Introduction and Agenda
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>0800</td>
<td>Registration</td>
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<tr>
<td>0845</td>
<td>Introduction and Agenda</td>
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<tr>
<td>0855</td>
<td>Opening Remarks – ATI Chief Operating Officer, Mr. Bob Touhy</td>
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<td>0910</td>
<td>Opening Remarks – SSC Atlantic Deputy Executive Director, Mr. Bill Deligne</td>
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<td>0925</td>
<td>Opening Remarks and Strategic Vision – SSC Atlantic Executive Director, Mr. Chris Miller</td>
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<tr>
<td>0950</td>
<td>Overview of SPAWAR – Mr. Vince Squitieri, Mr. Pete Van, Dr. Huerth</td>
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<tr>
<td>1045</td>
<td>Brief on Technical Exchanges – SSC Atlantic, Ms. Kathryn Murphy</td>
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<tr>
<td>1105</td>
<td>Networking Break</td>
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<tr>
<td>1120</td>
<td>IWRP Program and Authority Overview – Mr. Don Sallee, Ms. Lisa Rosenbaum</td>
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<tr>
<td>1215</td>
<td>Break for Lunch</td>
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<tr>
<td>1330</td>
<td>Consortium 101 – ATI</td>
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<tr>
<td>1420</td>
<td>FY19 Outlook/White Paper Requests</td>
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<tr>
<td>1430</td>
<td>Briefing of SPAWAR Opportunities</td>
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<tr>
<td>1500</td>
<td>Questions and Answer Period (Live Broadcast Stops)</td>
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<tr>
<td>1530</td>
<td>One on One Sessions</td>
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<tr>
<td>1730</td>
<td>Adjourn</td>
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We recruit, organize, and manage consortia of industry and academic partners.

These consortia conduct research and develop technology.
We were the first company organized solely for that purpose over 20 years ago.

Our mission is to lessen the burdens of government by coordinating and executing our nation’s most innovative research initiatives.

We are a Public Service Non-profit with 200 employees.

We are the Consortium Manager for IWRP.

We’re your neighbors.

A Summerville-based company...
with a national perspective.
ATI-managed R&D programs represent a diverse range of industries such as

- military platforms
- weapon systems
- metal components
- composites applications
- healthcare
- electromagnetic spectrum
- space technologies

What do they have in common?

challenges that require innovations from multiple organizations and disciplines
We manage the business operations of 16 federally-funded R&D consortia (both OTA and FAR Based) with active projects worth $4.6 billion.
NDS Clear priority Stay ahead of Russia and China

- Strengthen allies and partners
- Increase lethality for the warfighter
- Reform the business practices of the Defense Department for greater performance and affordability

“We are in challenging times, and we need rapid and affordable acquisition.”

SECNAV Richard V. Spencer

Sense of Urgency

“By leveraging all our combined talents and changing existing acquisition approaches and tools, we will change the speed we deliver on urgent needs.”

ASN RDA James F. Geurts

Speed of Relevance

“We will prioritize speed of delivery, continuous adaptation, and frequent modular upgrades.”

SECDEF James N. Mattis
The Pace of Technology is Accelerating

8 yrs Smartphones
8 yrs Facebook
14 yrs Internet
49 yrs Television
110 yrs Telephone

# People (Millions)

# Years

CNO and USMC Priorities

Priorities

- **Strengthen Naval Power at and from sea:** Maintain a fleet that is trained and ready to operate and fight decisively.

- **Achieve high velocity learning at every level:** Apply the best concepts, techniques and technologies to accelerate learning.

- **Strengthen our Navy team for the future:** Create a climate of operational excellence that will keep us ready to prevail in all future challenges.

- **Expand and strengthen our network of partners:** Deepen operational relationships with other services, agencies, industry, allies and partners.

Priorities

- **People:** Friendly center of gravity.

- **Readiness:** Enabled by equipment, training and standards for five domain battlespace.

- **Training, Simulation and Experiments:** Progressive training hardness; Experiment with the latest technological advances.

- **Integration with Naval / Joint Force:** Create decision space for nation’s leaders. True integration model with SOF.

- **Modernization / Technology:** Field and operationalize ongoing programs. Develop solutions to enhance institutional capabilities and retain tactical advantages across ROMO.
Where SPAWAR Fits in DON

SECNAV
Secretary of the Navy

ASN (RDA)
Assistant Secretary of the Navy, Research, Development and Acquisition

Program Executive Offices
- C4I
- Space Systems
- EIS

CNO/CMC
Chief of Naval Operations
USMC Commandant

SPAWAR
SPAWAR Systems Command
Echelon III field activities

SPAWAR is part of the Naval Research & Development Establishment (NR&DE)

Comprised of scientists, engineers, mathematicians and supporting technical personnel who conduct DON research, development, test and evaluation.

Encompasses the technical resources required to explore, develop and field future naval warfighting capabilities, such as laboratories, test facilities and test ranges.
Program Executive Offices

▼ PEO C4I
- Five program offices focused on capability development (100’s)
- Five program offices focused on platform integration (700’s)
- Command and control, intelligence sharing, terminals, etc. (CANES, NMT, GCCS-M, DCGS-N, …)

▼ PEO Enterprise Information Systems
- NMCI → Next Generation Enterprise Network (NGEN)
- Enterprise Resource Planning (ERP)
- Sea Warrior and Enterprise Software Licensing

▼ PEO Space Systems
- Responsible for DoD’s Narrowband SATCOM
- Legacy Ultra High Frequency Follow-on Program
- Mobile User Objective System (MUOS)

More than 9,700 employees deployed globally and near fleet concentration areas.
Mission Statement: SPAWAR identifies, develops, delivers and sustains information warfighting capabilities supporting naval, joint, coalition and other national missions.

Vision: Rapidly delivering cyber warfighting capability from seabed to space

SPAWAR Engagements with Industry and Academia

▼ Formal Initiatives with Industry
- Contracts Industry Council: CHAS (bimonthly)
- Industry Days CHS/HR (As Required)
- Technology Exchanges CHS/HR (Qtr)
- Small Business Industry Outreach Initiatives (SBIOI): CHAS (Qtr)
- Women in Defense Speed Networking: CHAS (Qtr)
- NOLA SBIOI: NOLA (Annually)
- Tidewater Assoc. of Service Contractors SBIOI: HR (Annually)
- AFCEA WEST: SD (Annually)
- DoN Gold Coast: SD (Annually)
- Sea Air Space: DC (Annually)
- Salute to Small Business (SBA): Columbia, SC (Annually)
- ONR S&T: DC (Annually)
- C5ISR: CHAS (Annually)
- Society of Military Engineers (SAME) SB Conference CHAS (Annually)
- SC Research Authority (SCRA) SB Outreach: CHAS (As Requested)
- Small Business Dev. Center Training: CHS/NOLA (Qtr)
- Monthly Industry Luncheons (As Requested)

▼ Informal Initiatives with Industry
- Weekly one-on-one meetings (as requested) in conjunction with the Small Business Development Center: CHS/NOLA
- Daily emails/calls

▼ Formal Initiatives with Academia
- Cooperative Research and Development Agreements (as required)
- Partnership Intermediary Agreements (as required)
- Patent License Agreements (as required)
- Commercial Service Agreements (As required)
- Educational Partnership Agreements

Engagements for innovative solutions and improvements in delivery and performance

Mr. Vince Squitieri
SSC Pacific
Communications and Networks Deputy Department Head
From concept to capability via…

…research, development, engineering and support of integrated C4ISR, cyber and space systems across all warfighting domains and to rapidly prototype, conduct test and evaluation, and provide acquisition, installation, and in-service engineering support.
SSC PAC Support in the Pacific Region

Strategic Location

Only DoD Lab Located in a Major Fleet Concentration Area

Japan

Guam

Hawaii

San Diego

Pacific North West

FY17 Profile

Our People Are Our Greatest Strength

FY17 Profile

<table>
<thead>
<tr>
<th>CIVILIANS*</th>
<th>4,756</th>
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<tr>
<td>Scientists &amp; Engineers</td>
<td>2,350</td>
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<tr>
<td>Tech Specialists</td>
<td>965</td>
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<tr>
<td>S&amp;E Technicians</td>
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<tr>
<td>Admin/Professionals</td>
<td>965</td>
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<td>SES/ ST/ SSTM/ SL</td>
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<tr>
<td>Enlisted</td>
<td>135</td>
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<tr>
<td>Officers</td>
<td>62</td>
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</table>

TOTAL 4,953

* Civilians include NWCF and General Fund

New Professional (NP) Program:

✓ ~2,850 applicants for 77 positions
   Average GPA 3.41

Highly credentialed, educated workforce

✓ 194 PhDs
✓ 1,356 Masters

3,648 SCI Clearances

✓ 1,955 Civil Servants & Military
✓ 1,693 Contractors

~ 32% of workforce: Active Duty, Reservists, Veterans

~ 400 Civilians directly supporting C4ISR with the Fleet around the world

FY17 = $2.6B
Total Obligation Authority
SSC Pacific Capabilities - Across the Full Life Cycle

Today
The Navy in Operation
Installation and Support
- Production, Installation
- In-Service Support
- Marine Mammals
- Networks
- 3D Printing/AM
- Cyber Security

Tomorrow
The Navy in Construction
Engineering, Development, Test and Evaluation
- C4ISR for Unmanned Vehicles
- Collaborative Software Armory
- Integrated Cyber Operations
- Integrated Fires
- Space Command & Control
- User Center Design

Future
The Navy in Planning
Science and Technology
- Cryogenic Exploitation of RF
- Nano Satellites
- Graphene
- FDECO
- Human Machine Teaming
- Advanced Antenna Research

Intellectual Capital and Partnerships - Industry and Academia

CRADA - Cooperative Research and Development Agreement

- Establish and foster R&D partnerships with industry and academia
- Advance technology and move innovation from the lab to the market and ultimately the warfighter

Technology Transfer

- Promotes innovation and creativity with SSC Pacific technology
- Important pathway to move Navy innovation from lab to market and ultimately the warfighter

Partnering in Education and Community Outreach

Community Impact:
- 16,654 Students
- 100 Schools
- 1,072 Teachers
- 178 Events

Volunteer Data:
- 407 Volunteers
- 11,174 Total STEM hours
- 9,409 Volunteer hours

PATENTS FY17
- Disclosures 155
- Patents Filed 100
- Patents Issued 50

PUBLICATIONS FY17
- Journal Article 177
- Conf. Papers 361
- TRs/TDs 104

Three San Diego based start-up companies formed as a result of licensing SSC Pacific technologies

San Diego State University
UC San Diego
Carnegie Mellon

Moving Forward

▼ Strong demand for Cyber and C4ISR
▼ Increasing demand for Systems of Systems engineering, rapid prototyping and experimentation
▼ Increase speed to capability and affordability
▼ Reduce complexity, streamline processes, and adopt best practices
▼ Human-machine teaming; Autonomy/ Machine Learning; ISR; Networks
▼ Innovate, Integrate, Interoperate

Mr. Pete Vandemeulebroecke “Van”
SSC Atlantic
6.0 Competency Lead

We deliver information warfare capabilities, including communication systems (radios), networking systems (routers/switches), cyber operations (red team/forensics/network defense), intelligence, surveillance, reconnaissance (sensors/decision support applications), business systems (benefits/personnel) and information security.
SSC Atlantic Strategically Located

Supporting the Deployed Navy
5 continents, 7 time zones

SSC Atlantic Total Facilities: 129 bldgs, 2.3M sq ft

San Diego
SPAWAR HQ

National Capital Region
Hampton Roads (OIC)

Charleston SSC Atlantic HQ
Tampa

New Orleans (OIC)

Stuttgart

Rota

Naples (OIC)

Bahrain (OIC)

Ojibouti*

Antarctica*

SSC Atlantic Organizational Structure

Warfighting Departments

Fleet C4I and Readiness
- Charlie Adams

Expeditionary Warfare
- Kevin Charlow

Enterprise Systems
- Bruce Carter

Shore C2ISR & Integration
- Kevin Gerald (A)

Competencies

1.0 Finance
- Virginia Pitts
- Tony Jones

2.0 Contracts
- Steve Harnig

3.0 Legal
- Michael Roys

4.0 Logistics & Life Cycle Engineering
- Brad Hoisington

5.0 Engineering
- Pete Reddy, SSTM

6.0 Program & Project Management
- Pete Vandemeulebroecke

7.0 Science & Technology
- Dr. Suzanne Huerth, SSTM

8.0 Corporate Operations
- Dave Monahan

SSC Atlantic By the Numbers

Resources (FY17)
- Primarily a Navy Working Capital Fund (NWCF) Organization
- $2.93B Total Obligation Authority
- $1.68B Contract Obligations
  - 41% Small Business
  - 400+ Small businesses
  - 91% Competition
- Task Order award
  - $3.5M Average Ceiling
  - $787K Average Obligated
- New Orders
  - 73% Naval
  - 27% Joint
  - <1% Non DoD
- Workforce (FTEs)
  - 73% Naval
  - 24% Joint
  - 3% Non-DoD

Workforce
- 4,459 Civil Service
- 125 Military
- 185 New Professionals
- 75 Student Interns
- 8 SSTMs
- 30 Technical Warrant Holders
- Education
  - 57 PhDs
  - 1,153 Masters
  - 1,882 Bachelors

Teams
- 5 Departments
- 120 IPTs
- 436 Projects
- 1,297 Installations
- 5,930 CASREP
- 77,745 Incident tickets

Top Sponsors
- SPAWAR & PEOs
- MARCORSYSCOM
- NAVSEA & PEOs
- Defense Health
- NAVAIR & PEOs

Top Occupational Series
- IT Specialist
- Electronics Engineer
- Computer Scientist
- Mgmt & Prog Analyst
- Electronics Tech

12 yrs. average service
46 yrs. average age
SSC Atlantic Capabilities - Across the Full Life Cycle

Today
The Navy in Operation

- Engineer C4ISR capabilities for critical tactical systems:
  - CANES, Computer Network Defense systems, Cryptologic Carry-On Program, SSEE, Software Defined Radios
  - end-to-end C4ISR systems in tactical vehicles
- Integrate and Install modernized C4ISR systems into ships, submarines and supporting shore stations
- Engineer and support satellite and inertial navigation systems

Tomorrow
The Navy in Construction

- Urban 5th Generation Marine Advanced Naval Tech Exercise demonstrations
- Network Integration & Engineering Facility (NIEF)
- Networks and Satellite Communication Gateways
- Technology assessments on combatant crafts for future AAVs. SOCOM combatant craft navigation development
- Amphibious Assault Vehicle (AAV)

Future
The Navy in Planning

- Research development and integration support developing advanced technologies ensuring Naval technology superiority for the Navy and Marines Corps.
- Rapidly prototype and demonstrate capabilities solving emergent Naval technology needs.
- Service Academies Swarm Challenge

Next Gen narrowband satellite communication system, the Mobile User Objective System

SSC Atlantic - Industry and Academia Partnerships

Cultivating the Next Workforce


Ms. Shanda Johnson
STEM Outreach IPT Lead

South Carolina Silver Crescent Award recognizes Shanda Johnson for making significant contributions to the life and well-being of South Carolina and its people.

FY17 Community Impact and Volunteer Data
- 44,500+ Students
- 300+ Volunteers
- 17,000+ Total Hours
- 90+ First Robotics Teams
- 11 Educational Partnership Agreements

Formal Initiatives with Academia
- Cooperative Research and Development Agreements
- Partnership Intermediary Agreements
- Patent License Agreements
- Commercial Service Agreements
- Educational Partnership Agreements

SSC Atlantic Moving Forward

Advancing technologies to build new capabilities relevant to Warfighter needs and operations

Technology Growth Areas
1. Cyber Warfare
2. Data Science/Analytics
3. Assured Communications
4. Cloud Computing
5. Enterprise Resource Tools
6. Collaboration/Social Networks
7. Autonomy
8. Embedded Systems/Internet of Things
9. Mobility Solutions
10. Model-Based Systems Engineering
11. On-Demand Manufacturing

Fleet C4I and Readiness Department
- Tactical Cyber Warfare Solutions
- Navy Tactical Software Development
- Integrated C4I Solutions
- Navy Integrated Fires
- Assured Position, Navigation & Timing (A-PNT)

Expeditionary Warfare Department
- Cybersecurity Engineering for Marines and SOF
- Engineering USMC/SOCOM C4ISR
- Transforming Mobile C4ISR Platforms
- Enterprise IT In-Service Engineering

Enterprise Systems Department
- Enterprise Business Solutions (EBS) via Software as a Service (SaaS)
- Commercial Cloud Services
- Mobility & Mobile Application Design

Shore C2ISR and Integration Department
- Shore Industrial Control System Engineering (Emphasis on Cyber)
- Medical Readiness IT Modernization
- Intelligence COI; Advanced Analytics and Data Science
- Integrated Shore C2 Solutions

Department emphasis
- Continuously look for new and innovative ways to reduce the time it takes to transition technology to the warfighter
- Create opportunities to engage with industry
- Continuously look for opportunities to reduce the cost of the products and services we provide
- Leverage the Naval Research & Development Establishment and employ high velocity learning in all that we do
Dr. Suzanne Huerth
SSC Atlantic
7.0 Competency Lead

CTO/S&T Competency Overview

Dr. Suzanne Huerth, SSTM
CTO/Science and Technology (7.0)

- Research and Applied Science
- Technology Forecasting, Assessment, and Transition

Lead areas
- Naval Innovative Science and Engineering (NISE)
- Office of Naval Research (ONR)
- Defense Advanced Research Projects Agency (DARPA)

Command support
- Office of Research and Technology Application (ORTA)
- Science, Technology, Engineering, and Math (STEM) Outreach

Technology Growth Areas

Investing in capabilities to outpace the threat of our adversaries

**Cyber Warfare:** Ensures availability, integrity, authentication, confidentiality and nonrepudiation of data sources.

**Data Science/Analytics:** Enables access and management of large quantities of data in structured and unstructured forms.

**Assured Communications:** Addresses the increasing demand for voice, multimedia and data transmission through wired and wireless communications systems.

**Cloud Computing/Big Data:** IT modernization and digital transformation for resilient infrastructure, platform and software services.

**Enterprise Resource Tools:** Supporting tasking across the software life cycle, to include operational support for major commercial ERP systems or a custom solution for business/logistics decision systems across the Navy Tactical Command Support System.

**Collaboration/Social Networks:** Allow social interaction to be aggregated, assessed and pushed back into the supporting systems as structured data that can be used for better decision-making.

**Autonomy:** Enabling systems to adapt their actions to changes in their mission and operating environment without the intervention of a human operator.

**Embedded Systems:** Operation of computer systems that perform a particular function within a larger system without direct human interactions.

**Mobility Solutions:** Provide wireless technology and infrastructure authentication and connection to the enterprise providing the warfighter the ability to engage with a mobile environment anytime, anyplace.

**Model-Based Systems Engineering:** Technologies used to support the development, management, and application of virtual constructs of varying fidelity across the spectrum of systems engineering.

**On-Demand Manufacturing processes:** Produce products and/or components, when or as they are required at the point of use, using additive and/or traditional manufacturing methods.
S&T Focus Areas

Cyber Warfare
- Cyber SA
- Cyber Rapid Recovery
- Shore ICS SCADA Cyber

EMW
- Multi-INT Fusion
- EM Counter-measure
- EMW SA
- Spectrum Management
- EMW Systems Design

Advanced Communication
- RF Spectrum Management
- SDN
- SDR
- Cognitive Radio
- LPI/LPD Communications

PNT
- PNT systems sensor fusion
- GPS alternatives
- Relative positioning systems

Data Analytics
- Automated decision aids
- Predictive Maintenance
- Algorithm development and integration (machine learning, deep learning, AI)
- OSINT / Social Media

Advanced Autonomy
- Swarm/Counter Swarm
- Autonomous Systems
- HSI
- AR/VR
Technology transfer is the intentional communication of knowledge, expertise, facilities, equipment, and other resources for application to military and non-military systems (Public Law 96-480, October 21, 1980, 96th Congress)

- Spin-off - commercial viability of DoD-developed tech
- Spin-on - national security utility of technologies developed outside DoD
- Dual-use - technologies having both defense and non-defense applications

There are many Technology Transfer mechanisms that can be used to connect SPAWAR-developed technology and research with outside organizations

- CRADAs
- Patent Licenses
- Lab Selling Agreements (Commercial Service Agreements)

Technology transfers help the command’s visibility, recognition, and reputation

Contact the ORTA, Michael Merriken, for assistance in learning more and in selecting the proper avenues (michael.merriken@navy.mil)

Technology transfer can make DoD developed research and technology available to organizations to help meet program goals

Ms. Kathryn Murphy, SSTM
SSC Atlantic
Software Engineering, 54000

Purpose

• Increase collaboration and communication between government and industry

Your Role

• Listen
• Contribute
• Learn

Ground Rules

• There are no procurements in play
• We are not contracting officers and cannot commit the government
• Just networking
SSC Atlantic hosted event
- Grass roots
- Shoestring budget
- No Coffee

Market Research

The Format
- Open session in the morning
- Networking stations set up during breaks
- Break out sessions in the afternoon
  - Industry submitted up to a 2 page white paper demonstrating relevant experience/contributions in the TGA topics in the Public Notice to gain admittance.

FY16 NDAA, SEC. 887. EFFECTIVE COMMUNICATION BETWEEN GOVERNMENT AND INDUSTRY

- “Not later than 180 days after the date of the enactment of this Act, the Federal Acquisition Regulatory Council shall prescribe a regulation making clear that agency acquisition personnel are permitted and encouraged to engage in responsible and constructive exchanges with industry, so long as those exchanges are consistent with existing law and regulation and do not promote an unfair competitive advantage to particular firms.”

DEPSECDEF MEMO dtd 2 MAR 2018

- “Our National Defense Strategy (NDS) directs our INTENTIONAL engagement with Industry to harness and protect the National Security Innovation Base as well as modernize key capabilities. Cultivating a competitive mindset requires we OPTIMIZE OUR RELATIONSHIPS WITH INDUSTRY to drive higher performance while always remaining within the letter and spirit of ethics and procurement regulations.”
### Technology Growth Areas

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<tr>
<td>Cloud Computing</td>
<td>Data Science &amp; Analytics</td>
<td>Cyber Warfare</td>
<td>Assured Communications</td>
<td>Collaboration</td>
<td>Mobility</td>
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### Tech Ex Attendance

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<th>Government</th>
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<tr>
<td>Tech Ex 4 Charleston</td>
<td>180</td>
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### Tech Ex Survey Data

- Event met expectations
- Presentations
- Organization
- Location