Lab Research and Unified R&E Data for the Defense Community

4 April 2011

Dr. John Fischer

Information for the Defense Community DTIC

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Agenda

- **Overview of the Defense Laboratory Enterprise**
  - Mission
  - Size & Scope
  - Criticality of Reliable R&E Reporting

- **Unified Research & Engineering Database**
  - Purpose
  - Stakeholders & Limitations
  - R&E Reporting Challenge

- **Implementing the URED**
  - New Reporting Process
  - Benefits of the URED

Defense Laboratory Enterprise Mission

- **Maintain awareness of global science and technology developments occurring in key areas of national security interest**

- **Invest in and deliver a portfolio of ST&E* projects that support future warfighting needs and ensuring the DoD's position as the world's leader in emerging areas of science and technology that are important to our national security posture**

- **Plan for and invest in a laboratory infrastructure and equipment re-capitalization process**

- **Serve as an effective and efficient buyer for the DoD and Services to meet operational warfighter needs**

- **Fulfill critical warfighter needs with rapid acquisition and fielding of emergent solutions to support the current fight**

*Science, Technology & Engineering

Defense Laboratory Enterprise

- **67+ Service and DoD-owned Laboratories**
  - Overseas locations / 100s of individual laboratory facilities
- **~$30B / year in Total Funds Executed (RDT&E, Proc, O&M, MilCon)**
  - **>60% Out-of-House:** Mix of Partnerships, with industry and academia
  - **<40% In-House:** Diverse customers and competencies
  - *Total Revenue would put it in the Fortune 100*
- **>$14B / year in Total RDT&E (BA* 1 - 7)**
- **>$7B / year in Total S&T (BA 1 – 3)**
- **~39,000+ Scientists and Engineers**
  - 100,000 total employees – mixed government and contractor personnel
  - International partnerships and working relationships
- **Diverse S&T capabilities and infrastructure mix**
  - World leading research (Laser, Night Vision, Aero, Energetics, Armor, etc.)
  - Innovative and capable defense engineering work across all warfighting domains
  - Practical implementation and solutions to legacy and current tech challenges
- **Extended national technical footprint**
  - 23 Department of Energy Labs
  - 10 FFRDC**labs
  - 13 UARCs*** / 100s of Universities

Criticality of R&E* Reliable Reporting

- **Without reliable R&E reporting, ASD(R&E)* is hindered in its ability to execute responsibilities under DoD Directive 5134.3 "Director of Defense Research and Engineering", with specific impact to the:**
  - Laboratories Office
  - Horizon Scanning
  - STEM
  - Joint S&T Support Office

- **Ultimately, these gaps manifest as a limited understanding of Department-wide R&E activities, analytic problems, and failure to generate the data necessary to communicate and advocate for change**

- **Understanding our current program portfolio and new technology concepts is essential to our success**

*Research & Engineering   **Assistant Secretary of Defense for Research & Engineering

Unified Research & Engineering Database (URED)

Purpose

- **Current R&E reported is hindered due to**
  - Multiple, uncoordinated R&E reporting mechanisms
  - Lack of clear R&E reporting policies

- **The Unified R&E Database (URED) will streamline, update and modernize R&E reporting across the DoD**
  - The combination of the Research Summaries database (d/b), R&E d/b and In-house S&T Activities Report (ISTAR) will drive the long term utility of current reporting mechanisms and facilitate a plethora of analytic activities critical to supporting core technical competencies and warfighter outcomes

- **This integrated reporting system will enable more rapid and effective analysis of technology investment across the**
  - Defense Laboratory Enterprise
  - Industry
  - Academia
  - International Partners

Stakeholders & Limitations

- **Tasking assigned by ASD(R&E) Principal Deputy (Mr. Shaffer)**
  - August Memo: "Integrate R&E reporting…"
  - September Memo: "Initiate Working group…"

- **Services:**
  - ASN RDA*
  - ASA ALT**
  - SAF AQ***
  - DoD Laboratories

- **Limitations**
  - Reporting (R&E) activities by the sponsors, performers and customers, industry and other stakeholders suffers from three major limitations:
    1. Significant policy gaps exist regarding R&E reporting requirements; and
    2. Inconsistent reporting implementation across fragmented, antiquated data repositories
    3. Lack of user access

*Assistant Secretary of the Navy for Research, Development and Acquisition   **Assistant Secretary of the Army for Acquisition, Logistics and Technology

***Secretary of the Air Force-Acquisition   **UNCLASSIFIED**
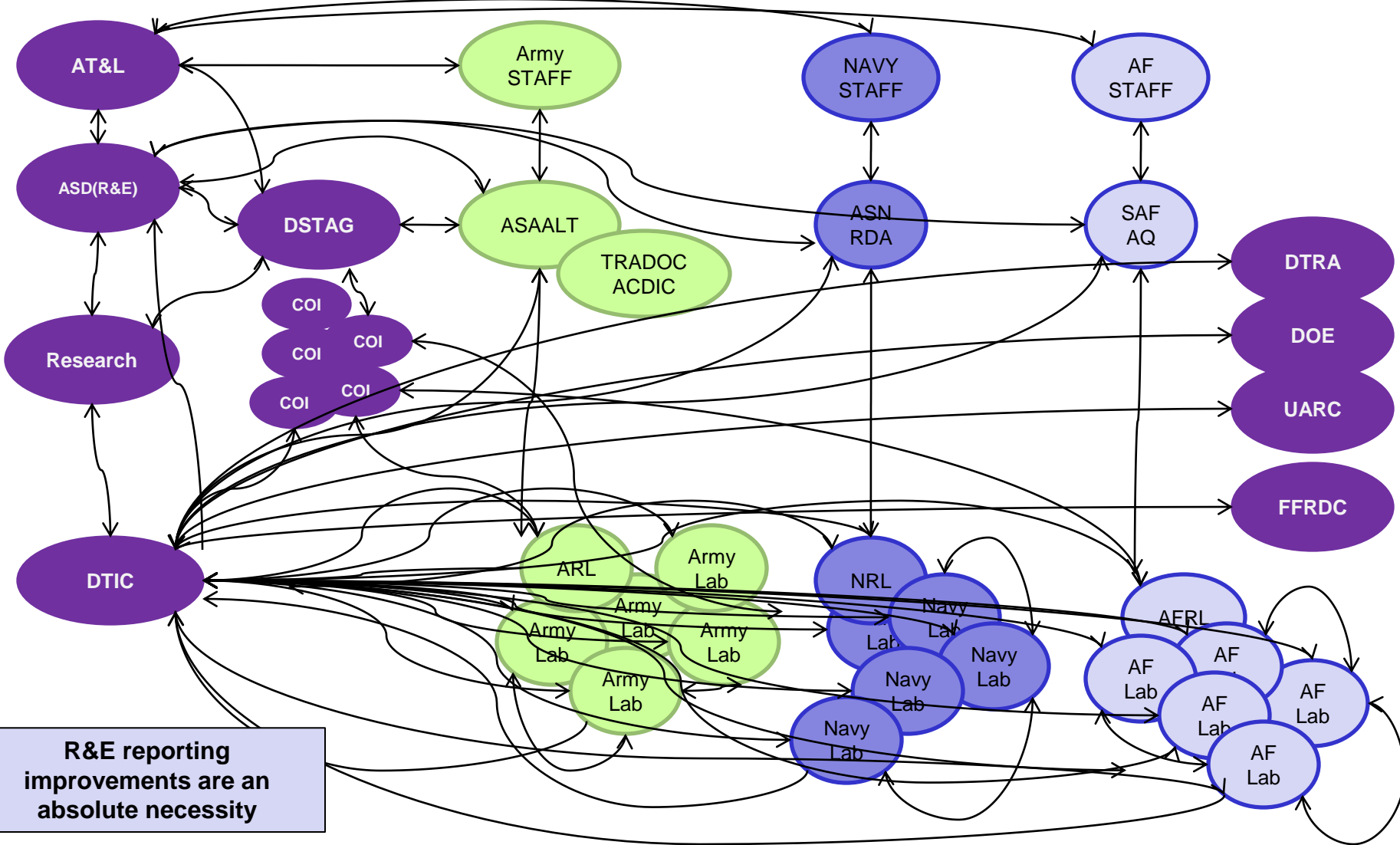
R&E Reporting Challenge

- **Currently, several inefficiencies exist leading to poor reporting:**
  - Multiple uncoordinated R&E reporting repositories and formats exist
  - ASD(R&E) lacks an effective R&E reporting policy
  - Reporting is implemented inconsistently across the Services

- **Poor R&E reporting is problematic to multiple aspects of ASD(R&E) roles and responsibilities**
  - Data and analytic gaps negatively impact stewardship responsibility
  - A lack of systematic reporting inhibits detailed understanding and analysis of the number, health and performance of DoD labs
  - Assessment of resource investment aligned to long-lead technology challenges [Horizon Scanning] inhibited
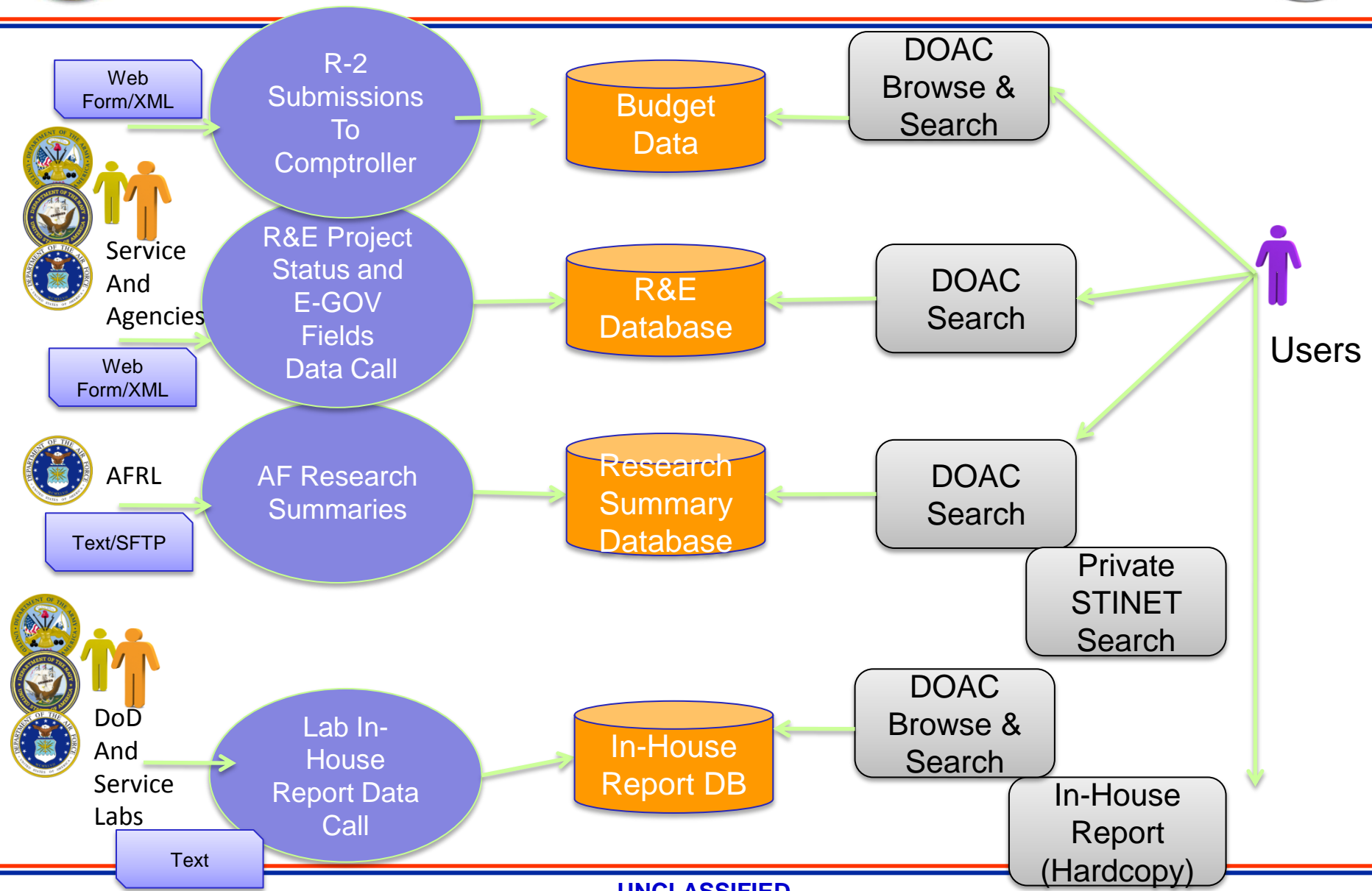
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R&E reporting improvements are an absolute necessity
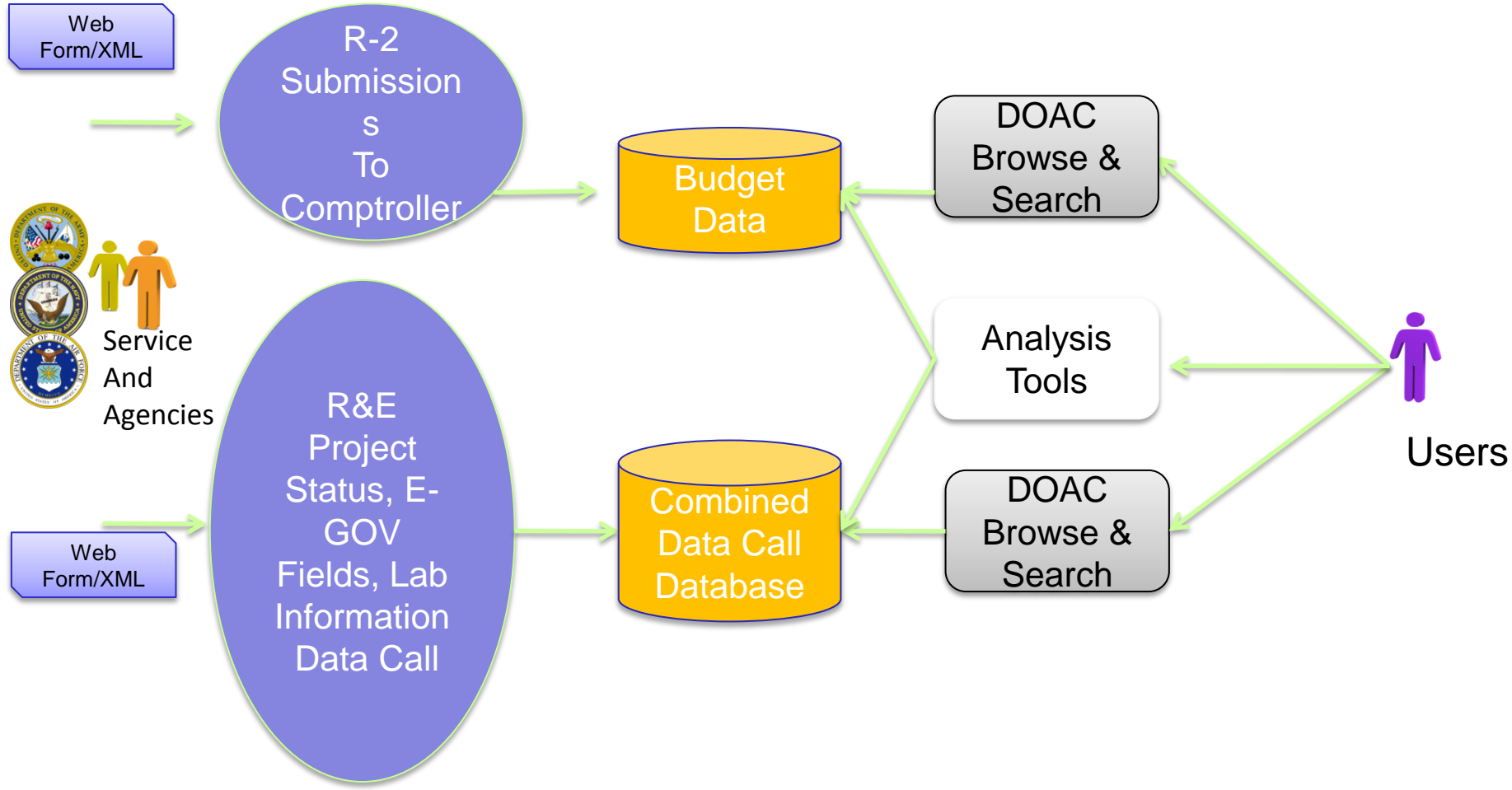
Current Method of R&E Reporting

Implementing the URED - Initiatives

- **The following two initiatives are the primary thrusts in the development of the URED**
  1. Rapidly streamline, integrate and update the multiple uncoordinated R&E reporting technologies and methodologies in use across the department
     - Standardizes access and reporting criteria
     - Removes duplication
  2. Pursue a more structured and effective policy on R&E reporting.
     - Aggressive and consistent policy mechanisms regarding Department-wide reporting of R&E activities, to include: reporting utility, timeliness, access, standardized reporting criteria and formatting

R&E Reporting Method Using URED

Web Form/XML

Service And Agencies

Web Form/XML

R-2 Submissions To Comptroller

R&E Project Status, E-GOV Fields, Lab Information Data Call

Budget Data

Combined Data Call Database

DOAC Browse & Search

Analysis Tools

DOAC Browse & Search

Users

Unified Data Call, Simplified User Interface, Analysis Tools
Reduced Workload on Researchers and Labs/Improved Tools for Users

Benefits of URED

- Improve insight into the health and performance of Core Technical Competencies (CTCs) and STIPL*-driven requirements

- Improve top-down budgetary performance by entities performing R&E activities

- Revitalize & streamline bottom-up R&E reporting

- Enhance user access and tools for use in assessing/managing R&E portfolio activities

- Respond more effectively to urgent Departmental requests for insight into R&E activities

- Improve analysis and metrics on R&E activities

- Modernize and streamline R&E reporting activities while maximizing costs

Questions?

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