National Aeronautics and Space Administration

NASA TECHNOLOGY TRANSFER PROGRAM

BRINGING NASA TECHNOLOGY DOWN TO EARTH

Building the Next Generation Technology Transfer Information System

Air Force Research Laboratory (AFRL)
National Aeronautics and Space Administration (NASA)

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What is DTTIS?

Defense Technology Transfer Information System

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DTTIS is a scalable data system built to grow and adapt to changing conditions. It collects information from tech transfer offices, patent attorneys, innovators, and more.

DTTIS automates workflows to standardize and streamline tech transfer business rules. Resulting in improved efficiency, standardized processes and reducing errors.

DTTIS is a search and reporting engine built to provide visibility and insight into Air Force's Technology Transfer and Transition (T3) Program.

Background Information

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- Current Dilemma: Office of the Secretary of Defense (OSD) Tech Transfer database systems and processes are obsolete, stove-piped, and ad-hoc.
- AF T3 team assessed multiple Commercial-Off-the-Shelf (COTS) and Government-Off-the-Shelf (GOTS) software tools and selected NASA's Technology Transfer System (NTTS) as the baselined solution
- NASA and AFRL established Reimbursable Inter-Agency Agreement (RIAA) in May 2019 to customize the NTTS patented software platform as next generation DTTIS Air Force (DTTIS-AF) platform
- After initial implementation, AF will work with other military branches (i.e., Navy, Army, etc.) for expansion to other services
- After initial expansion, AF will make DTTIS available to other Dept. of Defense (DoD) components

Key Strategic Benefits

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- Leverage from a proven NASA patented GOTS software platform to provide best value to AF and DoD T3 community
- DTTIS platform will facilitate, capture, manage, and streamline overall AF and DoD T3 processes and activities with data consolidation (i.e., minimize data duplications) and integration (i.e., Service-Oriented Architecture)
- DTTIS tool will provide effective Intellectual Property (IP) portfolio mgmt.
- Facilitates better communication and collaboration improvements between AF and DoD T3 stakeholders, users and customers

Development Roadmap

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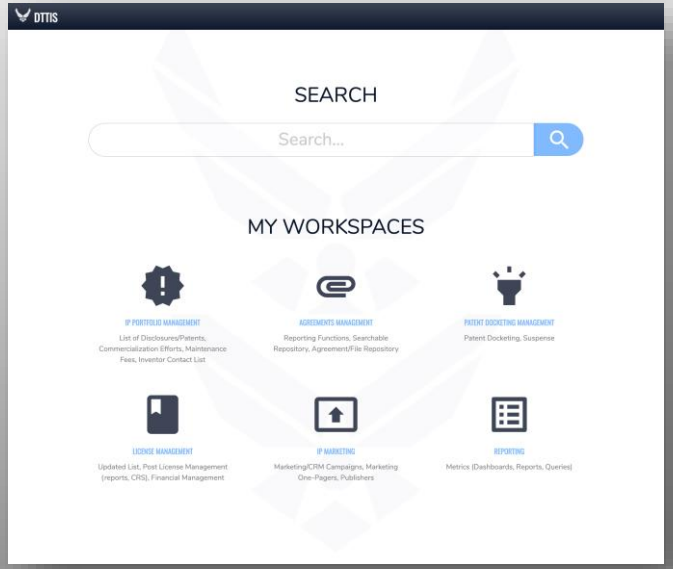
- Multi-phased technical approach using an agile/iterative development approach
- Phase 1 focused on invention disclosures, input forms, and user workspace (aka “Alpha” version) – Completed as of November 2019
- Phase 2 focuses on agreements mgmt., patent docketing, licensing, commercialization evaluation, and intuitive reporting, browsing, navigating and search capabilities with overall improvements to Phase 1 system (aka “Beta” version) – Estimated Completion Date (ECD): May 2020
- Phase 3 focuses on integrating with DoD’s IT infrastructure and services (i.e., authentication via CAC Smartcard, fine-grained access controls for authorization, email notifications, etc.) for production deployment with overall improvements to Phase 2 system and provide user training, documentation, and transition to AF – ECD: March 2021



DTTIS-AF Integrated MS-Project Schedules

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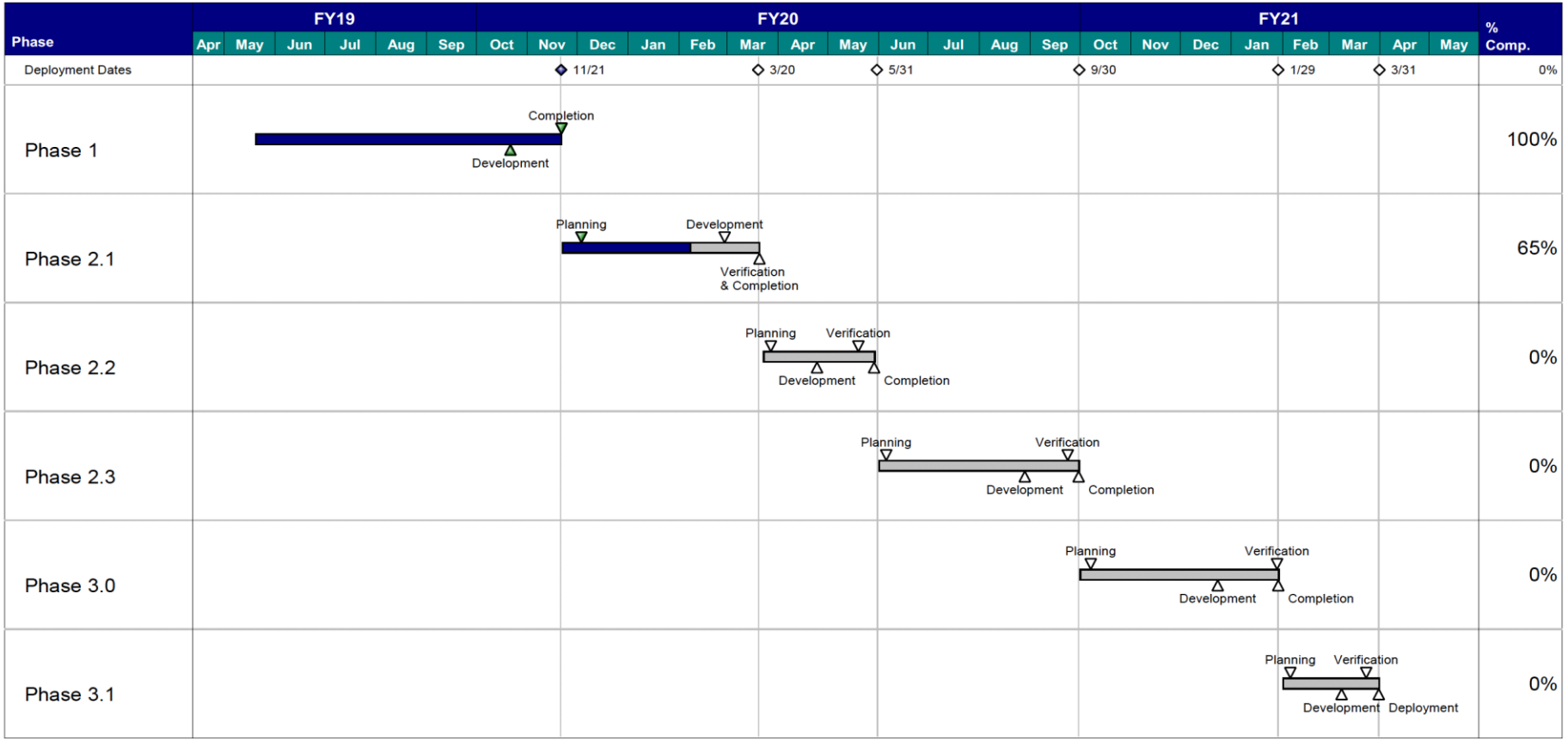
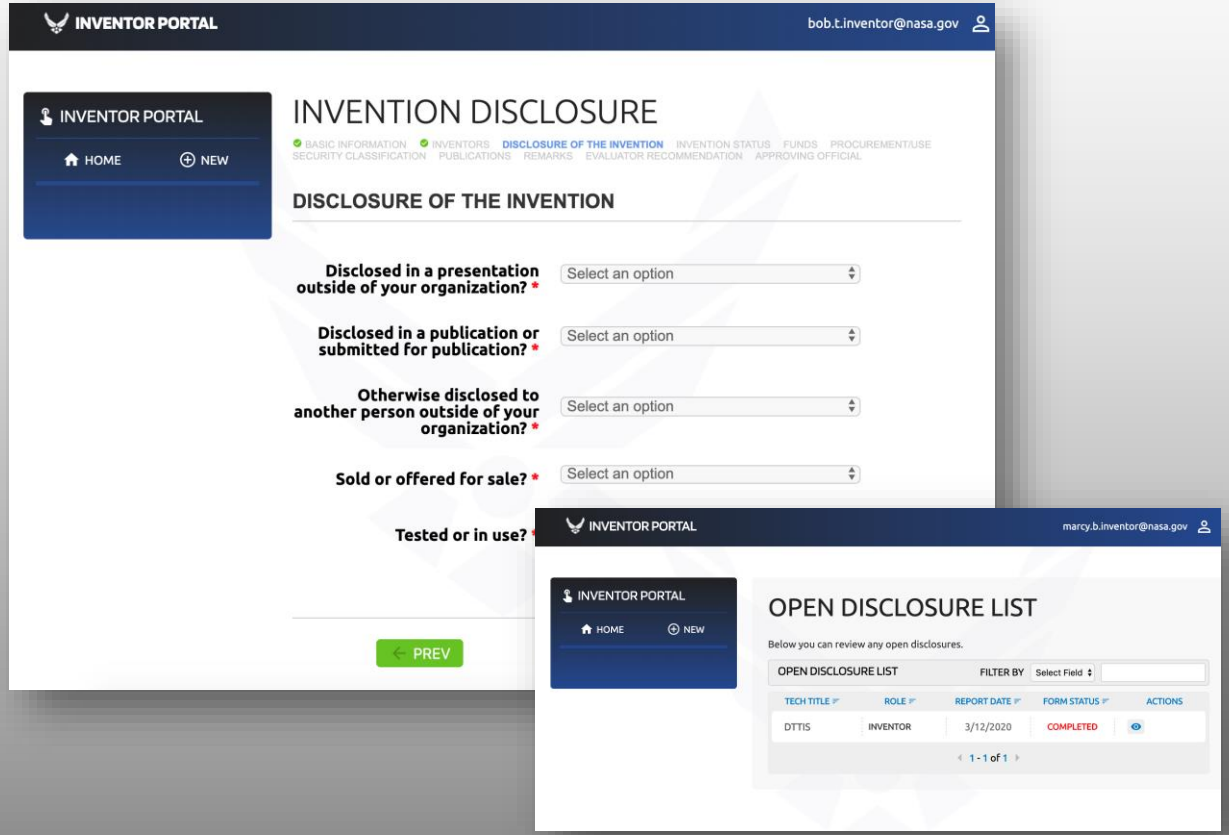
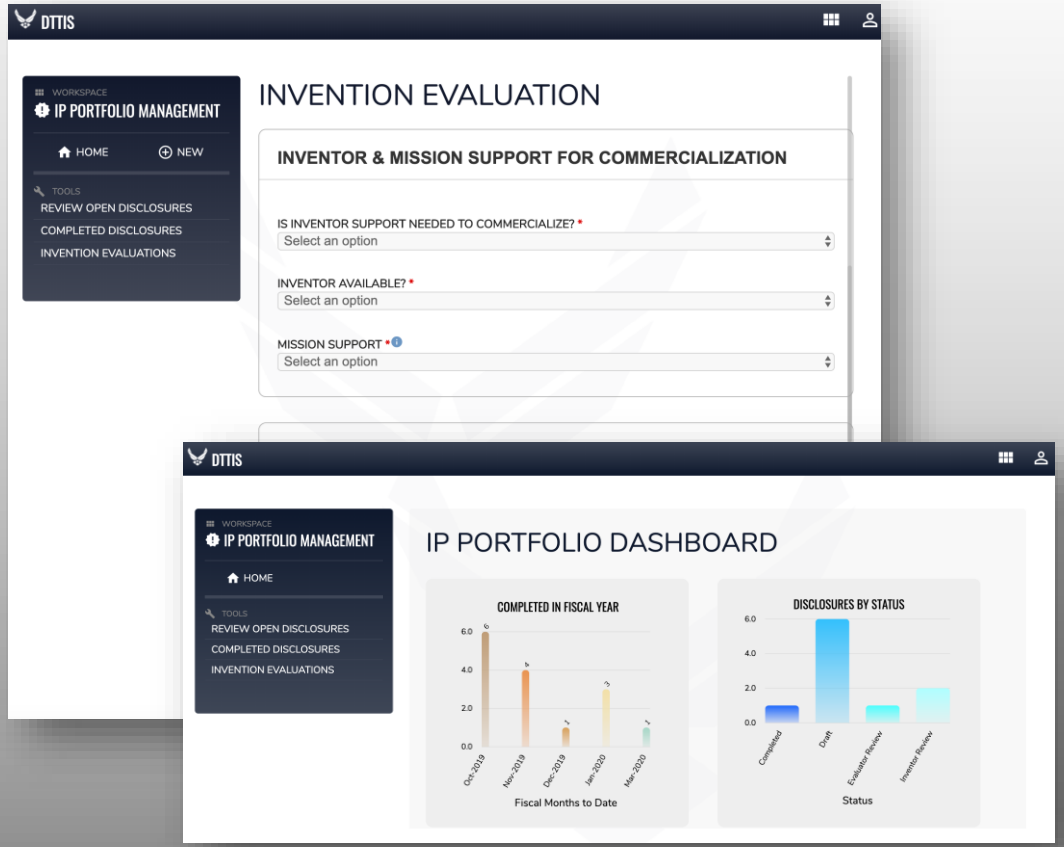


Inventor Portal



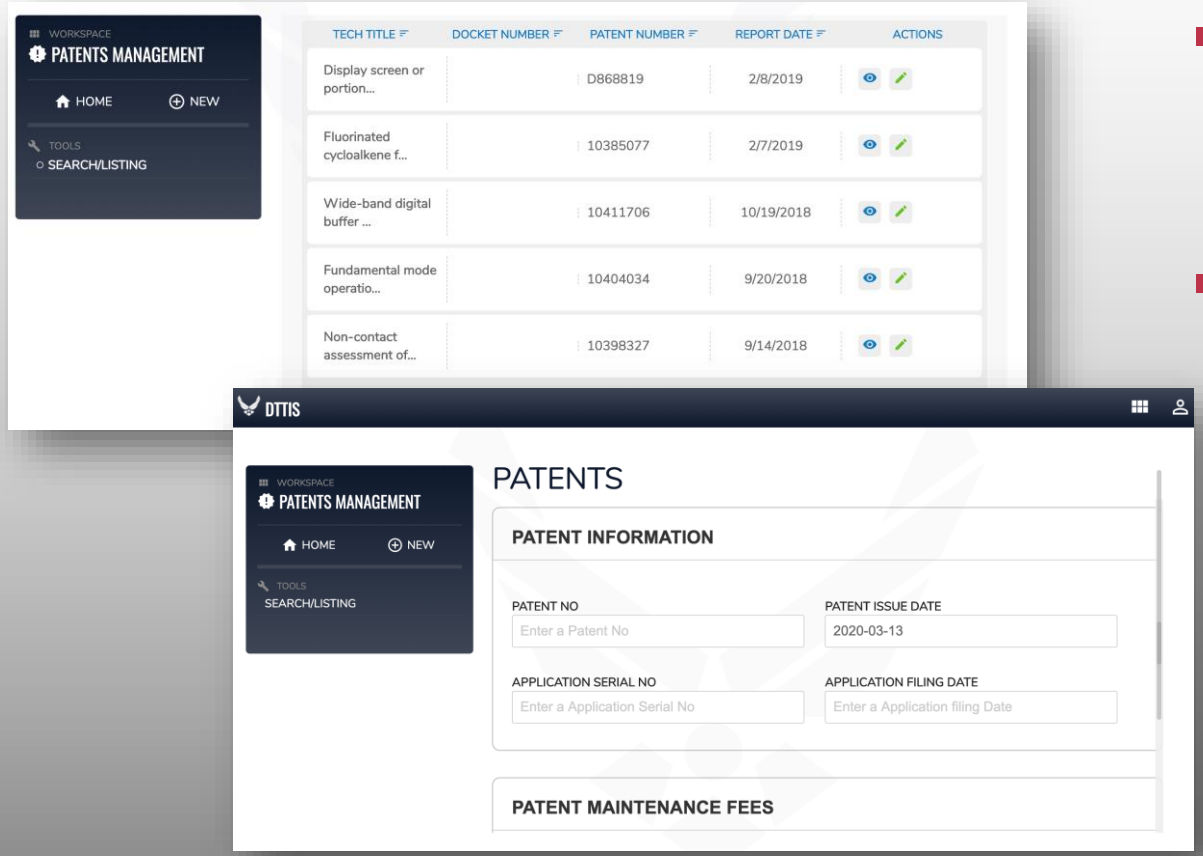
- One-stop shop for inventors and reviewers to submit, review and approve disclosures.
- Step by step form to guide the inventor through the disclosure process.
- Generate AF1279 PDFs on the fly.

IP Portfolio Workspace



- **Manage entire IP portfolio from a single workspace**
  - Monitor disclosures being drafted or in review
  - Evaluate inventions for licensing potential
  - Dashboard to visualize metrics related to intellectual property
  - Generate PDF of AF1279
- **Upcoming Enhancements**
  - Patent Docketing
  - Additional Dashboard Metrics

Patent Docketing Workspace



- Manage entire patent portfolio from the Patent Docketing Workspace
- Upcoming Enhancements
  - Implementation of patent rules
  - USPTO data connection
  - Notification of important dates (provisional and nonprovisional patent expiration, USPTO actions, maintenance fees)

Agreements Management Workspace

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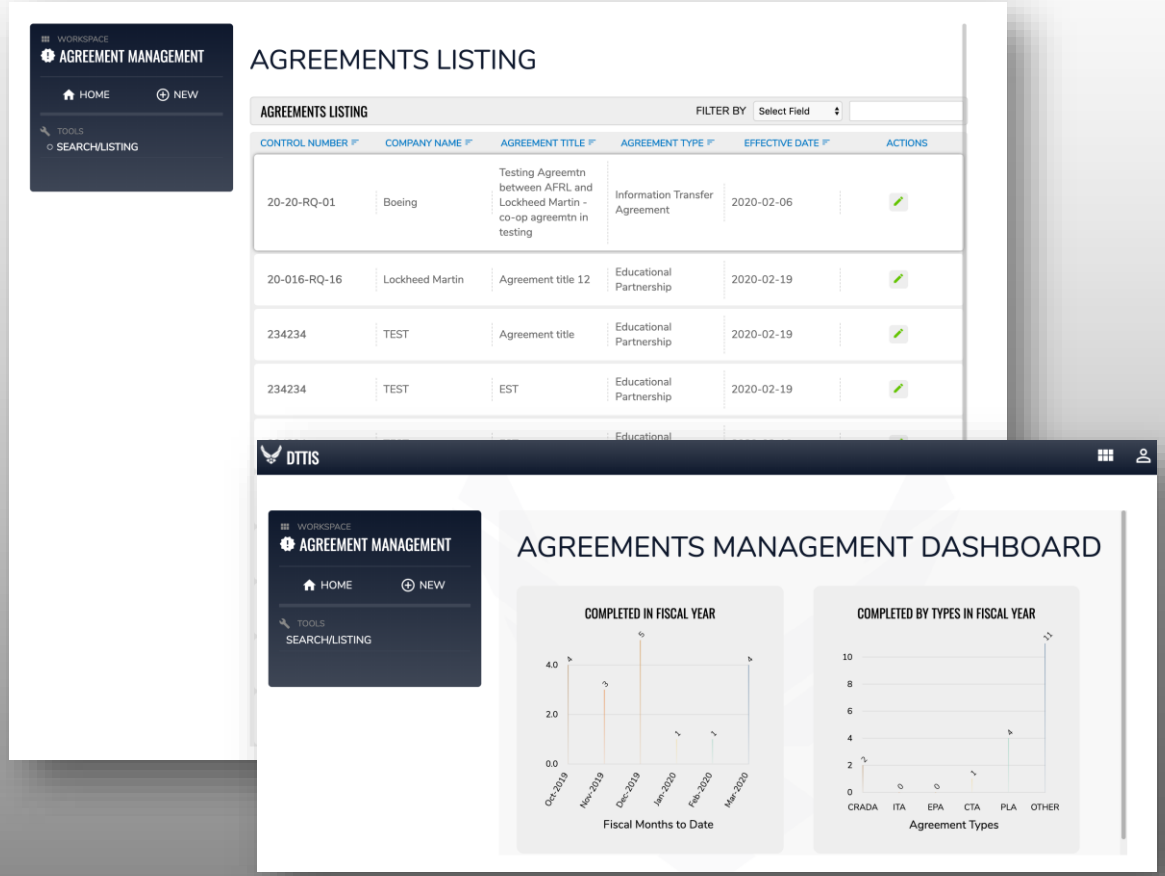
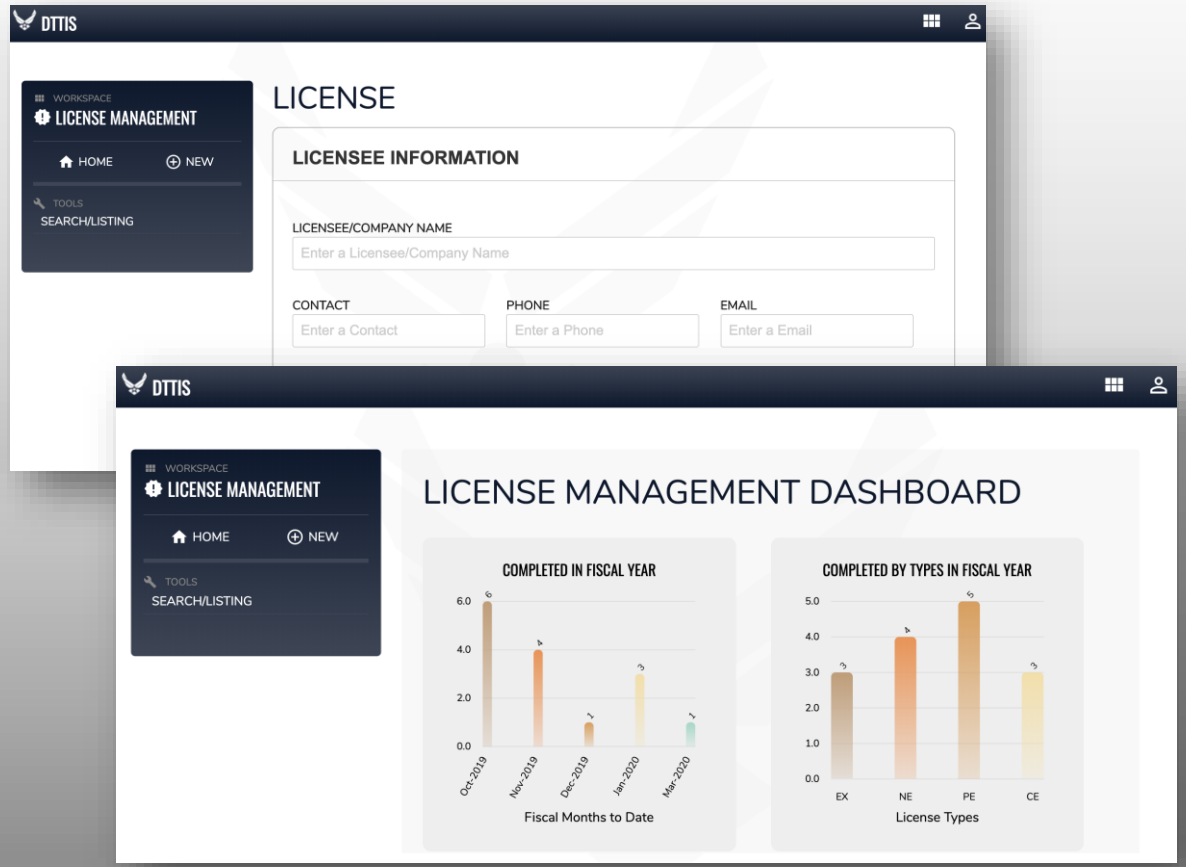


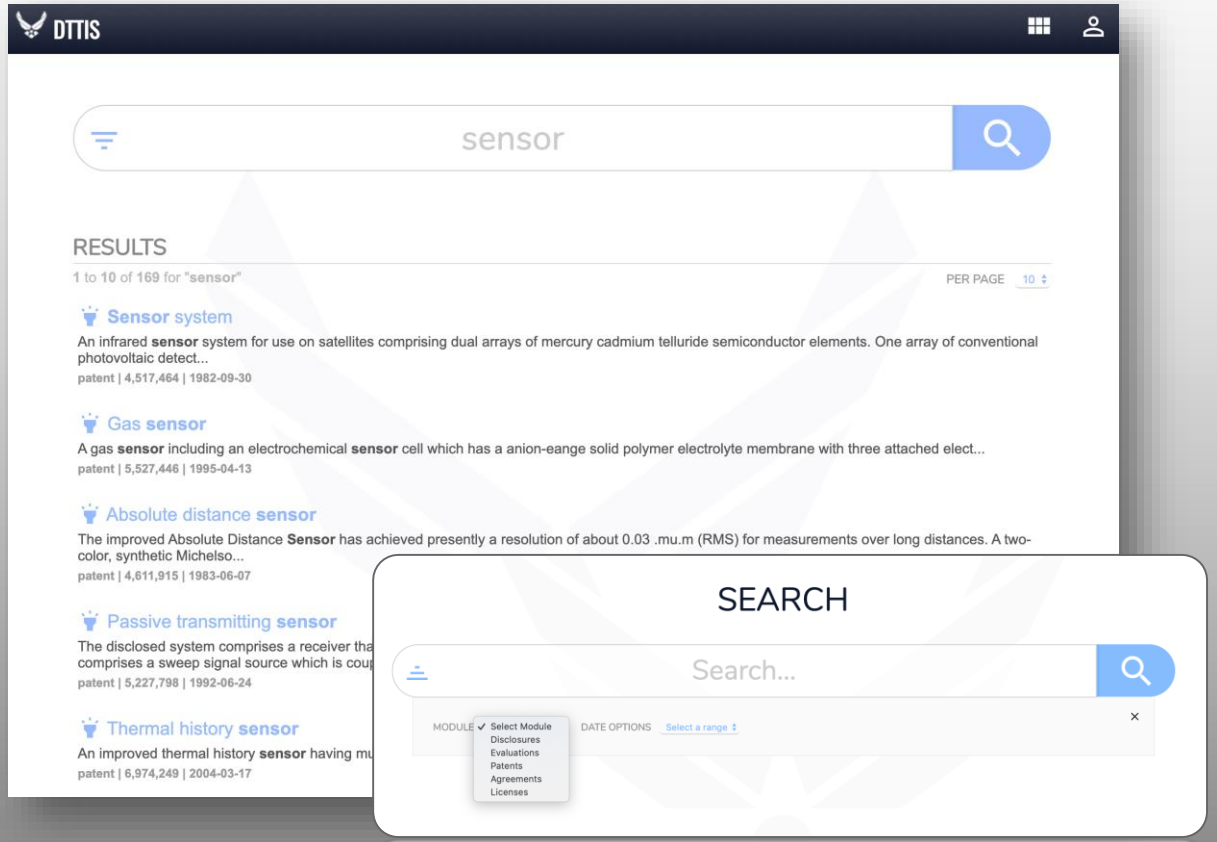
- **Customized workspace to manage agreements**
  - **CRADA, MOA/MOU, License, JOA, and more.**
- **Dashboard to view real-time metrics**
  - **Metrics breakdown by agreement types, number of agreements executed in date period, and more.**
- **Upcoming Enhancements**
  - **Agreement/File Repository**
  - **Agreement Templates**
  - **Additional Dashboard Metrics**

License Management Workspace



- **Customized workspace to manage licenses**
  - **Exclusive, Co-Exclusive, Non-Exclusive, and more.**
- **Dashboard to view real-time metrics**
  - **Metrics breakdown by license types, number of licenses executed in date period, and more.**
- **Upcoming Enhancements**
  - **License Royalty Tracking and Distribution**

Keyword Full-Text Search Engine



- Search across entire DTTIS system:
  - Invention Disclosures
  - Invention Evaluations
  - Patents
  - Agreements
  - Licenses
  - Attachments
- Implemented with ranking and relevancy
- Ability to apply filters to results to target key documents

Upcoming Key Strategic Product Capabilities

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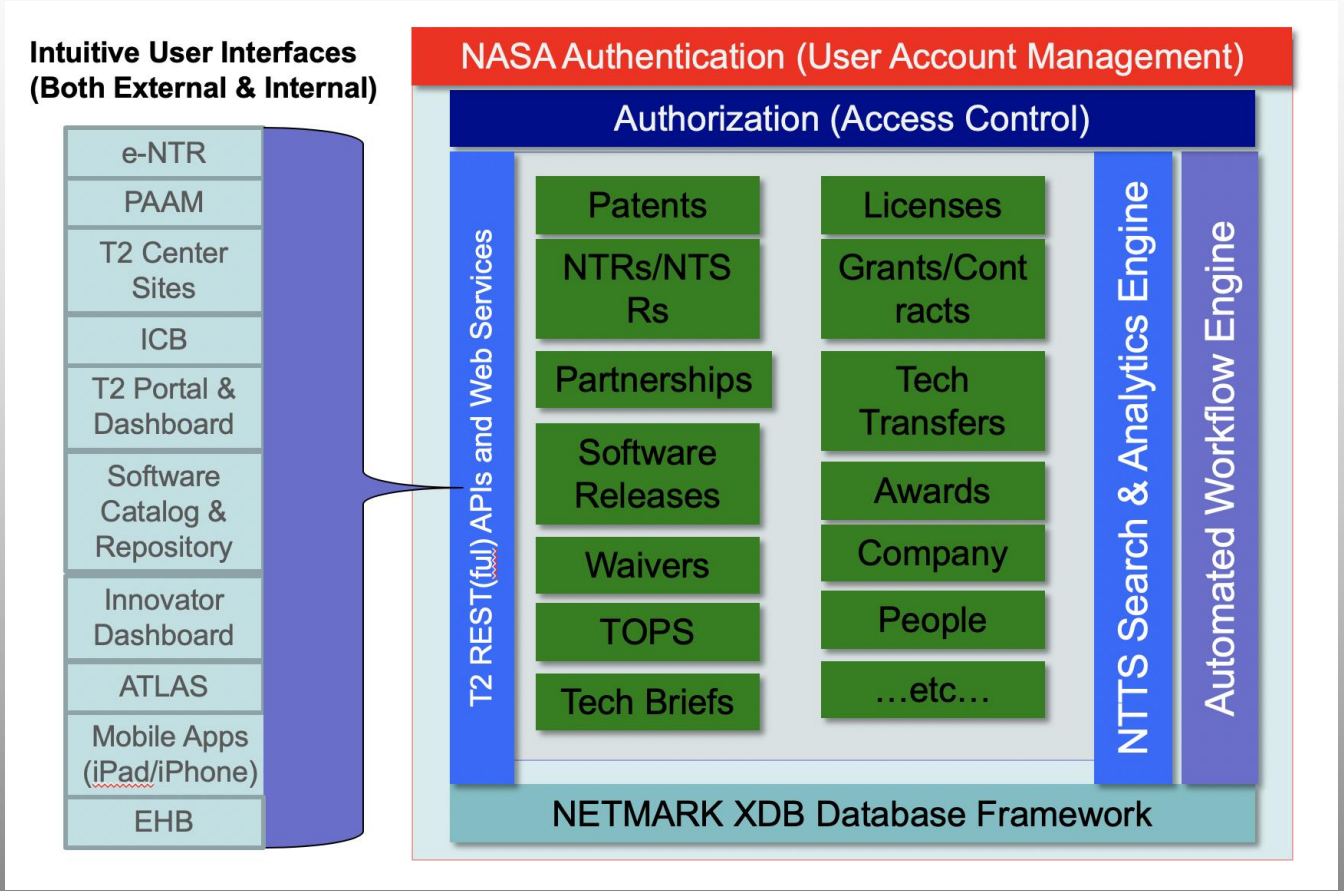
- **Patent Docketing**
  - Implementation of patent rules
  - Integration with United States Patent & Trademark Office (USPTO)
- **IP Marketing Workspace**
  - Generate technology marketing one-pagers
  - Publisher/Feed to publish content for websites
  - Customer Relationship Mgmt. (CRM) connectors to connect system to SuiteCRM tool
- **Reports & Metrics**
  - Report Builder
  - Technology Transfer Metrics Report
  - Technology Transfer Dashboard
- **System Integration with AF/DoD IT Infrastructure**
  - Email Notification System
  - Authorization Services
  - DoD CAC Authentication Integration
  - Digital Signatures

Questions?

Backup Slides

NTTS High-Level System Architecture



NTTS System Overview

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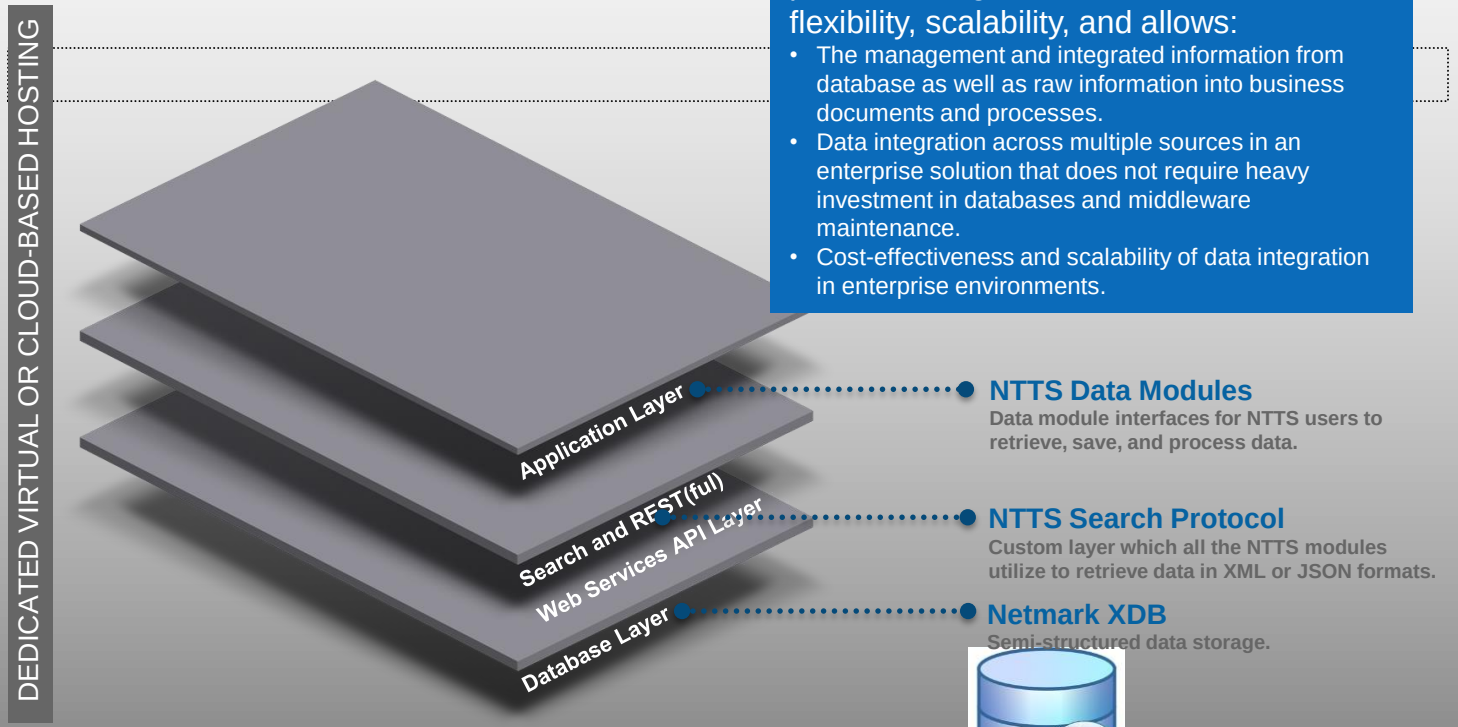
Native XML or JSON data storage provides a high-level architectural flexibility, scalability, and allows:

- The management and integrated information from database as well as raw information into business documents and processes.
- Data integration across multiple sources in an enterprise solution that does not require heavy investment in databases and middleware maintenance.
- Cost-effectiveness and scalability of data integration in enterprise environments.



NTTS Data Modules
Data module interfaces for NTTS users to retrieve, save, and process data.

NTTS Search Protocol
Custom layer which all the NTTS modules utilize to retrieve data in XML or JSON formats.

Netmark XDB
Semi-structured data storage.

Technology Transfer Key System Capabilities Comparison

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Technology Transfer Key System Capabilities Comparison				
Key Capabilities	**NTTS**	**iEdison**	**IPfolio**	**TechTracS**
Data Collection and Management	●	◐	●	◐
Extramural Reporting	●	●	●	●
Intramural Reporting	●	◐	●	●
Workflow Automation	●	◐	◐	◐
Business and Marketing Communications	●	◐	◐	◐
Business Intelligence, Metrics, Analytics, Visualization	●	◐	◐	◐
APIs and Web Services	●	◐	◐	◐
Cloud-enabled for Scalability and Flexibility	●	○	●	●
Patent Docketing	◐	◐	●	◐
Security Compliance—Authentication and Authorization Services Tailored to U.S. Federal Government IT Security Standards—NIST FIPS–199, FedRAMP, etc.)	●	●	○	○

● Full capacity ◐ Partial capacity ○ No capacity

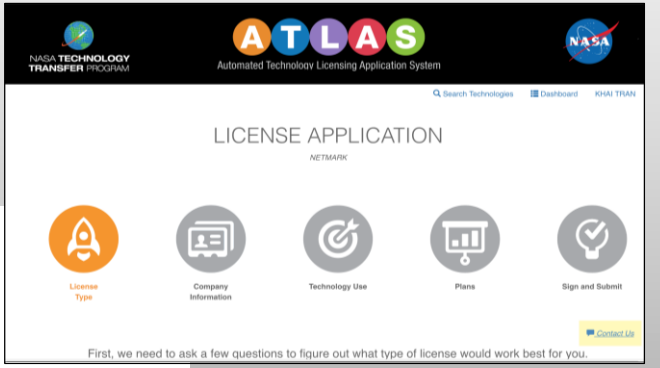
Important Notes:

1. Interagency Edison (iEdison) is a technology transfer tool managed by NIH's Office of Extramural Research: https://public.era.nih.gov/iedison/public/login.do
2. IPfolio is a Commercial-Off-the-Shelf (COTS) technology transfer tool: https://www.folio.com
3. Knowledge Sharing System (KSS) TechTracS is a COTS-based technology transfer tool: https://www.knowledgesharing.com

NTTS Return on Investment (ROI) - Paperwork Reduction Act (PRA)

As part of U.S. federal regulation, the Paperwork Reduction Act of 1980 (Pub. L. No. 96-511, 94 Stat. 2812, codified at 44 U.S.C. 3501-3521), NTTS Automated Technology Licensing Application System (ATLAS) provided an average of about 8 hours time saved for each user response with an average annual ATLAS rate of 360 responses/year.

This equates to a total of 8 hrs./response x 360 responses/year = 2,880 hrs./year saved, which equates to projected cost savings of about $169,920/year!



OMB Control Number: 2700-0169

ICR Reference Number:201811-2700-001

Agency: NASA

Expiration Date: 12/31/2021

Title: Automated Technology Licensing Application System (ATLAS)

ICR Annual Costs:

$ 169,920

ICR AnnualResponses:	ICR Annual Hours:
360	2,880

Information Collections:

Title	Form Name	Form Number	Annual Responses	Annual Hours	Annual Cost
Automated Technology Licensing Application System (ATLAS)	NASA Tech Transfer License Application	n/a	360	2,880	$ 169,920