

WEST VIRGINIA

ISSUE 1 - 2012

EDGE

CAPITAL IDEA

SMALL BUSINESS,
BIG INITIATIVE

WEST VIRGINIA INVENTED THE CHEMICAL INDUSTRY NOW WE'RE REINVENTING IT

WV CRACKS INTO CHEMICALS AGAIN





“The **FINANCIAL STABILITY** of **WEST VIRGINIA** allows us to forecast and plan ...
The low cost of electricity provides a **SIGNIFICANT COMPETITIVE ADVANTAGE.**”

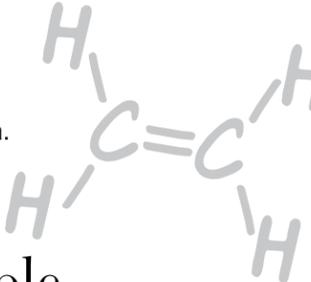
KARL J. BOELTER, PLANT MANAGER
DUPONT WASHINGTON WORKS WASHINGTON, W.VA.



WEST VIRGINIA EDGE

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All photos by West Virginia Department of Commerce unless otherwise noted.

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The Comeback

CRACKERS



It's been called **A GAME-CHANGER FOR WEST VIRGINIA'S ECONOMY**, and now the dream of bringing good jobs to hundreds of state residents is close to becoming reality.

By Courtney Sisk

S

hell recently announced it is planning to locate an ethane cracker plant in Monaca, Pennsylvania. Just 12 miles from the border, it will make for an easy commute for the West Virginians expected to work at the hundreds of jobs the plant will create.

The expectation is that the Shell plant is one of likely several ethane cracker plants that will be built in the Appalachian region. Each plant means at least a \$3.2 billion dollar capital investment, with thousands of people hired to build the plant and hundreds more who will land permanent jobs there. The plant is also expected to ultimately attract other manufacturing plants that will benefit from close proximity to the chemicals it will produce.

“Our economic analysis showed there will be 12,000 jobs created in the area where the

cracker is located, and they will pay some of the highest wages of any manufacturing job in the country,” said Cal Dooley, president of the American Chemistry Council. “These are high-paying, high-skill jobs. It’s a tremendous opportunity to enhance the economic welfare of thousands of West Virginia families.”

“The gas-bearing shales that underlie West Virginia will yield so much ethylene that the United States will become the **WORLD’S LOWEST-COST SOURCE of feedstock in the world outside of the Persian Gulf.”**

– Cal Dooley, CEO, President
American Chemical Council



Photo Courtesy of Caiman Energy LLC



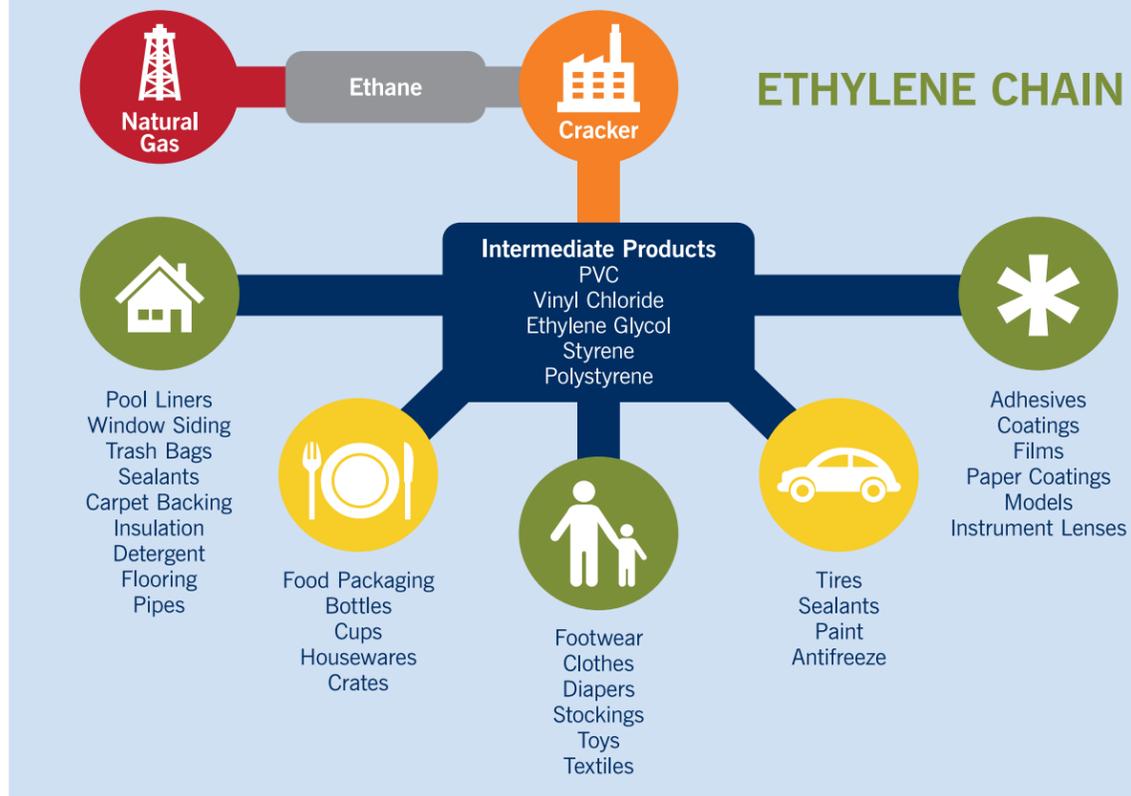
The Marcellus Shale is one of the world’s largest natural gas fields.

What ends up in the cracker plant actually begins thousands of feet underground, in geologic formations known as the Marcellus Shale. It stretches from Ohio to West Virginia, where the shale is rich in liquids, toward Marcellus, New York, the town for which the formation is named, and where the shale becomes drier. In just a few years, the Marcellus Shale has been developed into one of the world’s largest natural gas fields. But there is increasing interest in the even deeper Utica Shale. The Utica Shale is thicker than the Marcellus, it is geographically larger and it has already proven its ability to support commercial production. It has the potential to produce even more natural gas than Marcellus.

At the completion of the drilling phase, the shale is hydraulically fractured, which enhances the production of the natural gas.

The gas is then processed in a facility that separates ethane from the other liquids that include butane, propane and methane. The ethane is then fed to a cracker plant, where the molecules are literally “cracked” apart into a chemical called ethylene. Hundreds of products contain ethylene, including food packaging, diapers, vinyl siding, swimming pool liners, PVC pipe, automotive antifreeze, carpet backing, and detergent. The companies that make those products could see a competitive advantage to locating in West Virginia.

“The potential of the cracker may be the biggest thing that has ever happened to West Virginia’s economy,” said Nicholas “Corky” DeMarco, executive director of the West Virginia Oil and Natural Gas Association. “It’s not simply because of the cracker but also the manufacturing capabilities that we



Courtesy of the American Chemical Council

will have in addition to the direct natural gas industry jobs.”

This manufacturing is expected to not only put thousands of West Virginians to work, but also jump-start the entire American economy. From 1990 to 2005, the chemical industry lost about 17 percent of its employment in the United States. The primary reason was the volatility of natural gas prices and the relatively high price of natural gas available here. With a significant reduction in the cost of natural gas, because of the increased supply, we are now one of the most competitive and lowest-cost producers in the world. Just five years ago, it was more expensive to produce chemicals in the United States than in China or Western Europe. Today it’s only slightly more expensive

to produce chemicals in the United States than in the Middle East.

“When we have the ability to produce the base chemicals less expensively, other manufactured products also have a competitive advantage,” Dooley said. “That’s what’s so exciting about having access to additional supplies of natural gas. It’s giving us an opportunity to see a renaissance of chemical manufacturing in the United States. Even beyond that, the restoration of manufacturing.”

Economic development officials say making the case for a modern Appalachian cracker is undoubtedly one of the most complex projects they’ve encountered. “But fundamentally, the economic drivers are quite simple,” said Kris Hopkins of the West Virginia Development

Office. “Unlike previous resources that lured chemical manufacturers to the Gulf Coast and the

Middle East in search of cheap feedstock, West Virginia is blessed with tremendous reserves of advantaged feedstock while also being located in the center of one of the largest petrochemical markets in the world.”

The process of attracting a cracker to the Appalachian region started two years ago, but intensified during the past year.

“Governor Earl Ray Tomblin has been instrumental in talking with several companies about the benefits of locating a cracker here, including the large amount of valuable natural gas in liquid form we have,” said Keith Burdette, cabinet secretary of the Department of Commerce. “He proposed the new law the Legislature approved that would give a plant a 25-year property tax exemption. We’ve been pro-active in creating a package that’s competitive with anywhere.”

To start, the talks were on a more basic level. “We knew if we didn’t have an outlet for ethane in the area or no ethane outlet period,

“There will be **12,000 JOBS CREATED...** These are high-paying, high-quality, high-skill jobs. It’s a tremendous opportunity to **ENHANCE THE ECONOMIC WELFARE** of thousands of West Virginia families.”

– Cal Dooley, CEO, President
American Chemical Council

we were trapped in our drilling programs,” DeMarco said. “We were producing too much ethane to blend into the interstate pipeline. We started talking to the chemical plants about a solution, not thinking about a world-class cracker here. The more we talked, the more it made sense to do it in Appalachia.”

DeMarco says the key to job creation is offering manufacturers proximity to raw materials, helping them be more cost-efficient.

“We were told by several of the companies that are interested in developing crackers that manufacturing, especially in the chemical industry, left the United States for two reasons: the raw materials, the ethane, and the second was the utility costs. Now we have the ethane, and we have stable utility costs. We ought to be able to attract jobs back to this country.”

Other leaders in the natural gas industry see the cracker plant as natural fit for West Virginia, and a development that’s even more important to future generations than jobs.

Caiman Energy Adds Capacity in WV

Caiman Energy has invested \$500 million in Marshall and Wetzel counties, building pipelines and expanding its cryogenic processing and de-ethanization complexes at Fort Beeler and Taylor and its fractionation facilities near Moundsville, W.Va. With an additional 210 million cubic feet per day coming online by the end of the summer, the company expects fractionation capacity to reach 42,500 barrels per day by October 2012.



"WEST VIRGINIA is
an **ENERGY STATE** worth investing in.

They've set clear rules and built a
strong, **STABLE BUSINESS CLIMATE.**"

— Jack Lafield, President & CEO
Caiman Energy LLC



Photos Courtesy of Caiman Energy LLC

"Our ability to bring back manufacturing is going to be built on a plan that **CAPITALIZES ON OUR FOSSIL FUEL RESERVES**, whether it's natural gas, coal or oil."

— Governor Earl Ray Tomblin
West Virginia



"In West Virginia, you have a population that has a chemical industry mindset. We have the pipeline infrastructure, the ethane feedstock from the natural gas production, land, ample water, and a population that's accepting of the industry," said Charlie Burd, executive director of the Independent Oil and Gas Association of West Virginia. "No question the cracker will supply thousands of good paying jobs in this state. The multiplier of those jobs is probably eight-to-one in terms of the economic impact. And they are producing a product that will literally free us from foreign oil, if we can produce vehicles that run on natural gas. It's a matter of national security."

The cracker comes when West Virginia's leaders are looking at ways to diversify the state's economy. At the heart of that effort is energy. The goal isn't so much to move West Virginia beyond coal, but rather to encompass all the state's natural resources in a vibrant energy portfolio. Dooley says an energy

policy that includes natural gas is vital to the country's security.

"We have literally become the Saudi Arabia for natural gas globally," Governor Tomblin said. "We have a minimum 100 years reserve that we can use for energy as well as the chemical industry using it for feedstock. This has been the most dramatic change that favorably impacts our domestic energy security that we have seen in the past 50 years."

"We have some of the largest coal reserves in the world, and now we have some of the largest natural gas reserves. When you look at what we learned in this last recession, it is that people understand we need to make things. We need to be manufacturing products. You can't provide opportunities to our citizens by relying on the service economy. The foundation of our ability to bring back manufacturing is going to be built on a plan that capitalizes on our fossil fuel reserves, whether it's natural gas, coal or oil." **E**

NOW HIRING Chemical Plant Operators

A cracker is only the beginning.

Once a cracker is built in the region, West Virginia will be positioned to attract additional manufacturers and plastic converters that will create thousands of jobs over many generations. The opportunity for wealth creation and economic growth in West Virginia goes far beyond one or even two cracker facilities. The opportunity is there to create an industrial hub composed of manufacturing, research, and innovation never seen before.

“This isn’t occurring in a place where chemical manufacturing is foreign,” said Kris Hopkins of the West Virginia Development Office. “It’s happening in a state that was largely built on chemical innovations. We have all the pieces to build something special. The ingenuity, the know-how, and the pure will to build a lasting impact for multiple generations will set us apart.”

It takes 450 jobs to put in one natural gas well in West Virginia, and 150 occupations are associated with those jobs, according to a study commissioned by the West Virginia Department of Education to look at job skills and job creation for the Marcellus shale industry.

More than 90 percent of the jobs created by the development of a well are associated with the pre-drilling and drilling phases. These jobs are not permanent in the sense that they “disappear” once each well is completed. Fortunately, because drilling in the Marcellus Shale is expected to last decades, the employed workforce simply moves to the next well. There’s also potential in drilling both the Utica Shale and the Huron Shale.

Many of the jobs created by the natural gas industry will require unique, specific experience and skills, including engineers,

geologists, IT, welders and technicians. This presents both a challenge and opportunity for West Virginia: to build a workforce to meet industry requirements via appropriate training and education.

American Chemistry Council President Cal Dooley says it will be up to the state’s educators to make students even in middle school aware of the career potential in the chemical and manufacturing industries here.

“We do require a lot of engineers or people that have math and science skills, and we need people who have the management and operational skill set, people who can be trusted with some very critical job responsibilities,” he said. “I think West Virginia’s leaders have done a terrific job in demonstrating to the broader chemical industry that they’re prepared to utilize their academic institutions to help ensure that they are producing the skill set,

providing the curriculum and the training, to really meet the needs of what will be rapidly developing industry in the state.”

The state’s community and technical colleges and tech centers are working to develop skill sets and ways for students to be able to access the needed jobs in the gas industry and also to help connect companies with students to do those jobs. There are already programs in place at several schools.

“Kanawha Valley Community and Technical College and WVU at Parkersburg both have implemented chemical process technology programs,” said Jim Skidmore, chancellor of the West Virginia Council for Community and Technical Education. “A cracker plant will need chemical operators and maintenance technicians. We also have electrical engineering technology and mechanical engineering technology programs. These are more hands-on than four-year engineering programs, and graduates will be in high demand for the jobs a cracker plant will bring.”

Five community colleges in the system also offer two-year degrees in mechatronics technology. These technicians will be able to fill needs in both the natural gas and manufacturing industries.

“All manufacturing facilities employ these multi-skilled

“This is a VERY EXCITING TIME to be in West Virginia... We’re on the verge of a BOOM IN ECONOMIC DEVELOPMENT.”

*– Karen Price
West Virginia Manufacturers Association*



technicians,” Skidmore said. “They keep the plants running by repairing equipment and taking care of the computerized processes.”

Pierpont and Northern Community Colleges have been actively working with employers and economic development groups to provide training to meet workforce needs for the expanding Marcellus Shale industry. Pierpont started training in 2006 following a needs assessment on the oil and gas industry and has trained nearly 400 people in a Floorhand class. The class focuses on operational requirements for working on a drill rig, as well as basic safety practices.

Northern and Pierpont are also members of the ShaleNet Consortium consisting of eight community colleges in Southwest Pennsylvania, Northern West Virginia and Eastern Ohio created to respond to workforce needs of the Marcellus industry. ShaleNet has worked extensively with employers in the industry to develop and validate curriculum. While the immediate needs have focused on drilling operations, both Pierpont and Northern are

actively exploring other needs of the industry, including land management, inspection and maintenance.

“I wish I were 20 years younger, because this is a very exciting time to be in West Virginia,” said Karen Price of the West Virginia Manufacturers Association. “If you look at what’s happening with the Marcellus Shale, along with the development of the Boy Scout summit in southern West Virginia, and the coal mining that will continue to be part of the economy for years to come, we’re on the verge of a boom in economic development.” **E**



THE WORLD'S CHEMICAL VALLEY:

MODERN LIFE made Possible

BY KIM HARBOUR

FROM NYLON TO POLYESTER...
AUTOMOBILE SEATS, ANTIFREEZE,
AND SYNTHETIC RUBBER TIRES...
FROM SHAMPOOS TO NON-STICK PANS
- AND HUNDREDS OF INGREDIENTS
FOR HOUSEHOLD PRODUCTS, GARDEN
CHEMICALS AND PLASTICS THAT
SHAPE OUR MODERN LIFE...

... ALL OF THESE PRODUCTS HAD THEIR
BASIS IN CHEMICALS INVENTED OR
MANUFACTURED IN WEST VIRGINIA.



UNION CARBIDE

ANNOUNCES THE APPOINTMENT OF

FLASH GORDON

AS PLASTICS REPRESENTATIVE FOR THE OUTER WORLDS

THE DISCOVERY COMPANY HAS RETAINED BRILLIANT DR. ZARKOV TO CREATE AND PRODUCE THE WIDEST RANGE OF PLASTICS IN ALL THE WORLDS: PHENOLIC, POLYETHYLENE, URETHANE, VINYL, POLYSTYRENE, POLYSULFONE, PLASTICIZER SILICONE AND EPOXY. THEN FLASH GORDON PUTS THEM TO THE TEST.

© King Features Syndicate, Inc. 1978

Flash Gordon artist Al Williamson created a four-page comic book to promote Union Carbide in the 1970s. The art was recently on display at the West Virginia Culture Center.

South Charleston has been portrayed as a place where innovation in the chemical industry takes place – where things happened for the first time.

In the 1940s and 1950s, the Union Carbide Tech Center became one of the country's leading research centers, generating more than 30,000 patents. In fact, about 280 of the world's top 500 chemicals were invented or commercialized there. Today, we take for granted brands like Glad trash bags, Eveready batteries or Prestone antifreeze. But from the plastic bristles in your toothbrush to the polymer base inside your chewing gum – all of these products were made possible by chemicals invented in West Virginia.

“Neat stuff being done by neat people – that was South Charleston,” said George Keller II, Ph.D.

Keller had a 36-year career in Carbide's research and development department. Today, he is a co-founder and chief engineer of the Mid-Atlantic Technology, Research & Innovation Center (MATRIC), a nonprofit research institute in that focuses on creating and commercializing innovations in chemical, energy and environmental technologies.

Keller's offices are located at what was the Carbide Tech Center. Around him are new construction and new tenants, as well as a renewed feeling that West Virginia's chemical industry is on the verge of a Renaissance when a cracker comes to the region.

It's déjà vu, because West Virginia invented the world's first ethane cracker about 100 years ago.

The Birth of Petrochemicals

This cracker story starts with a dash of salt. Salt was West Virginia's first coveted mineral. Near present-day Malden, W.Va., salt solutions naturally flowed to the surface. The Great Buffalo Salt Lick earned its name because deer, elk and bison frequented the site. So did the Native Americans who gathered the solution and boiled it down to cure meat. Legendary frontiersman Daniel Boone built his cabin near the salt lick, too.

In 1797, Elisha Brooks built the first salt furnace and, within 20 years, the Kanawha Salines had become one of the largest salt manufacturing centers in the United States.

"In the 1800s, people learned you could do electrolysis of brine to make chlorine, hydrogen and caustics. These are very basic products for the chemical industry," explained Warren Woomer. He owns a chemical industry consulting firm and serves as a senior chemical engineer with MATRIC, after retiring from a long Carbide career.

"These salt-based chemicals led to the development of other industries in our region," Woomer explained. "Warner-Klipstein Chemical Company, South Charleston, was



world-renowned for its fabric dyes. It shipped brine down the Kanawha River to make the chlorine for dyes and bleach. They sold off the hydrogen and caustics to other nearby companies." So, already this nascent industry had companies shipping feedstock and servicing one another.

Then, moving upstream to a small town on the Elk River, "Willing management, a brilliant chemist and luck all came together in Clendenin, W.Va., to deliver the birth of the modern petrochemical industry," Keller said.

In the 1920s, Carbide and Carbon Chemicals Corporation wanted to make cheap acetylene to light coal mines. Meanwhile, a researcher named George Curme at the Mellon Institute, Pittsburgh, Pa., was experimenting with producing acetylene in the lab, from petroleum using high temperatures. As a byproduct, Curme's process made ethylene, which had no known commercial uses at the time.

"But Curme was enough of an entrepreneur to figure out that ethylene could become the basis of other chemicals," Keller said. And within its various companies, Carbide had the expertise to capitalize on the discovery.

As it happened, Carbide owned a small company that made gasoline from natural gas in Clendenin. Leveraging techniques from the region's glass industry, Carbide engineers devised a furnace to heat gases to Curme's specifications. From Linde Air Products Company, Carbide licensed the technology for using cryogenic temperatures (nearly 100

degrees below zero) to separate air and, in turn, other chemicals like hydrocarbons. Finally, another Carbide company made metal tubes in which to heat the ethane and "crack" it into ethylene.

"No one planned it. It was a coming together of all of these different disciplines," Keller said. "And when the company commissioned a study to see where in the country was natural gas with the highest percentage of ethane in it... Guess what? It was right here, in West Virginia!"

Once you have ethylene, you can make 40 to 60 percent of the world's chemicals.

Soon, Carbide needed more land to expand. It moved to South Charleston. Opening in 1927, Carbide's Blaine Island plant was the world's first true petrochemical plant. "The plant grew like crazy – and so did the industry," Keller said.



West Virginia's Chemical Valley contributed to winning World War II. Its chemistry kept planes in the air, jeeps rolling on the ground and allowed paratroopers to jump behind enemy lines.

- » Carbide made synthetic lubricants for the fighter planes and solvents for paints to prevent rust. Many are still used today.
- » When Japan invaded Indonesia and cut the Allies' rubber supply, the federal government paid Carbide and U.S. Rubber Company to invent the process and build a plant in Institute, W.Va., to develop and make synthetic rubber. Institute produced 60 percent of the country's rubber during WWII. Later, B.F. Goodrich hit the U.S. roads with this product.
- » DuPont's Bell, W.Va., plant was the world's first nylon plant. They made all of the nylon for parachutes during the war – and all the nylon for stockings and new fabrics in peacetime, too.

Illustrating the uses of West Virginia-made nylon for both stockings and parachutes, renowned female artist Zoe Mozart's 1943 "Chute the Works" was featured in calendars for the men fighting overseas in World War II.

West Virginia Knows Chemicals

Kevin DiGregorio rattles off the state's advantages by heart: "West Virginia has a great, traditional workforce of more than 12,500 chemical workers. After coal, chemicals are our state's second-largest export. We have some of the top chemical companies in the world: Dow, DuPont, Bayer, PPG and SABIC. We have great sites. We're within 500 miles of half the U.S. population and major markets..."

"Beyond all that, West Virginia knows chemicals."

DiGregorio is the executive director of the nonprofit Chemical Alliance Zone (CAZ). To him, a small state is an advantage for new companies. Folks at all levels of government understand and work with the industry.

In recent years, CAZ, along with the West Virginia Development Office, has championed the strategy of co-location.

"We have several chemical plants around the state that have extra capacity and real estate to offer, including Bayer Crop Science's Institute

Kureha PGA polymer facilities within DuPont's Belle, W.Va., plant. Co-location allows chemical plants to come online more quickly in West Virginia by sharing infrastructure.



site, PPG Industries and Bayer's plants in New Martinsville, Dow's South Charleston facility or DuPont's Belle plant. Existing infrastructure is a big selling point for a new chemical company coming into the market," said DiGregorio.

In addition to public utilities, many of the co-location facilities offer new tenants access to wastewater treatment processes, safety and security systems and the opportunity to leverage existing air and water permits. Often, excellent transportation by rail, truck and barge is available on site, too.

"By offering a shared-site business model, companies are able to save considerable costs and time in starting production. Often they can access feedstock chemicals, too," DiGregorio explained. He pointed to Kureha PGA LLC as a recent example.

Japan-based Kureha is a specialty plastics facility, expected to produce 8.8 million pounds (4,000 metric tons) of polyglycolic acid (PGA) each year. Marketed under the trade name Kuredux®PGA, the polymer's properties include high strength, biodegradability and low gas permeability, ideal for food and beverage packaging. By co-locating on 3.5 acres of DuPont's Belle, W.Va. site, Kureha easily obtains its primary feedstock from its host, the world's largest glycolic acid plant.



An Innovation Factory for a New Generation

Kureha is only one of many new innovative polymer or chemical companies coming online. Another is Aither Chemicals, LLC, a spinout MATRIC venture.

Aither is improving upon an alternate method for making ethylene that Carbide invented more than 30 years ago. Aither's process uses a catalytic cracking method. It is designed to work economically at the same or smaller scale, with less start-up costs and fewer emissions than a traditional steam cracker. Aither already is attracting the attention of Pittsburgh-based Renewable Manufacturing Gateway (RMG) to line up funds to build its first plant in Appalachia's Marcellus Shale region.

Another MATRIC spinout company has developed a truck that treats "frac water" – the wastewater from the hydraulic

fracturing process used to extract natural gas from Marcellus Shale – and makes it safe to return to the environment. A demonstration unit was unveiled in January. Both of these ventures are home-grown West Virginia companies housed at the 258-acre West Virginia Regional Technology Park – the very same place once known as Carbide's Tech Center.

In December 2010, the state of West Virginia acquired the Tech Center campus from The Dow Chemical Company,

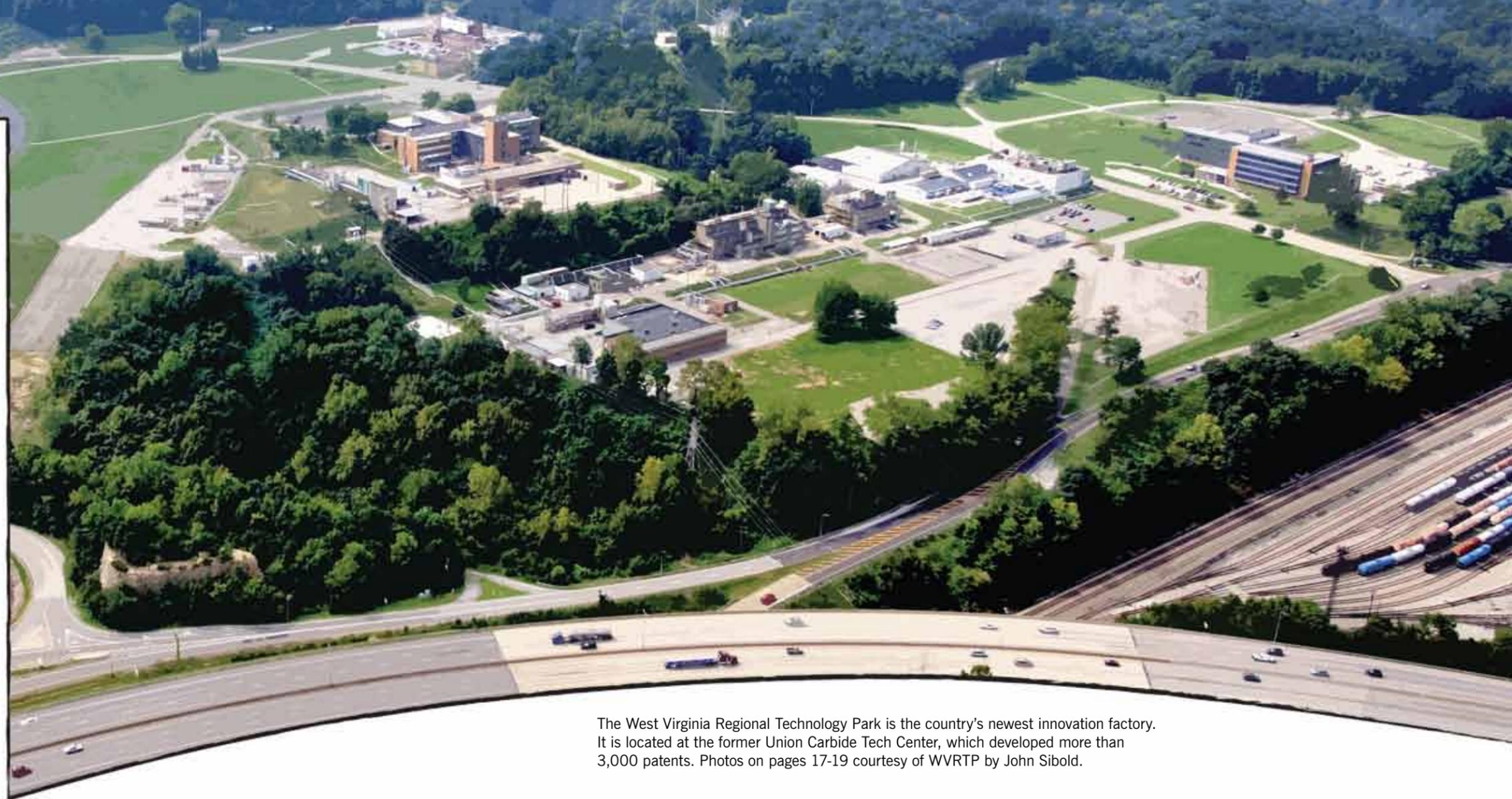
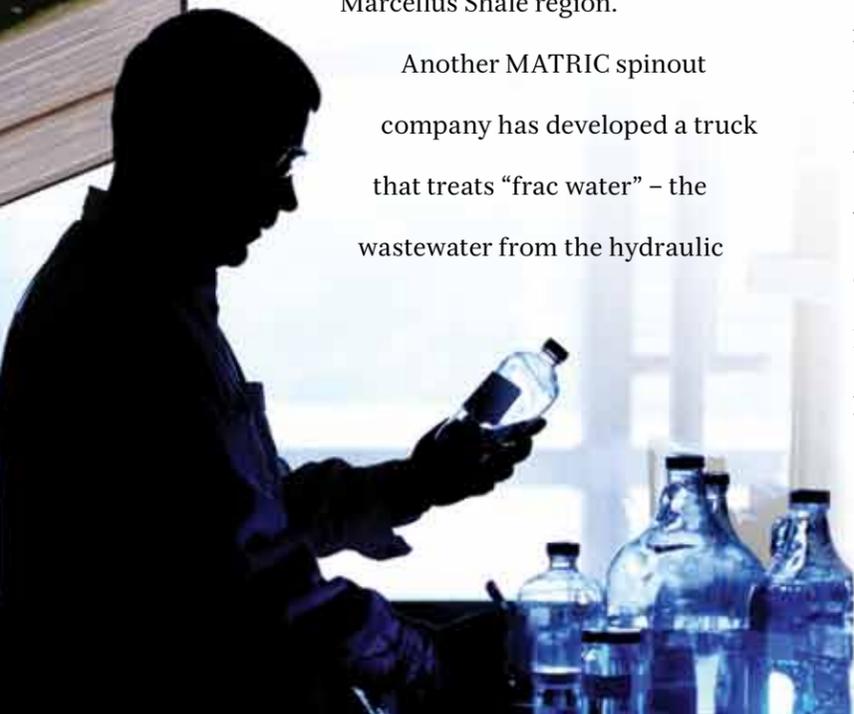
The West Virginia Regional Technology Park is the country's newest innovation factory. It is located at the former Union Carbide Tech Center, which developed more than 3,000 patents. Photos on pages 17-19 courtesy of WVRTP by John Sibold.

when the site was facing closure. The new "Tech Park" not only saved 550 threatened jobs but also soon added more than 50 others, with prospects for many more as technology companies consider locating or expanding at the site. CAZ plans to build an incubator for start-ups, too.

The Tech Park offers large laboratory space within two buildings, each with more than 130,000 square feet of space. Having four pilot plants, it is unlike any other research

facility in the nation. This configuration allows for medium-scale research and testing, an important step in determining the viability of a new process or invention before a company invests in a large-scale production facility.

It's déjà vu all over again. The Tech Park is becoming an innovation factory, again – bringing more education, research, jobs and revenue to West Virginia. Welcome to the home of a new generation of world-class chemical innovation: South Charleston. **E**



Small businesses

SCORE

BIG



in WEST VIRGINIA'S
ECONOMY

More than 95 percent
of West Virginia's
employers are
small businesses.

How big can a business be and still count as “small?” That depends on what industry it’s in, according to the U.S. Small Business Administration (SBA). For example, the SBA sets the size standard for the wholesale trade at 100 employees; for manufacturing, up to 500.

When a group represents such a large part of your economic team, you want a skilled coach preparing them to perform at their best. You can find West Virginia’s business coaches in the Small Business Development Center (SBDC).

By Catherine Zacchi

“SBDC walked me through the process of getting a business license and making sure I had all the paperwork filed...”

“They’re in the game with us,” said Frances Brooks, CEO, BrooAlexa Construction, Charleston. Started as a small trophy-making shop, BrooAlexa has evolved into a multi-state construction firm with multi-million dollar federal contracts.

“The SBDC has helped us with strategic planning, business development, marketing, budgeting and more,” she said. “Whenever we have a problem, they can help us write the corrective action plan. We aren’t out there on our own. Many times, we’ve had desk-side help.”

A network of 14 centers spread around the state means business owners never have far to go for help.

“We offer business expertise to entrepreneurs,” said Kristina Oliver, SBDC director. “We help entrepreneurs get the right support at the right time.”

When Kara Gray was ready to turn her years of corporate public relations experience into her own start-up company in 2003, she turned to her local SBDC office for help.

“When I decided to get a business license, I had no idea what to do,” she said. “I went to the Small Business Development Center at



*Owner Kara Gray
New Horizon Consulting*

West Virginia Northern Community College in Wheeling. The center manager Donna Schramm walked me through the process of getting a business license and making sure I had all the paperwork filed with the Secretary of State and the tax office.”

Today, Gray’s company New Horizon Consulting provides writing, marketing and communications services to clients in the United States, Canada, Germany, Israel and China.

She continues to work with the SBDC, holding marketing and public relations workshops for the West Virginia SBDC and the SBA. Gray helped organize an Orchestrating Your Life women’s conference, now an annual event in Wheeling. She was named the 2010 Women in Business Champion of the Year by the SBA’s West Virginia District Office.

Three Steps Lead to SBDC Right Resources

The new SBDC Three-Step Jump Start program helps West Virginia entrepreneurs get a fast start on a winning performance. Step 1 is to watch a video posted on the WWSBDC website www.wwsbdc.org that explains what SBDC does and what services it offers.

Step 2 is to attend the SBDC workshop that matches your business’s stage of development. The Fundamentals workshop

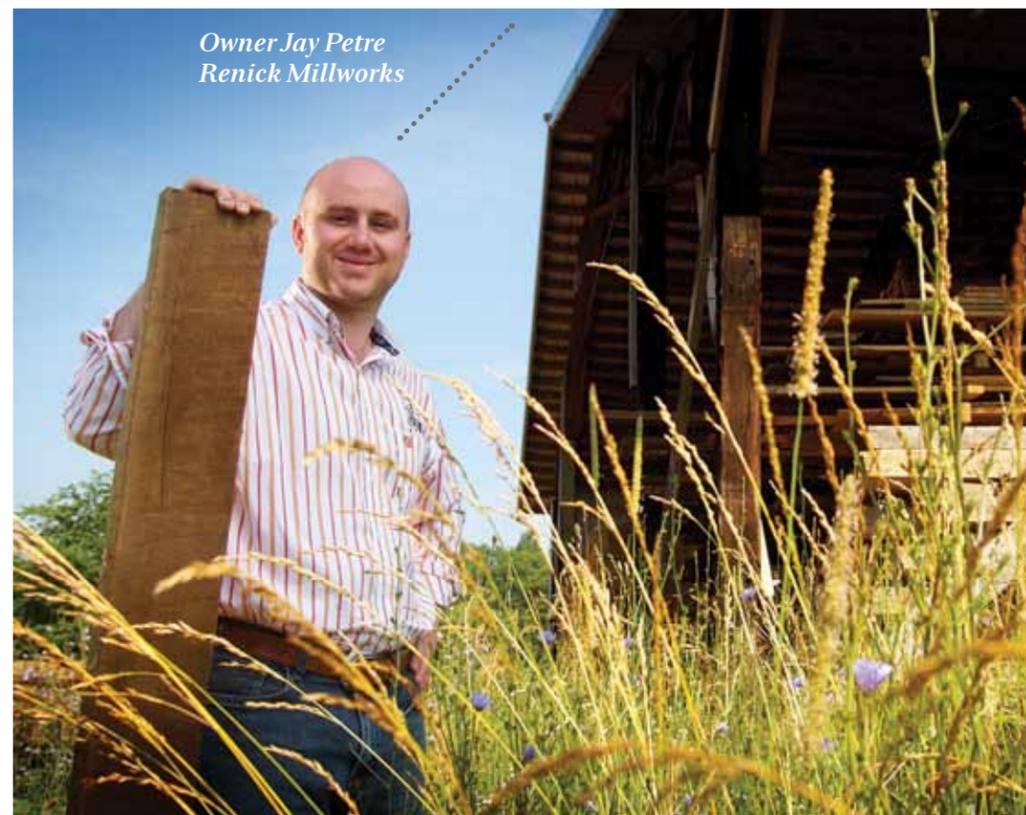
is for entrepreneurs in business for one year or less. It provides basic tools and explains what the new entrepreneur needs to bring to the first meeting with a SBDC coach. The Sustainable Growth workshop is for entrepreneurs with businesses established for more than a year. It focuses on how to grow, expand or refresh a business.

Step 3 is meeting with the SBDC business coach. “SBDC coaches can’t play the game for them, but we can help business owners

sharpen their game plan and increase their chances for success,” Oliver said. “Depending on their needs, we can help them create a strategy to start a new business, expand an existing one and understand finances.”

Jay Petre had already laid the foundations of his business, Renick Millworks, before

“SBDC has been here multiple times to prepare our books to go to a financial institution with funding proposals.”



*Owner Jay Petre
Renick Millworks*

contacting the SBDC. After graduating high school, Petre and his brother demolished old buildings and sold the raw wood, mostly to flooring companies. In 2005, Petre borrowed money from his father to build a wood processing mill, opening Renick Millworks in Greenbrier County. The business transitioned out of demolition and into producing high-quality reclaimed wood flooring, beams and millwork and other antique building materials.

Petre worked with business coach Jim Epling from the SBDC office in Summersville.

“Jim helped us access an Appalachian Regional Commission interest-free loan to pay down debt,” said Petre. “He has been here multiple times to prepare our books to go to a financial institution with funding proposals. The SBDC has helped us with QuickBooks training, too.”

Renick Millworks used its demolition roots and a basic website to grow the company. Sales increased from \$180,000 the first year to approximately \$1.2 million by 2008.

The SBA recognized Petre’s success by naming him West Virginia’s “Young Entrepreneur of 2010.”

Small businesses in West Virginia now have access to new loan funds they can use to invest, expand and create jobs.

The West Virginia Capital Access Program (WVCAP) is the state’s new program designed to increase small business access to capital. The program was announced in December 2011 when the United States Department of the Treasury approved the state’s application for State Small Business Credit Initiative (SSBCI) funding. The approval gives West Virginia access to \$13.1 million to fund new small business lending programs.

“West Virginia’s small businesses already have talent and dedication. Now this program will equip them with the capital they need to invest in their businesses, expand and create new jobs,” said Gov. Tomblin. “Small businesses account for more than 90 percent of the employers in the state. An investment in our creditworthy small businesses is an investment

Currently, plans call for WVCAP to support four new credit programs:

- WVCAP Seed Capital Co-Investment Fund
- WVCAP Subordinated Debt Program
- WVCAP Collateral Support Program
- WVCAP Loan Guaranty Program

in the economic vitality of our communities and our state.”

The West Virginia Department of Commerce will provide matching funds for a Claude Worthington Benedum Foundation grant proposal to promote public awareness of the WVCAP initiative and awareness of services that will maximize economic growth.

The SSBCI program, a key component of the Small Business Jobs Act of 2010, was funded with \$1.5 billion to strengthen state programs that support lending to small businesses and small manufacturers. SSBCI funds are expected to generate a minimum of \$10 in new private lending for every \$1 in federal funding. The federal SSBCI is expected to help spur up to \$15 billion in lending to small businesses.

Under the SSBCI, all states have the opportunity to apply for federal funds for state-run programs that

partner with private lenders and investors to increase the amount of credit available to small businesses.

Participating states will use the federal funds for programs that leverage private lending to help finance small businesses and manufacturers that are creditworthy, but are not getting the loans they need to expand and create jobs.



Protea Bioscience, Morgantown,
\$100,000 loan originated by West Virginia Jobs
Investment Trust (WVJIT)

In January 2012, WVCAP approved several organizations as lending sources. They are:

- WVJIT, the state’s venture capital fund
- Natural Capital Investment Fund
- West Virginia Rural Health Infrastructure Loan Fund
- INNOVA Commercialization Group
- New River Regional Development Authority
- Mid-Ohio Valley Area Development Corporation
- Ohio Valley Industrial & Business Development Partnership

FOR MORE INFORMATION,
CALL WEST VIRGINIA
JOBS INVESTMENT TRUST,
304-345-6200.

Accredited Team

West Virginia SBDCs received accreditation from the Association of Small Business Development Centers, vital for West Virginia's small business centers to continue receiving funds from the U.S. Small Business Administration.

Honors were also earned by SBDC business coach Jamie Gaucher. In 2011, he received a Technology Counselor Certification, becoming one of only 39 certified technology business coaches nationwide. The certification requires expertise in technology transfer and commercialization, research and development funding, intellectual property issues, tech networking/resource identification and alternative financing.

"The SBDC works hard to meet the needs of West Virginia's entrepreneurs and technology-based businesses," said Oliver. "Jamie's achievement furthers our goal to provide expert business coaching and technical assistance to the state's innovators."

Gaucher manages the West Virginia Small Business Innovation Research and the Small Business Technology Transfer (SBIR/STTR) programs. The federal SBIR/STTR programs

“SBDC works hard to meet the needs of West Virginia’s entrepreneurs and technology-based businesses”



*Kristina Oliver
SBDC Director*

provide a billion dollars each year in early-stage research and development awards and contracts to small technology companies.

"The Technology Counselor Certification fits squarely into SBDC plans here to gain accreditation as a Small Business Technology Development Center," said Gaucher. "It opens the door to have someone within the Development Office focused exclusively on technology-based economic development."

Among the technology companies SBDC works with is Rowdy Orbit. CEO Jonathan Moore describes the company as an online network that airs more than 140 Web shows geared toward African American, Asian and Hispanic viewers.

A former advertising copywriter, Moore and his wife decided to move from his native

Baltimore to West Virginia, where they could buy more house and a better life for less.

"I knew if I was going to start my business that this move would be the path," he said.

Moore contacted Christina Lundberg of the SBDC office in Martinsburg, where he found help with business planning, time management training and local resources. Rowdy Orbit connected with Shepherd University and works in association with the University's communications and film departments. He hired an intern as one of Rowdy Orbit's three employees.

"If you connect to the right people, there's a lot of collaboration here," he says. "The SBDC people challenge me, inspire me and help me see opportunities."

"West Virginia's SBDC coaches can help with business plan development, financial statement preparation, cash flow analysis and other services small businesses need," said Oliver. "If you want to find out whether you're ready to get in the game, or get help upgrading your skills for a championship season, the West Virginia SBDC is committed to helping you succeed."

For more info, visit www.wvsbdc.org or call 888-982-7232. **E**

“SBDC people challenge me, inspire me and help me see opportunities... If I was going to start my business this move would be the path... ”

*CEO Jonathan Moore
Rowdy Orbit*



WV Inventors' Toolkit: HIGH-TECH R&D

By Jim Casto, RCBI

Photos courtesy of RCBI by Rick Lee

Jeff Imel (left), shown here with RCBI Director of Manufacturing Services Arley Carpenter, has worked closely with RCBI since moving his company, Air Robotics, Inc., to West Virginia.



Photo courtesy of NASA

When the space shuttle Atlantis thundered into orbit in May 2009, it had aboard a vital piece of equipment that might easily have carried a “Made in West Virginia” label. On board the shuttle was a new camera destined for the Hubble Space Telescope, carefully stored in a protective carrier built in West Virginia.

The Super Lightweight Interchangeable Carrier – called “SLIC” for short – was built at FMW Composite Systems Inc. in Fairmont, working closely with the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI) and NASA’s Goddard Space Flight Center in Greenbelt, Md.

The SLIC looks very much like an ordinary hotel luggage cart, but it’s a truly revolutionary piece of equipment because it’s crafted from carbon fiber composite material, making it both lighter and stronger than its all-metal predecessors.

“It performed magnificently well,” Frank Cepollina, deputy associate director for the Hubble Space Telescope Development Project at Goddard, said following the flight. “It’s the carrier that basically made this mission possible. ... The Hubble team, with the help of RCBI and FMW Composites, has led the way



The Handyscan 3D Digital Laser Scanner, used here by RCBI Production Engineer Christopher H. Figgatt, is self-positioning and truly portable, meaning it can perform work anywhere, from RCBI to a shop floor or even in the field for a quick assessment.

with SLIC. These composite structures will play a vital role in the future of all human space flight.”

RCBI became involved in the project soon after FMW won a contract to build the carrier, said Director and CEO Charlotte Weber. FMW utilized test equipment, training facilities, laser measuring systems and computer-controlled lathes and mills at RCBI.

RCBI has also assisted FMW in developing titanium matrix and metal components for a variety of applications for Boeing Aircraft, GE Engines and Rolls-Royce Engines.

“I can’t overstate how critical the assistance from RCBI is to our business,” said FMW President Dale McBride. “We regularly take advantage of RCBI expertise, whether in the form of technical training or the high-

“**RCBI** not only **ALLOWED US TO USE HIGH-TECH MACHINES** that we wouldn’t otherwise have had access to, but **PROVIDED TRAINING FOR OUR EMPLOYEES** to help them use the latest technology.”

Rick Houvouras,
Managing Partner
STAR TECHNOLOGIES, LLC

tech equipment that ensures we are able to complete our projects on time and, at the same time, meet the stringent requirements.”

Established in 1990, RCBI serves as an innovative catalyst for economic development by providing manufacturers, entrepreneurs and workers access to the 21st century equipment and skills they need to compete in today’s global marketplace.

RCBI’s Advanced Manufacturing Technology Centers in Huntington, Charleston, Bridgeport and Rocket Center (near Keyser in the state’s Eastern Panhandle) offer leased time on state-of-the-market, computer-controlled manufacturing equipment and a wide variety of technical training (general and customized on-site training), as well as workforce development initiatives.

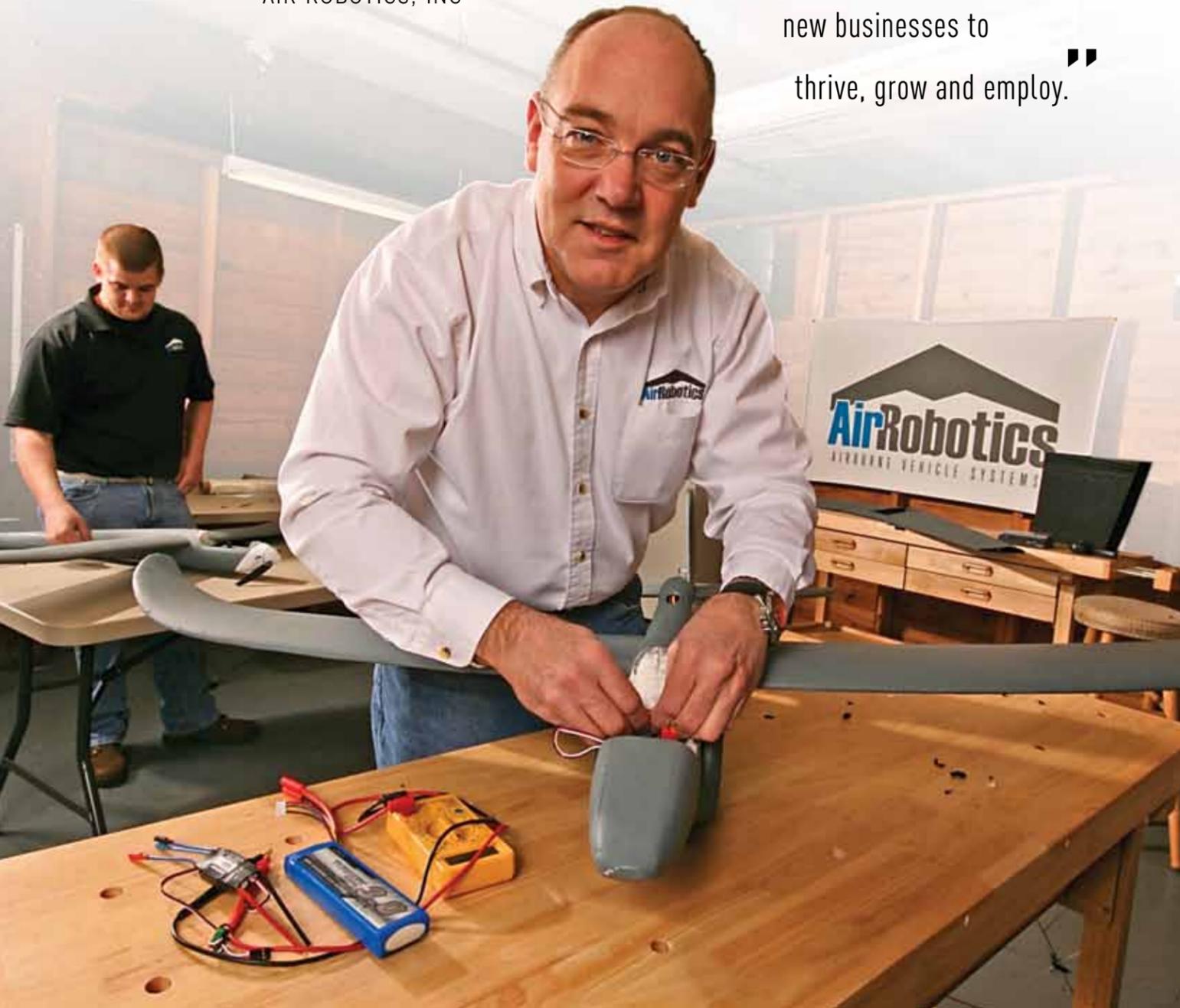
Cutting-edge technologies available at RCBI include reverse engineering, 3D printing and prototyping, laser cutting, wire EDM, Swiss turning center, and waterjet technology. Services include quality certification/implementation, business development and the 21st Century Manufacturing Network, a computerized database linking West Virginia manufacturers and providing up-to-the-minute information on contract opportunities. RCBI’s Bridgeport facility is home to West Virginia’s Composite Center of Excellence, which worked closely with FMW on the SLIC project.

“Not every project we’re involved with is as exciting or glamorous as SLIC,” said Weber. “But we approach each with the same level of dedication and commitment. And make no mistake about it, SLIC dramatically

“I TELL ALL OF MY PEERS that are in high-tech manufacturing THE ONLY PLACE TO BE RIGHT NOW IS West Virginia.”

We have RCBI, MATRIC, TechConnectWV, the West Virginia High Tech Consortium, the Chemical Alliance Zone and so many more organizations that help new businesses to thrive, grow and employ.”

Jeff Imel, Owner
AIR ROBOTICS, INC



points the way to West Virginia's future – a future where the sky's no limit.”

Two entrepreneurs who can offer dramatic testimony to that fact are Rick Houvouras of Huntington and Jeff Imel of Charleston.

Houvouras is the managing partner of Star Technologies, LLC, which manufactures a broad array of fasteners for the aviation industry and other customers. In a typical year it will produce more than three million parts.

The company got its start in 1994, when Houvouras and a group of other local investors saw an opportunity in the departure of a long-time Huntington fastener plant, Adel Precision Products Corp. A California-based company bought the plant, closed it and moved the jobs to the West Coast. That left many of Adel's veteran employees jobless. Some had never worked anywhere else.

Enter Houvouras and the other local investors who teamed up and raised \$800,000 to start

Star Technologies. The new venture began operation by hiring a half-dozen former Adel employees – and turning to RCBI for help.

“RCBI not only allowed us to use high-tech machines that we wouldn't otherwise have had access to, but provided training for our employees to help them use the latest technology,” Houvouras said.

And, too, RCBI helped the company obtain the quality certifications required by major companies such as GE. “We now manufacture 200 different designs for GE,” Houvouras said.

Jeff Imel started out making model airplanes. Today he's the owner of Air Robotics, Inc., a company that makes and markets an ultralight flying drone that looks a lot like a miniature stealth bomber. It has a six-foot wingspan and weighs only 2.5 pounds. A payload



Air Robotics Im IV-B Airborne Vehicle System with Modular Payload Lifting System.

Photo courtesy Air Robotics, Inc.

pod strapped underneath can carry up to 15 pounds of cameras and sensors. Imel says he originally envisioned his creation as solely of use to the military but has come to realize it has broad civilian applications as well.

Imel moved his company to West Virginia from Indiana about two years ago and is quick to praise his adopted state.

“I tell all my colleagues that West Virginia is the place to be,” Imel said. “The opportunities here with the support of places like RCBI are comparable to none across the country. RCBI has been instrumental to our success here in West Virginia.”

RCBI
Advanced
Manufacturing
Technology Center located in
Bridgeport, W.Va.



Now, RCBI has unveiled its newest venture, its Design Works labs.

The Design Works labs offer inventors and entrepreneurs the tools they need to take their idea or concept to reality. Aspiring inventors or entrepreneurs can use specialized computer software to shape their ideas into three-dimensional digital computer models that can be used to create working prototypes. The prototype can then in turn be used to test the form, fit and function of the end-use product.

“Today’s new and emerging technologies are rewriting the book on manufacturing,” said Weber. “And I’m proud to say RCBI is playing an essential role in the book’s newest chapters.” **E**

RCBI’s HIGH-TECH in action:

RCBI offers access to new and emerging technologies such as the Fortus 3D Printer (pictured) for direct digital manufacturing and functional rapid prototyping.

» RCBI used its 3D printer to produce prototype automotive fuel filter housings and their components for Allevard Sogefi USA Inc. in Prichard, W.Va. “We primarily use it so that we can have actual prototypes we can display when we’re seeking new business,” said Brandon Smith, a process engineer with the company. “Having a 3D computer image is one thing, but it’s no match for having the real thing to show.”

» RCBI also used its 3D printer to complete a number of projects for a nationally known entertainment company that has asked not to be publicly identified. That request has prompted RCBI staffers to refer to the work done for the secretive company as “Project X.”

» RCBI enabled two Marshall University students to craft an aluminum prototype of their newly designed device that produces synthetic DNA as much as 20 times faster than all previous methods. The students and local investors have gone on to launch a successful company, Vandalia Research Inc.

» RCBI assisted a neurosurgeon at Marshall’s Joan C. Edwards School of Medicine in machining an artificial disc for implanting in spinal surgery.

» RCBI provided reverse engineering and programming assistance to Blackheart International of Philippi, W.Va., enabling it to engineer and produce a 3D model of a gunstock used by U.S. Special Operations forces.

» RCBI worked with Boeing Phantom Works and Cytec Advanced Materials to identify new materials and procedures to fabricate and repair composite materials.

» RCBI provided Meadow River Enterprises of Lewisburg, W.Va., with technical assistance in development of an electroluminescent lamp that produces highly visible light, a new product with a wide range of military and civilian applications.



Come & See

By Andrea Bond

Choose to live amid natural, scenic beauty.

Own more home for your money. Spend weekends enjoying world-class recreation.

West Virginia's perfect-sized metros and Main Street communities balance a higher quality of life with entrepreneurial opportunity.

Founded in 1769 and 1782, Wheeling and Lewisburg have a long history of hospitality in distinctively different corners of the state. Both are winning kudos from the national press. Forbes magazine lists Wheeling as one of the "10 Best Places to Live Cheaply" in the United States, citing its highly rated schools, low crime and low unemployment. Budget Travel Magazine calls Lewisburg "America's Coolest Small Town."

Come and see why!

LEWISBURG

Residents of Lewisburg will tell you there is a popular saying about their town: "Only two kinds of people ever leave Lewisburg – those who will return and those who wish they could."

Indeed, there is something about this hamlet nestled in the hills of Greenbrier Valley that keeps visitors coming back. In 2011, Lewisburg was the winner of Budget Travel Magazine's "America's Coolest Small Town" contest.

So what is it that makes Lewisburg (population 3,860) so cool?

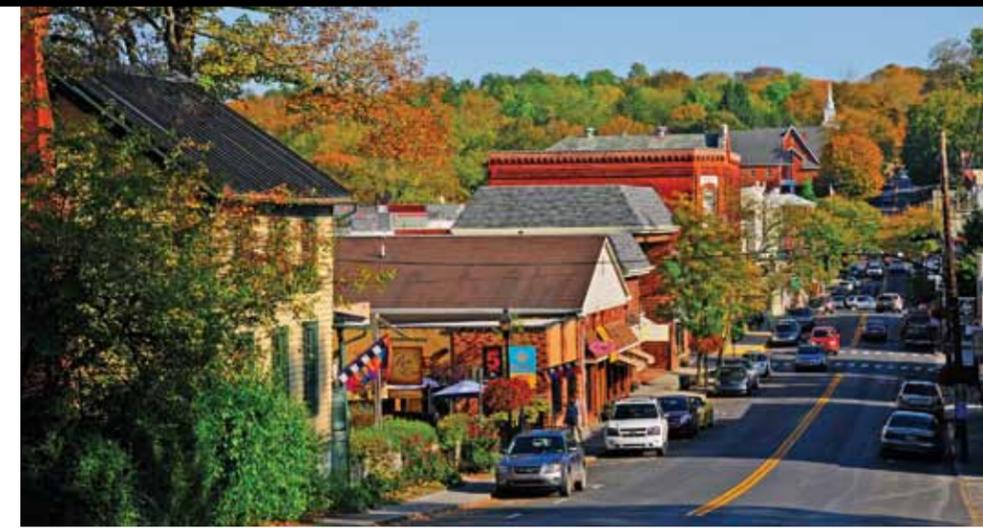
There are many factors, according to Mayor John Manchester.

"People value the small-town aspects of Lewisburg – small

enough to bump into people you know on a regular basis – but we also value the larger community aspects of access to high-quality cultural activities and events, combined with a variety of quality places to eat and shop," Manchester said.

The scale of the downtown is compact enough to make it walkable, engaging and active, he added. Its vibrant downtown is filled with a complementary mix of unique shops, restaurants and arts venues.

Lewisburg was named the second Certified Arts Community in the state, reflecting an active arts scene anchored by one of only four Carnegie Hall performing arts



centers in the world; Greenbrier Valley Theatre, the official State Theatre of West Virginia; and the Lewis Arts Center, home to Trillium Arts Collective.

The Lewis Theatre and Carnegie Hall were both founding members of the West Virginia Historic

Theatre Trail, said Larry Levine, business coordinator at the Trillium.

"I think Lewisburg became the arts capital from a confluence of forces and determination to get the word out," Levine offered. "The area had a strong land-based and travel-oriented past,

FRIENDLY & LIVABLE & ENTREPRENEURIAL & BALANCED & OPPORTUNITY & AFFORDABLE & SAFE & FRIENDLY & HISTORIC & RELAXED & BALANCED & OPPORTUNITY & AFFORDABLE & DIVERSE & FRIENDLY & CULTURAL & MAIN STREET & BALANCED & THE ARTS & SAFE & HASSLE-FREE & ENTREPRENEURIAL

WHEELING

There is no shortage of things to do in this modest-sized city (pop. 30,000.) Wheeling visitors looking for a place to start have access to a wealth of information right at their fingertips.

"First, I would recommend that visitors download our Smartphone App. We are the only municipality in West Virginia that has such an App and it has a plethora of information on things to do, where to go and what to see," said Joelle Connors-Ennis, development specialist with Regional Economic Development Partnership (RED), a private, nonprofit organization that helps promote business in Ohio, Marshall and Wetzel counties.

If you want to learn about the Mountain State's origins, start

with Wheeling, where it all began during the Civil War.

The West Virginia Independence Hall was the capital of the Restored State of Virginia (which later became West Virginia.) The hall was a key asset for the new

state, serving as a customs house, federal court and post office. Businesses could ship goods to the city directly from foreign countries via the Mississippi and Ohio Rivers. Today the building houses a museum about West Virginia's path to statehood.

"It's run by the Division of Culture and History, and it's absolutely amazing," said Olivia Litman, marketing director for the Wheeling Convention and Visitor's Bureau. The building's courtroom has been restored to its original state. Admission is free.

The city strives to preserve its culture while encouraging business growth. Many commercial and residential buildings in Wheeling are eligible for historic preservation tax credits. For instance, in 2002, Orrick, Herrington & Sutcliffe pioneered the concept





and was home to two specialty schools, Greenbrier Military and Greenbrier Women's College (now West Virginia School of Osteopathic Medicine and the Greenbrier Campus of New River Community and Technical College). It was not dependent on an extractive industry or the railroad, so it did not have an extreme boom and bust cycle impact downtown."

Lewisburg hosts a variety of annual events that draw many first-time and returning visitors. These include Taste of Our Town, Lewisburg Chocolate Festival, Battle of Lewisburg, Shanghai

Stardust Cafe

Parade with the First Day Festival, Ivy Terrace series and the soon-to-be launched Literary Festival.

The town's proximity to recreational and cultural offerings make it an ideal setting as well. The Greenbrier River, the Greenbrier River Trail, the Monongahela National Forest and Greenbrier State Forest provide easy access to a variety of outdoor recreational activities. The Greenbrier Resort, about 10 minutes away, boosts the economy and provides a market for some artists. The State Fair of West Virginia is held annually in nearby Fairlea.

That's a lot of excitement for a little town that happens to be one of the oldest in the state. Lewisburg, founded in 1782, was the third incorporated town within what is now West Virginia.

Manchester said residents take care to preserve its history. "The downtown historic district has been well maintained by various business owners and

residents who take pride in their surroundings and support each other in maintaining the attractiveness of the community." While the town treasures its past, it always has one eye on the future.

"We keep the community very clean and set a high standard for city-owned properties," Manchester said. "We enforce building codes and maintain standards for the historic district through our Historic Landmarks Commission. The city pays attention to infrastructure needs and provides a safe, attractive, predictable environment for businesses to succeed." ■



balanced affordable

of consolidating a law firm's support services when it opened its around-the-clock operation in the historic Wheeling Stamping Building. Business costs are lower; meanwhile, Orrick's employees enjoy a high quality of life.

Another example of where history and arts merge is Wheeling's Heritage Port. It was the first "intermodal" transportation system in the area, serviced by river traffic, rail and road. The National Road, the nation's first federally funded road, terminated and then crossed the Ohio River here, on the suspension bridge. These days, the port is a hub of leisure activity.

"During the warmer months from April until the middle of



Orrick's facility office in the historic Wheeling Stamping Building

October, there is always some kind of festival or event going on downtown," said Connors-Ennis.

Other must-see attractions include Oglebay Resort, home of the Winter Festival of Lights, and Centre Market, with its unique collection of locally owned shops, art galleries and wine bars.

"It also has a science center and a community theater. There's an interesting vibe there," she said.

In addition to shopping, visitors can try their luck at Wheeling Island Hotel-Casino-Racetrack or take in a hockey game. The historic Capitol Theatre, which dates back to 1928, offers

regular live music and theater. Outdoor lovers can take advantage of more than 13 miles of railroad beds that have been converted into the Wheeling Heritage Trail for pedestrians and bicyclists.

Wheeling is a nice place to visit, but it's an even better place to live. In 2011, Forbes magazine listed the city as one of the "10 Best Places to Live Cheaply" in the U.S., citing Wheeling's highly

rated schools and low crime and low unemployment.

Litman says the low cost of living and the city's central location make Wheeling an ideal place to relocate. The city is centrally located off two major highways and is just 40 minutes away from Pittsburgh.

"The quality of life here is wonderful," Litman said. "It's safe, we have a lot of great opportunities going on with the oil and gas industry, and tourism is just through the roof." ■

"We're a growing city and a changing city, so it's always nice to be a part of that change."

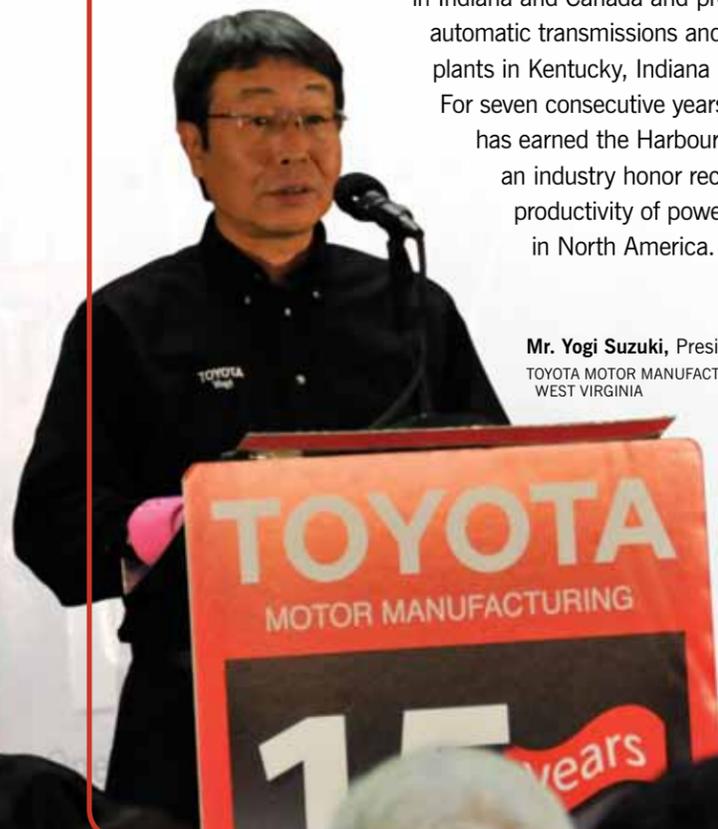
Olivia Litman, marketing director for the Wheeling Convention and Visitor's Bureau



TOYOTA: 15 Years in the Mountain State and Growing

November 2011 marked the 15th anniversary of Toyota Motor Manufacturing West Virginia (TMMWV). In March 2012, TMMWV showed it is still growing strong, with a \$45 million investment to expand production and the creation of 80 new jobs. The expansion will be carried out in two phases and is expected to be completed by July 2012. Toyota broke ground for the Buffalo, W.Va., plant in 1996 and has expanded TMMWV seven times in the decade and-a-half since then. The most recent expansion will bring Toyota's total investment of \$1.3 billion and increase employment at the plant to 1,200 people. TMMWV manufactures 4-cylinder and V6 engines for Toyota operations in Indiana and Canada and produces automatic transmissions and gears for plants in Kentucky, Indiana and Canada. For seven consecutive years, TMMWV has earned the Harbour Award, an industry honor recognizing productivity of powertrain plants in North America.

Mr. Yogi Suzuki, President
TOYOTA MOTOR MANUFACTURING
WEST VIRGINIA



\$500 million natural gas plant will be built in Marshall County

Power and energy giant Dominion plans to build a \$500 million natural gas processing plant adjacent to the PPG Industries Natrium plant near New Martinsville in Marshall County. When completed in 2012, the plant should create 40 to 50 permanent jobs. The Dominion plant will be strategically positioned to access production in the Marcellus Shale and the Utica Shale regions. Its location also will provide easy access to barge, rail, truck and pipe modes of product transportation.



Eight great state companies rank on 2011 Inc. 500/5000 Lists

Eight West Virginia companies were named to the 2011 Inc. 500/5000 list of top businesses. The following rankings show the firms' place in the Top 5000 and within their industries:

PracticeLink #328
Hinton, Summers County
Health industry: #290

Cenergy #622
Milton, Cabell County
Energy industry: #17

McKinley Carter Wealth Services #1372
Wheeling, Ohio County
Financial Services: #69

KeyLogic Systems #1395
Morgantown,
Monongalia County
IT Services industry:
#157



HMS Technologies #1450
Martinsburg, Berkeley County
Government Services industry: #144

Reliable Environmental Transport #1600
Bridgeport, Harrison County
Environmental Services industry: #22

digiBlitz Technologies #2892
Martinsburg, Berkeley County
IT Services industry: #362

Advanced Technical Solutions #3482
Scott Depot, Putnam County
IT Services industry: #453

Miller named National Trust Advisor Chair

The National Trust for Historic Preservation has named Monica Miller as Chair of the Board of Advisors. Miller is West Virginia's manager for local capacity development and the past state coordinator for Main Street West Virginia, both programs of the West Virginia Development Office.

The National Trust for Historic Preservation is a nonprofit organization dedicated to saving historic places and revitalizing communities. West Virginia is home to 12 accredited Main Street communities and 16 OnTrac communities that follow the National Trust's Main Street Center's Four-Point Approach®, which focuses on economic revitalization of historic commercial districts by providing technical assistance and training.

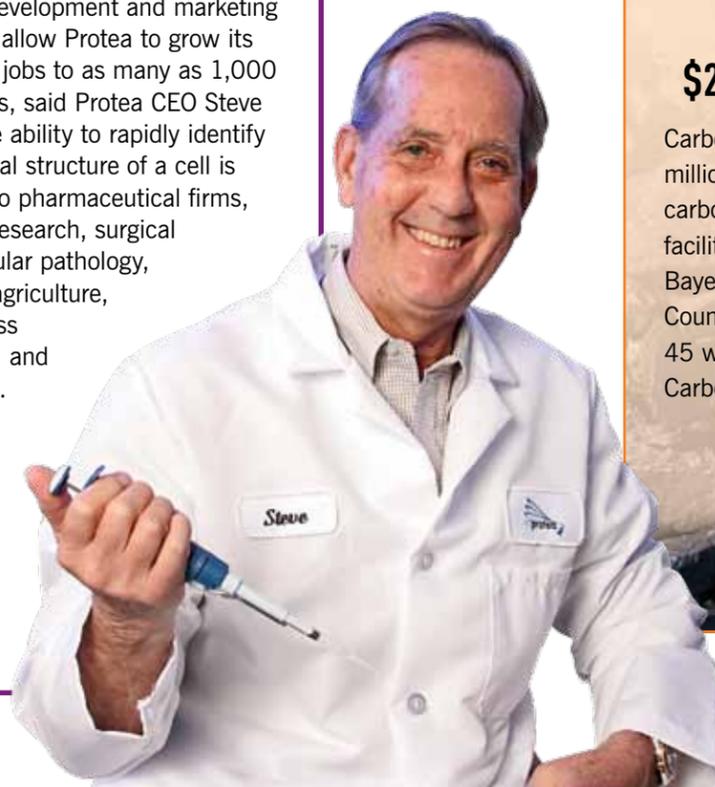


PROTEA Named International Innovator

In January, the international journal, *The Scientist*, recognized Protea Biosciences, Inc., Morgantown, among the "Top 10 Innovative Technologies" in the life sciences industry. Protea won for its Laser Ablation Electrospray Ionization (LAESI) technology – the first technology in the world that allows realtime molecular imaging and analysis of live cells. LAESI allows scientists to see the entire chemical structure of cells of living organisms in about one minute, saving hours in process time.

The machine is designed and built by Protea, which has the exclusive patent rights. LAESI's invention and exclusive development and marketing rights may allow Protea to grow its current 50 jobs to as many as 1,000 in five years, said Protea CEO Steve Turner. The ability to rapidly identify the chemical structure of a cell is beneficial to pharmaceutical firms, biological research, surgical and molecular pathology, forensics, agriculture, food process monitoring, and other fields.

Stephen Turner, CEO
PROTEA
BIOSCIENCES,
INC.



Glen Ferris Hydroelectric Plant Powers Up

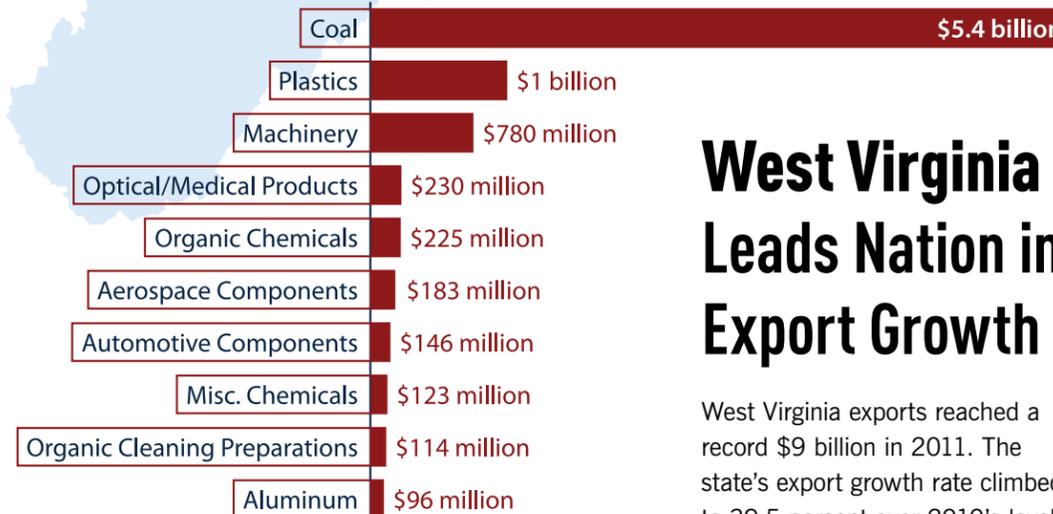
Brookfield Renewable Power recently completed a \$25 million rehabilitation of its Glen Ferris plant that will restore the facility to full production. Conversion of the plant's eight units will allow higher voltage output, making the plant capable of supplying electricity to 4,500 households. In addition, plans called for construction of a new access bridge, upgrade of cranes in two powerhouses and installation of new step-up transformers, generator breakers and controls. The plant was built in 1899; it was purchased by Brookfield in 2006.

Australian Firm to Build \$29 Million Plant in Institute

Carbonxt Inc. plans to construct a \$29 million plant to convert coal into an activated carbon product. The 45,000-square-foot facility will be built on acreage leased from Bayer CropScience in Institute in Kanawha County. The plant will eventually employ 45 workers. Carbonxt Inc. is a subsidiary of Carbonxt Group Limited of Australia.



TOP West Virginia 10 Export Product Sectors (2011)



West Virginia Leads Nation in Export Growth

West Virginia exports reached a record \$9 billion in 2011. The state's export growth rate climbed to 39.5 percent over 2010's level of \$6.4 billion, leading the nation in percentage growth. The U.S. export growth rate increased 15.8 percent for the same time period.

West Virginia's export growth rate was fueled in part by coal, which grew from \$2.8 billion to \$5.4 billion. Non-coal exports also turned in record performances, reaching more than \$3.6 billion. Plastics, the second largest product sector, exceeded the \$1 billion level for the first time in the state's history.



WV Launches Comprehensive Vet Site

West Virginia's veterans' services are available at one convenient online location: wvmilitaryconnection.org. It helps military personnel and their families connect with information on employers, educational opportunities, family resources and other available benefits.

Milestone Reached on FBI Center

The FBI hosted a "topping off" ceremony in November to celebrate the placement of the final steel beam in the new Biometrics Technology Center. The center, on the campus of the FBI's Criminal Justice Information Services headquarters in Clarksburg, is a joint project of the FBI and the Department of Defense. When it becomes operational around 2014, the new facility is expected to create about 1,200 new FBI jobs and 160 Department of Defense positions.





DIRECTV

\$25 million investment spurs DirecTV to create 100 new jobs

DirecTV's Huntington office receives 700,000 or more calls per month about activation, upgrades and sports programming. With that kind of workload, it was only a matter of time before the company needed a new call center. The new facility features a high-tech training room, ergonomic workstations and employee fitness center among other amenities. The equipment and building revitalization represent an investment of \$25 million that enabled DirecTV to retain 730 jobs and add another 100.



Constellium Starts Up \$46 Million Stretcher

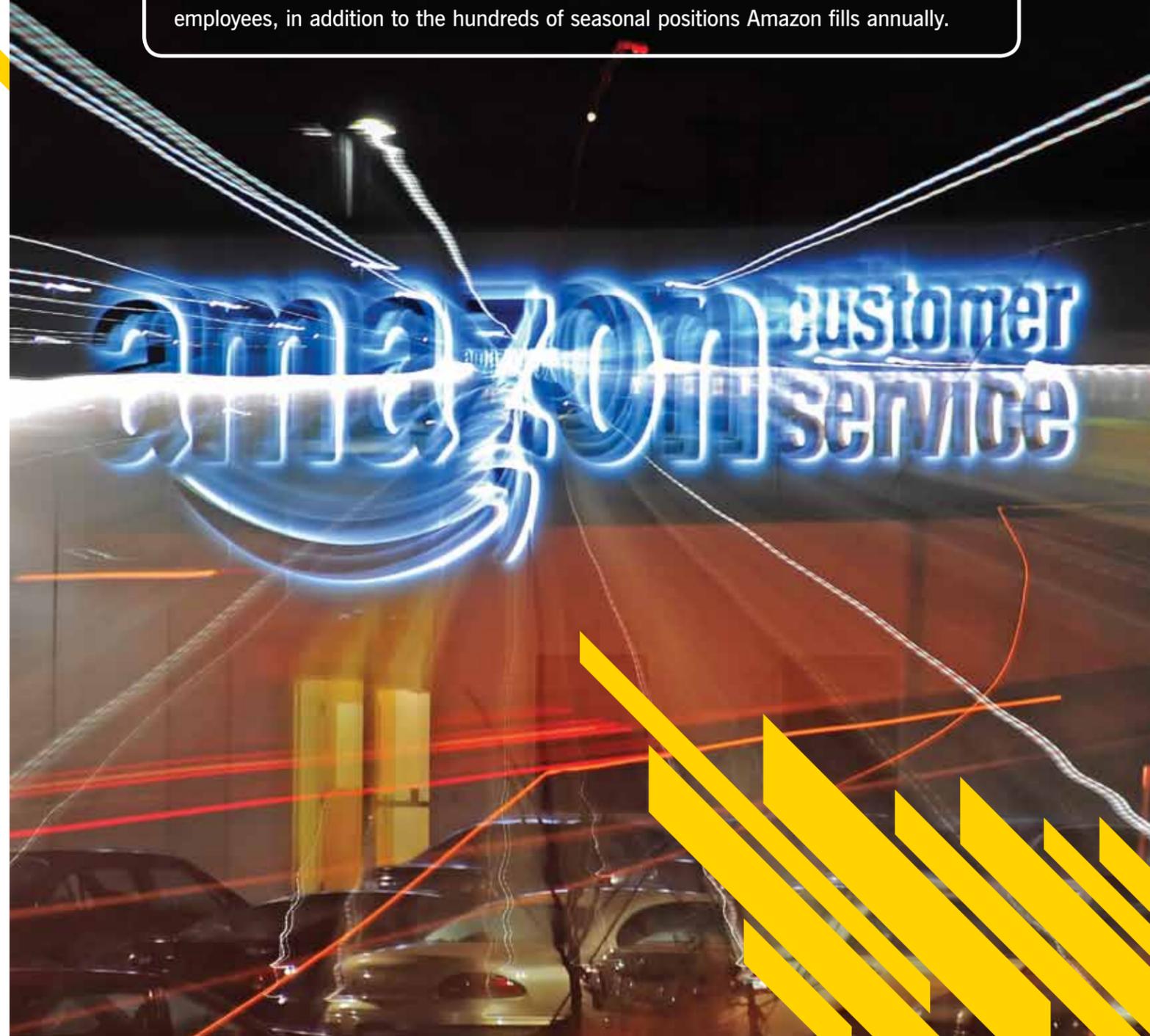
Gov. Earl Ray Tomblin joined other state, local and company officials at a ribbon-cutting ceremony at Constellium in Ravenswood in January 2012. The event celebrated the commissioning of the plant's new 30 million-pound stretcher. Unique to the Ravenswood facility, the stretcher provides high technology and production capabilities that allow Constellium to offer high-quality and value-added aluminum plate to its customers. Constellium is a key supplier of advanced aluminum products and solutions for aerospace, defense and a variety of other markets. The re-build represents a \$46 million investment.

POLYMER PLANT PRODUCES \$150 MILLION INVESTMENT

Kureha PGA LLC held a grand opening on Sept. 26, 2011, of its new Belle facility. The plant will produce polyglycolic acid (PGA) to be used in beverage containers, food packaging, medical and electronic applications, oil recovery and other industrial products. Location in the DuPont Belle complex allows Kureha to obtain primary feedstock from the neighboring DuPont plant, reportedly the world's largest glycolic acid facility. Kureha, a Japanese company, made a \$150 million investment in the polymer plant that currently employs 35 workers.

amazon.com[®] expansion could add 200 full-time jobs by 2014

On Nov. 4, 2011, Amazon.com, Inc. opened a new customer service center at Kinetic Park in Huntington. The 70,000-square-foot expansion of Amazon's first East Coast operation is expected to create more than 200 full-time jobs by December 2014. These new jobs will bring the company's Huntington workforce to 427 full-time employees, in addition to the hundreds of seasonal positions Amazon fills annually.



BUSINESS AT THE SPEED OF LIFE



STāSIS



“We knew **WE WERE MOVING**
OUTSIDE OF CALIFORNIA.

So, we looked at a number of states.

WEST VIRGINIA really stood
above the rest. It was resources,
the quality of life and the
PERSONAL ENGAGEMENT OF
THE GOVERNMENT.”

See how
West Virginia
helps world-class
businesses like
STāSIS succeed.



Paul Lambert, President

STāSIS ENGINEERING Summit Point, W.Va.

West Virginia Development Office WVDO.org 800.982.3386

