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# How to Partner with the Air Force Research Laboratory



# Air Force Research Laboratory

## AFRL Reach in FY 2017

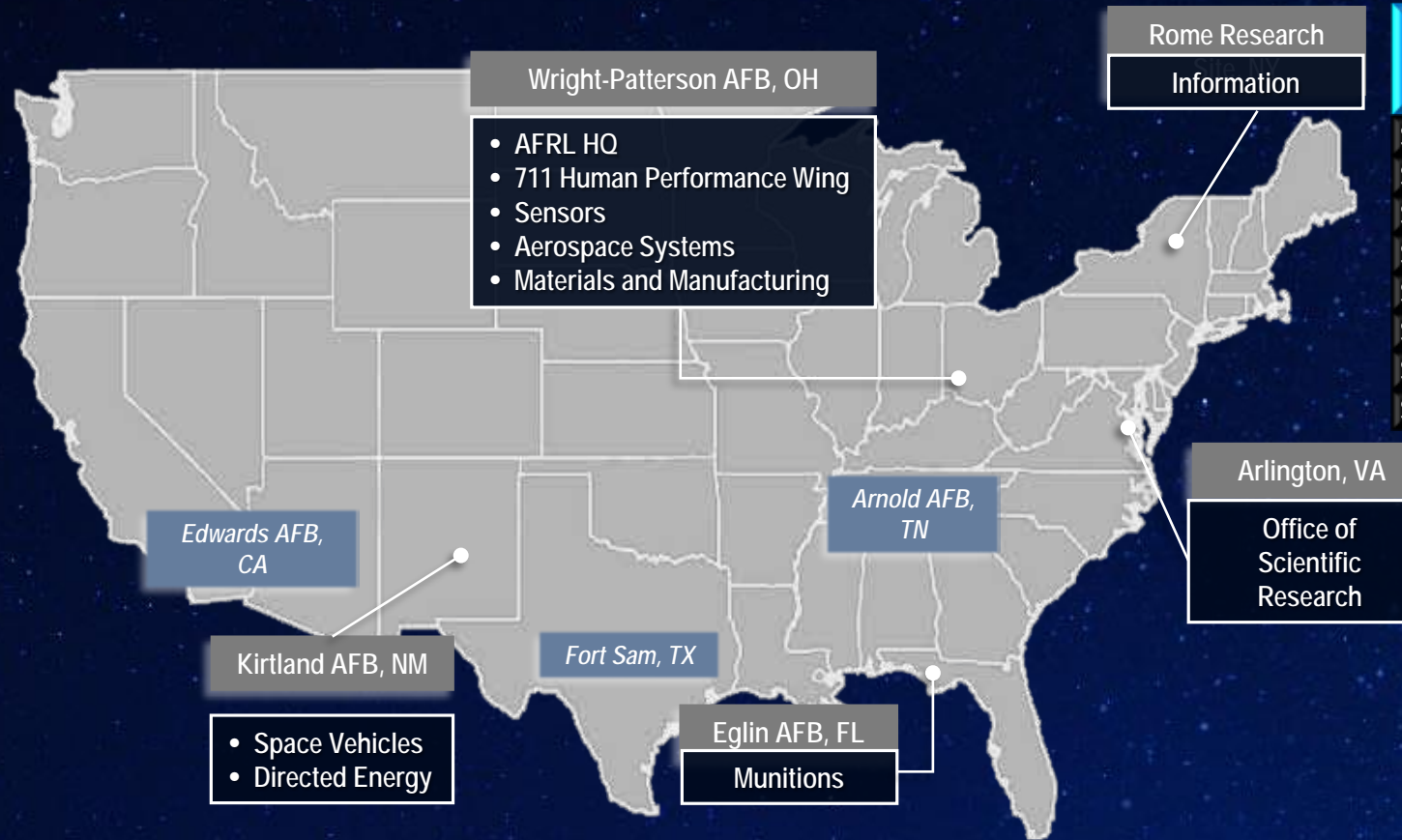
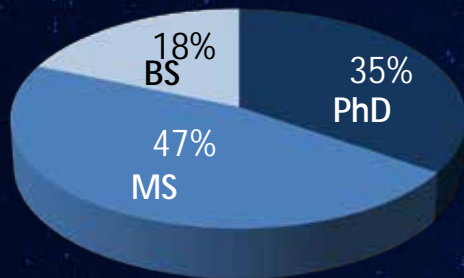
261 Large Business - \$1.4B, 1,186 contracts  
 779 Small Business - \$1.2B, 1,869 contracts  
 Total - \$2.6B, 3,054 contracts

## Industry Partnerships

420 Technology Transfer Agreements  
 303 Cooperative R&D Agreements

## University Partnerships

93 University Partners  
 58 Young Investigator Programs  
 149 International Universities  
 21 Historically Black Colleges & Universities  
 59 University Research Initiatives  
 42 University STTR/SBIR



## AFRL FY17 Budget (Core: \$2.6B Customer: \$2.3B) Tech Focus Area Investment

\$534M	Next Gen Aerospace
\$488M	Weapons
\$322M	Space & Nuclear Deterrence
\$286M	ISR
\$259M	C4
\$166M	Affordability & Sustainment
\$121M	Electronic Warfare
\$109M	Human Performance

## AFRL OCONUS

- Santiago, Chile
- London, UK
- Tokyo, Japan
- Maui Research Site, HI

	Employees	Civilian	Military
<b>Total</b>	6,254	5,072	1,182
<b>S&amp;Es</b>	3,611	3,041	570





# AFRL Technical Competencies

## AF Office of Scientific Research

- Physics and Electronics
- Aerospace, Chemical and Materials Sciences
- Mathematics, Information, and Life Sciences



## Aerospace Systems

- Aerospace Vehicles
- Control, Power and Thermal Management
- High Speed Systems
- Space and Missile Propulsion
- Turbine Engines



## Directed Energy

- High Power Electromagnetics (HPEM)
- Laser Systems (LS)
- Directed Energy
- Electro-Optics for Space Superiority
- Weapons Modeling & Simulation (WM&S)



## Information

- Autonomy, Command and Control, and Decision Support
- Processing & Exploitation
- Cyber Science and Technology
- Connectivity and Dissemination



## Human Performance

- Training
- Decision Making
- Bioeffects
- Human Centered ISR



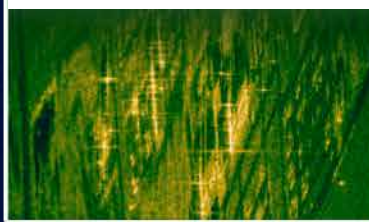
## Munitions

- Ordnance Sciences
- Fuze Technology
- Terminal Seeker Sciences
- Munitions Airframe, Guidance, Navigation & Control
- Munitions System Effects Sciences



## Sensors

- Spectrum Warfare
- Layered Sensing Exploitation
- Enabling Devices and Components
- RF Sensing
- EO Sensing



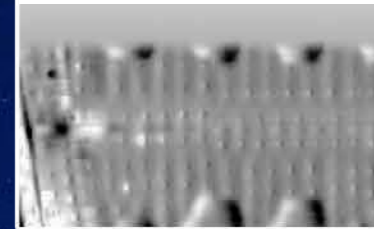
## Space Vehicles

- Space Electronics
- Space Remote Sensing
- Space Environment Impacts & Mitigation
- Space Experiments
- Space Platforms



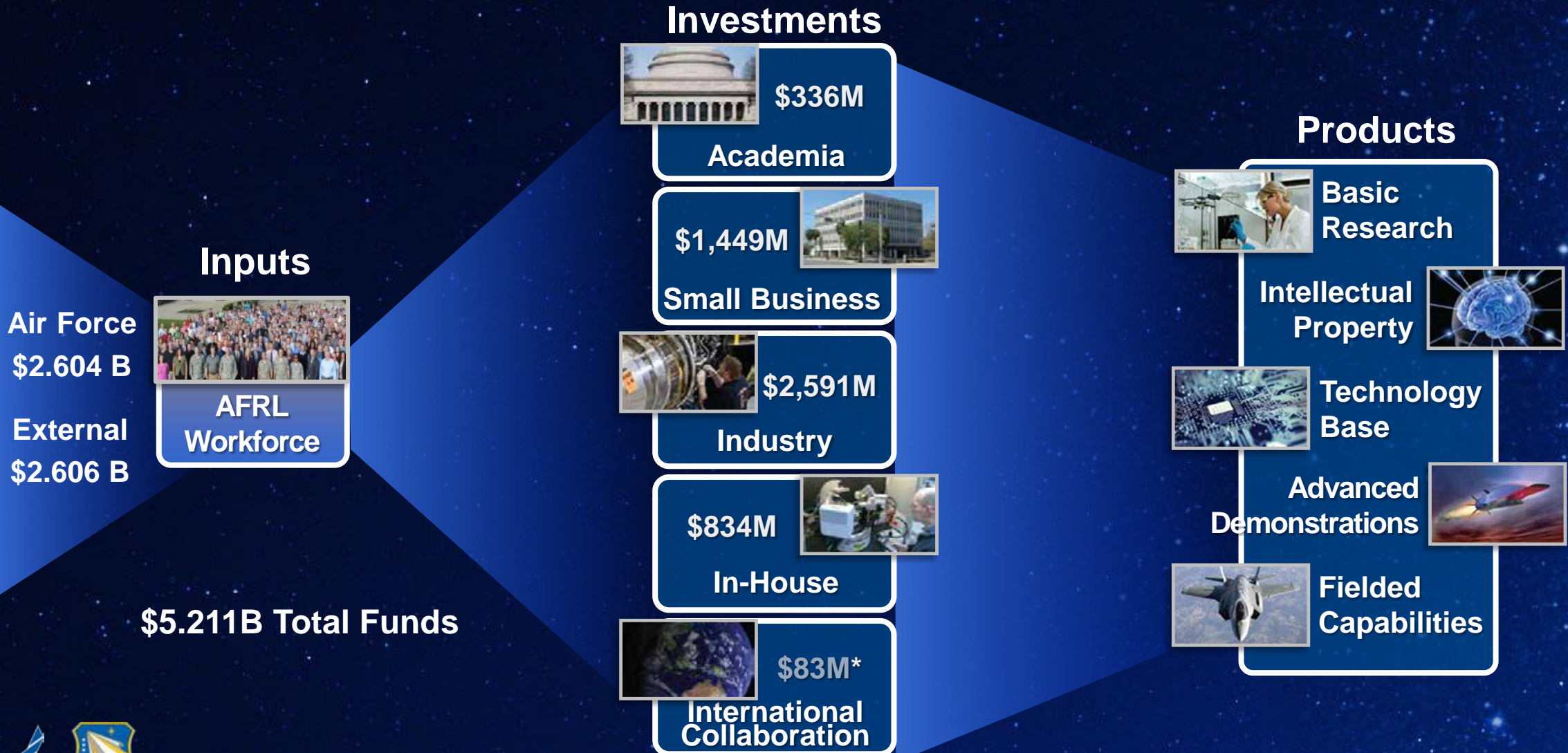
## Materials and Manufacturing

- Structural Materials
- Functional Materials
- Manufacturing Technologies
- Support for Operations





# AFRL S&T Business Overview



\* In kind support

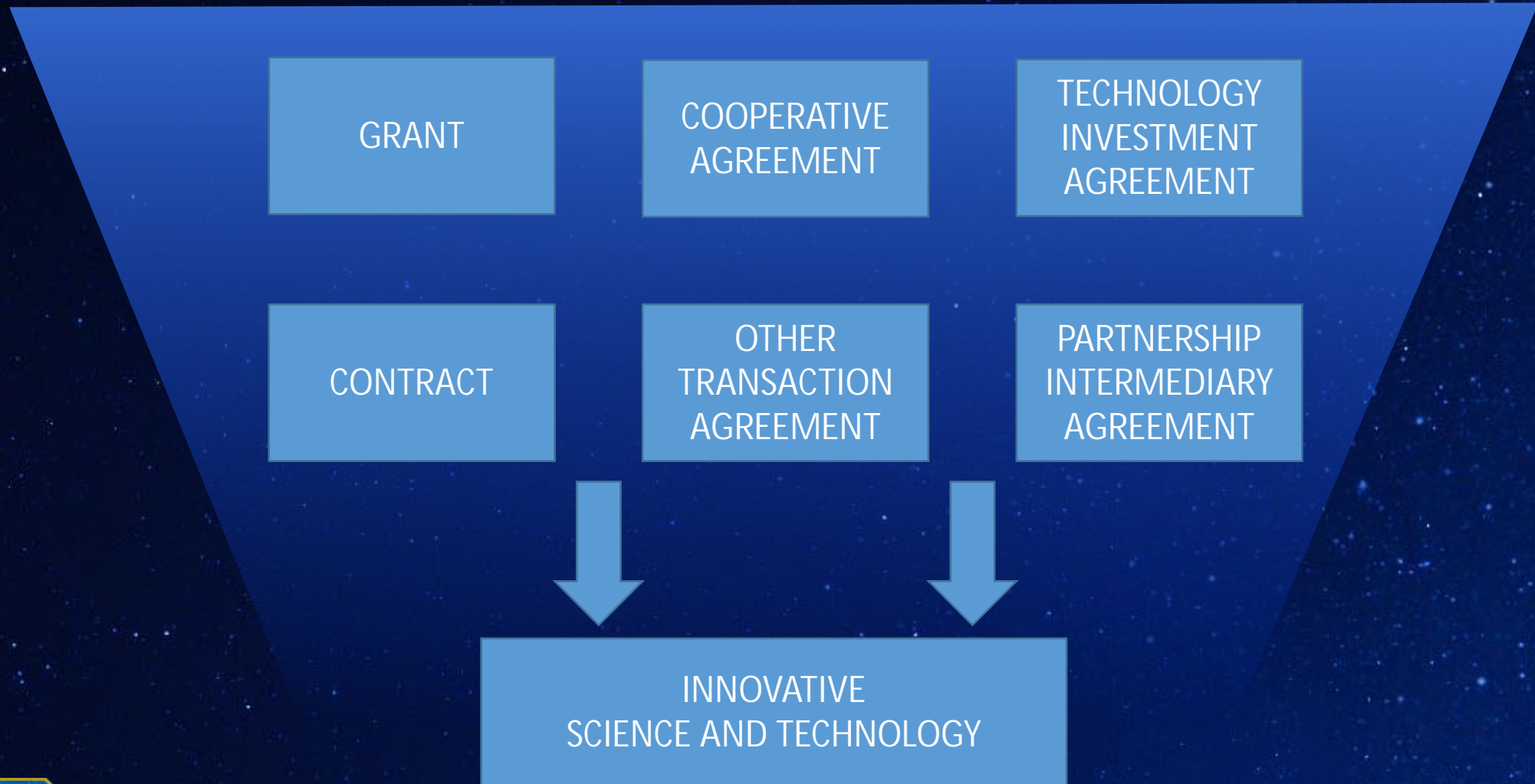


# *OUR BUSINESS TOOLS.....*





# Broad Agency Announcements (BAAs)



# Broad Agency Announcements (BAAs)

- AFRL's Primary method of solicitation
  - Research opportunities available through various topic calls via OPEN and CLOSED BAAs
    - OPEN BAA: Broad call for topics open for extended period of time (i.e. 5 years)
    - CLOSED BAA: Call for specific topic open for set period of time (i.e. 3 months)
  - All Government solicitations required to be publicly posted
    - Search for "AFRL" on Grants.gov and FBO.gov for opportunities
      - Grants [www.grants.gov](http://www.grants.gov)
      - FEDBIZOPPS [www.fbo.gov](http://www.fbo.gov)
  - BAA Guide for Industry  
<https://www.fbo.gov/utills/view?id=680a364b518e84ca3102fb53791b0ac5>





# BUSINESS ARRANGEMENTS

- Assistance
  - Grant
    - Principal purpose: transfer thing of value to recipient to carry out public purpose of support or stimulation—little government involvement
    - Used to acquire basic research
  - Cooperative Agreement
    - Same as a grant except with substantial government involvement
  - Technology Investment Agreement (TIA)
    - Used to increase commercial involvement in defense research programs and to integrate commercial/defense sectors of Nation's Industrial Base. (cost share arrangement)
- Contract
  - Principal purpose is to acquire property or services for the direct benefit or use of the Federal Government





# BUSINESS ARRANGEMENTS

- Agreements
  - Partnership Intermediary Agreement (PIA)
    - Between government and nonprofit entity used to perform intermediary services
    - Works with Small Business and/or education institutions to identify joint activities making use of federal laboratory technologies
  - Other Transaction (OT)
    - Flexible agreements not subject to federal acquisition regulation
    - Used to increase participation by non-traditional organizations
      - OT for Research (10 USC 2371)
      - OT for Prototype (10 USC 2371b)
      - OT for Experimental Purposes (10 USC 2373)





# CONNECTING TO AFRL SMALL BUSINESS

[www.afrlsbhub.com](http://www.afrlsbhub.com)

- Small Business Toolkit <https://afrlsbhub.com/small-business-toolkit/>
  - Connect to AFRL
    - Colliders, Defense Innovation Marketplace, SBIR/STTR
  - New Business—How to get Started
    - Registration in the System for Award Management (SAM), no fee to register [www.sam.gov](http://www.sam.gov)
    - Getting a DUNS (unique business identifier) <http://fedgov.dnb.com/webform>
    - Make sure you know your Small Business size standard <https://www.sba.gov/size-standards/>
    - Procurement Technical Assistance Center (PTAC) <http://www.aptac-us.org/>
  - Established and Experienced Business
    - Defense Contract Audit Agency (DCAA)—approval of accounting systems (cost contracts)
    - SBIR/STTR Program
    - FEDBIZOPPS





# SBIR/STTR Program

## “America’s Seed Fund”

- Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) <https://www.sbir.gov/about/about-sbir>
  - Enables small business to explore their technological potential and provides the incentive to profit from its commercialization
  - Unique feature of STTR: Small Business must formally collaborate with Research Institution in Phase I and Phase II
    - Phase I: Establish technical merit, feasibility and commercial potential of proposed R&D effort; awards do not normally exceed \$150K total cost for period of 6 months
    - Phase II: Continue R&D efforts initiated in Phase I; awards normally do not exceed \$1M total costs for period of 2 years
    - Phase III: Pursue commercialization objectives of SBIR I/II efforts; funded by non-SBIR/STTR dollars
- DOD issues three SBIR/STTR solicitations each year <https://www.acq.osd.mil/osbp/sbir/>
  - SBIR 18.3/STTR 18.C announcement closes 24 October 2018
  - SBIR 19.1/STTR 19A announcement opens 29 November 2018, closes 6 February 2019
  - SBIR BAA schedule: <https://www.acq.osd.mil/osbp/sbir/sb/schedule.shtml>





# FINDING OPPORTUNITIES

- The Air Force Office of Scientific Research (AFOSR) <https://community.afosr.org/wg/afosr/> coordinates basic research grants in four broad areas
  - **Engineering and Complex Systems:** advance future air and space flight
  - **Information and Networks:** mathematical, information & network oriented sciences
  - **Physical Sciences:** physical science to enable air, space, and cyber power
  - **Chemistry and Biological Sciences:** exploring innovative fundamental science
- BAA-AFRL-AFOSR-2017-0007 Research Interests of the Air Force Office of Scientific Research <https://www.grants.gov/web/grants/view-opportunity.html?oppld=298498>
- BAA-AFRL-AFOSR-2017-0008 Air Force Defense Research Sciences Conference and Workshop Support <https://www.grants.gov/web/grants/search-grants.html?keywords=BAA-AFRL-AFOSR-2017>\*





# FINDING OPPORTUNITIES

- Defense Innovation Marketplace: *Connects Defense with Industry* <http://www.defenseinnovationmarketplace.mil/af.html>
  - AFRL opportunities found under “AF Resources,” “FEDBIZOPS for AFRL by Location” AFRL Contracting Sites
    - AFRL/RIK (Rome NY) supports Information Technology Directorate (TD)
    - AFRL/RWK (Eglin AFB, FL) supports Munitions TD
    - AFRL/RVK (Kirtland AFB, NM) supports Directed Energy and Space Vehicles TDs
    - AFOSR/PK (Arlington, VA) support AFOSR
    - AFRL/RQK (Wright Patterson AFB, OH) supports Aerospace Systems, Sensors, Materials and Manufacturing TDs and the 711 Human Performance Wing)
- AFWERX—Air Force Innovation Hubs
  - Facilitates engagements across industry, academia, and non-traditional contributors to create transformative opportunities and foster an AF culture of innovation
  - Three hubs located in Las Vegas NV, Austin TX and Washington DC  
<http://afwerxdc.org/>





# FINDING OPPORTUNITIES

- Innovation Institutes

- Advocates/facilitates co-operation of private industry, academia and AFRL in developing solutions and building upon technologies under development at AFRL

- Wright Brothers Institute, Dayton Ohio : <http://afrlsbhub.com/>
- Griffiss Institute, Center for Information Assurance, Rome NY  
<https://www.griffissinstitute.org/>
- Basic Research Innovation and Collaboration Center (BRICC), Arlington VA  
<http://www.vt-arc.org/>
- DEFENSEWERX, Niceville FL <http://defensewerx.org/>





# Questions?

## Partnership Opportunities

[www.grants.gov](http://www.grants.gov) – search grants for AFOSR or AFRL

[www.fbo.gov](http://www.fbo.gov) – search for AFRL for additional opportunities

## Air Force Research Laboratory Information

[www.afresearchlab.com](http://www.afresearchlab.com)

## Social Media

Twitter: @afresearchlab

Facebook: @afresearchlab

YouTube: @afresearchlab

LinkedIn: Air Force Research Laboratory

