how we do business, especially in the area of cost.”

American consumers are more interested in price and don’t care if a product is made in America, he told the meeting attended by labor union members and workers worried about their jobs. “It would be nice if people care where it was made, but they don’t,” Hake said. “They work hard for their money and they want value.”

Maytag is one of only three major appliance makers based in the United States, he told the annual meeting. The remainder are low-cost global competitors successfully increasing their market share. A Maytag washing machine made in 1974 sold for $499. Today, the same model with more features sells for $439.
China is attracting a vast amount of manufacturing investment from other nearby Asian nations, which then export their production to the United States, according to the Progressive Policy Institute. A new “Asian union” is forming that combines “China’s manpower and low costs with money and technology from Japan, Korea, Taiwan, Hong Kong and Singapore,” says PPI. “China’s emergence as America’s most visible source of goods reflects a structural change in the Asian economy more than it reflects new Chinese trade or labor policies.”

In 2003, for the first time since 1873 (excluding the World War II years), Japan exported more to China than it did to the United States. Exports to China from Korea, Taiwan, Hong Kong and much of Southeast Asia will likely surpass those to the United States in the near future. Investment in China from other Asian countries dwarfs that from the United States. In 2002, total foreign direct investment in China was $53 billion, with the United States supplying $5.4 billion. Of the 60,000 new manufacturing plants built in China between 2000 and 2002, between 80 and 85 percent were financed by Asians.

“As Japanese, Korean, Taiwanese and other plants go on-stream, ‘Chinese’ exports to America boom,” says PPI in its study, “The Emerging Asian Union.” Exports from China to the United States increased from $100 billion in 2000 to $152 billion in 2003, accounting for all of America’s net import growth during that period.

“The fastest growing imports from China are now sophisticated, capital-intensive goods like TV sets, perfumes and child safety seats,” says PPI. “More are on the way.”

China has also become a major importer. China’s imports have grown by $244 billion since 1999, from $166 billion to $410 billion, an increase of 147 percent. But only a small portion of those imports originate from the United States. American exports to China increased from $13 billion in 1999 to $28 billion last year, an increase of 117 percent.

U.S. policies toward China of pursuing unfair trade practices through the WTO, an insistence that it devalue the yuan and that it prosecute intellectual property abuses are important, but they will not be effective in helping U.S. manufacturers stay competitive, says PPI.

“Currency revaluation could ease the American trade imbalance, which would help the United States and the world economy in financial terms, but a revalued yuan would also cut China’s bills for imported oil, steel, computer chips and fabric making Chinese factories still more efficient and competitive,” PPI notes.

U.S. industries that have tried to shield themselves through tariffs and quotas have not helped themselves, either. “Shoes, for example, have the highest tariffs in the American schedule with rates ranging up to 48 percent and even 60 percent for cheaper grades of sneakers,” PPI notes. “Even so, shoemaking has walked away to China, Vietnam and Indonesia. The textile industry’s battery of quotas and tariffs has likewise done more to embitter relations with its customers than to keep mills in gear and workers on the job.”

America needs a new competitiveness agenda to counter China and its neighbors. U.S. firms must adopt successful strategies being deployed in the high-wage and high-cost countries of Denmark, Germany, Italy and Japan. They must emphasize quality, brand recognition, customization and rapid shifts of product lines. The federal government’s Manufacturing Extension Partnership program should be boosted and promoted, PPI recommends. A new “Sematech” type of industry R&D consortium model should be considered. And workforce training must be embraced. “Perhaps a competitive challenge from overseas may provide a push for action here when domestic politics has not,” says PPI.


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**American Imports from China**

<table>
<thead>
<tr>
<th>Product</th>
<th>1999 Total (by value)</th>
<th>2003 Total (by value)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric toothbrushes</td>
<td>$767,000</td>
<td>$55.8 million</td>
<td>73.80%</td>
</tr>
<tr>
<td>Child safety seats</td>
<td>$134,000</td>
<td>$3,813,000</td>
<td>2,850%</td>
</tr>
<tr>
<td>Perfume</td>
<td>$22,000 kilos</td>
<td>$1.97 million kilos</td>
<td>890%</td>
</tr>
<tr>
<td>Wooden beds</td>
<td>$584,000</td>
<td>$3.2 million</td>
<td>650%</td>
</tr>
<tr>
<td>Television sets</td>
<td>$3.6 million</td>
<td>$13.3 million</td>
<td>347%</td>
</tr>
<tr>
<td>Shoes</td>
<td>1.25 million pairs</td>
<td>1.64 million pairs</td>
<td>31%</td>
</tr>
<tr>
<td>Dolls</td>
<td>$460 million</td>
<td>$454 million</td>
<td>-1%</td>
</tr>
</tbody>
</table>

**American Imports from East Asia**

<table>
<thead>
<tr>
<th>Source</th>
<th>2000</th>
<th>2003</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Asia</td>
<td>$427 billion</td>
<td>$430 billion</td>
<td>+$3 billion</td>
</tr>
<tr>
<td>Mainland China</td>
<td>$100 billion</td>
<td>$152 billion</td>
<td>+$52 billion</td>
</tr>
<tr>
<td>Wealthy Asia</td>
<td>$218 billion</td>
<td>$211 billion</td>
<td>-$7 billion</td>
</tr>
<tr>
<td>Japan</td>
<td>$146.5 billion</td>
<td>$118 billion</td>
<td>-$28.5 billion</td>
</tr>
<tr>
<td>Korea</td>
<td>$40 billion</td>
<td>$37 billion</td>
<td>-$3 billion</td>
</tr>
<tr>
<td>Taiwan</td>
<td>$41 billion</td>
<td>$32 billion</td>
<td>-$9 billion</td>
</tr>
<tr>
<td>Singapore</td>
<td>$19 billion</td>
<td>$15 billion</td>
<td>-$4 billion</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>$111.5 billion</td>
<td>$9 billion</td>
<td>-$102.5 billion</td>
</tr>
<tr>
<td>Other ASEAN</td>
<td>$69 billion</td>
<td>$67 billion</td>
<td>-$2 billion</td>
</tr>
</tbody>
</table>

Source: U.S. International Trade Commission
Rockwell Automation, one of America’s leading manufacturing technology providers and service companies, is beginning to feel the positive effects of an improving market for industrial automation. The company, which includes divisions Allen-Bradley and Reliance Electric, has been managing to grow revenues and earnings over the past two years. “We are winning,” says company president and CEO Keith Nosbusch before a May 18 Merrill Lynch Global Industries Conference.

The company, says Nosbusch, is well positioned technologically to take advantage of the global trend of integrating plant floor information systems with enterprise resource planning systems installed by most manufacturing companies. Supply chain integration, plant software, and automation are all potentially huge growth areas being fueled by demands for companies to become more efficient in rapidly introducing and producing high-quality goods.

Rockwell Automation’s revenues for the second quarter 2004 increased to $1.113 billion, up from $1.029 billion from the same period in 2003. Earnings increased from $109 million ($0.26 per share) in the second quarter of 2003, to $152 million ($0.41 per share) in its second quarter of 2004.

The company is active in numerous R&D programs and its chief technology officer, Sujeet Chand, is a busy globetrotter. He runs the company’s research operations in Milwaukee, Cleveland, Prague and Shanghai. He is also the United States secretariat to the Intelligent Manufacturing Systems (IMS) program, a major multinational R&D collaboration. He spoke with Manufacturing & Technology News editor Richard McCormack while hosting the IMS International Forum held in May in Cernobbio, Italy, on Lake Como in the foothills of the Alps.

Here is what he had to say.

Q: Rockwell Automation works with manufacturing companies throughout the world. What strategies are best-in-class-manufacturing companies currently pursuing?

Chand: They are building the infrastructure to design anywhere, build anywhere and source anywhere. That is the strategy. They want to source from anywhere in the world for the best possible cost that they can get on a quality part. They can design anywhere in the world and move their CAD drawings to manufacture anywhere in the world. That is the mantra for the leading companies that are doing manufacturing.

Q: Does that bode well for the small and medium-sized manufacturing companies that supply them, the tool and die shops that are not too adept at following the multinationals on their worldwide journey?

Chand: A lot of OEMs are located in Europe. Many OEMs are in Germany, Italy and Western Europe. These are the people who build complex machines. They are extremely cost conscious because any cost they add comes off of their bottom line. Some of them are moving to Eastern Europe to leverage the lower-cost structures. More and more automotive companies are locating in Eastern Europe. Toyota is building a huge plant in Kolin in the Czech Republic, two hours from Prague. They are putting that plant there because there are OEMs located nearby that can supply all kinds of plastic injection molded parts and different pieces of the automobile that they need. The infrastructure is already there in Eastern Europe.

What does that mean for the small tool and die makers? Unless they are in a niche market building something highly specialized, they have to compete with that lower cost structure that is available elsewhere. That is the reality.

Q: Is Rockwell Automation selling its products and services into the manufacturing growth areas of the low-cost labor countries in China and Eastern Europe?

Chand: It’s evolving in steps. In China, for example, the biggest market right now is for electrification. You have a lot of electromechanical types of systems that are being con-
verted to electrical systems such as motor starters, drives, motor control centers and electrification components. There is a huge market there. The next wave will be controllers and robots because today they are relying heavily on labor. Over time, that’s going to shift and labor will move into more knowledge-based activities.

Q: Everybody talks about moving up that knowledge-based manufacturing curve. Is that where manufacturing is headed?

Chand: It comes back to intellectual property. If you are producing a mold and I can replicate that in my garage, you have very little left to hold. But if you are producing a machine that has proprietary control algorithms and technology embedded in it, it becomes a significant hurdle for other people to reproduce. That is where the knowledge element comes in — the intellectual property and the differentiation.

Q: What manufacturing is still left in the United States?

Chand: Speaking for Rockwell, we do all of our electronics manufacturing in the United States. For certain types of electric drives, we do that in the United States because there is a lot of technology and intellectual property involved. A drive that runs an electric motor is a complex beast because it has electronics and power electronics. There are algorithms embedded in the electronics. It really has to be designed in the right way. Taking heat out of the drive is a big deal so you have to design heat sinks and integrate heat sinks with the drives. But for the real low-end commodity drives, we manufacture in China.

Q: Are there any breakthroughs occurring in the automation industry?

Chand: Vertical integration is the biggest trend in manufacturing. Supply chains are competing with supply chains. There is very little greenfield work, but companies are investing in integrating the factory with business systems. They are pulling in a lot of software and database technology.

This brings in a lot of big players into that domain like IBM with their integration environment like WebSphere. It brings in Oracle with its database systems. It attracts Microsoft because they want to make it a .NET. Then it brings in Rockwell Automation because we can take data from the lowest level and make it available to these middle-level systems that IBM and HP and others make. That is a rapidly evolving area and is one of the biggest changes occurring in factories today.

Q: U.S. companies should benefit from that trend.

Chand: American companies are very well positioned because they have a huge amount of intellectual property in this area. Look at IBM. It’s one of the largest holders of patents in the world. We did a search on the words “data-driven” in patent titles. IBM has close to 1,000 patents with just that “data-driven” title in it. That is where the knowledge type of work is moving to.

Q: Does Rockwell Automation feel the need to be more aggressive in its patenting activity?

Chand: Oh, absolutely. Our patent disclosures year after year have gone up about 40 percent because we are aggressively staking out intellectual property in the “touching” parts area — the intersections between factory automation and IBM, for instance.

Q: Is the U.S. research infrastructure robust in the area of manufacturing R&D?

Chand: Manufacturing as a profession has lost some of its glamour and sex appeal.

Q: Do you get that back by having the government provide some designated funding for leading edge manufacturing R&D?

Chand: That would help. There are some areas like sustainable or environmentally conscious manufacturing that are ripe for that kind of research. Government is certainly funding a lot of work in nano and biotechnology, but focusing on manufacturing is not there yet.

Q: Has Rockwell Automation found a shortage of highly educated engineers in the manufacturing sciences?

Chand: One of the things that has changed recently in terms of hiring engineers who are manufacturing engineers is that manufacturing has become interdisciplinary. In the past, a manufacturing engineer would be a guy who knew how to program robots, drives and CNCs.

They could go on the factory floor and hit the ground running. But today, a manufacturing engineer is not perceived that way. I don’t hire manufacturing engineers. I hire the basic disciplines: a computer science guy, a double-e, or a mechanical engineer who has some training in manufacturing or in some aspect of manufacturing.

If I’m interested in safety systems, I hire a double-e who understands networking and redundancy and who understands how to build safety in software. I would bring him up to speed in safety standards and then I would let him loose with some domain knowledge to develop safety solutions.

There are not as many people walking the shop floor with manufacturing degrees today than there were five years ago. That’s because of various trends, such as cutting back on investments, and outsourcing.

Q: Is outsourcing healthy for U.S. manufacturers?

Chand: The game is just beginning. We’ve seen the first wave. This is the time to act. It’s a call for action.

Continued on next page...
Chand (continued)

Q: Why do you say that?
Chand: Earlier in the year I met Dr. Inaba, who founded Fanuc. He’s a very impressive man and he took me through his factories. What he told me was that many years ago he made the decision to invest very heavily in capital equipment. His factories are highly automated in every area, from making mechanical parts for his robots to electronics. He has no reason to go anywhere else but to stay in Japan. It’s the Samsung “blackbox” business model of keeping intellectual property close to your vest. He said: “I have no reason to move because labor doesn’t give me an advantage; sourcing doesn’t give me an advantage. I have everything I need right here. It’s all centralized.”

He has 20-plus factories in the beautiful foothills of Mt. Fuji and each one is a showcase that has been functioning for years. Fanuc is a profitable company.

Why can’t we do that? The simple answer is economics. If I were to put up that amount of capital to automate what I’m doing, ignoring some of the sourcing issues, it may be a no-win situation. But if we create intellectual property for products that have a high level of IP embedded within them, then manufacturing can be done in the United States. We need to reinvigorate manufacturing. We need to somehow find a way to catalyze it. We need to make it exciting and make it sexy for someone to say: I got a degree in double-e but I specialized in safety for manufacturing systems or security for industrial automation systems.

You don’t see that in the United States.

We have pockets of good manufacturing R&D in the U.S., but the glamour is lost. I don’t think a professor working in manufacturing technology has the same clout of going to the National Science Foundation and getting funding as someone working in the bio-nano area because it’s not sexy.

Some groups have done well. Jay Lee a professor at University of Wisconsin-Milwaukee has been very successful with his Center [on Intelligent Maintenance Systems] that focuses on diagnostics and prognostics for manufacturing systems. It’s a very manufacturing focused activity. He has 35 companies that belong to his consortium.

We need a lot more of those types of centers and those kinds of activities. You need aggressive professors with vision being able to drive it.

The United States is moving more and more to a service based economy. But is that a sustainable model? If you ask me, we need a balance. You can’t get out of manufacturing entirely. Manufacturing is the source of wealth for most nations.

Manufacturing Employment Takes an Unexpected Dip in June

YEAR-TO-YEAR JOB LOSSES IN THE MANUFACTURING SECTOR TOTAL 122,000 AS OF JUNE.

The long trend of lost manufacturing jobs reared its head again in June. The United States lost 11,000 manufacturing jobs during the month, after three months of gains totaling 75,000 new manufacturing jobs. The job loss number for manufacturing caught economists and other observers by surprise. Many had been predicting continued increases in manufacturing jobs, given strong economic growth and anecdotal evidence that was positive.

“It’s the first time I’ve heard my people say we have to hire: jobs, jobs, jobs, we need more people. We can’t do this work without more people.” Don Wainwright, CEO of Wainwright Industries, told a press gathering recently on Capitol Hill that included the Secretary of Commerce Don Evans and House Majority Whip Rep. Tom DeLay (R-Texas). “We are starting to hire. It’s the first time in four years I’ve heard my people say that and...it’s great.”

At the same event, Commerce Secretary Don Evans said: “It is now the strongest economy in my 30-year career in the private sector and maybe the strongest economy in my lifetime. The jobs are coming back...The tax relief over the last three years has led to these kinds of economic conditions that is broad based, deep and growing at this point in time.”

David Huether, chief economist at the National Association of Manufacturers, said the loss of manufacturing jobs in June “is a temporary setback and not a trend...Without question, the 11,000 drop in manufacturing employment was also an unwelcome surprise. However, one month does not make a trend and I do expect the employment recovery in manufacturing to get back on the positive track in short order because domestic manufacturing production has been accelerating in recent months and our members have generally been optimistic on the employment front.”

Since August of last year 1.5 million jobs have been created in the U.S. economy, but manufacturing has lost a net of 6,000 jobs during that period. Since June of last year, manufacturers have shed 122,000 jobs. From its peak in June 1999, U.S. manufacturing employment has dropped by 3,226,000, from 17,708,000 to 14,482,000 in June of this year.
Senators Tell Government’s New Manufacturing Czar to Concentrate on China and Unfair Trade

A Washington neophyte with no policy experience and few political connections has been asked by the Bush administration to help solve some of the thorniest economic issues facing the United States. Albert Allen Frink, the Bush administration’s choice to serve as the government’s first Assistant Secretary of Commerce for Manufacturing and Services, faced tough questions from half a dozen U.S. Senators in his confirmation hearing on July 13. He was asked where he stood on issues regarding China’s manipulation of its currency, unfair trade practices and the desire of the Bush administration to eliminate the Manufacturing Extension Partnership (MEP) program.

He told the Senate Commerce Committee that he wasn’t able to answer most questions but that he is a quick study and that only last week he was in his Los Angeles office of Fabrica International selling carpet. “It is a daunting task before me,” he told Commerce Committee chairman Sen. John McCain (R-Ariz.).

Frink did not solicit the job, according to a spokesman for the International Trade Administration. A member of Congress from California nominated Frink for an industry advisory position on the newly created Manufacturing Council. “After reviewing the resumes and the information, Secretary Evans noticed his experience and called him personally and said would you mind if we considered you for this position,” the ITA spokesman said.

During the confirmation hearing, the senators in attendance expressed alarm over the loss of manufacturing jobs. They told Frink that his desire to help the ailing sector by reducing health care costs and tort reform was fine and dandy, but that he better concern himself with other problems associated with offshore outsourcing, the burgeoning trade deficit, unfair trade practices and China’s manipulation of its currency.

“Can tell you right now I will work very hard to do what I can to make the climate for manufacturing attractive here so that there will be less temptation or desire...to go offshore,” he said. “In principle, it saddens me” when manufacturers move production offshore. “What we can do to get it back is going to be very much part of what I think people are going to expect from me and measure my success.”

To read a transcript of this Committee hearing, visit http://www.manufacturingnews.com/news/04/0721/frink.html.

U.S. MANUFACTURING EMPLOYMENT 1994-2004
(IN THOUSANDS OF JOBS)

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Employees at the National Association of Manufacturers are preparing for the arrival of a political celebrity to take over operations in October. Retired Republican Gov. John Engler from Michigan is expected to elevate NAM to a new level in policy and business circles, predict NAM employees and others involved in manufacturing issues in Washington.

But his close ties to the Bush administration and his conservative ideological orientation could hinder NAM if George W. Bush loses the presidency to John Kerry in November, say others.

The naming of presidents of prominent Washington trade associations has become highly politicized, with Republicans in Congress growing increasingly critical of groups (such as the Motion Picture Association of America) that choose Democrats as their top leader. The selection of Engler is seen by many in the Washington manufacturing policy community as a way to placate that concern, put NAM squarely into the Republican camp, and reassure President Bush that the association is still with him despite three years of controversy sparked by the hemorrhage of 2.7 million manufacturing jobs.

Engler met with members of NAM’s staff during the second week of July and made a favorable impression. “He totally calmed the waters,” said one NAM employee. NAM workers believe Engler will raise the profile of the organization and manufacturing in general. Politicians will return his calls and manufacturers reluctant to join NAM might be more forthcoming with dues if they receive a personal appeal from the ex-governor.

Engler was governor of Michigan for 12 years ending in January 2003. During that time, he cut taxes 32 times, gutted regulations, privatized state functions, promoted school choice and reformed welfare, before similar reforms became popular at the federal level. He was first elected governor in 1990 at the age of 42.

Engler was busy in national politics. He was considered a vice presidential candidate to Sen. Robert Dole in 1996 (but lost the job to Jack Kemp), and to George W. Bush in 2000 (but was passed over in favor of Dick Cheney). One state newspaper at the time said he was “snubbed,” but that it “doesn’t seem to have hampered Engler’s meteoric political climb.” His was mentioned as a possible presidential candidate in 2000.

Engler was in charge of the Bush campaign in Michigan, but was stunned when his state voted for Arizona Sen. John McCain in the Michigan Republican primary in 2000. During his three terms as governor, Engler was in Washington often, helping craft conservative legislation and providing assistance to the Bush transition team. He became president of the National Governors Association and the Republican Governors Association.

Engler was considered one of the nation’s most successful governors during the 1990s. He took over Michigan with a budget deficit, built a surplus, but left office in early 2003 with a deficit of $1.8 billion.

He won his first reelection bid in 1994 by receiving 61.5 percent of the vote. In 1998 he received 62.5 percent of the vote. By 2000, his job approval rating fell below 50 percent for the first time in six years.

Engler’s biography from www.michigan.gov says he is a “Midwestern conservative” who reduced government personnel by 20 percent and saved Michigan taxpayers $32 billion through tax cuts. He signed legislation in 1996 making same-sex marriages illegal. He was a leader in the controversial school choice and vouchers movement and promoted the use of state funds for private and parochial schools.

As governor during the Internet boom years, he embraced technology and created the Department of Information Technology. He semi-privatized his state’s economic development function and concentrated on the retention and expansion of automobile assembly plants in his state.

His heavy embrace of technology led him to be hired by EDS in early 2003 as vice president of state and local government solutions. But the market for e-government services at the state and local level dried up over the past two years, as localities went deeply into debt. He was never able to generate much business for EDS, according to press reports.

The NAM presidency became available at a good time. He had already moved to the Washington area to work for EDS and he lives in the Washington suburb of McLean, Va., a relatively short commute to NAM’s headquarters two blocks from the White House.

Engler, a 1970 graduate of Michigan State University with a degree in agricultural economics, earned a law degree in 1985 from Thomas M. Cooley Law School. He served for 20 years in the state legislature, including seven years as Senate majority leader, before being elected governor in 1990.

He is Catholic and was born in Mt. Pleasant, Mich., on Oct. 12, 1948. He grew up on a cattle farm in Beal City, Mich. He married for the second time on Dec. 8, 1990, to Michelle DeMunbrun, a Houston lawyer and former Democrat. His triplets – Hannah, Madeleine and Margaret – were born on Nov. 13, 1994. He will replace current NAM president Jerry Jasinowski, who is retiring from his post but is expected to stay active in the Manufacturing Institute, a NAM-sponsored think tank. ✗
The U.S. aerospace industry is in the midst of a monumental meltdown, says Stanley Sorscher, a staff member of the Society of Professional Engineering Employees in Aerospace (SPEEA), a union representing 20,000 engineers, scientists, technical and professional employees working for Boeing. Between 1986 and 2001, the number of aerospace engineers and scientists in the United States declined by more than 83 percent, from 145,000 to only 21,000, Sorscher told a hearing of the House Armed Services Committee on July 8. “This decline dismantles our technical and manufacturing communities from within, eroding the network of relationships, expertise and authority developed over decades.”

Boeing’s technical workforce has been aging rapidly and there has been nearly a “total elimination” of younger workers at the company, Sorscher said. “Lacking young people in the workplace, no one is present to capture and retain the body of knowledge accumulated from decades of experience. The next generation of supervisors, managers and system integrators cannot be cultivated if they are not present. Already, a 15-year period of experience has been forgone and cannot be recovered. This demographic trend is not sustainable.”

It would be “irresponsible and futile” to educate a new generation of aerospace engineers and scientists “if we do not also create employment opportunities for them in American facilities,” Sorscher told the committee. “I cannot overemphasize this point. Lack of education did not cause our demographic decline and more education will not reverse it...Education must be matched with an investment in productivity capacity.”

But this isn’t happening. The industry invests little in research and development and new plants and equipment. It is shipping production to its offshore suppliers. In the commercial aerospace sector, this is being done in large part through the requirements foreign countries are making for “offsets,” described as a form of economic bribery in which companies shift production to the customer nation in order to win a big order for planes.

“On the commercial side, American manufacturers turn to offsets to defend regional market share,” Sorscher said. “However, in practice, the offset strategy has failed to secure market share. Rather, our market share in commercial airplanes declines year after year.”

The only nation in the world in which the U.S. market share has not fallen is in Japan. But this has come “at the cost of the structural work package of almost the entire 767 and 777 fuselage,” Sorscher said. For the newly introduced 7E7, “the composite wing and fuselage involve state-of-the-art design and manufacturing – at a scale we have never attempted domestically. When those work packages go offshore, we will be conceding production technology and capacity we have never held ourselves.”

Offsets also shift the risk of large capital investment associated with building new equipment to foreign suppliers. In exchange, “foreign firms acquire the knowledge, skills and experience embodied in the work packages sent to their domestic firms,” Sorscher said. “Foreign manufacturers will inherit the competitive advantage of future learning curve benefits, derivatives and follow-on work. They will learn important institutional lessons, while our body of retained knowledge erodes. While we intend to climb up the value chain, we may, in fact, be withdrawing into a corner, where we can be cut off by suppliers who will have positioned themselves to put in place the final piece of the manufacturing puzzle – the role of the system integrator.”

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**More Highly Trained Workforce Will Not Revive U.S. Aerospace Industry**

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**Corporate Investment 4-year average – 1999-2002**

- **R&D**
- **Capital**

**Source:** Annual Reports
6% amount that prices of manufactured goods have dropped since 1994

15% amount that overall prices have increased since 1994

$607,000,000,000 total dollar value of manufactured U.S. exports in 2002

$1.43 value of additional economic activity generated by every $1.00 of manufactured goods

$725 BILLION value of manufacturing e-commerce shipments in 2001

275 number of manufacturers that are participants in the RCBI 21st Century Manufacturing Network

EIGHT MILLION number of jobs manufacturing creates in other sectors via the “multiplier effect”

2002 CAPACITY FAL 04 34 Thousand number of manufacturing workers employed by Toyota in North American vehicle assembly and parts facilities

11,200 number of factory jobs lost in WV since July 2000

85% portion of U.S. manufacturing investments that went into domestic factories and equipment in 2002 – which hasn’t changed in the past decade

$54,000 average manufacturing compensation – the highest in the private sector

97 Percent portion of all exporting manufacturers that have fewer than 500 employees

38,000,000,000 total dollar value of exported manufactured goods from the U.S. in 2002

$607,000,000,000 total dollar value of manufactured U.S. exports in 2002

112,000 number of U.S. manufacturers that have fewer than 500 employees

$225,000 total dollar value of exported manufactured goods from the U.S. in 2002
U.S. manufacturing finally emerged from a long downturn earlier this year and, for the first time in five years, is growing faster than the overall economy. Orders are rising, production is increasing and manufacturers are hiring again. After what we have been through, this is encouraging news indeed!

But we dare not permit this cyclical rebound to lull us into a false sense of complacency. This is not business as usual. The recent downturn in manufacturing was the longest and deepest since before World War II. The challenges facing U.S. manufacturing today are unprecedented and bear ominous implications for the future of our country. How we deal with this crisis will determine our ability to preserve our world leadership into the new century.

The raw facts tell a grim story. From July 2000 through January of this year, we lost 2.8 million manufacturing jobs. Hundreds of once proud companies have shut their doors even as our market was flooded with waves of consumer products manufactured elsewhere and our trade deficit explored new heights. Specific industries and regions have been particularly hard-hit. When a factory closes its doors, it can have a devastating impact on individuals and communities. We are now adding manufacturing jobs again, but have a long way to go to make up lost ground, and it is unlikely we will ever recover all the jobs we have lost.

Perhaps our greatest challenge is responding to the voices in our midst – some of them in responsible places – that contend we no longer need our manufacturing base. This is hokum that cannot be allowed to stand. This business of making things – of transforming raw materials into finished products that save labor and enhance the quality of life – is one of the most productive known to humankind. It is in essence the ultimate act of wealth creation. A strong and diverse manufacturing base is the critical element that distinguishes advanced nations from developing nations.

And I should not have to remind anyone that manufacturing technology is the heart and soul of our national defense. This fact certainly isn’t lost on the Department of Defense which, alarmed by the challenges facing U.S. manufacturers, recently announced a new investment strategy for manufacturing – the Next Generation Manufacturing Technology Initiative. The goal of the new program is to not only substantially increase investments in manufacturing technology, but also to hike returns on manufacturing investment by a factor of 10.

Manufacturing is key to national defense and it is also key to our economic power. It needs to be understood among policy makers and the American people that, despite our recent troubles, we are still the world’s leading manufacturing country. Despite our huge appetite for imports, we are the world’s largest exporter. We sell more than $700 billion in manufactured goods abroad every year – 10 times as much as agricultural products. Manufacturing is the primary means by which we recycle those dollars we spend overseas. It is how we pay our way in the world.

Some insist it is the creation of ideas, not manufactured goods, that is our greatest strength and the real hope for our future. There is some truth to this. Without question, American ingenuity is the most important weapon in our economic arsenal. But ideas by themselves are useless until they are translated into reality. The idea of the airplane was around for centuries, but no one left the ground until two mechanics from Ohio showed it could work. Manufacturing is where the rubber meets the road. It accounts for a full two-thirds of our research and development. It is our national laboratory for translating ideas into reality.

The harsh reality is that we live in an increasingly competitive world, and our traditional ways of doing business are no longer sufficient.

“The harsh reality is that we live in an increasingly competitive world, and our traditional ways of doing business are no longer sufficient.”
are no longer sufficient. Developing nations understand that in order to become developed nations, and assure a promising future for their people, they must develop competitive manufacturing. They are throwing down the gauntlet to us in a wide variety of industries, including many on the cutting edge of advanced technology. In many cases they enjoy distinct advantages over the United States in terms of wages, government subsidies and other factors. To compete in this environment, we must rethink our business, make manufacturing a national priority, and work together to achieve ever higher levels of quality and productivity.

Our first task must be to reduce the external costs we impose upon ourselves. Our government often enacts laws and regulations with little thought about their impact on competitiveness. A recent National Association of Manufacturers (NAM) study concluded external costs add 22.4 percent to our labor costs compared to our nine major trading partners, and I frankly think the number is even higher. One of our primary objectives must be to persuade policy makers to recognize these unnecessary impediments to our competitiveness and to enact reforms necessary to strengthen our manufacturing sector. The NAM’s agenda is to:

• Promote and encourage economic growth as the single most important fundamental to promoting the nation’s interests and improving the standard of living for the American people.

• Reduce the cost of producing in the United States by containing health care costs, reducing taxes on business, enacting legal reforms, ensuring adequate and affordable energy supplies and reforming the regulatory process to more effectively assess costs and benefits and the impact on industry and employment.

• Level the international playing field by ensuring that foreign countries, particularly China and other major trading partners, reduce trade barriers, comply with international trade rules and allow markets to determine exchange rates.

• Promote innovation investment and productivity through tax reforms that encourage investment and R&D, domestic and international tax rules that keep U.S. manufacturers competitive and promote pro-growth investment, and strengthened government R&D programs.

• Ensure an adequate supply of skilled workers through greater emphasis on quality education, including math, science, and engineering; strengthened implementation of the Workforce Investment Act; expanded business-government partnerships; and a redirecting of federal programs to better assist displaced workers.

At the behest of our Board of Directors, representing every industry and region of the country, the NAM has undertaken a “Campaign for Growth and Manufacturing Renewal” to explain the importance of manufacturing, raise awareness of the challenges to our leadership and rally support for policies that will strengthen our manufacturing sector. More information about the campaign is available at www.nam.org. Everyone who cares about this business of making things is welcome to join us and become part of this important movement.

Jerry Jasinowski is President of the National Association of Manufacturers (NAM). He will be retiring from his post in October, but is expected to stay active in the Manufacturing Institute, a NAM-sponsored think tank. See related story on page 18.
WEST VIRGINIA’S ECONOMY has long been tied to the exploitation of raw materials and to traditional mass-production manufacturing industries. Both of these sectors have experienced major job losses in recent decades, as productivity gains and the entry of low-cost producers elsewhere in the United States and overseas have forced local employers to downsize, or sometimes to close down their operations entirely.

For the next phase of West Virginia’s economic development, more of the state’s economy will need to shift away from the grinding competition over costs. In that kind of competition, victories are usually short-lived and frequently damaging to the welfare of communities. While cost competitiveness is essential in almost every industry, sustainable economic growth is increasingly linked to the capacity for innovation in products, processes and services. As one public official noted recently, “America must never compete in the battle to see who can pay their workers least, and it will take sustained innovation to ensure that we don’t have to” (Testimony of Bruce Mehlman, assistant secretary of technology policy, U.S. Department of Commerce, before the House of Representatives Committee on Small Business, June 18, 2003).

Last year the author and his colleagues were asked by the Claude W. Benedum Foundation to examine the prospects for industrial innovation in the North Central region of West Virginia. Our task was to identify opportunities for Benedum to contribute to the development of technology-based enterprise in that region of the state. In analyzing the strengths and weaknesses of the innovation system in North Central we focused on two sectors – energy and biometrics – bracketing the spectrum from mature to new industries. An important finding of the study was that there are major opportunities for innovation-driven industrial development in both sectors.

In this article, I will focus on the outlook for manufacturing. Manufacturing industries are still an important source of relatively well-paying jobs in the West Virginia economy. As in the rest of the country, these manufacturing jobs are under intense pressure. Manufacturing employment has declined by about 20 percent since the early 1990s, with much of the loss – about 9,000 jobs – occurring in the last three years alone (see Figure 1). West Virginia’s experiences in this regard have closely tracked the national employment picture. As a matter of fact, over the past three years the
The manufacturing employment trend in West Virginia has been a little less negative than in the country as a whole (see Figure 2). But it has been a difficult time for manufacturing nonetheless, and it is not surprising that in West Virginia, as in much of the United States, many questions have been raised about the long-term sustainability of the manufacturing industry.

Sometimes overlooked in the debate about manufacturing is that from the vantage point of the American consumer the picture looks dramatically different. From that perspective, manufacturing is actually becoming a more, rather than less, important part of the economy. Since 1990, sales of durable manufacturing goods in the United States have more than doubled in real terms. Indeed, America’s appetite for manufactured goods has been increasing at a faster rate than the demand for services, and during the 1990s the share of durable goods in total final purchases actually increased slightly. The numbers are striking. Since 1990 the purchasing power of the U.S. economy increased by about 3.2 trillion dollars a year, and of that increase, 31 percent – or nearly one out of every three dollars of additional spending – went towards the purchase of durable goods. When non-durable goods are also included (a category that includes food, fuel and all other tangible products with a useful life of three years or less), the share of incremental spending increased to 47 percent. To put these numbers in perspective, just the increase in the size of the U.S. market for manufactured goods since 1990 exceeds the entire gross domestic product of China today.

So, even as domestic employment in manufacturing has been declining, manufactured products are playing an increasingly important role on the demand side of the economy (see Figure 3). How can we make sense of these two apparently contradictory trends?

One obvious explanation is the increase in offshoring and, more generally, the rising imports of manufactured goods, which have increased several fold since 1990. Many people think that this is the whole explanation. But it is actually only part of the story, and not even the largest part. The increase in imports did not result in a shrinkage of the domestic manufacturing base. On the contrary, domestic manufacturing output actually increased by 35 percent during this same period. But manufacturing productivity increased even faster, by 48 percent – a good result from a competitiveness standpoint, and a necessary condition for improvements in the standard of living in the longer run. But the inevitable short run result was that the number of manufacturing jobs fell. During the 1990s domestic productivity growth in manufacturing is estimated to have displaced more than twice as many manufacturing jobs as did the increase in foreign imports. Moreover, since the recession began in early 2001 the combined employment effect of continued productivity gains and weaker demand has been roughly three times larger than the impact of increased imports.

Two other contributors to the growing consumption-employment gap in the U.S. manufacturing sector may also be important. One is that more of the work that used to be done in-house by manufacturers has been outsourced to domestic service providers, whose employees are counted in a different category. A second is that relatively more of the value of manufacturing sales is in the form of embedded or associated services. Both of these effects are difficult to measure. But it is worth noting that for every dollar of durable manufactured goods production in the U.S. economy, more than 40 cents is created by non-manufacturing firms (i.e., provid-
ers of business services of various kinds, distributors, etc.). In short, as manufacturing jobs disappear from the United States, new manufacturing-related jobs are being created.

It is important to be realistic about the prospects here. Most of the traditional factory jobs that have been lost from the U.S. economy in recent years are not likely to return. But the huge and growing appetite of the American market for manufactured products – and the increasingly fragmented supply chains which produce them – are creating new opportunities for American workers in situations where proximity to the market is more important than low labor costs. Many of these new manufacturing-related jobs are not found in factories, or even, in many cases, in manufacturing firms at all. They are, however, integral to the development, production and delivery of manufactured goods and in that sense are true manufacturing jobs.

Take, for example, systems integration. One of the consequences of the trend towards modularity and the increasingly specialized division of labor in manufacturing value chains is the emergence of systems integration as a key factor in the organization of production. The work of systems integration – pulling new technologies into products or production processes; implementing new combinations of technologies; integrating skills, knowledge and components from other firms; devising and implementing integrated solutions to support products throughout their life cycles – such work becomes increasingly important as value chains grow more complex and disaggregated. Related activities include repair centers, logistics centers, spare parts tracking services, product analysis and testing services, and the like.

The importance of taking this broader view of manufacturing is all the greater in light of the trend towards greater reliance on knowledge-based products and services, there is an understandable preoccupation with the possibilities of creating entirely new technology-based industries. But another important strategy for negotiating the transition is to harness innovations towards upgrading existing value chains. Still a third strategy is to build on existing industrial capabilities to diversify into new product and market areas. West Virginia’s manufacturing industries are core assets for both these latter strategies. Far from being ‘yesterday’s news’, manufacturing, including the development, design and delivery of service-enhanced manufactured products, may be a vital pathway toward a more prosperous future for the Mountain State.

Professor Richard K. Lester is a professor of nuclear engineering and director of the Industrial Performance Center at the Massachusetts Institute of Technology. In 1986, he was appointed executive director of the MIT Commission on Industrial Productivity. He is currently advising the West Virginia Development Office on the identification of the most promising industries for innovation-driven economic growth in West Virginia.

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Figure

Trends in U.S. final sales of durable goods, services and manufacturing employment


[Graph showing trends in U.S. final sales]
Energy

West Virginia is the only state in the eastern United States that can truly say it has reliable, abundant, secure and affordable energy. Energy is the lifeblood of business and industry, and West Virginia is the eastern “energy heart” of this nation. Our state is blessed with vast energy reserves of coal and natural gas and an extensive production capacity for electric generation. We also have an extensive electric transmission system and widespread natural gas pipeline and storage capacity, which provide not only for our state’s needs but also for the energy needs of much of this country.

Transportation System

West Virginia’s transportation system, whether highways, inland ports, locks and dams, airports or rail lines, are among some of the most extensive and modern in the nation. The state’s Interstate and Appalachian Corridor highways now criss-cross the state and serve as a nexus for much of the goods transported in the eastern United States. From West Virginia, business and industry can produce and transport their goods and services quickly and easily as part of our “just-in-time” economy.

Proximity

West Virginia’s modern transportation system becomes an even greater asset, thanks to the state’s central proximity to the eastern United States. Our state is within a day’s drive to major markets – stretching from Chicago to the Northeast or from the mid-Atlantic coast to the growing Southeast. And our state is a central vector point for the nation’s air transportation lanes. West Virginia truly is at the center of this nation’s economic universe.

Training and Higher Education

One of the state’s most enduring assets is its continued commitment to education and training opportunities for all residents. West Virginia has an extensive network of learning centers for adults who want vocational training and higher education degrees. Colleges, community colleges and vocational centers provide accessible and affordable options for our workers to gain education and training in high-demand fields such as education, health care, technology, construction, science and engineering. And the state’s new Promise Scholarship program is providing more of our young people with the opportunity to continue their formal education at West Virginia’s colleges and universities.

Workforce

West Virginia has a skilled, dedicated workforce that gives an honest day’s work. Our workers can be counted on to get the job done and are very loyal. And let’s not forget the true entrepreneurial spirit that exists among our people – one that continues from our “mountaineer days” when people had to be self-reliant, inventive and resourceful. No wonder our state’s economy is 95 percent small businesses.

Quality of Life

Living and working in West Virginia provides a quality of life and a convenience of living that are the envy of most other states. Our towns and cities still have a sense of community that has all but disappeared in our “modern” sister states. Instead of spending hours a day frustrated and stressed commuting in traffic, we have more time to spend with our children and family, in places of worship or helping others through community and volunteer activities. Most importantly, West Virginia’s low crime rate provides a sense of ease and comfort that is now more important than ever, given our concerns over terrorism and violent crimes.

The title of this publication, “Capacity,” is a perfect name because it reflects so much of what West Virginia has to offer. With our nation’s economy in recovery mode and the domestic manufacturing sector showing renewed vigor, I thought it would be a good time to highlight many of the positive things West Virginia has to offer. In particular, I’d like to showcase our state’s key assets and how they can provide the “capacity” for growth and opportunity.

West Virginia has many great assets to offer this nation – as a place to live and to work, as a place to visit and see wondrous sites, and as a place to invest and grow. Here are several assets related to our state’s economic development possibilities:
NATURAL BEAUTY

Without question, the Mountain State’s natural beauty is one of its primary assets. In a nation where urban sprawl, congestion and development are paving over the countryside, West Virginia stands out as a bastion of greenery and serenity. From our mountains to our river valleys to our rolling countryside, West Virginia truly is “almost heaven.” West Virginia’s terrain and natural settings also provide unlimited recreational and tourism opportunities, from hunting and fishing to mountain biking, kayaking, camping and swimming. Another asset connected to the state’s natural environment is the number of farms all across our state. Agriculture is a major component of our state’s economy and will be an ever-increasing asset as our country continues to squander and destroy precious agricultural land.

CULTURE AND THE ARTS

Finally, West Virginia’s unique culture and heritage is an asset that we should embrace and market more effectively. Unfortunately, West Virginians have been incorrectly and unfairly maligned. But we all know that West Virginia is a place full of friendly, helpful and courteous people. This is in sharp contrast to so many other “urbanites” that are just downright rude, abusive, impersonal and cold. And let’s not forget the musical and artistic talent that seems to be part of the “genetic” makeup of our people. The work of these artisans is celebrated in our local fairs and festivals throughout our state. Their work is featured in our public gems such as the Clay Center in Charleston, the Huntington Museum of Art, Tamarack in Beckley, Capitol Music Hall in Wheeling and Carnegie Hall in Lewisburg, to name just a few.

While it is clear that West Virginia has much to offer manufacturers and businesses, these assets could shine even more once we solve the policy problems facing our state. On behalf of the thousands of members of the West Virginia Chamber of Commerce, we stand ready to help in this effort and to accomplish this. Let’s share even more fully in the economic turnaround taking place in our nation.

Stephen G. Roberts, President of the West Virginia Chamber of Commerce.

The importance of small-scale manufacturing to West Virginia’s economy was highlighted this summer during the Made Right Here: Small-Scale Manufacturing Summit in Charleston.

U.S. Senator Jay Rockefeller, the Center for Economic Options (CEO), and the Discover the Real West Virginia Foundation hosted the conference June 20-21.

“This Summit highlights the economic value and importance of these small-scale manufacturers,” said Pam Curry, CEO’s executive director. A small-scale manufacturer is described as a business with less than 50 employees. The focus of the Made Right Here Summit is on businesses that are owned and operated by West Virginians.

“Many of the businesses participating have fewer than 20 employees,” stated Curry. “Whether a business consists of a single person making hand-crafted furniture, or a manufacturing facility making salsa, customized optical equipment or textiles, small-scale manufacturing represents the largest industry in the state.”

The Made Right Here Summit gives small-scale manufacturers, policy makers, service providers and others who are interested in this industry sector an opportunity to share ideas, challenges, and situations they face daily as small scale businesses. “The Summit brings together a cross-section of resources that small scale manufacturers need to succeed in today’s competitive economy,” said Rockefeller. “This industry is important to the state’s economic future and deserves more attention and recognition.”

The Summit featured an award ceremony recognizing six businesses for their achievements: Hard Rock Candles; Gauley Mountain Molding, Inc.; Innovative Technologies Group; Bailes Glass and Granite; Hinkle’s Dying Art Glasswork and Evan Scent.

In addition, the conference featured discussions among business owners, service providers and government officials that focused on key issues, including health care and taxation, as well as business services, marketing and market access.

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In their treatise titled “The Leadership Challenge,” authors and scholars Jim Kouzes and Barry Posner define leaders as those who mobilize others to want to accomplish extraordinary feats. Leaders, they state, “turn challenging opportunities into remarkable successes.”

It is certainly not news to our readers that our state and our nation face an array of challenges. Will our next governor and president treat those challenges as opportunities and lead us into a more prosperous and safe future? Or will they, instead, turn their heads and look the other way, hoping that the symptoms of poor public policy, like the staggering decline of good-paying manufacturing jobs, will simply remedy itself?

*Capacity* was not content to speculate about the leadership styles of the men who will steer our course for the next four years. Nor did we want you to guess where they stood on matters vitally important to the future of manufacturing. So we asked – and they answered. We hope the following pages will bring clarity to your decision on Nov. 2, 2004, and bring to the forefront what each individual can and must do to change the course of manufacturing in America and here at home.
President George W. Bush tours a manufacturing site in Belle, West Virginia.
George W. Bush

REPUBLICAN PRESIDENTIAL CANDIDATE

NATIVE OF | New Haven, Connecticut
OCCUPATION | President of the United States
MARRIED | former Laura Welch of Midland, Texas
CHILDREN | Barbara, Jenna

POLITICAL BACKGROUND | 1994, 1998 Elected Governor of Texas
| 2000 Elected President of the United States

KEY ISSUES LISTED | Homeland Security, Compassion, Health Care, Education,
| Environment, Social Security

Capacity: Will a Bush Administration place a priority on manufacturing in the U.S.?

Bush: My Administration will continue to place a high priority on America’s manufacturers. Last year, the Department of Commerce began the Manufacturing Initiative, conducting 20 roundtables around the country with hundreds of manufacturers to learn firsthand their concerns and what can be done to address them. As a result, in January 2004, Commerce published its report “Manufacturing in America” detailing the issues confronting U.S. manufacturers and providing recommendations for improving the economic and structural problems that are holding them back.

As part of the recommendations, Secretary of Commerce Don Evans is heading up a newly created Manufacturing Council comprised of leaders from the manufacturing sector to ensure that the voice of business is heard, and that the government is coordinated to respond to it. To coordinate and improve these efforts, I created an Assistant Secretary for Manufacturing at the Department of Commerce. We have also expanded and strengthened our ability to attack the underlying causes of unfair trade and we are analyzing market trends and foreign practices to identify potential unfair trade problems at the earliest stage possible.

My Administration has spent the last three-and-one half years promoting policies to create jobs and strengthen America’s economy. And we are seeing results. Almost 1.5 million new jobs have been added in the last eleven months, including more than 74,000 new manufacturing jobs nationwide since January 2004. Economic activity in the manufacturing sector grew in July for the 14th consecutive month, while the overall economy grew for 11 consecutive quarters. The manufacturer sector has experienced the longest period of growth since 1973. And manufacturers across the Nation have been reporting increased activity and more new orders than at any time in the last 20 years.

My Administration will continue to implement policies that will strengthen U.S. manufacturing in order to increase productivity, hire more workers, and increase wages.

C: Specifically, what will your administration do to enhance family-supporting industries such as manufacturing?

B: We will continue to create an environment in which the United States adds good-paying, high-quality manufacturing jobs by helping industries and businesses cut production costs. Health care costs can prevent businesses, especially small businesses, from increasing wages and hiring new workers.

My Administration has worked hard to reverse this trend, by making health care more affordable and more available to businesses and families. We have created health savings accounts, which combine low-cost, high-deductible health insurance with the opportunity to save money for out-of-pocket medical costs in a tax-free account. To reduce the burden of health care costs on small businesses, I have proposed the creation of Association Health Plans, so small businesses can pool together to negotiate lower health care costs and provide health insurance to their employees, just as large companies
do. I have also proposed tax credits to help working Americans buy health care coverage. And I am fighting rising health costs by working to eliminate frivolous lawsuits and promoting wider use of health information technology to improve quality, reduce errors, and cut administrative waste.

C: The manufacturing sector has lost significant numbers of jobs, nationally and in the state of West Virginia. How will a Bush Administration ensure an increase in not only the quantity of jobs in the U.S., but the quality of those jobs?

B: When I entered office in 2001, the economy was slipping into recession, and the manufacturing sector in West Virginia had already been losing jobs for more than a year. The terrorist attacks of September 11th and corporate scandals hurt our economy, but our resolve was not shaken, and we have overcome significant challenges. Now our economy has moved from recovery to robust economic growth. Since August 2003, almost 1.5 million new jobs have been created, including 74,000 new jobs in manufacturing nationwide since January of this year. And in West Virginia the unemployment rate dropped to 5.3 percent in June, below the national average.

As our economy grows and we continue to increase employment, we are also creating an environment that leads to new jobs that are high-quality and high-paying. The jobs created by our expanding exports, for example, pay up to 18 percent more than the average domestic wage. And high-tech industry jobs supported by exports have average hourly earnings 34 percent higher than the national average. According to a Business Week study of recent Bureau of Labor Statistics data, employment growth in higher-paying job categories has accounted for well over half of total job growth during the past year.

I am also helping workers prepare for the new shape of the American economy. Because the jobs of the 21st century require a highly-skilled workforce, I support training and education initiatives to help workers gain the skills they need to land the higher-paying jobs of the new economy.

In my FY2005 Budget request I have also committed 13.5 percent of total discretionary outlays to R&D -- the highest level in thirty-seven years. Both private sector and Federal R&D have significant effects on the Nation’s economy and in creating new, high-paying jobs. While private sector R&D is more focused on and effective at improving products and processes, federally funded activities are best aimed at sustaining basic research and improving the Nation’s innovation infrastructure.

C: Will you encourage public-funded efforts to provide access to manufacturing technology? Why or why not?

B: Advances and innovations in technology are responsible for creating better jobs, developing new, affordable, and reliable supplies of energy, and promoting economic growth. As part of my tax relief package, I have worked to make the Research and Development Tax credit permanent. In the past, the on-again, off-again nature of the tax credit has impeded long-term research in the United States. By making the credit permanent, we will help spur the sustained, long-term investment in R&D that America needs to develop the next generation of critical technologies.

My budgets over the last four years have invested in strengthening manufacturing innovation, including providing more than $65 million – a 27 percent increase from 2001 -- for the National Science Foundation’s Design, Manufacture, and Industrial Innovation Division. We have also increased the Manufacturing Engineering Laboratory’s budget at the National Institutes of Standards in Technology by more than 50 percent since 2001 for a total of $30 million.

C: Describe your working relationship with the West Virginia Congressional Delegation? Do you see your administration working with them to include West Virginia in an economic recovery?

B: All of our Nation’s lawmakers play a vital role in helping to build our economic strength. Each state and community has its own unique set of needs, but we share the same national goal – to ensure that our economy continues to grow and create new jobs for American workers. The members of the West Virginia Congressional delegation – Senators Byrd and Rockefeller, Congresswoman Capito, and Congressmen Molloy and Rahall – have all worked hard in Washington, supporting policies that will benefit the Nation and West Virginia. I will continue to work with both Democrat and Republican legislators from every state as we pursue prosperity for our Nation as a whole.

C: West Virginia is home to many traditional chemical, steel, and coal industries. At the same time, West Virginia is entering the biotechnology, biometrics, and energy markets. Will the Bush Administration work to secure the more traditional industry jobs in America as well as invest in the global future of technology and energy related industries?

B: In my National Energy Policy, I place a strong emphasis on developing next generation energy technologies to reduce our dependence on foreign energy sources. We should combine the power of traditional energy sources with new technologies that create a cleaner environment and strengthen energy security.

The coal industry provides America with an affordable, steady, and secure supply of energy. Throughout my Administration, I have consistently supported policies that boost coal use, and create new coal industry jobs. To meet the increas-
ing electricity demands of our growing economy, we must develop the technology to make coal use cleaner, encourage new investments in clean coal plants, and extend the life of existing coal plants. I have committed to invest $2 billion over 10 years to fund research in clean coal technologies. My four budgets have included $1.4 billion for clean coal technology research and development, well on the way to fulfilling this commitment.

As part of this effort, the Department of Energy recently awarded $107 million for the Western Greenbrier Co-Generation facility in Rainelle, West Virginia, to develop a clean coal coproduction plant. The facility will create as many as 6,000 new jobs near the communities of Rainelle, Rupert, and Quinwood in western Greenbrier County. If proven successful, this technology could be applied to many regions of the country to reclaim contaminated land where waste coal is currently stockpiled, as well as to significantly reduce waste disposal activities from operating coal mines.

C: A lot of companies are shifting their work overseas to reduce labor costs. What can be done to reverse this trend?

B: My goal is to create high-paying job opportunities in this century. Part of the plan to achieve this goal is to open new markets for American-made goods. It is terrible to lose a job for any reason. That is why my number one economic priority is the creation of more jobs, and implementing my six-point plan (making tax cuts permanent, making health costs more affordable, reducing frivolous lawsuits, easing the burden of Federal regulations, enacting a national energy policy, and opening foreign markets to American goods) is the right formula. I will not be satisfied until every American looking for work can find a good-paying job.

Opening markets to U.S. exports is a key part of sustaining America’s economic recovery and creating new jobs for American workers. Opening foreign markets to American goods and services will help eliminate incentives for firms to relocate jobs. It will also help encourage foreign companies to set up and expand operations in the United States.

Economic isolationism is not the answer. U.S. exports accounted for 25 percent of U.S. economic growth during the 1990s and supported an estimated 12 million jobs. Jobs in exporting plants pay wages that average up to 18 percent more than jobs in non-exporting plants. Approximately one out of every five factory jobs is due to manufacturing exports, and American farmers plant one out of every three acres for export, generating nearly 25 percent of their gross cash sales.

Open markets also encourage foreign companies to set up operations in the United States that employ American workers. Foreign-owned firms provide jobs to 6.4 million workers in the United States – jobs that might otherwise go to foreign workers.

But we know that any economic change – whether arising from trade or technology or increased productivity – can cause painful dislocation for some workers and their families. That is why I have proposed an aggressive agenda to help workers deal with dislocation and acquire the skills to find good-paying jobs. In my FY 2005 budget I propose $23 billion for job training and employment assistance.

C: How would you evaluate the success or failure of NAFTA?

B: NAFTA has enabled Mexico, Canada, and the United States to expand our solid, dynamic, and mutually beneficial trading partnership. In its first ten years, NAFTA has helped increase exports to Canada and Mexico from $142 billion to $263 billion. This has enabled Americans to earn more and increase their purchasing power.

In West Virginia, foreign-based companies employ more than 27,700 workers. And 18.1 percent of all manufacturing jobs in the state are with foreign companies. Free and fair trade agreements, such as NAFTA, make this possible. A retreat to isolationism would only harm American workers and industries by closing our economy to markets and limiting economic opportunities that provide good jobs, increase wages, and create good sources of revenue.

C: Do we need a national energy policy and why?

B: For too long, the Federal government has enacted patchwork solutions when an energy crisis arises, rather than addressing the fundamental issues contributing to the short- and long-term energy challenges we face. As one of my first acts in office, I proposed the first comprehensive and balanced national energy policy in a generation to increase domestic energy production, support alternative and renewable energy, create jobs, and promote economic growth. Many of the provisions in my plan were incorporated in comprehensive energy legislation now pending in Congress. Congress must act to provide consumers relief from rising energy prices and to further new energy technologies and innovations such as clean coal technology that will help ensure America’s energy security.

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Capacity: Will your administration place a priority on manufacturing in the United States?

Kerry: I have an economic plan to increase job growth, end incentives that encourage outsourcing, and make American businesses more competitive by reducing health care and energy costs. I believe the private sector can create jobs, and that government can help set the right conditions unleashing dynamic growth in the American economy.

C: How will your policies regarding manufacturing differ/mirror the current administration’s policies?

K: I voted for the steel tariffs in the Senate and believe they should continue. The Bush-Cheney administration has failed to develop a manufacturing jobs strategy, to enforce trade agreements, or to fight against government-sponsored steel overcapacity in our trading partners. The American steel industry needs a President who will stand up to unfair overcapacity and currency manipulation in our trading partners, and who has a real plan to create new manufacturing jobs here at home.

America has lost 2.8 million manufacturing jobs under the Bush-Cheney Administration. Over 10,000 of those jobs have been taken from West Virginians. The few jobs that have replaced those lost to outsourcing pay on average $9,000 less than the jobs they are replacing. The typical family has seen its income plummet more than $1,400 under President Bush. For the first time since 1953, Americans’ income has declined, 9.2 percent from 2000-2002 when adjusted for inflation. This decline in wages is due in part to the loss of well-paying manufacturing jobs.

C: Specifically, what will your administration do to enhance family-supporting industries such as manufacturing?

K: The Kerry-Edwards plan is in stark contrast to the past four years of outsourcing and job loss. My plan will provide a payroll tax holiday to encourage companies to hire employees in manufacturing, other businesses affected
by outsourcing, and small businesses. The plan would end special breaks allowing companies to defer paying taxes on income earned overseas and would use the savings to cut corporate tax rates by 5 percent.

I will continue fighting for the creation of domestic manufacturing jobs. I introduced S. 1885, the “Manufacturing Job Production Act of 2003,” part of a three-bill package addressing the crisis in manufacturing employment. The bill included a temporary manufacturing jobs creation tax credit.

C: Do you see your administration working closely with industry and labor?
K: My team continues its strong commitment to creating conditions where American businesses can compete and thrive in a global market. I believe in the American worker and in the American spirit. I know we are a can-do nation. My team is a strong supporter of our nations’ unions, the hard-working men and women who have made America strong and will move America forward.

C: The manufacturing sector has lost significant numbers of jobs, nationally and in the state of West Virginia. How will your administration ensure an increase in not only the quantity of jobs in the United States, but the quality of those jobs?
K: America has lost 2.8 million manufacturing jobs under the Bush-Cheney Administration. Over 10,000 of those jobs have been taken from West Virginians. My plan of a payroll tax holiday and a reduction in the corporate income tax rate will ensure American companies can create American jobs paying a good wage for hard work and providing health care for families.

C: Will your administration encourage public funded efforts to provide access to manufacturing technology? Why or why not?
K: I support technology transfer programs that reinvest publicly funded research and development in the private sector. I believe that taxpayers should benefit from the reuse of research and development they have already paid for and that technology transfers will then help to bolster our private sector and our national economy.

C: Describe your administration’s working relationship with the West Virginia Congressional Delegation. Do you see your administration working with them to include West Virginia in an economic recovery?
K: Both John Edwards and I have excellent working relationships with our Senate and House colleagues. Senators Byrd and Rockefeller are the West Virginia Co-Chairmen of the Kerry-Edwards Campaign. I have worked closely with my Senate colleagues during a 20-year Senate career to improve the lives of working Americans.

C: West Virginia is home to many traditional chemical, steel and coal industries. At the same time, West Virginia is entering the biotechnology, biometrics and energy markets. Will your administration work to secure the more traditional industry jobs in America as well as invest in the global future of technology and energy related industries?
K: The Kerry-Edwards economic plan will increase the ability of American firms to utilize the emerging technologies of broadband and energy businesses. I will invest in the industries of the future, including spurring innovation by manufacturing companies and investing in education and training. John and I believe that America can and must lead in the 21st century economy while giving our traditional industries a secure future, supporting the Clean Coal tax credit and ensuring steel manufacturers can compete on a level playing field. That also means we must continue to invest in technology and innovation so our economy stays on the cutting edge. That is also why my plan includes tax credits for all four years of college so that tuition is affordable and students can get the education they need to succeed in the 21st century.

C: A lot of companies are shifting their work overseas to reduce labor costs. What can be done to reverse this trend?
K: The Kerry-Edwards plan to spur manufacturing innovation and job creation will stem the tide of outsourcing and allow U.S. businesses to remain competitive in the world with a well-educated, innovative and motivated American workforce. I also know that our treaties with other countries must include fair labor and environmental standards. The Kerry-Edwards team believes that our nation can compete against any other country if given a level playing field.

C: How would your administration evaluate the success or failure of NAFTA?
K: NAFTA was designed to move us in the right direction on job creation including labor and environmental standards in trade agreements. We have learned that we should go further on labor and environment standards. As
president, I will ensure all future trade agreements include strong and enforceable labor and environmental standards, similar to the Jordan Free Trade Agreement. I will ensure NAFTA and future agreements do not allow investment rules to undermine environmental standards either here or in our trading partners.

C: Do we need a national energy policy and why?
K: The Kerry-Edwards energy plan will make the United States independent of Mideast oil. I have a forward-looking energy plan to reduce our dependence on foreign oil, ensure that American industries and ingenuity will lead the new energy economy and protect our environment. The Kerry-Edwards energy plan invests in domestic renewable energy sources, and improves auto fuel efficiency – and at the same time creates the new manufacturing and technology jobs of the future. Some of its major features include:

• Making Cleaner Coal Part of the 21st Century Energy Solution. I know coal is an important part of the solution to our energy challenges and that we need to forge new ways to develop and deploy new technologies to produce electricity more cleanly and efficiently from this abundant energy resource. At the same time I believe that we need more predictability and a flexible framework by which to measure and reduce emissions. I believe we must invest $10 billion over the next decade – a five-fold increase – to help transition to cleaner and more advanced coal-fired power generation.

• A New Energy and Conservation Trust Fund. This fund will be capitalized by existing oil and gas royalty revenues and dedicated to accelerating the commercialization of innovative technologies, such as the manufacture of more efficient cars and trucks, the development of biofuels and the creation of a clean, secure, hydrogen-based energy economy.

• Expanding the Supply of Natural Gas. I believe the United States should cultivate a long-term partnership with our neighbors and friends in Canada and Mexico to develop and expand North America’s robust energy supplies. By looking beyond our borders, as well as to our nation’s huge stranded gas supplies on the North Slope of Alaska, we have the potential to secure long-term energy supplies to help meet our demand for energy.

• Increasing Energy Efficiency. I will cut the Government’s energy bill 20 percent by 2020 – saving the Federal government $14 billion over the next 10 years – and will challenge municipalities, corporations, universities, small businesses, and hospitals to do the same. I will also provide tax credits for energy-efficient buildings and homes. The Kerry-Edwards team is committed to achieving a significant increase in the fuel economy of automobiles and will provide tax incentives for consumers to buy the efficient vehicles of their choice. To ensure that the cars of the future will be built in America, we will provide incentives for manufacturers to convert factories to build more efficient vehicles.

“You can hear the beat of patriotism and see the promise of our country leaping out of you every day in every community in our country. You can hear it on family farms, when the sun first rises, and from the factory floor, where the churning of machines are the sounds of America’s strength.”

–John Kerry
July 2, 2004
Secretary of State Joe Manchin tours the RCBI facility in South Charleston.
**Joe Manchin**

**Democratic Gubernatorial Candidate**

<table>
<thead>
<tr>
<th>NATIVE OF</th>
<th>Farmington, West Virginia</th>
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<tr>
<td>EDUCATION</td>
<td>B.B.A., West Virginia University, 1970</td>
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<td>OCCUPATION</td>
<td>Businessman - Manchin’s Carpet Center; Enersystems, Inc.</td>
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<td>former Gayle Connely of Beckley</td>
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<td>CHILDREN</td>
<td>Heather, Joseph IV, Brooke</td>
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<tr>
<td>GRANDCHILDREN</td>
<td>Joseph V, Sophie, Kelsey, Madeline, Chloe, Jack</td>
</tr>
</tbody>
</table>

**Political Background**
- 1982 Elected House of Delegates
- 1986, 1988, 1992 Elected West Virginia Senate
- 2001 Elected Secretary of State

**Community Involvement**
- President of the Marion County Rescue Squad
- Parishioner at Sacred Heart
- Member of the Knights of Columbus

**Key Issue**
- Top Priority: Job Creation
  - Good paying jobs with health care benefits

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**Capacity: What qualities should our next governor possess?**

**Manchin:** People are looking for someone they can trust. There is a trust factor. You do what you say and you say what you do. I think people are looking for someone with leadership, but also experience – understanding and being able to recognize that there is a way to do things and be successful. It’s nothing more than building off of successes that have proven to work.

I would say integrity, trustworthiness, honesty – those are the basics people are looking for. And I think credibility in numbers is also important. There’s no credibility in figures. They talk about how we’re going to be broke in 2010, but other people say we’re already broke. You know we’re not broke if you have a balanced budget amendment every year. You may not be able to maintain the size of government. That’s all. We’ll balance it and we’ll cut it. It’s a common sense approach. It’s got to be so much different than what we’ve done.

**C: What is the first thing you would do as governor?**

**M:** The first thing I will do is an inventory. I don’t know what we have. The county that does this best is Berkeley County. I can call Berkeley County any time and they can tell who’s having problems, who’s helping do what because they’re so fluid over there. They have to be.

They say, “Well, how are you going to get all of the economic development councils or authorities they have in other counties, every county has one, how are you going to get them all reporting and doing this and that?” I said, “Very simple. They are all looking for small city block grants, looking for economic development money. Well fine, they’re going to play by our rules then. And our rules will be that you will inventory on a monthly basis and do quarterly reports on everything you’ve done in your area identifying your problem areas.” So that when you read about something in the paper and you say, “Governor, what are you going to do about this?” I don’t say, “I didn’t even know about it. What do you mean what am I going to do about it?” I’m not going to deal with that. We will inventory.
C: How would you describe your leadership style?
M: Leadership means taking control of the situation. Right now the office of governor in West Virginia does not have the same opportunities of power as it did 20 years ago. And we need to look at that. We need to make sure the three branches of government are independent. All three are independent for a reason. And we’re looking at that. I want a good working relationship with the legislature and also with the judicial branch because we’re all in it together. I think they have the right to know what’s going on in the state, what our opportunities are and what our future looks like.

C: What is the greatest asset of our state?
M: The greatest asset is where we’re geographically located and our market. We are blessed with being in one tremendous, productive market. It’s a diverse buying market, one of the best in the world. It’s right around us. I would say our geographical location and our natural resources have been a blessing and a curse. We haven’t always taken advantage of them.

C: What is the greatest obstacle facing our state?
M: Our obstacle is attitude. We have gotten conditioned to fail. Also, we’re conditioned to accept government’s mediocrity. I try to relate everything to the consumer. I’ve been in the retail business all my life, and I knew I had to have a good product, the best value of the product I had, and I had to give satisfaction or I wasn’t going to have any more business.

Well, right now in government, no one expects satisfaction; no one is expected to give it. It is what it is. It took us about six months to a year to turn the attitude around in the Secretary of State’s office. We turned it basically to a retail mentality – “How can I help you? What can we do for you? We’ll have it done in 24 hours.” Everything is based on your satisfaction. We, as the consumer, are accepting mediocrity as the best. When you accept that, that’s all you’re going to get. So we want to raise the level of service.

You’re not only going to accept better service, you’re going to demand better service. Why not? If you buy a product and it doesn’t work, you’re going to take it back. If they fix it and it doesn’t work, you’re going to demand a new one. You have your taxes taken out; why shouldn’t you have the same type of attitude toward service in the government?

C: Will you work closely with the folks in Washington?
M: Absolutely. We have a great process that we’re working through. I have a great relationship with Senator Rockefeller and Senator Byrd. I’ve talked with Alan; we work well together. And I’ve also talked to Nick Joe and Shelley.

You know there are only five of them. We’ll keep them abreast as we expect to be kept abreast. Let them know what the conditions are. You have to have open dialogue. You can’t let them get on the floor or in a committee meeting or make a speech when they haven’t been given good information. And I would say the federal government has to be getting tired of the state government. They’ve given so much to let this go on. And I’d say they’ve got to be looking at us saying, “Wait a minute now. Enough is enough.”

C: How do you see manufacturing in your strategy?
M: The bottom line is manufacturing is your best paying jobs with benefits. And if the state of West Virginia cannot produce more good paying jobs with health care benefits, we’re going to have serious problems because we can’t continue to subsidize our lower income population. And what happens is everything gets shifted to the taxpayers’ money. Here is a person who is trying to work him or herself out, but there’s no opportunity. And when there’s no opportunity [people are] going to stay in the same place.

I have always said from day one – “Why in the world would I as the governor recommend spending your tax dollars trying to attract companies to pay six or seven dollars an hour with no benefit packages?” What we end up doing is paying twice. We get money up front and subsidize all of our workers on the back end. And I’m not going to do that. So, that means we go back to the good manufacturing jobs.

C: So you are concerned more with quality of jobs than just the number of jobs?
M: That’s what I’m concerned with. My main statement is there are market makers and market chasers. The Manchin Administration will be going after and investing in market makers. And that means you have to stabilize the market makers you already have. Where are your market makers? All manufacturing. Every one of them. They make the market. They make the town. They make a school district. They make it all.

C: Many in-state businesses resent the financial breaks that out-of-state companies receive. What is your stance on “giveaways” to attract business to West Virginia?
M: That will stop. But the bottom line is that in-state businesses will be treated as the preferred customer as somebody that we would go out and recruit. If you’re going to go out and spend that much money recruiting, then why can’t you put that much attention and resources into the people you have? We don’t take care of what we have. If you treat your family poorly, you’re not going to have many friends.

We’re going to have an Honor Roll Program – a business Honor Roll. I’ll just work backward on that one. If you’ve been in business for 10 years in the state of West Virginia, you’ve paid all your taxes, you pay a livable wage with health
care benefits, then we’re going to honor you for being that outstanding business. But also what we’re going to do is give you a one-time zero percent interest on capital investment. You want a loan – zero percent.

C: How will you attract new business?  
M: I understand market. I’m supplying and demanding the market. My marketplace is within a 10-hour drive. What do we do to make sure when somebody is looking that they don’t say “Well, West Virginia will give me $10 million and Ohio only $8 million, so I’ll go to West Virginia?” I don’t want that decision. I’m not going to be in a bidding war. They should be looking at West Virginia because we have more than that to sell, because we’re competitive. And Workers’ Comp is our Achilles’ heel. We’ve got to bite the bullet on some things and make some changes.

I have some specifics, but in more general terms – we will be competitive. We are going to compete. I’m sick and tired of being first in the worst categories and 50th in the best. You know we have an extraction mentality. An extraction mentality is we have coal, gas, oil, timber – an extraction mentality worked years ago, but it’s a global market now, whether you like it or not. We need to know what our marketplace is and know how we take advantage of our location. Let’s look at our positives and sell those. Once you find that and hone in on that, sell it.

C: Is there anything that, in your mind, is clearly a legislative priority?  
M: We’re working on things, talking with legislators. I’m trying to learn as much as I can about the different workings of each agency. I’ve asked agency heads to tell me five points of what we can do to make their offices run better. Without money – five things the government can do to help make you much more effective. And leave money out of it. I understand that everybody could use more money. Let’s just leave that out of it. You’d be surprised at all they had to say. It’s just unbelievable. Then if you get enough agencies to put them together, most of them will overlap. Then you start designing legislation. As long as they buy into it, you know they’ve got to be part of it. But we’ve got to identify the problems first. It’s not their job to identify the problem. We identify them and make sure the people will support them. We keep them informed all the way through, and then they’ll have enough support to make the needed changes.

C: Let’s imagine you’ve been governor now for eight years. It’s the end of your term. What does West Virginia look like?  
M: The West Virginia I envision is a person asking where you’re from and you’re not reluctant to tell them, “West Virginia.” You know all the jokes about West Virginians.

I would hope on that day you would wait in anticipation. Because your response would be, “You’ve probably heard about us in the Wall Street Journal. You’ve probably heard about our job opportunities, our job market, our educational system. You’ve probably heard about our vacation opportunities, tourism. You’ve probably been there to vacation in our mountains. And it’s a state you’ll probably want to relocate to.” Really. If we do it and do it right, we should be able to make that statement. And I hope we say that in the first or second year, not eight years.

Endorsements:  
AFL-CIO  
Citizens Organized for Political Action and Change (COPAC)  
Constructors’ Labor Council of West Virginia  
Independent Steelworkers Union  
Kanawha County School Service Personnel Association  
Laborers’ District Council  
Mid Atlantic Regional Council of Carpenters, WV District  
National Association of Senior Citizens  
National Association of Social Workers Action Committee  
State Farm Agents PAC  
United Mine Workers of America (UMWA)  
United School Service Employees Association of WV  
United Steelworkers of America  
United Transportation Union  
West Virginia Automobile & Truck Dealers Association  
West Virginia Deputy Sheriff’s Association  
West Virginia Education Association  
West Virginia Executive Magazine  
West Virginia Fraternal Order of Police  
West Virginians for Life  
Wheeling Fire Fighters, IAFF Local 12

For more information about  
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Charleston, WV 25311  

Phone: (866) JOE-2004  
Fax: (304) 720-4987  
Email: joe@manchin2004.com  
Website: www.manchin2004.com
Monty Warner visits with industrial workers in Kanawha County, West Virginia.
Charleston, West Virginia

Businessman - President of The Square at Falling Run, Morgantown, W.Va.
Former Janie Martin of Fayette County
Payne, Joey, and Nicki

Graduate of West Point, commissioned U.S. Army
Captain commanding artillery batteries, Fort Ord, CA
Lt. Colonel commanding field artillery battalion, Seoul, Korea
Lt. Colonel commanding paratrooper battalion, Ft. Bragg, NC
Colonel on the staff of the Joint Chiefs at the Pentagon, Washington, DC
Colonel as inspector general of the WV National Guard, Charleston, WV

Elder and Sunday School teacher in his church

Jobs, Civil Justice Reform, Workers’ Comp, Education, Corruption, Taxes, The Second Amendment, Leadership

**Capacity: How would you describe your leadership style?**

**Warner:** My leadership style has been crafted from my experience of 25 years in the military and four years at West Point. The U.S. military is the greatest leadership training system in the world because it teaches not only the motivation and leadership of people but problem solving and crisis management. Military leadership, especially in the U.S. Army, is very people oriented. American leadership is being successful in positions of greater and greater responsibility. You acquire greater and greater reach of responsibility as your capacity to serve more people grows. The leader is the servant of the people in any organization. That is what you’ll see in the leadership style for my administration, one of involvement of all parties.

**C:** What is one of the first things you would do as governor?

**W:** The first thing we are going to do is to fix our court system. When I say fix the court system, I mean that the first act of the next legislature will be to allow non-partisan election of judges to take place in West Virginia. If that happens, you would have a Supreme Court that may consist of Bob Kiss, Spike Maynard, Robin Davis versus the one we currently have. We can’t fix anything until we put in motion something that will keep us from having the majority that exists now and we cannot change that until we have the election of non-partisan judges.

So that is number one – fix the courts. If we don’t fix it in November by electing the right justice to the Supreme Court, in January we must pass non-partisan election of judges. Starcher, Albright and McGraw can see the writing on the wall. They will never be elected again in West Virginia. They can choose to move on and find something else to do with their lives or they can choose to wait for the next election when they will certainly be beat. We will change not only the Supreme Court, but the circuit courts too because the circuit courts feed the Supreme Court. Eventually, we will do it for all the magistrates. We do not need a constitutional amendment as it is already allowed in
Continuing along this path, I will rein in joint and several liability lawsuits similar to what was recently passed in Mississippi. We’ll go after third party bad faith lawsuits. These measures, coupled with the non-partisan election of judges, will start growing the insurance industry again in West Virginia. Then you will be able to start getting insurance at a reasonable rate comparable to the states around us, because all of a sudden we will not be abusing the insurance companies and running them out of the state. That goes across the board for homeowners’ insurance, car insurance, you name it. All of those costs will be reduced once we fix our court system.

**C:** In general, how do you view the relationship between the state and D.C.?

**W:** When General Tackett took over [the National Guard] a number of years ago, a good old Cabin Creek boy, he said, “Hey, if you look at a map we are not too far from Washington. Now I want every one of you colonels to grow an association in Washington where you start doing your own lobbying effort at the right appropriation level so that we can get as many resources out of Washington as possible.” We’re blessed in West Virginia by our close contacts with the nation’s capital. We have an ability through our governor and our elected officials to work every day with those federal government authorities who are making decisions that can mean millions and millions of dollars to the people of our state. Of course, we have to do a better job of being good stewards of those federal funds, and of the taxpayers funds that we collect at the state and local level.

**C:** Would you see your administration working with some of the federal investments that have already been made in West Virginia?

**W:** It is great to see what the hard working people of West Virginia have done already with some of the federal investments. It is interesting to see what persistence has done with some of the aerospace technology in the state. We have a few defense companies up on the northern corridor from Morgantown to Fairmont and it’s great to drive around the state and see a Honeywell or a Rockwell sign and see that we do have some aspect of the defense industry in West Virginia. I would like to work with these companies and try to bring more businesses into the state through federal investments already made in West Virginia. Particularly, I would like to have more of the health care producing and manufacturing side of health care located in West Virginia. The result of having a greater number of doctors and nurses here is a great manufacturing component to the health care industry. We ought to be a part of it and my administration will work with the appropriate companies to make this happen.

**C:** As governor, how would you use and promote technology inside state government?

**W:** State government can probably be handled by 28,000 people who are tooled and educated and have the technology to provide the services to make it more efficient. Currently we have 40,000 state employees that are underpaid deliberately so they have to have food stamps to get by day by day and oftentimes to put food on the table. They are not cross-trained in terms of what’s productive in the private sector. They are not retooled or retrained. That’s a government that is inefficient and incapable. It’s not savvy in terms of technology use or what is going on in the private sector.

Ideally what we want to do is to have 28,000 workers instead of 40,000 and we want to pay them more on a comparable scale to the private side. Ideally what would happen over a career pattern is a person would be in and out of the government four or five times during a career path. What does the government gain from that? A much more productive workforce, a much more capable workforce. The private side benefits, the public side benefits. What we have right now is a horrible system, the worst of the worst. It’s too big, it’s inefficient, they’re not up-to-date, they’re not savvy in terms of technology and they move at a snail’s pace while the private world buzzes by at lightning speed, digital speed. That cycle can be broken when we raise salaries comparable to the private side so people can feel free to move in and out, and we can get the benefit out of hiring people from the private sector and the public sector.

**C:** How do you see manufacturing in your strategy?

**W:** The priorities to me are work, labor and jobs. When we look at what we have in the state in terms of natural resources and geographic location, we should be a hub of activity. We benefit from our geographic location and our resources. It is a natural fit. People figured it out long before the time you and I figured it out. Why else would you have glassworks created where they were? This was a matter of convenience to keep transport costs down. We can produce the product as cheap or cheaper here, especially with the productivity, and we can ship it for a savings in the terms of cost because we have great water transport and good rail transport. We are close enough geographically to population centers that we should benefit from location, and we should be able to have manufacturing jobs here rather than elsewhere. The best thing I could do is get government out of the way to allow that to occur.

The things that keep anyone from doing that right now are the Workers’ Compensation system and the court system. West Virginia has become a favorite place to bring lawsuits. The greatest thing I could do for manufacturing is to reduce government’s ability to regulate you or for trial attorneys to sue you. Insurance companies will locate in West Virginia...
once we fix our court system and that will bring your Workers’ Compensation rates down to compete with neighboring states. The second thing I could provide for manufacturing are tax incentives to retool and recapitalize equipment. It is going to be a priority in my administration.

C: What topic do you feel is important that we have not asked you in this interview today?

W: It is interesting for me to listen to the competition. It is very easy to run out and say “If you want something, I’ll give you anything you ask for….I tell you I am going to give it to you because I know I can enjoy your vote in the end.” That’s the way West Virginia politics has worked forever. I am constantly amazed as I listen to the people who promise the world everything. How can you tell people that? My view of government is that they provide the basic infrastructure, the security for the nation, education and justice. Give me those basic things and watch the people go to work. A free market economy has only worked every time it has ever been tried. We as the people will become productive and profitable when our people are on a level playing field.

We can compete with anybody. We’ve done it industry after industry after industry. For example, our National Guard is the best National Guard in the entire country. Fifty states, four territories – we have been named the top National Guard for seven years in a row. We can compete.

Businesses are suffering in West Virginia. In this state, they do not have Workers’ Comp rates comparable to neighboring states. They do not have business taxes as low as Virginia and Kentucky. We need to change the underlying problem to these issues and that is the civil justice system. There is so much more to it than saying I’m going to put up a sign on every highway coming into West Virginia that says “open for business.” So you hang a sign, what difference does that make if nothing has changed in the state to make business want to locate in West Virginia? What is going to get a business to pull out of Bluefield, Va. and move to Bluefield, W.Va.? You are going to have to change the court system, you are going to have to change the Workers’ Comp system, you are going to have to end the entitlement mentality of lottery lawsuits. That is going to end and we are going to return to a government that represents the people.

C: Let’s imagine you’ve been governor for eight years. It’s the end of your term. What does West Virginia look like?

W: We would be 2 million people and growing. That would be a ten percent increase in population. That is a very bold goal; you don’t put a goal on the wall, say 2 million and growing, and make it happen. There has to be a change in mentality. Over a period of decades we have seen population decrease, decrease and decrease. We have communities dry up and go away. Our natural inclination is to think the population is going to continue to shrink and the tax base is going to continue to shrink. Our process is how we think it is. We are going to turn that around.

I would look for a workforce, a state workforce of about 28,000 that will take in attrition so that it won’t be too dramatic for anybody. But that workforce will be savvy in the terms of technology, capable, cross-trained and easily moved from the private sector to the public sector so that the public sector benefits from everything that is going on in the terms of private sector technology and advancement. What you will have is a population of 2 million and growing. Therefore, we can justify and rationalize such things as regional airports or infrastructure improvements in the terms of transportation because there will be a demand for it.

You will have a court system that will give justice to everyone and not just a select few, a Workers’ Compensation system that gives us comparable rates to what Kentucky and Virginia enjoy, and a tax system that will tax your business no more than if you were doing business in Kentucky or Virginia. With 2 million and growing, you will have a place where West Virginians are returning. There are 600,000 to 700,000 to 800,000 West Virginians that have left the state. Half of those people would love to return to the state if the state would ever turn itself around. We would have a migration turnaround. People will move back.

Endorsements:
West Virginia Family Foundation
West Virginia Farm Bureau
Gun Owners of America

For more information about Monty Warner, contact:
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Email:  info@honestchangenow.com
Website:  www.honestchangenow.com
“Only through continued investments in plant, equipment and human resources, will our manufacturing sector weather the competition.”

DAILY WE HEAR bad news regarding manufacturing in West Virginia. Flexsys has shut down its Nitro plant, which was one of the largest domestic producers of rubber chemicals. International Steel Group purchased Weirton Steel’s assets and now is operating the plant with significantly fewer employees than four years ago. Layoffs have been announced at Elkem Metals because of high prices for steam coal.

Outside of the mining and utility sectors, manufacturing wages are among the highest of any industry in the state. In 2003 manufacturing wages were 44 percent higher than all private sector wages, but it’s no wonder that many West Virginians are concerned about the future of manufacturing in the state. In 1980 payroll employment in manufacturing averaged 117,200; however, by 2003 this had declined to 64,700 on average – a loss of 45 percent. The resulting plant downsizings and closures have major consequences in local communities across the state.

So any slippage in high-paying manufacturing jobs has profound implications for West Virginia wage earners and their families. With a per capita income rank of 49th out of the 50 states, West Virginia will drop to last place if these jobs are lost.

The shrinkage in manufacturing has been experienced in other states. From 1999-2003 West Virginia’s manufacturing payroll employment declined at an annual rate of 15.5 percent compared to the following surrounding states: Ohio – down 17.1 percent, Pennsylvania – down 16.7 percent, Kentucky – down 12.1 percent, Maryland – down 12.7 percent, and Virginia – down 17.8 percent.

So is there a future for manufacturing? Dr. George Hammond, Bureau of Business and Economic Research at WVU, has released his 2004 Economic Forecast, which shows uneven employment growth forecasts through 2008.

Some manufacturing sectors will grow, while others will continue to reduce employment levels. For example, continued consolidation in primary metals and chemicals will result in job and payroll reductions in those sectors. Since many of these jobs are located in the Northern Panhandle, the Ohio Valley and the Kanawha Valley, communities clustered around these plants will be adversely impacted.

On the other hand, continued strength in wood products and transportation equipment will lead to additional hiring and income in other parts of the state. It appears that the continued deterioration in manufacturing is coming to an end. The growth in the U.S. economy and the increasing competitiveness of the dollar
EMPLOYMENT AND WAGES IN WEST VIRGINIA IN 2003

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WV ECONOMIC OUTLOOK FORECASTS FOR MANUFACTURING (IN THOUSANDS OF JOBS)

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on foreign exchange markets bode well for future manufacturing growth.

On the other hand, continuation of high energy prices, particularly natural gas, reduces the competitiveness of our chemical industry in international markets. A recent study by Economy.com, a major economic consulting firm, indicates that 6.7 percent of the 2003 manufacturing jobs in West Virginia were lost because of import competition. Workers in some manufacturing sectors will continue to feel the heat from foreign competition and plant managers will work hard to increase the productivity of their operations. Only through continued investments in plant, equipment and human resources will our manufacturing sector weather the competition.

Should manufacturing have a higher priority in state economic development efforts? Some might argue that manu-
facturing is already a high priority given the West Virginia Development Office’s targeting of such areas as motor vehicles, plastics, chemical, biomedical, energy and environmental technology, all of which involve manufacturing to some degree. The newest initiatives involve industries such as biometrics, biotechnology and composites, all of which have manufacturing elements that didn’t exist 10 to 20 years ago. These efforts have led to recruitment of some new plants and jobs as well as retention and reposition of existing plants. Unfortunately, even the best efforts and intentions cannot keep an uncompetitive plant from closing. However, West Virginia must seriously consider placing a higher priority on manufacturing because of the sector’s value in wages for workers and their families, the productivity it engenders and the impact this sector’s purchasing power causes throughout the country.

Periodically we need to reassess state policies and practices, particularly as we get new information on West Virginia’s manufacturing performance relative to other states. By benchmarking the current recovery in manufacturing, policy makers will have sound knowledge on which to recommend changes in manufacturing development strategies. But what policy makers enact is only part of the answer; the real proof lies in actions and results.

Industry decision makers examine a wide variety of factors in making plant location decisions, among which are tax and social insurance policies, energy and raw material availability and costs, transportation networks and human capital productivity. Some of these are difficult to overcome in the short run; however in the long run, investment in human capital through workforce development programs is essential for long-term economic growth.

I once visited an old, ramshackle restaurant near Oxford, Mississippi. As I approached the front door I saw a sign that said – “If you don’t eat, we both starve!” Those of us in higher education recognize the importance of manufacturing to our state’s economic future. Through organized programs such as the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI), West Virginia University Manufacturing Extension, Industries of the Future, and my own college’s Center for Executive Education, Center for Chinese Business and Executive MBA programs, we extend our expertise and services to assist West Virginia manufacturers in becoming more competitive and entering new international markets. We visit manufacturing firms throughout the state to learn firsthand about manufacturing. These visits allow us to develop effective and responsive strategies directed toward improvements in manufacturing productivity as well as developing new markets for manufacturing products.

If our development strategies and educational programs are properly aligned to support West Virginia’s manufacturing sector, manufacturing will continue to have a positive future in our state. And no one will starve.
WEST VIRGINIA HAS a history rich in manufacturing, from the first production facility – a paper making concern located in Jefferson County in the late 18th century – to some of the newest manufacturers – making parts for the automotive industry. The diversity of our products is astounding. They include marbles, charcoal, pharmaceuticals, and china; kitchen cabinets, reproduction antique furniture, and art glass; flooring, building products, bathtubs and spas; bread, jams and jellies. It’s hard to think of something we don’t make here – or couldn't make here, if given the opportunity.

Manufacturing is vitally important to the economy of West Virginia. But what do West Virginia manufacturers bring to the state? Simply put – a lot. They bring jobs with good wages and benefits. In 2003 manufacturers paid an average weekly wage of $786, which translates to a total of $2.6 billion dollars added to the state’s economy. Manufacturers are responsible for more than $2 billion of the state’s total export of $2.3 billion. Thus, products made in the Mountain State are finding their way all over the world, making the world a better place to live. And our members play a significant role in their communities. Our members are involved in activities with local civic clubs, schools, hospitals, and our YWCAs and YMCAs.

But manufacturers are facing tough times, be they large or small. We find ourselves facing a time when manufacturers are struggling to get product out the door. Our jobs in the manufacturing sector continue to shrink, making it difficult to retain the young adult population searching for good jobs as graduates exit college and enter the job market. According to the Bureau of Business and Economic Research, West Virginia will continue to lose those young adults in the 18–44 age bracket through the year 2014. We are doing a great job of educating our children, but a lackluster job of providing them opportunities to remain in the state after graduation.

The obstacles facing manufacturers who want to continue to expand their operations in West Virginia are many, including:

- High insurance costs: health, property and casualty, product liability.
- A Workers’ Compensation system with premiums far beyond what their counterparts pay in other states.
- A court system that threatens basic fairness to litigants.
- Environmental regulations that can be overreaching.
- High energy costs.

Although these words are simple to write, the determination and leadership needed to successfully execute reforms will have to be focused and will take cooperation from all parties involved. Change will not occur overnight but if we begin now, we are hopeful that the state would begin to see a significant movement of manufacturing renewal in the next five years.

We can all point to the tremendous domestic and international competition our manufacturers are facing and think there is nothing we can do to turn the tide, but we can. The leadership of our state and our policy makers can begin to change the face of manufacturing for the better. In January 2005 we will have a new governor and newly elected members of the legislature. The West Virginia Manufacturers Association will have a package of legislation to advance that will focus on several of the areas mentioned in this article. We are eager to work with the state’s leadership to ensure that we are successful.

There are several other actions we suggest that the state takes to begin to focus on an agenda for manufacturing renewal. We recommend consideration of a state advocate for manufacturing who would have the responsibility for reviewing all regulations and legislation to ensure they will not harm our existing and future manufacturing base. We further recommend the Senate and House of Delegates consider the appointment of a bi-partisan manufacturing caucus to raise awareness of the need to expand manufacturing in West Virginia. And we encourage measures that will result in more research and development taking place in West Virginia. If we develop the product and can take it to the first level of manufacturing, we will see more and more opportunities open to us.

The issues presented here are not new. But if West Virginia wants to grow opportunities for more manufacturing, better jobs and better wages, we need to act now – not later.

Karen Price, President of the West Virginia Manufacturers Association.
Toyota’s Success Demonstrates What West Virginia Has to Offer
Even before its new plant was in production, Toyota announced not one, but two major expansions at Buffalo: one to build V-6 engines and the other to turn out automatic transmissions – the first Toyota transmissions to be built outside Japan. The two expansions boosted the company’s Buffalo workforce to 800.

Then in 2001 Toyota chose the Buffalo facility to build engines and transmissions for its Lexus RX330 sports utility vehicle, adding another 200 workers.

Now, Toyota is at it again. Earlier this year, the company announced its fourth major expansion at Buffalo, this time adding 50 workers who will make transmission gears.

In remarks at the April 12 announcement of this latest expansion, U.S. Senator Jay Rockefeller, D-W.Va., labeled the Toyota complex at Buffalo “the largest industrial venture in West Virginia in over 50 years.”

That assessment by Rockefeller – who is widely credited with helping lure Toyota to West Virginia – is hard to dispute. Indeed, there are few recent private industrial investments in the state that would come close to matching that of Toyota. Its impact on West Virginia has proven to be multifaceted, including:

- A total investment of roughly $1 billion.
- The creation of more than 1,000 jobs.
- An annual payroll of approximately $45 million.
- A generous program of charitable, civic and educational donations.
- An important intangible – credibility.

While Toyota’s investment at Buffalo has made it a key player in the West Virginia economy, ultimately its greatest impact may be that its presence puts an unofficial “seal of approval” on the state. Toyota’s decisions, first to come to West Virginia and then to undertake a series of major expansions, have put the state on the map for business and industry leaders in a way that was never the case before.

Steve Spence, director of the international division of the West Virginia Development Office, said, “When Toyota selected West Virginia, that helped give us recognition in Japan. Japanese companies are aware of California and New York. For them to hear that Toyota, a company they respect, was here, it was a significant step for us.”

Today, when a company is looking for a new plant site, Toyota executives can relate their company’s positive experience in West Virginia – and have shown themselves more than willing to do so.

When Toyota planners first started thinking about building a new engine assembly plant in the United States, it’s unlikely that West Virginia was initially on their list of locations to consider. Nonetheless, when they took a look at the state, they obviously liked what they saw.

Toyota and state economic development officials alike credit Rockefeller for beginning the long courtship of the Japanese automaker. Rockefeller himself traces his determination to bring Toyota to West Virginia to a tour he made of a Toyota plant in Japan in 1986.

Rockefeller has shown a lifelong interest in Japan and the Japanese.
As a young man, Rockefeller, the New York-born member of a legendary family whose very name is synonymous with great wealth, seemed destined for a career as a Far East expert.

In 1957 Rockefeller was just a year away from his graduation at Harvard when something—even after all these years he says he’s not exactly sure what—prompted him to flee the campus for Japan, where he spent three years studying that nation’s culture and language.

Today, Rockefeller recalls that during his years at International Christian University near Tokyo he spent much of his time simply trying to fit in. That’s not easy when you’re a gangly 6 foot and 6 inches tall, and the only other Americans most of your new Japanese friends know are members of the U.S. military. But Rockefeller says he was welcomed with “open arms” and swore to repay that kindness.

“I tell the Japanese in my speeches, ‘Do you think I’m ever going to forget that? You will be welcome here. We will kill ourselves to help you.’ I take that on as a personal responsibility.”

When he returned to this country from Japan, Rockefeller quickly finished his degree at Harvard and then shuffled papers for a while at the Peace Corps and the State Department. He recalls that, feeling restless with what he was doing in D.C., he wanted to go somewhere where he could make a difference.


Thus, in 1964 Rockefeller, on assignment as an anti-poverty worker for the VISTA program, turned up in Emmons, one of the smallest—and poorest—communities in Kanawha County. Rockefeller says that when he came to West Virginia, he “was going to stay for a year, then move on somewhere. Maybe go back to Japan. Then one year became two, and eventually I just decided this was what I wanted to do, where I wanted to be.”

Forty years later, Jay Rockefeller still calls West Virginia home and has served his adopted state in a long series of elective offices—as a state legislator and secretary of state, two terms as governor and, since 1985, as a member of the U.S. Senate.

As a senator, Rockefeller has involved himself in a wide variety of issues. He was one of the legislative architects of the Children’s Health Insurance Program (CHIP). When the Democrats held the majority in the Senate, he chaired the Senate Committee on Veterans Affairs. The War on Terrorism has seen him often in the news as a member of the Senate Intelligence Committee.

Rockefeller has conducted a personal crusade to attract foreign investment to West Virginia. He created the Discover the Real West Virginia Foundation to host visits by foreign business leaders and to conduct trade missions abroad.

On one of his many visits to Japan, Rockefeller met Dr. Shoichiro Toyoda, the legendary chairman of Toyota, and the two began a relationship that over the years ripened into
a friendship. The bond was an important factor in prompting the company to consider locating in West Virginia.

International experts say that attracting Japanese investors is almost always a lengthy process. “Establishing personal relationships is the key,” says Rockefeller. “You keep going back, and going back and going back.”

In 1994 Japan’s NGK Spark Plug Co. announced plans to build a new plant just off Interstate 77 at Pocatalico, the result of years of work by West Virginia officials – aided by Rockefeller’s friendship with the company’s former chairman, Shuji Ogawa.

The success of NGK’s plant helped pave the way for Toyota’s decision to build at Buffalo. The official announcement came in May 1996, and groundbreaking followed that fall. Two expansion announcements followed before the first engine was produced at the plant in December 1998.

Toyota’s choice of West Virginia sent a message, says former Gov. Gaston Caperton. “I think it made everyone realize what we could do,” he says.

Rockefeller says Toyota has demonstrated that West Virginia can very much compete in the global economy and West Virginia workers can match the skills and dedication of workers anywhere.

“Toyota continues to succeed in West Virginia because it has a superior business model based on a commitment to quality, a zest for innovation and a workforce second to none on the planet,” Rockefeller said in his April 12 remarks. “Toyota and West Virginia are a formidable team, and this latest expansion announcement is a message to the world that we’re here not only to compete, but to win.” ☀
In 2002 Diamond Electric Manufacturing Corp. in Eleanor became the first auto parts manufacturer in West Virginia to land a contract to supply the Toyota Motor Corp. engine plant at nearby Buffalo.

Diamond Electric, a Japan-based company, actually arrived in West Virginia before Toyota, but it had to work six years before it won a contract to supply ignition coils to the plant at Buffalo. Initially, Diamond Electric’s Eleanor plant made coils for DaimlerChrysler. Later it became a supplier to Toyota’s plant in Georgetown, Ky., and since has added Ford Motor Co. to its roster of customers.

Toyota signs a contract with a new supplier only after that company’s successful completion of an exhaustive evaluation process.

As described by David Copenhaver, vice president of Toyota Motor Manufacturing-West Virginia, Toyota uses the “pull system” of manufacturing instead of the “push system” traditionally favored by U.S. industry. “Under push systems,” he explains, “plants produce products and send them to market in hopes of finding a buyer.” In contrast, Toyota’s Buffalo plant doesn’t build an engine or transmission until it receives an order from one of the company’s assembly plants.

“Once we receive an order,” says Copenhaver, “we then begin to pull together all the parts, materials and resources required to build that engine or transmission.”

A key to the success of this “pull system” is a network of dependable suppliers who are capable of providing quality parts, materials and services – and delivering them precisely when they’re needed.

But even companies that still use more traditional methods of manufacturing are increasingly finding that the demands of today’s global marketplace require that they pay more attention than ever to the goods and services they use. Issues of cost, quality and time to market have become critical.

For many manufacturers, this evaluation has convinced them to focus their investment and attention on their core capabilities, while procuring from other companies the rest of the goods and services needed to produce their end products.

As the range of products and services provided by suppliers has become ever larger, managing these supply chains has become increasingly complex. And successfully doing so has become especially challenging for small and medium-sized manufacturers.

Bluntly put, a supply chain revolution is reshaping American industry, and it’s one that small and medium-sized manufacturers cannot ignore if they are to remain competitive.

Recognizing this, the National Institute of Standards and Technology (NIST) and the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI) requested that the National Research Council (NRC) identify the new, more demanding requirements for supply chain participation and recommend ways that small and medium-sized manufacturers could be assisted in addressing them.

In response, the NRC established the Committee on Supply Chain Integration, which conducted a survey of randomly selected small and medium-sized manufacturers and invited a number of small, successful suppliers to participate in a firsthand exchange of ideas about the challenges and problems they face.

The committee found that, although there is great diversity in the nation’s manufacturing sector, most successful small and medium-sized manufacturers possess a number of common characteristics. Those companies who would join their ranks, the committee wrote, must take the following key steps:

- Engage in meaningful strategic planning, not just budgeting.
- Increase their financial, managerial and technological strengths.
- Add value to their products and integrate more closely with their customers.
- Integrate their own supply chains to reduce costs and improve performance.
RCBI has developed a number of innovative ways to help small and medium-sized manufacturers take these steps at reasonable cost.

“Our 21ST Century Manufacturing Network was directly patterned after the NRC study,” says RCBI director and CEO Charlotte Weber. “It’s an attempt to put into practice what we discovered in the study.”

Bringing together the areas of electronic commerce, electronic data interchange, technical education, and computer and network systems integration, the 21ST Century Manufacturing Network provides manufacturers with a central, “virtual” location for business assistance resources and on-line bidding for government contracts. More than 275 manufacturers participate in the network.

RCBI’s manufacturing network has helped increase the number of contract awards to small and medium-sized manufacturers in West Virginia to more than $110 million since 1997.

These include, for example, a $2.5 million contract to FMW Composite Systems of Bridgeport for titanium matrix components for aircraft landing gear for the military’s new joint strike fighter; a $1.2 million contract to Star Technologies of Huntington for steel components for the Abrams tank and Inconel alloy brackets for military aircraft; a $500,000 contract to Mustang Survival of Elizabeth for military-issue flotation devices and other life-saving garments and equipment and a lucrative contract to Walhonde Tools Inc. of South Charleston for its patented aluminum pipe alignment tools, which are used by the DoD and NASA.

“RCBI is positioned to work closely with the region’s manufacturing sector to match the critical needs of Defense Department agencies and their prime contractors to West Virginia manufacturers’ highly technical abilities,” says Weber.

“It’s being demonstrated right here in West Virginia that because of our manufacturers’ capabilities, they can produce as quality links in supply chains so good-paying jobs remain here at home in West Virginia, instead of going off shore.”

And that, reduced to its basics, is a textbook example of what the supply chain revolution is all about and how it’s reshaping American industry.

In the past, small and medium-sized manufacturers that failed to keep pace with changing trends gradually became less competitive. Today, as a result of technology’s rapid advance and the explosive growth of the Internet and e-commerce, manufacturers who don’t keep abreast of what’s happening are courting disaster, which can seemingly strike virtually overnight.

The other side of the same coin, however, is a remarkable opportunity for those manufacturers that are savvy enough to recognize that fact and do what has to be done to take advantage of it.
For proof just ask anyone at FMW Composite Systems Inc. in Bridgeport, Mustang Survival in Elizabeth or Industrial Plating & Machine, Inc. in Princeton. These companies and more than 275 others are participants in the 21ST Century Manufacturing Network at the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI). As a result of each manufacturer’s participation in the online network, these companies have grown their businesses through contracts identified on the RCBI network.

With the click of a mouse by logging on the RCBI network (www.21stmanufacturing.org), the owners and operators of even the smallest manufacturing companies can access Department of Defense (DoD) contractors as well as other government agencies and learn about contract opportunities throughout the commercial or private sector – both domestically and internationally.

Access to the online clearinghouse of contract opportunities at RCBI means that dollars flow into the state and region. Since the RCBI network began in 1997, approximately $125 million in contracts have been awarded to its participants. These contracts range from the manufacture of textiles, metals, composites-materials and electrical components to weapons systems platforms as well as spare or repair parts for military and commercial vehicles.

A vital economic development tool, the RCBI network links the state’s and region’s manufacturers to global opportunities as well as those from other participants in the network or those from larger contractors in the state. For example, two long-time network participants – High Performance Heat Treating, Inc. and Tri-State Plating & Polishing, Inc. – both in Huntington, regularly receive calls from other network participants that need subcontracting assistance on prime contracts they have received. Such network subcontracting provides heat treating and plating services that are essential to the success of the prime contract.

“Opening up markets, realizing otherwise-untapped opportunities and recognizing good partners is crucial to success in business today,” notes Charlotte Weber, director & CEO of RCBI.

A current example of opening markets for the state’s manufacturers is seen at Industrial Plating & Machine, a
manufacturer of hydraulic cylinders that primarily serves the heavy-equipment market and energy sector. By participating in the RCBI online network, a productive new contract involving fabrication for the U.S. Navy has been identified for the company.

Laura “Jo” Nuce, the special projects manager at Industrial Plating & Machine, says her machine shop is in the process of working with the military prints for the fabrication job and, working closely with RCBI, she is busy preparing her company’s Navy bid proposal so it is assembled properly. “We feel we’re very competitive on this job and we’re exceptionally happy with RCBI’s assistance.”

Another new market opportunity for the Mercer County machine shop also came from introductions through the RCBI network. This opportunity involves work for the NASA Goddard Space Flight Center in Greenbelt, Md. Recognizing the unique capabilities of Industrial Plating & Machine, RCBI brought the two together in an effort to capture additional work for West Virginia.

The network at RCBI has opened new doors of opportunity for businesses. Through RCBI guidance, manufacturers are aware of opportunities that otherwise would not be available. “RCBI is opening up opportunities for us that we’re excited to have and linked us to ones we would have no other way to reach,” Nuce said.

Weber points out that RCBI opens such market opportunities by breaking down the costs associated with tapping into these markets through access to the 21st Century Manufacturing Network. RCBI then works daily to assist the state’s manufacturers to become more competitive in finding and competing for contracts.

Bob Daidone, the senior vice president of operations at FMW Composite Systems Inc. in Bridgeport, cites participation in the RCBI network as the prime reason that his company, which manufactures components for commercial aircraft, unmanned surveillance aircraft and other military vehicle needs, has been able to open new markets with NASA and the DoD.

“We’ve submitted bids at NASA and won contracts for work at the space agency that, without RCBI, we otherwise wouldn’t have,” Daidone said.

“Simply because of the nature of the advanced composites materials required for astronautics applications,” he notes, “with connections through the RCBI 21st Century Manufacturing Network, we were able to get this work in our shop. And because of RCBI helping us with technical training and technology assistance, we were able to complete the work.”

Daidone explains that the overall project for NASA that FMW was initially contracted to perform grew much larger than originally anticipated, which demonstrates the high quality of the work that the West Virginia manufacturer is capable of producing.

After the NASA project’s success, FMW Composite Systems also placed a bid on a major DoD contract that was awarded to his company and Daidone also expresses his company’s appreciation of the RCBI network’s impact by noting this subsequent DoD order. The DoD project involves research and development with a unique composites material that has applications that enhance a major weapons platform used internationally by the U.S. Navy Strike Fighter Wing.

“I can’t overstate how critical the connections through the RCBI 21st Century Network as well as the Institute’s technical assistance efforts were in helping us get this new business in our shop here in Bridgeport,” Daidone concludes.

Through participation in the RCBI network and by helping grow and feed the supply base of prime contracts awarded to and by these agencies and markets, West Virginia manufacturers do more than become more competitive themselves, RCBI’s Weber notes. They also contribute to our nation’s defense needs by offering the DoD and other agencies the opportunity to reduce costs associated with “sole source” commodities by presenting an alternative to the high cost of dealing with a single supplier. Weber says this critical effort is the very mission that RCBI was created to accomplish by developing, maintaining and enhancing a quality supplier base of manufacturers to meet the dual needs of the military and private sector.

The ongoing assistance available all across the network means its participants can expand and grow their business-
es. And by ensuring that crucial technology is in place, the network assists participants in keeping ahead of the game by making them privy to the latest standards and regulations. Participants also receive assistance in preparing bids as well as statewide access to state-of-the-art and state-of-the-market manufacturing equipment at RCBI to perform work on their subsequent awards.

For example, 21ST Century Manufacturing Network participants enjoy access to a library of common military specifications noted in Technical Data Packages of bidding opportunities from the DoD. However, these military standards are often superceded by commercial specifications. RCBI assists network participants by identifying the current standard as well as notifying participants of changes to military specifications, such as contract opportunities that now require 2D Barcode labeling.

Because specifications and data are constantly changing, the RCBI network’s focus ensures that participants remain on the forefront with the latest, up-to-date information they need to grow and succeed. Another way this is done involves identification of the correct contact information at government agencies so individuals there can provide the answer to questions from network participants who are preparing bids and need insight into the project.

Network participants also take part in contracting workshops that are geared to the agencies that need their products and services. In June the Defense Supply Center Columbus (DSCC) presented a workshop at RCBI that focused on how machine shops can conduct business with defense agencies such as the DSCC.

The DSCC in Columbus, Ohio manages more than 1.6 million different items, which include spare and repair parts for weapons systems as well as land, maritime and missile support items. In FY2003 alone, the DSCC awarded more than $1.5 billion in contracts to small manufacturers across the nation.

“Our June seminar focused on particular strategies for reviewing and successfully competing for defense acquisitions opportunities,” said Erin Brown, business development/procurement assistant at RCBI. “We want participants in our 21ST Century Manufacturing Network to have all the opportunities they can to bid, compete and grow their businesses; this seminar is just another in a series of ways that the RCBI 21ST Century Manufacturing Network makes manufacturers more capable of succeeding.”

Not only do network participants have access to contracting workshops, but participants are also notified about vital issues that concern them via the 21ST Century Manufacturing Forum. Issues can involve a recent proposal from the U.S. Small Business Administration to restructure its “small size” standard or the interim rule concerning representations and certification clauses put in place for federal contracting that addresses specific changes dealing with the North American Free Trade Agreement (NAFTA), end items from prohibited countries and clarification in defining and certifying as a service-disabled, veteran-owned, small business concern. These issues are critical for small manufacturers as they consider and undertake contract opportunities.

Without the daily assistance participants have come to expect from the network, manufacturers such as FMW Composite Systems, Star Technologies in Huntington and Mustang Survival would miss opportunities to connect with large DoD contractors as well as the resulting contracts that come from such connections.

“By sponsoring workshops that are geared to specific capabilities of network participants, we can offer a win-win environment for all those involved,” said Weber.

According to Richard “Rick” Houvouras, managing partner at Star Technologies, his company has accomplished business goals using the network that he couldn’t have attained otherwise. Specifically, Houvouras points out that his company’s contracts with DoD contractors – G. E. aircraft engines, Lockheed Martin and Pratt Whitney – would not be possible without RCBI assistance. Houvouras is quick to point out that Star Technologies is a long-time participant in the RCBI 21ST Century Manufacturing Network, and also notes that with RCBI assistance his company achieved AS9000 quality standards.

Mustang Survival manufactures military-issu life preservers, anti-exposure suits, inflatable bladders, wet weather trousers and other life saving equipment. The Wirt County manufacturer, which employs 96 individuals, is a major supplier of these lifesaving items to the DoD.

The regular growth that Mustang Survival attributes to contracts, including those from the DoD, is quite a benefit to the entire region and its economic development. “Assistance from agencies such as RCBI and the RCAC [Regional Contracting Assistance Center in Charleston] has provided Mustang Survival with past procurement history that is essential in our bid development process and our continued success in contract awards,” said Denise Sheppard, the manager of product coordination at Mustang Survival.

Weber concludes, “The focus of the RCBI network is to identify government and commercial opportunities for our state’s manufacturers. At RCBI we always look to the future to keep our network participants active, up-to-date and knowledgeable in their contracting efforts. Judging by the continued success of our network’s manufacturers, we believe we’re doing just that. We intend to continue to assist our state’s capable manufacturers as they compete for and win lucrative contracts that enhance our state.”

Nuce reinforces the comments from Weber by pointing out that RCBI’s goal of assisting manufacturers is being met and that the statewide manufacturing technology resource continues to connect manufacturers to new markets.

“RCBI has been instrumental in linking us to various opportunities,” Nuce says. “They have made exceptional efforts to serve us and we appreciate the continuing assistance and our excellent working relationship.”
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THE BUSINESS COMMUNITY is well aware of the distressing economic trends in the manufacturing sector. A tremendous number of manufacturing jobs were lost during the recent recession, and many plants have closed or transferred their operations overseas. People may now believe that the decline of U.S. manufacturing is inevitable. On June 16, 2004, however, Jerry Jasinowski, president of the National Association of Manufacturers (NAM), presented a more optimistic picture. “They say beauty is only skin deep, but this manufacturing recovery looks better and better the deeper you look at it,” Jasinowski stated, commenting on nine consecutive months of improvement.

How should West Virginia capitalize on this good news? Careful, strategic approaches to traditional and new target industries will give us the best tools for recovery and growth. A comprehensive economic development plan, West Virginia: A Vision Shared!, was initiated by the West Virginia Council for Community and Economic Development and released in December 2000. The four Vision Shared Steering Committees – Intellectual Infrastructure in the 21st Century, Results-Based Government, New Economy: New Challenges and New Solutions, and Building Bridges and Empowering Citizens – are comprised of volunteers who support long-term, systemic improvements to our economy.

Despite the recession, in Year 2 of A Vision Shared, our more than 30 working groups experienced improvement in 56 percent of their performance measures, up from 44 percent in Year 1. While A Vision Shared cannot directly provide jobs or create new industries, we can enrich the products, processes and people of our unique West Virginia economic landscape.

The NAM Strategy for Growth and Manufacturing Renewal: Action Items for 2004 lists the organization’s current benchmarks: increase pension funding, reduce health care costs, expand health care coverage, reform medical liability laws, create an entity to assess the impact of government regulations upon business, increase the number of research patents, strengthen R&D credits, provide tax cuts, promote innovation, and improve worker training programs. It is very encouraging that each item on this list represents a corresponding Vision Shared Focus Area Team, Working Group or Collaborative Partnership:

- **Pension Fund Investment.** A Vision Shared Special Team is working to identify ways that a small percentage of West Virginia employees’ pension funds might be used to advance the economy.

- **Medical Malpractice Reform.** A critical achievement supported by A Vision Shared was the comprehensive reform of West Virginia’s medical liability statutes, leading to damage caps, stricter definitions for lawsuits and damage awards and the formation and funding of a West Virginia Physicians’ Mutual.

- **The Vision Council.** The Vision Council will be a neutral policy entity that will identify subjects for policy research, evaluate requests from government and other sources, develop policy positions and publish policy recommendations.

- **Angel Networks.** The Capital Formation Focus Area Team’s Angel Network Working Group is seeking the best model for a variety of regional angel networks to enhance business creation in the state.

- **Technology Transfer/R&D Commercialization Process.** The Vision Shared Integrate Technology Team is currently reviewing legislative and regulatory practices to remove impediments to commercialization and to enhance technology transfer within West Virginia’s universities and colleges.
**Broadband Wireless Technology**. To foster business growth in West Virginia, A Vision Shared Focus Area Team is developing a novel strategy for leveraging broadband wireless technology.

**Grid Computing Network.** In a collaborative partnership with A Vision Shared, this group will develop strategies to leverage the grid-computing network, expected to be operational in Fall 2004.

**Homeland Security Economic Development.** A Vision Shared Special Team will develop strategies to allow our state to become a significant contributor to economic development in the areas of biometrics, energy, chemical and other homeland security related fields.

Gov. Wise signed three pieces of tax legislation that provide significant support for start-up, emerging R&D companies and for technology-related products and services:

- **High-Growth Business Investment Tax Credit** was created to encourage investment in potentially high-growth research and development businesses in the state.
- **Strategic R&D Tax Credit** is now refundable for small, qualified research and development companies that do not have the tax liability to off-set. The amendment modifies and enhances the FY2002 Strategic R&D Credit, which is already one of the most aggressive research credits in the country.
- **Exemptions for Technology and Computer Products and Services.** The Vision Shared New Economy Steering Committee supported an amendment to the current “Consumers Sales and Service Tax” sponsored by the W.Va. State Chamber of Commerce. It includes exemptions for certain leases and licensing fees and sales of computer hardware and software directly incorporated into manufactured products.

A Vision Shared realizes the importance of supporting energy-efficient technologies that will increase production and lower costs within industries such as glass, chemicals, polymers, wood products, electricity and aluminum. One future effort will be to strengthen collaborations with organizations already implementing effective strategies to advance manufacturing in the state, such as West Virginia Industries of the Future (IOF-WV), the state’s organization of the U.S. Department of Energy Industrial Technologies Program (ITP).

“IOF-WV teams have shown they can leverage core funding to obtain competitive awards for research that benefits West Virginia companies. The real value of co-funded projects, however, is the energy savings benefits to companies that participate,” said Carl Irwin, IOF-WV director.

Another organization that works closely with manufacturers is the Robert C. Byrd Institute for Advanced Flexible Manufacturing.

“RCBI has proven time and time again that access to advanced technologies increases productivity which increases the real value of our manufacturing firms. This in turn raises the per capita incomes of our workers,” said Charlotte Weber, director and CEO of RCBI. “This is how economies grow.”

The Manufacturing Skill Standards Council (MSSC) was founded in 1998 to help industrial employers locate skilled workers who are increasingly in demand. Like the International Standards Organization (ISO) and the National Skill Standards Board (NSSB), the MSSC system is designed to provide manufacturers with a common metric to measure and improve workforce training programs. The Vision Shared Credentialing Working Group is in step with these national associations and with the state’s leading provider of advanced technology training programs – the Robert C. Byrd Institute for Advanced Flexible Manufacturing.

In Year 3, the Credentialing Working Group will focus on aligning skill standards across industry, government and educational programs. Diana Long, manager of Workforce Development at RCBI, serves as co-chair of the Vision Shared Credentialing Working Group. “Even in times of economic slowdown and hiring freezes, there is still a shortage of skilled workers. No community working alone is powerful enough to develop, train, teach or maintain our

The Year 3 Progress Summary to Stakeholders reports that A Vision Shared attained benchmarks for both GED attainment rate and customized job training delivery. West Virginia made competitive progress in reading proficiency, Grade 8 math proficiency, and the rates of high school completion, college enrollment and college completion, with significant improvement in the number of bachelor’s and higher degrees awarded in the science and engineering fields. Reforms were made to the community college workforce development system.
workforce,” explained Long. “I see the Vision Shared collaborative process as building the necessary bridges from industry to government to education; we will provide a structure to implement the most innovative strategies for workforce development.”

- **Worker Training Matrix.** The creation of a workforce matrix of performance indicators will help us see how West Virginia is improving the delivery of workforce training. The creation of a Directory of Credentials will help attract new business to the state by quantifying skills and logistical data about the workforce.

- **West Virginia Workforce Investment Council’s (WV-WIC) Seamless Education Advisory Committee** seeks to provide smoother and earlier conduits from school to work and career-related coursework in secondary school.

- **Higher Education Policy Commission’s (HEPC) Program: It All Adds Up.** A Vision Shared will work with the HEPC to achieve its goals (e.g., doubling the annual graduation rate in math, science, computer science, engineering and related technologies; creating 2,000 new research-related jobs by 2005; and increasing customized education or training programs delivered to employers).

Greater opportunity and easier access to portable credentials will allow West Virginia’s workforce to more fully engage in lifelong personal and professional advancement. Dr. David Bell, Dean of West Virginia University–Parkersburg Business Industry & Development Services (BIDS), believes, “We owe West Virginia employers the right credentials at the right time. A Vision Shared adds a lot of energy to that progress.” A Vision Shared has the unique opportunity to mobilize people to discuss new ideas and new processes. In the 1990 bestseller “The Machine that Changed the World,” authors James Womack, Daniel Jones and Daniel Roos stated, “No new idea springs full-blown from a void. Rather, new ideas emerge from a set of conditions in which old ideas no longer seem to work.” A Vision Shared has identified critical issues that need to be addressed and critical paradigm shifts that must take place in our ways of doing business:

- **Business Portal.** A Vision Shared has a goal to integrate technology more smoothly into state government operations. Tygart Technology, Inc. is developing a “one-stop” website that will allow new and existing businesses to complete registration, licensing and compliance processes online.

- **Permitting Working Group.** Working with the Department of Environmental Protection and other appropriate state agency representatives, this team is creating a more effective and efficient “one-stop” system for business permitting.

- **Entrepreneurship.** A Vision Shared will implement the recommendations found in the “Blueprint for Entrepreneurship” and support statewide implementation of the Kaufman Entrepreneurship Training.

- **e-West Virginia: State Information Technology Infrastructure.** A Vision Shared will review strategies for consolidating government IT delivery systems by incorporating business models and practices.

- **Regional Cooperation.** Working closely with the West Virginia Development Office, the Vision Shared Focus Area Team will test the feasibility of regional development strategies to advance beneficial regional partnerships.

As presented in the Year 3 Progress Report to Stakeholders, West Virginia’s improvements in the New Economy goals are important because of the reversal of longstanding negative economic trends. West Virginia experienced competitive improvements in per capita income, average annual wage, manufacturing exports, real gross state product, R&D federal obligations as a percentage of Gross State Product (GSP), and growth in wage and salary employment.
science, engineering and mathematics. As a multi-year economic development initiative, A Vision Shared will have additional opportunities to address issues affecting the manufacturing community. The perspectives gained by the Robert C. Byrd Institute for Advanced Flexible Manufacturing from its current work with manufacturers will help guide the development of future Vision Shared focus areas.

The Alliance for Materials Manufacturing Excellence, a group that supports the continued and increased funding of the Department of Energy’s Industries Technology Program, asserts that “a healthy materials manufacturing sector is at the heart of our economic and national security.” All sectors of the economy are affected by positive and negative trends in manufacturing. As co-chairs of the Implementation Task Force Leadership Team, we are extremely proud of the thousands of hours given by so many dedicated volunteers across the many focus areas covered under A Vision Shared’s mission. In Year 2, we exceeded our potential, and Year 3 promises even more accomplishments as progress continues and new focus area teams are launched.

Anyone who would like to volunteer with the implementation of A Vision Shared or make suggestions for its improvement should contact Task Force leaders Mike Basile at mbasile@spilmanlaw.com or Kenny Perdue at kperdue@wvaflcio.com. Details about A Vision Shared can be seen on the project’s website at www.visionshared.com.
The Rising Cost

Petrochemicals Manufacturing in the U.S.

What’s at Risk?

by Allan Fowler

ALLAN FOWLER is President of Dow Chemical’s West Virginia Operations. He joined Dow in 1973 and previously served as a global R&D Director and Vice President of Dow’s New Jersey Operations.

You can’t seem to go a single day during the past few months without hearing or reading about the price of gasoline. It’s now priced at two dollars a gallon with predictions of even higher prices in the future. Couple this with the related pricing pressure on oil-derived products and you can see why the American consumer is beginning to make noise about affordability. Certainly the volatility of world energy markets should be of concern to all Americans.

But this author is not going to address the world oil situation as many much more qualified than I are doing this each and every day. The subject of this article is that of the U.S. petrochemical industry, its origin, its strengths and its weaknesses. And to that final point, what is happening as a result of the U.S. natural gas situation, its supply, governmental legislation and its impact on a valuable industry to West Virginia and to the United States as a whole.

Just what is the U.S. petrochemical industry and, better yet, how is it influenced in West Virginia? When you think of petrochemicals, think of plastic wraps, polyesters, car bumpers, foam insulation, fertilizers, soda and milk bottles, antifreeze, safe drinking water and the like. The list is endless and reflects the technology that allows us to convert hydrocarbons to useful products. And while oil is the source for some of these products, the vast majority of the products are derived from natural gas (methane) and natural gas liquids (ethane and propane). Most readers will relate to natural gas and to propane as fuels used in their homes for heat. To the chemical industry, it is used as a raw material to make products.

A raw material to make an automobile bumper, the price for natural gas is the same. In general, the price of energy can be as much as 35 percent or more in the cost of producing a chemical. Note that oil is traded, sold, moved and consumed globally so price is a globally leveraged value. This is not so with natural gas; it is much more difficult to transport so it is priced more regionally. This logistical point has profound impact on the U.S. chemical industry.

The U.S. chemical industry grew on the basis of readily available natural gas. It was the pricing difference between natural gas and oil that fueled the success of the petrochemical industry. This was true for West Virginia as well as for the huge chemical complexes that have been built on the Texas and Louisiana Gulf coasts. So strong were these industries and companies that the U.S. balance of trade in chemicals was positive for many decades, at least until 2001. This favorable balance of trade has gone negative and will approach $9 billion unfavorable in 2004. This was and should be viewed to be one of the crown jewels of the U.S. economy, and it is unfortunate to see it dwindle away. When you read and hear about jobs being “outsourced” overseas, you may hear that labor costs are one of the reasons. The chemical industry is not particularly labor intensive and can be below 15 percent of the cost of goods sold. For petrochemical companies, particularly those in the large commodity products, energy and raw materials are the competitive drivers.

So what happened in 2001? We will have to go back a few years for that answer when the supply/demand for natural gas was “adjusted” by governmental policy. Natural gas was promoted as a clean fuel and, as such, could replace coal as a fuel used in their homes for heat; to the chemical industry, it is used as a raw material to make products.

Most readers will relate to natural gas as a fuel used in their homes for heat; to the chemical industry, it is used as a raw material to make products.

Continued on page 66.
The Rising Cost of Natural Gas

MUCH HAS CHANGED since the Oil Crisis of 1973 created panic and rationing across the nation. For one thing, the United States has enjoyed another 30 years of consuming cheap, imported energy while becoming indifferent to the huge trade deficits that resulted. So now, interviews of the “man on the street” regarding increases in gasoline prices typically result in responses describing the situation as “ridiculous” and the most common emotion is outrage. Americans expect their government to “fix” the problem and restore their birthright to cheaper energy.

Some politicians and ill-advised persons are even now calling for the president to use the Strategic Petroleum Reserve to attempt to break the rise in gasoline prices. Practically, such an action now would only serve to place the nation at even greater risk if a real disruption in supply from the unstable Middle East should occur, and it would ultimately have little impact on retail prices. President Clinton tapped the Reserve once in an attempt to ease pressure on prices and was successful in curbing the average price by only 1.5 cents per gallon.

Maybe the most important outcome of this chapter in our history is the casual comfort we have found in being dependent on foreign sources of energy. As domestic sources of petroleum have declined, we simply grew imports from the Middle East and natural gas from Canada. Now as domestic sources of natural gas are challenged and infrastructure strained, the most popular answer being promoted is to construct large, expensive terminals to encourage the import of Liquefied Natural Gas (LNG) from some of the same unstable Middle-Eastern sources that have held our country an energy hostage.

Understanding the role of West Virginia in the nation’s energy past

In the 1920s gas fields northwest of Charleston were some of the most prolific in the United States. The chemical industry was attracted to West Virginia because of the gas, brine, silica and fresh water that could be exploited for profit. Mass production of chemicals in the area was short-lived due to the discovery of even larger and more prolific gas fields in the southwestern United States. This discouraged continued aggressive development of the West Virginia mineral properties, that were left to be developed by utilities and small private operators who exploited only the shallow, low-risk opportunities.

Manufacturers who stayed in this region were usually bound by large stranded investments. They eventually learned how to tap into the large gas reserves in the southwestern United States by gaining service from interstate pipelines that were constructed in the 1950s. This gave them the chance to continue operating their core plants with only a small incremental cost for the transport of feedstocks.

The true potential of the natural gas fields in the northeastern United States has just recently begun to be explored. Those eager to develop new reserves have high expectations for the region’s deeper horizons, as well as the new coalbed methane fields.

What’s driving the demand for energy

Despite the volume of public rancor, U.S. consumers seem unfazed. The Energy Information Agency, Gas Research Institute and the National Petroleum Council have all published studies indicating annual demand for natural gas will grow to more than 32 trillion cubic feet per year by 2010, an increase of about 40 percent. Demand for natural gas is soaring because it is a clean, efficient fuel for use in electric power generation as well as for home and business use.

Continued on page 67.
a source to satisfy the nation’s growing electrical appetite. Plants would be less expensive to build and environmental emissions would be reduced. Obviously, there is good in this thinking, provided of course, that enough supply is available. Conventional wisdom held that the natural gas supply would increase to meet the demands of the electrical sector and that price would remain world-competitive. In reality, here is what happened during the past 30 years:

1. The use of natural gas by non-electric industry and commercial users remained flat.
2. The use of natural gas by residential consumption remained flat, in spite of a doubling in the number of homes using natural gas. (A real testimony to energy conservation!)
3. The use of natural gas for electrical power generation has nearly doubled.
4. The supply side has remained flat, even to the point of a reduction in U.S. production of natural gas, forcing the United States to develop increased imports of gas or risk shortages and price increases (both of which did occur).

Is the supply side in the United States going down? Don’t we have enough natural gas to reduce our dependence on foreign sources? The answer is yes. We do have large proven reserves of natural gas off the East Coast, the West Coast, the Colorado basin and, of course, Alaska. The vast majority of these reserves (100 percent of both the East and West coasts, for example) are off limits to drilling. From an economical viewpoint, the increased demand coupled with the restricted supply has led to the United States having the highest priced natural gas in the developed world! We have created this problem by encouraging demand and restricting supply. The outcomes can be profound on the chemical industry if conditions remain unchanged. Exports will turn to imports and the industry will continue to migrate to locations where raw materials are less expensive.

Let’s focus on the impact to West Virginia. The chemical industry in West Virginia employs 18 percent of the manufacturing workforce, some 13,500 direct and 65,000 indirect jobs. Value of the industrial production was $5.6 billion and represented 4.1 percent of the gross state product. These are typically higher-wage jobs, paying 10 percent above the national average. More specifically, the Union Carbide subsidiary of The Dow Chemical Company operates three locations in West Virginia, with more than 1,700 employees and contractors and payrolls to this workforce exceeding $150 million. These numbers are down from the past and are a reflection of the losses that the U.S. chemical industry has faced. For The Dow Chemical Company, our energy bill in 2003 was $2.7 BILLION higher than 2002. This is not the total bill, just the increase. In 2004 this number looks to be an additional $600 million and counting. Companies and locations on the Gulf Coast are not faring much better as new investment moves offshore to seek cheaper raw materials.

The United States created this problem and can do much to correct it. One way to correct it is to enact policies that focus on:

1. Facilitating access to lands where gas is available.
2. Focusing on more conservation and fuel switching.
3. Diversifying the fuel mix. Clean coal and nuclear resources must be a part of U.S. energy policy.
4. Increasing the imports of Liquefied Natural Gas (LNG).

While not as cost effective as local sources, it will help balance our supply in the near term.

It took us years to get into this problem and it will take time to correct, but it can be corrected. Let’s not sit by and see yet another U.S. industry picked off by foreign competition.
Naturally, we are all concerned that tight supplies and rising prices will result in an irreversible decline of industrial demand. But it should be noted that the Institute of Purchasing Managers index was reported at 62.8 in May and has been above the significant 60-point level for seven months now – an almost unprecedented sign of strength in the economy. This has occurred at the same time that natural gas prices have spiked, giving us reason to be optimistic that manufacturing that is competitive on an international basis can continue to grow in this environment.

While the growing demand for various forms of crude petroleum spells hard times for traditional petro-chemical processes in our region, this is the reality that has impacted the industry all across the world. We in the United States have become accustomed to consuming an average of 24 barrels of oil per person each year while the world’s emerging nations consume, on average, less than one barrel per person each year. The advance of economic reform and rapid growth now underway in Brazil, China and India is destined to keep demand for all petroleum products high.

The Chinese national petroleum company recognizes that competition for energy resources will determine China’s future rate of growth and it has aggressively outbid major Western oil companies for new development projects in Kazakhstan and Iran. They are now expanding and will be competing with our children for development of fields in the Middle East, Central Asia and Siberia.

The truth about energy supply

Consumer appetite and foreign competition are not alone in influencing petroleum supplies. This year, statutes in New York, Connecticut and California caused refiners to convert from the use of methyl butyl ether (MTBE) to ethanol-based gasoline, impacting the availability of gasoline supplies, even as the inventory of crude oil appears adequate. Due to the physical differences between the two blending agents, ethanol-based gasoline produces 12 to 15 percent less volume of output than that using MTBE. And since those three states represent one-sixth of the nation’s gasoline consumption, this has had a major impact on supplies. Next to address this issue is likely to be Pennsylvania. If its makes the switch to ethanol, we can expect the remaining 20 states now using MTBE to quickly follow suit. This will be further complicated by a recent ruling of the EPA mandating reduction of sulfur content in diesel fuel from 500 parts per million (ppm) to only 15 ppm. This will affect the availability of diesel fuel for not only highway-use vehicles, but also for off-road, industrial and farm-use vehicles as well.

Some commentators complain about the age and condition of the refineries in this country, but in the face of arbitrary government regulation they have been amazingly flexible. There are 53 percent fewer refineries today compared to 1981, but thanks to enhancements in their processes, total refining capacity is down just 10 percent.

With great ceremony, OPEC recently announced that it was increasing output quotas to 25.2 million barrels of oil per...
With a continuous decline in industrial demand for natural gas within the state, the majority of local production has needed to be exported to find a market. An aging patchwork of gathering pipelines that has been filled to capacity for many years, limits the growth of the industry. Few developers have entertained the idea of building incremental pipeline capacity, but the potential to develop new energy sources represents one of the best hopes the region has to spur new industrial growth.

Conclusions

Although the news media might suggest that gasoline prices are at record highs, this is hardly true. Gasoline at $2.30 a gallon is still far less, on an inflation adjusted basis, than the $0.29 a gallon price that was charged in 1954. And the cost of crude oil today is roughly half the cost it was when gasoline reached $2.50 a gallon at its peak in 1981.

Indeed, the declining price of gasoline (in real terms) has contributed tremendously to the growth of our standard of living over the years. In 1966 the average American family spent about 3 percent of its $35,000 household income (in 1999 dollars) on gasoline compared to about 2 percent of its $60,000 income in the year 2000.

And even with the current elevated prices, the United States continues to lead the free world in the distribution of cheap energy. In 2003 the average cost of gasoline in the United States was $1.59 a gallon, while throughout Europe the price averaged $4.55 a gallon. Even now as prices have spiked in the United States to just over $2.00, Europe approaches $5.50 per gallon. Indeed, the only countries that pay substantially less for energy are those subsidized by socialist governments.

The real problem is that our country imports more than 56 percent of its crude oil and 60 percent of all refined products. While Congress is incapable of establishing even a basic energy policy, government regulations restrict access to large areas of minerals and discourage domestic production. They have also limited the refining capacity of the nation and created a choke point in the system.

What can we do about this crisis? First, as consumers we need to insist that our politicians invest in developing new energy sources and not regulate them out of existence. We need to demand that leaders of our industrial complex also accept the obligation to invest in development of energy resources to gain control of the cost of feedstocks and assure continued viability. And finally, we all need to recognize that energy is a valuable, but exhausting resource that deserves our respectful use and consumption.

Control over the world’s sources of energy is a major determinant in world affairs today. How technology changes its form and determines who holds the dominant position in the future will almost certainly impact our prosperity more than nearly any other issue.
A growing partnership – your partners for life.

The logo for Cabell Huntington Hospital may have changed a little, but only to demonstrate something that hasn’t – our continuing commitment to the growth and health of the communities we serve. Today, as we celebrate our strong and growing partnership with Marshall University and the Joan C. Edwards School of Medicine, the future has never looked healthier. Or greener.

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THE ESTABLISHMENT OF the West Virginia Council for Community and Economic Development and its oversight of the West Virginia Development Office have produced remarkable results for West Virginia.

From fiscal year 1992 – when the council was formed – to the present, 80,030 jobs and $11 billion in investment have been announced.

The legacy of this innovative public-private partnership is only outweighed by its farsighted accomplishments that have put economic development in West Virginia on a more progressive path.

HUNDREDS OF PEOPLE HAVE HELPED TO MAKE CHANGES DESIGNED TO IMPROVE THE LIVES OF ALL WEST VIRGINIANS.

In 1996 the council, the governor, legislative leaders and the U.S. Small Business Administration provided new resources to the small business community: a Small Business Work Force Program to address training needs; a Small Business Development Center to serve southern West Virginia; and additional funding for six regions of the state to enhance financial assistance and access capital. The next year, the Small Business Work Force program captured two national awards.

The state’s office in Nagoya, Japan, played a role in the announcement of three new Japanese companies in 1996, including Toyota, which now employs 1,000 people at its Buffalo plant. In 1998 West Virginia announced its European office in Munich, Germany.

West Virginia’s commitment to international investment has brought excellent results. The state’s total exports exceeded $2.3 billion in 2003, achieving a growth rate of 6.38 percent in 2003, which surpassed the United States export growth rate of 4.4 percent.

West Virginia’s economic achievements in the 1990s did not go unnoticed nationally. In fiscal year 1998 Dun & Bradstreet Corporation rated West Virginia the nation’s leader in the percentage of job growth from new investment – the state posted a 58.1 percent gain in 1997 over 1996 in employment from new businesses, compared to the national average of 10.9 percent. In 1999 Dun & Bradstreet ranked West Virginia second in the nation for new business growth with a 12.3 percent increase over 1997 figures for new business starts.

The council sought an even more focused strategy in 1999 and developed West Virginia: A Vision Shared.

In the four-plus years since its implementation, hundreds of people from government, business, labor and education have helped to make changes designed to improve the lives of all West Virginians.

The changes have resulted in measurable, recognizable trends that ultimately will improve West Virginia’s economy.

In 2001 and in 2002 legislative action streamlined and enhanced the venture capital climate in West Virginia.

In the category of Risk Capital and Entrepreneurial Assets on the Milken Institute’s State Technology and Science Index in 2004, West Virginia saw the second-largest gain among all the states by moving up 18 positions to 30th overall. The institute identifies “capable entrepreneurs and the risk capital infrastructure to support them” as ingredients for long-term success in a knowledge-based economy.

Various far-reaching tax incentives were enacted in 2001, 2002 and 2003 designed to attract knowledge-based businesses that will bring higher wages with them. Those businesses also will attract the creative class: energetic, educated and entrepreneurial people responsible for economic success in today’s hottest cities, according to Richard Florida, a professor at Carnegie Mellon University. Florida’s book, “The Rise of the Creative Class,” shapes much of today’s thinking about progressive economic development.

The June 2004 issue of Money magazine rated the Charleston, W.Va., area as one of the top five U.S. cities (population 250,000 to 499,999) that will attract members of the creative class 10 years from now. Florida and his team studied the growth in creative-class jobs between 1999 and 2002, wage growth in those jobs, wage inequality, population density and per capita income growth (1990 to 2000).

Legislation in 2001 emphasized the critical link between education and economic development. In 2002 a vitally important piece of the economic development puzzle – workforce development – became a part of the West Virginia Development Office. A close link between businesses that need workers trained in specific areas and training programs provided to those workers makes powerfully good sense.

In 2002 West Virginia’s PROMISE scholarship program was funded to provide full tuition to West Virginia institutions
of higher education for qualified students. In 2004 the Higher Education Policy Commission reported that West Virginia high school students are entering college at the same rate as those in the rest of the nation.

Other important changes with economic development implications include:
- Comprehensive reform of the Workers’ Compensation program and medical malpractice liability statutes.
- The investment of more than $220 million through the Economic Development Grant program and the establishment of a Sunny Day fund to assist with economic development projects.
- The use of tax increment financing by local governments.

Changes, reform and innovation aim to make West Virginia’s economic pie bigger and its economic future brighter.

David Satterfield is Executive Director of the West Virginia Development Office.

Innovation on Display

Representatives from the West Virginia Development Office and RCBI will attend FABTECH International 2004, Oct. 26-28 in Cleveland, Ohio. The annual event is North America’s largest metal forming and fabricating conference.

FABTECH International 2004, co-sponsored by the Society of Manufacturing Engineers (SME) and the Fabricators & Manufacturers Association, Intl’l (FMA), features more than 400 companies and more than 2,000 products and technical advances in metal forming and fabricating technology; welding; stamping; robotics; punching; bending; safety; hydroforming; lasers; finishing; cutting; controls; coil processing; software; tooling; material handling and more.

For more information on all FABTECH International events, contact: FMA at (800) 432-2832 or visit www.fmafabtech.com; or contact the SME Resource Center at (800) 733-4763 or visit www.SME.org/fabtech.

EDITORIAL REVIEWS

Amazon.com

While it would be easy to fill a sizable bookcase with books published in 2004 that were highly critical of George W. Bush, few of those authors carry the gravity of Senator Robert Byrd, who first came to congress when Truman was president. In Losing America, the veteran Democrat offers scathing criticism of Bush, whom he sees as undeserving of the office, unfit to lead, “callow and reckless,” and “incredibly dangerous.” Besides criticizing the much-discussed rise of the neoconservative philosophy, Byrd bemoans what he sees as the erosion of constitutionally mandated separation of powers. While many of his objections are colored with a high degree of personal dudgeon over perceived disrespect for him and his branch of government, he uses well-reasoned legal and historical arguments to illustrate his concerns.

Publishers Weekly

Attacks on the Bush presidency have proliferated in recent months, but few critics bring to the argument the weight of Senator Byrd (D-W.Va.), who has served under 11 presidents. Few combine his scholar’s understanding of constitutional government with the experience gained in his nearly half-century of Senate tenure.

Booklist

As the subtitle suggests, Senator Byrd has clear contempt for both the foreign and domestic policies of the Bush administration. Of course, his opposition to the war in Iraq has been consistent. Here, his main concern is what he views as an attack on our constitutional liberties and on the separation of powers, led by an ideologically driven administration. His warnings about the potential, down-the-road threat implied by measures taken in the name of “national security” deserve consideration.
Capacity: ISG just completed its purchase of Weirton Steel. What impact is that expected to have on the future of Weirton Steel?

Glyptis: We expect it to have a very positive impact. ISG is the largest steel company in the country — and Weirton has become a key part of its organization. The hard fact is that there aren’t many integrated steel companies that will survive long term. There’s going to be additional casualties in the steel industry, especially small, specialized mills.

The synergies associated with ISG and Weirton Steel are significant. It’s a good fit from both perspectives. We’re a narrow-width mill, the only one in their family of companies. That creates significant efficiencies in the ISG organization and makes the entire company more competitive.

C: What are the plans for reinvesting in that operation?

G: One of the key points of discussion before the acquisition was reinvestment. Weirton Steel had been capital starved for a long time. ISG promised to put money into the mill — and they’re doing that. The #4 blast furnace is starting back up after being shut down for more than a year. They’ve put money into the #1 blast furnace as well. Our caster is going to be realigned in October. The #4 plater line has seen investment. ISG has already made a sizeable investment and plans are underway for next year.

Because of the acquisition, we’re able to look at other business opportunities. The first is a polymer coating line — and we’re evaluating that from a rate of return standpoint. The second is the possibility of a coke plant investment. Now that ISG is here, that makes a coke plant an attractive investment in the Ohio Valley.

ISG has said that Weirton is a long-term investment for them and they’re delivering as promised. What we have here is an opportunity to keep steelmaking in the Upper Ohio Valley for generations to come. We have to do our part, which is perform at a very high level. I believe Weirton can become the top steel company in the ISG family.

C: How will the workforce be affected?

G: The workforce has already been affected. In July, we were able to call back to work 100 employees to operate the #4 blast furnace. We called back another 30 in August. That’s excellent news for our entire community. These are workers who wouldn’t have been called back otherwise.

We want to secure our jobs for the future — and this ownership structure allows us that chance. For example, as an independent company, if we had had to shut down one of our casters, it would impact employment all the way down the production line. With ISG, however, we can divert products from other facilities and keep people working. When other plants have an outage, we can do the same for them. ISG is very strategic about its production operations.

C: Explain how ISG-Weirton can remain competitive.

G: ISG-Weirton can set the benchmark. ISG is a well-managed company with contract opportunities to be successful into the future. But it’s not going to be easy. We recognize that we’re competing in a global environment and that’s extremely difficult to do when you’re competing against overseas companies that pay low wages, don’t offer benefits, ignore environmental regulations and safety conditions and employ child labor.

The United States steel industry is significantly more efficient than foreign competitors. We’ve got an excellent, productive workforce. The best in the world.

We were a very weak stand-alone mill — and very vulnerable. This acquisition gives our mill long-term viability and opportunities that we wouldn’t have had otherwise. We have an excellent, niche product. We have an excellent workforce. We have huge opportunities associated with being part of the strongest steel company in the country.

C: What is your organization’s position regarding the need for steel tariffs?

G: What happened to Weirton Steel — bankruptcy — was a direct result of inaction by the federal government. It did not enforce trade policies. I challenge anyone, Democrat or Republican, to argue that.

President Bush did implement Section 201 of the 1974 Free Trade Act by imposing steel tariffs. We thanked him publicly and privately for that. In return for three years of trade relief, the steel industry was to consolidate and make itself more efficient and productive. The industry was doing its part, but he yanked our tariffs after only 20 months. We were very angry that Bush pulled the tariffs. He did not keep his word. Bush bowed down to the European Union’s threat of a trade war which has weakened us as a world power. Clinton didn’t do much better. When we were yelling about the illegal dumping of foreign steel, he said he’d “monitor what came in.” That didn’t work either.

There’s still no solution. The problem of illegal dumping has not been solved. We’re thankful that Bush imposed the tariffs, but angry that he didn’t keep his part of the bargain.

C: Why is it critical for the United States to maintain a strong steel manufacturing sector?

G: If for no other reason, and there are many, we need a strong steel industry to protect our loved ones. America needs a strong steel industry for its national defense. You’re not going to make tanks or weapons out of plastics. We cannot afford to be reliant on foreign steel. If we needed 20 battleships built, we don’t have enough steel to do that. A weak steel industry produces a weak nation. We’re very vulnerable.

The philosophy of our government needs to be “Put America First.” American defense. American workers.

C: Can the outsourcing trend be reversed?

G: We need to make the rules the same for everyone. We’re in a global economy, why can’t we have the same rules? You know, you can’t give your competitor a 99-yard head start in a 100-yard dash and expect to win. We are competing against manufacturers in countries that use child labor, that don’t have to conform to the same environmental standards, that have little regard for human rights and pay their workers a fraction of what ours earn. It’s not a matter of lowering our standards — they need to be brought up to ours.

Our country needs a strong manufacturing base. It’s up to our government and our leaders to direct our future. Did you know it’s difficult to get an American-made flag in this country? That’s disheartening. We need to take care of America, and American workers.
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