Mississippi Enterprise for Technology

John C. Stennis Space Center

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Being heard not an easy task today

John C. Stennis Space Center is a well known landmark on the Mississippi Gulf Coast, but how many people understand just how much goes on inside the secure gates of the 1,400-acre campus?

Charlie Beasley is president of MsET

Originally established as a rocket engine test center for NASA, Stennis Space Center is a huge federal city that today has more than 30 federal and state agencies, as well as a variety of companies involved in a host of fields. The variety is surprising, from space-related work to riverine warfare training and more.

Our organization, the Mississippi Enterprise for Technology (MsET), is a business incubator and technology transfer office. More recently MsET took on the additional job of playing a role in the economic development of SSC.

As part of that role, MsET wants to do what it can to help tell the Stennis Space Center

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MsET companies

On the front lines

A lot of organizations at Stennis Space Center are involved in addressing the spill in the Gulf of Mexico, including those from MsET…

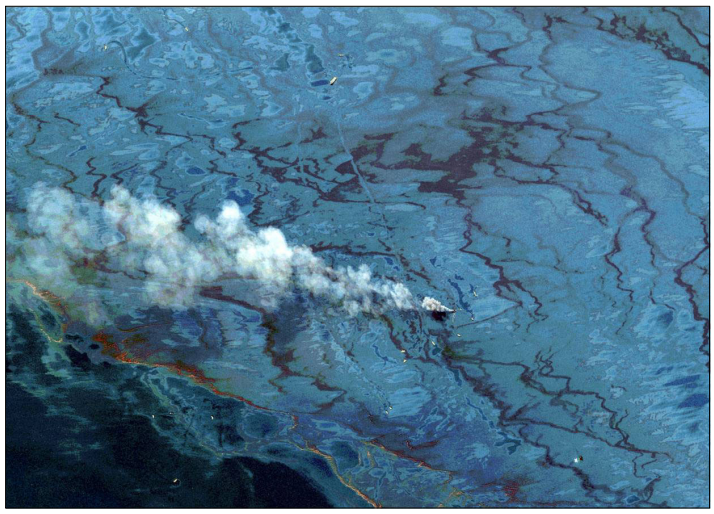

Photo courtesy of DigitalGlobe

The smoke from burning oil and gas can be clearly seen in this photo of the Gulf of Mexico.

With as many federal and state science operations as there are at John C. Stennis Space Center, it's no surprise that they would be heavily involved in responding to the oil spill in the Gulf of Mexico caused by the April 20 explosion of the Deepwater Horizon.

The response of NASA, NOAA, the Navy and others is expected. But the involvement of members of the Mississippi Enterprise for Technology, an incubator and technology transfer operation at SSC, is somewhat less expected. More than a half-dozen MsET companies are involved, offering or providing products and services to help ease the biggest environmental crisis in the nation.

"Within the advanced technology industry in the Stennis region, you'll find a number of emerging applications in disaster readiness, response, and long-term recovery," said Charlie Beasley, president of MsET. "It's critical for the stakeholders in our communities to support innovation that directly addresses the specific negative impacts of environmental or man-made disasters."

The following summarizes efforts of MsET companies:

DigitalGlobe: A satellite imagery company, is providing to the U.S. government satellite imagery acquired from the company's QuickBird and WorldView-1 satellites. The imagery is used to help monitor the wide-spread spill. DigitalGlobe is also in discussions with BP regarding acquisition of DigitalGlobe's imagery products. WorldView-2 imagery is also available.

DQSI: The company is offering to provide scientific resource management, including data and incident management, and simulation and modeling. It's currently developing and expanding its geographical information system tools and services to meet the increased data processing that's expected as a result of the spill. DQSI, in collaboration with the University of New Orleans, is developing a tool called "Project Khaba." It uses high performance computing to simulate the environmental models needed to plan and manage resources related to the disaster.

Geocent: The spill involves multiple agencies, so Geocent developed an open source Web-

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NASA center responds to the Gulf of Mexico oil spill

Stennis Space Center's Applied Science and Technology Project Office (ASTPO) is monitoring coastal ecosystems for damage and assisting other agencies. It's conducting 15 research projects in the Gulf of Mexico region.

ASTPO manages NASA's Gulf of Mexico Initiative, which was established in the wake of 2005's Hurricane Katrina. Since 2009 ASTPO has provided $14 million to support 300 scientists conducting 35 research projects in the Gulf region.

For the current oil spill crisis, NASA has used four satellites and two aircraft to gather vital data on the oil slick and coastal ecosystems. The satellites continue to track and monitor the extent of the oil spill on a daily basis.

ASTPO also helps other organizations. It provided scientific instruments to the Naval Research Laboratory to enhance the ability to detect the oil slick using satellite imagery and to chemically "fingerprint" the oil. It also provides software to the U.S. Geological Survey's National Wetlands Research Center and the University of Southern Mississippi's Gulf Coast Research Laboratory to augment their capacity to analyze satellite imagery and identify the impact of the oil on marshes and barrier islands.

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based common operational picture. The idea is to capture the data and distribute in multiple formats so the same information can be conveyed on the different platforms currently being applied to the disaster (ESRI, Virtual Alabama, Virtual Louisiana, Magnet, Louisiana Emergency Management, BP and the Coast Guard). It allows multiple players to enter the disaster operation with their own equipment since the only requirement is a browser and an internet connection or iPhone.

NVision: Working with a variety of organizations in their oil spill response, including the Hancock County Emergency Operations Center, Mississippi National Guard, Environmental Protection Agency, Naval Oceanographic Office Glider Operations Center and the Department of Interior Minerals Management Service. Among other things, NVision is providing products to depict oil boom status and locations and the current oil spill extent, tracked through HazNet, NVision's Web-based common operating picture. NVision also developed an iPhone application for iPhone, iPod Touch, and iPad devices for upload to NVision's web mapping interface.

Radiance Technologies: This company has vertical integration software that provides data fusion and rapid risk assessment within a geospatial environment. The technology analyzes complex data sets to provide situational awareness and critical course of action development. Among the uses are predicting oil trajectories, determining the vulnerability of key areas and identifying probable dispersion zones. The results can be displayed in a GIS context for responders in the field.

Rockwell Collins: The Stennis group's expertise is in intelligence field terminals. It's supporting the Mississippi National Guard/J2 deployed to the Dr. Eldon Bolton State Office Building in Biloxi. The J2 has deployed their WIDS BRITE suite to the site. Rockwell Collins assisted with setup and refresher training. Responders have access to the Unclassified Domestic Imagery Manager.

Themis Vision Systems: This company is proposing a long-term solution to the energy problem by exploring alternative fuel sources. Themis has filed patents and has submitted bio fuels proposals to the Department of Energy and through defense appropriations, addressing the need for energy independence, safe and secure fuel productions, and a non polluting national energy strategy.

WorldWinds: The company is working on applications of the ADCIRC-2D circulation model, which couples ADCIRC-2D with an emerging coastal wind forecast system. Such a model can be used to study coastal tidal prism and circulation patterns, especially in spill response emergencies. WorldWinds has been contracted by St. Tammany Parish, through the Lake Pontchartrain Basin Foundation, to conduct high resolution wind modeling for forecasting movements of oil sighted in the areas of the Chandeleur and Mississippi Sounds, and to analyze the threat of oil being transported into Lakes Borgne and Pontchartrain. ■■■

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story. That means highlighting the accomplishments, successes and innovative work of the organizations located at SSC. But in an age of information overload, it's a challenge simply to be heard above all the noise.

MsET decided to create a news feed as our way of telling people about some of the activities that occur here. This is in no way a bid to usurp the separate communications activities of the various organizations at Stennis. Indeed, we see the news feed as a vehicle to ensure those valuable communications reach a wider audience.

MsET monitors and pulls together in digest form all the announcements and notices coming from NASA, the Navy, NOAA, the universities and any of the other organizations that calls Stennis home. The news is provided in a brief format, with links to the original source of the information.

And we provide you with choice.

- Get updates delivered directly to your e-mail inbox
- View the updates from the MsET Web site Home page
- Subscribe to the feed and use your preferred RSS reader, using your favorite browser

You'll be amazed by the contributions made by Stennis Space Center that benefit the region, the nation and the world. I hope you'll visit the MsET Web site to subscribe to the news feed and increase your understanding of SSC.

And don't forget. Commercial office space is available at Stennis Space Center. Call for more information. ■■■

The MsET story

Tortorano Publications photo

The Mississippi Enterprise for Technology Inc. at John C. Stennis Space Center is a nonprofit created in 1994 as a business incubator and technology transfer office. The joint effort of the Mississippi Development Authority, NASA and the state's universities was designed to spawn the development of high-wage, high-skill technology jobs.

MsET evolved into one of the first state groups to focus on leveraging the presence of federal geospatial activities, the gathering, interpretation and distribution of geographic data acquired with satellites and aircraft to provide a picture of the world. That's no small matter considering it's a key technology of the 21st century. It remains a key area for MsET, but by far not the only one.

The beginning

The state's interest in leveraging federal technologies at Stennis – then called the Mississippi Test Facility – began in 1964 with creation of the Mississippi Research and Development Center. State officials knew they had a jewel in the facility designed to test rockets for NASA.

In 1970 NASA located its Earth Resources Laboratory to MTF to find applications for data acquired from remote sensing equipment. At NASA's invitation, the departments of Commerce, Interior, Transportation, Army, Navy and EPA eventually set up operations at the facility that would be renamed John C. Stennis Space Center.

In 1994 MsET was established to fulfill the role first envisioned 30 years earlier: leveraging the research, development, test and evaluation taking place at Stennis Space Center.

MsET today

MsET is headquartered in the 56,000-square-foot Mississippi Technology Transfer Center, designated the Center of Excellence in Geospatial Technologies. Building 1103 is also occupied by universities, nonprofits and commercial companies. MsET also has space in Building 1210 for a total of 15,000 square feet.

Its mission as an incubator and tech transfer office is to provide an environment where start-ups can turn technologies into products and services. It's a means to leverage Stennis Space Center as a catalyst to facilitate commerce, create job opportunities and improve the quality of life.

As a technology transfer office, MsET is a clearinghouse where research at Stennis, whether from federal or state labs, can be converted into products and services for the general public.

As a business incubator, MsET is a member of the National Business Incubation Association and provides an environment where technology start-ups stand a better chance at surviving through providing business and technology-related services, opportunities for joint ventures, entrepreneur training and access to state and federal technology portfolios. It helps a startup in the critical early stages.

MsET works with a statewide network of offices to offer technology forecasts, business plans, market research, sources of financing/marketing strategies, patent searches and vendor sources.

MsET does not limit itself to a particular type of technology, and the current list of tenants includes companies involved in everything from software development to computer security systems. Long-range plans call for exploring the growth of alternative technology areas.

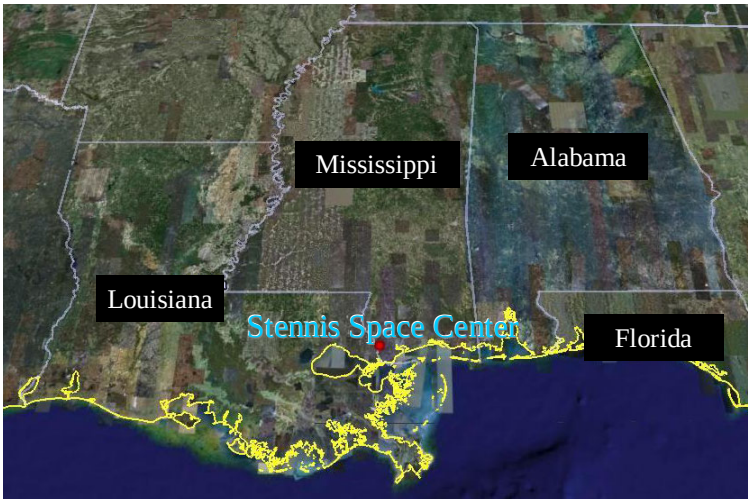
MsET is also currently applying additional focus on the economic development of Stennis Space Center. The incubator and technology transfer function will remain the focal point, but MsET will partner with local, state and federal organizations for the economic development of Stennis Space Center.

MsET already has a track record of getting directly involved in the economic development of Stennis. MsET in the past was instrumental in helping Stennis win the Shared Services Center in a NASA-wide competition. It wound up creating some 500 high-paying jobs.

"We need to position ourselves to be able to take advantage of opportunities," said Charles Beasley, president of MsET, "and we are now well on our way towards doing that." ■■■

Demographics

The John C. Stennis Space Center is a key location for three of five science and technology sectors likely to play a growing role in South Mississippi's future.



South Mississippi science & technology sectors	
Sector	Primary centers
Aerospace	Stennis Space Center; Moss Point
Advanced materials	Hattiesburg; Bay St. Louis; Gulfport
Shipbuilding	Gulfport; Pascagoula
Geospatial technologies	Stennis Space Center, Ocean Springs
Marine science	Stennis Space Center, Ocean Springs
Source: Mississippi Gulf Coast Alliance for Economic Development/Tcp	

Stennis tenant MsET, an incubator and tech transfer operation, has a membership list of technology companies involved in a variety of fields. The companies focus on everything from providing business services to making products.

MsET tenant residency	
St. Tammany Parish	20%
Harrison County	19%
Hancock County	16%
Pearl River County	15%
Other Mississippi counties	12%
Other Louisiana parishes	12%
Other states	6%

MsET tenant education	
Bachelors	52%
High school	19%
Masters	13%
Associates	11%
PhD	5%

MsET Profile

Most MsET tenant workers live in Mississippi, but 32% are from Louisiana. Seventy percent have college degrees; add associates and it's 81%. *Source: MsET*

Current MsET companies	
Company	Field
DQSI Corporation	GIS support
DigitalGlobe	Imagery products
Digital Quest	Education products
Geocent	Geospatial
Helios Systems	Digital media
Innovative Imaging and Research Corp.	Illumination; agr.
Melhcorp	UAV products
Mississippi Global Technologies	Navigation; security
MSU/Geosystems Research Institute	Research
Northrop Grumman Information Technology	Emergency mgmt
Prototyping Solutions	3D printing
Radiance Technologies	Geospatial
Rockwell Collins	Geospatial; UAV
Skylla Engineering	Engineering
Themis Vision Systems	Imaging
USM Height Modernization Project	Geoinformatics
WorldWinds	Weather modeling
Source: Mississippi Enterprise for Technology	

South Mississippi federal/state geospatial research	
Organization	Location
Center of Higher Learning/University Research (Consortium)	Stennis
Engineering & Science Directorate (NASA)	Stennis
Enterprise for Innovative Geospatial Solutions (UM)	Stennis, Oxford, Jackson
Gulf Coast Geospatial Center (USM)	Gulfport
Hydrographic Science Research Center (USM)	Stennis
Joint Airborne Lidar Bathymetry Technical Center (NOAA)	Kiln
Mississippi Enterprise for Technology (Mississippi)	Stennis
Mississippi Laboratory/Southeast Fisheries Science Center (NOAA)	Stennis
Mississippi Laboratory, Pascagoula Facility (NOAA)	Pascagoula
National Data Buoy Center (NOAA)	Stennis
Naval Oceanographic Office (Navy)	Stennis
Naval Research Laboratory, Research Site (Navy)	Stennis
Northern Gulf Institute (Consortium)	Stennis
Source: Mississippi Gulf Coast Alliance for Economic Development/Tcp	