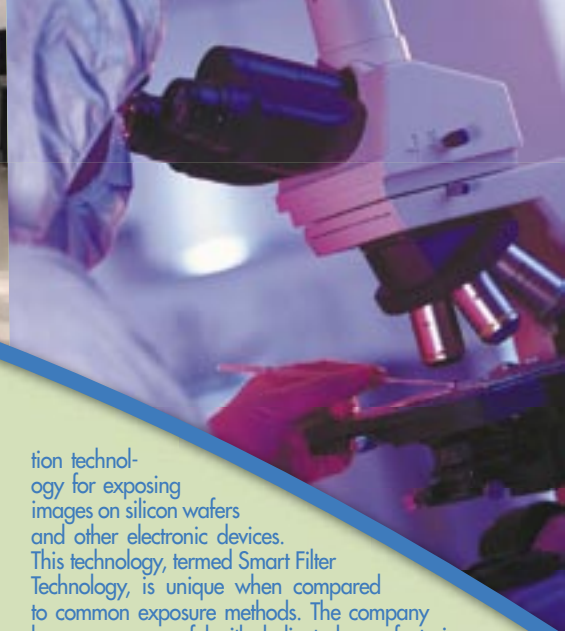


MEMS and NANO Technologies



Think big when you consider the unique centers of excellence supporting the growth of MEMS and NANO technologies in the Tampa Bay region. The Tampa Bay market offers a powerful combination of leading and well-funded efforts found in very few places, including the largest MEMS facility in the Southeast, a major research university - the University of South Florida (USF); one of the country's top cancer center research facilities - Moffitt Cancer Center and Research Institute and a cluster of technology manufacturing companies with applications in medical device manufacturing, electronic components, and national defense.

Research

USF (www.usf.edu), with campuses throughout Tampa Bay, continues to grow as a serious research driven institution. USF has the largest enrollment in the Big East (40,000+) and last year generated over \$290 million dollars in research contracts and grants - a 14% increase over the prior year.

The Nanomaterials and Nanomanufacturing Research Center (NNRC) at USF Tampa includes a new 1.5,000 sq. ft. state-of-the-art facility, "Nanotech 1".

This new \$5 million facility houses two major laboratories: 1) a Class 1000 cleanroom for the fabrication of devices and synthesis of materials; and 2) a major analytical metrology center containing over \$10 million in leading edge instruments for measuring the properties and performance of materials down to the atomic level. The 35 faculty and 200 student researchers who use the current NNRC facility are from departments of Chemistry, Physics, Biology, six departments in the College of Engineering, various departments in the College of

Medicine and in the Moffitt Cancer Center & Research Institute.

Among the topics being explored are techniques for the early detection of cancer using quantum dots; super hard coatings using nano structured diamond films; fabrication of sensors for bio/chem/gas detection; magnetic/acoustic actuators; magnetic materials for data storage; carbon nanotubes for atomic force measurement; nanoporous structures for biological applications and micro fuel cell structures.

Application Development

USF's College of Marine Science/Center for Ocean Technology at the Bayboro Campus in St. Petersburg leads the application oriented efforts and offers the **largest MEMS facility in the Southeast U.S.** which is housed at the Young-Rainey STAR Center (www.young-raineystarcenter.org) - the nation's first successful conversion of a former U.S. Dept. of Energy defense manufacturing plant to a commercial high technology center.

The USF MEMS and Nanotechnology facility boasts a 5,000 sq. ft. Class 1000 cleanroom with over \$22 million of state-of-the-art equipment with complete prototype abilities including water design, development and fabrication. The facility's capabilities include Atomic Force Microscopy (AFM), Focused Ion Beam (FIB) Milling offering nano-scale manipulation, Plasma-enhanced CVD, E-Beam Lithography, Wafer-to-Wafer Bonding and Scanning Electron Microscopy.

Commercial Success

A measure of the success of research and development is the ability to successfully commercialize the applications. The Tampa Bay region includes many spin-offs from USF as well as a cluster of industry leaders in many applications.

One example, **Intelligent Micro Patterning**, located in St. Petersburg (www.intelligentmp.com), was formed in 2001 after USF developed the use of direct optical projec-

tion technology for exposing images on silicon wafers and other electronic devices. This technology, termed Smart Filter Technology, is unique when compared to common exposure methods. The company has grown successful with dedicated manufacturing facilities where all systems are assembled and extensively tested prior to shipment.

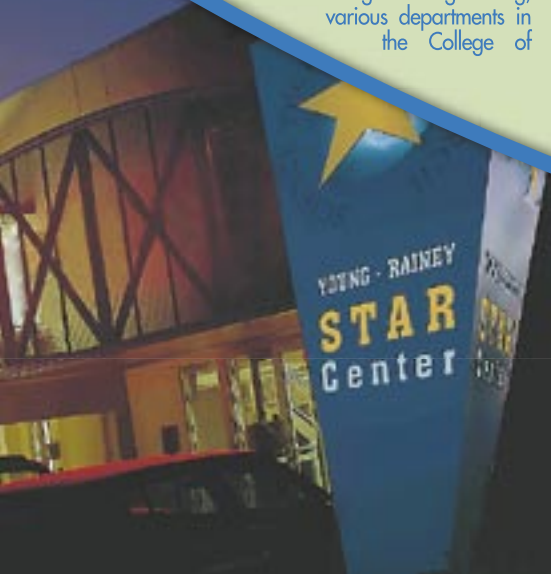
Semiconductor Diagnostics (SDI) Tampa, (www.SDI Tampa.com), has become a world leader in non-contact, real-time production monitoring and process characterization for advanced gate dielectrics, equivalent Electric Oxide Thickness (eOT), I-V characteristics, and oxide charge measurements; contamination control; non-visible defects, and other factors affecting Gate Oxide Integrity (GOI).

Additional clusters of activity include companies like **MicroMo Electronics** (www.micromo.com), Clearwater, offering one the world's smallest commercially available micro electromechanical drive systems. **Concurrent Technologies** Largo, (www.ctc.com), providing Micro-scalable corrosion detection methods that can be used in aircraft. And an entirely new nanotechnology-based catheter device with significant medical applications developed at **NDH Medical**, Inc. (www.ndhmedical.com) in St. Petersburg.

Accelerate Life's Possibilities

If you're looking for a market that is big on MEMS and NANO technologies, consider the communities of Tampa Bay. We're accelerating life's possibilities through research, application development and commercialization success.

For more information go to: www.TampaBay.org





www.mancef-coms2006.org

St. Petersburg Florida, August 27-31, 2006

The Communities of Tampa Bay and the Florida High Tech Corridor are proud to welcome the 11th Annual International Commercialization of Micro and Nano Systems Conference, COMS 2006.

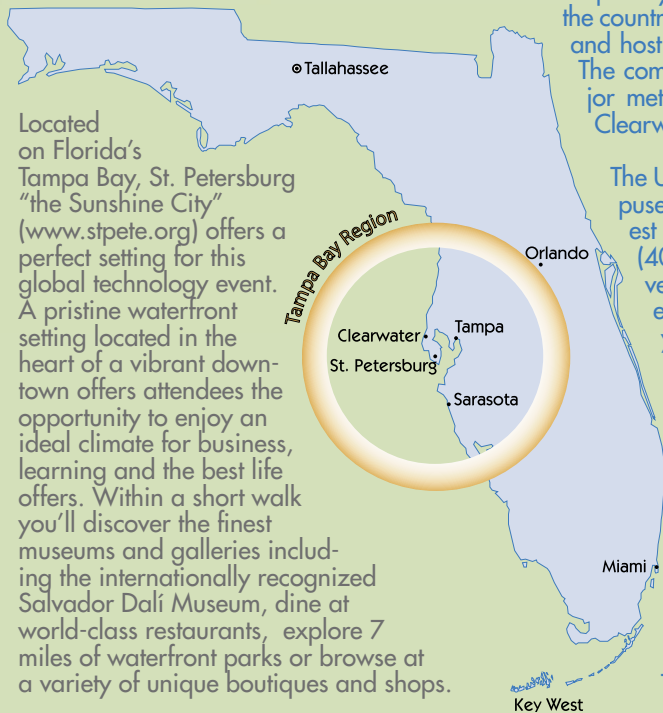
The Communities of Tampa Bay have become internationally recognized as a premier destination for business and technology. Consider:

Tampa Bay is the 13th largest media market in the country. Home to over 3.8 million residents and host to over 20 million visitors annually. The communities of Tampa Bay include major metro areas of Tampa, St. Petersburg, Clearwater, Sarasota and Lakeland.

Photonics, Aerospace, Medical Device, BioTechnology and Electronic Components.

The top ten largest companies in our region all exceed \$1 billion+ in revenues and illustrate the diversity of our business model. We're home to global manufacturing operations, health technology innovators, critical information exchanges and the distribution of goods and services.

Easy access via three international airports including one of the top "traveler" friendly airports in the world, Tampa International Airport, which offers non-stop flights to 76 destinations and has the 3rd lowest average fare of all airports in the country. Additional access includes three deep water ports including the Port of Tampa, Florida's largest port with bulk, cargo and cruise passenger service.

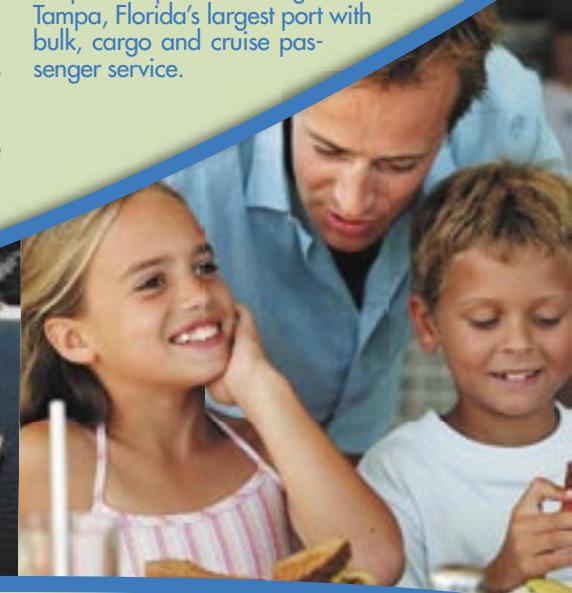


Located on Florida's Tampa Bay, St. Petersburg "the Sunshine City" (www.stpete.org) offers a perfect setting for this global technology event. A pristine waterfront setting located in the heart of a vibrant downtown offers attendees the opportunity to enjoy an ideal climate for business, learning and the best life offers. Within a short walk you'll discover the finest museums and galleries including the internationally recognized Salvador Dalí Museum, dine at world-class restaurants, explore 7 miles of waterfront parks or browse at a variety of unique boutiques and shops.

The University of South Florida, with campuses throughout the region, has the largest enrollment of any Big East University (40,000+), and is a key research university that has grown total research expenditures by 90% in the last five years - totaling over \$290+ million this year.

As the western gateway to the Florida High Tech Corridor, Tampa Bay offers companies access to a matching grant program that has generated more than \$120 million in applied research for over 225 companies. The Corridor is home to thousands of technology companies in a variety of sectors including Modeling Simulation and Training, Optics,

For more information go to: www.TampaBay.org



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