

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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Intelligent Systems Division

NASA Ames Research Center

March 25th, 2020

What is DTTIS?

Defense Technology Transfer Information System



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



- **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**

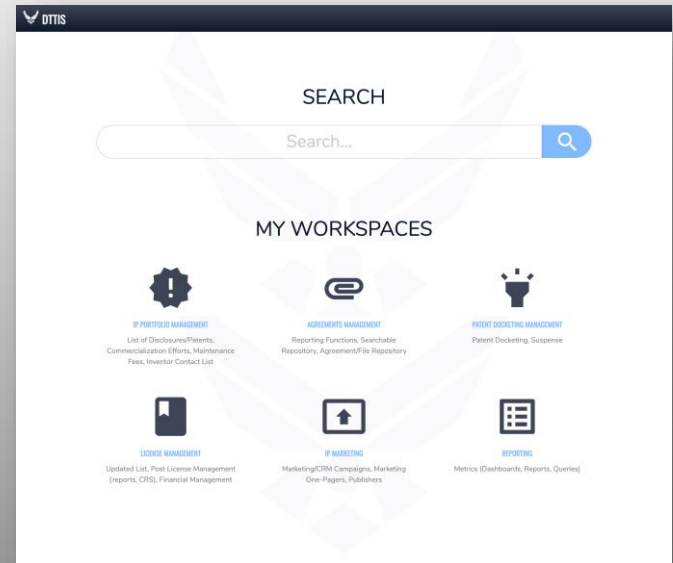
Key Strategic Benefits



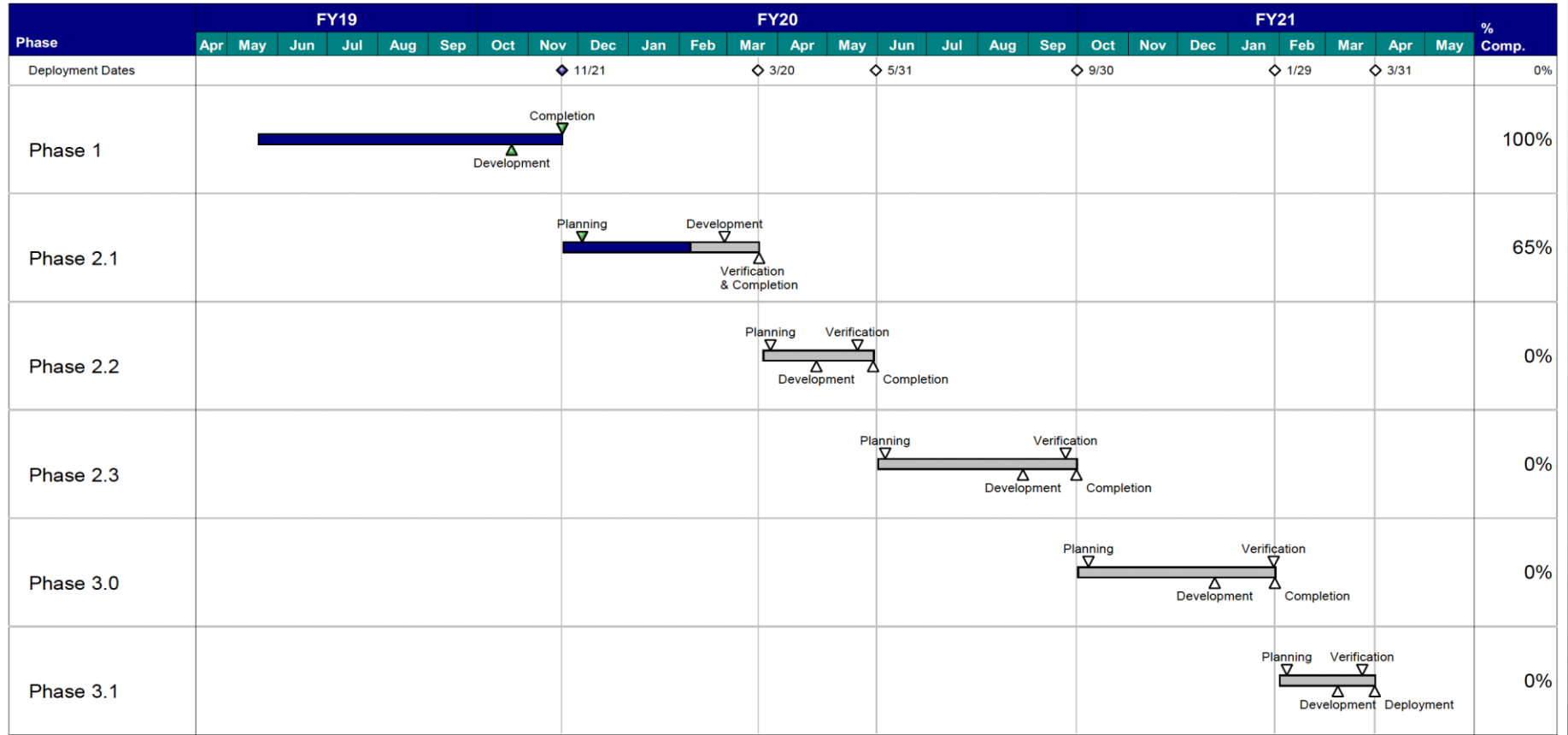
- Leverage from a proven NASA patented GOTS software platform to provide best value to AF and DoD T3 community
- DTTIS platform will facilitate, capture, manage, and streamline overall AF and DoD T3 processes and activities with data consolidation (i.e., minimize data duplications) and integration (i.e., 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

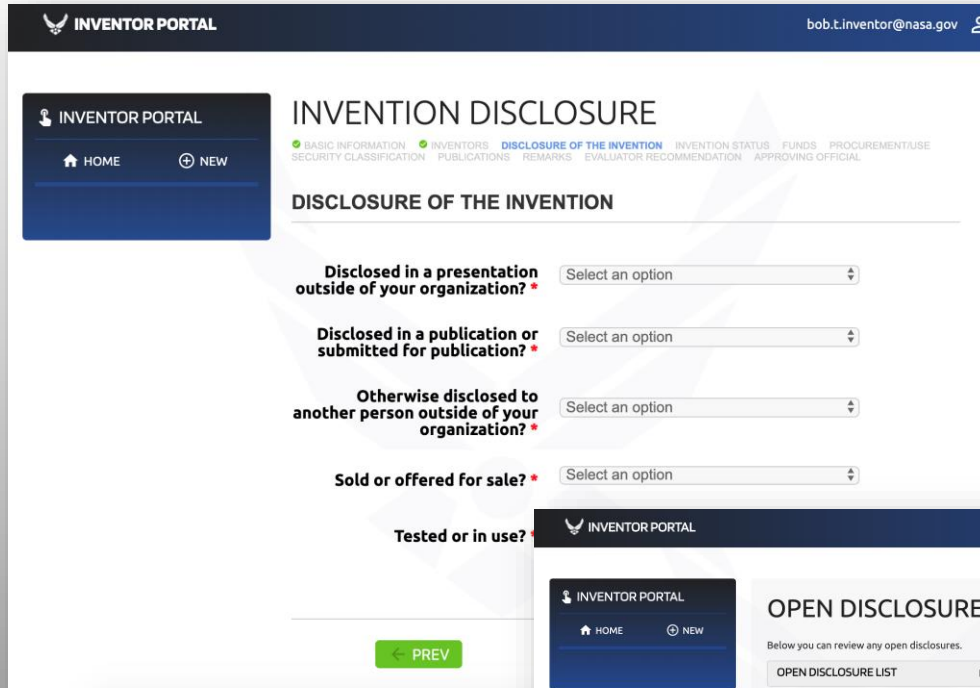
Development Roadmap

- 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





INVENTOR PORTAL bob.t.inventor@nasa.gov

INVENTION DISCLOSURE

DISCLOSURE OF THE INVENTION

Disclosed in a presentation outside of your organization? *

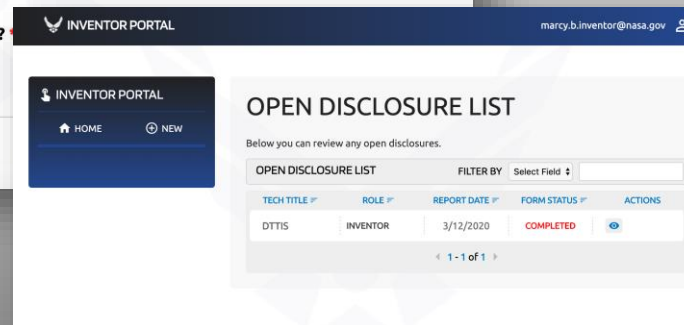
Disclosed in a publication or submitted for publication? *

Otherwise disclosed to another person outside of your organization? *

Sold or offered for sale? *

Tested or in use?

[← PREV](#)



INVENTOR PORTAL marcy.b.inventor@nasa.gov

OPEN DISCLOSURE LIST

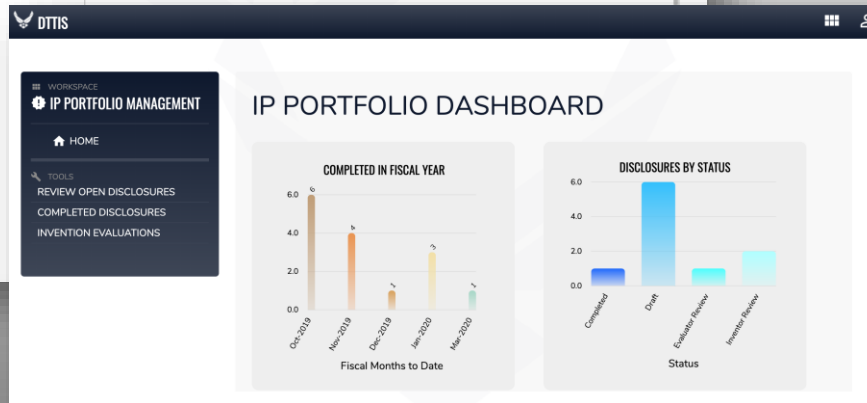
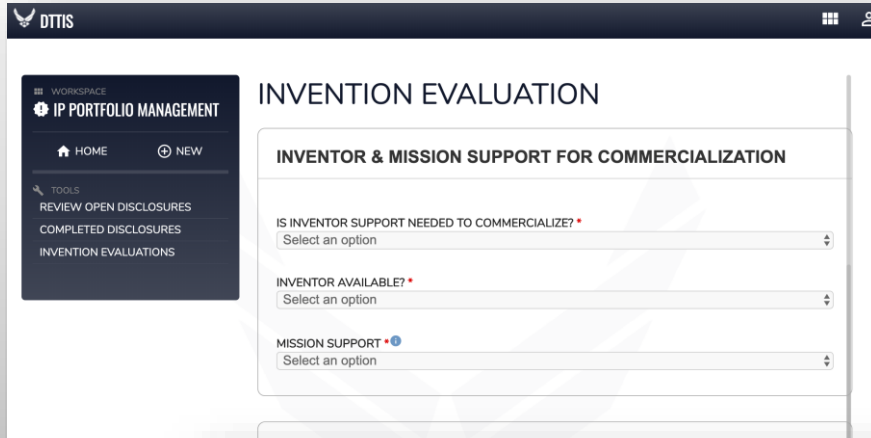
Below you can review any open disclosures.

OPEN DISCLOSURE LIST FILTER BY Select Field

TECH TITLE	ROLE	REPORT DATE	FORM STATUS	ACTIONS
DTTIS	INVENTOR	3/12/2020	COMPLETED	

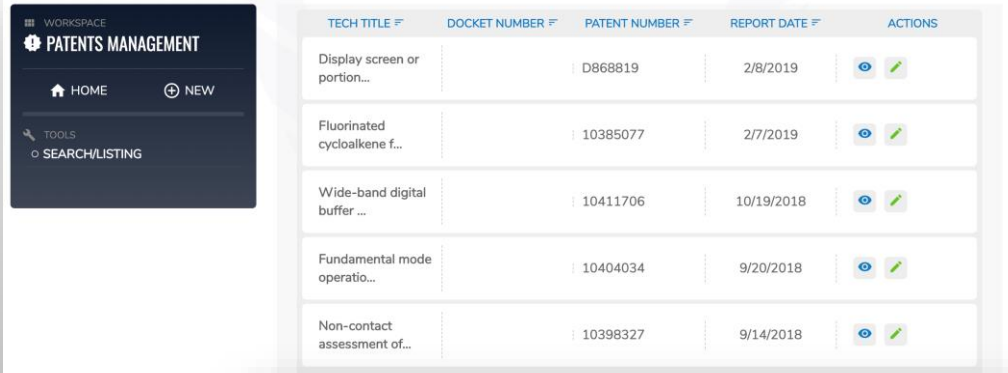
< 1 - 1 of 1 >











- 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.



- 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



TECH TITLE	DOCKET NUMBER	PATENT NUMBER	REPORT DATE	ACTIONS
Display screen or portion...		D868819	2/8/2019	 
Fluorinated cycloalkene f...		10385077	2/7/2019	 
Wide-band digital buffer ...		10411706	10/19/2018	 
Fundamental mode operatio...		10404034	9/20/2018	 
Non-contact assessment of...		10398327	9/14/2018	 

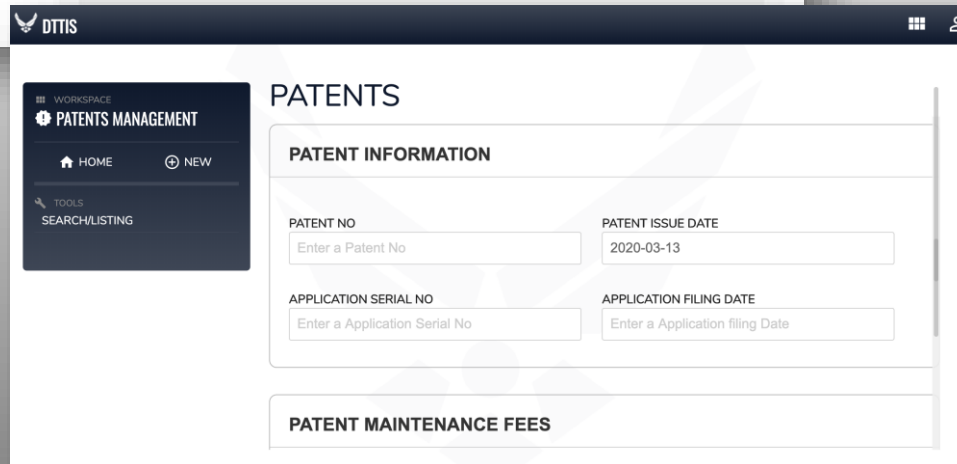
- Manage entire patent portfolio from the Patent Docketing Workspace

- Upcoming Enhancements

Implementation of patent rules

USPTO data connection

Notification of important dates (provisional and nonprovisional patent expiration, USPTO actions, maintenance fees)



DTTIS

WORKSPACE PATENTS MANAGEMENT

HOME NEW

TOOLS SEARCH/LISTING

PATENTS

PATENT INFORMATION

PATENT NO

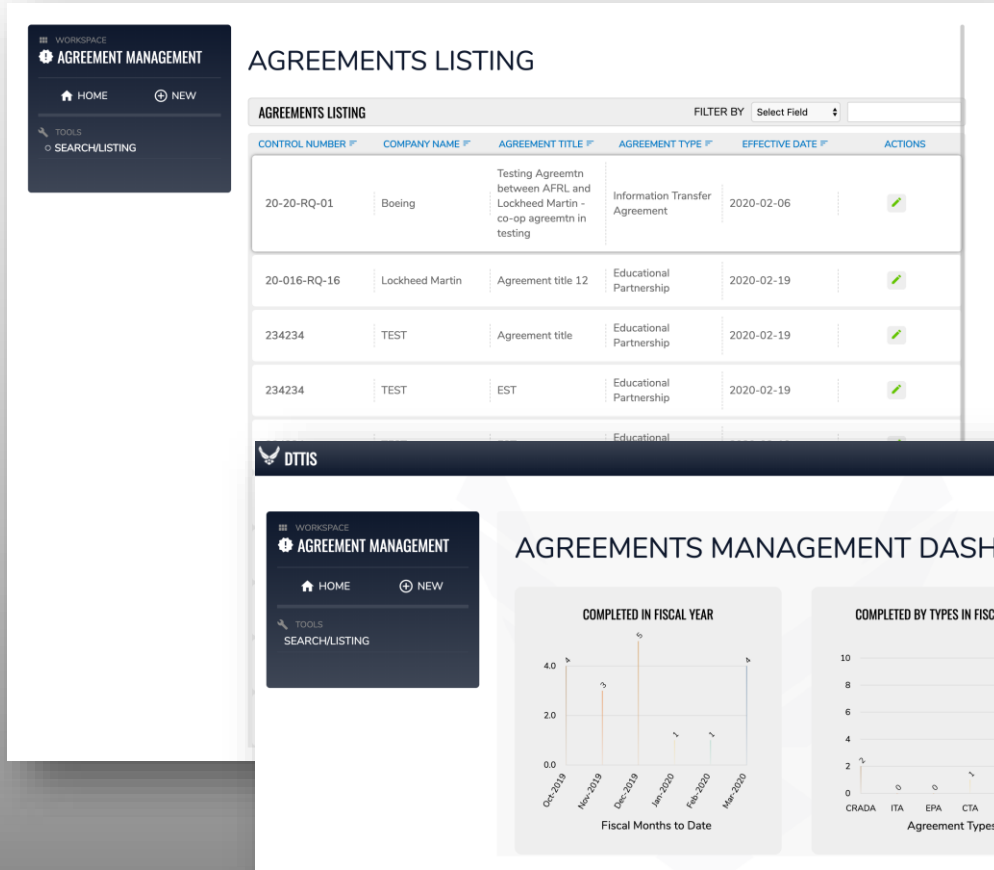
PATENT ISSUE DATE

APPLICATION SERIAL NO

APPLICATION FILING DATE

PATENT MAINTENANCE FEES

Agreements Management Workspace



AGREEMENTS LISTING

AGREEMENTS LISTING FILTER BY Select Field

CONTROL NUMBER	COMPANY NAME	AGREEMENT TITLE	AGREEMENT TYPE	EFFECTIVE DATE	ACTIONS
20-20-RQ-01	Boeing	Testing Agreemtn between AFRL and Lockheed Martin - co-op agreemtn in testing	Information Transfer Agreement	2020-02-06	✓
20-016-RQ-16	Lockheed Martin	Agreement title 12	Educational Partnership	2020-02-19	✓
234234	TEST	Agreement title	Educational Partnership	2020-02-19	✓
234234	TEST	EST	Educational Partnership	2020-02-19	✓

AGREEMENTS MANAGEMENT DASHBOARD

COMPLETED IN FISCAL YEAR

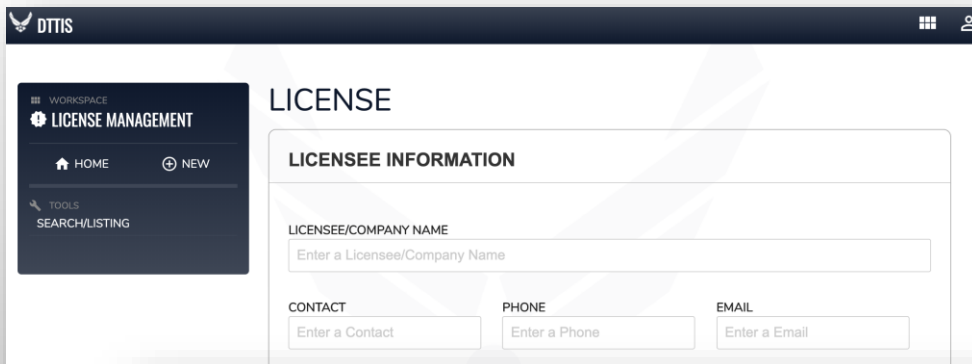
Fiscal Month	Count
Oct-2019	4
Nov-2019	3
Dec-2019	5
Jan-2020	1
Feb-2020	1
Mar-2020	4

COMPLETED BY TYPES IN FISCAL YEAR

Agreement Type	Count
CRADA	0
ITA	1
EPA	1
CTA	2
PLA	4
OTHER	10

- 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



DTTIS

WORKSPACE
LICENSE MANAGEMENT

HOME NEW

TOOLS
SEARCH/LISTING

LICENSE

LICENSEE INFORMATION

LICENSEE/COMPANY NAME

CONTACT PHONE EMAIL

- Customized workspace to manage licenses

Exclusive, Co-Exclusive, Non-Exclusive, and more.

- Dashboard to view real-time metrics

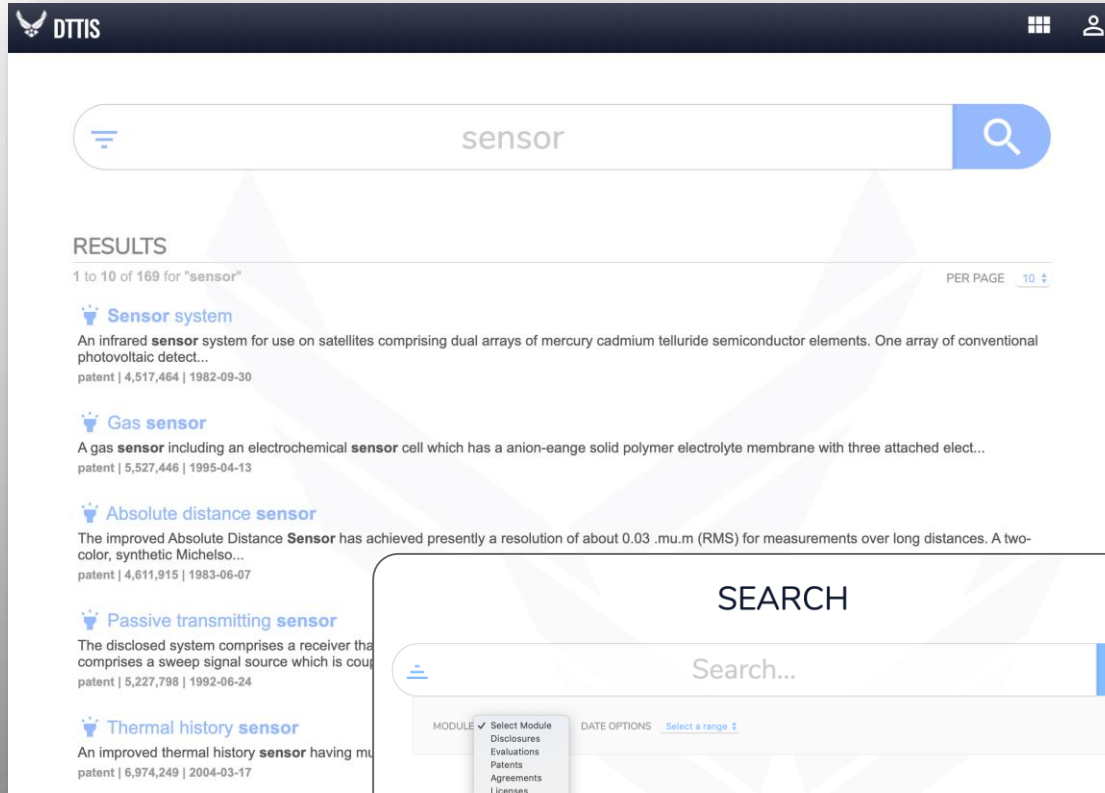
Metrics breakdown by license types, number of licenses executed in date period, and more.

- Upcoming Enhancements

License Royalty Tracking and Distribution



Keyword Full-Text Search Engine



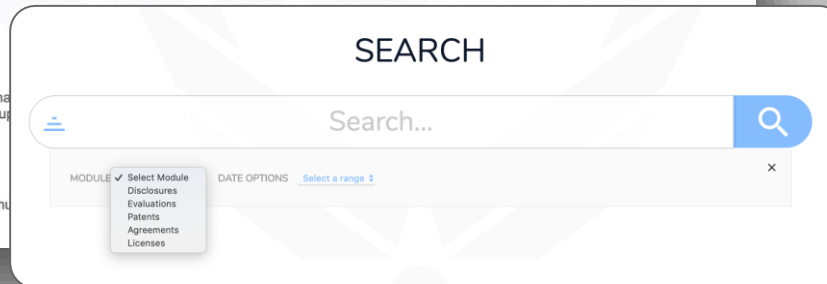
DTTIS

sensor

RESULTS

1 to 10 of 169 for "sensor" PER PAGE 10

- Sensor system**
An infrared **sensor** system for use on satellites comprising dual arrays of mercury cadmium telluride semiconductor elements. One array of conventional photovoltaic detect...
patent | 4,517,464 | 1982-09-30
- Gas sensor**
A gas **sensor** including an electrochemical **sensor** cell which has a anion-eange solid polymer electrolyte membrane with three attached elect...
patent | 5,527,446 | 1995-04-13
- Absolute distance sensor**
The improved Absolute Distance **Sensor** has achieved presently a resolution of about 0.03 .mu.m (RMS) for measurements over long distances. A two-color, synthetic Michelson...
patent | 4,611,915 | 1983-06-07
- Passive transmitting sensor**
The disclosed system comprises a receiver that comprises a sweep signal source which is coupled...
patent | 5,227,798 | 1992-06-24
- Thermal history sensor**
An improved thermal history **sensor** having mu...
patent | 6,974,249 | 2004-03-17



SEARCH

Search...

MODULE Select Module
Disclosures
Evaluations
Patents
Agreements
Licenses

DATE OPTIONS [Select a range](#)

- 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



NASA TECHNOLOGY
TRANSFER PROGRAM

■ 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



Intuitive User Interfaces (Both External & Internal)



NASA Authentication (User Account Management)

Authorization (Access Control)

T2 REST(ful) APIs and Web Services



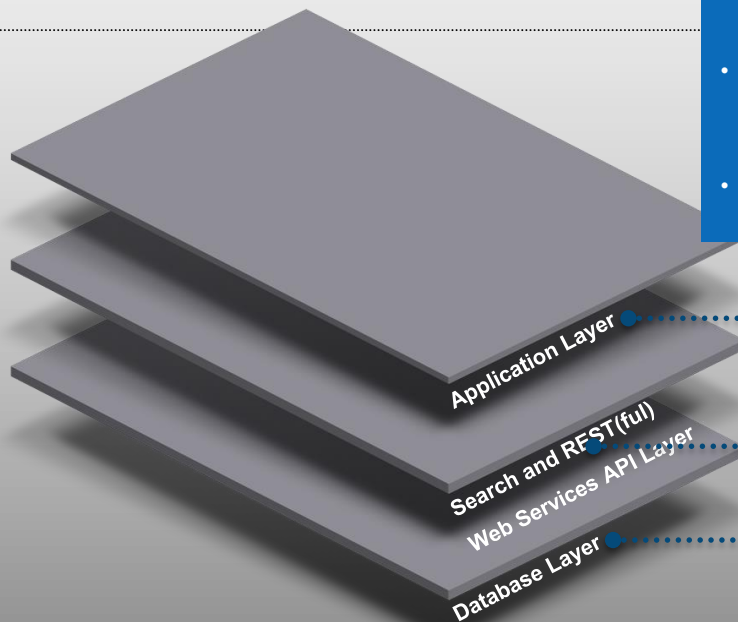
NTTS Search & Analytics Engine

Automated Workflow Engine

NETMARK XDB Database Framework

NTTS System Overview

DEDICATED VIRTUAL OR CLOUD-BASED HOSTING



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



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.)	●	●	○	○
<p>● Full capacity ● Partial capacity ○ No capacity</p> <p>Important Notes:</p> <ol style="list-style-type: none"> 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!



Agency: NASA	OMB Control Number: 2700-0169
Expiration Date: 12/31/2021	ICR Reference Number: 201811-2700-001
Title: Automated Technology Licensing Application System (ATLAS)	ICR Annual Costs: \$ 169,920
ICR Annual Responses: 360	ICR Annual Hours: 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