

National Aeronautics and Space Administration



BRINGING NASA TECHNOLOGY DOWN TO EARTH

FY2015 Accomplishments and FY2016 Program Plan

January 13, 2016



Outline

- Progress Since 2011 Presidential Memo
- Legislative Authority
- Program Activity Summary
- 40 Years of NASA Spinoffs
- Program Overview
 - New Technology Reporting
 - Patenting and Portfolio Management
 - Licensing
 - Software Release
 - NASA Technology Transfer System (NTTS)
 - Awards and Recognition
- Outreach and Initiatives
 - Tech Briefs
 - Spinoff
 - Patent Portfolio Marketing Collateral
- Startup NASA
- Technology Transfer University (T2U)
- Summary
- FY2016 Program Plan



MSFC Inventor Jeff Lindner (left) assembles a fluid damper device for installation in the B2 Building in Brooklyn, NY

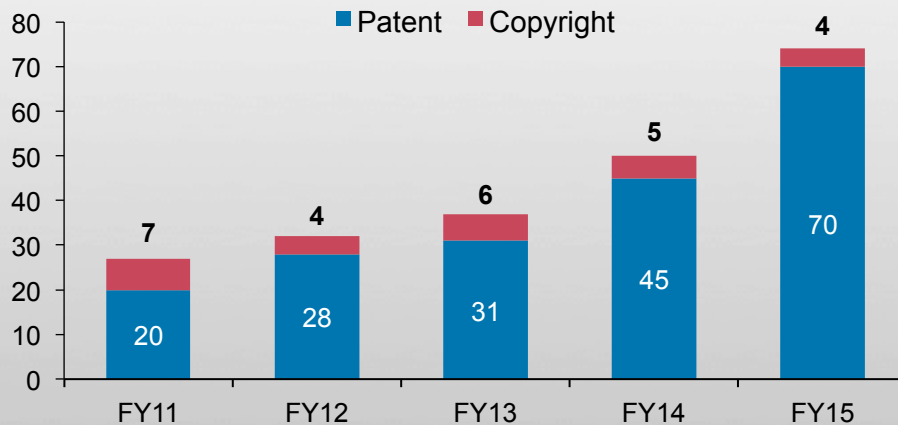


HQ Face-to-Face Meeting, January 11, 2015

Progress Since 2011 Presidential Memo

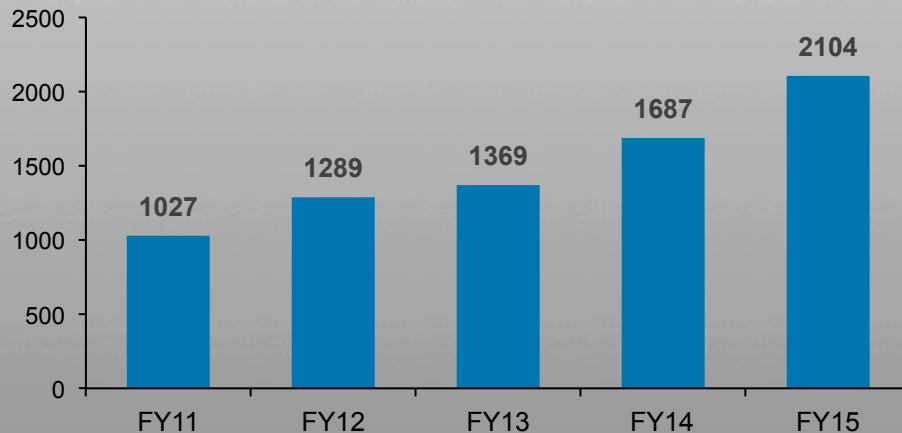


New Licenses Executed (Total)



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

New Software Usage Agreements (Total)



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

In October of 2011, President Obama called on all federal agencies to develop a plan to accelerate technology transfer activities.

In response, NASA:

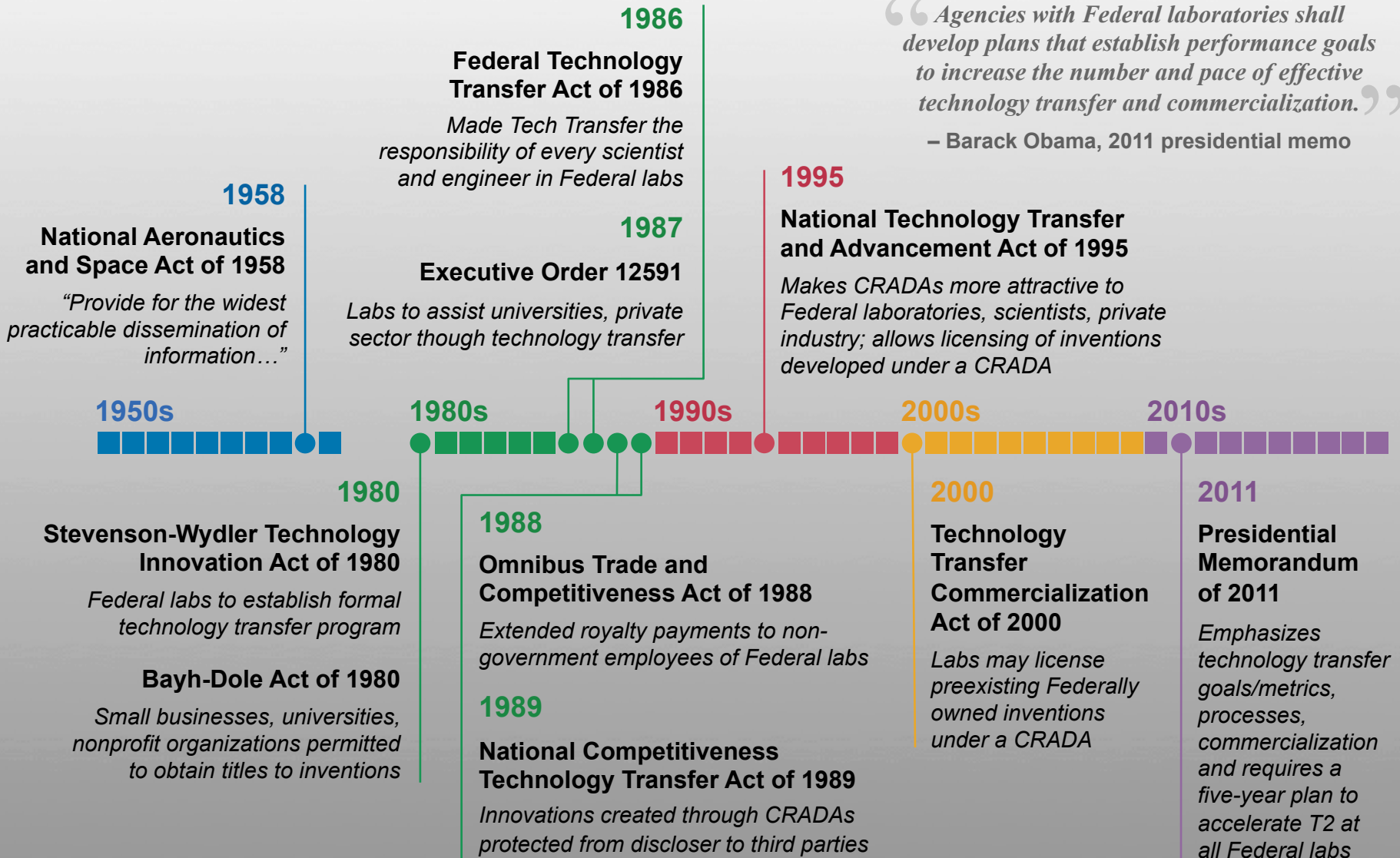
- Streamlined and automated processes
- Reduced policy hurdles
- Amplified its interactions with industry

In four years, we've managed a **250% increase** in annual patent licensing and a **100% 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

T2 Legislative Authority



FY2015 T2 Program Activity Summary

Identify



120 New Technology Report (NTR) Training Sessions Conducted

4311 Active Contracts with New Technology Clause Tracked

1093 Contracts with New Technology Clause Closed

1552 NTRs Processed and Certified

Protect



126 U.S. Patent Applications Filed

119 U.S. Provisional Patent Applications

118 U.S. Patents Issued

12 PCT and Foreign Patent Applications

0 Foreign Patents Granted

1144 Active Patents

Market



462 Tech Briefs Published

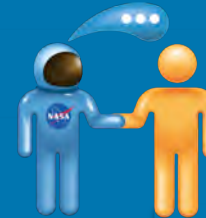
610 Technology Opportunity Sheets Created

733 Software Catalog Titles Published

196 QuickLaunch Patents Advertised

100K+ Social Media Followers

License



2104 Software Usage Agreements

14 Joint Ownership Agreements

23 New Evaluation Licenses

33 New Commercial Licenses

6 New Licensing Initiatives

Monitor



316 Active Licenses Maintained

\$2,936,123.16 Royalties Collected

52 NASA Spinoff Stories Published

68 Patents Abandoned

14 NASA Technology Transfer System (NTTS) System Upgrades

3M T2 Portal Page Views in FY2015

24M Spinoff Website Page Views in FY2015

150K Software Catalog PDF Downloads in FY2015



40 Years of NASA Spinoffs

Some of the best of over 2,000 recorded Spinoffs



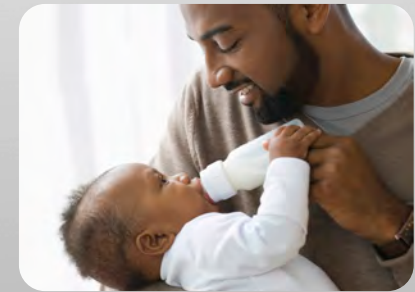
CMOS camera-on-a-chip technology used in nearly all digital cameras, including smartphones



International search-and-rescue system has saved 40k lives worldwide since 1982



Memory foam



Nutritional supplement used in over 90% of infant formulas



Ubiquitous aerodynamic innovations in airplanes and trucks



Voltage controller saves energy in nearly all load-bearing electrical machines



Precision GPS enabled self-driving tractors that are now used to work the majority of the world's farmland.

Spinoff 2016 Highlights



Rice Crop Models Stabilize Global Markets, Enable Efficient Irrigation



Flock of Nanosatellites Provides a Daily Picture of Earth



Hydrogen Detection Tape Saves Time and Lives



Rodent Research Contributes to Osteoporosis Treatments

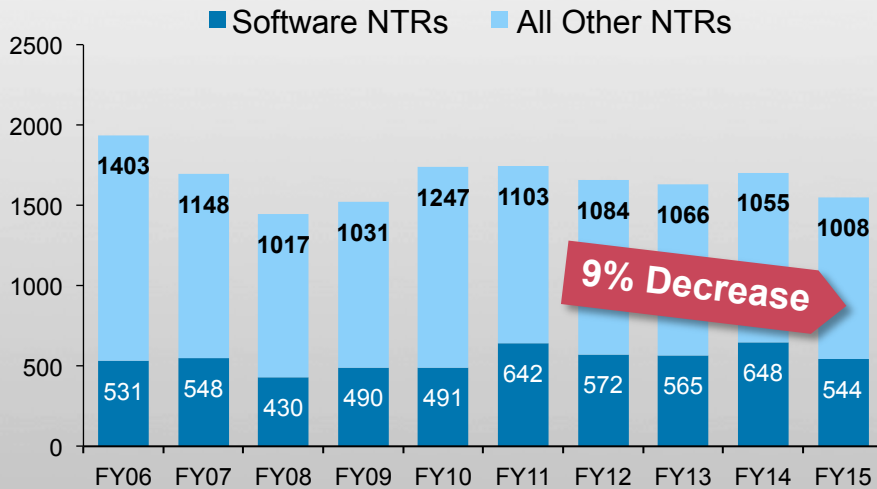


CO₂ Recovery System Saves Brewers Money, Puts Bubbles into Beer



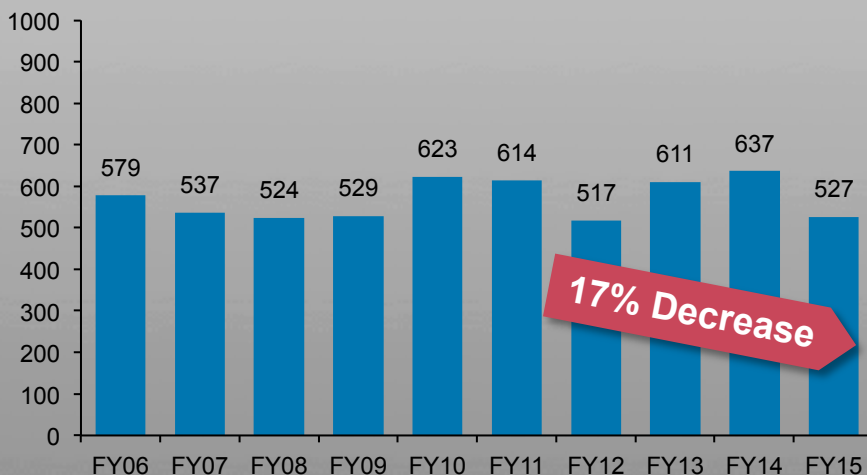
NODE+ Platform Integrates Sensors with Smartphones

New Technology Reporting (NTRs)

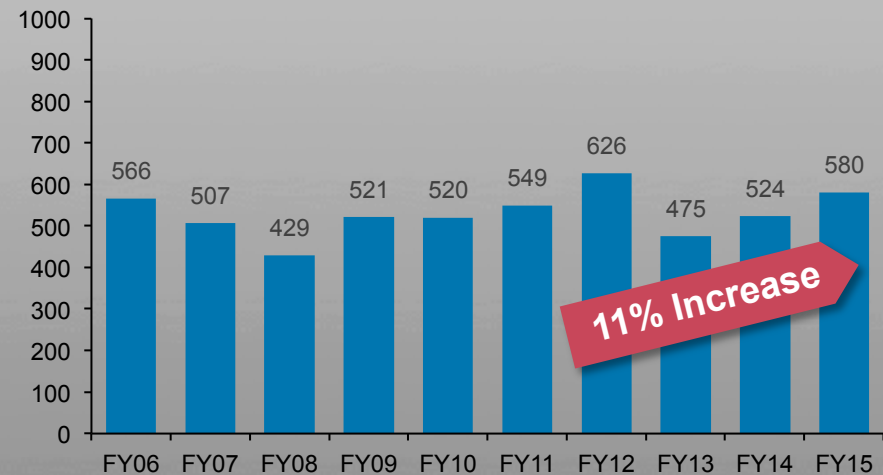


- **9% Decrease** in Total NTRs
- **17% Decrease** in NTRs with Government Inventorship
- **11% Increase** in Small Business NTRs
- Software makes up 1/3 of all NTRs submitted
- Concerned about decrease in NTRs with Government inventorship – ramping up inreach efforts in response

NTRs with Government Inventorship Trend



NTRs from Small Businesses Trend

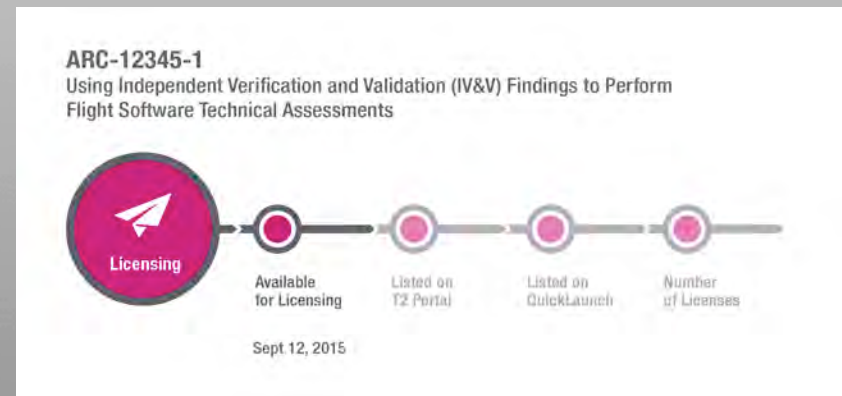


New Innovator Dashboard



NASA OIG criticized the transparency of the Tech Transfer process in a 2012 report.

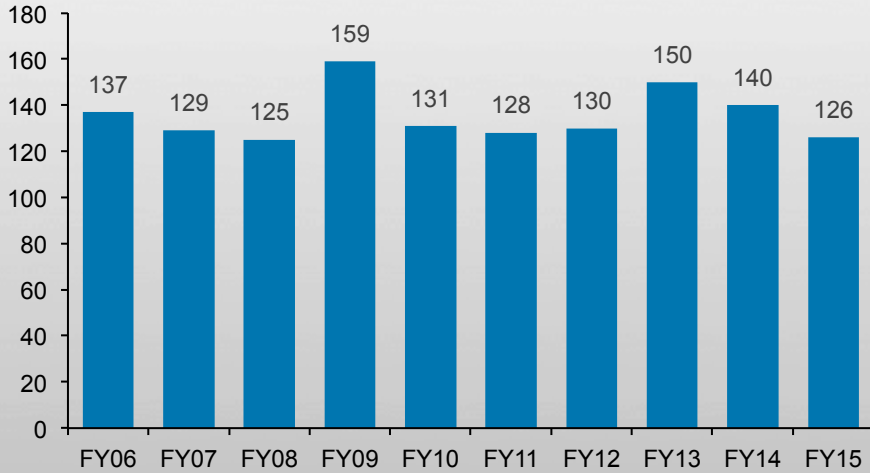
- New dashboard allows innovators to track their inventions as they progress through the T2 process.
- Simple and minimal design to shield innovators from the intricacies of NTTs.
- Initial development completed and user testing underway. Scheduled for release in early 2016.



NASA Patents Filed/Issued in FY15

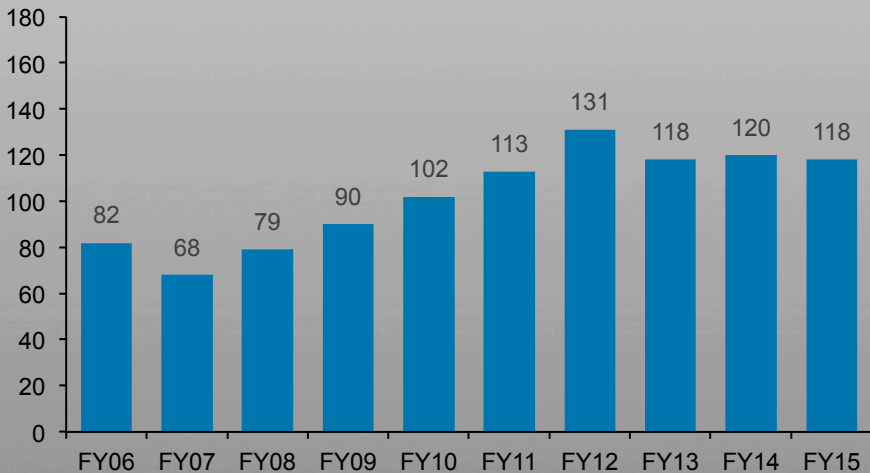


US Patent Applications Filed

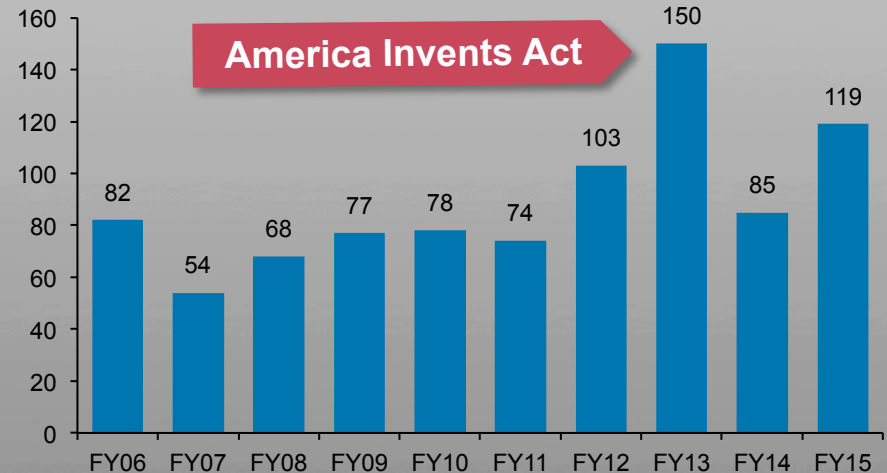


- NASA patent filing stayed relatively stable in FY15
- OGC and OCT released an updated NASA Patent strategy in March 2015
 - Patent technologies with commercial potential
 - Disclaiming technologies with no commercial interest to date
- USPTO account was sufficient to cover filing and maintenance fees in FY15, concerns about FY16 and 17

US Patents Issued



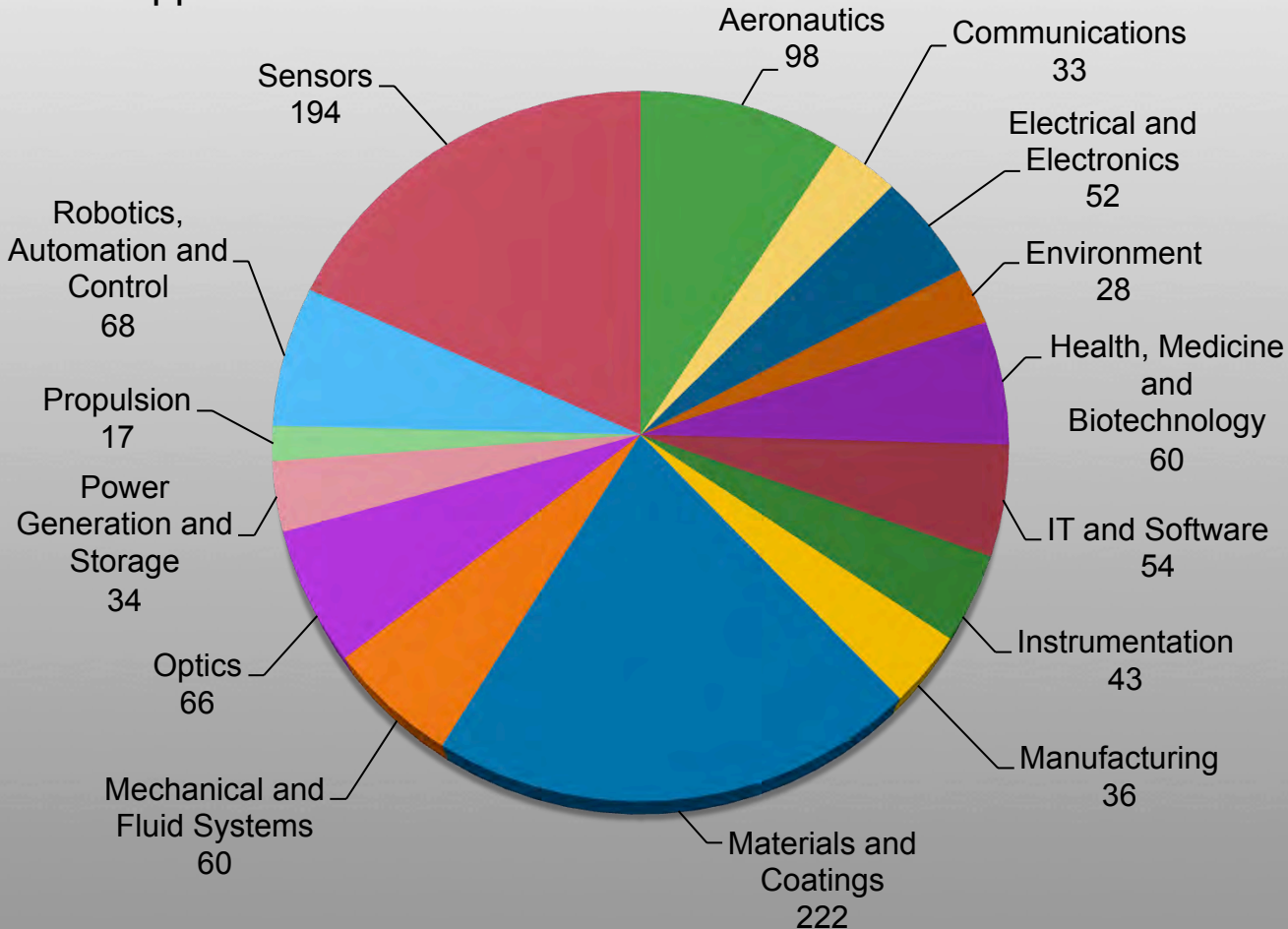
US Provisional Applications



NASA Patent Portfolio Analysis

Total patents available for licensing as of 01/06/2016

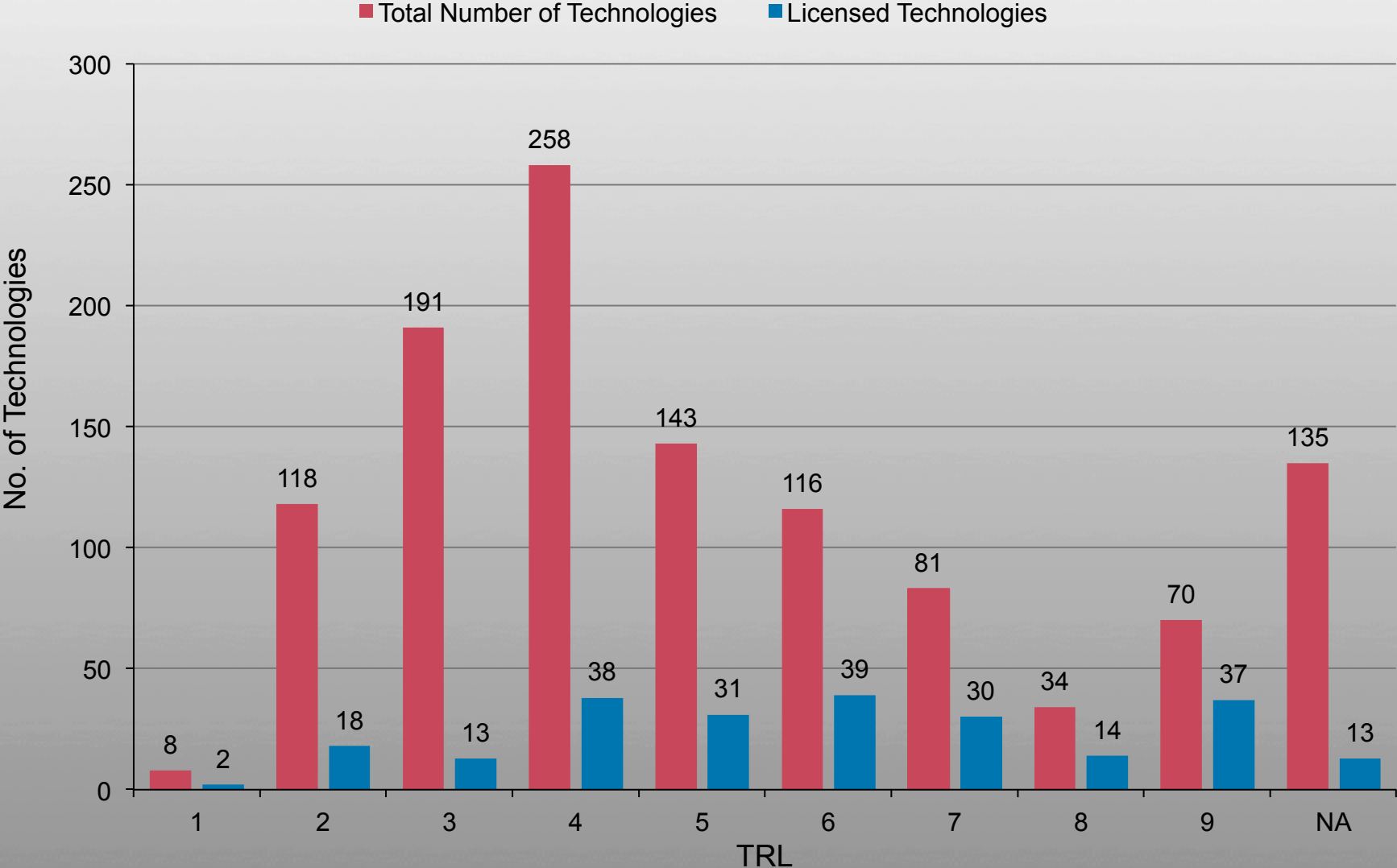
- 759 Issued
- 372 Applications



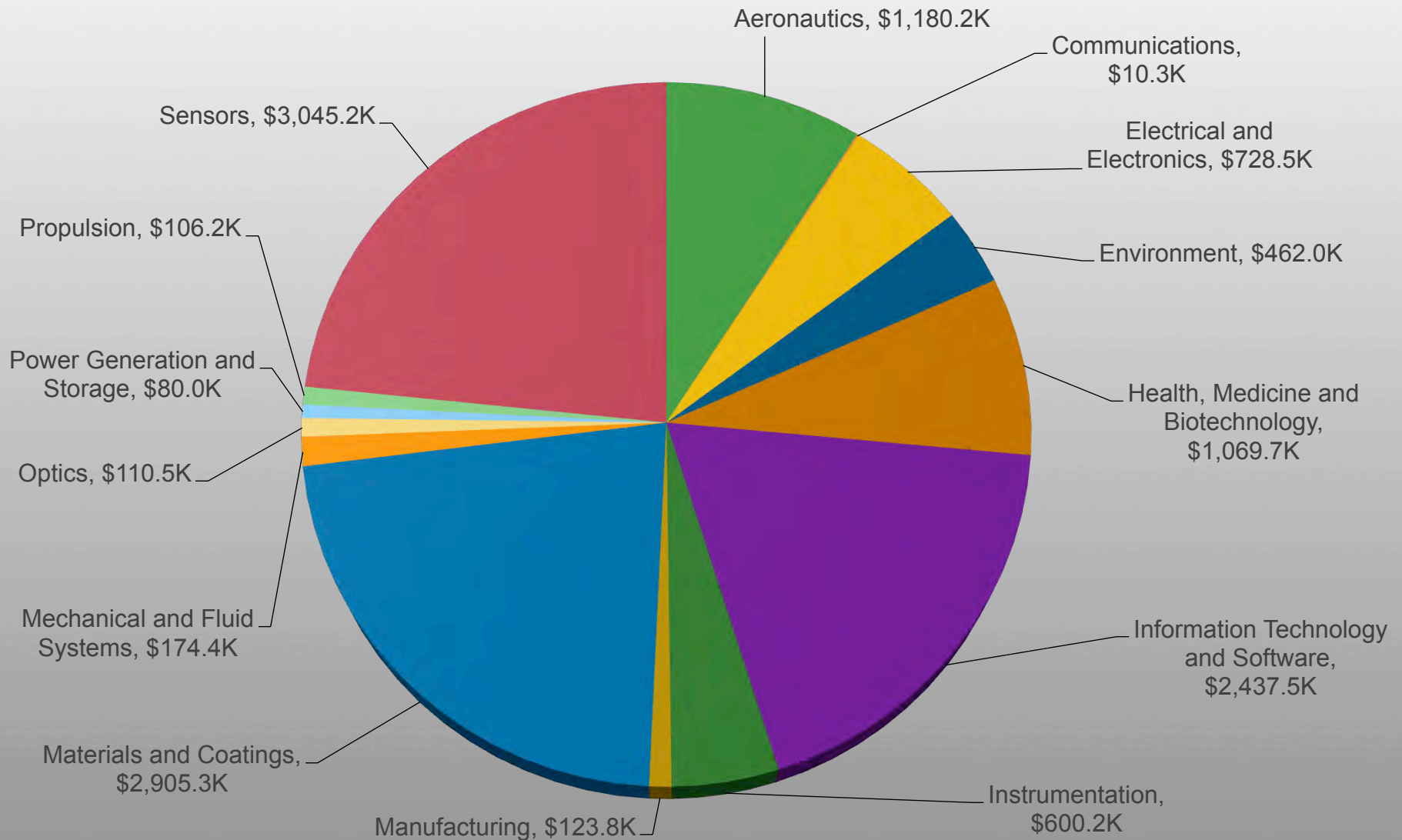
Accomplishments

- TRL Analysis
- Royalty Analysis
- iPad App
- Marketing Collateral
- Licensee Analysis

Technology Readiness Level (TRL) Analysis of NASA Patent Portfolio

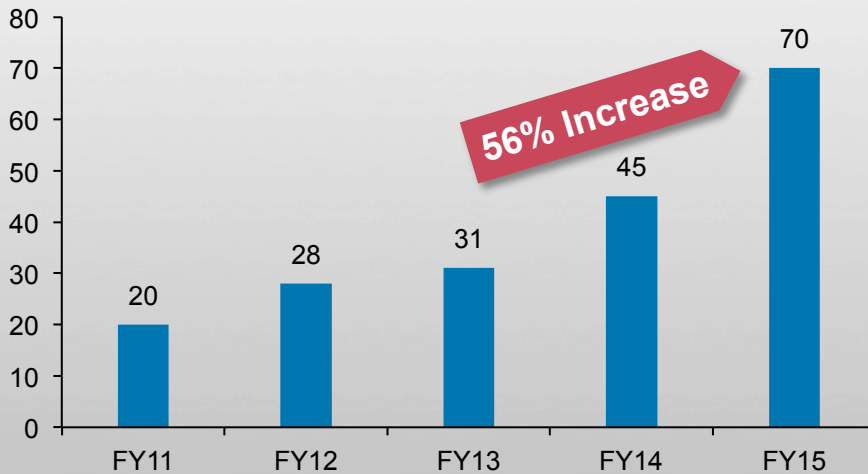


Agency Lifetime Royalty Earnings by Patent Portfolio Category



New Patent Licenses

New Patent Licenses Executed (Total)

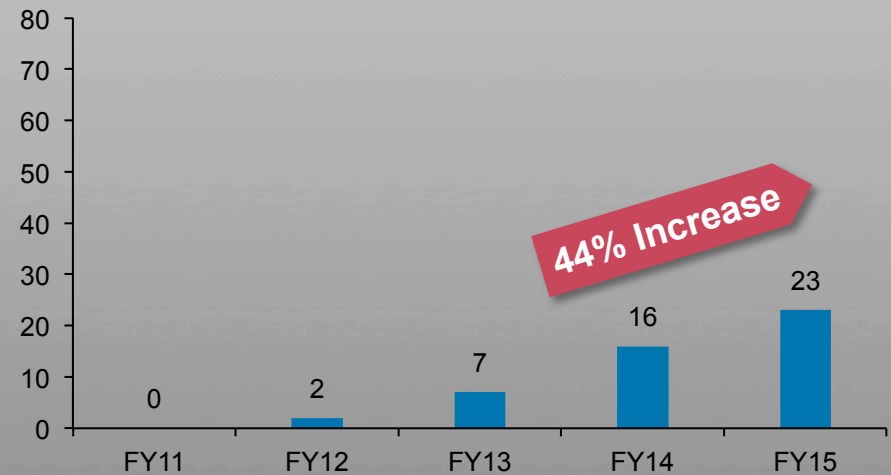


- Overall **56% increase** in Licensing for the agency!
- 32% increase** in commercial licensing
- Emphasis on Evaluation Licenses in FY15 resulted in a **44% increase** over last fiscal year
- 250% increase** since FY11

New Commercial Licenses Executed



New Evaluation Licenses Executed



Recent Patent Licenses



Thornton Tomasetti is installing MSFC's Fluid Damper on top of the 40-story B2 building in Brooklyn to mitigate wind-induced vibration.



ARC TTO recently entered into a License agreement with Hera Systems, Inc. for the COTSAT technology.



Rejuvel has created a skin care cream using JSC's Rotating Chamber Bioreactor technology.



Toxicological & Environmental Associates Inc. (TEA) recently used KSC's Emulsified Zero-Valent Iron (EZVI) to reverse the effects of contamination after a freight train carrying hazardous materials exploded in 1982.



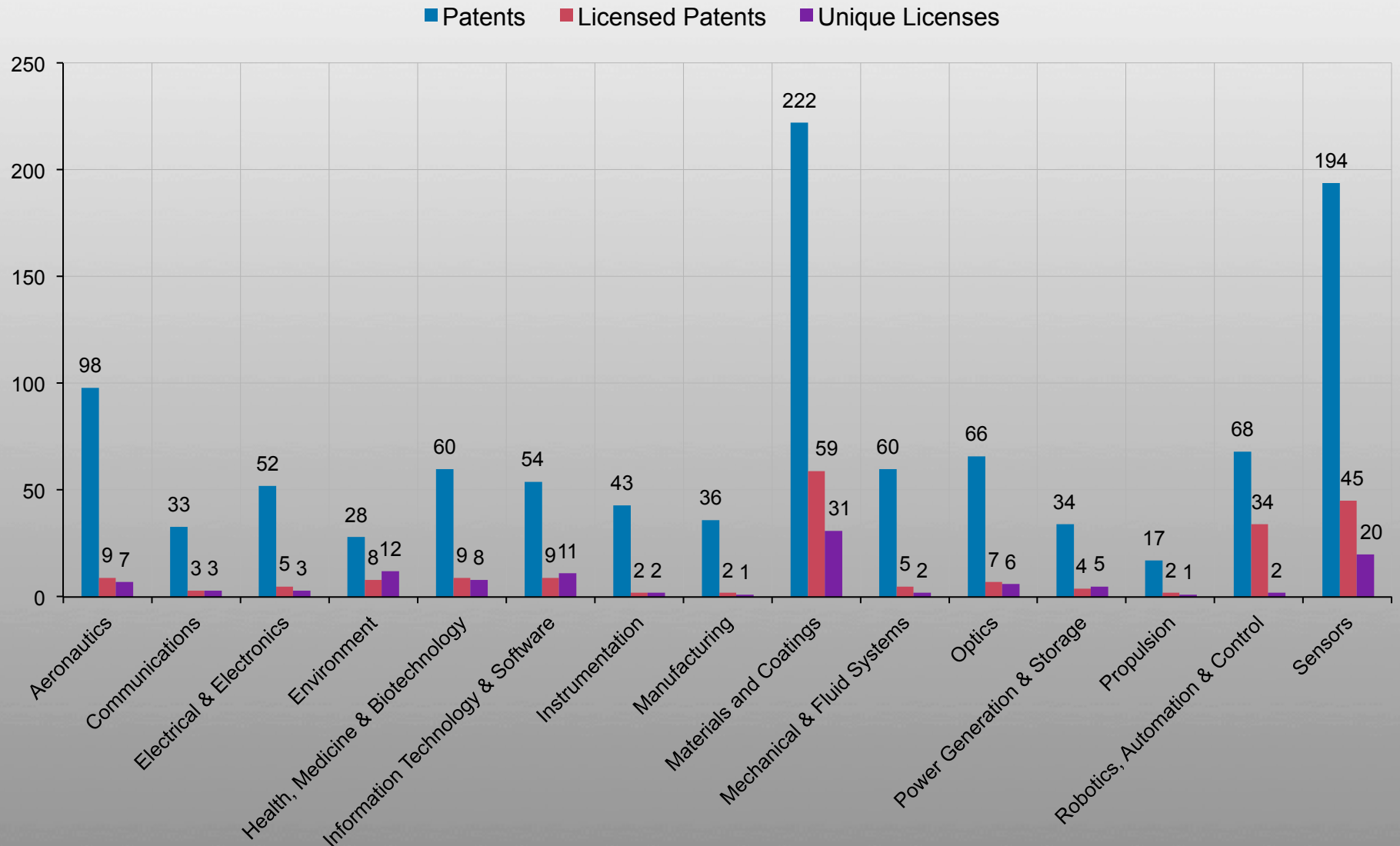
Gogo, LLC plans to evaluate LaRC's TASER and TAP technologies for the possibility of adding the software application to their suite of services for airlines.



Golder Associates is testing KSC's SPEARS technology in a contaminated pond in Southern Canada.

NASA License Analysis

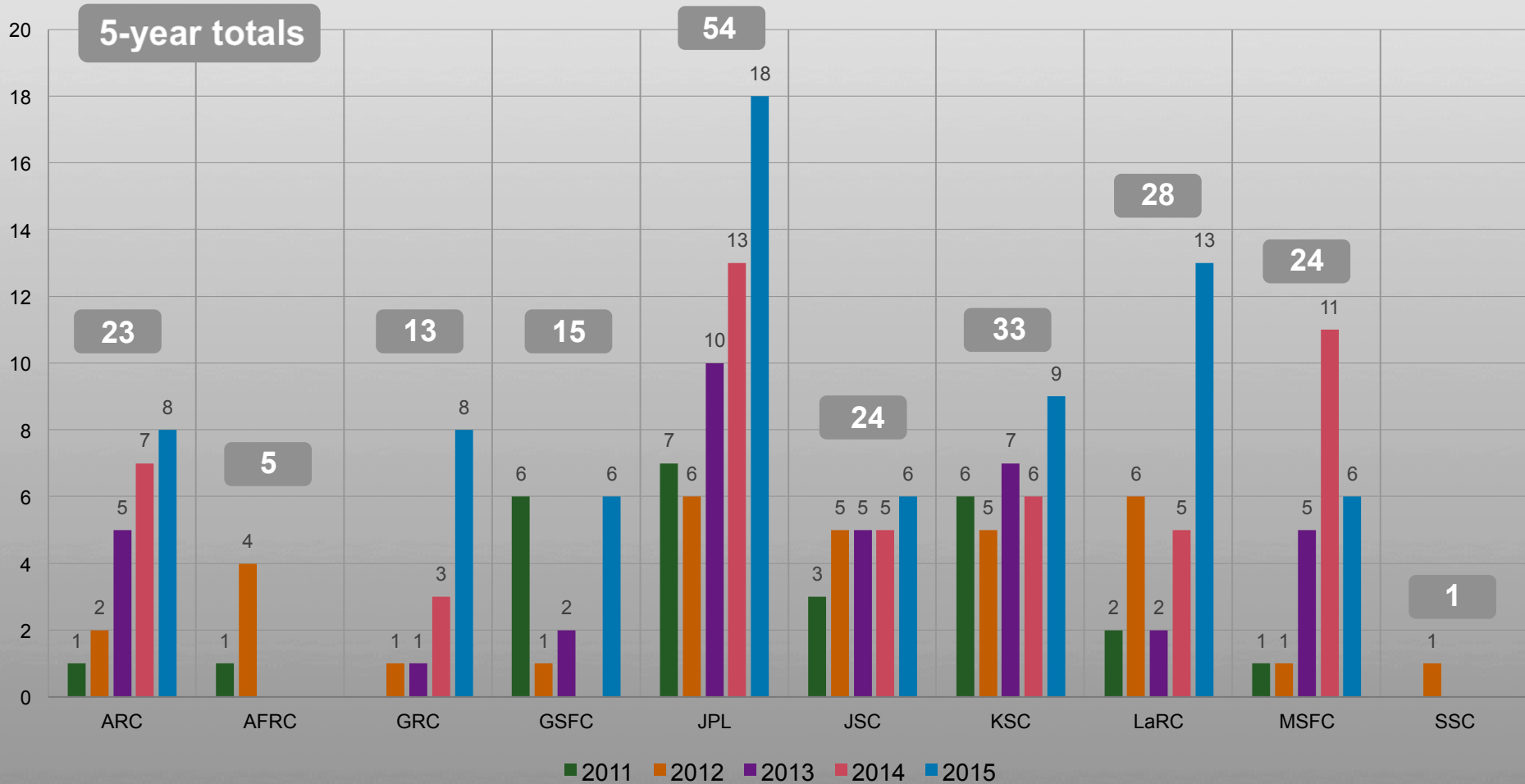
Patent Portfolio and Licensing – Category Distribution



Licensing Trends by Center

FY15: 74 Licenses granted
to **65** Companies in **24** States
and **5** Foreign Countries

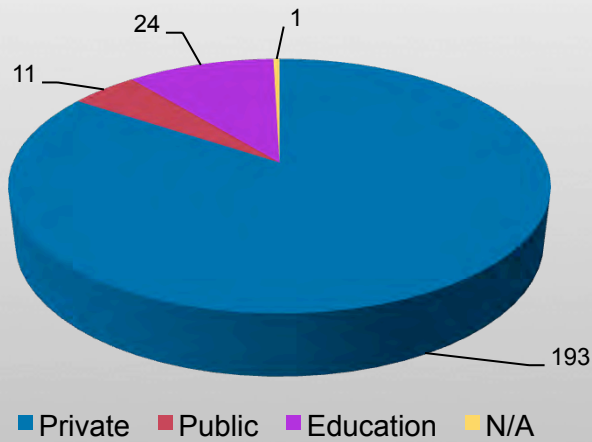
Overall positive 5-year trend in licensing



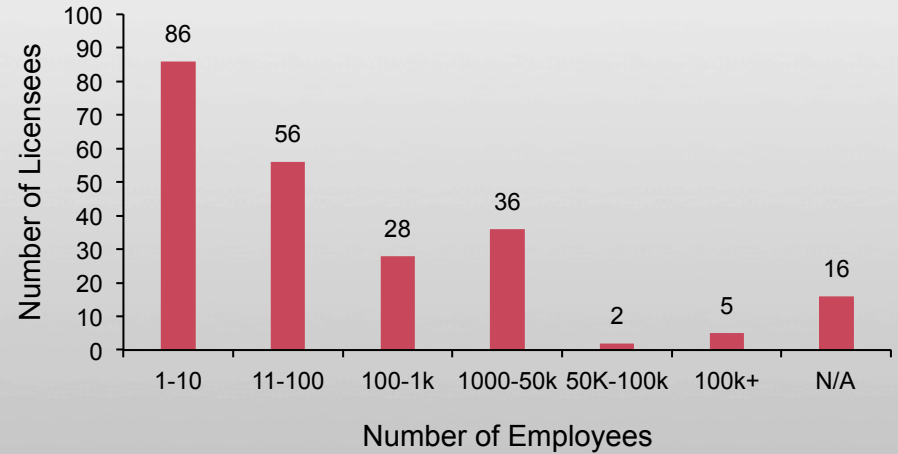
NASA Licensee Analysis

Typical licensees are privately owned, <100 employees, <\$10M revenue

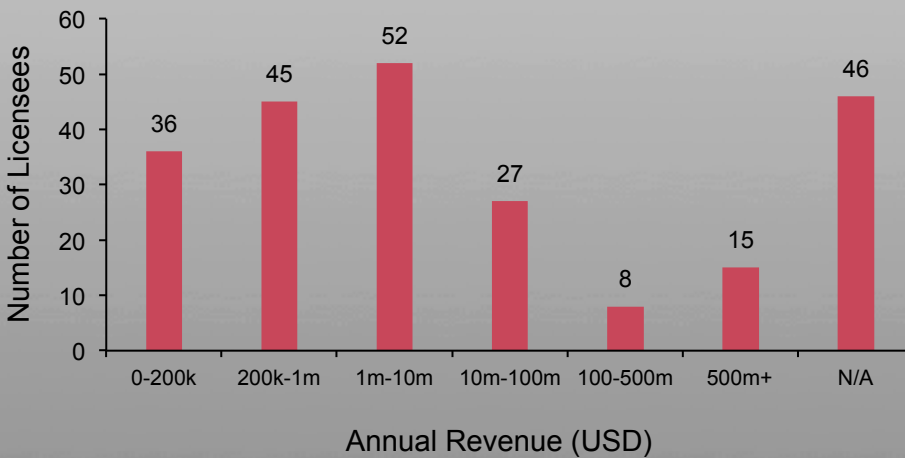
Licensee Company Ownership



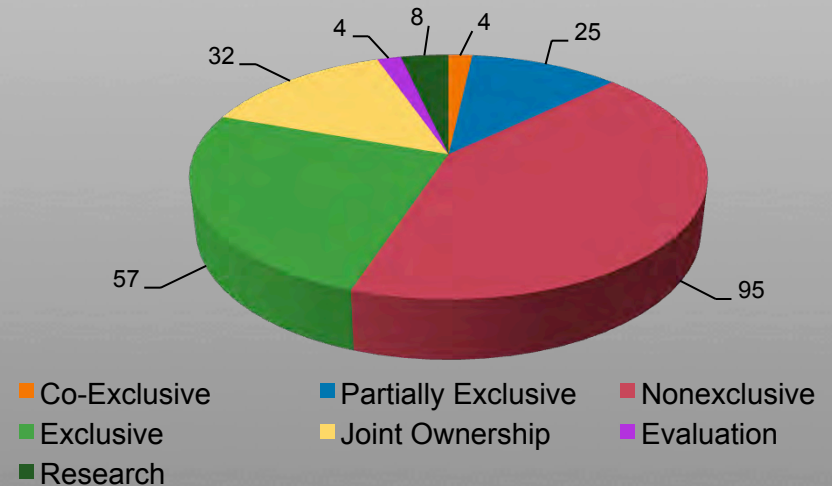
Licensee Company Size



Licensee Annual Revenues



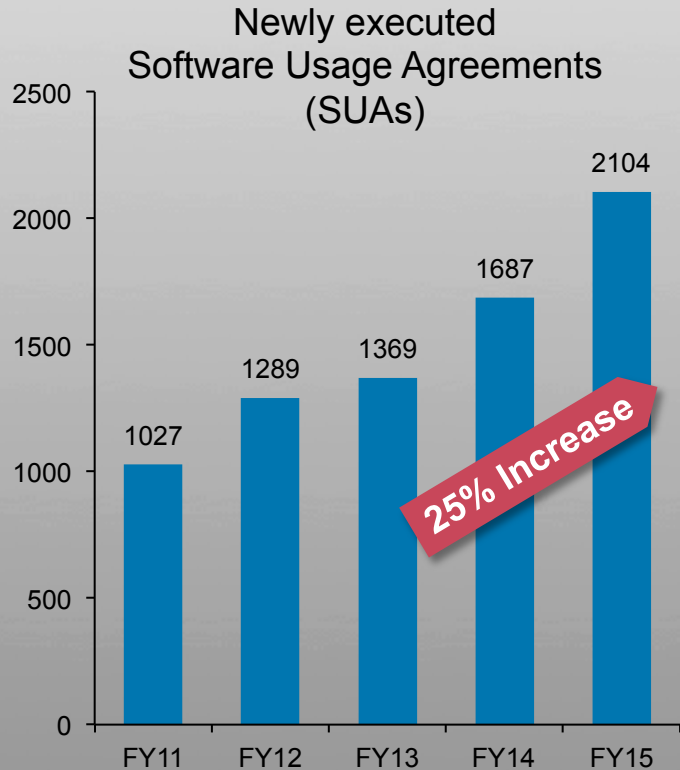
Types of Patent Licenses (Active)



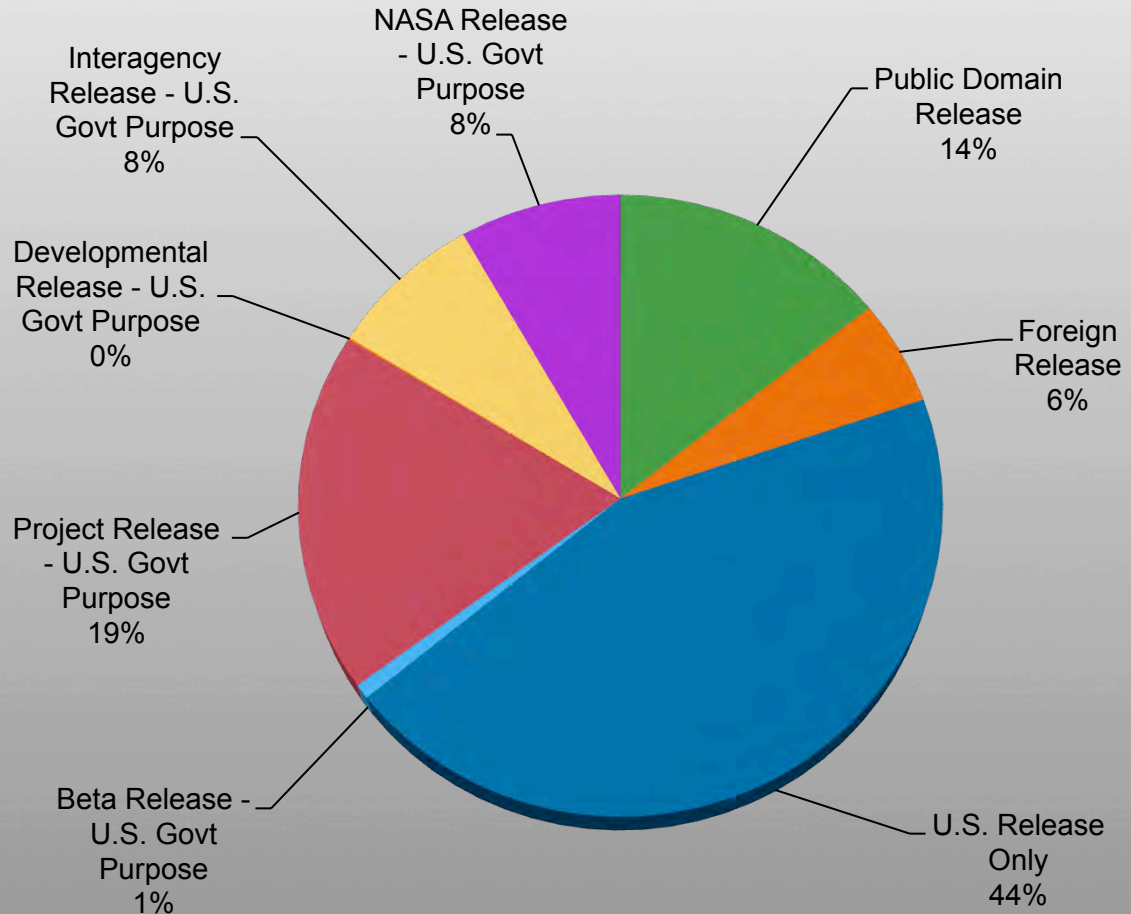
Software Release

Software release is a continued success for the Technology Transfer Program

- Updated Software Catalog
- Increased outreach
- Automated process
- Streamlined policy

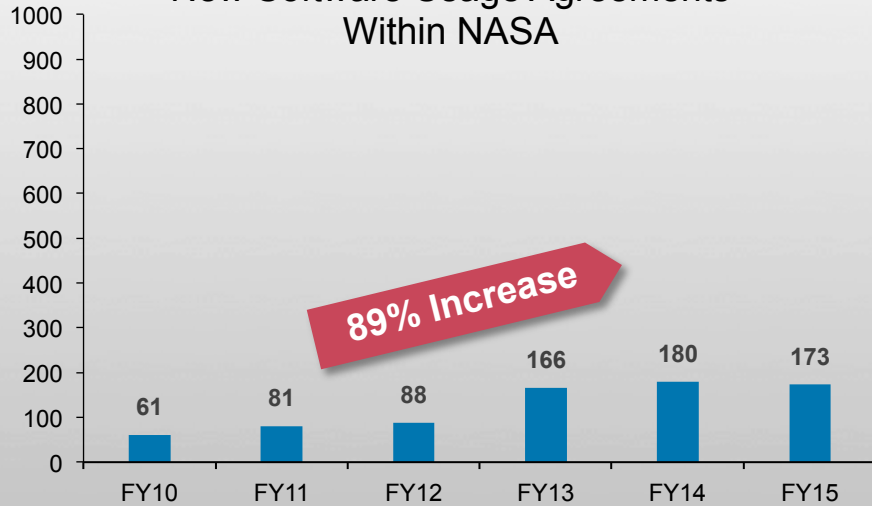


Breakout of FY15 SUAs

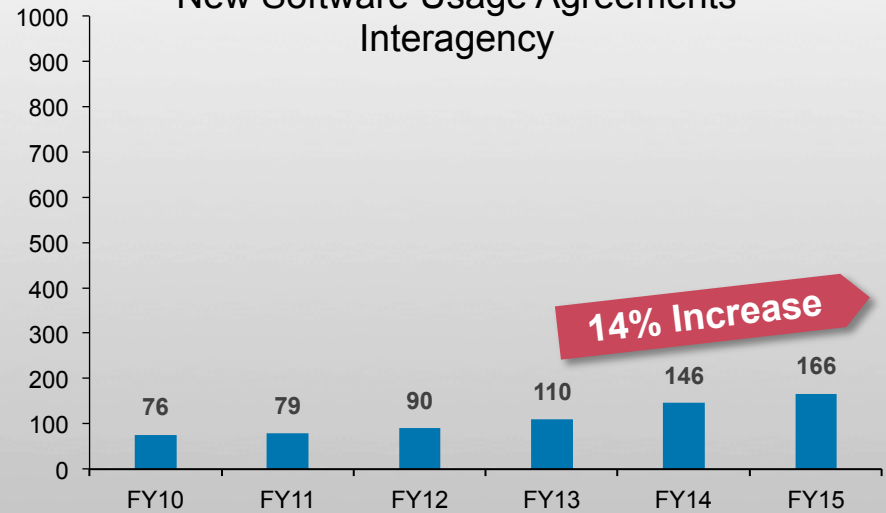


Agency Software Release Metrics

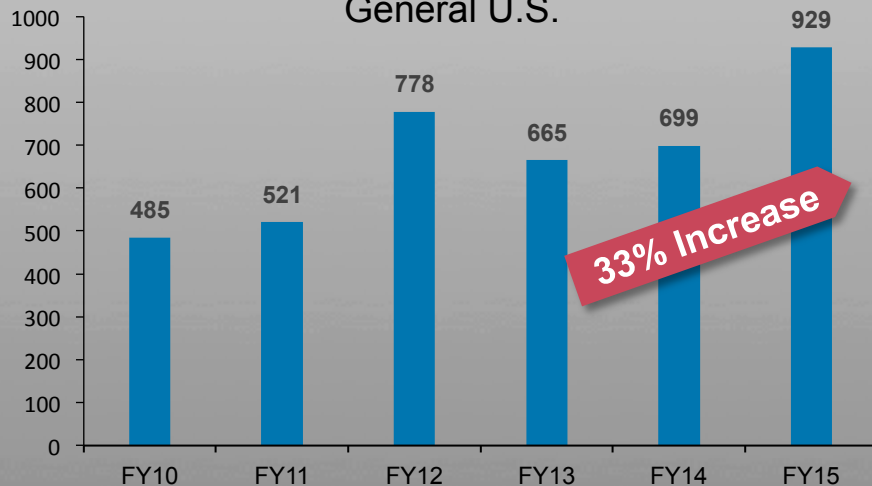
New Software Usage Agreements Within NASA



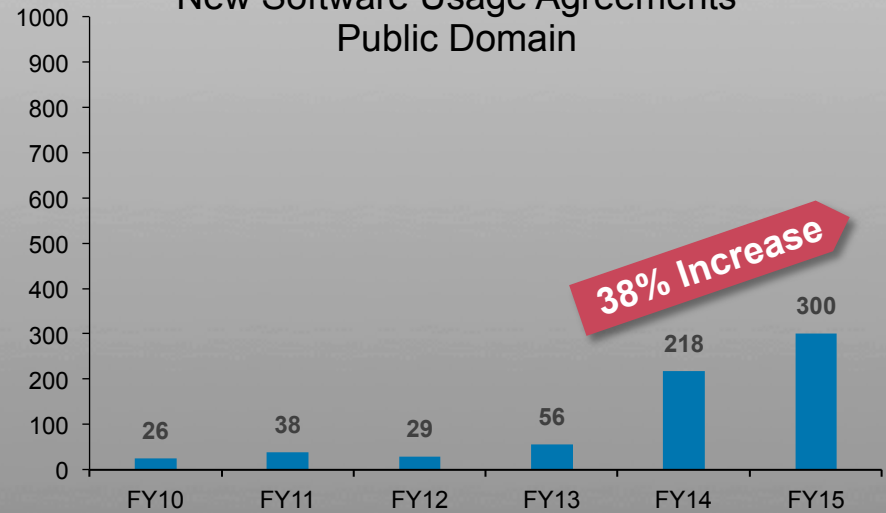
New Software Usage Agreements Interagency



New Software Usage Agreements General U.S.



New Software Usage Agreements Public Domain

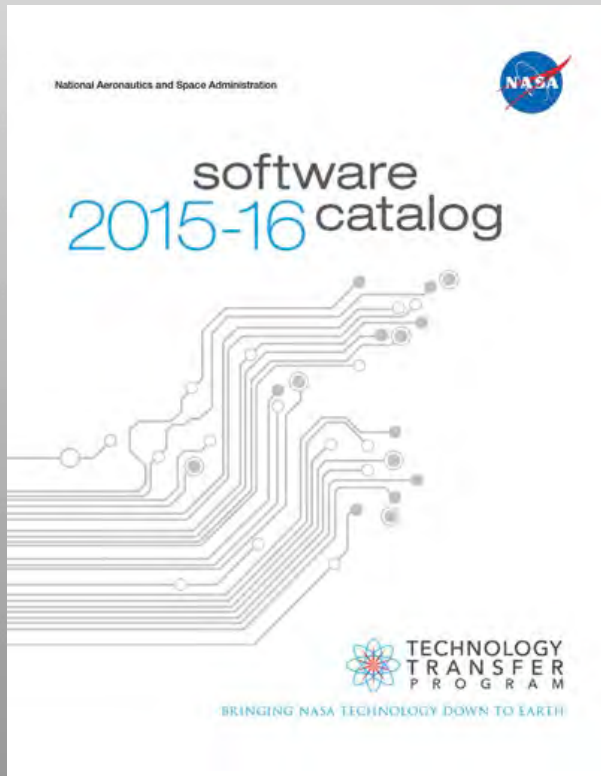


Software Release Accomplishments

Published an updated Software Catalog in May 2015

Developed and deployed a Software Repository in September 2015 to reduce turnaround time on requests

Addressed security issues related to software release



Software Release Authority Working Group Face-to-Face Meeting at Marshall Space Flight Center (U.S. Space & Rocket Center) in May 2015

Time Saving Repository Features



Software Usage Agreement Generator

Automates the composition of SUAs, eliminating the need for SRAs to manually produce agreements.



NTTS Data Loop

Agreement and technology information is automatically delivered between NTTS and the Software Repository, eliminating manual data entry.



Click Wrap

Click-Wrap promotes sharing of software assets from NASA C.S. to NASA C.S. to support work within the agency.



e-Signature

Eliminates the bottleneck of requesters having to return agreements with hand signatures.



Security

All Agency software is stored encrypted and only decrypted for SRAs and approved requesters.

NASA Technology Transfer System



Data Input

Internal to NASA

- NASA Inventors
- Inventions and Contributions Board
- Partnership Managers
- Patent Counsel
- Spinoff
- SRA Working Group
- Licensing executives

External to NASA

- Contractors, Grantees
- General Public
- Potential Licensees
- Software Users
- Academic Institutions

Workflow

- Technology Reporting
- IP Protection
- Marketing
- Software Release
- Tech Transfer
- Recognition and Awards

Data Exports

- NASA Tech Briefs
- Potential Licensees
- Data.gov

Tech Treasury

More than 60,000 technologies and growing

Products

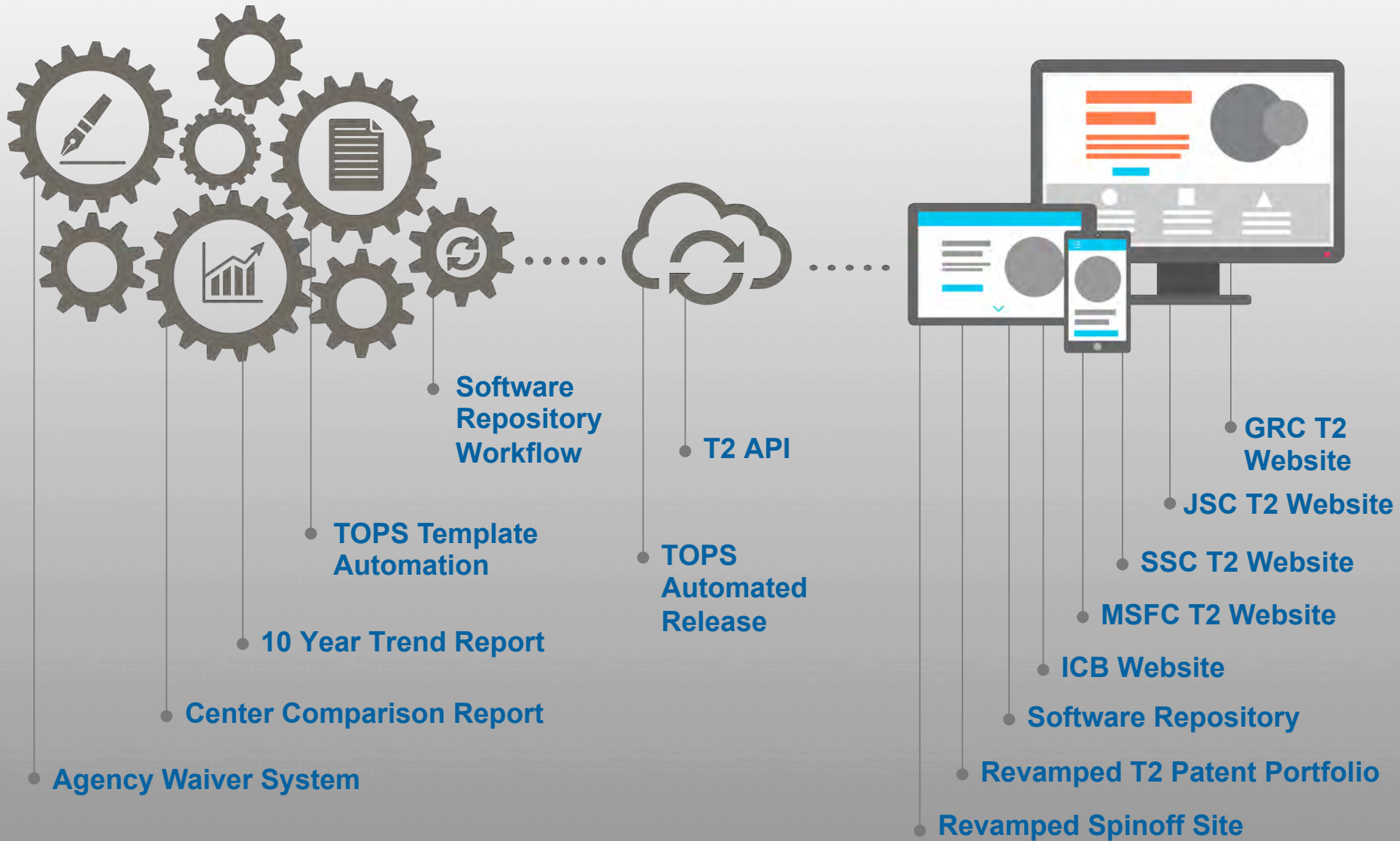
- T2 Portal and Analytics
- QuickLaunch
- e-NTR
- Software Catalog
- Spinoff Website

New Products in FY15

- Software Repository
- ICB Website
- T2 Center Websites
- T2 API
- Comprehensive Metrics Reports
- Automated Data Sheets



FY15 NTTS System Improvements



Awards and Highlights

FY15 Agency Honor Awards

NASA Exceptional Achievement Medal –
Danny Garcia/MSFC



NASA Exceptional Service Medal –
Sammy Nabors/MSFC



NASA Silver Achievement Medal –
Gwen Jasper/MSFC

Awards and Highlights

GRC/KSC



FLC Rookie of the Year Award (GRC)



Kim Dalglish-Miller (GRC) accepts her award from Ramona Travis, Paul Zielinski and Mark Reeves of the FLC.

FLC Midwest Region Award (GRC)



Amy Hiltabidel (ATS) of the GRC Technology Transfer Office won an FLC Midwest Appreciation Award for her contributions to GRC's Licensing.

FLC Southeast Region Technology Transfer Project of the Year Award (KSC)

"The Commercialization of an Innovative Hydrogen Leak Detection Tape" collaboration with the University of Central Florida and HySense Technology LLC, the small business that licensed the technology and created the commercial product Intelligment™ hydrogen sensing tape.



Intelligment development team, Back row: Janine Captain, Luke Roberson, Bobby DeVor, Gary Bockerman, Robert Youngquist and Karen Thompson.

Awards and Highlights

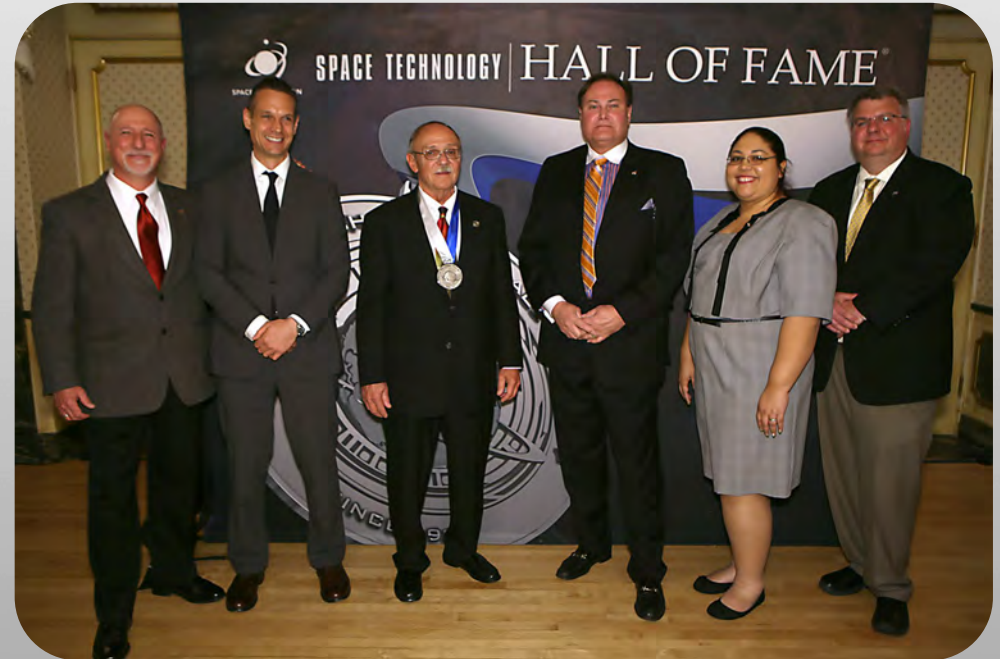
KSC/GSFC/MSFC



Three Centers Honored in Space Foundation Hall of Fame



Three Centers were honored for their contribution in the development of the Swing-arm Dampers commercially known as Taylor Devices' Seismic Damper.



The Space Technology Hall of Fame induction ceremony honoring Taylor Devices. From left to right: Kevin Cook, vice president, marketing and communications, Space Foundation; Daniel Lockney, NASA Technology Transfer Program executive; Doug Taylor, chief executive officer of Taylor Devices; Ted Mecum, technology manager, Goddard Space Flight Center Technology Transfer Office; Enidia Santiago-Arce, technology manager, Goddard Space Flight Center Technology Transfer Office; Terry Taylor, Marshall Space Flight Center Technology Transfer Office chief.

Awards and Highlights

GRC/KSC/AFRC/SSC



GRC Wins R&D
100 Award
Polymide Aerogel-
Based Antenna



SSC Wins “Best in SBIR” Award
GeoCollaborate Technology



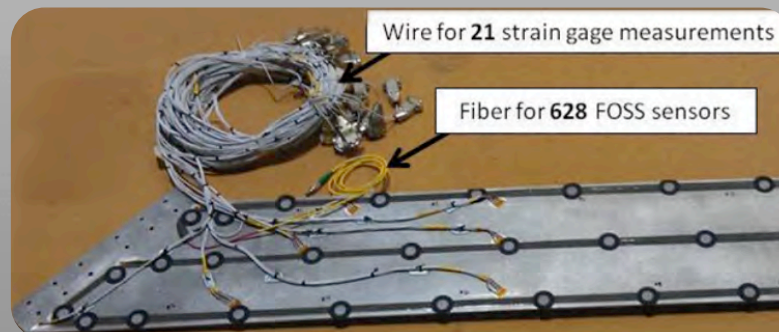
Rafael Ameller, Chief Technology Officer, StormCenter Communications, Inc (middle), with Dan Lockney, NASA Technology Transfer Program Executive, and Jim Adams, NASA Deputy Chief Technologist

KSC Wins TechConnect
Innovation Award

Aeroplasic, New Composite Materials with
Reduced Heat Transfer and Increased
Flame Retardancy



AFRC Wins TechConnect Innovation Award
Fiber Optic Sensing System (FOSS)



Invention of the Year Awards

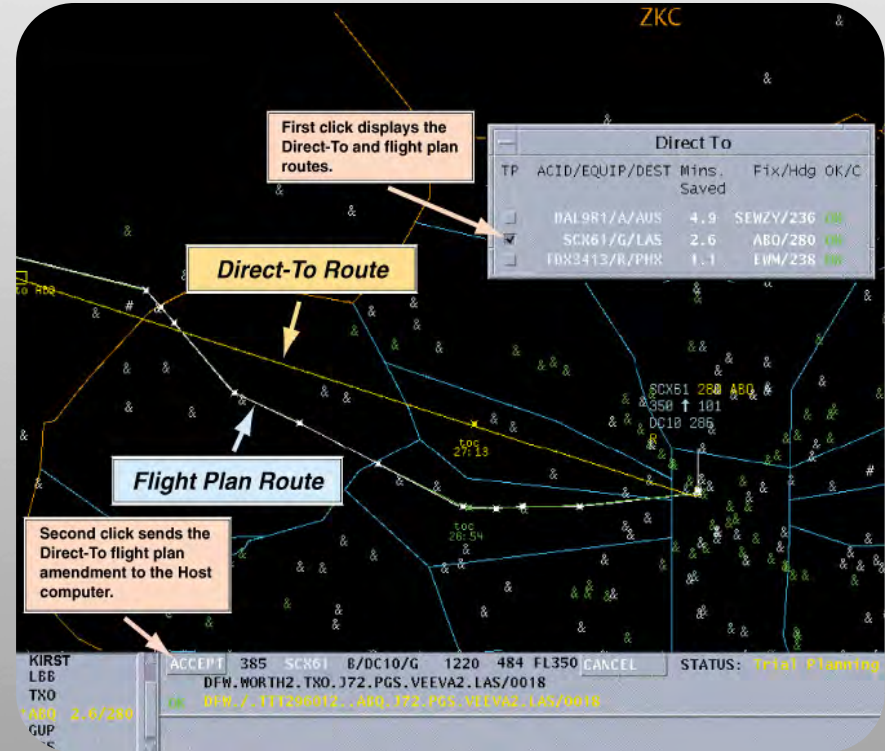
JSC/ARC

2014 NASA Invention of the Year Award
Government (JSC)



Robonaut 2

2014 NASA Invention of the Year Award
Commercial (ARC)



Direct-To-Controller Tool

2015 Software of the Year Award

JSC/ARC



Orion Guidance, Navigation, and Control Flight Software (JSC)



NEQAIR v14.x, Nonequilibrium Radiative Transport and Spectra Program (ARC)

Runners-Up

Airborne Doppler Wind Lidar Post Data Processing Software DAPS-LV (LaRC)

Data Optimization via Genetic Ordering (JPL)



T2 Outreach and Initiatives

- Media Coverage
- NASA Tech Briefs
- Spinoff Publication and Communication Products
- Patent Portfolio Marketing Collateral
- Patent Portfolio iPad App
- Startup NASA
- The Space Race Competition
- Technology Transfer University (T2U)



T2 Media Coverage

Significant Media Coverage around Startup NASA Initiative,
New Software Catalog, T2U and Spinoff 2016

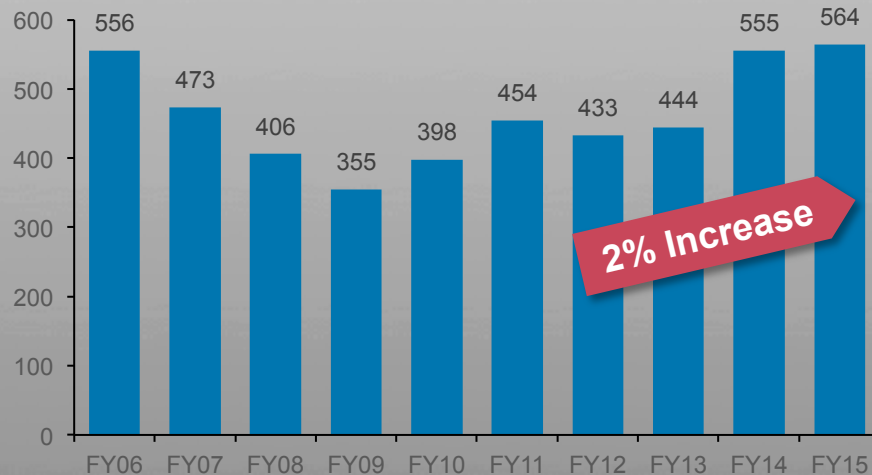


NTRs Sent to NTB

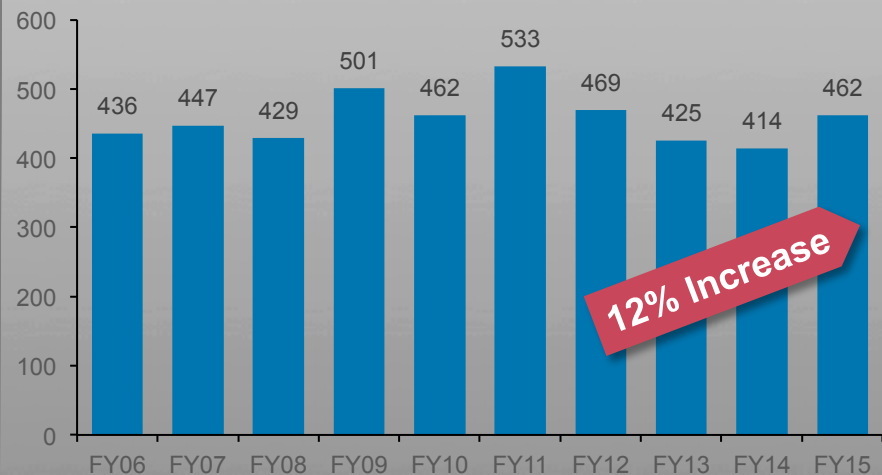


- FY14 and FY15 emphasis on restoring NTB's inventory of NASA-approved articles for publication with priority on hardware
- **6% Increase** in NTRs sent to NTB for draft articles
- **2% Increase** in articles approved for publication by NASA sent to NTB

NASA-approved Articles Sent to NTB



NASA Approved Articles Published in NTB



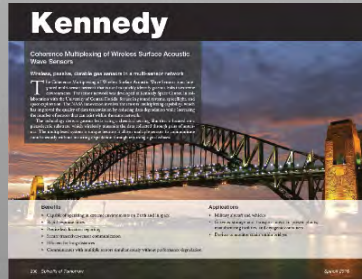


Spinoff 2016 launched December 16

- **40th Anniversary of Spinoff Publication**
- **Features 52 companies located in 24 different states**
- **Advertises 20 ready-to-license NASA technologies**



 **Companies profiled in Spinoff 2016**



*Spinoff Team.
Left to right:
Mike DiCicco,
Senior Science Writer
Daniel Coleman,
Managing Editor
Naomi Seck,
Science Writer
John Jones,
Senior Graphic Designer*

Spinoff Communication Products

Website

- Redesign to match T2 family look, debuted with *Spinoff* 2016
- Millions of page hits every month
- Searchable database containing 2,000 spinoff technologies

Spinoff ancillary products

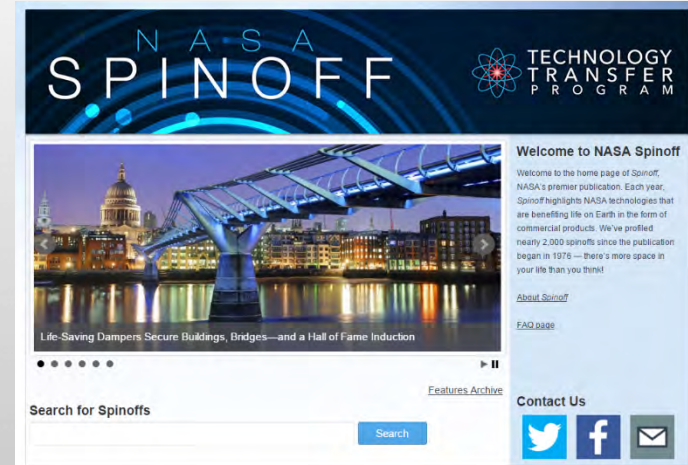
- Digital formats of *Spinoff*: HTML, PDF, PowerPoint, iPad app
- Glossy print brochure containing story summaries — hugely popular among field centers as a handout
- Spinoff* web features on NASA.gov published under “Benefits to You” tag (24 stories scheduled for calendar year 2016)

Flyers and brochures

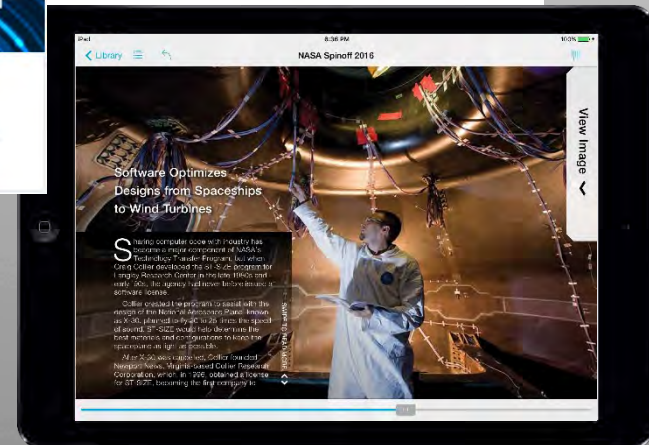
- Flyers and brochures for outreach and important events, plus a full archive on the website

Social Media

- Twitter: 48k followers
- Facebook: 125k followers, engages tens to hundreds of thousands of unique users each week



Discover NASA Technology in Your Life



Patent Portfolio Marketing Collateral



TECHNOLOGY TRANSFER PROGRAM
BRINGING NASA TECHNOLOGY DOWN TO EARTH

Patent Portfolio

The NASA patent portfolio is available to benefit US citizens. Through partnerships and licensing agreements with industry, these patents ensure that NASA investments in pioneering research find secondary uses that benefit the economy, create jobs, and improve quality of life. Click on each of the category icons for a list of patents in that category or use the search below to explore NASA's patent portfolio.

Aeronautics	Communications	Electrical/ Electronics	Environment	Health, Medicine, and Biotechnology
IT and Software	Instrumentation	Manufacturing	Materials and Coatings	Mechanical and Fluid Systems
Optics	Power Generation and Storage	Propulsion	Robotics, Automation and Control	Sensors

Information Technology and Software

NETMARK

An advanced XML database integration technique for managing unstructured documents

NASA's Ames Research Center offers for license its NETMARK software, a unique knowledge designed to seamlessly integrate structured, semi-structured, and unstructured data and documents across enterprise organizations. Originally developed to integrate the vast quantities of complex organizational documents existing within NASA, this advanced enterprise technique and framework offers a highly available, open enterprise database architecture that eliminates or reduces the need for database design and administration, and converts information from a wide range of data types into a single, universal data type for storage, retrieval, and content and context-sensitive query and search. A production-ready, enterprise-level application, NETMARK rapidly assimilates and retrieves gigabytes of disparate information and can be easily integrated with existing applications as well as accommodate new data formats—fitting into the legacy data network while growing with emerging technologies and business practices.

technology solution

BENEFITS

- Economical—eliminates the need to design, develop, and maintain expensive, highly structured relational databases, leaving both software and administrative costs
- Flexible—combines information from heterogeneous structured, semi-structured, and unstructured data sources, and enables easy and unstructured data queries
- Adaptable—enables query-based composition of environments that support http and https protocols
- Secure—limits query results to the information that users and groups have permission to access
- Custom—includes configurable databases for tailored query workflows in diverse applications

www.nasa.gov

NASA Technology Transfer Program
Bringing NASA Technology Down to Earth

THE TECHNOLOGY

NETMARK uses advantage of an object-relational model and the Object Markup Language (XML) standard, along with an open, extensible database framework to dynamically generate arbitrary schemas stored within relational databases and in object relational database management systems. NETMARK maps XML-encoded information into a tree data model by employing a extensible data type definition structure, defined by an Schema, parser to model the hierarchical structure of XML data regardless of any particular XML document schema representation.

By adhering to the XML data model, NETMARK can help enterprise organizations make better use of the information they need to make business decisions by converting Web pages, text documents, PDF files, spreadsheets, presentations, and other document types into a single, universal data type, thus storing it in an object-relational database. Users can query this database with searches that are based on content or contextual associations. Query results then can be composed into different data types, including presentations, spreadsheets, and text documents, enabling rapid reuse of information and broadening the scope of data from which users can gain knowledge and make decisions.

Most traditional document management systems do not provide an easy and efficient mechanism to store, manage, and query relevant information from heterogeneous and complex data types. To do so, database management systems need a standard for common data and exchange. The industry standard, XML, places structure within documents. The traditional mapping model is limited because the hierarchy is different for each set of XML documents. In contrast, NETMARK'S Schema parser models the documents themselves, and its structure is the same for all XML documents, providing independence of any particular XML document schemas.

technology solution

APPLICATIONS

The technology has several potential applications:

- Enterprise knowledge management applications
- Document and content management systems

PUBLICATIONS

U.S. Patent 6,968,338
"Managing Unstructured Data With Structured Legacy Systems," 2008 DOI: 10.1109/AERO.2008.4526668
Conference: Aerospace Conference, IEEE

Robotics, Automation and Control

Robonaut 2 Technologies

For use in logistics and distribution, medical and industrial robotics, and hazardous, toxic, or remote

Researchers at NASA's Johnson Space Center (JSC), in collaboration with General Motors and OTC Dynamics, have designed a state-of-the-art, highly dexterous, humanoid robot: Robonaut 2 (R2). R2 is made up of multiple, component technologies and systems—vision systems, image recognition systems, sensor integration, tactile hands, control algorithms, and much more. R2's nearly 10 patented and patent pending technologies have the potential to be game-changers in multiple industries, including logistics and distribution, medical and industrial robotics, as well as hazardous, toxic, or remote environments.

technology solution

BENEFITS

- Dexterity hands
- Touch sensitive
- Able to navigate around obstacles
- Environmentally aware
- Mobile
- Capable of task flexibility
- Able to work in proximity to co-worker

www.nasa.gov

NASA Technology Transfer Program
Bringing NASA Technology Down to Earth

THE TECHNOLOGY

While robotic technologies are already being used in several industries like logistics and distribution, R2 allows for much more complex and delicate operations that require a more sophisticated level of automation. In terms of handling inventory, R2's dexterity would allow it to handle a multitude of items, including delicate ones. In addition, it can perform in those proximity to humans, allowing for the use of robots in areas which it is not currently safe or practical. R2 is equipped to navigate obstacles, find its way and has the capability of handling frequency, motion, and unscripted movement of people, products, or equipment as well as items that vary in shape, weight, and fragility.

The other components four element system.

Hands: R2's unscripted dexterity as its hands allows it to use many of the same tools that astronauts and industry workers currently use, significantly reducing the need for specialized tools to perform multiple tasks.

Arms: R2's arms are not just in multiple levels and the motor allows knowers when its limbs are in space. They have individual force sensing and R2 can safely hold side-to-side with humans or it is currently doing on-board the International Space Station.

Sensing and Perception: R2 has senses similar to humans: the ability to touch and see. These senses allow it to perform in ways that are not typical for robot today.

Interface and Control: R2 can function autonomously or it can be controlled by direct teleoperation. When functioning autonomously, R2 understands what to do and how to do it based on sensory input. The robot uses its vision, force, and tactile sensing to carry out tasks in real time.

technology solution

APPLICATIONS

The technology has several potential applications:

Logistics and distribution – allows for much more complex and delicate operations that require a more sophisticated level of automation.

Industrial – can operate equipment and machines designed for humans, like drills or forklifts.

Medical – can handle time-consuming tasks of cutting, stitching, and suturing.

Hazardous, toxic, or remote environments – can be an invaluable tool for land mine detection, bomb disposal, waste recycling, and more.

All patented technologies now conform to the Agency patent data sheet template and are searchable through the T2 Portal

New Patent Portfolio Landing Page

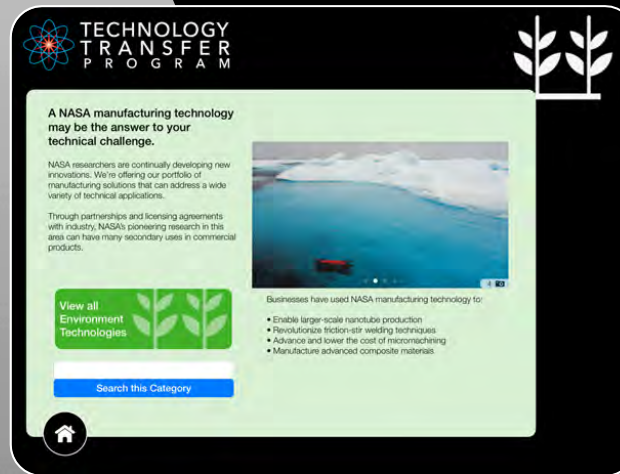
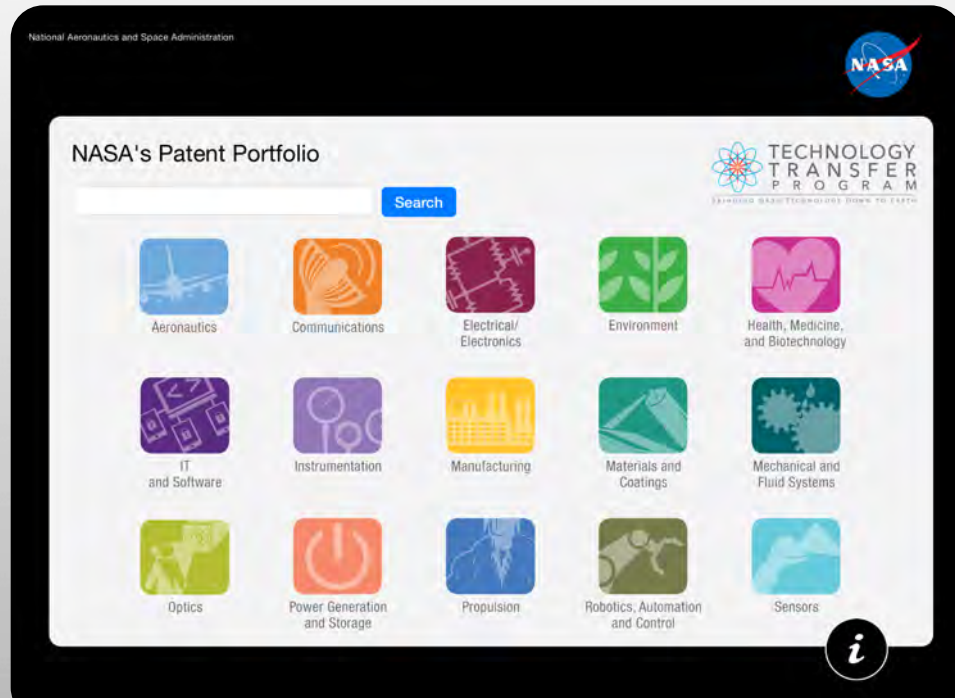
Bringing NASA Technology Down to Earth

1-13-2016

technology.nasa.gov

NASA Patent Portfolio iPad App

- Modern and intuitive platform for exploring NASA's patent portfolio
- Technology content is always current
 - App is populated by live data pulls from NTTS
- Each technology entry provides:
 - Technology description
 - Suggested applications
 - Potential benefits
 - Publications
 - Center POC
 - Link to patent data sheet
- Early 2016 Release



Startup NASA



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.

TECHNOLOGY
TRANSFER
PROGRAM
BRINGING NASA TECHNOLOGY DOWN TO EARTH

Calling All High Tech Entrepreneurs!

Startup
NASA

NASA's Technology Transfer Program is offering a new opportunity to put NASA technologies to work for you.

Our Startup NASA initiative helps address two of the biggest challenges faced by start up companies: raising capital and securing intellectual property rights.

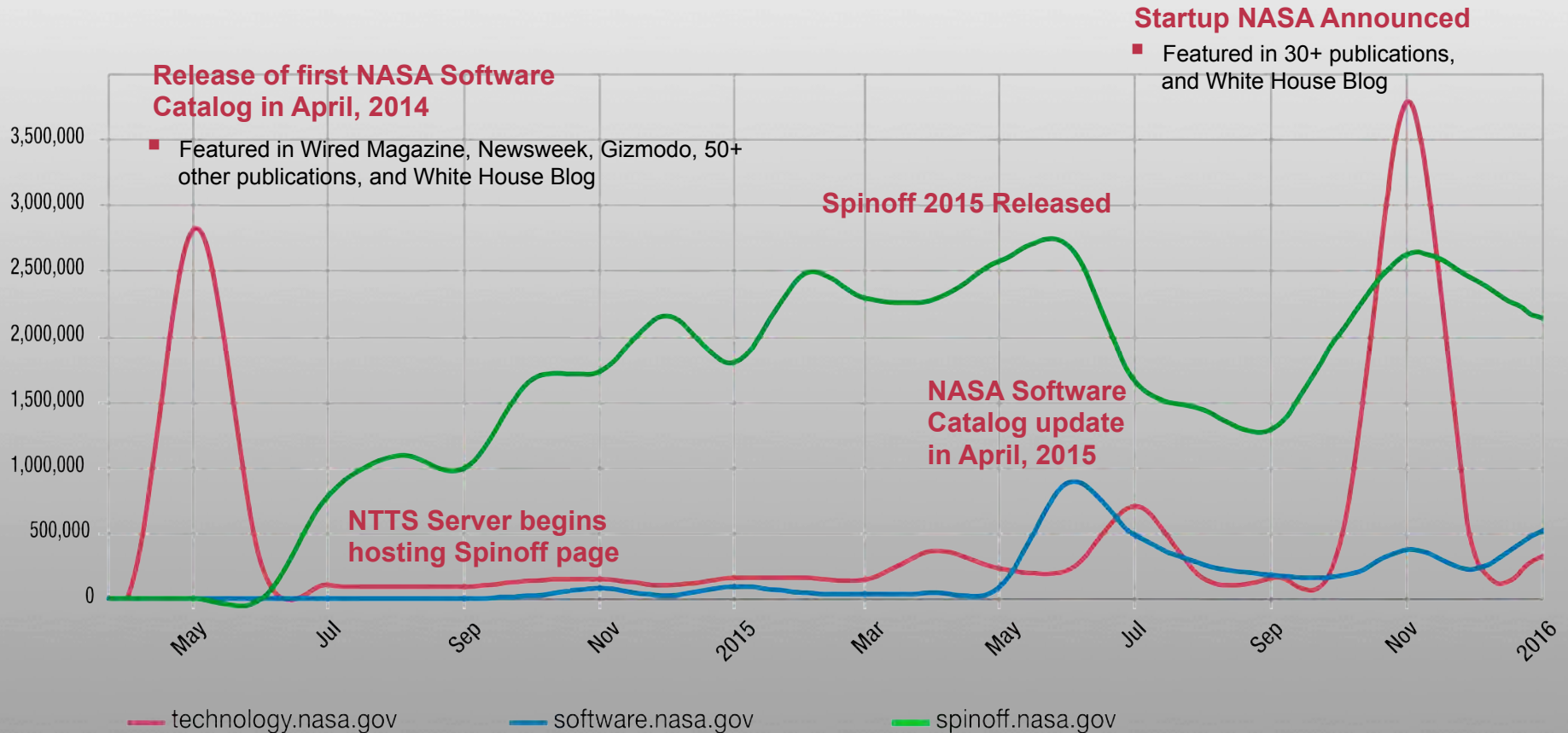
The graphic is a vertical banner. At the top, it features the Technology Transfer Program logo and a partial view of a globe. Below this, a blue speech bubble contains the text "Calling All High Tech Entrepreneurs!" next to a lightbulb icon. Underneath are five stylized human figures. The bottom section is a solid blue background with the "Startup NASA" logo, a paragraph of text, and a smaller paragraph at the bottom.

- Announced the initiative October 7, 2015.
- Received 12 serious applications as of mid-December 2015.
- Generated major media interest and web traffic.

technology.nasa.gov/startup

Portal, Software and Spinoff Web Hits

May 2014 through December 2015



The Space Race Competition

January-October 2016



The Center for Advancing Innovation is operating a business plan competition for NASA.

THE CENTER FOR ADVANCING INNOVATION



- The Center for Advancing Innovation (CAI) has partnered with the Medical Center of the Americas (MCA) Foundation to launch the **SpaceRace** designed to spur regional economic growth by launching new startups based on NASA technology.
- The first stage of the initiative is a challenge-accelerator program where teams will compete in a business plan competition:
 - **Live pitch to a world-class panel of judges, including Jim Cantrell, co-founder of SpaceX.**
 - **Winners will be selected based on the quality of their elevator speech, business plan, financial model, live pitch and other deliverables, and they will be given a cash prize.**
 - **Winning teams will be then encouraged to become startup founders and pursue licensing of the technologies from NASA.**
- Winners of the business plan phase will be eligible to enter the second stage of the competition where they will be eligible to receive angel and seed funding through the MCA Innovation Fund that will provide an investment of up to **\$1.2 million** into a select number of startups that meet due diligence requirements.



MEDICAL CENTER OF THE AMERICAS FOUNDATION

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

T2U 
NASA TECH TRANSFER
UNIVERSITY



MSFC inventor Herb Sims and MSFC T2U lead Gwen Jasper hold a kickoff meeting with Alabama A&M University students and faculty in September 2015.



FY15 Accomplishments

- Two student teams from the University of Alabama formed companies and licensed NASA technologies
- Formed relationships with new universities



Cal Poly Pomona students and faculty meet with the inventor at NASA Armstrong on November 13th, 2015.



Stennis Space Center Director Rick Gilbrech signs a Space Act Agreement with Loyola University MBA Program on November 19th 2015.



University of Alabama student Carson Davis attends a signing ceremony for licensing a NASA with MSFC Associate Center Director Robin Henderson on September 24th 2015.

We are in year four of our five-year plan to accelerate T2 at NASA

- Acting in a strategic, intentional, and deliberate manner to improve all facets of Technology Transfer at NASA
- Using analytics and a data-driven approach to inform decision-making and maximize effectiveness
- Patent licenses and software release metrics continue to increase in response to these efforts
- Developing new products and updating existing ones: Software Repository and Catalog, Web Sites, Apps, Monthly Metrics Reports
- Returning NASA to its appropriate place as the leader in federal technology transfer

We have even more ambitious plans for FY2016

- 20 goals across 7 objectives including:
 - Conduct the Space Race business plan competition
 - Populate Software Repository and increase its use within the Agency
 - Modernize licensing policy
 - Make it easier for users to find and license our technologies
 - Expand T2U
 - Understand (and correct) downward trend in new Technology Reporting by Civil Servants

FY2016 T2 Annual Program Goals



Goal 1: Revise Agency Policy and Develop Strategy

- Objective 1a: Update NPD 2090.6 to Reflect Current Licensing Procedures and Best Practices - Sammy Nabors / MSFC
- Objective 1b: Work with OGC to Update the ICB Process and Handbook - Dani Goldwater / ARC

Goal 2: : Increase New Technology Reporting

- Objective 2a – Organizations Will Conduct Monthly TT Briefings - CMT/ Ann Harkey / MSFC
- Objective 2b – SBIR / STTR Contract Closeout Project - Kim Dalgleish-Miller / GRC
- Objective 2c - Grant and Cooperative Agreement Project - Irene Cierchacki / GRC

Goal 3: Strategically Manage Intellectual Property

- Objective 3a - Gift of Space-Related Patents - Dan Lockney / HQ
- Objective 3b - Portfolio Analysis - Develop Subcategory Taxonomy - Duane Armstrong / SSC - Charlene Gilbert / JSC

Goal 4: Market Agency Technology Assets

- Objective 4a - Develop Direct Email Marketing Campaign for Technology Portfolio - David Makufka / KSC
- Objective 4b - Develop Standard Marketing Video Template - Kathy Dezern / LaRC
- Objective 4c - Evaluate Potential for Improvements to Tech Briefs Product Offerings - Nona Cheeks / GSFC
- Objective 4d - Coordinating Conference for Marketing - Laura Fobel / AFRC

Goal 5: Develop and Implement Innovative Methods for Technology Licensing

- ~~Objective 5a – Launch Start-Up License Initiative – Trupti Sanghani / ARC – COMPLETE~~
- Objective 5b - Conduct Survey of Active Licensees - Jim Nichols / KSC
- Objective 5c - Write Requirements for Turbo Tax Style License Application Module - Trupti Sanghani / ARC
- Objective 5d - Develop How-To Licensing Page for T2 Portal - Michelle Lewis / JSC

Goal 6: Increase Software Releases

- Objective 6a - Develop Automated Routing System to Improve Software Release Process - Danny Garcia / MSFC
- ~~Objective 6b – Implementation of Click Wrap Agreements for CS to CS Transfer of Software – Brian Morrison / JPL – COMPLETE~~
- Objective 6c - Form Team to Develop and Implementation Plan for SR Process Improvements - Danny Garcia / MSFC

Goal 7: Advance T2 Partnerships

- Objective 7a - Initiate and Manage Start-Up Business Plan Competition with Center for Advancing Innovation - Dalgleish-Miller/Cierchacki/Lockney
- Objective 7b - T2U Video Content - Mike Lester / KSC

Backup



FY2015 T2 Annual Program Goals



Objective 1: Revise Agency Policy and Develop Strategy

~~● Goal 1a – Update NPR 2210.1C Release of NASA Software – MSFC/Taylor **COMPLETE**~~

Objective 2: Increase New Technology Reporting

~~● Goal 2a – Increase Reporting by Large Entity (LE) Contractors – HQ/Lockney **COMPLETE**~~

~~● Goal 2b – Develop New Ways to Incentivize GE Innovators – ARC/ Blake **CONTINUING IN FY16**~~

~~● Goal 2c – Establish Methods for Determining the Percentage of Inventions Captured – KSC/Makufka **COMPLETE**~~

~~● Goal 2d – SBIR/STTR Contract Closeout project – GRC/Dalgleish-Miller **CONTINUING IN FY16**~~

~~● Goal 2e – Grant and Cooperative Agreement Project – GRC/Dalgleish-Miller **CONTINUING IN FY16**~~

Objective 3: Strategically Manage Intellectual Property

~~● Goal 3a – Strategic Use of USPTO Account – JSC/James **CLOSED**~~

~~● Goal 3b – Portfolio Analysis for Industry Groupings and TRL – JSC / James **CLOSED**~~

Objective 4: Market Agency Technology Assets

~~● Goal 4a – Develop Online Marketing Collateral for Every Patent Issued and Pending in the Portfolio – LaRC/Dezern **CLOSED**~~

~~● Goal 4b – Develop and Execute Agency Marketing Campaign for Materials – LaRC/Dezern **CLOSED**~~

Objective 5: Develop and Implement Innovative Methods for Technology Licensing

~~● Goal 5a – More Effective Licensing – KSC/Makufka **COMPLETE**~~

~~● Goal 5b – Industry Specific Marketing – JPL/Graczyk **CANCELLED**~~

~~● Goal 5c – New Innovative Methods for Increasing Licensing and Licensee Effectiveness – KSC/Makufka **COMPLETE**~~

Objective 6: Increase Software Releases

~~● Goal 6a – Implement Agency-wide Electronic Software Repository – MSFC/Taylor and MSFC Danny Garcia **COMPLETE**~~

~~● Goal 6b – Refresh the Software Catalog by April 9, 2015 – Taylor/MSFC **COMPLETE**~~

Objective 7: Advance T2 Partnerships

~~● Goal 7a – Implement "No Cost" Contracts for Partnership Intermediaries – Cierchacki **COMPLETE**~~

~~● Goal 7b – Launch Technology Transfer University (T2U) – GSFC/Checks **COMPLETE**~~

NASA Patent Portfolio iPad App

