

Laser FOCUS

SEEKING TO HELP

emerging companies advance, the Super Region has locked on to leveraging the collective strengths of its universities and their supportive business communities. The result: targeted success.

BY SUSAN REVELLO

ONE COMPANY has taken the aerospace and defense industry sector by storm, using the power of proximity within the region as a weapon to battle tough competition.

ANOTHER company exemplifies the essence of entrepreneurial resourcefulness, enabling a nearby university and the local community to light the way.

Similarly, **A THIRD** shines as a beacon of academic and industrial collaboration, where incubation has breathed life into what are, literally, cutting-edge innovations.

And **A FOURTH** company is beginning to make a real killing, successfully sowing seeds laid from agri-tech despair.

Across the **SUPER REGION**, each has found answers and, ultimately, a way to move from high-tech startup to thriving standout.

Such triumph surely is cause for celebration by the 30 or so people who originally represented the organizations that were founding partners of the **FLORIDA HIGH TECH CORRIDOR COUNCIL**.

In brief terms, as those business leaders came together in the mid-1990s, it becomes evident that marketing the region through the power of universities—at first, the **UNIVERSITY OF CENTRAL FLORIDA** and the **UNIVERSITY OF SOUTH FLORIDA** and later the **UNIVERSITY OF FLORIDA**—made great economic development sense. The idea, in other words, was to use research partnerships and academic prowess to help companies develop new technologies.

Industry stakeholders, in concert with academicians, strategically identified targeted high-tech sectors to ensure that university programs neatly matched business needs.

Today, the Florida High Tech Corridor Council is a regional economic development initiative of UCF, USF and UF whose mission is to “grow high-tech industry and innovation through partnerships that support research, marketing, workforce and entrepreneurship.” The targeted high-tech sectors: Agritechnology; Aviation/Aerospace; Digital Media/Interactive Entertainment; Financial Services; IT; Life Sciences/Medical Technology; Microelectronics/Nanotechnology; Modeling, Simulation and Technology; Optics/Photonics; and Sustainable Energy.

The plan worked. And, as evidenced by the enterprises cited above and profiled below, the vision steadily moves forward.



A familiar sight: Carol Craig, CEO of Craig Technologies, on the move in her new 161,000-square-foot headquarters in Cape Canaveral. The firm specializes in software design and development, along with systems engineering and integration, among several other areas.

SETTING NEW BOUNDARIES

Craig Technologies / Brevard County

Carol Craig is Technology’s “It Girl.” Chances are you have seen or read about Craig in any number of publications or on the Internet. She is the recipient of numerous corporate and entrepreneurial awards, and her Cape Canaveral-based engineering and advanced manufacturing firm, Craig Technologies (CT), is a finalist for a prestigious award in the TechAmerica Foundation’s Aerospace & Defense category, presented June 20 as part of the 11th annual Technology and Government Dinner at the Ronald Reagan Building in Washington.

Behind all the exciting business trappings that Craig currently enjoys is a very smart, highly motivated businessperson with a strategy for success.

“If we build it, they will come,” she says of the new 161,000-square-foot headquarters the company moved into last October, the site of the former NASA Shuttle Logistics Depot.

In June 2012, Craig negotiated a Space Act Agreement with the Kennedy Space Center to maintain and operate an inventory of more than 1,600 pieces of specialty equipment once used to repair orbiters during NASA’s 30-year Space Shuttle Program; the pieces are now located throughout her office building on aptly named Astronaut Boulevard.

The CT Aerospace & Defense Manufac-

turing Center contains both a Clean Room and Clean Work Area, which are used to keep components in a clean environment prior to use or installation. The clean work area is where astronauts practiced working on components to familiarize themselves with those components prior to on-orbit installation or repairs.

Craig’s business philosophy is to have the infrastructure in place before actively growing the business. And, with the company on track this year for revenues in excess of \$40 million, her clients have indeed come to her company. Today, CT is supported by 340 associates around the country, with offices in Huntsville, Ala., and Orlando.

The firm specializes in software design and development; systems engineering and integration; interdisciplinary engineering;



The obvious reasons are taxes, cost of living, beautiful weather. But it's a really entrepreneurial state, at least from my perspective. For a company to really succeed, you have to be surrounded by people with that same kind of passion for business and growing a business and doing cool things, keeping up with the latest technology, that kind of stuff. We have a culture here, a culture that is established. Even in tough times we have a positive attitude." • **CAROL CRAIG, CRAIG TECHNOLOGIES**

training and courseware development; modeling and simulation; and a variety of custom technical services.

It has traveled light years from the early days. Founded in 1999, CT began simply with Craig incorporating her consulting business—just in case. To get started, she maxed out eight credit cards, much to her mother's dismay. Having worked as a systems/software engineer, civil servant, support contractor and naval flight officer, her background essentially continues to set the foundation for the firm's capabilities. Her executive team observes that Craig is involved in every aspect of the business. Start to finish.

She is not only the founder, but also serves as CEO and CFO. Many of her employees have long-standing relationships with her, making it easy to understand why loyalty is a tenet in her company's mission statement. Not surprisingly, they, also exhibit extreme energy and motivation.

Craig is loyal to the state, too. "I am a huge fan of Florida," she says. She is involved coast to coast, participating in a variety of community activities in Brevard, in addition to Orlando Inc. and the Florida High Tech Corridor Council. "This whole Super Region I know and I love," she adds.

Craig would really like to work with other Florida-based companies, both in terms of pinch

hitting to help overloaded businesses and utilizing other companies when she needs additional resources. "We don't need to be competitors. There are enough customers out there," she says.

Specifically, she cites the strength of Florida's manufacturing sector: "It's almost like a best-kept secret. You go down the east side of the state and you see Piper [Aircraft Inc.], Sikorsky [Aircraft Corp.] and all of these companies that are aviation manufacturers. There are also a lot of machine shops. I don't think people realize how much there is here."

Given the potential synergy, when it comes to economic development, she would like to see even more support, collaboration and better communications to get Florida squarely on the national map.

The advantages of doing business here are numerous, she contends: "The obvious reasons are taxes, cost of living, beautiful weather. But it's a really entrepreneurial state, at least from my perspective. For a company to really succeed, you have to be surrounded by people with that same kind of passion for business and growing a business and doing cool things, keeping up with the latest technology, that kind of stuff. We have a culture here, a culture that is established. Even in tough times we have a positive attitude."

The same can be said about her family. Family is the first word in her corporate mission statement, followed by integrity, loyalty, passion and community. Craig is a devoted wife and mother to her son and daughter and is committed to raising awareness for Prader-Willi Syndrome, the rare genetic disorder that affects son Danny. She is involved in the Foundation for Prader-Willi Research – Canada and started The Danny Craig Foundation in 2010 to identify, screen and administer funding to organizations that help children and their families cope with medical challenges.

"There are a couple of other parents that have the same mentality: 'We're going to figure this out. We're not going to cure it, but we're going to figure out what's going to work,'" she says about her personal mission. "I've got to tackle this with Danny because that's more important than anything else."

Craig embraces challenges. From a fear of flying to becoming a naval aviator, to succeeding in the male-dominated world of government contracts, to helping her child and others, she is always engaged. She is in perpetual motion, continually reaching for the stars in keeping with her NASA setting.

Craig even rehearsed with the Brevard Symphony Orchestra, playing classical piano. In typical style, she laughs it off saying, "But I wasn't that good." Hardly.

Craig Technologies' headquarters and Aerospace & Defense Manufacturing Center (ADMC) houses 1,600 pieces of specialized manufacturing and test equipment once used for Shuttle activities and provides end-to-end production line services, including Custom Avionics, Precision Machining and Fabrication, Specialty Manufacturing, and Test and Evaluation.



There is great reason to smile at LED International. The company engineered an LED light fixture that has UL approval in both the U.S. and Canada and can be custom manufactured to fit virtually any application. Shown from left: Ralph Mann, engineer; Helen Anglewicz, vice president; David Anglewicz, president; and Renee Millet, business development consultant.

BRIGHT FUTURE

LED International Lighting, Inc. / Hernando County

David Anglewicz had several "light bulb" moments in the creation of his Brooksville-based company, LED International Lighting, Inc. The first came while sitting at the kitchen table with his brother 12 years ago, discussing the lighting business. The second came while attending a national Light Fair four years ago, where an LED fixture caught his eye but was cost prohibitive. A year later, the price dropped dramatically. That's when Anglewicz made his move and tasked an engineer to develop a prototype light fixture.

"When I pointed it at a wall, it blew me away," exclaims Anglewicz.

Others shared his enthusiasm, especially the University of South Florida and the Hernando County business community. Anglewicz has existing businesses in Kansas, but he felt a distinct energy in Tampa Bay. "We met with representatives initially in the USF Small Business Development Center. They were phenomenal. I got help with market research, business plan development and even financial planning," he notes.

Anglewicz remembers Mike McHugh, director of Hernando County Office of Business Development, telling him his light fixture was so exciting it was better than "three cups of coffee" and he had to be based there. McHugh's assistance was extensive, even helping him identify a building in the airport

industrial park.

The rest is a history still unfolding. LED Lighting International moved into its home in Hernando in early 2011, where the company serves a variety of commercial and government clients. From agriculture (according to a University of Oklahoma study, cows produce 6 percent more milk with LED lighting) to airport runways to industrial warehouses, lighting requirements impact almost all industries and consumers. Utilizing a patent-pending design, the company has engineered an LED light fixture that has UL approval in both the U.S. and Canada and can be custom manufactured to fit virtually any application. Traditional lighting designs using incandescent, fluorescent and high-intensity discharge (HID) light sources are increasingly being replaced with LED lighting. First and foremost, LEDs use little energy while providing brilliant light, are weatherproof, have a service life of 60,000 hours, and can be powered by either AC or DC power.

LED lights will play a major role in helping communities reach environmental goals by reducing kilowatt usage, resulting in fewer hydrocarbons released into the atmosphere by power plants.

"Many companies are not aware of the huge cost savings they can benefit from with LED technology. Energy costs decrease nearly 70 percent, as our lights can be dimmed all the

ECOSYSTEM NURTURING



Heather Kenyon, president and CEO of the Tampa Bay Technology Forum, is fond of using the term "technology eco-system," noting that her organization is

dedicated to growing and promoting that network through events, education, networking, advocacy and philanthropy programs.

What's the technology ecosystem? Kenyon describes: "It's the established tech companies; it's the startups; it's the entrepreneurs; it's the high tech workforce; it's service providers; it's the sources of capital; universities and schools; the government economic development agencies; the Florida High Tech Corridor Council; the Tampa Bay Partnership; and other organizations. There's a whole bunch of folks and organizations that are all trying to help buoy the technology industry."

From her perspective, as the leader of one of those groups, Kenyon talks Tampa Bay technology.

In terms of strength and diversity, where does high tech stand in your area these days?

"It's exploding right now. From an economic standpoint, high tech in Tampa Bay is thriving, particularly in IT jobs. We've had about a 3 percent hike in the high-tech employment rate. And jobs are extremely plentiful for those with the right skills.

And, in terms of diversity, aside from IT services, we have biotech, life sciences and health-care segments, which are booming as well. And a very vibrant start-up scene."

What is a high-tech sector void or maybe a blind spot in Tampa Bay?

"Despite, for example, Fast Company recognizing Florida as the best place in the country to have a startup, we still lag in early-stage capital investment. The good news is that the funding laws are changing. ... The ways that people are raising capital are changing. But I think we need to have more early-stage investment capital. There's no question that a lot of entrepreneurial companies flounder because they don't have that first round to kind of get them through that initial stage. ... We would like to see a lot more venture capital and a lot more angels stepping up and investing in technology companies."

— Michael Candelaria





We met with representatives initially in the USF Small Business Development Center. They were phenomenal. I got help with market research, business plan development and even financial planning.” • **DAVID ANGLEWICZ, LED INTERNATIONAL**

way down to 10 percent. And it can be as simple as motion sensors making it happen. You can’t dim industrial fluorescent or HID lights,” Anglewicz explains.

In addition to the environmental benefits, through a partnership with a CPA firm, the company will help clients research local and state rebate offerings to maximize energy and financial savings, even provide assistance in how to properly handle the government paperwork. The Energy Policy Act of 2005 includes a Federal Tax deduction for installing energy efficient lighting. And more power companies are offering rebates, as well.

As a new kid on the block in Hernando, LED International has been made to feel welcome. “The synergy here is fantastic with companies wanting to work together,” says Anglewicz. Two local companies, ICTC and Sparton Electronics, provide additional



components for his fixtures (73 percent of his products are made in Florida). And in early 2012, LED International partnered with Neubert Aero Corp., another local company, which is a leading supplier of airport safety products. Together, they replaced halogen bulbs with LEDs for the giant Xs that signal runway closures.

“The technology for LEDs is getting better every day,” says Anglewicz. “Part of our challenge is to keep up with it.”

All indicators point to the future of this company being a very bright one.

In addition to inherent environmental benefits, LED International helps clients research local and state rebate offerings to maximize energy and financial savings.

TEAMWORK APPROACH

Casey Barnes is a big believer in regional teamwork. As vice president of business development for the **Metro Orlando Ecomic Development Commission**, Barnes is responsible for attracting, retaining and growing jobs throughout four counties. Prior to joining the EDC in 2013, he worked at Enterprise Florida, a statewide organization, for 10 years. In eight years there, he recruited and retained 101 companies across Florida, totaling 22,215 new and existing jobs and more than \$1.8 billion in new capital investment.

So, when it comes to collaboration, Barnes should know.

He explains.

In what ways does collaboration fit in with your EDC’s efforts to grow high tech in the region?

“Collaboration is a huge deal. It’s everything for us. The EDC encompasses four counties: Orange, Seminole, Osceola and Lake. Our region is all about partnerships. We work very closely with each of the counties, as well as educational providers; we work very closely with inventory providers, such as brokers and owners; and pretty much anybody that has a role to play in economic development. We like to say that economic development is a team sport.”

At present, are there one or two particular areas of emphasis in the high- tech recruiting process?

“High tech is a really broad brush. You can find areas of high tech in just about anything we do. You look at biomed—at what they’re doing at Florida Hospital and Sanford Burnham and others. You look at business services, where they’re

doing great things with Verizon. A third major sector we focus on is more advanced technology. That’s more manufacturing, digital media and military simulations and training, where, of course, we possess much strength.. So, almost everything we do has a high-tech component.”

Is there a recent example of success?

“The Verizon project is kind of the poster child. Verizon was looking at more than 250 communities in the U.S.. They narrowed their search field down to a number of locations, and fortunately our region was among them. We did a lot of things right as we worked with that company. “Number one, we got in contact very early on with our educational providers; the University of Central Florida, Seminole State College, Valencia College and Lake-Sumter State College, to validate the pipeline of talent that was coming through. [Verizon] wanted to understand the pipeline, and they wanted to know about the current structure of the employment here. ... We validated what turned out to be the critical issue for Verizon. Also, those university partners—UCF, Seminole State, Valencia and Lake-Sumter State—offered in-state tuition for out-of-state relocation. When a company needs to relocate key personnel, sometimes the cost of sending their kids to school is a major decision factor. So, the schools “took a bite” in order to be a good partner and help make the project happen for Florida.”

— *Michael Candelaria*



We have access to highly educated university graduates, and we employ eight people who hold doctorates. More than 50 percent of our employees came out of UCF!”

• **DR. ALEXEI GLEBOV, OPTIGRATE**

Dr. Alexei Glebov, CEO, with his father Dr. Leonid Glebov, UCF professor and founder of OptiGrate. The optics company holds more than 10 patents and has trademarked its BragGrate™ of high-efficiency VBGs.

SOMETHING TO BRAGG ABOUT

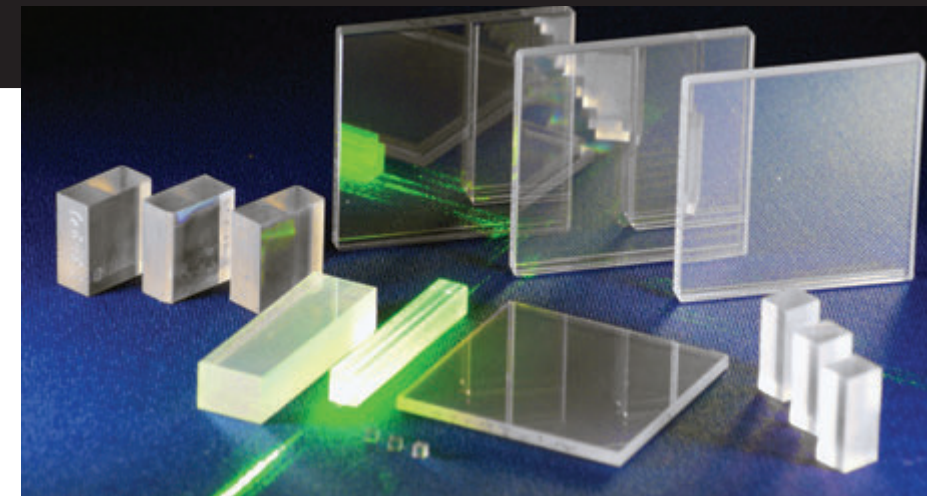
OptiGrate / Seminole County

A shining example of academic and industrial collaboration is OptiGrate Corp., an optics company that specializes in the volume Bragg grating (VBG) technology that its founder, Dr. Leonid Glebov, a UCF professor, perfected in the campus lab at CREOL (The College of Optics & Photonics). The cutting-edge technology for optical filters (BragGrate™) includes transmitting (TBG), reflecting (RBG) and chirped (CBG) volume Bragg gratings from special multi-component silicate glass (BragGlass™).

The Oviedo-based company was established in 1999 and is a major success story for the UCF Business Incubation Program, which provides a variety of business development services and resources to local start-up companies. Dr. Alexei Glebov, president and CEO of the company, comments: “CREOL is one of the best schools worldwide in photonics. There are very few schools that offer photonic programs.”

As the company grew with federal funding and grants (NASA, U.S. Air Force and U.S. Navy, among others), it developed the technology for implementation in a number of high-end military systems and began converting the government-funded research into commercial products.

Apparently, the world has taken notice. OptiGrate supplies customized and volume orders of holographic optical components to more than 400 customers on six continents in optoelectronic, analytical, medical, defense and semiconductor industries. In July 2012, the company moved into a new 10,000-square-foot facility, making it the only vertically integrated volume Bragg



grating production plant in the world. Also on site is a photosensitive glass production area, a holographic area and a laser development facility.

The Glebovs are one of only two father-and-son duos to receive the prestigious honor of being named Fellows by SPIE, The International Society for Optical Engineering. Fellows are members of distinction who have made significant scientific and technical contributions in the multidisciplinary fields of optics, photonics and imaging. It’s estimated that Fellows comprise 1 percent of the total global membership (hundreds of thousands) of SPIE.

Alexei Glebov, who previously worked in Silicon Valley, feels the cost efficiencies of being in Central Florida are particularly beneficial to his company. In addition to the attractive economic costs of doing business here, the advantages of being in close proximity to UCF and other industry organizations are significant. “We have access to highly educated university graduates, and we employ eight people who hold doctorates. More than 50 percent of our employees came out of UCF,” he says.

Glebov also cited the resources

available to his company through the Florida Photonics Cluster, a not-for-profit organization devoted to networking and educational support for his industry. “They provide an open forum that brings us together and creates a unified force,” he notes.

With Alexei Glebov at the helm and his father serving as head of the research and development arm of the company, OptiGrate is well positioned for growth. Sales have increased 30 percent, and the company holds more than 10 patents. “The VBG technology provides a huge advantage in integration of this component in industrial laser products,” says Glebov.

Last winter, OptiGrate received the Small Manufacturer of the Year Award from the Manufacturer’s Association of Central Florida.

Glebov emphatically asserts that if someone told him he had to move his company, he would say, no: “Central Florida offers brain power and a very strong infrastructure that simplifies our lives tremendously.”

Simplification for some very complex technology.

BIOTECH INCUBATION

In April, UF's Sid Martin Biotechnology Incubator took top honors worldwide when the National Business Incubation Association named it the 2013 Incubator of the Year.

Statistics tell the story. Companies within the incubator have attracted more than \$1 billion in funding, and successes include the acquisitions of incubated companies for \$113 million, \$98 million and \$34 million. Since its inception in 1995, the incubator had 28 companies graduate out of the facility or be acquired by other companies.

Patti Breedlove, associate director of the UF incubator, comments that the award

caps "a cascade of really good news."

Here's what else she had to say:

What makes your incubator successful—what are the keys to success?

"The incubation

program, itself, has to be well run and well designed for the types of companies we're trying to help. We are highly customized to help these bioscience companies. We have a 40,000-square-foot lab office facility. We have green houses, animal facilities and \$1 million of shared scientific equipment. And we have expertise in assisting start-up companies, with seminars and mentoring, and introductions to the right types of investors and service providers. That's the short answer. But that's incomplete.

"If we were located in another community, we might fail, even with those elements in place. What makes us so successful is that the University of Florida has a massive amount of life science research and that it has a sophisticated tech-commercialization process that understands how to create start-up companies, how to introduce scientists to entrepreneurs, how to write the proper kinds of contracts to make business a success for all parties. All of these are essential elements."

For those start-up biotech companies, are there common denominators?

"Bioscience companies are the most difficult companies to grow successfully, much harder than app-software IT companies. On average, they take hundreds of millions of dollars and more than 10 years to get products on the market."

— Michael Candelaria



PAY DIRT

PASTEURIA BIOSCIENCE
Alachua County

Pasteuria Bioscience is a killer company. It kills nematodes, which are microscopic worms that target plants. And its scientists have become quite good at it. So good, in fact, that the company was acquired in November 2012 by Swiss global giant Syngenta for \$113 million. Not bad for a home-grown Alachua-based biotechnology company currently living in the University of Florida's Sid Martin Biotechnology Incubator.

"Ag biotech is a huge industry and really growing," says Dr. Kelly Smith, head of Pasteuria Bioscience, now a business unit of Syngenta. "That's one of the reasons Syngenta left us here in Central Florida, still in the incubator. They want to have a larger presence in Florida and closer relationship with the universities."

According to Smith, nematodes attack "every crop known to humankind." These microscopic worms are everywhere, looking for plant roots. The key to controlling them—and the \$100 billion annual crop damage worldwide—was identifying a way to kill the organism. Enter Pasteuria, a group of naturally occurring soil bacteria that specifically target nematodes.

Scientists discovered 50 years ago that this biologic agent could provide effective plant-parasitic nematode control. The challenge was being able to replicate Pasteuria in the laboratory setting. "They are everywhere in nature, but we couldn't grow them in the lab, couldn't produce them commercially," notes Smith.

A big problem.

John Gerber, former UF Institute of Food and Agriculture Sciences administrator, first developed a method to grow the bacteria inside the lab. Entomos Inc., the forerunner to Pasteuria Bioscience, licensed Gerber's patented method from his company, CDG

Pasteuria Bioscience's Dr. Kelly Smith and Tom Hewlett have attracted big industry attention by effectively battling microscopic worms with naturally occurring soil bacteria.

Laboratories. Smith was hired to work at Entomos in 2001 as a fermentation engineer. Things began to move quickly.

From there, it was Smith and two other scientists, Tom Hewlett and Susan Griswold, who became the founders of the new company, Pasteuria Bioscience, in 2003, when it landed in the UF Incubator. "We developed the technology over the next several years, getting the process working with Pasteuria growing in the laboratory to where it looked pretty promising to be able to scale it up to an industrial fermentation," Smith describes.

While the scientists were making great strides in gearing up for cost-effective commercial applications, another investor in the company brought in an industry veteran, Dave Duncan, a former Monsanto executive, as CEO to help them commercialize their first product. The product was Econem, used for turf control. Nematodes wreak havoc with golf courses. Duncan had the experience of actually bringing products to market. The germ of the idea was starting to bear fruit.

"It was really important to demonstrate that we could get an EPA registration for this as a pesticide, [a product] that nobody else could grow, basically," Smith cites.

From that point on, the company began getting noticed by the Big Six in agriculture: Monsanto, Bayer, DuPont, BASF, Syngenta and Dow. Discussions started with Syngenta, leading to a research agreement with the Swiss company for an exclusive collaboration period that began in 2011. The culmination of that arrangement was Syngenta's purchase of the company in fall 2012.

The first commercial product in 2014 will be for soybeans, to control soybean cyst nematodes.

"It's a huge product, and the other thing that's exciting about it is Pasteuria will be delivered directly on the seed," Smith comments.

"If you can put it all on the seed then you don't have to go back through and spray over the top of the crop. This is very efficient for the grower, as it means they don't have to run the tractor back and forth through the field a bunch of times."

Going forward, such seed treatment, a major trend in agriculture, will be a point of emphasis—helping farmers avoid aerial pesticide application, which may result in wind drift that can cause unintended harm. In 2015, Pasteuria Bioscience will be launching a second-generation turf product, and there are lots of crops lined up behind it to benefit, including sugar beets and cotton.

Syngenta's Pasteuria Bioscience has literally hit pay dirt.

GROWFL

TAKING SUCCESSFUL COMPANIES TO THE NEXT LEVEL

Want to Grow your Business and Increase Top-Line Revenues?

OUR BUSINESS IS TO HELP YOU GROW!

- ✓ One-on-one Strategic Research focused on increasing sales
- ✓ Evaluate current opportunities or challenges
- ✓ Examine alternative strategies for growth
- ✓ Community-based CEO Forums & Roundtables
- ✓ All at no cost to you

Contact Us Today
to qualify for GrowFL! **GrowFL.com**
407.823.6384