Intent is to accelerate the development and transition of Advanced and Emerging Technology across the enterprise

- The focal point for all Science and Technology (S&T), Research Development Test and Evaluation (RDT&E), technology development, technology transition and innovation for the FRCs
- Ensuring alignment of S&T projects with focus areas at the FRCs for leadership support
- Formulation and implementation of advanced technology strategies to address identified gaps in sustainment technologies for the FRCs
- Process development and execution
- Promote maximum interaction and technology exchange with NAVAIR and Program Management Office organizations
- Champion Technologies for the FRCs
Integration ensures Investment Strategic Alignment and Speed to the Fleet
NAVAIR SBIR STTR Background / Goals

In FY-13 / 14 the SBIR PI.5 Program collaborated with Fleet Readiness Center (FRC) Southwest and FRC East engineers to identify SBIR technologies that could transition to the FRCs and benefit multiple NAVAIR platforms. (e.g.:)

- 1) Cold Spray
- 2) Automated, Rapid Non-Destructive Inspection (NDI) of Large Scale Composite Structures
  - The projected cost avoidance between the two SBIR projects once transitioned is projected to be an estimated cost avoidance of $1-2M and 3,000 to 6,000 engineering labor hours annually.

In order to formalize the process of identifying SBIR technologies to transition to the FRCs, the NAVAIR SBIR Program Office proposed a Pilot to COMFRC Leadership and DON SBIR beginning in FY15

Goals

- Transition innovative SBIR technologies that will resolve operational challenges.
- Save O&S costs in the FRCs
- Seek SBIR technologies that required minimal development and/or mature prototypes for final development, testing, evaluation, and integration into the FRCs.
- The SBIR Technologies selected can receive up to $1.5 million dollars in SBIR “Phase II.5” funding and have up to two years to complete the additional development work.
  - Up to $4.5M total budget offered to the FRCs for Technology Development
  - Technologies can only be selected from current or past SBIR Phase II company efforts
NAVAIR SBIR Technology Transition Pilot Program (STTP) Process

**COMFRC - IWG**
- Investment & CIP Budget Planning & O&S Technology Prioritization (usually three technology areas)

**FRC - IPT's**
- Review RFI Responses (SBIR Technologies) that meet the needs assessment for operation and sustainment (O&S) technologies at FRC's (avg. 3-6 Topics in Technology Areas) — Selection IAW FRC Criteria

**COMFRC - IWG**
- Approve FRC IPT Selected SBIR Projects (3 Avg)
- FRC IPT's - Perform Due-Diligence - Prioritize the SBIR projects
- Prepare SBIR Technology Transition Agreements (TTA's)

**Technology Review / Selection**
- Technology A
- Technology B
- Technology C

**SBIR PII.5 Contract Actions**
- Proj A
- Proj B
- Proj C

**SBIR PII.5 Program / FRC TPOC's**
- Prepare / Send PII.5 Contracts Package to Contract

**SBIR PII.5 Program / FRC IPT's**
- SBIR Program Release RFI
- Identify 3-6 Technology areas to solicit responses from SBIR Companies
- Perform & Identify needs assessment for operation and sustainment (O&S) technologies at the three FRC's
- Prioritize FRC SBIR O&S Technology Projects based on available SBIR Funding

**Technology Transition**
COMFRC’s SBIR Phase II.5 Project Examples

• Automated Tool for Reporting Aircraft Damage and Queuing and Screening Repair; Etegent (aka Nlign Software)
  – Status: Complete
  – Led by FRCSW; Proof of concept on F/A-18 Composites Repair
  – Initially evaluated at FRCSW for testing; collaboration with another MILDEP.
  – Transitioned to: FRCE, FRCSE & USAF Air Logistics Centers
  – Garnered Benefits:
    • Targeting TAT reductions in engineering dispositions
    • Accelerating A/C Structural Repairs
    • Allows for visualization of reported damage, NDI and previous repairs in a Model Based Format
    • Initial cost avoidance estimates of over $1 million dollars a year
COMFRC’s 2016 SBIR Phase II.5 Projects

• Cold Spray System; Inovati 2013
  – Status: Completed
  – Led by FRCSW; Initially testing AMAD housings
  – Transitioned to: FRCSW
  – Benefits:
    • Targeted TAT reduction for components
    • Repair capability for long lead components which are currently unrepairable
    • Initial cost avoidance estimates of over $1 million dollars a year

• Cold Spray for Internal Bores (90° Angle Structure Repair); Inovati 2016
  – Status: Technology Development Phase
  – Led by FRCSW; Initially Currently in the Technology development phase
  – Transition Plans: FRCSW, FRCSE and FRCE Expected
  Benefits:
    • Capitalizes on existing CIP purchased equipment through development of a new end-effector.
    • Targeting high value aircraft wheel bores which are typically scrapped when oversize limits are reached; includes roll test for certification
COMFRC SBIR Phase II.5 Project Examples

• Automated, Rapid Non-Destructive Inspection (NDI) of Large Scale Composite Structures; Thermal Wave Imaging Inc.
  – Status: Completed; Continuing Technology Development
  – Led by FRCE; Initially piloted on V22 Proprotor Blades,
  – Transition planned: FRCE, FRCSW, and FRCSE when completed
  – Benefits:
    • Targeting TAT time reductions in NDI inspections
    • Estimated 50% reduction in inspection time
    • Increased test area capability for composite structures
    • Potential for additional application across H-53, H-1, AV-B, and F-18

• Zinc-Nickel Electroplating; ES3, Inc.
  – Status: Transitioning to FRCSE
  – Led by FRCSE, Leverage USAF SBIR efforts at OO-ALC
  – Transition planned: FRCSW and FRCE
  – Benefits:
    • Targeting Cost and Heavy Metal reductions in plating lines
    • Estimated reduction in environmental costs of 20% across the enterprise
    • Reduction of occupational exposure to cadmium, improved corrosion performance of components, elimination of cyanide compounds, and reduction of process Turn-Around-Time (TAT)
Strategies for Success

• Increase awareness of SBIR program and contract vehicles among engineering workforce

• Leverage variety of Sustainment Subject Matter Experts when scouting technologies
  – Attend Navy Forum for SBIR/STTR Forum
  – Engage new engineers on the team

• Utilize Federal Lab Designation and Tech Transfer Tools help in Technology Assessment
  – Cooperative Research & Development Agreement (CRADA)
  – Educational Partnership Agreements
  – Partnership Intermediaries

• Utilize ONR Rapid Innovation Fund to rapidly integrate technologies

• Partner with Primes and Universities to facilitate integration

• Work with others: DoD, ONR, NASA, DARPA, etc.
QUESTIONS