

# **Enterprise Park**

STENNIS SPACE CENTER

# **Industry Day**

February 7, 2018



## Welcome and Logistics

- Welcome by Dr. Rick Gilbrech, NASA Stennis Space Center (SSC) Center Director
- Note location of restrooms and emergency exit route
- Short breaks morning and afternoon
- Lunch at approximately 12:15 pm
  - Cafeteria, Subway and PJ's in main B1100 and food truck by B1111
  - Reserved seating in the atrium nearby
- Complete the sign in sheet for today's attendees
- Choose a time slot on the sign up sheet for tomorrow if interested in a one-on-one discussion
- There may be an opportunity to view an RS-68 engine test firing during the tour



### Day 1

- Share information and plans with Master Developers
- Respond to information requests by participants
- Answer questions (as time allows)

### Day 2

Conduct one-on-one discussions with interested participants

Please note that timelines discussed today are subject to continuing U. S. Government funding to NASA. If a Government shutdown occurs, plans will have to be adjusted. NASA will keep participates informed via email of any impacts.



- NASA Vision for Enterprise Park and Notice of Availability (NOA) Intent
- Stennis Space Center (SSC) Overview
- Enterprise Park Overview
- Next Steps and Schedule
- Site Tour
- Wrap Up

Information provided in Industry Day slides, handouts, attachments, including the Enterprise Park Highest and Best Use Study, are informational only in nature, and do not bind the Government to any representations made therein. Offerors are expected to conduct their own research and inquiries.



# **Enterprise Park**



# NASA Vision for Enterprise Park and NOA Intent



= Stennis Space Center ====

To understand the "Vision", it is necessary to know the circumstances leading up to creating Enterprise Park

- Over the past 3-5 years, numerous commercial companies inquired about locating at SSC (both direct contact with NASA and through Economic Development Organizations)
  - Most are unfamiliar with the full-cost recovery Federal City Model
    - Resident organizations share full-cost of common infrastructure and services unlike common commercial models
    - o Full range of services available under cost recovery model within a secure area
  - The Federal City provides a secure perimeter which presented challenges for many of the companies to operate autonomously
    - o Visitor control, especially foreign nationals
    - o Overall federal approach viewed as less flexible to accommodate for-profit companies
- NASA master planning goals require 25% reduction in footprint at all Centers
  - In addition to the reduction goal, existing SSC facilities to accommodate commercial companies are limited and decreasing
    - The former Army Ammunition Plant facilities have plenty of space but requires capital investments to make available and some are scheduled for demolition
    - Mississippi Enterprise for Technology (MSET), which serves as an incubator to small companies, had two different companies move offsite upon graduation due to lack of suitable space

These Factors and others led NASA to conduct a <u>study</u> to look at different ways of doing business that would better accommodate commercial companies at SSC.



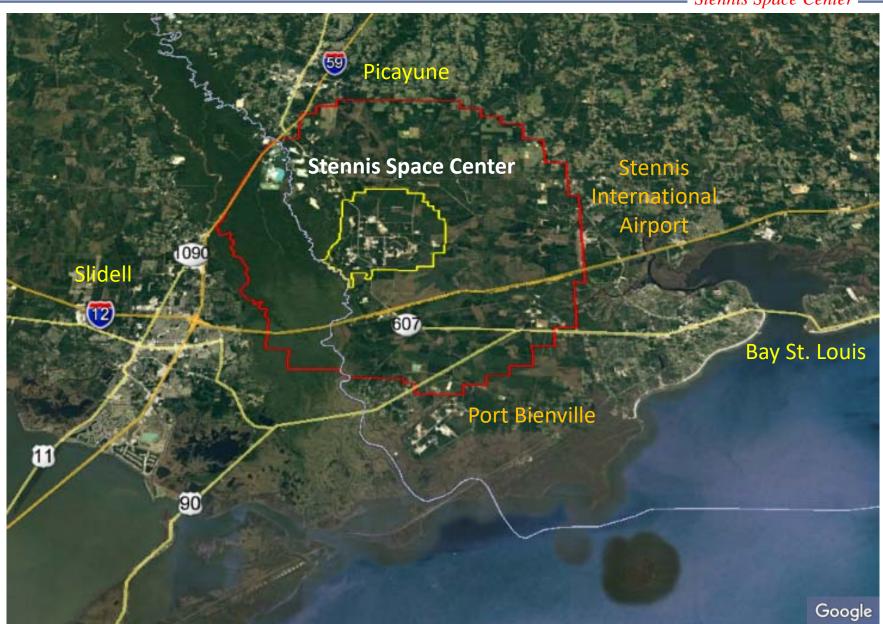
= Stennis Space Center **----**

- The study was conducted in 2 Phases:
  - Phase 1 was to survey the tenants to understand future needs and the potential for commercial companies supporting their missions to co-locate at SSC (The Demand)
  - Phase 2 was to determine the best location on NASA owned land that could accommodate both <u>inside and outside the security perimeter</u> options to address missed opportunities with commercial companies
- At the conclusion of the study, SSC management approved continued planning of what became the 1,100 acre Enterprise Park to be operated separate from the Federal City Model
- SSC benchmarked other Federal sites that have implemented
   Technology Parks in order to understand operating models utilized
  - Kennedy Space Center's Exploration Park (Public/Public managed)
  - Ames Research Center' NASA Research Park (NASA managed)
  - Redstone Arsenal's Redstone Gateway (Public/Private managed)



## Stennis Space Center - Location

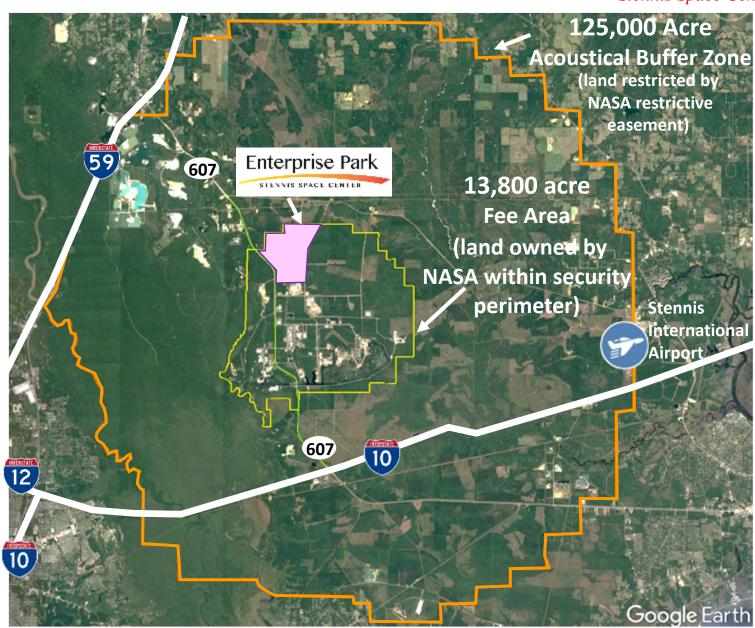
= Stennis Space Center **=** 





## Enterprise Park at Stennis Space Center

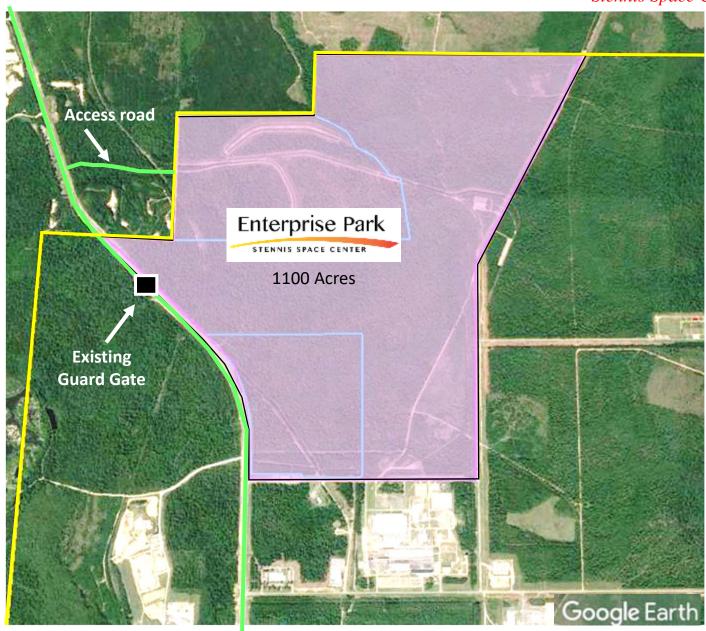
Stennis Space Center —





## Enterprise Park at Stennis Space Center

Stennis Space Center ———





= Stennis Space Center <del>-----</del>

- NASA Vision for Enterprise Park is a public/private or public/public partnership for buildout, management, and long-term operation that:
  - provides commercial companies a more traditional operating model providing expanded options for co-locating at SSC to support NASA and SSC tenant missions
  - enables a long-term economic development opportunity for future growth at SSC to support NASA and SSC tenant missions
- NASA is not in the business of developing Technology Parks, we seek professional help for Enterprise Park to be successful
  - A Master Developer can utilize best practices that NASA cannot such as: creative financing, build to suit, marketing, etc.
- This is not a NASA Federal Acquisition Regulations (FAR) based procurement (No NASA funding). Therefore there are no NASA small business or disadvantaged business goals or requirements.
- This will be a partnership opportunity to develop Enterprise Park
  - NASA is making the land available for lease and allowing a new operating model to co-exist at SSC to serve the market of NASA and tenant missions
  - Partner will be responsible for financing, build-out, marketing, tenant recruitment, and longterm operations and maintenance
  - Teaming of multiple companies is acceptable as desired by the partner



= Stennis Space Center **---**-

- NASA's intent is to have minimal involvement in Enterprise Park
  - Locations <u>inside</u> the security perimeter will require more involvement via fire protection, emergency response, and security
    - There will be an annual shared cost determined by the scope of activities/growth
    - SSC will provide basic security with criminal acts referred to Hancock County law enforcement
  - Locations <u>outside</u> the security perimeter will be the partner's responsibility
    - Hancock County Fire protection will be primary with mutual aid agreements with SSC fire protection (SSC Fire protection services can be procured through the on-site contractor via a separate agreement)
    - Emergency response will be private ambulance service
    - Security will be partner's decision (Law enforcement will be Hancock County)
  - On-site contractor demand services will be available to the partner, for both <u>inside</u> and <u>outside</u> locations, via a separate agreement as desired (Not required to use)
  - Any taxes required by the State or County will be the responsibility of the partner to negotiate
  - Building codes and Certificate of Occupancy will be performed by appropriate
     State, local, and OSHA authorities



= Stennis Space Center ====

- NASA imposed operational restrictions will depend on <u>inside and outside</u> the security perimeter locations within Enterprise Park
  - For <u>inside</u> locations, operations including visitor control and foreign national visits will be subject to all federal regulations for U.S. Government facilities. Note: access during government shutdowns can be negotiated.
  - For <u>outside</u> locations, there are currently no known operational restrictions imposed including easier access for foreign nationals working at Enterprise Park
- Restricted airspace exists over Enterprise Park, however there are no known impacts to Enterprise Park operations
- The Navy Western Maneuver Area, located to the west of Enterprise Park, will have no known impacts to Enterprise Park operations
- Enterprise Park may be subject to noise from propulsion test events and military exercises
  - Typical propulsion test events are approximately 10-minute durations during normal business hours
  - Normal military airspace exercises take place between 8:00 pm and 5:00 am



Stennis Space Center **----**

- NASA expects a selected partner to establish relationships and work with State and local (MS & LA) economic development organizations for support and incentives to make Enterprise Park successful
  - NASA and potentially other SSC tenants can support the partner to the extent possible but will not bear any responsibility or commitments in securing financial arrangements or incentives
- SSC has an active relationship and a long history of cooperation with the Mississippi Development Authority (MDA). To date, State investment in economic development at SSC totals over \$150M.
- Post Hurricane Katrina, Louisiana passed legislation allowing Louisiana Economic Development (LED) to provide investment in brick and mortar projects in Mississippi that would benefit the State of Louisiana (1/3 of the SSC workforce resides in LA)



= Stennis Space Center **----**

- NASA will require final approval of tenants to be located at Enterprise Park
  - Proposed tenant eligibility guidelines are:
    - Aerospace contractors and commercial space service providers supporting U. S. government and private space initiatives
    - Spacecraft and/or rocket propulsion fabrication, assembly, component manufacturing, and testing
    - Contractors and commercial service providers supporting SSC tenant missions and initiatives
    - Autonomous and unmanned systems spanning air, marine, and ground
    - Advanced technology supporting NASA and SSC tenant missions
    - Information Technology
    - Advanced Security Technology
    - Education/university high tech research
    - Support services reasonably required by Enterprise Park tenants and/or SSC tenants (e.g., technical support, business services, etc.)
    - Limited retail support services and lodging as deemed appropriate to support Enterprise
       Park tenants and/or SSC tenants

While Enterprise Park may not accommodate all business types, the NASA and SSC tenant missions offer a broad array of businesses to target



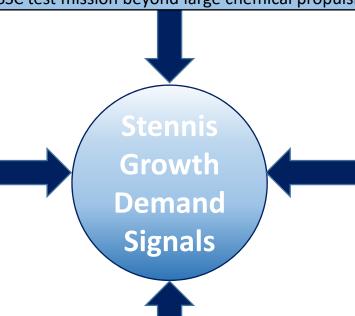
Stennis Space Center

### **Aerospace**

- Major Commercial engine development programs, current and future
- Opportunity for long-term assembly/test ops beyond development phase
- · Industry consolidation and attendant supply chain
- Expansion of SSC test mission beyond large chemical propulsion

### **Shared Services**

- Expansion of NASA Shared Services Center (NSSC)
   Mission
- Federal Wide Office of Management & Budget (OMB) Mandates
- USG Shared Services Cluster
- Commercial support, particularly in Information Technology



### **Unmanned Systems**

- Both Airborne and Marine
- Linkages to multiple major tenants, huge emphasis emerging in Navy
- NASA Airspace could be significant attraction
- Strong potential customer base for marine
- Draw for commercial production and research & development

### **University Academic /R&D/Tech Transfer**

- Classroom and Conference Facilities
- Emerging programs MSU/Alliance for System Safety of UAS through Research Excellence (ASSURE), National Oceans & Applications Research Center (NOARC), Marine Industries Science & Technology (MIST) Cluster



= Stennis Space Center <del>----</del>

- NASA's intent is to negotiate an Enhanced Use Lease (EUL) with a Master Developer
  - NASA was granted authority by Congress for EUL's at all centers in 2008. The authority is similar to that of the DOD, but lacks inclusion of inkind considerations for most lease types. (51 U.S.C. §20145)
  - Lease term up to 50 years
  - Fair Market Value (FMV) is collected for the land. NASA will pay for the appraisal to determine FMV for Enterprise Park
  - A pre-possession period can be negotiated to allow partner time to develop concepts, recruit tenants, arrange financing, etc. prior to payments beginning (on-site office space can be arranged during the prepossession phase as required)
  - NASA prefers the entire 1,100 acres under one lease, however a phased approach can be considered

It is in NASA's best interest for Enterprise Park to be successful. NASA will not compete with tenant recruitment and will support a partner's efforts.



# **Enterprise Park**

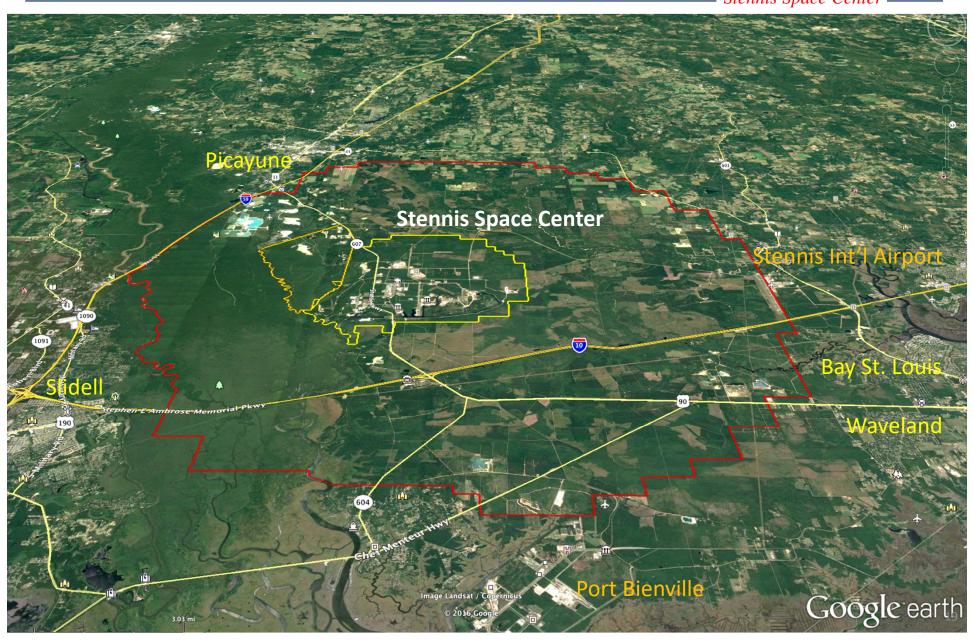


## **Stennis Space Center Overview**



## Stennis Space Center - Location

🗕 Stennis Space Center 💳





## Stennis Space Center - Transportation

Stennis Space Center —

Ingress/Egress



### **Waterway**



Pearl River to the Gulf of Mexico

### **Airports**



### **Ports**



### **Railroads**



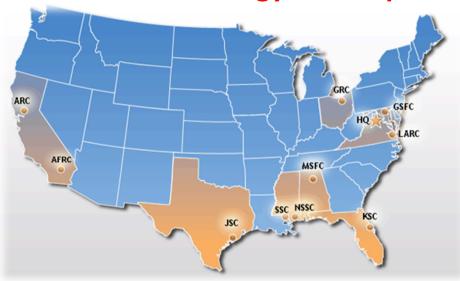


## Stennis Space Center - Propulsion Testing

Stennis Space Center =

## America's Largest Rocket Engine Test Complex & Leader in Technology Development

SSC is 1 of the 9 NASA Field Centers, purpose built in the early 1960's for large scale Propulsion Test





Our mission is to test and certify rocket engines and propulsion systems for flight





## Stennis Space Center - Propulsion Testing

Stennis Space Center ——





## Stennis Space Center - Propulsion Testing

= Stennis Space Center **=** 





# Stennis Space Center - Target Propulsion Markets

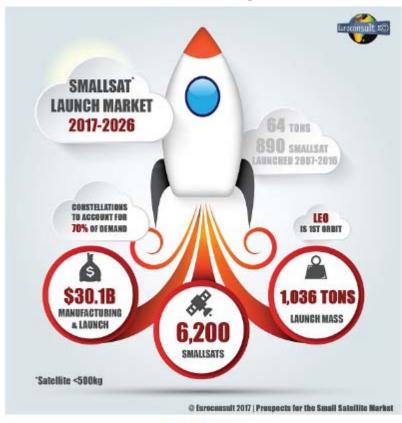
Stennis Space Center

### **Existing Aerospace at SSC:**

- Rolls Royce
- Lockheed Martin
- Aerojet Rocketdyne
- SpaceX
- Relativity Space

### "New Space" companies are:

- mostly post Space Shuttle era
- either privately funded by billionaires, or backed by venture capital
- growing in the Small/Medium/Large launch vehicle markets
- gaining market share of government contracts



Credit: Euroconsult

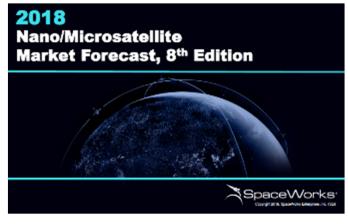
Stennis Space Center is shifting its focus towards enabling "New Space" companies of all sizes to manufacture, assemble and test their launch vehicle hardware here; and we are willing to partner with a Master Developer to capture more of this industry

Small satellites are the fastest growing segment of the space industry (Reuters)



## Stennis Space Center - Target Propulsion **Markets**

Stennis Space Center —





http://www.spaceworkscommercial.com/#cta

https://brycetech.com/downloads/Bryce Start Up Space 2017.pdf

### Investors pour billions into commercial space start-ups as they approach exit velocity

- In 2016 space start-ups received a record-setting \$2.8 billion in investment, \$400 million more than in the year prior, Bryce Space and Technology announced Wednesday.
- · Roughly 25 space-venture deals have already been reported in 2017, including \$351 million invested in SpaceX.
- . The industry may be hurling toward a day of reckoning, with consolidation on the horizon.

Clay Dillow, special to CNBC.com Published 9:19 AM ET Wed, 9 Aug 2017 | Updated 11:27 AM ET Sat, 12 Aug 2017

S CNBC

The small satellite launch market is expected to exceed \$7.5B by 2022 with a CAGR of 19.8% from 2016-2022 (Forbes)

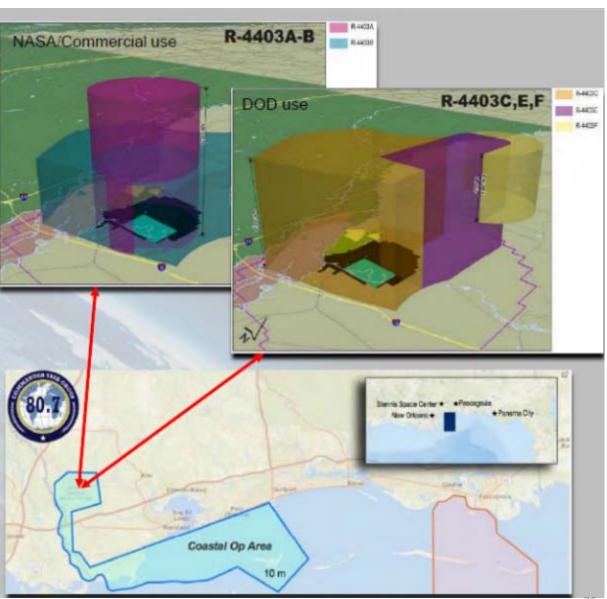


## Stennis Space Center - Restricted Airspace

Stennis Space Center ——

# Leveraging Use of 100+ Square Miles of Restricted Airspace

- The restricted airspace at SSC can be utilized by the DOD, NASA and Commercial Industry
- Multiple range activities can occur to enable autonomous operations between airborne platforms, surface and underwater systems in the Navy proposed Unmanned Systems Test and Training Range in the Gulf of Mexico





## Stennis Space Center – Unmanned Systems

Stennis Space Center

# SSC Restricted Airspace became active in 2016 and has supported multiple flights for the DOD





Insitu ScanEagle

Insitu Blackjack

## Stennis Space Center – Unmanned Systems

= Stennis Space Center =

### Excerpts from the USM Highest and Best Use Study (January 2018) ......

"Unmanned systems can be broken down into two primary fields: unmanned maritime systems (UMS) and unmanned aircraft systems (UAS). Stennis Space Center and Enterprise Park have unique qualities including close proximity to the Gulf of Mexico, restricted air space, and an international airport that could make the area conducive to both fields of unmanned systems"

"USM's research team identified **two significant influencers** that will provide growth potential for Enterprise Park in unmanned maritime and aerial systems: 1.) **positive political commitments underway resulting from recommendations from the Governor's Ocean Task Force plan**, and 2.) **the U.S. Navy's growth in unmanned maritime systems being developed through Task Force Ocean**. The combination of state and federal commitments to unmanned systems strategically positions Enterprise Park for growth in new technology-based business startups"



## Stennis Space Center - A Federal City

Stennis Space Center =



### **Center for Higher Learning**

- Mississippi State University
- Pearl River Community College
- University of Mississippi
- University of New Orleans
- University of Southern Mississippi

### **Mississippi State University**

- ASSURE FAA UAS Center of Excellence
- · Northern Gulf Institute

### **University of Southern Mississippi**

• Department of Marine Science

### State of Mississippi

- Enterprise for Innovative Geospatial Solutions
- Marine Industries Science and Technology (MIST) Cluster
- Mississippi Enterprise for Technology (MSET)
- National Oceans & Applications Research Center (NOARC)

#### State of Louisiana

- Louisiana Business & Technology Center LSU
- · Louisiana Technology Transfer Office

### **Contractors**

- A2 Research
- · Booz Allen Hamilton
- CSRA
- Deltha Corporation
- NAVAR
- Northrop Grumman
- Pacific Architects and Engineers (PAE)
- Pinnacle Solutions
- RiverTech
- SAITECH
- Science Applications International Corporation
- Science Systems and Applications Inc.
- Syncom Space Services (S3)
- Vencore Services & Solutions

### National Aeronautics and Space Administration (NASA)

- Stennis Space Center (SSC)
- Rocket Propulsion Test Program
- Shared Services Center (NSSC)
  - National Center for Critical Information Processing & Storage (NCCIPS)

### **Department of Commerce**

- National Data Buoy Center (NDBC)
- National Oceanic & Atmospheric Administration (NOAA)
- National Weather Service (NWS)
- NOAA National Center for Environmental Information (NCEI)
- NOAA National Marine Fisheries Service

### **Department of Defense**

- Army Corps of Engineers
- Commander, Naval Meteorology and Oceanography Command (CNMOC)
- Naval Oceanographic Office (NAVO)
- · Naval Research Laboratory (NRL)
- Naval Special Warfare Center (NSWC)
- Navy Detachment Stennis
- Navy Facilities Southeast
- Navy Office of Civilian Human Resources
- Navy Small Craft Instruction and Technical Training School (NAVSCIATTS)
- Navy Special Boat Team 22 (SBT-22)

### **Department of Energy**

Strategic Petroleum Reserve

### **Department of Homeland Security (DHS)**

- DHS Data Center 1
- United States Citizenship & Immigration Services (USCIS)

### **Department of the Interior**

U.S. Geological Survey (USGS), Hydrologic Instrumentation Facility (HIF)

### **Government Publishing Office**

Passport Production Facility

### **Government Services Agency**

Information Systems at NCCIPS

### Department of Transportation

Information Systems at NCCIPS

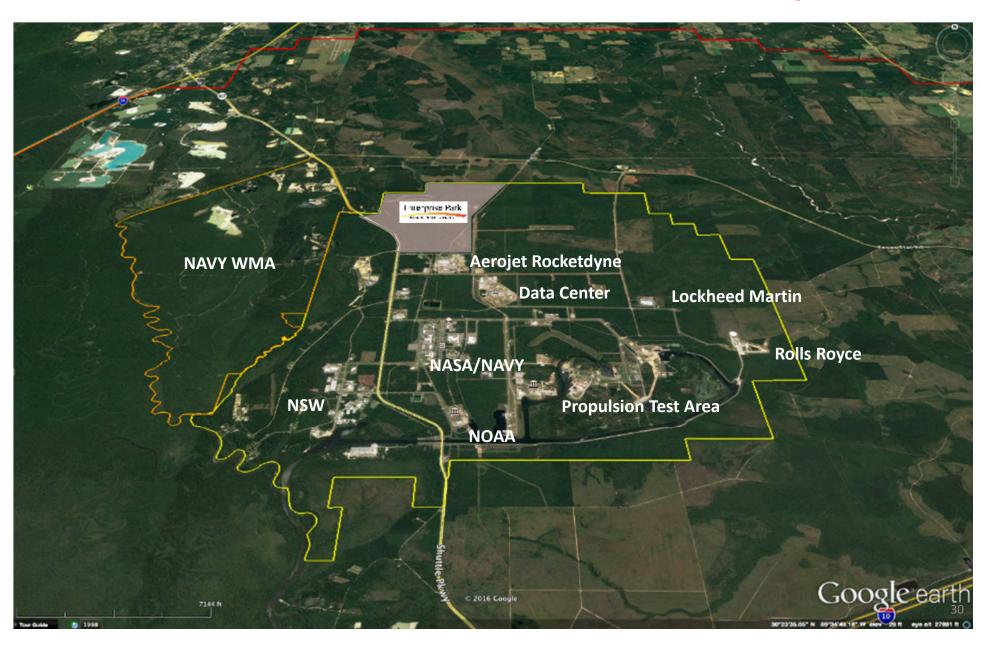
### **Commercial Companies**

- Aerojet Rocketdyne
- Lockheed Martin Information Systems & Global Solutions Defense Systems
- Power Dynamics
- Rolls Royce North America



## Stennis Space Center - Site Layout

Stennis Space Center —





## Stennis Space Center has a Worldwide Impact

= Stennis Space Center **----**

### Through its propulsion test and tenant missions, SSC has a worldwide impact!

- Direct global economic impact is \$765M
- Propulsion systems assembled and tested here enable human space exploration and support
   National security by launching large satellites and testing new technologies for propulsion systems
- Shared service providers located here support NASA and Navy operations on regional and National levels
- Satellite propulsion systems are manufactured here for National Security, commercial, weather satellites
- Navy oceanographic systems operate in every ocean of the world 24/7/365
- Navy oceanographers and meteorologists forecast conditions and data to support the warfighter wherever and whenever they operate
- Special warfare training done here allows our forces to project power anywhere in the world
- Data from weather and tsunami buoys built and operated here improve forecasting of tropical storms and tsunamis over most of the ocean surface of the world
- Academic institutions located here conduct research and educate scholars in a variety of fields
- Unmanned aerial systems fly in our new restricted airspace to help develop capabilities for the warfighter, emergency/disaster response, and technologies for sharing airspace with crewed aircraft
- Jet engines tested here power commerce in the world's skies every day



# **Enterprise Park**

STENNIS SPACE CENTER

## **Tenant Presentations**



# Enterprise Park

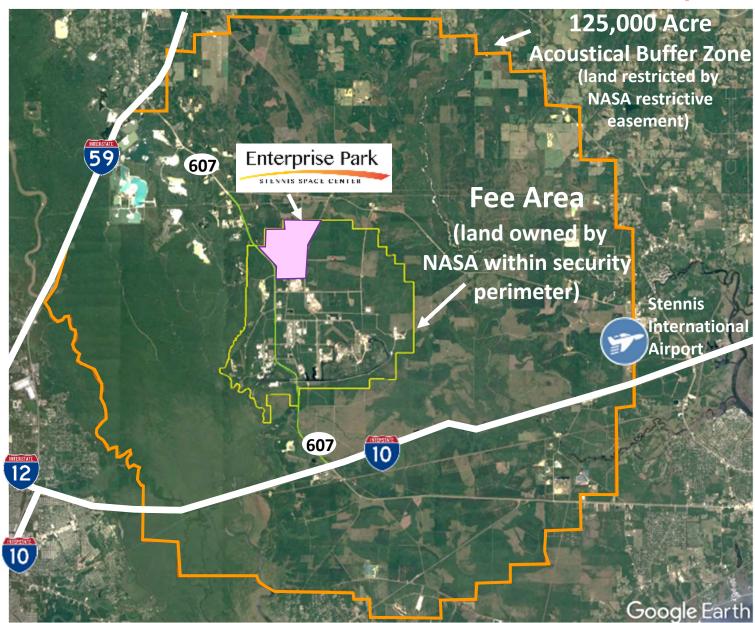
STENNIS SPACE CENTER

## **Enterprise Park Overview**



## Enterprise Park - Location

Stennis Space Center —





## Enterprise Park - Location with GPS Coordinates

= Stennis Space Center <del>-----</del>



## Enterprise Park – Environmental

Stennis Space Center =

### Due Diligence completed on the 1,100 acres

- Wetlands delineation
- Preliminary Jurisdictional Determination
- Threatened and Endangered Species Survey

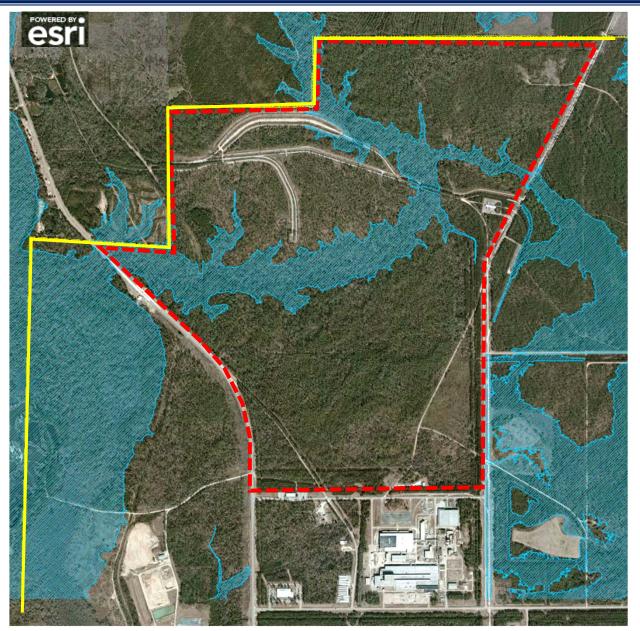
### **NEPA**

- There has not been a NEPA review on the 1,100 acres
- This will be the Master Developers responsibility at the time of development



## Enterprise Park – FEMA 100 Year Floodplain

Stennis Space Center ——

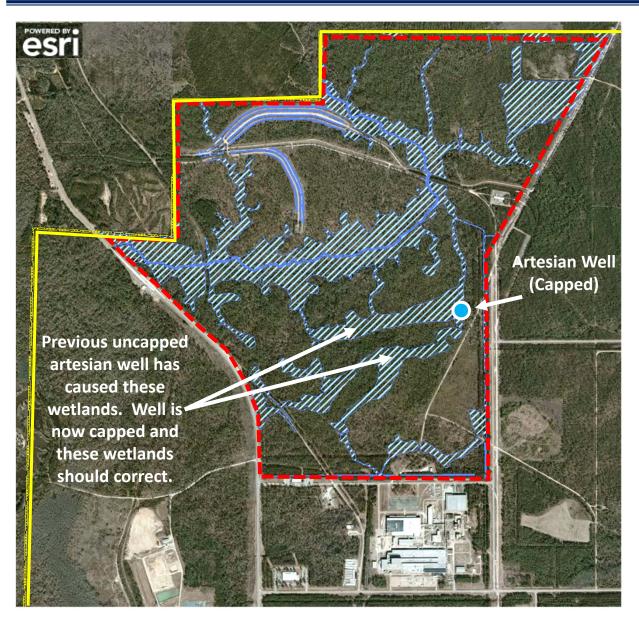




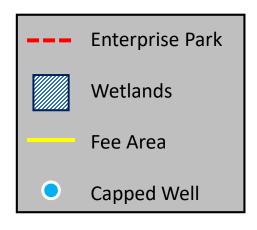


### Enterprise Park - Wetlands Delineation

Stennis Space Center —



- NASA will not purchase wetland credits
- NASA mitigation banks on site will not be available, however there is the potential for wetlands mitigation solutions within Enterprise Park
- Credits at wetland banks are available from private banks within the buffer zone





= Stennis Space Center **---**-

- NASA/SSC submitted two sites within Enterprise Park for certification in the Mississippi Power Company (MPC) Project Ready® Program
  - MPC developed and implemented a comprehensive certified site program in 2008
  - Two primary objectives of the Project Ready® program are:
    - to identify sites that are appropriate for development by companies in different industries
    - to improve the readiness of those sites in the inventory so that they become more marketable to potential prospects
  - Four categories of sites can be certified under the program

SSC selected two categories for site certification within Enterprise Park

#### **Development Category Acreage Requirements**

Super Site: 300 developable and contiguous acres

Large Industrial: 75 developable and contiguous acres

General Industrial: 35 developable and contiguous acres

Industrial Park: 200 total acres with a single 35 acre contiguous and

developable parcel and 60% of the remaining acreage

in developable parcels

SSC completed the 10 Project Ready® requirements for certification on the two sites located within Enterprise Park. Certification received in June 2017.

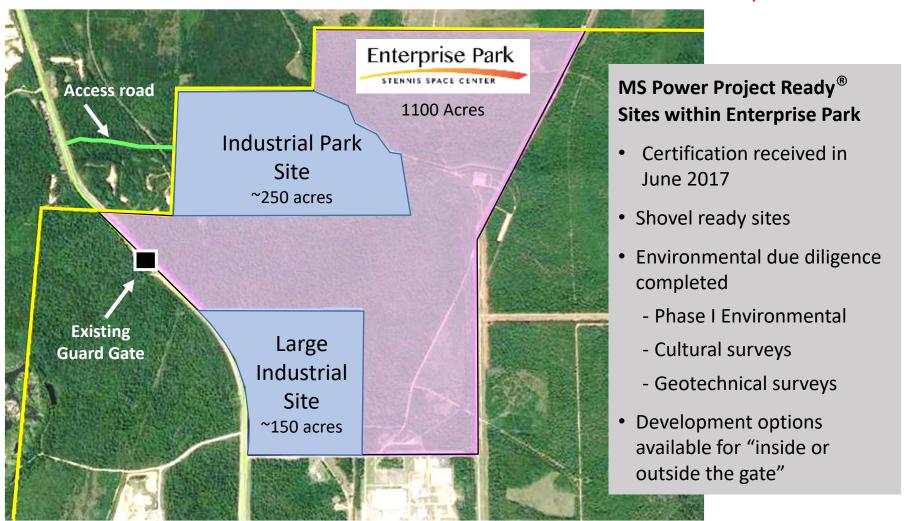


Stennis Space Center ——





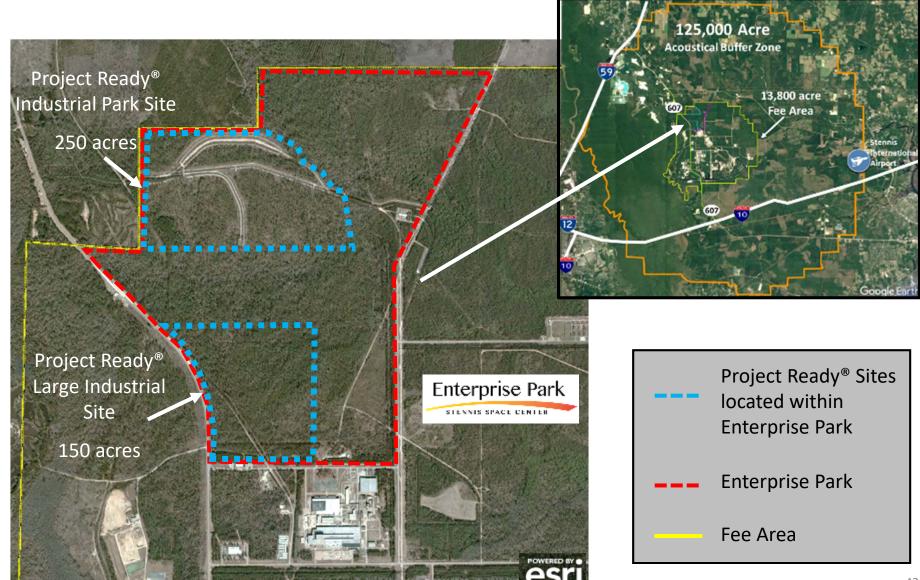
Stennis Space Center —



Complete Project Ready® reports are available at <a href="https://www.nasa.gov/centers/stennis/industryday/index.html">https://www.nasa.gov/centers/stennis/industryday/index.html</a>



Stennis Space Center ———



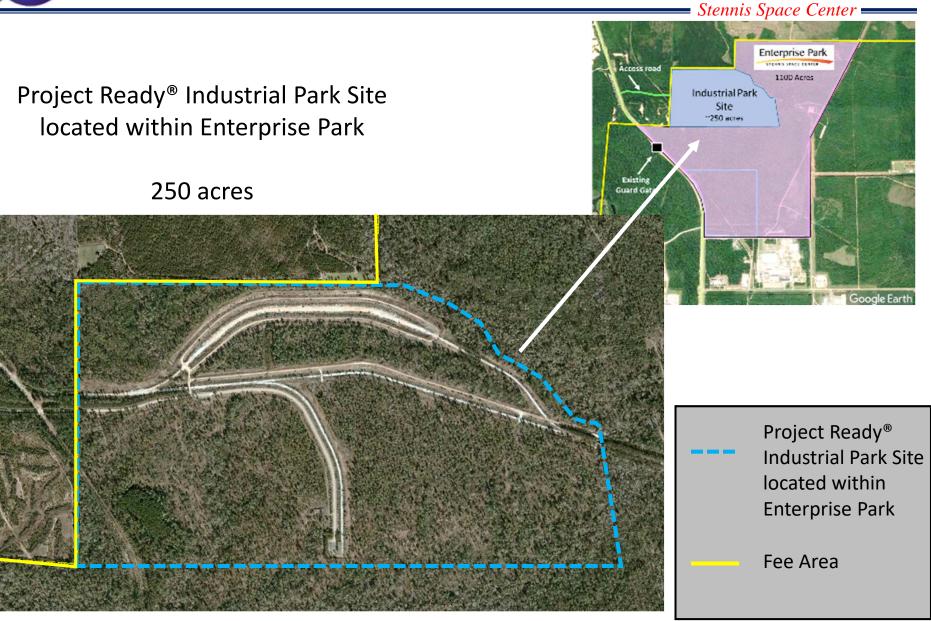


#### Project Ready® Sites GPS Coordinates Located within Enterprise Park

Stennis Space Center









Stennis Space Center —

Enterprise Park

1100 Acres

Project Ready® Large Industrial Site located within Enterprise Park

150 acres



Project Ready® Large Industrial Site located within Enterprise Park

Fee Area



Stennis Space Center ———

- Tie in to existing SSC infrastructure was examined, needed upgrades were identified along with new utility routes where necessary
- Utility expansion studies were performed for the two Project Ready® sites located within Enterprise Park for infrastructure associated with
  - Electricity
  - Natural Gas
  - Potable Water
  - Waste Water
- Proposed routes for infrastructure extensions were identified
- ROM costs for infrastructure connections to existing SSC systems were identified (these government cost estimates were based on NASA performing the work, Master Developer costs may be less)
- Usage rates would be negotiated and finalized in the EUL

Complete Project Ready® reports are available at <a href="https://www.nasa.gov/centers/Stennis/industryday/index.html">https://www.nasa.gov/centers/Stennis/industryday/index.html</a>



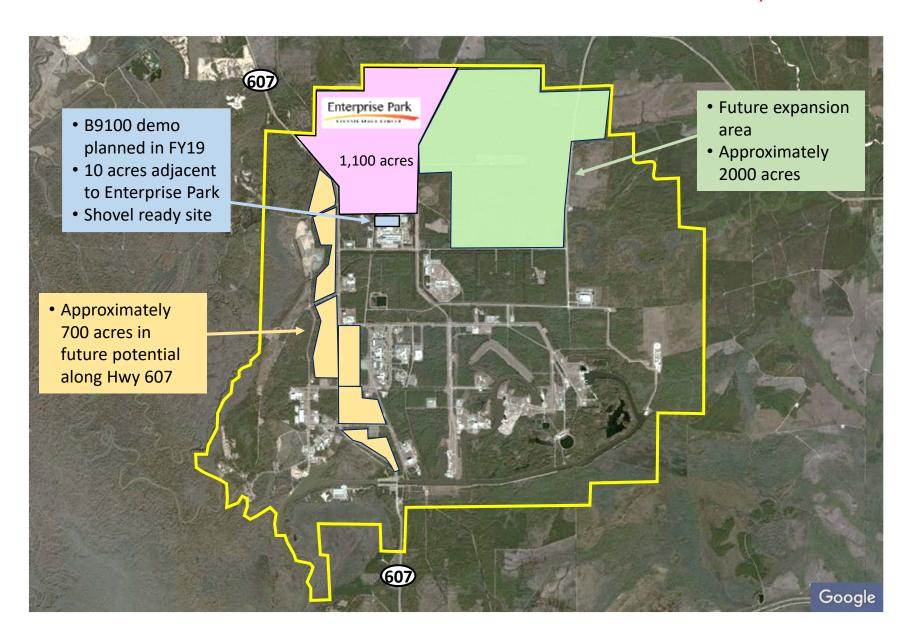
= Stennis Space Center **----**

- Other options exist for utility infrastructure to Enterprise Park in addition to connection to NASA systems (these options have not been assessed by NASA)
  - Electricity
    - Coast Electric can supply power
  - Natural Gas
    - A commercial provider is available along the perimeter of Enterprise Park
  - Potable Water
    - A new water well could be installed
  - Waste Water
    - A new system could be installed, or potentially connect to the county (preliminary discussions with the county have started for connecting NASA to this system)
  - Fiber Optic
    - Multiple companies are on-site in close proximity to Enterprise Park (Uniti formally Southernlight, CentryLink, Verizon Enterprise Solutions, AT&T Global Business – Public Sector Solutions, and Windstream)
- The Master Developer partner will be responsible for and decide when infrastructure is built out
- Easement access
  - Within the fee area there are no issues
  - Within the buffer zone, access will need to be worked with the county



### Enterprise Park - Potential Future Expansion

Stennis Space Center



Stennis Space Center

### Flyover Video



## **Enterprise Park**

STENNIS SPACE CENTER

## **Next Steps and Schedule**



## Next Steps and Schedule

Stennis Space Center —

- Following Industry Day, NASA will accept written questions from participants through 2/26/18.
  - Submit written questions to <u>timothy.i.pierce@nasa.gov</u>
- Depending on the volume of questions submitted, NASA's intent is to provide answers to all questions by 3/30/18
- NASA will develop an Announcement for Proposals (AFP) with plans to release on FedBizOpps in May 2018
  - NASA will be looking for submittals of development ideas, concepts, and approaches for Enterprise Park with the intent to select a partner to begin negotiations for an EUL
  - NASA is planning on a <u>45 day</u> period for response to AFP but would accept feedback for changes to that length during question submittal period ending on 2/26/18
- NASA anticipates partner selection and negotiations to begin by August 2018
- EUL negotiation is anticipated to take between 6-12 months



- Proposals will be evaluated on the following factors (Subject to change):
  - Strategic Alignment with NASA/SSC Interest: Proposed development plan must demonstrate strategic alignment with and relevance to NASA's overall goals, national security and SSC tenant missions (weight 40%)
  - Previous Master Developer Experience: Provide demonstrated involvement in development of a self-contained multi-use, multi-tenant industrial/technology park (weight 30%)
  - Technical Merit and Feasibility: Include specific objectives, approaches and plans for developing Enterprise Park (weight 20%)
  - Development Milestones: Provide major project milestones to include outreach, financing, infrastructure upgrades and project completion (weight 10%)



# Enterprise Park

STENNIS SPACE CENTER

## **Site Tour**



# **Enterprise Park**

STENNIS SPACE CENTER

Wrap Up



#### Reminder

- 2 week question and answer period. Questions due by 2/26/18 to timothy.i.pierce@nasa.gov
- Sign up for 30-minute session for tomorrow
- Bring your badge if you're coming for a one-on-one discussion tomorrow
- Questions?

More information is available at: <a href="https://www.nasa.gov/centers/stennis/industryday/index.html">https://www.nasa.gov/centers/stennis/industryday/index.html</a>