



PHILADELPHIA REGIONAL OFFICE

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WEDNESDAY, SEPTEMBER 14, 2011



"DON'T FIND FAULT,
FIND A REMEDY."

-Henry Ford

STATE FLOWERS

Courtesy of the USDA

Connecticut: mountain laurel

Delaware: peach blossom

District of Columbia: American Beauty rose

Maine: eastern white pine tassel and cone

Maryland: black-eyed Susan

Massachusetts: mayflower

Modeling and Simulation in Hampton Roads, VA

National Critical Technology

The Congressional Modeling & Simulation Caucus, ModSim or M&S, involves complex computer models to create artificial environments. From doctors performing hands-on simulated surgeries, to homeland security models that account for details such as wind direction and construction sites, to transportation models that show projected traffic patterns decades into the future, M&S is breaking out of the defense industry and into the everyday lives of Americans. Using simulations saves time and money, improves quality and is often safer than conducting experiments with a real prototype.

Hampton Roads, in Southeastern Virginia just three hours south of Washington, D.C., is a collection of rural, urban, suburban and urban-suburban communities. It is home to the Port of Virginia and nearly one-fourth of the nation's active-duty military personnel. With the third largest concentration of assets in the U.S. and Canada, the region is a global leader in M&S led by the needs of the military with growth and expansion into emergency management, transportation, medicine and game-based learning.

U.S. Joint Forces Command (JFCOM), active since 1999 and based in Hampton Roads, was responsible for about 80% of VMASC's startup funding, an \$80 million overall investment. JFCOM was the impetus for M&S growth in the region with military efforts to save money – and lives – using simulated war games.

JFCOM closed this year under federal efforts to cut military spending in the first-ever disestablishment of a U.S. combatant command. All layoffs will be complete by March 2012, but thanks to local, state and congressional leaders' efforts, approximately one-half of JFCOM's nearly 4,000 essential function jobs will be saved and reassigned locally.

When Dept. of Defense (DoD) Secretary Robert Gates announced the closure in 2010, 10,000 jobs were estimated to be lost within not only the command, but also local industry. The closure of JFCOM is estimated to save DoD \$450 million annually, and an expected \$200 to \$300 million will be lost within Hampton Roads as a direct result of the loss.

New Hampshire: purple lilac

New Jersey: violet

New York: rose

Pennsylvania: mountain laurel

Rhode Island: violet

Vermont: red clover

Virginia: flowering dogwood

West Virginia: rhododendron

Puerto Rico: Puerto Rico hibiscus

U.S. Virgin Islands: yellow trumpetbush



As the region transitions M&S workers from a DoD focus, Eastern Virginia Medical School (EVMS) and ODU's medical educators turn to modeling and simulation rooms, called "immersive labs," set up for students to practice performing procedures on a mannequin in a special environment. Hospital staffs, in the form of avatars, project on the walls around the students and move about the room, creating the same amount of complexity one would find in the operating room.

To practice in high intensity situations, such as on the battlefield, a digital war zone with the sounds of gunfire and helicopters may immerse students, an experience they would not gain in the classroom. Dr. Donald Combs, Vice President and Dean, School of Health Professions for EVMS, explained that within only a few practice runs in the "immersive labs," the virtual patient survival rate grew from 20% to 80%.

Dr. Combs proposes the potential for M&S extends far beyond the medical field, "all markets evolve and change; it's not change itself that's the problem, it is how we craft a response to it."

"M&S allows for increased efficiency and lower cost for companies," says Dr. Johnny Garcia, of Hampton Roads-based SimIS, Inc., a veteran-owned 8(a) Information Technology services corporation. His company developed an M&S service technology to facilitate a company's data portability and collaboration without incurring infrastructure costs.

According to Tom Mastaglio, founding director of VMASC and now CEO of MYMIC LLC, a service-disabled, veteran-owned small business, "A real strength is our educational offerings in M&S in the region. We are the leaders. We need to make sure we don't lose that."

The Hampton Roads region is the only place in the world where one will find an innovative continuum of M&S education from high school through PhD and annual exiting military personnel – that numbers 10,000-plus – with exposure to and/or expertise in M&S since its birth.

The MODSIM World Conference and Expo began in 2007 when the Hampton Roads Partnership (HRP) saw the need to share information on the vast amount of M&S based development occurring in the area within a wide variety of industries from Defense & Homeland Security and first responders, to health and medicine, to human behavior, to education, to serious gaming and virtual worlds. The conference's synergy was created by the efforts of JFCOM, VMASC, EVMS, NASA Langley Research Center and many other military organizations, colleges, universities, and industry organizations. Learn more at <http://ModSimWorldConference.com>.

From the region's first Comprehensive Economic Development Strategy (CEDS) sprang Innovate!HamptonRoads™, a cluster-based program of HRP whose mission is to promote locally grown business, technology-based economic development by connecting ideas, entrepreneurs and capital. M&S, the most mature of the six clusters, stimulates high growth new business formation and ignites the commercialization of research innovation. According to Tom Osha, ODU's Economic Development Officer, "HRP has a leadership role in making sure we are doing economic gardening, nurturing the companies we already have here." For more information, visit <http://InnovateHamptonRoads.com>.

Additional Hampton Roads M&S FACTS:

- M&S jobs pay more than double the average regional salary.

RESOURCES

Economic Development Agency

Commerce Connect

StartUp America Partnership

Regional Innovation

(RIAN)



- 2009-U.S. Congress directed VMASC to lead the National M&S Standards Study.
- 2008-U.S. Department of Labor granted \$5 million to promote M&S use in transportation, warehouse and distribution industries.
- 2006-Congressional M&S Caucus held its first annual Leadership Summit in Hampton Roads, continuing today.

Special thanks to Megan C. O'Reilly from Hampton Roads Partnership for submitting this article.



[Back to Top](#)

Northpointe Technology Center II

Northpointe Technology Center II is a two-story, 30,000 sq. ft. multi-tenant facility funded in part by a \$2 million grant from the U.S. Economic Development Agency (EDA). Technology Center II is located in Northpointe, PA and is Armstrong County's premier business and office park. Technology Center II features modern amenities and a tenant-friendly atmosphere. A grand opening ceremony was held on March 18, 2011.



Building amenities include sub-dividable office space, manufacturing space, the availability of high bandwidth fiber network, and the convenience of common areas and meeting rooms. Technology Center II also features the use of environmentally sound building materials with low emittance glass, energy efficient roof, and a closed loop geothermal heat pump system.

The facility currently houses two highly technical companies. Trio Motion Technology specializes in manufacturing devices used for motion control applications, enabling control of complex high speed automation and machine control. The technology manufactured by Trio Motion Technology has uses in many industries. Stimulus Engineering, an engineering services and products firm supporting the defense industry, provides consulting services to clients in making intelligent business decisions regarding technology acceleration to maximize success. The staff at Stimulus Engineering is skilled in electro-mechanical, electronic, electro-optical, and industrial engineering.

A \$2 million grant from the EDA and a supplemental grant from the Pennsylvania Redevelopment Assistance Capital Program in the amount of \$2 million provided funding to construct Technology Center II.

If you would like additional information about Northpointe Technology Center II, please

contact the Armstrong County Industrial Development Authority by email at economicdevelopment@co.armstrong.pa.us or visit www.armstrongidc.org.

Special thanks to Justin R. Nolder from Armstrong County Department of Economic Development for submitting this article.

[Back to Top](#)

Commonwealth Center for Advanced Manufacturing

University of Virginia and Virginia Tech Partnership

In May, 2011, the Economic Development Administration (EDA) announced a \$3.975 million grant to the University of Virginia (UVA) in Charlottesville to help build the Commonwealth Center for Advanced Manufacturing (CCAM), a 50,000-square-foot office and manufacturing space in Prince George County, Va. The CCAM is a joint project between the University of Virginia and Virginia Tech that will support advanced technology manufacturing and new jobs in the region.

CCAM (currently under construction) is located on the Rolls-Royce North America Crosspointe Centre campus, part of the Commonwealth of Virginia's Advanced Manufacturing Innovation Zone (AMIZ). The AMIZ is a national model for integrating research, workforce development, and corporate investment. Bringing innovation and career mobility together with an industrial anchor, the project aims to revitalize economic competitiveness in advanced manufacturing, particularly in the aerospace, marine, automotive, and energy industries. The collaboration is widespread with RollsRoyce N.A., Canon, Siemens, Newport News Shipbuilding and Virginia State University participating.

CCAM is an applied research center that will help bridge the gap between fundamental research at universities and product development by companies. The goal of CCAM is to accelerate the transition of technologies from fundamental development through proof of concept and on to commercialization. The initial applied research focus areas will be material and process modeling, knowledge based modeling, and factory and supply chain modeling. The research will also develop computer models capable of simulating the manufacturing processes that relate the input process parameters and resulting material and part properties so that virtual part and system design can become an accepted industry practice. Thus, the center will have an impact across numerous industries.

The center has developed a tiered system of membership that provides a defined level of access to intellectual property according to membership level and fees. Tier One and organizing industry members have the right to participate in both Directed Research and Generic Research, while Tier Two members have access to the Generic Research, the projects for which are collaboratively selected via the Technical Advisory Council. Directed Research programs are exclusively directed by an organizing committee member or a Tier One member.

CCAM and the associated developments promise to have a major economic impact not only in the Greater Richmond area of Virginia, but across the Commonwealth. It furthers a national goal of fostering advanced manufacturing and will demonstrate the

viability of one open collaboration model.

More information on CCAM can be found on its website at <http://ccam-va.com>.

[Back to Top](#)

Update: Hermitage, PA

Technology Center of Excellence

Two major projects under way in Hermitage, PA, stand to create a new business environment that will enable the Shenango and Mahoning valleys to emerge more economically diversified and competitive, said officials during a groundbreaking ceremony held on April 19, 2010, at the LindenPointe Innovative Business Campus. This launched construction of an expansion of Butler County Community College and the new Technology Center of Excellence.



"It's nice to see how we translate policy into real projects and real jobs," said John Fernandez. "This partnership is exactly the kind of work we need to be doing."

The new Technology Center of Excellence received a \$4.2 million grant in January 2010 from the EDA to help fund construction of the new building. The grant was augmented with a \$1.25 million contribution from the state, which Gov. Edward Rendell announced in August 2008. Previously, EDA awarded \$800,000 to construct Phase I, a 5,000 square foot facility at the Linden- Pointe Innovation Business Campus.

The new Technology Center of Excellence is the result of a partnership between the city of Hermitage, the West Central Workforce Investment Board, the Mercer County CareerLink, the Penn- Northwest Development Corp. and executives from the technology sector. The Department of Labor, Employment and Training Administration, was instrumental in fostering the new relationship EDA has within the region. The 16,500-square-foot building will include testing for use by high-tech companies, five to seven business incubators for new companies, and common class, break, meeting and rest room areas. The classrooms will also have teleconferencing equipment. The work is nearing completion and a dedication ceremony is scheduled for late October.

"Working with EDA has been a great experience and this project is a poster child example of what can be accomplished thru a local-state-federal partnership and inter-agency cooperation" said Gary Gulla the Assistant City Manager of Hermitage.

[Back to Top](#)

Contact Us

Your Philadelphia Regional Office

EDA's Economic Development Representatives are here to help potential applicants understand EDA's programs and provide technical assistance to your region.

They are your first point of contact for EDA, so give them a call or send them an email. You can find their contact information [here](#).



[Back to Top](#)

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