

VIRGINIA

INVESTING IN INNOVATION

BY SUSAN BURNELL

More than 400 years ago, Virginia was founded as a business venture. That legacy continues. The Commonwealth is positioned to extend its reputation as a leading state for business well into the future.



"Business decision makers recognize the value of Virginia's high-quality workforce, robust economy, strong education system, smart regulatory environment and excellent quality of life," says Governor Terry McAuliffe. "We are working to grow and diversify our economy and remain competitive. Together, we will continue to attract innovative companies to Virginia, help our existing businesses thrive and ensure that Virginia is a leader in 21st-century industries."

Business Climate: Friendly on All Fronts

Virginia creates a profit-friendly environment with competitive operating costs, stable taxes and robust business incentives. The Commonwealth boasts a stable 6% corporate income tax, which is one of the lowest in the nation. "That tax has not been changed since 1972, and it is not changing," McAuliffe says.

Since taking office in January, McAuliffe has announced 157 economic deals worth about \$4.2 billion in capital investment.

The largest is Tranlin, Inc., the U.S. subsidiary of Shandong Tranlin Paper Co., Ltd., a world-leading Chinese pulp and paper company. The company announced a historic \$2 billion investment over the next five years to build and operate its first U.S. facility in Chesterfield County. It's the largest foreign direct investment ever led by a China-based, privately owned company in the U.S., and will generate more than 2,000 jobs in Virginia by 2020.

Separately, Virginia successfully competed against Mexico and other locations to win the \$150 million expansion project planned by automotive supplier Continental. The project is expected to create approximately 500 new jobs in the City of Newport News.

In September, McAuliffe announced an energy superhighway project that he says will be "a game-changer for Virginia." Construction of the major natural gas pipeline through parts of Virginia, West Virginia and North Carolina is expected to create 8,800 jobs and produce \$1.42 billion in economic activity in

the Commonwealth. The proposed project is designed to provide growing mid-Atlantic markets with a new route for accessing competitive domestic energy supplies.

The pipeline is a joint venture of Dominion, AGL Resources, Duke Energy and Piedmont Natural Gas, and will bring 1.5 billion cubic feet of natural gas per day to Virginia and North Carolina. Its route will offer direct access to the Marcellus and Utica shale basins of West Virginia, Pennsylvania and Ohio. Pending regulatory approvals, the pipeline is expected to be in service by late 2018. "This will help us become the industrial manufacturing hub of the entire mid-Atlantic region," McAuliffe says.

Connected: Transportation and Proximity to Washington, D.C.

"When we talk to business leaders in other parts of the world, we find that they know the Commonwealth's history," says McAuliffe. "They recognize that the very first settlement

was an entrepreneurial venture. They know the location is strategic in many ways. They like Virginia's proximity to the U.S. capital, so they can be at the hub of federal activity and expenditures. Our transportation infrastructure makes sense for international companies. They love Virginia because of the educational assets of Virginia Tech, the University of Virginia, Old Dominion University and George Mason University. They also like being close to the National Institutes of Health."

Fourteen commercial airports serve Virginia—nine of them are located in Virginia, including two of the nation's largest: Washington Dulles International and Ronald Reagan Washington National. As the nation's third-largest state-maintained transportation network, Virginia's highway system includes more than 70,000 miles of primary and secondary roads and six major north-south and east-west interstate routes. Forty-two percent of the U.S. population falls within a one-day (10-hour) drive of Virginia. Two of the nation's largest Class I railroads operate in Virginia—CSX Corporation and Norfolk Southern Corporation, which both have extensive infrastructure throughout the Commonwealth. Nine short-line railroads also provide freight rail service, and nearly 3,400 miles of railway traverse the state. Virginia also has one of the largest port complexes in the U.S. and regularly handles post-Panamax-class ships.

The Port of Virginia's "Best Year Ever"

The Virginia Port Authority has just wrapped up its best fiscal year, in terms of cargo volume, in its history, says John F.



Reinhart, CEO and executive director of the Virginia Port Authority. With its shipping channels at 50 feet deep—and permitted to go to 55 feet—the Port of Virginia can accommodate some of the largest container ships in the Atlantic container trade. Smart use of technology is making the port even more competitive.

"We have just implemented a 21st-century terminal operating system at Norfolk International Terminals," says Reinhart. "We retired a 25-year-old system in favor of the industry-standard NAVIS system. That's a very significant move to achieving greater efficiencies."

Portsmouth Marine Terminal is back in operation this October after standing idle for more than three years, and has reopened to container traffic, which will help to expand the port's overall capacity. "It's the first step in turning the terminal into a multiuse facility, meaning we can handle containers, bulk cargo, break-bulk cargo and even wheeled cargo there."

Communications Infrastructure a Catalyst for Growth

Virginia is helping to grow industry sectors that require high-speed Internet connections. It's the national leader in broadband speed: In 2013, the Commonwealth increased its average download speed by 33% to 11.1 Mbps (megabits per second)—well ahead of the national average of 8.7 Mbps—moving Virginia up to a third-place national ranking. Since 2010, the percentage of the Virginia population with access to broadband has grown from 33% to 97%.

Governor Terry McAuliffe's platform is diversifying the economy and creating jobs of the 21st century, with a focus on strategic sectors:

- Advanced Manufacturing
- Aerospace
- Agriculture
- Cybersecurity
- Data Centers
- Energy
- Information Technology
- International Trade
- Life Science
- Modeling & Simulation
- Tourism





Superfast broadband and data center infrastructure were part of the attraction for Microsoft, which in June announced a third expansion to its Mecklenburg County operation. “This adds another \$350 million and 90 new jobs, bringing their total investment in that data center to approximately a billion dollars,” says Virginia Economic Development Partnership (VEDP) President and CEO Martin Briley.

Research released in May by the Northern Virginia Technology Council (NVTC), George Washington University and Attain LLC confirms that Northern Virginia and the Potomac region have the resources, knowledge and expertise to advance a leadership position in big data and analytics that will drive future economic development. “Northern Virginia is such a dynamic region that innovation is flourishing here, particularly in high-growth sectors like cybersecurity, big data and data centers,” says Bobbie Kilberg, NVTC president and CEO. “As the nation’s largest technology council, NVTC provides Virginia’s vibrant technology sector with networking and educational resources, public policy advocacy, and entrepreneurial and workforce initiatives to connect and empower innovators of all kinds.”



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—VIRGINIA GOVERNOR TERRY MCAULIFFE

Adding Value for Defense Businesses

Virginia has long enjoyed its partnerships with the federal government, and that will continue moving forward, says Briley. “Virginia’s the number-one recipient of defense money. But as the federal government cuts spending, we’ve looked at ways to add value and mitigate the losses that impact our defense industry.”

The VEDP and its partners have worked with economists to analyze the financial impact of government expense reductions. The result is a new program that helps Virginia-based companies look abroad for new market opportunities. “The Going Global Defense Initiative received about \$500,000 from the state government, and the federal government gave us \$1.5 million,” says Briley. “That allowed us to attract 160 companies to sign up within 90 days of the program announcement. Over the past year, we’ve had more than 100 missions abroad with these companies. They

tell us that, so far, they’ve increased their average international sales by about 130%. We consider this a very successful program that’s helping our defense subcontractors find alternate contracts beyond the U.S. federal government.”

A Cohesive and Comprehensive Energy Strategy

Energy is a major part of the Commonwealth’s infrastructure assets. Historically, Virginia has ensured reliable and affordable energy to help businesses and consumers thrive. The Commonwealth boasts tens of thousands of energy-related jobs.

“Our energy strategy looks for balance when it comes to our energy resources,” says Maurice Jones, Secretary of Commerce and Trade. “Virginia gets its energy from nuclear, natural gas, coal and renewables. We’re trying to make sure that we keep that kind of diversified portfolio and that we keep our prices the best in the country. Every business we talk to wants to know whether they



will have access to the power they need at a competitive rate.”

Investment in Energy Infrastructure

Dominion plans to invest more than \$10 billion over the next five years to improve the energy infrastructure in the Commonwealth. This includes highly efficient power-generating

stations in Warren County in northwest Virginia, and in Brunswick County in southern Virginia. Work to upgrade electric transmission and distribution is currently under way throughout the state. And the Atlantic Coast Pipeline is designed to bring new sources of low-cost natural gas to Virginia.

Charles Donato, Dominion’s director of economic development, recruits jobs,

investment and tax base to the company’s electric service area. The company partners with economic development organizations throughout its service territory.

“Dominion’s investments are designed to help keep our infrastructure strong,” says Donato. “We have great confidence in our electric grid, our ample supply and our reasonable costs, and Dominion is doing the right things to keep those in place.

“We’ve been providing power for 100 years, and we do it with great reliability,” he adds. “Our rates have been stable, are relatively low compared to our southeastern U.S. peers and well below the national average. That makes a very attractive package to users, especially large-energy users with high-load factors like data centers.

“Because of our success in data centers and their affinity for Virginia, Dominion has a team dedicated to the data center business,” he explains. “They have great experience in delivering bulk power.” The Dominion Data Center Services (DDCS) group can help companies identify data center locations, plan for their energy needs, and start operations quickly and efficiently.

Keeping Virginia Competitive

In August, Governor McAuliffe announced that international automotive supplier Continental will invest \$150 million and hire more than 500 people to expand its operation in the City of Newport News. Continental will begin its first-ever U.S. turbocharger production and increase

Dominion: Focused on Virginia’s Future

Dominion has the good fortune to be in the right place: Virginia. Investments keep it going and growing.

Dominion plans to invest billions of dollars to...

- Bring much-needed new supplies of clean-burning natural gas to the Commonwealth from burgeoning supply basins to the north.
- Complete two clean, highly efficient gas-fired power stations in Warren County and Brunswick County following the conversion of another one in Fluvanna County from coal to natural gas.
- Test technology for Virginia’s first offshore wind turbines and ramp up other renewable energy projects.
- Move the most-vulnerable electric distribution lines underground to harden the network and help it recover faster from major storms.



Photo courtesy of Cameron Davidson

Dominion has long been working for a cleaner Virginia. We have one of the nation’s lowest-carbon electric generating fleets, thanks to a diverse mix of fuel sources and smart conservation programs.



EVERY DAY

DOMINION CUSTOMER LAURA ANDERSON MAKES ALL KINDS OF IMPORTANT CONNECTIONS, BOTH AT HOME AND ON THE FLY.

And we're there to help—whether it's lighting up departure screens, powering charging stations or keeping the baggage carousels going around. At Dominion, we deliver reliable electricity to businesses and homes throughout Virginia. Because we know that so many of our customers will do whatever it takes to take good care of their clients. And we're wired the very same way.



production of its gasoline high-pressure injector, fuel rail and pump assembly lines.

Donato and his colleagues at Dominion met with Continental when it sought to expand. “We looked at energy supply and rates,” he says. “Then we sharpened our pencils and really made sure that this plant was operating as efficiently as possible electrically, because they were competing for this expansion with other Continental facilities. That’s a great example of the kind of cooperation that we and our economic development partners can offer to help attract expansions as well as new business.”

Tranlin, Inc., is another major win for Virginia’s advanced manufacturing industry. Located on an 850-acre campus at the James River Industrial Center in Chesterfield County, the state-of-the-art facility will use the company’s proprietary technology to produce tree-free, non-chlorine-bleached paper products made from organic agricultural field waste such as wheat and cornstalks.

What’s significant about these examples, says Donato, is that without ample electric supply, companies like these probably wouldn’t consider expanding facilities in or moving to Virginia.

Innovation and Entrepreneurship

To keep Virginia competing for the jobs of tomorrow, Governor McAuliffe has signed the HB1220 legislation, which increases the amount of qualified research and development expenses that companies can claim as a tax credit, from 15% of the first \$167,000 to 15% of the first \$234,000. Research and development—along with the crucial translation to marketable products—has been a mainstay of Virginia’s economic development engine for decades.

CIT: Growing High-Tech Companies Organically

Now in its 30th year, Virginia’s Center for Innovative Technology (CIT) identifies and invests in start-ups with promising ideas and high-growth potential.

“CIT plugs the ‘innovation gaps’ at the earliest stages of the innovation continuum,” says Pete Jobse, CIT president and CEO. “We are working closely with the governor to build Virginia’s innovation economy. When he succeeds, we all succeed.”

While most economic development strategies are based on the law of attraction—incentivizing companies to relocate—CIT’s focus is on growing them

organically. “We are geared around helping Virginia-based high-tech companies scale up and grow,” says Jobse.

CIT connects entrepreneurs with resources to help them develop their companies from research and proof-of-concept stages all the way to product development and production. Its GAP Funds provide seed- and early-stage investment money for Virginia-based technology, life science and clean-tech companies. These companies often struggle to obtain funding because of technology issues, intellectual property challenges and the high rate of risk.

Among CIT’s new programs, Mach37 is a 90-day cyber-accelerator program that invests in, shapes, mentors and grows new cybersecurity companies that are ready for private investment. In addition, IEMS—the Commonwealth Innovation and Entrepreneurship Measurement System—is Virginia’s innovation dashboard. It’s a web-based portal that uses key metrics and outcomes to track the performance of Virginia’s innovation economy.

Talent Takes Top Priority

“When businesses tell us what’s important to them when they decide to expand or locate somewhere, talent is usually at the top of their list,” says Secretary Jones. “Governor McAuliffe has put talent at the top of *his* list. The most recent evidence of that is his executive order, which sets as a goal to have certification, licensures and apprenticeships for 50,000 new STEM jobs during his term.

“The executive order also sets forth the goal of doubling the number of veterans that we put to work via one of our state



“For every dollar we invest, we attract \$15 in private-sector investment.”

**—PETE JOBSE,
President and CEO, CIT**

programs,” Jones adds. “It seeks pledges from 10,000-plus employers to hire veterans. It also establishes a data consortia that will help us better match the skill sets of Virginia workers to the demands of the employers.”

Northrop Grumman Corporation is also active in the effort to employ veterans. It is the lead sponsor for the NVTC Veterans Employment Initiative, which helps veterans make the transition to civilian life and employment. The program, launched by NVTC in 2013, is designed to accelerate veterans’ transition to civilian life by providing better employment opportunities in Virginia. “Northrop Grumman is devoted to supporting our servicemen and



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PERFORMANCE
STARTS WITH
RESPONSIBILITY.***

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THE VALUE OF PERFORMANCE.

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servicewomen," says Sandra Evers-Manly, vice president of Global Corporate Responsibility. The program matches veterans with jobs, internships, mentorships and certifications and at the same time provides resources to NVTC member companies as they hire, train and retain qualified veteran employees.

According to Jones, the other piece that's really a game-changer for Virginia is the governor's incredible enthusiasm and hands-on model for economic development: "His passion is getting out and selling Virginia and closing deals. He has been hands-on with a number of the prospects we have courted, and it has made a difference in every case. He travels domestically and globally, but he will also pick up the phone to tell folks the Virginia story. It's hard to beat that kind of relationship."

Leading the Nation in Higher Education

With more than 450,000 students enrolled in over 100 in-state institutions of higher education, Virginia supports their goals to excel and further their education. Virginia has several colleges and universities that have achieved national acclaim and that have areas of studies lending great value to companies across the state. The Virginia Community College System, with 23 community colleges on 40 campuses around the state, provides occupational and technical training programs. Many community

colleges collaborate with Virginia industries to specifically align their curriculum with the needs of nearby industries.

"One of the things the VEDP has done differently over these past three years is

UVA GRADUATE STUDIES

6,500 graduate students

81 master's degrees in 65 fields

57 doctoral degrees in 55 fields

6 education specialist degrees



UVA UNDERGRADUATE STUDIES

64%

of undergrads have research experience

establish a university-based economic development association and relationship," says VEDP's Briley. "We have approached

the presidents of our universities with the statement that we must build the next generation of economic development on the foundation of higher education. And our university presidents have embraced this wholeheartedly."

University of Virginia: Top Rankings and Groundbreaking Research

As one of the nation's most prestigious public research universities, UVA continues to set the standard for public higher education in service to society as it demonstrates and encourages uncommon thinking.

"UVA was founded to foster new ways of thinking to help bolster a new nation. The qualities that fostered the discoveries of the last two centuries are exactly those needed by society and business in the global world of today: the ability to collaborate, question convention and break through old boundaries, and test new ones. This is hallmark UVA thinking," says UVA President Teresa Sullivan.

Founded in 1819, the University has been consistently ranked as one of the best public universities in the nation by *U.S. News & World Report* and is ranked the second-best value in public colleges by *Kiplinger* and third-best value in public colleges by *The Princeton Review*. *Investor's Business Daily* ranks UVA third in the nation in terms of annual return on investment based on cost of tuition and

Defining the Future Means Pushing Boundaries in the Present

Against the backdrop of one of the nation's most prestigious public research universities, students and faculty at the University of Virginia continue to build on what has always set them apart, transforming history by making their daily work inventive, creative, and bold.

Take fourth-year student Catie Kitrinis. With backing from programs that support undergraduate research at UVA, Kitrinis is mapping elements in the sunflower genome that can pinpoint which breeds are more effective at extracting radiation and heavy metals from the soil. Her groundbreaking research will not only help farmers, it can help create a healthier and cleaner planet.

It's just one of the many ways UVA fosters uncommon thinking—in its classrooms, on its Grounds—for the world.



VIRGINIA.EDU/UNCOMMONTHINKING

UNCOMMON THINKING FOR THE COMMON GOOD



UVA Engineering Professor and Senior Associate Dean Barry Johnson
and Rolls-Royce Executive Vice President CFO William Powers III

VIRGINIA BUSINESS IS

TAKING OFF.

FUELING THE COMMONWEALTH WITH AN UNCOMMON WEALTH OF TALENT.

When the best minds come together, discovery takes flight. For nearly a decade, the University of Virginia has partnered with Rolls-Royce to foster groundbreaking research, economic growth and business leadership development in the Commonwealth.

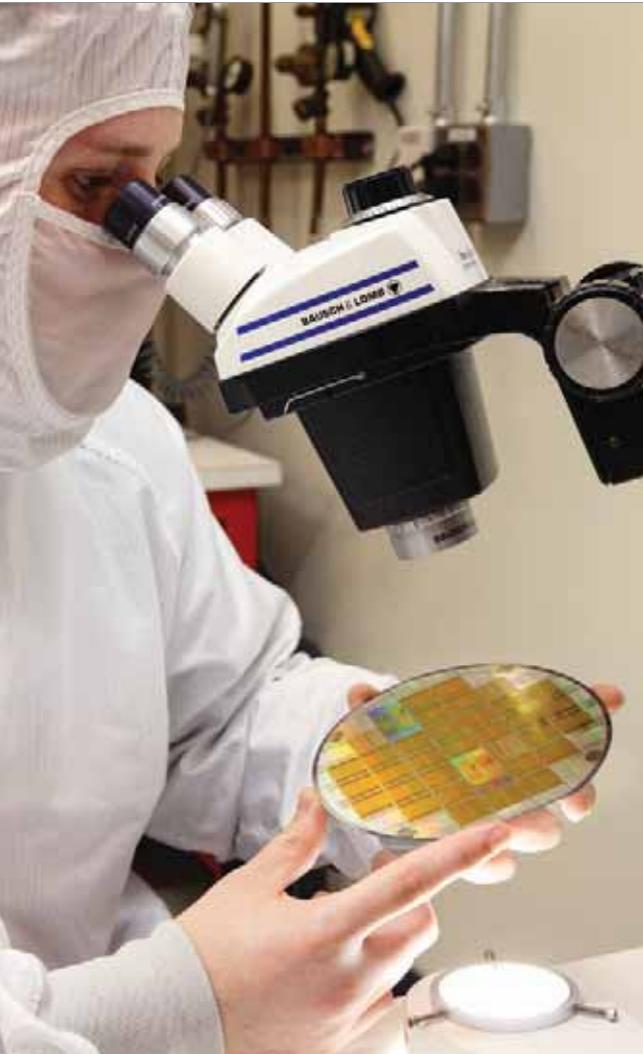
From the laboratory to the lecture hall, the partnership enables UVA students and professors to pursue solutions to real-world challenges, including innovative research in jet engine component performance. By attracting high-tech companies and creating new jobs in the Old Dominion, we're helping propel the future of flight—and our economy.

This is just one of the many ways UVA is using uncommon thinking for the Commonwealth—and the common good.

Learn more about what we're up to at VIRGINIA.EDU/UNCOMMONTHINKING

 UNIVERSITY of VIRGINIA

VIRGINIA.EDU/UNCOMMONTHINKING



the projected earning potential of UVA graduates. UVA's schools are in turn ranked among the best in their fields nationwide.

UVA, a "Research 1" university, has strong, well-established partnerships with some of the world's largest companies across a wide range of industries. It has further broadened its global presence with extended operations in China. Each year, UVA files nearly 200 reports of invention and brings innovative companies and products to market.

Solving Complex Problems

UVA's combined research expenditures reached an all-time high of \$330 million in 2012. Within its four research parks and 1.5 million square feet of research, laboratory

and studio space, researchers are tackling some of the toughest challenges the world faces.

UVA continues to be a national leader in business and commerce at an undergraduate and graduate level. UVA's McIntire School for Business consistently ranks in the top six nationally, and UVA's Darden School of Business is currently ranked 11th among graduate business schools by *U.S. News & World Report*. Both schools are actively engaged in preparing undergraduates, graduates and corporate leaders to address business challenges in the U.S. and around the globe.

Another UVA project with implications for the medical field is the first-ever U.S. clinical trial of a high-intensity focused ultrasound procedure for benign breast tumors. The work's ultimate goal, says lead investigator Dr. David R. Brenin, is to be able to use the technology to treat malignant breast tumors.

Meanwhile, rising sea levels are getting the attention of UVA's environmental sciences researchers. A \$2 million grant from the National Science Foundation and

More than **60%** of the U.S. population and over two-thirds of the U.S. industrial base is within a day's drive of southern Virginia.



Southern Virginia Regional Alliance



A region built on manufacturing, Southern Virginia offers access to over 50% of the U.S. population and over two-thirds of the U.S. industrial base within one day's drive. Our region offers numerous shovel-ready sites as well as a multitude of available existing industrial buildings. Southern Virginia is also home to a variety of advanced workforce training facilities dedicated to helping our industries train highly skilled and technologically advanced employees.

Whether your business needs reliable and affordable utilities, low tax rates, high-speed broadband, easy highway and airport access, or access to state-of-the-art research and development facilities, Southern Virginia has a solution for you. We invite you to learn why our region is home to companies such as Goodyear Tire & Rubber, Eastman Chemical, ABB, Nestlé and Ikea Industry.



For more information, visit us at www.gosouthernvirginia.com



Leaders at Virginia’s institutions of higher education and economic development understand the link between **INNOVATION** and **PROSPERITY** and **UNIVERSITY RESEARCH.**

another \$1.5 million from the U.S. Department of the Interior will support work to address and manage coastal impacts. Both projects leverage UVA’s decades-long research on Virginia’s Eastern Shore.

Furthermore, a university-wide initiative launched in January 2012 helps to speed new technologies to market. UVA Innovation helps inventors and entrepreneurs collaborate and connect with local resources to launch innovation-based businesses. Among the business and consumer products in the invention pipeline are medical devices and procedures, therapies for Alzheimer’s and ALS, computer software for assessing ADHD and hazardous-gas detection systems.

Discoveries that may lead to lighter-weight aircraft are also in the works at

UVA, which has a longtime partnership with Rolls-Royce. Research in ceramic-matrix composite materials for aerospace and high-tech markets is the latest project to enlist UVA engineers. Complementary research looks closely at catalytic coatings, aqueous corrosion, soot emissions and manufacturing technology.

In April, UVA and Virginia Tech joined the global Rolls-Royce University Technology Centers network. Fundamental research at the University Technology Center feeds into UVA’s applied research activities with the Commonwealth Center for Advanced Manufacturing (CCAM). “This supports the creation of a pipeline that will accelerate the evolution of new ideas from concept to commercialization,” says James H. Aylor,



Eighty-five years ago, Philip Morris USA first put down roots in Virginia – manufacturing cigarettes in our original Richmond factory.

As our companies have grown over the years, so has Altria’s investment in Virginia. Today, our corporate headquarters, along with most of our operating companies and their research facilities, are located here. And we are deeply involved in improving education, supporting the arts and strengthening communities. We invite you to take a closer look at altria.com.

Virginia is a great place to live and work – and at Altria, we’re proud to call it home.



Altria

Philip Morris USA ■ U.S. Smokeless Tobacco Company ■ John Middleton ■ Nu Mark ■ Ste. Michelle Wine Estates

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dean of the UVA School of Engineering and Applied Science.

Virginia Tech: Advancing the Boundaries of Knowledge

The collaboration between Virginia Tech, UVA and Rolls-Royce shows how Virginia's higher education institutions are driving economic development.

"Advancing the boundaries of knowledge while closely wedded to job-creating initiatives, universities like Virginia Tech are at the center of the 21st-century 'innovation ecosystem,'" says President Tim Sands. "We have the potential to create an environment where Virginia is a global hotbed for entrepreneurship, innovation and commercialization."

The Virginia Tech Corporate Research Center (VTCRC) is a hub of high-level economic development. The largest and most successful university research park in the state, it was recognized for its achievements by the Association of University Research Parks at its 2010 International Conference. VTCRC's newest building—its 31st—is occupied by the East Coast headquarters of Rackspace Hosting, a San Antonio-based web-hosting cloud operation.

For the last six years, business accelerator VT KnowledgeWorks in Blacksburg has hosted a Global Student Business Concept Challenge. This year's winning student team landed a \$25,000 prize for its business plan. VT KnowledgeWorks, a subsidiary of the VTCRC, helps market-worthy ventures organize, formulate strategy, launch and grow.



"We have the potential to create an environment where Virginia is a global hotbed for entrepreneurship, innovation and commercialization."

—TIM SANDS, President, Virginia Tech

An advertisement for the Center for Innovative Technology (CIT). On the left, there is a photograph of a modern, multi-story building with a glass facade, framed by an orange and black border. To the right of the photo is the CIT logo, which consists of a blue 3D cube icon followed by the letters "CIT" in a large, blue, serif font. Below "CIT" is the text "CENTER FOR INNOVATIVE TECHNOLOGY" in a smaller, blue, sans-serif font. Below the logo, the mission statement is written in orange text: "Creating new high-growth technology companies with investments in research, innovation and entrepreneurs". At the bottom right, the website address "www.CIT.org" is displayed in a black, sans-serif font.

A new immersion experience is now up and running for entrepreneurial-minded students within a unique residential learning community. Housed in a former fraternity house with a live-in business faculty member, students in the Innovate program work closely with a network of colleagues and mentors to help them launch their ideas.

Virginia's Corporate Partners

The corporations that call Virginia home demonstrate the Commonwealth's business leadership position. The continued success of existing Virginia businesses such as Stihl, Northrop Grumman, AREVA, DuPont, Micron, Canon, Lipton and MeadWestvaco are strong indicators of what can be accomplished in the Commonwealth.

The prestige and diversity of companies that join or continue to grow in Virginia's corporate fold—Rolls-Royce, Amazon.com, Microsoft, GE, Bechtel and Sabra Dipping Company, to name just a



"Altria is proud to be a Virginia-based company. More than 4,000 of our employees call Virginia home and are invested in making our communities better places to live and work."

—BRIAN MAY, Altria Spokesman

few—demonstrate Virginia's ability to attract leading companies across different sectors. More than 750 international companies from 45 countries call Virginia home. In the past 10 years, international companies have announced more than 37,000 new jobs and \$9.5 billion in investment in Virginia.

Altria Continues to Invest in the Commonwealth

Altria companies employ 4,000 Virginians at six facilities, and more than a billion dollars related to its companies flow through Virginia every year. Altria Group, Philip Morris USA, U.S. Smokeless Tobacco Company, John Middleton and Nu Mark are all headquartered in Richmond.

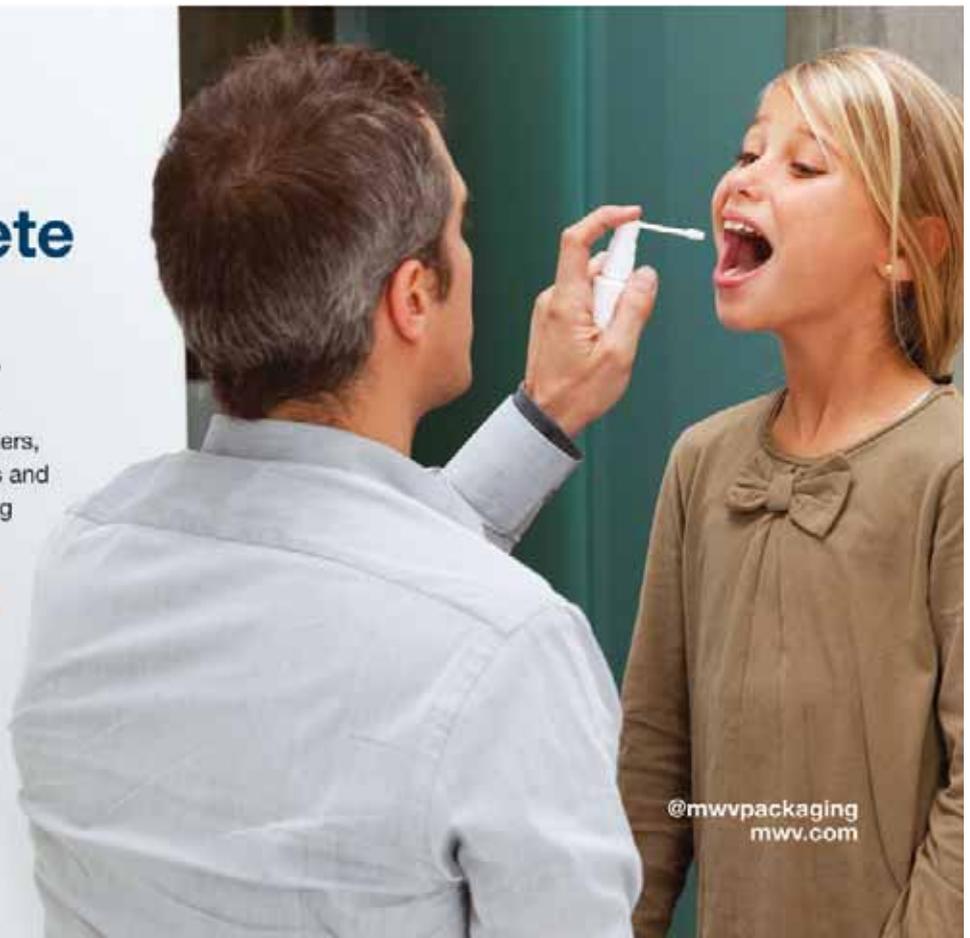
Philip Morris USA marked the 40th anniversary of its Richmond Manufacturing Center in south Richmond last year. Over the last seven years, the company has invested \$210 million to modernize the facility. In May, the company announced plans to invest more than \$50 million to

Providing the complete package

From our home in Virginia, MWV reaches customers in more than 100 countries. Our team of thinkers, innovators, engineers, designers and manufacturers creates packaging with real-world impact.

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Innovation

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establish a tobacco leaf storage warehouse complex on 118 acres in Chester, Virginia. The four-building complex will occupy 1 million square feet.

The investments follow the \$350 million Center for Research and Technology in Richmond's Virginia BioTechnology Research Park. Opened by Philip Morris in 2007, the Center promotes collaboration and creativity to develop technologies that improve Altria's current products and lead to new ones.

Funding Start-Ups and Education

Altria Group's Altria Ventures, based in Richmond, provides funding and other expertise to promising start-up companies. It considers investments in companies offering new products that meet consumer needs and innovative technologies that Altria's companies may use.

To attract and support the next generation of inventors, innovators and problem-solvers, Altria awarded a \$550,000 grant to Virginia Union University in Richmond last year. The grant will fund scholarships and related programs for students preparing for careers in science, technology, engineering and mathematics (STEM) and STEM teaching.

Altria's companies also provide several scholarships. Through their Tobacco Leaders Program, the companies have awarded more than \$2.9 million nationally in scholarships to the families of tobacco growers for vocational training and undergraduate and graduate college degree programs.

As part of a seven-year, \$2 million commitment, in 2012 Altria launched the Altria College Opportunity Fund. It is a competitive scholarship program designed to help Richmond Public Schools graduates afford college degrees and prepare for the 21st-century workforce. In 2014, the program recognized 21 scholarship recipients, bringing the total scholarships to 47.

MeadWestvaco: Packaging Pioneer Pushes Boundaries

MeadWestvaco (MWV) brought its headquarters to Virginia in 2006, attracted by the pro-business climate, the educated workforce and the importance of manufacturing in the Commonwealth. Its downtown Richmond building is a testament to the company's commitment to sustainability. Built with energy-efficient, eco-friendly materials, its design has earned MWV numerous green building and environmental awards.

The company's new biomass boiler in Covington increases productivity and is expected to reduce the company's annual fossil fuel use by more than 200,000 tons. In addition to doing work that pushes the boundaries of technology at its Covington mill, MWV's scientists, engineers and



designers work in the company's labs, pilot plants and studios to develop advanced packaging solutions.

Two of the newest products to come out of MWV's Virginia labs are its Evertain® barrier packaging for snacks and SmartFare™, a hermetically sealable paperboard dish for chilled ready meals. Both packaging formats combine paperboard with specialized barrier coating and offer more-sustainable alternatives to other packaging methods.

The company also is tackling a problem doctors have struggled with for years: getting patients to take their medication as prescribed. Using an approach that views packaging as part of the solution, MWV Healthcare designs and manufactures "adherence packaging"—prefilled medication packages with calendared blisters and an outer carton with links to other adherence programs. This type of packaging can increase the likelihood that patients will stay on schedule with a prescription drug regimen, according to research published in the May 2011 *Journal of Clinical Therapeutics*.

MWV additionally announced in August that it is seeking pharmacy partners for its Avive® Multimed system. Avive addresses the growing number of people in the U.S. who take multiple medications, often prescribed by multiple physicians and filled at different pharmacies. The software-plus-custom-packaging solution can be customized for each patient.

Continuous Growth in Loudoun County

Loudoun County's 39 new and expanding business "wins" last year represent investments of nearly \$250 million, and that pace is expected to continue, says Buddy Rizer, director, Loudoun Economic Development. More than 900 federal government contractors already call Loudoun County home. Nearly \$100 million is invested each year in biomedical research through Howard Hughes Medical Institute's Janelia Farm Research Campus, located in Loudoun.

The newest opportunity in Loudoun County is the development of the transportation corridor, says Rizer. In July, Metro's Silver Line Rail launched service to five new stations in northern Virginia's Dulles Corridor, and Loudoun's two Silver Line stops are set to open in 2018. That will open up new opportunities for business all across the corridor.

More than 70% of the world's Internet traffic travels through Loudoun County daily, and

LOUDOUN COUNTY FAST FACTS



The data center industry has grown **300%** since the year 2000, from 1.4 to 5.6 million square feet.

Virginia has the



highest concentration of technology workers in the nation, according to *TechAmerica*.



In August 2012, CNNMoney reported that Loudoun was the **#1** county in the nation for job growth.



Each month, more than **20,000** tons of air cargo pass through Loudoun County, the home of Washington Dulles International Airport.



More than 70 percent of the world's Internet traffic flows through Loudoun County, Virginia every day. That's because we're home to more than 5.6 million square feet of space owned by the world's top data centers, including:

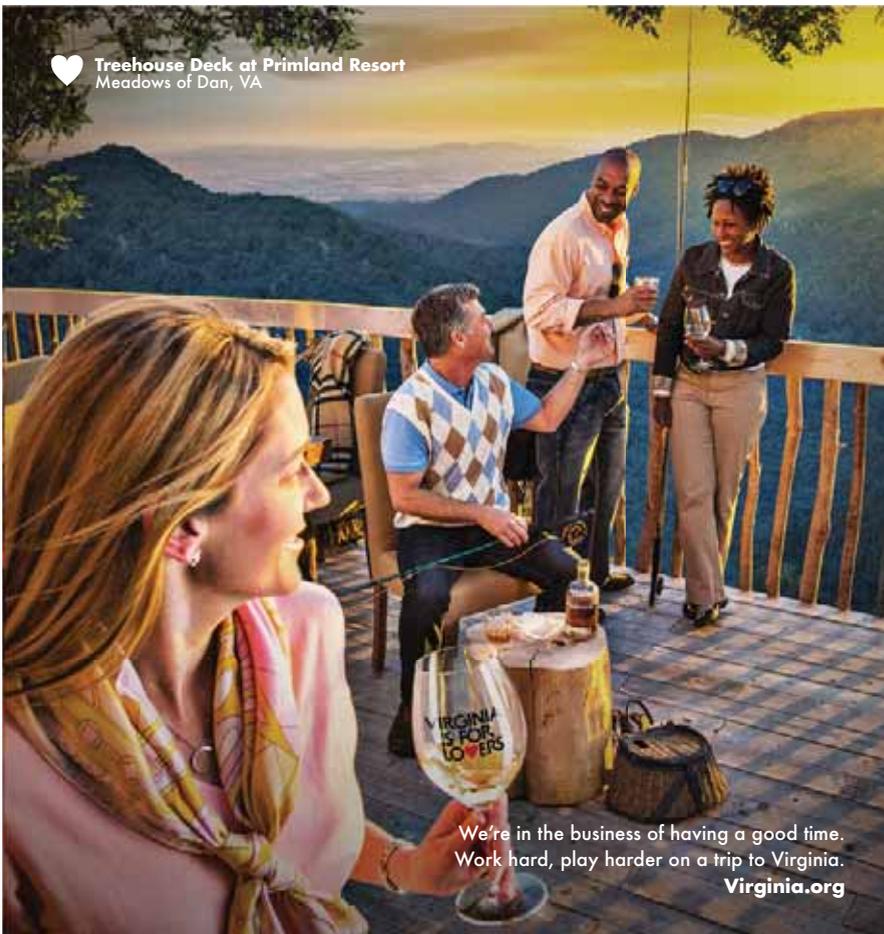
- Digital Realty
- Equinix
- Dupont Fabros
- RagingWire
- Carpathia
- Latisys
- CenturyLink
- CyrusOne
- Sabey

Come to where the data goes. Contact Buddy Rizer at 1-(800)-LOUDOUN or Buddy.Rizer@Loudoun.Gov



Artist's rendering of data flowing through Loudoun County, Virginia.

Since the beginning of the McAuliffe Administration, more than **160** economic development deals have been closed in Virginia that will create more than **13,806** jobs and over **\$4.2** billion in capital investment.



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its data center cluster provides a solid base for related commercial development. Data centers occupy more than 50 buildings and 5.6 million square feet in the county.

"Because of the smart planning that's been done over the last 30 years, we can take advantage of the digital economy using the assets we have in Loudoun," Rizer explains. The county is also targeting aerospace, air cargo, life and health sciences, and agriculture business.

Southern Virginia: Synchronized With the Region's Employers

The Southern Virginia Regional Alliance (SVRA), formed in 2011, is building on the region's manufacturing heritage. "Over the past decade, this region has worked hard to raise the skill level of its workforce beyond what was needed to work in some of the legacy industries," says Steve Bridges, director of economic development.

One example is the partnership between community colleges and the high-performance window film industry. Kingsport, TN-based Eastman Chemical Company announced in 2013 that it would invest \$40 million to expand its manufacturing operation in Henry County. "That prompted Patrick Henry Community College to put together training for the worker skill sets Eastman and other film

manufacturers need," says Bridges. "It happened within a matter of months."

The SVRA looks beyond the immediate region for other growth industries it can support, especially aerospace, Bridges says. "That includes the Rolls-Royce jet engine facility in the Petersburg area, GE Aviation and Honda Aircraft in North Carolina, and Boeing in South Carolina."

The SVRA helps manufacturers already in the region remain well connected and competitive—whether that involves innovative workforce training programs, power for industrial parks or robust broadband. "That synchronizes with Virginia's focus on training and infrastructure, and creating a friendly business environment," says Bridges. "It's up to us to look out over the horizon and determine what companies need."

Tourism Generates Revenue, Jobs

Tourism is Virginia's second-biggest business and an instant revenue-generator for Virginia, accounting for over \$21.5 billion in revenue and supporting 213,000 jobs in 2013.

Among the newest visitor offerings is the Virginia Oyster Trail, which will allow travelers to experience a taste of Virginia by pairing the state's oysters with other products made in Virginia, including wine, craft beer, cider and spirits. The state has a thriving craft beer industry, with more

than 80 breweries, and is also home to more than 250 wineries. In August, The Birthplace of Country Music Museum, an affiliate of the Smithsonian Institution, opened in Bristol. The 24,000-square-foot museum preserves the legacy of the 1927 Bristol Sessions and their lasting influence on American popular music.

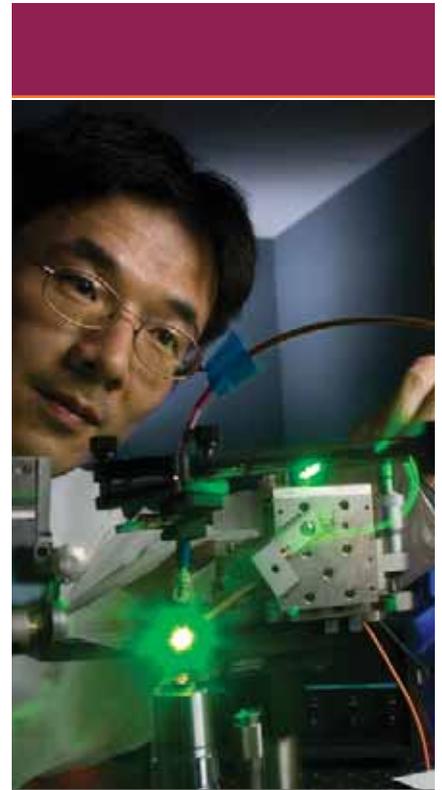
There's a close connection between "Virginia is for Lovers" and "Virginia is for Business," says Rita McClenny, president and CEO of the Virginia Tourism Corp. "It's a place to connect with loved ones and have unique, authentic vacation experiences. And business decision makers recognize that the quality of life here is one of the greatest attributes they can offer for attracting and keeping employees."

Experience Virginia

Governor McAuliffe and the Commonwealth of Virginia welcome you to come experience Virginia's diverse economy, robust infrastructure, second-to-none education system and rich history for yourselves. The strong partnerships and testaments of the corporations that call Virginia home demonstrate the Commonwealth's business leadership position. Since its founding as a business venture more than 400 years ago, Virginia continues to pioneer innovation, crafting contemporary programs that bolster economic development performance for the 21st century. ■

Virginia's institutions of higher education offer exceptional diversity, ranging from public universities to small private liberal arts colleges.

- **15** public comprehensive institutions, eight of which are doctoral institutions
- More than **50** private accredited four-year institutions
- **23** public community colleges and one public two-year college
- More than **65** out-of-state institutions of higher education offer courses, and in some cases complete degree programs, at sites across Virginia



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workforce



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We hope you have enjoyed reading the Virginia story.

Our business-first values, easy access to global markets, stable operating costs and diverse, educated workforce make it easy for companies of all sizes to succeed in our state. We are committed to creating a new Virginia economy, and would like to prove why your business should be located in Virginia.

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