

NDSU
resear**T**ECHNOLOGY PARK INC.
2010 ANNUAL REPORT



Unity of Purpose

The NDSU Research & Technology Park serves as a catalyst for NDSU innovation, science and technology that leads to discoveries that contribute to North Dakota's economic development.

NDSU
resear**T**ECHNOLOGY PARK INC.

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Forging Ahead Together

Forging Ahead Together



Dr. Dean L. Bresciani
NDSU President



Tony Grindberg
Executive Director

North Dakota State University (NDSU) is a powerhouse of innovation, creativity and economic development. The National Science Foundation's latest national survey ranks NDSU 40th among the nation's research institutions without a medical school, with more than \$113 million in annual research activity.

Research universities are so valuable because they bring new financial and intellectual resources to the state that benefit people all across the state. It's a proven formula – researchers create new knowledge and technology, which in turn creates new businesses and jobs that diversify and bolster the state's economy while attracting and retaining the people who are our future. All the while, students benefit by studying and working with the people who are creating the new frontiers that will catalyze North Dakota's economic future.

The NDSU Research & Technology Park (RTP) is a vital contributor to this exciting effort. In its state-of-the-art facilities, university researchers combine their talents with private industry to create new technologies, methods and systems. Those partnerships are helping NDSU build a new economic sector of high-paying jobs with emerging, technology-based companies.

Since ground was broken in 2001, the RTP has proven to be a successful investment in a brighter economic future for the Fargo-Moorhead community, our state and the region. In the process, it has earned respect and a reputation of achievement and leadership by developing successful companies and broadening North Dakota's business opportunities.

We couldn't achieve this kind of success without strong collaboration and a unity of purpose that brings together the resources and intelligence of organizations from a wide range of economic and educational sectors.

We have developed a host of partnerships with international, national and regional centers of excellence, high-technology businesses and NDSU's research community. Our newest research partner, Sanford Health, is the largest, not-for-profit rural health system in the nation, with more than 18,000 employees. Building on its current research portfolio, Sanford Health is in the process of expanding its research operations to the RTP, where it will conduct cutting-edge medical research in several areas.

The impact of the RTP is both impressive and lasting. Without a doubt, the RTP has become an economic driver for the community; its impacts are featured in a more detailed summary in this report.

As important as those economic benefits are, benefits for NDSU students are even more important. Our students continue to gain valuable educational experiences from the research and product development now underway here. In the Technology Incubator, for example, the student employee program generated 1,100 donated hours from 14 students for Incubator clients. That equates to \$11,000 in value-added services, and the program's popularity is growing; this year we received nearly 900 applications for five open scholarships.

Another venture that is positively impacting our community, state and region is the Youth Entrepreneurship Academy. Developed by the RTP with Fargo Public Schools, West Fargo Public Schools, Moorhead Public Schools and the South East Education Cooperative, the program provides students insight and knowledge about the latest trends in research and development. It also is part of the basis for a new institute that the RTP and our partners, including Sanford Health, are working to develop.

NDSU is proud of its heritage as the state's first land-grant institution. We embrace our responsibility to be a cornerstone of future productivity to benefit North Dakota and the state's residents. That productivity has become visible not just within the state, but in national and international arenas where recognition for our work is attracting new sources of support, scholarly productivity, student interest and the capacity to diversify and strengthen North Dakota's economic future.

We pledge that NDSU and the RTP will continue to promote and foster a culture of entrepreneurial research, ingenuity and opportunity leading to a stronger and more diverse economy for North Dakota. Our faculty, staff and students will continue to excel and compete with the world's best. We will build on our many successes, and North Dakota will benefit from those efforts.

We firmly believe NDSU's – and by extension North Dakota's – best days lie ahead.

NDSU
researchTECHNOLOGY PARK INC.

Economic Impact Report

Study Shows RTP Contributes Significantly to Economies, Job Growth

The NDSU Research & Technology Park (RTP) has positively impacted economies, contributed to job creation efforts and helped generate revenue for local and state governments, according to an analysis by an independent economic impact firm.

Economic Modeling Specialists Inc. (EMSI), Moscow, Idaho, examined a range of economic indicators to analyze the RTP's performance from 2007-2010, with projections for 2011. The projections show the RTP gaining momentum, with positive economic impacts multiplying further in coming years.

In its report, "NDSU Research & Technology Park Impact Study," the firm wrote, "The overall picture indicated by EMSI's look at the RTP is one of strong economic performance, significant job and income creating effects, and a substantial contributor to North Dakota's tax base, both state and local. Further growth at the park will contribute not only to the Fargo economy, but elsewhere in the state through economic multiplier effects."

The following are highlights of EMSI's findings.

Jobs

The 19 businesses located at the RTP account for 893 direct, on-site jobs and another 551 indirect, off-site jobs. On-site employment includes 138 jobs for NDSU students and 286 for NDSU graduates. In addition, since 2007, construction and maintenance of the RTP has provided 27 jobs and labor income of nearly \$8 million.

Salaries

RTP businesses pay salaries that average \$57,000 per year, and associated multiplier-effect industries (industries outside of the RTP but in North Dakota) pay salaries that average \$41,000 per year. RTP industries pay out nearly \$51 million in wages and account for another \$23 million in indirect off-site wages as a result of multiplier effects.

Property Income

The RTP and associated multiplier-effect industries create non-labor (property) income. This is a broad measure that includes retained earnings, dividend, interest and bond payments, and depreciation allowances. EMSI estimates RTP industries and off-site but linked businesses generate \$28.4 million in property income in North Dakota.

Revenue for State, Local, Governments

EMSI estimates the RTP generates more than \$10.9 million for state and local governments. That includes \$7.3 million in state government revenues through sales taxes, personal and corporate state income taxes and other state taxes, charges, fees and general revenues. For local governments, the RTP generates more than \$3.6 million through property taxes, other taxes, charges and fees.

RTP businesses account for
893 direct, on-site jobs
That's an increase from 511 in 2006

Businesses in the RTP pay an average salary of
up from \$51,000 in 2006 **\$57,000**

65-70% of RTP revenues come
from outside of North Dakota

Out-of-State Revenue

Approximately 65-70 percent of the RTP's annual revenues originate from outside of North Dakota. Based on that, EMSI infers that out-of-state sources pay for approximately two-thirds of all jobs, earnings and local tax revenues generated by the RTP. Out-of-state revenues topped \$101 million in 2010 and have grown by about 59 percent since 2007.

International Revenue

International inflows account for 8-10 percent of all revenues for RTP companies, which trade with 26 nations across six continents. In 2007, more than \$9 million flowed into the RTP from international sources. EMSI estimates that, by the end of 2011, this amount will grow to nearly \$17 million.

Grants and Related Cash Infusions

Technology Incubator clients have received approximately \$15.6 million in private and other grants, venture capital funds and angel investment funds since 2007. EMSI projects that they will receive more than \$16 million in 2011, which would equate to a 410 percent increase over 2007.

The RTP generates more than
\$10.9 million
annually for local and
state governments

RTP Board

Dr. Dean L. Bresciani, President
President, North Dakota State University

Barry Martin, Vice President
Division President, US Bank

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CEO, CRH Holdings

Bradley Swenson, Assistant Secretary
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Barry Batcheller
President & CEO, Appareo Systems

Dr. Philip Boudjouk
Vice President for Research, Creative Activities and
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to Stimulate Competitive Research

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Dr. Craig Schnell
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Paul Steffes
CEO, Steffes Corporation

RTP Staff

Tony Grindberg
Executive Director

Brenda Wyland
Associate Director

Jan Sobolik
Operations Specialist

Paul Tefft
Youth Entrepreneurship Consultant

Student Employees

James Dravitz
Business Development Assistant/
RAIN® Fund Investment Analyst

Jennifer Katke
Business Operations Assistant

Our Tenant-Client Partners

Our Tenant-Client Partners

RTP Tenants

Appareo Systems, LLC is a growing company with more than 100 years of combined experience in electronics design and engineering. As a leader in the burgeoning field of augmented reality, the company is focused on creating advances for in-flight data recording and analysis.

Bobcat®, an anchor tenant of the Technology Incubator, is a leader in the design and construction of compact equipment for the industrial, construction and agribusiness industries. The company conducts research and development in the facility.

NDSU Candlewood Suites, operated by Sonmar Management Corp., is a \$4 million extended-stay hotel with 72 guest rooms intended primarily for visitors conducting business at the RTP or on the NDSU campus. The hotel employs students and includes a classroom for courses in hospitality and tourism management.

The **NDSU Center for Nanoscale Science & Engineering** (CNSE) conducts multidisciplinary research with partners in the governmental, private and university sectors. CNSE's scientific capabilities include bioactive materials, combinatorial science, corrosion protection, electronics miniaturization, flexible electronics and materials, coatings, wireless sensors and radio frequency identification (RFID).

The **NDSU Department of Coatings & Polymeric Materials** is an international leader in developing new materials for NASA, the U.S. Department of Defense and private industry. It includes the only Corrosion and Coatings Research Center in North America.

The **NDSU Office of Research, Creative Activities & Technology Transfer** facilitates and supports research and creative activities across campus. It assists faculty in seeking and submitting proposals for

research funding and protecting intellectual property and fosters partnerships with government and private business. It includes the Office of Sponsored Programs Administration, the Office of Technology Transfer, the Office of Federal Government Relations and the Center for Computationally Assisted Science & Technology.

The **NDSU RFID and Wireless Sensor Laboratory**, housed in the Technology Incubator, is part of the Center for Nanoscale Science & Engineering. The lab provides testing capabilities and support for research and development partnerships between NDSU, industry and government in RFID technology areas.

Pedigree Technologies is a provider of cloud-based solutions that give organizations real-time visibility into operations and empower them to locate, track and control stationary and mobile assets worldwide. Built on a unique and scalable platform, Pedigree solutions provide an operations command center that increases operational efficiencies, improves workflow, manages inventories and logistics and maintains equipment, all in one simple system.

Phoenix International, a John Deere® company, designs and manufactures highly rugged, customized and integrated electronic components and systems.

Sanford Health is the largest, not-for-profit rural health system in the nation with more than 18,000 employees. Building on its current research portfolio, Sanford Health is expanding its research operations to the RTP, where it will conduct cutting edge research in several areas.

The RTP and the Technology Incubator are home to fast-paced, high-growth companies that promote economic development in North Dakota. Each of them has the potential to compete globally or is already doing so effectively. To operate within the RTP, a company should be involved in the advancement and development of new technology, be willing to establish a working relationship with NDSU and work in one or more of the following technology fields:

- Material Sciences
- Biosciences and Life Science Technology
- Information Technology
- Nanotechnology
- Advanced Manufacturing and Sensors/Micro-Electronics

Technology Incubator Clients

Avenue Right is an advertising technology company dedicated to improving the media buying marketplace for small to midsize ad agencies. The company has developed and introduced the first on-demand platform that allows its users to plan, buy, analyze and report on local advertising across both traditional and online media channels.

Ergologistics, LLC is the developer of Lift n' Buddy, automated hand trucks for the materials handling industries. Lift n' Buddy uses technology that allows an operator to lift heavy, awkward and bulky objects at proper ergonomic positions to reduce incident rates of strain and injury.

Fargo-Moorhead Angel Investment Fund is a Regional Angel Investor Network (RAIN) Fund for start-up ventures in Fargo-Moorhead established by a group of local investors that works with RAIN Source Capital. RAIN Source Capital is a multi-state network of RAIN funds that works with angel investors interested in supporting growing companies. It provides investment capital, a process for due diligence, legal templates, management support, access to deal flow and other resources. The Fargo-Moorhead angel fund focuses on high growth technology companies.

Feed Management Systems™ (FMS) is a solution provider of business management technology and services to the global commercial animal feed manufacturing industry. As a Microsoft Gold Certified partner with customers in more than 67 countries, FMS leverages its technology and industry expertise to help manufacturers manage transaction data during the nutrition, formulation and production processes, which helps them better manage their businesses, build stronger supply chain relationships and operate more efficiently. As a wholly owned business of Cargill™, FMS collaborates with customers and partners to bring solutions to help feed our growing world.

FormulaNow is an on-demand infant formula dispensing system that alleviates steps such as boiling water,

measuring powered formula and making sure the formula is the correct temperature. It allows parents or childcare providers to prepare perfectly reconstituted infant formula at the ideal temperature in just a few seconds with the push of a button.

Genosys, LLC is the brainchild of a group of investors with a vested interest in the global seed industry, particularly in the areas of hybrid sunflower seed breeding, production and distribution. Genosys' primary objective is to capture the explosive growth momentum and market potential of developing countries, such as China, Ukraine and Uzbekistan, by addressing the lack of well-developed products catering to country-specific farming practices and consumption behaviors.

Larada Sciences is a science-based medical technology company dedicated to the elimination of human head lice infestations. The company's LouseBuster™ is an FDA-cleared head lice treatment device that provides a revolutionary new way to kill head lice and their eggs without using pesticides or other chemicals. The treatment is highly effective against all head lice infestations, including infestations with pesticide-resistant lice and for individuals who have asthma, allergies, or other conditions that preclude traditional chemical treatments.

Myriad Devices was founded by two NDSU electrical and computer engineering (ECE) professors, a former NDSU ECE professor and a local business owner. Their goal is to create a company that acts as a bridge to the consumer market for the most promising technology based ideas and products originating from NDSU and the surrounding region. Myriad Devices is working with NDSU to enhance entrepreneurship skills of future engineers, inventors and business owners. The company's current focus is on marketing and development of an advertising service, two wireless media products, an exercise assist device and an ad-hoc wireless network for sensing, automation and control.

Biopharmaceutical Center

NDSU Biopharmaceutical Center

Boosts Life Sciences Research

Researchers in a new NDSU Center for Biopharmaceutical Research and Production soon will be developing DNA vaccines and biotherapeutics in niche areas to address infectious diseases such as West Nile virus, inflammatory diseases and other unmet needs in the areas of ovarian cancer and transplant medicine.

The North Dakota Legislature established the Biopharmaceutical Center through a \$2 million Economic Development Centers of Excellence award. It will be located in the NDSU Research & Technology Park.

Biopharmaceutical Center Director Satish Chandran is a world-renowned leader in biopharmaceutical and vaccine research. He joined NDSU in May 2010 after serving as chief technology officer of the Nucleic Acid-Based Therapeutics Unit of the Biotherapeutics Division of Pfizer, Inc. Chandran is working to develop partnerships with biotechnology institutes across the country, area universities, biotech companies and contract research organizations.

"We are very excited to have Satish leading our



new Center, and we look forward to the opportunities he will create for NDSU and local private sector businesses in discovering new target vaccines and other biopharmaceuticals for the marketplace," said Dr. Charles Peterson, NDSU dean of pharmacy, nursing, and allied sciences.

The Biopharmaceutical Center will boost biotechnology opportunities for students and companies in the Red River Valley. As internships and research programs are developed in the Center and through participating biotech partners, students will be better prepared to enter biotech careers. Meanwhile, the companies will have access to a highly trained workforce.

Tri-College University, which includes NDSU, Minnesota State University Moorhead and Concordia College, is

developing undergraduate and graduate degree courses in vaccinology. "We expect to have active research programs at the Biopharmaceutical Center that will complement the in-classroom programs within two years," Chandran said.

Peterson said the vaccine market now stands at \$22 billion per year, with

expectations that it will rise to \$36 billion per year. "This has the potential for having a huge impact on our program at NDSU and on North Dakota's health and economy," he said.

Peterson added that NDSU's research capabilities and infrastructure are well positioned for future success in life sciences. According to the American Association of Colleges of Pharmacy, in 2009, NDSU's program ranked ninth out of 120 schools of pharmacy in the nation for the percentage of doctoral research faculty (45.5 percent) with funding from the National Institutes of Health. NDSU is one of 120 schools of pharmacy nationally accredited by the Accreditation Council for Pharmacy Education. Each year nearly 100 pharmacists and pharmaceutical scientists graduate from NDSU.

The success of NDSU graduates such as Michael Chambers, CEO, president and co-founder of Aldevron in Fargo, who began his business by leasing space in an NDSU lab, illustrates the ability to generate opportunities here, Peterson said.

"With initiatives such as those underway by the NDSU Center for Biopharmaceutical Research and Production and by life science leaders in the community, we are on the verge of putting North Dakota and NDSU on the map for innovation and advancement of biotechnologies, vaccines, and other biopharmaceuticals."



Dr. Satish Chandran
Director of the Center
for Biopharmaceutical
Research and Production



Dr. Charles D. Peterson
Dean and Professor in
the College of Pharmacy,
Nursing, and Allied Sciences
at NDSU

NDSU's biopharmaceutical efforts are based on a collaborative approach that:

- Enables North Dakota-based biotech companies to develop late-stage products and move them through product development into clinical development.
- Attracts biotech companies or their product development activities to the state. Identifies late-stage products or product concepts from area universities and others to enable bio-tech start-ups.
- Develops programs to train biotechnologists and vaccinologists through advanced degrees at participating universities.
- Contributes to North Dakota's economic development by enhancing business and commercialization opportunities.

Triton Systems: A New ASSET in the Technology Incubator

Triton Systems, Inc. develops supplies that keep soldiers safe, designs coatings for biomedical devices and manufactures composite materials. The company opened a facility in the NDSU Research & Technology Park (RTP) Technology Incubator in June 2010.

Founded in 1992 and headquartered in Massachusetts, Triton is a materials-based product development company that creates innovative solutions for government and commercial clients. Its core capabilities include additives, advanced materials, coatings, electronic materials, materials-based systems, sensors, nanotechnology and structural composites. Some of Triton's clients include NASA, the National Institutes of Health, the National Science Foundation, U.S. Army, Navy, Air Force and Homeland Security.

Triton's Fargo facility focuses on its Advanced Solutions in Surface Engineering Technology™ (ASSET™) coating systems. ASSET is a unique and powerful process that enables ultrathin, rugged, highly functional surface modifications and coatings for broad applications such as biomedical devices, textiles, optical systems

and electronics. The company can apply coatings to almost any surface, making it ideal for a variety of new products.

The idea of locating the company's coating facility in the Red River Valley Research Corridor began with Triton's successful relationship with NDSU's Center for Nanoscale Science and Engineering (CNSE). Triton realized that, to take advantage of CNSE technology and facilitate the commercialization of ASSET, it needed to expand to a location close to NDSU. With the RTP, Triton also can be in an environment that fosters innovation and entrepreneurial excellence.

"It has been a very rewarding experience to pursue this endeavor with NDSU," said Triton President and CEO Ross Haghighat. "The amount of support and outreach they have been able to provide through the NDSU Office of Research and the Research & Technology Park has been above and beyond our expectations. We'll be able to ramp up our manufacturing abilities and continue research on our product focus sooner than we expected, based on this support."



"The amount of support and outreach they have been able to provide through the NDSU Office of Research and the Research & Technology Park have been above and beyond our expectations."

Ross Haghighat
Triton President and CEO

Since announcing its North Dakota facility, Triton named David Zupi director of operations and began hiring a core group of engineers that will focus on product and application development based on the ASSET technology platform. Full-scale coating capability is expected by early 2011.

In Fargo, Triton manufactures insecticide-treated bed nets for the U.S. Army. Service personnel deployed overseas are exposed to environmental conditions that can cause illnesses from airborne diseases and physical contact. Specialty coatings that Triton is developing for fabrics used in garments, tents and other materials, as well as coatings for medical systems, reduce the risk of these diseases. Triton-designed bed nets combine unprecedented insecticide performance with a form, fit and function that promises to bring enhanced protection and added functionality to troops.

Along with these initiatives, Triton plans to partner on other technologies with NDSU. Triton and NDSU are partners in a recently approved North Dakota Economic Development Center of Excellence (ED-COE) called the Center for Advanced Technology Development and Commercialization (CATCOM). The ED-COE program, spearheaded by former Gov. John Hoeven and the North Dakota Legislature, provides a framework for public-private partnerships. The Triton and NDSU collaboration includes research in areas such as printable electronics and materials.

Combining Triton's expertise in marketing, commercialization, technology transition and electronic materials with technologies developed at NDSU may



Dr. Philip Boudjouk
NDSU Vice President
for Research, Creative
Activities and
Technology Transfer

result in enhanced products for electronic devices, photovoltaics, display/imaging and other emerging markets, according to Dr. Philip Boudjouk, NDSU vice president for research, creative activities and technology transfer.

"The research collaboration between NDSU and Triton provides a partnership that benefits the company, the university, our faculty, staff and student researchers while clearly illustrating how scientific research can spur economic development for the region," Boudjouk said. "We see this as a great growth opportunity for Triton and for the NDSU community. Triton's partnership with NDSU leverages more than a century of experience in coatings research on campus, and nearly a decade of cutting-edge expertise in electronics applications and in robotics applied to polymers research and development. We're very excited to have Triton as part of our high-tech community."

Boudjouk credited the support of U.S. Senator Byron Dorgan and the Red River Valley Research Corridor for NDSU's marine and antimicrobial coatings program, which he said laid the foundation for the Triton-NDSU opportunity.

"We're looking forward to future endeavors with NDSU," said Haghighat. "We are confident this partnership will provide future growth and opportunities that couldn't be realized without this collaboration."

Along with the ASSET manufacturing center, Triton and NDSU can support applications engineering for a number of end uses for the Department of Defense. The company plans to hire additional applications engineering, processing and manufacturing positions in Fargo.



ESTEEM Institute:

The question is, "Will Fargo-Moorhead be around in 100 years?" Several public and private partners believe part of the answer lies in a new institute envisioned for the NDSU Research & Technology Park (RTP).

The RTP is working with Sanford Health, the public school systems in Fargo, West Fargo and Moorhead and other business and educational partners to develop an Encouraging Science, Technology, Engineering, Entrepreneurship and Math (ESTEEM) Institute to foster innovation and community advancement in core educational and research disciplines.

The organizations' joint vision is to bring education, health care, and research together under one roof in the RTP. There, the ESTEEM Institute will allow advanced-placement high school students to learn alongside world-leading scientists and researchers to develop solutions to private sector needs, meet global market demands and create scientific discovery all in the same facility.

The impetus for the ESTEEM Institute idea was the publication of the February 2010 report, "Sustain or Self-Destruct: The Case for Sustainability | Lodestone Project." The report, sponsored by the Metro Youth Partnership and funded by the Otto Bremer Foundation, examined the Fargo-Moorhead region's sustainability and potential over the next century.

"Fargo-Moorhead and the surrounding region is an ordinary place that has the potential to be extraordinary," the report states. "To be sustainable, a community has to be a magnet for new people and new ideas. It must be a community that fosters innovation and supports the creative thinking that typifies entrepreneurs everywhere. It must recognize that its resources are both precious and scarce, becoming greener, cleaner, and smarter about the footprint it leaves on the planet."

The report outlines needs such as affordable housing, reliable and economical transportation, high-paying jobs, quality health care and strong educational

Multi-Organizational Collaboration Leads the Way from Ordinary to Extraordinary

opportunities. RTP Executive Director Tony Grindberg said challenging our kids, keeping them engaged and keeping them here when it's time to go to college or begin a career is a good place to start.

"Fargo-Moorhead and the surrounding region have tremendous potential for leadership in a variety of areas, but as a community and state, there is not enough critical mass to work independently and be successful," Grindberg said. "By pooling our knowledge and resources, we can put ourselves in a stronger position, and the ESTEEM Institute can serve as part of the base for that."

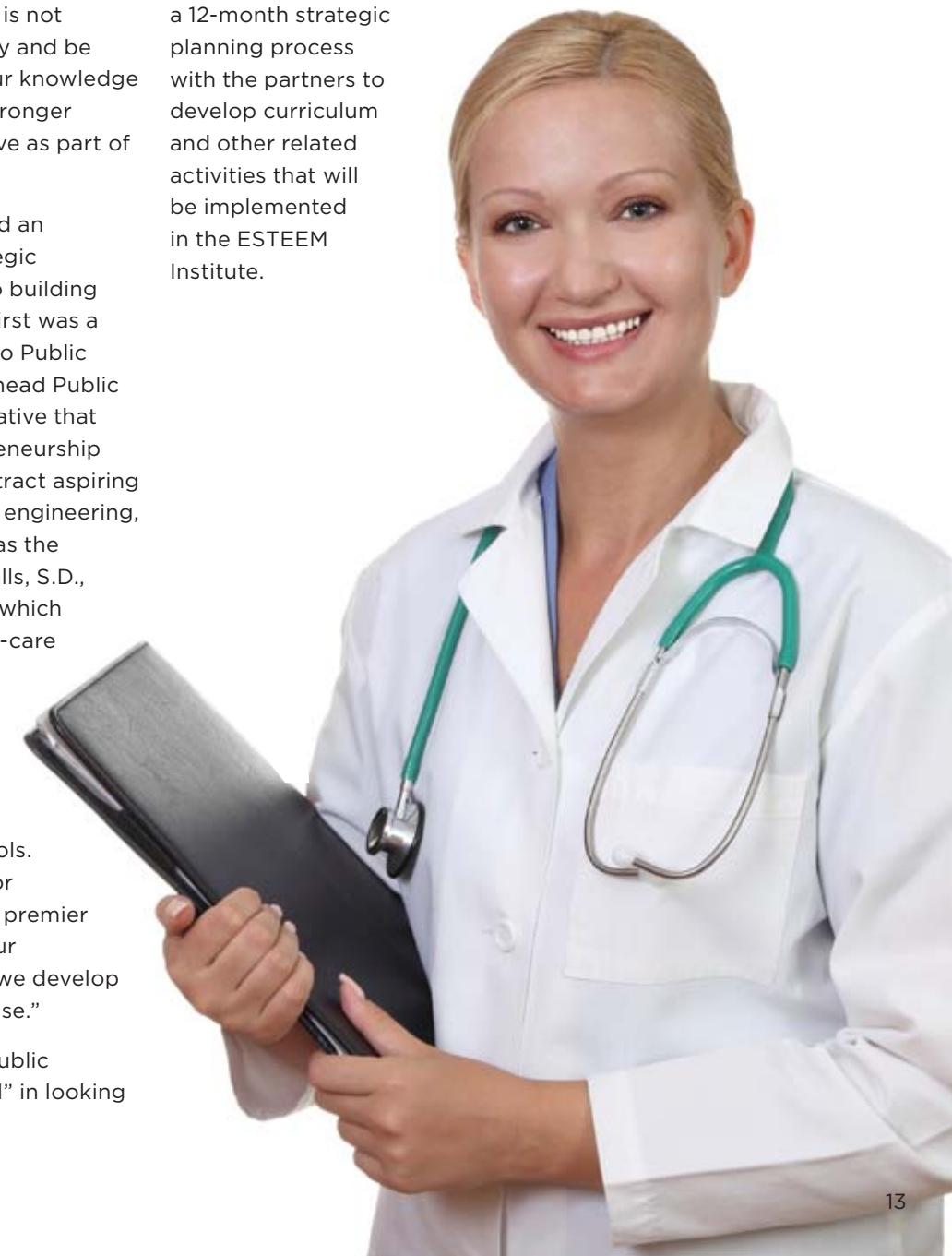
Grindberg said recent events have provided an environment conducive to furthering strategic public-private partnerships that will lead to building a sustainable community and region. The first was a partnership formed between the RTP, Fargo Public Schools, West Fargo Public Schools, Moorhead Public Schools and South East Education Cooperative that led to the development of a Youth Entrepreneurship Program. The program was designed to attract aspiring students interested in science, technology, engineering, entrepreneurship and math. The second was the merger of Sanford Health System, Sioux Falls, S.D., with Meritcare Health System, Fargo, N.D., which created the nation's largest regional health-care system, Sanford Health.

"The ESTEEM Institute concept not only represents an incredible vision for the Fargo, West Fargo, and Moorhead economic horizon," said Dr. David Flowers, superintendent of West Fargo Public Schools. "It represents a tremendous opportunity for students in the area. If we are to become a premier bio-medical research hub, then certainly our students should be part of the talent pool we develop for such an exciting and important enterprise."

Dr. Rick Buresh, superintendent of Fargo Public Schools, said the partners "are of one mind" in looking

for ways to enrich experiences for students. "The partnership with Sanford and the private sector, along with other area educational institutions, is a perfect example of the steps we are taking to prepare our students for tomorrow's workforce."

The RTP is coordinating a 12-month strategic planning process with the partners to develop curriculum and other related activities that will be implemented in the ESTEEM Institute.



Bolder Thinking: Telephony Cloud Lovers

Bolder Thinking has its head in the clouds.

The company's cofounders, many of whom were executive management at SEI and Verety, launched the business after they realized cloud computing would enable them to bring forth a next-generation telephony technology for businesses.

"People have heard of MagicJack and Skype, but no one has cracked the code for creating a reliable, scalable and cost-effective solution for businesses and call centers," said John Jasper, founder and CEO. "We aim to change that."

Bolder Thinking created a next-generation telephony platform to make it easy for businesses to communicate and share information internally and with their customers. The company's telephony systems are built on state-of-the-art cloud-computing platforms to provide full-featured, reliable telephony systems at affordable prices. The system is designed to simultaneously run on virtual servers in clouds that are distributed around the globe. This "Cloud Redundancy" ensures calls always can be delivered even if there is a major server outage in one region of the world.

"By hosting our telephony servers in commercial cloud data centers, we are able to access virtually unlimited processing bandwidth with built-in reliability and

completely eliminate the need to purchase expensive server equipment ourselves," Jasper said. "This provides our business with a significant economic advantage that we leverage to lower the cost of service to our customers."

Web-based management tools provide the ability to configure user accounts, readily add or remove telephony features and easily configure automated attendants and call routing. The system management tools also provide authorized administrators with online, up-to-date access to billing, call logs and other system analytics, providing full oversight of all calling activity and expense on every system phone number and extension.

Still in the early stages of operation, Bolder Thinking has already won several contracts involving strategic programs that exploit the benefits of its technology. The company is supporting the major expansion of an established dining delivery company by providing a tailored call center and driver communication system. The Bolder Thinking system will enhance operational performance and increase customer satisfaction while reducing operating costs.

Bolder Thinking also is integrating the call center telephony platform with a partner company's Customer Experience Suite. The resulting solution will be used



"People have heard of MagicJack and Skype, but no one has cracked the code for creating a reliable, scalable and cost-effective solution for businesses and call center. We aim to change that." - John Jasper, Bolder Thinking Founder and CEO

by a major online auction and shopping website to enhance customer service.

The company also has provided its Marketing Telephony Platform to a web-based physician referral company that links patients with the doctors that other doctors trust for themselves and their families. "Bolder Thinking's Platform has been a perfect fit for my particular business need," said the president of the web-based company. "I was impressed with the team's

rapid turnaround of software development and the flexibility and robustness of the delivered solution."

Bolder Thinking has quickly and comfortably settled into the NDSU Research & Technology Park and Jasper said the company values its relationship with the university. "The Incubator has been the ideal place to launch our new company," he said. "The access to university high-tech talent, the North Dakota programs and a fabulous facility are a powerful combination."

Appareo Systems

Appareo Systems: Outstanding Incubator Graduate of the Year

Appareo Systems has been named the 2010 Outstanding Incubator Graduate of the Year in the technology category by the National Business Incubation Association (NBIA).

The company is a leader in custom development and manufacturing of low-cost hardware and software solutions for original equipment manufacturers in the aviation and defense industries. The company applies cutting-edge technologies to create complex end-to-end solutions that include both airborne and ground station components.

"Appareo Systems has found a great deal of success in the recent years and part of that has come from our partnership with the Research and Technology Park and the Technology Incubator," said Barry Batcheller, president and CEO. "The



assistance that Executive Director Tony Grindberg and his staff have offered us has been priceless. We're honored to have been named Outstanding Incubator Graduate of the Year by the NBIA, and we happily share credit for that honor with the great folks at the Technology Incubator."

Appareo was founded in 2001, has been in the RTP since 2003 and was in the Technology Incubator from 2007 to 2009. At that time, the company graduated from the Technology Incubator and moved into its own

facility, the newly built Batcheller Technology Center, which is also in the research park.

Appareo has not only benefitted from being part of the Technology Incubator, but also from its close association with North Dakota State University, which is an important source of highly capable and well-trained employees, Batcheller said. He added that Appareo has been pleased to give back to the university community through its internship program and involvement with a number of NDSU-sponsored initiatives designed to enrich students' academic experiences by enabling them to work with successful and innovative local companies.

"Appareo Systems is a great example of what can happen when you take a business with a lot of potential and allow it to concentrate on what it does best," said RTP Executive Director Tony Grindberg. "With the support of the Technology Incubator, they were able to focus more fully on the core aspects of their business – building innovative products for aviation – which allowed them to grow and succeed at a faster rate than they otherwise might have. It's been our pleasure to

play a part in Appareo's success and we couldn't be happier to see them receive this great award from the NBIA."

NBIA is the world's leading organization advancing business incubation and entrepreneurship. Each year, NBIA Incubation Awards honor the business incubation programs, graduates and client companies that exemplify the best of the industry.



Barry Batcheller
President and CEO
Appareo Systems



Technology Incubator: Best Practices Review Keeps Momentum Going

In 2003, Claggett Wolfe Associates outlined the business and marketing plan that helped propel the Technology Incubator toward success. Now, the NDSU Research & Technology Park (RTP) is asking the consulting firm to build upon its momentum.

RTP Associate Director Brenda Wyland said the RTP is working with the Auburn, Calif., consulting firm once again to ensure the Technology Incubator is doing everything possible to continue to diversify the local and regional economy and to develop a new roadmap for moving forward.

"A review of best practices, not only in the nation but around the globe, is essential to advancing the collective efforts already underway," she said. "Once we determine what the best of the best are doing, we can adjust accordingly to ensure that the Technology Incubator continues to assist new start-up ventures in industries that are creating the jobs of tomorrow."

The 2003 plan focused on several key areas, including industry sectors in the market area, current and past levels of technology activity, and local entrepreneurial and business support conditions and competition.

That original plan provided a road map for the Technology Incubator's efforts to build incubation programs and assist technology-based start-up ventures. The plan also helped develop an entrepreneurial culture focused on material sciences, bioscience and life science technology, information technology, nanotechnology, advanced manufacturing and sensors/microelectronics. "It's obvious that following this plan has led to success," Wyland said.

Since opening in March 2007, the Technology Incubator has celebrated three graduations (Appereo Systems, Intelligent InSites and Pedigree Technologies); won a national award for the 2010 Outstanding Incubator Graduate of the Year in the Technology category from the National Business Incubation Association (NBIA); and is assisting several new start-up ventures with promising futures.

"In its short life, the Technology Incubator has produced results one would expect from a program twice its age," said Chuck Wolfe of Claggett Wolfe

Associates. "This is a testament to the program and its management team, and shows how a well-run program can be valuable in building the region's technology-based economy."

As these technology clusters continue to grow and impact the regional and state economies, others are taking notice, as well. For example, in October 2010, the Beacon Hill Institute released its Tenth Annual State Competitiveness Report, which ranks North Dakota first in overall state competitiveness in the nation. In the Academic Research and Development Category, North Dakota ranks third per \$1,000 of gross state product, and 13th in the overall Technology Category. The state ranks third in science and engineering graduate students per 100,000 inhabitants and fourth in science and engineering degrees awarded per 100,000 inhabitants.

The Beacon Hill Institute's competitiveness index is based on a set of 43 indicators that are divided into eight subindexes: government and fiscal policy, security, infrastructure, human resources, technology, business incubation, openness and environmental policy.

"North Dakota State University is a strong supporter and valuable resource for growing technology clusters in our community, particularly the bioscience sector," Wyland said. "As Fargo continues to build its technology-based economy, its services sector will also grow, and that in turn will create more professional and scientific jobs."

Successes build on and flow from successes, she said, and that is evident in the recent ranking Fargo received from the Milken Institute. Fargo jumped nine spots to become the best-performing small metro in 2010. The ranking stated that, from 2004 to 2009, Fargo added more than 1,200 jobs in the Management of Companies Sector, and more than 1,000 in the Professional, Scientific and Technical Services Sector.

"This is all good news for our community, state and region," Wyland said. "With the help of Claggett Wolfe Associates, we can make sure we continue to forge ahead in positive, profitable ways."

Incubator Economic Data

	As of June 30, 2008	As of June 30, 2009	As of June 30, 2010
Clients	8	7	10
Employees	96	121	67
NDSU Graduates	32	48	21
Total Monthly Salaries	\$489,233	\$732,080	\$430,167
Annualized Salaries	\$5,870,802	\$8,784,960	\$5,162,004
Graduations	-	1	2

