

Ohio: The State of Perfect Balance

By Timothy R. Gaffney



Ohio Gov. Ted Strickland, right, and Lt. Gov. Lee Fisher display the 2007 Site Selection Governor's Cup. Fisher, as head of the Ohio Department of Development, plays a key role in attracting investment to the state. Ohio also claimed the 2003 and 2006 Governor's Cups.

morning and again in the evening," says Rob Howlett, founder and chief executive officer of Cleveland-based Circlesprout Ltd. "When I tell my friends about the amount of home I am able to afford, the low cost of living and the short commute I have to get to work, their jaws drop."

**"If I were giving a young man advice as to how he might succeed in life, I would say to him,
'Pick out a good father and mother, and begin life in Ohio.'"**

Wilbur Wright, January 10, 1910

Key Industries

Ohio is home to a multitude of important industries supported by global businesses. Together they give Ohio a strong supply chain across numerous key industries, improving companies' efficiencies and profits.

Aerospace: Two federal laboratories, the Air Force Research Laboratory and the NASA Glenn Research Center; ten universities (www.ohiomeansbusiness.com/workforce/education.php) with doctoral and research programs in aerospace; and more than 600 private companies make Ohio a world leader in fields such as propulsion and power, and advanced materials and materials processing.

Agribusiness: Responsible for only 2% of the nation's crop and livestock production, Ohio ranks 18th in value of total agricultural products sold. Its 76,500 farms supply more than 1,057 processing plants for food and beverage exports that annually total \$23.5 billion.

Automotive: Even in these challenging times, Ohio has surprising strength in the automotive industry. Nearly 80% of North American light-vehicle production takes place in Ohio or within 500 miles of the state's borders. Ohio

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Ohio's friendly business environment, low cost of living and recreational resources allow people to balance business success with personal fulfillment.

More than a century has passed since two Ohio brothers changed the world with one of the most famous inventions of all time: the airplane. But Wilbur and Orville Wright were not historical flukes: They typified the inventive genius and innovative spirit that have helped make Ohio a world leader in business and industry.

Today, Ohio's economy is the 25th largest in the world. The state is among the nation's leaders in corporate headquarters, and its civilian labor force of 5.9 million people is greater than the total populations of 33 other states. Ohio is the only state in the country whose exports have grown every year for the past 10 years — reaching \$42 billion in 2007 — and at least 600 foreign-based corporations from 28 countries operate in Ohio.

At the same time, Ohio offers a balance between business success and personal fulfillment. Ohio's cost of living is the second lowest among large populated states, but *Places Rated Almanac* ranked seven of Ohio's metro areas in the top "100 Best Art and Cultural Amenities." Many executives find Ohio an ideal place in which to balance business and family life. "I live on the 12th hole of an amazing golf course and five minutes away from our child's day care center. I have a short commute to work. I can spend quality time with my children in the



Ohio offers among the most efficient business access to customers and suppliers in North America, located within 1,000 kilometers of 62% of all U.S. and Canadian manufacturing locations and within a day's drive of 80% of all U.S. corporate headquarters.

is a top U.S. automotive supplier and number two in motor vehicle production. Ohio's auto-supplier network includes 397 Tier 1 suppliers in all facets of production.

Bioscience: Ohio is becoming an international leader in the bioscience industry with more than \$1 billion in funding and 818 bioscience entities in pharmaceuticals, diagnostics, bioinformatics, medical devices, medical equipment and other health-related products. They collectively generate more than \$146 billion in total economic impact and employ more than 1.2 million skilled workers.

Energy: Ohio's research and manufacturing competencies position it to lead the nation toward energy independence with abundant resources and advanced technologies including biofuels, clean coal, fuel cells, wind and solar power. The American Solar Energy Society recently predicted that 174,000 Ohioans could have jobs related to advanced renewable energy by 2030.

Logistics: Ohio's central location and strengths in transportation and logistics mean more flexibility and lower supply chain costs. Its logistics resources span the industry, from Radio Frequency Identification (RFID) technology to fleet management. Ohio is fourth nationally in the number of airports and sixth in miles of interstate highway.



Manufacturing: Ohio's manufacturing output continues to grow. The state's 21,250 manufacturers apply advanced manufacturing processes, increase the value of what they make and use efficient distribution methods to make their workers ever more productive. Result: Their total cost of production is globally competitive. Ohio is the only state in which exports have increased every year since 1998.

Polymers/Plastics: Ohio's polymer industry has more than 2,800 facilities and 140,000 workers. It generates \$49 billion in annual sales revenues and \$5.6 billion in wages. The Ohio Third Frontier Project has awarded \$72 million in grants to the Ohio polymer industry, matched by approximately \$108 million from 60 collaborating partners.

Professional and Financial Services: With an \$11.2 billion annual payroll and more than 260,000 employees, the financial industry plays a large role in Ohio's

economy. The state is home to more than 17,500 financial companies, including 3,500 commercial banks, 750 savings institutions, 725 credit unions and 1,450 insurance carriers.

Collaborating for Growth

Any state would be proud to be awarded *Site Selection* magazine's coveted Governor's Cup for the most new or expanded capital projects in the past year. But Ohio has won it the past two years in a row. These victories in particular underscore the state's willingness to work in public-private partnerships to help companies relocate, grow or stay in Ohio.

For example, last year Amylin Pharmaceutical decided to make a \$400 million, 500-job investment in a diabetes drug manufacturing facility in the Cincinnati suburb of West Chester following a multistate competition. Ohio crafted a partnership that included adult career technical schools, community colleges and universities to help Amylin meet its workforce and research needs. In another case, the state worked with the city of Akron, Summit County, its port authority and a private developer to close a \$980 million deal with Goodyear Tire & Rubber Company for a new headquarters that will keep about 3,000 jobs in Ohio and create more in the future.

Such projects reflect the state's strategic focus on making targeted investments in industry clusters deemed to have the most long-term investment potential, and on workforce development. In 2008, Governor Ted Strickland signed new legislation for a \$1.57 billion job stimulus package that lays the foundation for future economic prosperity. Major elements include \$920 million for infrastructure investment that will directly impact Ohio's local communities by helping them compete for economic development; \$400 million for industry clusters in advanced energy, biomedicine and logistics; and \$250 million for retaining and attracting talent and building the most educated workforce possible in Ohio.

The state's ten-year, \$1.6 billion Ohio Third Frontier Project is its largest-ever commitment to expanding Ohio's high-tech research capabilities and promoting innovation and company formation. It is designed to build world-class research capacity, support early-stage capital formation and the development of new products, and finance advanced manufacturing technologies to help existing industries become more productive. Through the Ohio Third Frontier Project, additional federal and private-sector support can boost the total investment to more than \$6 billion.

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At the same time, Governor Strickland and legislative leaders have worked in a bipartisan manner to improve the state's business climate with restructured tax laws. The new Ohio tax system eliminates state and local taxes on new investments in machinery, equipment and structures, and has brought tangible benefits for businesses, greatly reducing the tax burden for manufacturers.

Ohio's stable, diverse economy has the conditions Ventech Solutions, a Columbus-based information technology company, needed to prosper. Explains Ventech Chief Executive Officer Ravi Kunduru, "First, Ohio has diverse markets and opportunity for any size company. Second is the state's availability of skilled, knowledgeable workers. Finally, Ohio has excellent tax incentives and benefits a company can receive, along with the access to available investment funds."

The Governor's Cup goes to the state with the most new or expanded capital projects the previous year as tracked by Site Selection publisher Conway Data Inc.'s New Plant database.

Borgata Hotel Casino & Spa

Our economy is undergoing radical changes and in order to remain competitive the public and private sectors must partner in unprecedented ways. So over the next decade, AEP Ohio anticipates pioneering investments in the form of advanced energy workforce education and training, energy efficiency programs and low-income assistance in communities across the state. We will also leverage relationships with other corporate partners and universities, in order to directly impact the state's economy – creating even more investment and more jobs.

American Electric Power is based in Columbus, Ohio, and is one of the largest electric utilities in the U.S., delivering electricity to more than 5 million customers in 11 states. AEP Ohio, based in Gahanna, Ohio, serves all or part of 61 counties in Ohio and two in West Virginia.



Joe Hamrock
President and Chief
Operating Officer
AEP Ohio

www.aep.com



Focus on Advanced and Renewable Energy

While high fuel prices, concerns about climate change and the need for energy independence have driven calls for federal action, Ohio has seized the initiative to become a national leader on the energy front. In May, Governor Strickland signed a landmark energy reform bill that will ensure the predictability of affordable energy prices and serve as a catalyst to enhance energy industries in Ohio, bringing new jobs while protecting existing ones. The bill requires that 25% of the energy sold in Ohio must come from advanced and renewable energy technologies — from clean coal to wind turbines — by 2025.

The new law has spurred Ohio utilities to get more energy from renewable sources. For example, AEP Ohio, an operating unit of American Electric Power, is seeking long-term purchases of up to 300 megawatts from renewable energy sources such as wind, hydro, solar, geothermal and certain biomass sources. The effort "continues our commitment to adding renewables to our generation portfolio and will help ensure that we have

renewable energy resources in place consistent with Ohio's new advanced energy policies," says Michael G. Morris, AEP chairman, president and chief executive officer. AEP Ohio supplies electricity to nearly 1.5 million customers of its subsidiaries in Ohio and northern West Virginia.

Ohio's action will have substantial national impact because Ohio ranks third among energy-consuming states. But driving demand for renewable energy is only part of the picture. Ohio is marshalling its research, technology development and manufacturing resources to meet America's energy challenges and compete in growing global markets for advanced energy products. For example, since 2002, Ohio has invested more than \$70 million in fuel cell projects to create the largest fuel cell supply chain in the country. The state is also investing in wind, solar and other energy technologies, as well as green energy initiatives to increase energy efficiency and protect the environment.

The Ohio State University: Sustainable Innovation

Sustainability means expanding the capacity of renewable resources and learning from the most basic elements and systems – two strategies that coalesce with the unique skills and knowledge of America's largest university and its highly ranked hospitals and cancer research and treatment center.



Second in the nation in industry-sponsored research, The Ohio State University stands ready to lead the new "Innovation Revolution." After all, scholars and researchers at this top-20 ranked institution have been exploring and extending the basics of life since 1870.

More than 50,000 students attend Ohio State's Columbus campus. Surrounded by the nation's fifteenth largest city and an urban research corridor, Ohio State's research prowess earns world-class status in areas such as global climate science, carbon sequestration, advanced materials and renewable energy.

One of the essentials Ohio State understands is the state's \$23 billion food and beverage processing industry. Its Department of Food Science and Technology, including the Food Industries Center headed by Dr. Valente B. Alvarez, promotes food entrepreneurship, and has partnered with an array of companies, such as Cheryl & Co. and Glory Foods, to refine products or serve as an R&D and new product development facility. They have decontaminated fresh vegetables, fruits and eggs, set industry standards in food safety, extended the shelf life and taste of salad dressings and bread, helped launch a billion dollar new industry in cheese whey, and devised high pressure processing techniques and applications now deployed by companies from Hormel Foods to Kraft Oscar Mayer.

"Business appreciates our responsiveness and our multi-disciplinary approach to problem-solving," says Dr. Denise Smith, professor and chair, Department of Food Science and Technology.

Food science, like all sciences, has broader implications. "Soy bread – great for cardiovascular health – looks to be one of our most promising new innovations as does our newly invented soy tomato juice which may help prevent prostate cancer," notes Dr. Steven Schwartz, director of the Center for Advanced Functional Food Research and Entrepreneurship.

Schwartz and teams of researchers throughout the university transform food, agricultural crops and other organic matter into health promoting products and even alternative fuel sources. Think of "fruitraceuticals" or healthy fruits like black raspberries that can slow or stop the return of oral cancer, or lycopene-loaded tomatoes to prevent prostate cancer. Consider Dr. S. T. Yang's biobutanol, a better biofuel than ethanol with 25 percent higher energy content and the flexibility to adapt into our current gasoline distribution system.



The university supports Metro High School, a nationally recognized model for pioneering improvements in science, technology, engineering and math education.

Photo: Kristin Stanford

The enormous potential of bioproducts brought Ohio State together with industry, federal and state government and nonprofit research giant Battelle to found the Ohio BioProducts Innovation Center. Led by executives from Owens Corning and Cargill to Ashland and Sherwin-Williams, the center engages in "Cell to Sell®" innovation.

When it comes to the cellular level, The Ohio State University Medical Center is unlocking humankind's most fundamental codes and revolutionizing health care delivery. Ohio State physicians and researchers are at the forefront of personalized health care, using biomarkers, or genetics, to target treatment outcomes based upon an individual's propensity to respond to selected protocols. Many see personalized health care as significant to medical science as antibiotics were a century ago. Not only will it invert our focus from illness to wellness, personalized medicine will eventually prove to be far more cost efficient and effective – welcome news for a system that churned through 16 percent of the Gross Domestic Product last year or more than \$2 trillion.

For example, Dr. Wolfgang Sadec, director of Ohio State's pharmacogenomics program has validated a gene marker that signals the safest and most effective dose of warfarin, one of the most frequently administered anti-blood-clotting drugs. Typically used to aid recovery from surgery, heart attack or stroke, warfarin must be prescribed in exact dosages. Currently though, the drug is often given in too high or too low doses during the initial weeks of treatment, resulting in side effects like severe bleeding or, alternatively, excessive clotting and stroke. Further, African Americans typically require higher doses of the drug.

"Adverse drug reaction is among the leading causes of death overall," explains Dr. Sadec. "Our research offers a perfect case study in pharmacogenomics. We now comprehend ethnic differences and how to reduce the chance of adverse drug effects. In 20 years, we will sequence everyone's genome and extract predictive drug reaction information at a cost of less than \$200."

The Ohio State University

While E. Gordon Gee has more experience running universities than anyone in the country, much of his career is entwined inextricably with The Ohio State University.

Gee – lured back to the university for a second tour of duty in 2007 after stints at Brown and Vanderbilt – remains convinced that Ohio State can and should be a top-10 institution. As he recently explained, "We are called upon today, as never before, to assume leadership in the state of Ohio and beyond its borders. Ohio State is the great agent of change and progress – economically, socially, intellectually and culturally."

In both his turns at the helm of Ohio State, Gee has earned high marks from faculty, staff, students and community leaders. "He has charm, humor and charisma on steroids," said Gil Cloyd, chairman of the Ohio State Board of Trustees.



E. Gordon Gee
President,
The Ohio State
University

In evaluating Gee's fiscal leadership, efforts to attract and retain top faculty, and other skills, "He blew the doors off," Cloyd said. Always close to students, Gee often drops by student events and spends the night in residence halls. Soon after his return to Ohio State, he treated students to cookies baked in the shape of his trademark bow ties.

Gee's reputation is that he is constantly in motion, pushing for performance and innovation. As a sign in his office reads: "If you don't like change, you're going to like irrelevance even less."

www.osu.edu

The Center for Personalized Health Care at Ohio State's Medical Center was founded in 2005 to "foster incorporation of personalized health care initiatives into health maintenance and clinical care across the nation and the world." Extensive biomarker research through biobanking and bioinformatics – information powerhouses – will capture, analyze and delve deeply into the tiny and unknown, such as microRNA. This work recently earned a boost with a National Cancer Institute (NCI) Knowledge Center contract, which binds Ohio State into the national Biomedical Informatics Grid program.

It is the latter which connects in Ohio State's key cancer partners, The Ohio State Comprehensive Cancer Center, one of 40 NCI designated centers, and the James Cancer Hospital and Solove Research Institute, ranked among the top-20 cancer hospitals in the nation. These entities have more than quadrupled NCI funding for research over the last 10 years, and have forged partnerships with companies such as Pfizer, Genentech and Amgen.

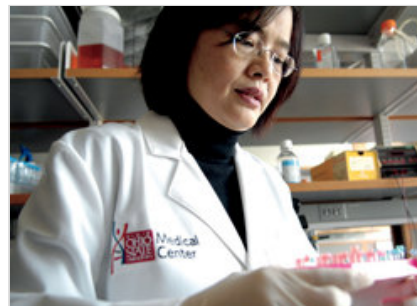
Personalized health care for these oncologists, hematologists and specialists translates into hope.

Just 40 years ago, a diagnosis of acute myeloid leukemia (AML) was "invariably fatal," says Dr. Clara Bloomfield, Distinguished University Professor, William G. Pace III Professor of Cancer Research and senior advisor to The Ohio State University Cancer Program. "Now we cure about 30 percent of our patients. We pioneered research into genetic abnormalities of the leukemia cell that are characteristic for each AML patient. This has resulted in personalized treatment plans for each patient based upon that knowledge." Bloomfield and her team also recently discovered microRNA findings that determine the likelihood of individual patients experiencing a relapse, information that helps better design the aggressiveness of initial treatment.

Genes are believed to play a decisive role in just less than a third of all colon cancer cases: yet the culpable genes have been detected in less than five percent. Recently, a team of researchers headed by Dr. Albert de la Chapelle discovered a genetic mechanism that probably accounts for some 10 percent of all colon cancers. The product of this gene normally protects against cancer. The change that leads to high risk of colon cancer is subtle – a slight reduction in the expression of just one of the two copies of the gene – which is why it had not been detected before.

"I expect that it will become standard practice to test for this abnormal difference in gene expression and, when found, that other family members also will undergo testing and genetic counseling," says de la Chapelle. "The presence of the change confers a nine-fold increased risk of colon cancer. Now we are out to tackle the molecular cause of the difference so we can begin to correct it and perhaps, in due time, even reduce the heightened risk of cancer among those with this genetic abnormality."

Genetic structure, foods that feed, power and protect the health of the world – these foundational sciences are readily embraced by Ohio State and its public and private partners. Their efforts promise to power innovation and economic growth for Ohio and beyond.



Research at the university's Biomedical Research Tower is expected to generate approximately 17,000 new jobs and bring an estimated \$3.7 billion to Ohio over the next ten years.



Education for Workforce Development

We live in a technological age where an educated workforce is key to economic growth and prosperity. Ohio has an impressive university system anchored by 14 main campuses, each with a distinguished academic history and often hosting regional or national research centers. Ohio is also home to 73 private colleges and universities — including liberal arts, religion-based, technical and medical instruction institutions — and 24 two-year technical and public community colleges.

In May 2008, Lieutenant Governor Lee Fisher, chair of the Ohio Third Frontier Commission, and Ohio Board of Regents Chancellor and Commission Member Eric Fingerhut announced ten collaborations between University System of Ohio schools, private universities and industry partners throughout the state for more than \$143 million in grants through the Ohio Research Scholars Program. The projects added 26 new Research Scholars to Ohio

Working in tandem with business and industry, Ohio is creating a demand-driven workforce system to ensure ready and reliable access to a highly skilled, highly competitive 21st century workforce.

education institutions and centers of research excellence. These projects will stimulate research in areas of extreme importance to Ohio's economy, such as advanced materials, bioimaging, spinal implants, photovoltaics, and power and propulsion. "These projects exemplify the unbreakable link between economic development and higher education that is critical in developing not only groundbreaking research but product commercialization," says

Fisher, who also serves as director of the Ohio Department of Development.

"A strong educational system nurtures technology development, and that is an important factor in business growth," says Duane Jebbett, president and chief executive officer of Findley-based Rowmark LLC, a manufacturer of plastic sheet products for the custom engraving, signage and awards markets worldwide. "Ohio has some of the best universities and educational institutions that help drive growth into the business sector. Midwestern values, combined with these educational pursuits, create business opportunities and a great work-ethic environment where technologies can flourish," he says.

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Ohio's world-class educational institutions also bolster research and technology development in all of Ohio's key industries, augmenting state and private investments with research grants. Between 2001 and 2007, the Ohio State University Medical Center created 3,742 new jobs by targeting research grants related to cancer studies. Industry models show that every \$100 in research expenditures creates a total impact of \$222 on the local economy.

Ohio's commitment to education reform and its willingness to collaborate with private-sector partners to improve its workforce make the state a good place to do business, says David J. Leland, a partner in Carpenter Lipps and Leland LLP. His Columbus-based law firm plays an active role in facilitating government-industry collaboration. "Our state government is focused on developing a highly educated workforce and a competitive support system to develop a uniquely diverse and resilient economy, benefiting small and large businesses alike," he says.

A State of Perfect Balance

Born in London to parents from Cyprus, Eve Georgiou has an international background but chose to become a U.S. citizen and locate her Discover the Region publishing business in Ohio. Her home and business are nestled in a rural area north of Dayton. But with close access to interstate highways and an international airport, she says she can be at the state capital in an hour and anywhere in the world in a day. She asks, "Why not live in a region that's a great place to raise a family with a low cost of living in comparison to other states — and a great place to grow my business?"

From the shores of Lake Erie to the forested hills along the Ohio River, Ohio is a state where people can balance business success with personal fulfillment. Ohio boasts major industrial facilities, large metropolitan areas and a robust transportation infrastructure, yet world-class arts, sports, entertainment and parks are never far away. Consider this:



Ohio offers many outstanding cultural and recreational opportunities, including the annual Columbus Arts Festival. Ohio's arts and festival attendance ranks second in the nation.

- Ohio has 14 metropolitan areas and 29 micropolitan areas that provide residents with one of the largest numbers of diverse living environments in the country.
- Ohio has six metropolitan areas ranked in the top "100 Livable Places in the United States" and seven ranked in the top "100 Best Art and Cultural Amenities," according to Places Rated Almanac.
- Ohio's arts and festival attendance ranks second in the nation.
- Ohio's symphonies are continually ranked among the best in the U.S.
- Ohio is home to seven major-league sports teams, 74 state parks and 12 designated scenic rivers.
- Ohio ranks fifth in the nation in the number of public libraries and branches, fifth in institutions of higher education, sixth in public K-12 enrollment and eighth in higher education enrollment.
- Ohio has outstanding health care resources, including three of the top 20 pediatric hospitals in the nation.

Ohio has so much to offer: a multitude of educational and business opportunities, a family-friendly environment, the arts, sports and culture. And Ohio is an accessible state in every sense of the word. With shorter commutes to work or

school, Ohioans have more time for family and personal fulfillment. Even government leaders are more accessible, and people with the spirit of volunteerism can find leadership roles with nonprofit and charitable organizations.



The Ohio Bipartisan Job Stimulus Plan, passed by the Ohio Legislature in June 2008, funds \$250 million for retaining and attracting talent and building the most educated workforce possible in Ohio.

In Ohio, you can make a difference.