National Aeronautics and Space Administration

NASA TECHNOLOGY TRANSFER PROGRAM

BRINGING NASA TECHNOLOGY DOWN TO EARTH

NASA Technology Transfer Program Innovations

SE/MW FLC Regions Annual Meeting

September 19, 2018

www.nasa.gov

Outline

NASA TECHNOLOGY TRANSFER PROGRAM

- T2 Legislative Authority Impacting Change
- NASA T2 Pre-2010 – Innovative Partnership Program
- NASA T2 Re-Org and New Approach
- Ten Centers versus One NASA
- Pathway to Success
- Annual Program Goals
- New Technology Reporting
- Agency Patent Portfolio
- Agency Software Catalog
- Automated Licensing System
- Startup NASA
- Technology Transfer University
- Metrics Play a Role
- Moving Forward

A Message From the NASA Administrator Jim Bridenstine

https://www.youtube.com/watch?time_continue=10&v=NMTGkRHgwK4

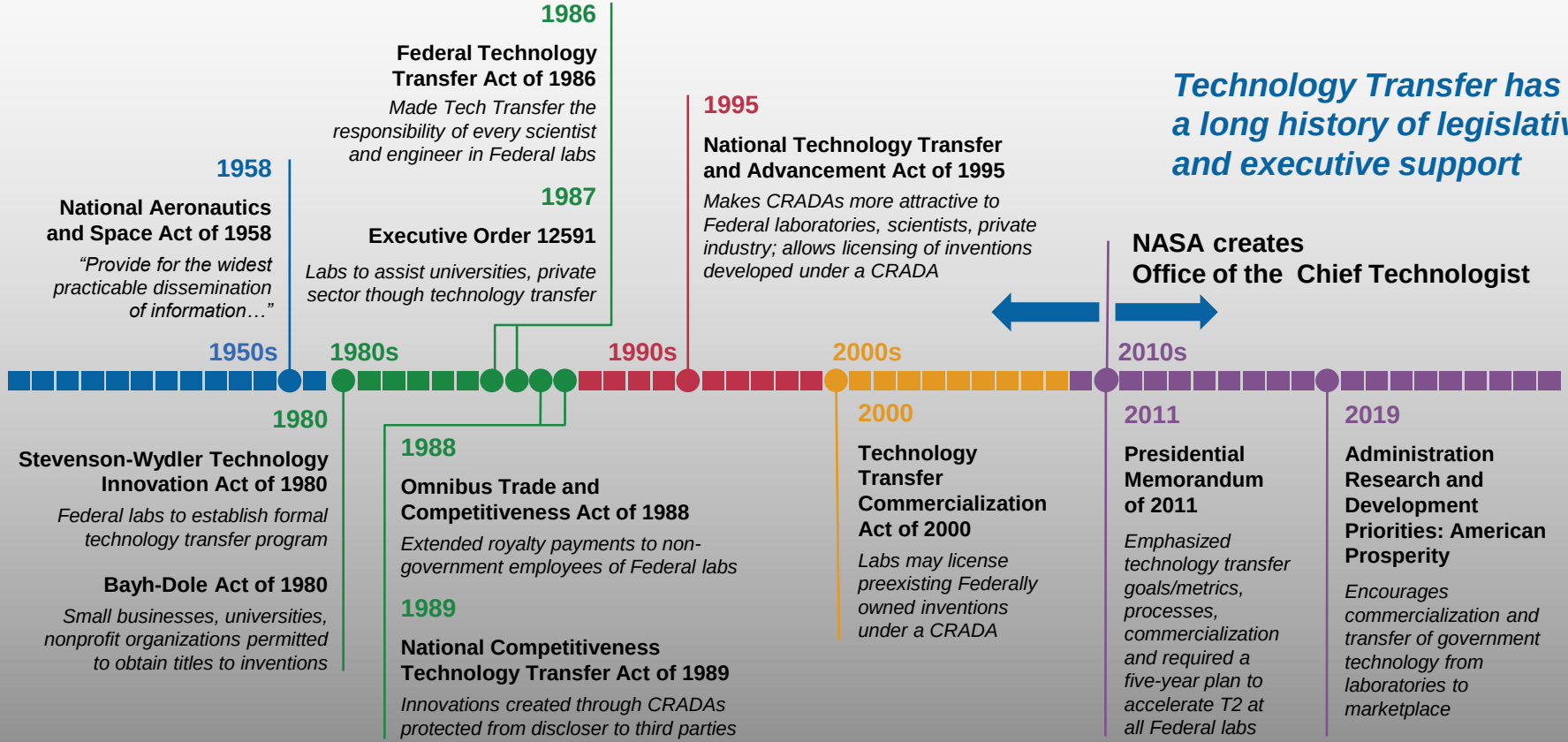
NASA Home & City

http://www.homeandcity.nasa.gov

T2 Legislative Authority

NASA TECHNOLOGY TRANSFER PROGRAM

Technology Transfer has a long history of legislative and executive support

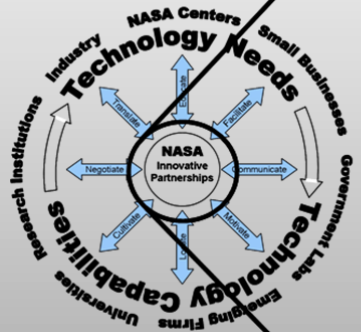


NASA Tech Transfer Activities – circa 2010

NASA TECHNOLOGY TRANSFER PROGRAM

Too many services

Not enough resources and focus.



NASA Offerings

- $ Funding
- Facilities use
- Technology use
- Expertise access
- Brand Association
- Product Validation
- Space Env't Access
- Intellectual Property
- Other

…

Partnership Mechanisms

- FAR Contracts
- Comm'l Contracts
- Grants
- Coop Agreement
- Space Act Agr
- MOU
- MOA
- Licensing
- Other
- …

Partner Offerings

- Technology
- Services
- Innovation
- Expertise
- Intell. Property
- Outreach
- $ Funding
- Facilities
- Other

…

Other…..
Academia
National Laboratories
Other Gov't Agencies
Industry

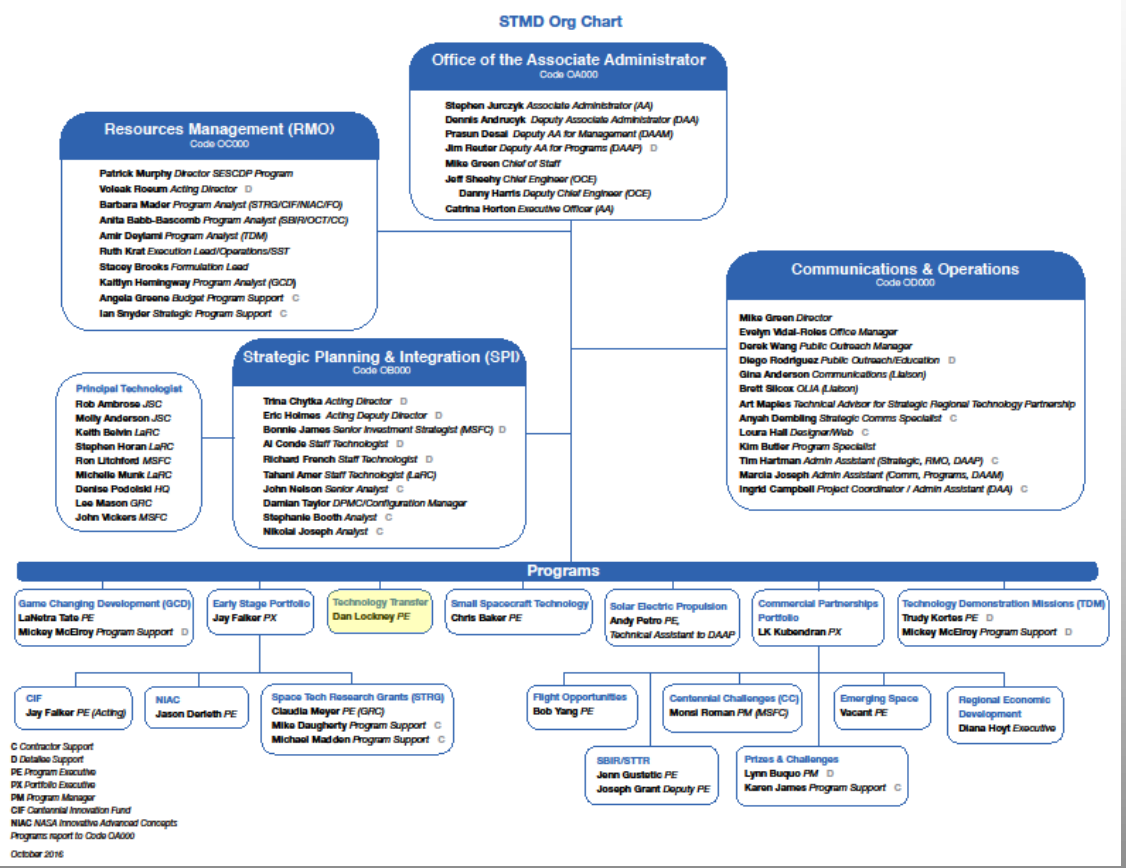
A. Incurred 'Cost' of offerings
B. Perceived 'benefit' to partner from NASA offerings

Value of partnership to NASA = D/A

C. Incurred 'Cost' of offerings
D. Perceived 'benefit' to NASA from partner offerings

Value of partnership to Partner = B/C

NASA Tech Transfer Program – post 2010



Pendulum swings the other direction.

Technology Transfer set-up as standalone program.

Daniel Lockney named as Program Executive.

Focus placed on licensing and transfer of Intellectual Property.

Ten NASA Centers – Ten Different Portfolios

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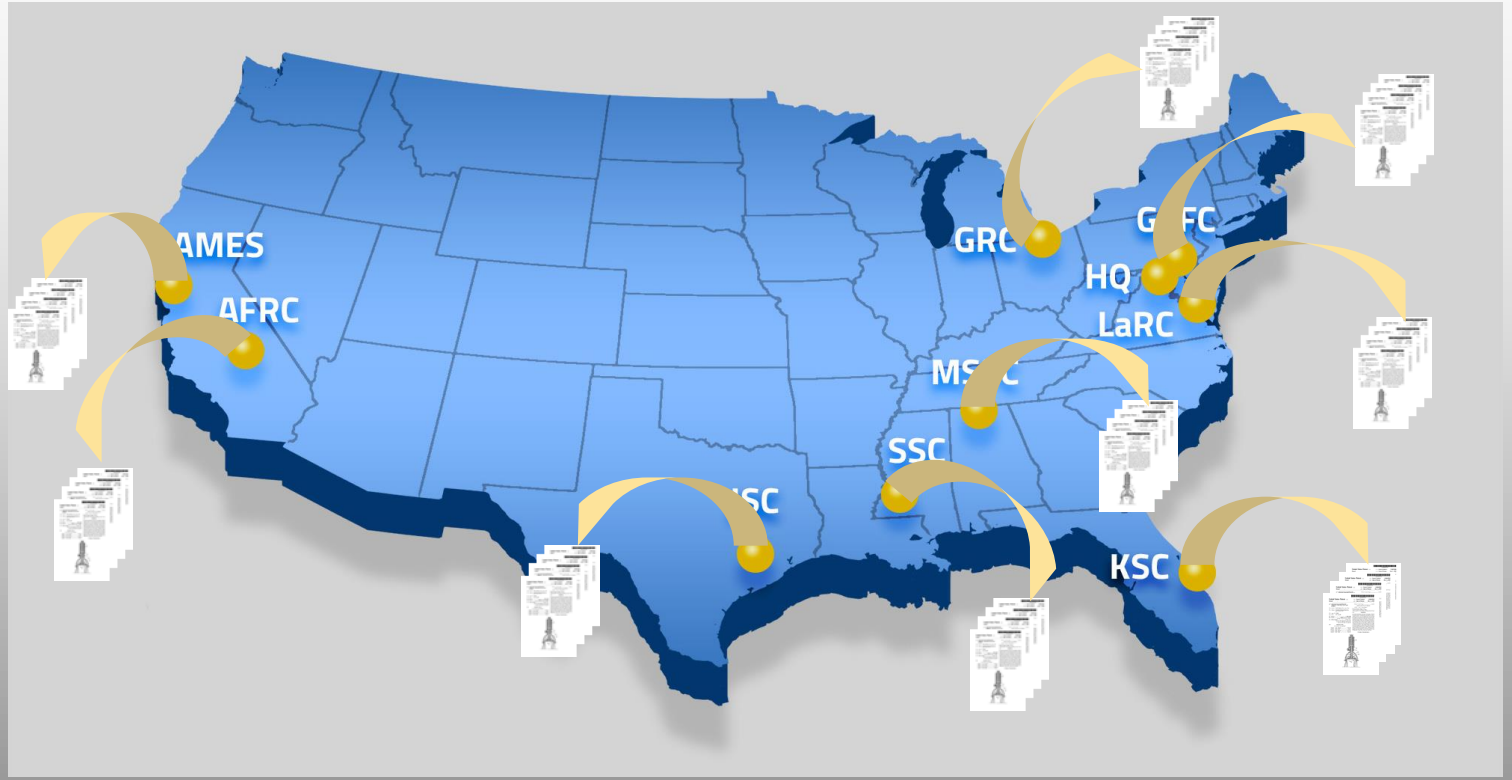
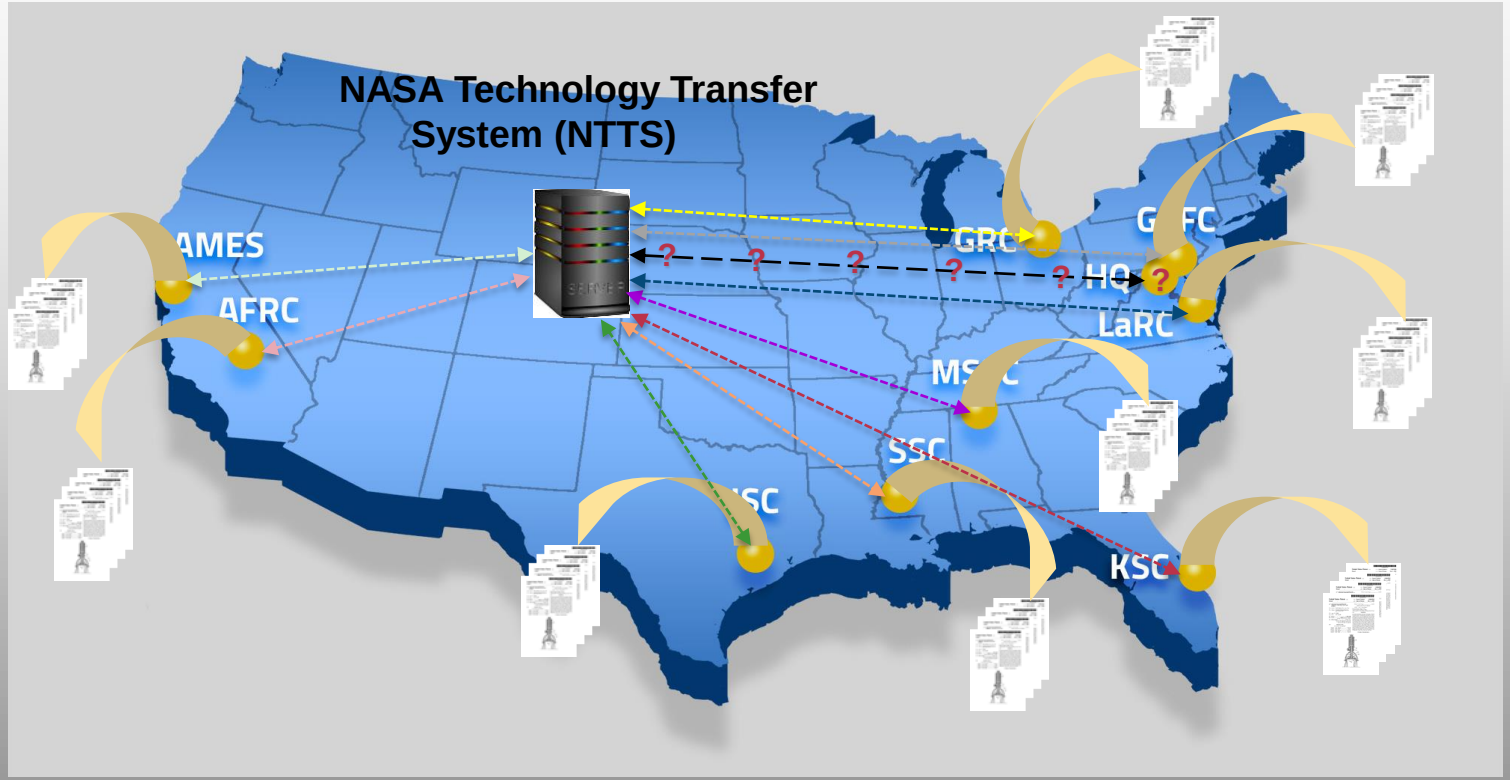


Central Database – No Requirements/No Standards



Pathway to Success

T2 Annual Program Goals

NASA TECHNOLOGY TRANSFER PROGRAM

New Technology Reporting

- 1a – Automate IP Notices to Contractors – JSC / Charlene Gilbert
- ~~1b – Modernize e-NTR Interface – KSC / Dave Makufka~~ **COMPLETE**
- 1c – Correct Under-reporting of Invention Disclosures by Prime Contractors – MSFC / Terry Taylor, JSC / Charlene Gilbert

Marketing

- 2a – Develop Customer Relationship Management (CRM) Module – LaRC / Kathy Dezern
- ~~2b – Coordinate Program Exhibit Strategy – MSFC / Terry Taylor~~ **COMPLETE**
- ~~2c – Design and Implement Promotion Campaign for 2017/18 Software Catalog and Repository – MSFC / Danny Garcia, Barb Fawcett~~ **COMPLETE**
- ~~2d – Develop a Method for New and Continued Engagement with Tech Transfer Portal Users – LaRC / Kathy Dezern / Jennifer Viudez~~ **COMPLETE**
- 2e – Create Linkages with Public NASA Scientific and Technical Information to Build a Library – SSC / Duane Armstrong

Increase Patent Licensing

- ~~3a – Design and Build Version 2 of "TurboTax" Licensing System – MSFC / Sammy Nabors~~ **COMPLETE**

Software Release

- 4a – Update Software Catalog – MSFC / Danny Garcia, Barb Fawcett
- 4b – Develop and Deploy Materials to Direct Developers Who Want to Release Software – MSFC / Danny Garcia, Barb Fawcett
- 4c – Develop Toolkit of Remote Sensing Applications – SSC / Duane Armstrong

Program Infrastructure

- ~~5a – Improve NTTS – ARC / Tek Okimura~~ **COMPLETE**
- ~~5b – Explore NSF iCorps Program and Take Advantage of Offerings – JSC / Jack James~~ **COMPLETE**
- ~~5c – Create Fund for Center T2 Offices to Compete for Resources to Increase the Commercial Readiness of High-Potential Technologies – AFRC / Laura Fobel~~ **COMPLETE**
- ~~5d – Collaborate and Create Linkages with SBIR Program – HQ / Dan Lockney~~ **COMPLETE**

Legend: On Track | Concerns | Need Help

Reporting New Technologies

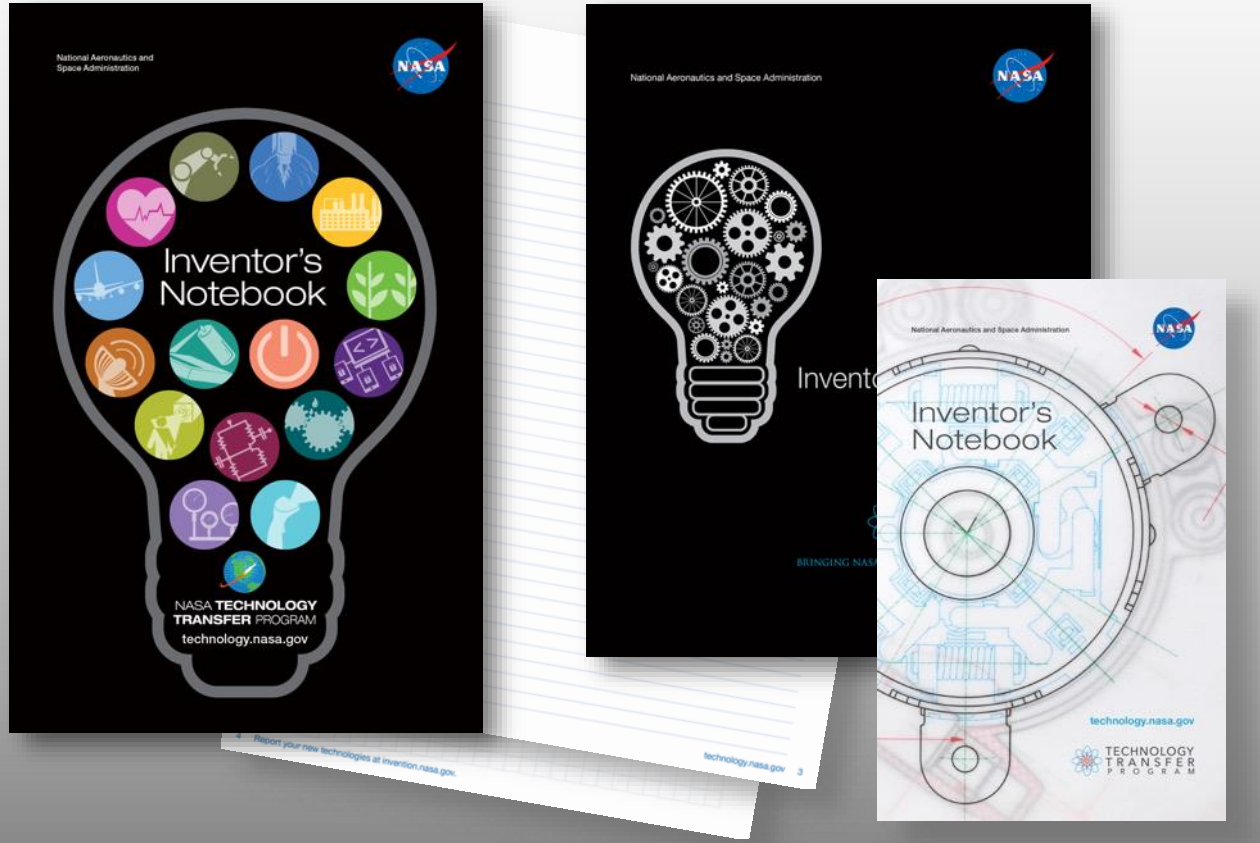
e-NTR: Electronic New Technology Reporting System

- Technology transfer tracking begins with innovators reporting new technologies.
- Built in workflow to streamline the review of new technology reports.
- Eliminate manual processing of paperwork.
- Inventions are assigned a “Case Number” to track the technology through tech transfer pipeline.

Inventor's Notebooks and Challenge Coins

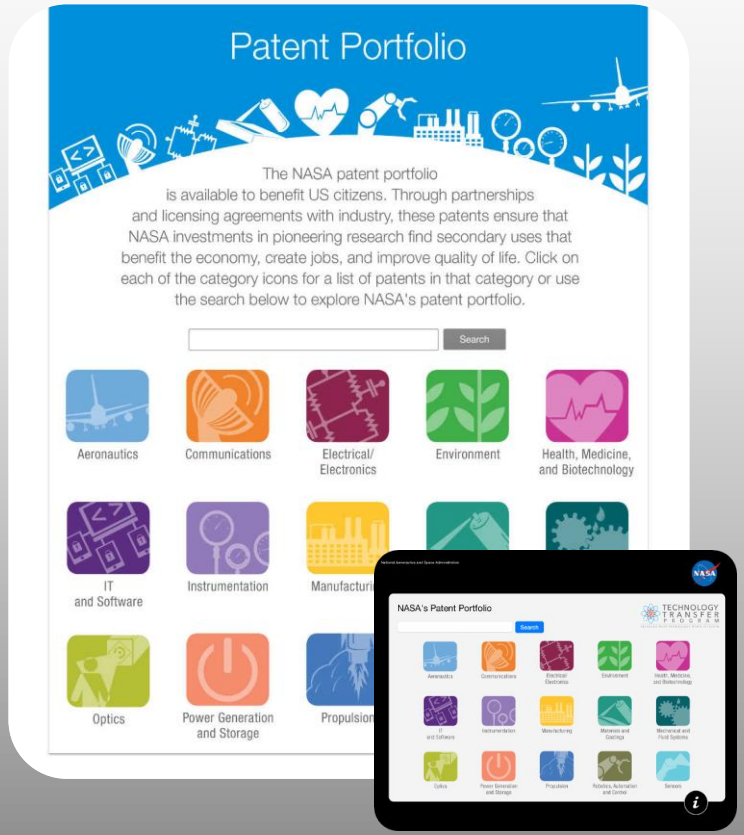
NASA TECHNOLOGY TRANSFER PROGRAM

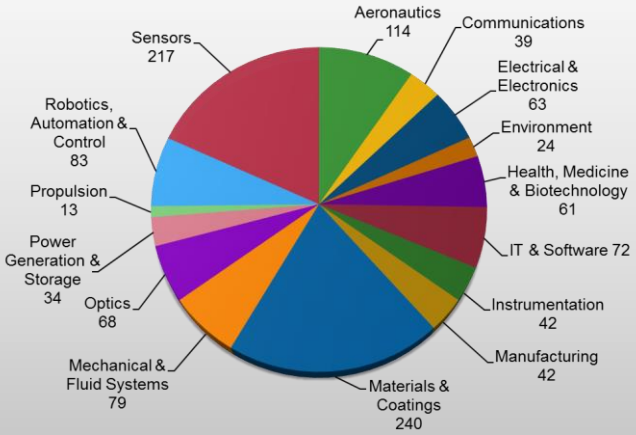
Inventor's Notebooks increase awareness of technology reporting requirements



In FY 2017, the Technology Transfer Offices distributed new Tech Transfer Challenge Coins to civil servant inventors (and WYE inventors on joint inventions) for submitting NTRs

Digital Agency Patent Portfolio

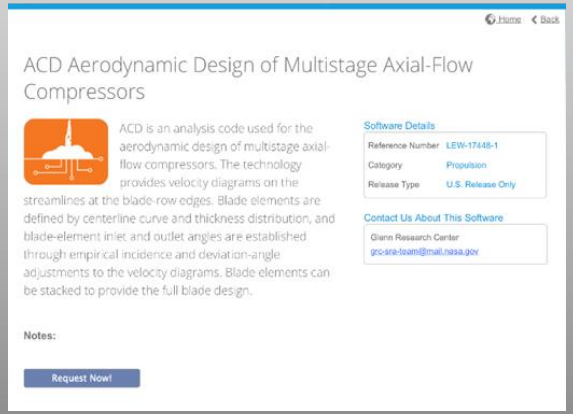




All patented technologies (~860) conform to the Agency patent data sheet template and are searchable through the T2 Portal and iPad App.

Software Is Now Available for Release

NASA's Software Catalog



Find…

- The NASA Software Catalog site lists hundreds of software codes that users from a wide array of industries and fields of study can browse in order to answer their software needs.

Request…

- Simplified and streamlined into three steps:
  1) Find software that best fits your needs
  2) Submit a request for the software
  3) Sign agreement and receive software

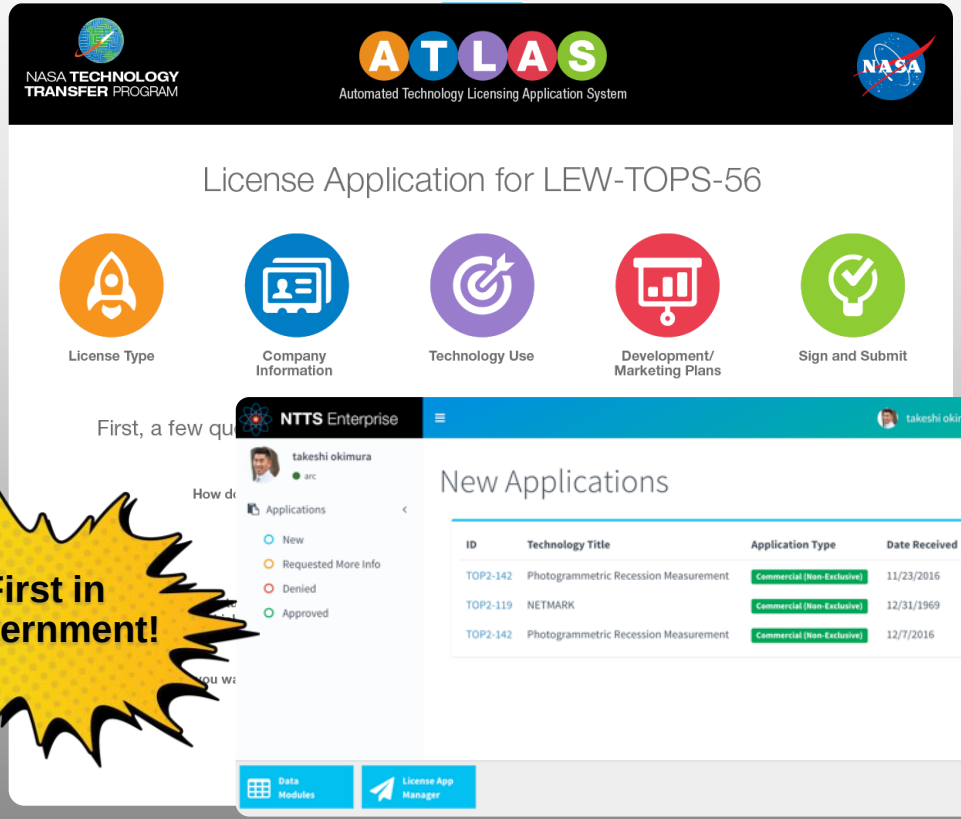
Sign & Receive

- Automates the production of Software Usage Agreements, eliminating the need for managers to manually produce agreements.

ATLAS

Automated Technology License Application System

- One stop shop for companies to apply for licenses on NASA technologies, launched June 2017
- 300+ applications started
- Simple and interactive user interface to maximize user experience
- New features include automated reminders to urge applicants to finish and submit applications.
- Addresses the following problems:
  - Centralized location to apply for licenses
  - Unifies and streamlines Center application processes into a single Agency process
  - Eliminate manual processing of license applications



First in Government!

Remote Sensing Toolkit Media Announcement

NASA TECHNOLOGY TRANSFER PROGRAM

- The new Remote Sensing Toolkit announced to the public in July.
- This media push includes a YouTube video, Tumblr post, press release, and tweets from multiple agency accounts.
- RST makes finding and using satellite data easier by offering a single access point for users to find the data, analytical tools and software to build their own tools.

Newly Released!

Tracking Technologies Thru T2 Lifecycle

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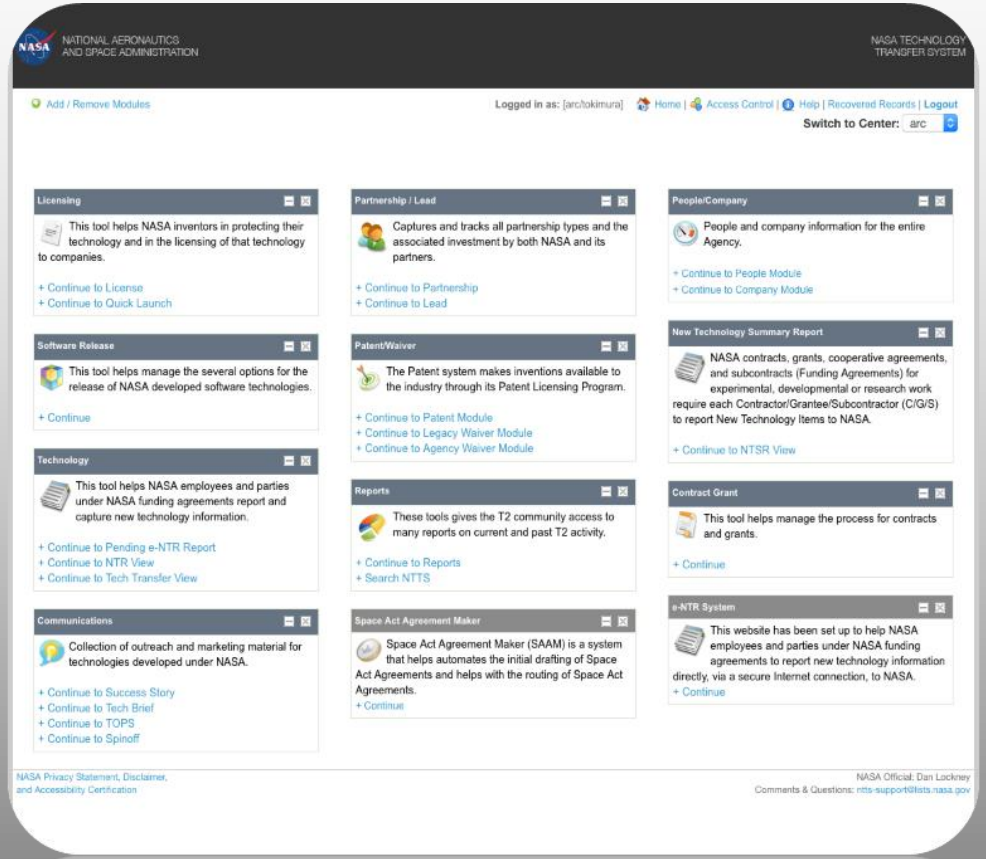

- **Database is backbone to NASA's Technology Transfer IT infrastructure.**
- **Database contains over 15 data modules to manage and track tech transfer activities:**

  Invention Disclosure, Patent, License, Software Release, Contracts/Grants, Partnerships, Leads, Awards, Marketing, Success Stories and more.
- **NTTS Database also supports NASA's two core mechanisms to transfer technologies:**

  Software Release and Patent Licensing

Startup NASA

NASA TECHNOLOGY TRANSFER PROGRAM

The Startup NASA initiative offers startup companies a license with no up-front costs for commercial use of our patented technologies, we're letting companies hold onto their cash while securing the intellectual property needed to carve out competitive market space.

31 new companies have formed since program launched in October 2015.

Geneto

Gaia Elements

BRESSLER
COMMUNICATION
CONSULTANTS

SUN CITY
SMARTTECH

EDRONES

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SpaceBooster LL

NASAiTech
2017 CYCLE 2
SEMIFINALIST

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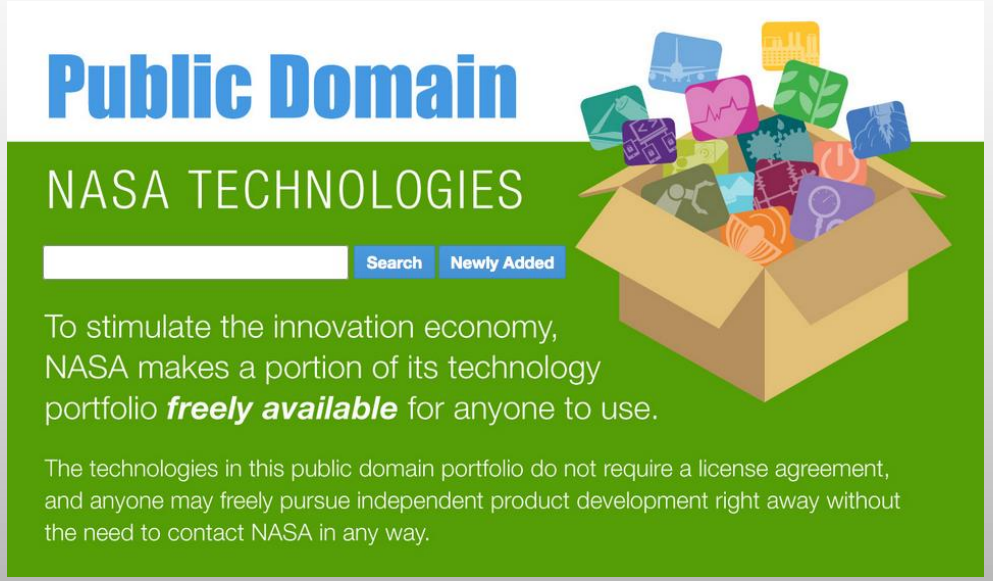
PROFESSIONAL TECHNICAL SERVICES

Patent Gift to Public Domain

NASA TECHNOLOGY TRANSFER PROGRAM

- **Released a carefully-selected portfolio of patents and pending patents to the public domain**
- **A new searchable page of the Portal includes these technologies as well as access to over 6,000 expired NASA patents.**
- **Goals:**
  - Encourage increased use, further development, and increased collaborative development of space-focused technologies.
  - Capitalize on emerging commercial space industry's high near-term potential for explosive growth.
  - Makes tech more cost-effective for industry to use and develop.
  - Helps next generation of space companies form and grow through creatively using these early-stage techs.
  - Free up Technology Transfer Program resources (money and personnel) to focus on technology with broader commercial potential.

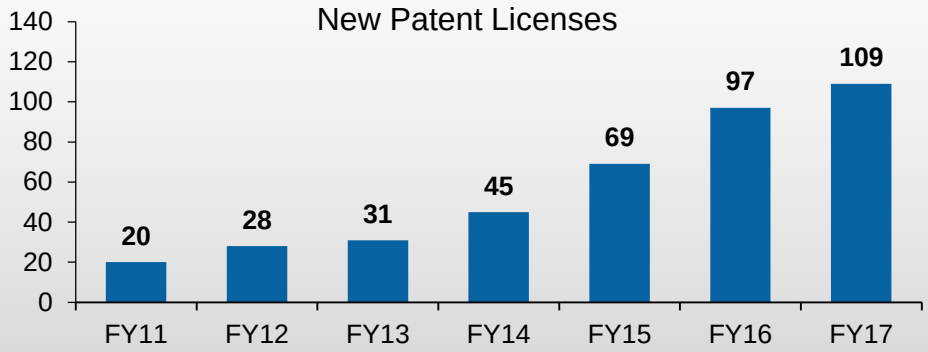


NASA Technology Transfer University (T2U)

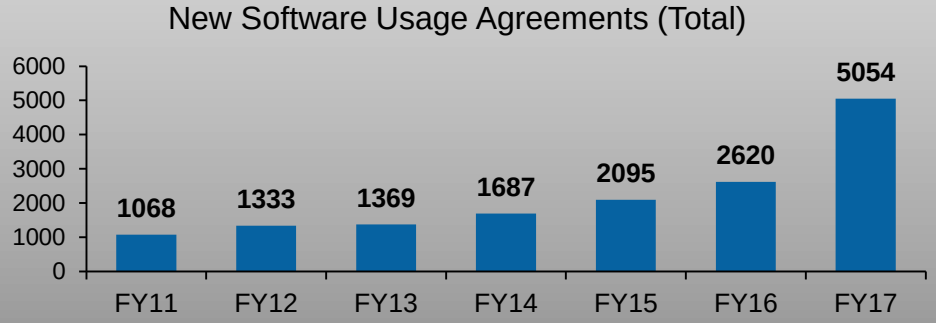
T2U teaches business students about NASA's technology portfolio, allowing them to work with agency technology and inventors to discover new uses for the innovations in commercial applications.

- The students benefit from the interaction with real inventors, real technologies, and all-around real-world experience.
- Student teams may form start-up companies, licensing NASA-patented technologies
- NASA teaches thousands of potential entrepreneurs about the availability of taxpayer-funded technologies across the federal government

Sustained Progress



Each of the patent licenses represents a NASA technology being transformed into a commercial product by a domestic company.



Each software release represents time savings, safety improvements, and full utilization of federal resources.

Over the past seven years, NASA had made significant improvements in its Tech Transfer capability

- Streamlined and automated processes
- Reduced policy hurdles
- Amplified its interactions with industry
- Deployed new tools

Since FY11, we've managed a **341% increase** in annual licensing totals and a **373% increase** in software release.

These outcomes represent a significant **return on the taxpayer investment** in NASA technology:

- Jobs created
- Revenue generated
- New products to market
- Quality of life improved

Acceleration of Tech Transfer is tied to the Agency's reemphasis on technology with the creation of the Space Technology Mission Directorate and Office of the Chief Technologist

Sample Metric - Total NTRs Reported

As of September 1, 2018

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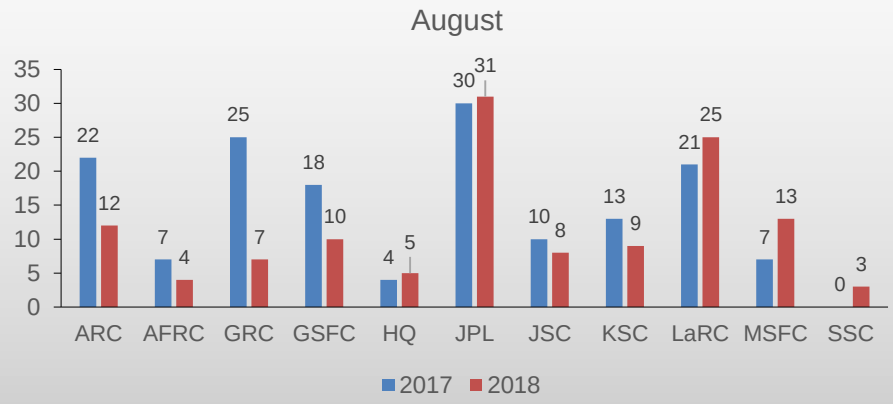
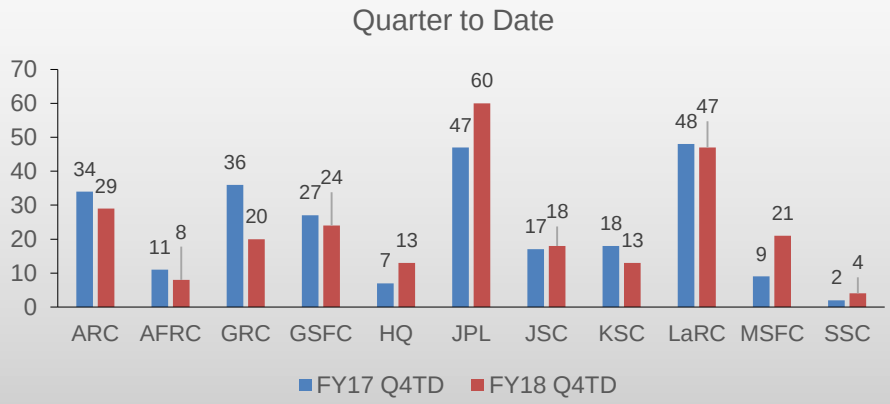
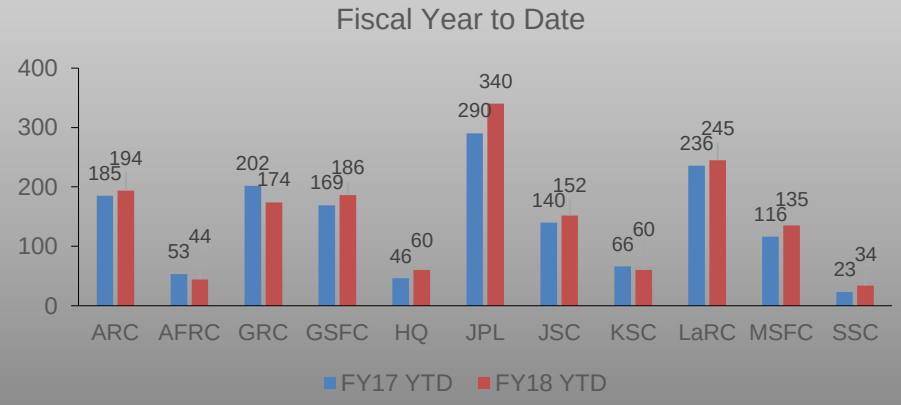
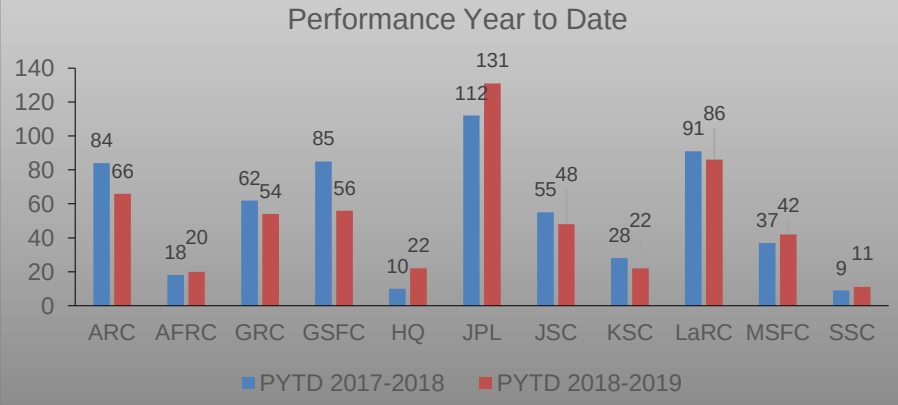








Moving Forward…

NASA TECHNOLOGY TRANSFER PROGRAM

- **Agency Marketing Team Formed**

  Recently assigned Agency Marketing Lead role and Center-based team.

- **Consolidation of Some Common Functions**

  Functions such as contract closeout and software release vetting consolidated a single location for efficiency and cost-effectiveness.

- **NTTS Transfer to Other Federal Agencies**

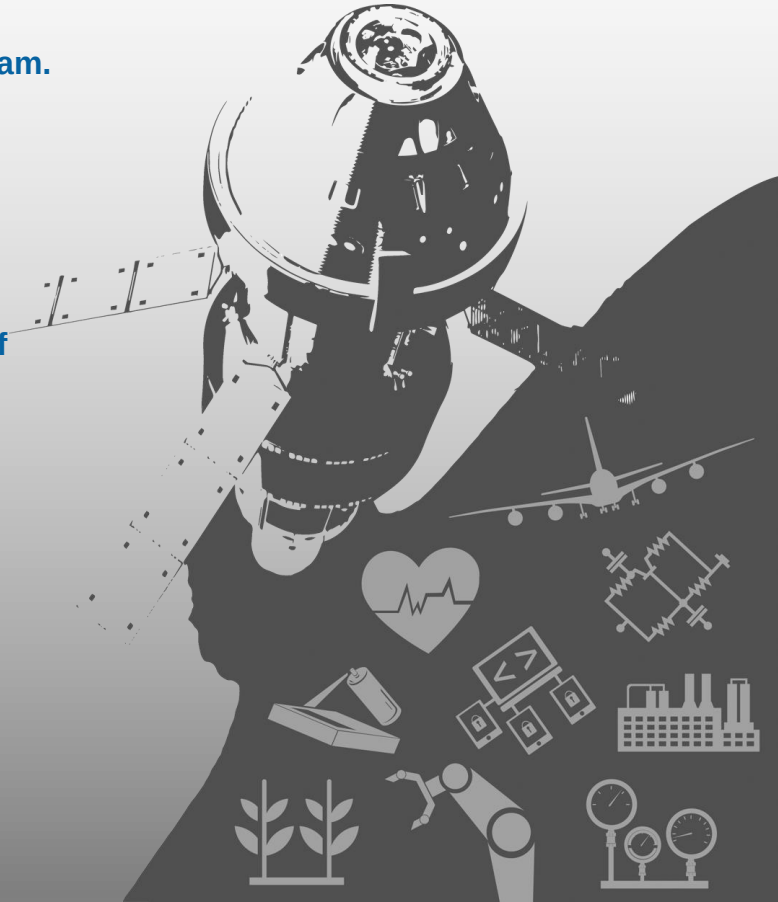
  NTTS will be available on the cloud (Software as a Service) by end of calendar year.

  Demoed NTTS to Defense Health Agency (DHA) and Department of Transportation (DOT).

- **Connection with SBIR/STTR Electronic Handbook database**

  Data transfer between the two systems updated every 30 minutes.

- **Continue to Assess Performance and Make Improvements**



Questions??

Thank You!

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