Defense Critical Infrastructure Program

NDIA
National Small Business Conference
May 15-17, 2007

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Office of the Assistant Secretary of Defense for
Homeland Defense & Americas' Security Affairs

"Possibly the single most transforming thing in our forces will not be a weapons system, but a set of interconnections and a substantially enhanced capability because of that awareness."

Secretary of Defense
Donald Rumsfeld
August 9, 2001

Homeland Security vs. Homeland Defense

HOMELAND SECURITY (HLS): A concerted national effort to prevent terrorist attacks within the U.S., reduce America's vulnerability to terrorism, and minimize the damage and recover from attacks that do occur. (*from National Strategy for Homeland Security, The White House, 16 July 2002*)

HOMELAND DEFENSE (HD): The protection of U.S. sovereignty, territory, domestic population, and *critical defense infrastructure* against external threats and aggression. (*DoD Directive 5111.13, draft*)

DCIP Program-Wide Mission-Vision-Goals

***Mission*:**

Enhance Risk Management Decisions At All Levels To Ensure That Defense Critical Infrastructure Is Available When Required
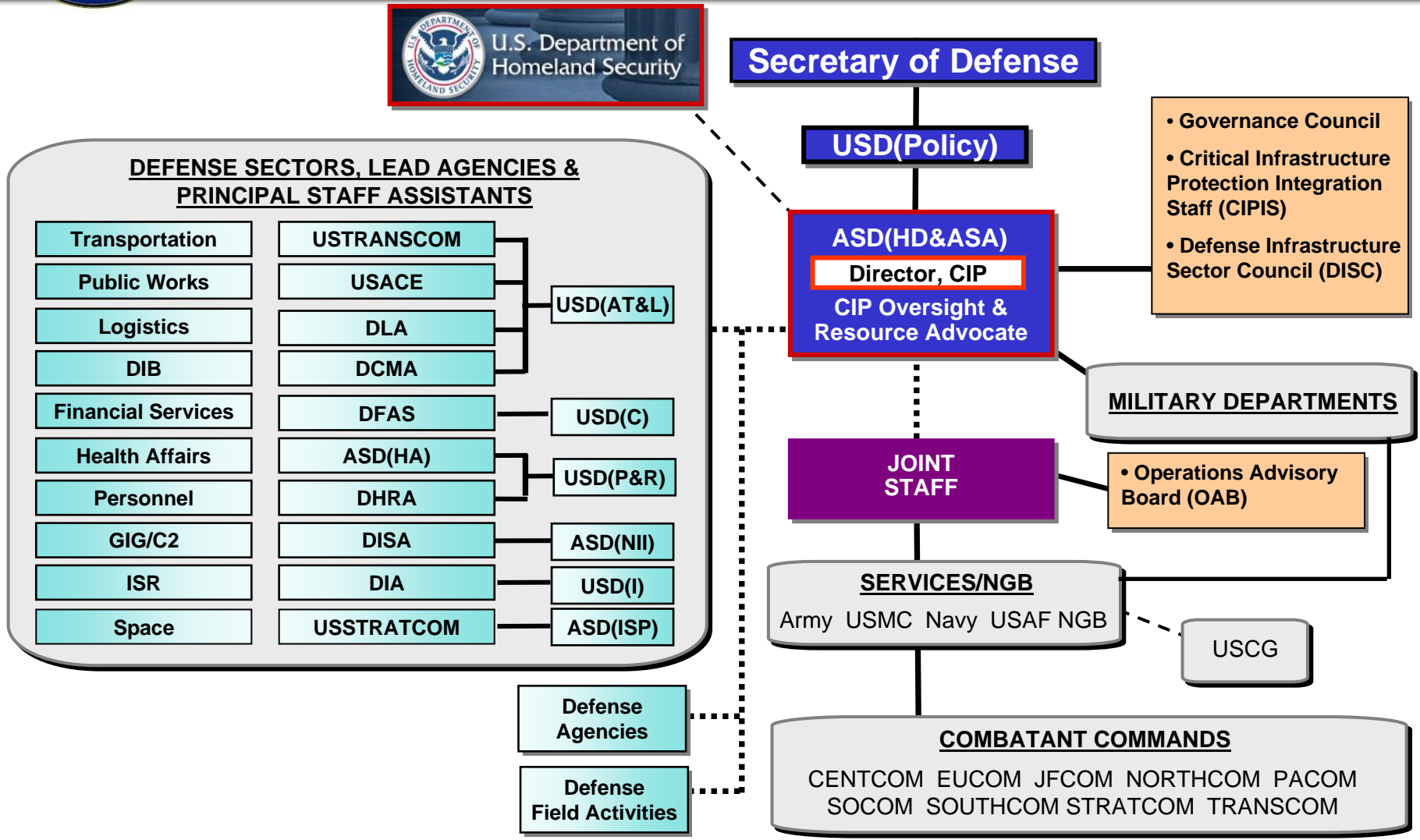
***Vision*:**

Assurance of Defense Mission Critical Infrastructure in an All Hazards Environment

Goals:

- Policy and Program Guidance
- Strategic Partnerships & Enabling Technologies
- Plans, Programs and Capabilities Integrated and Implemented At All Levels
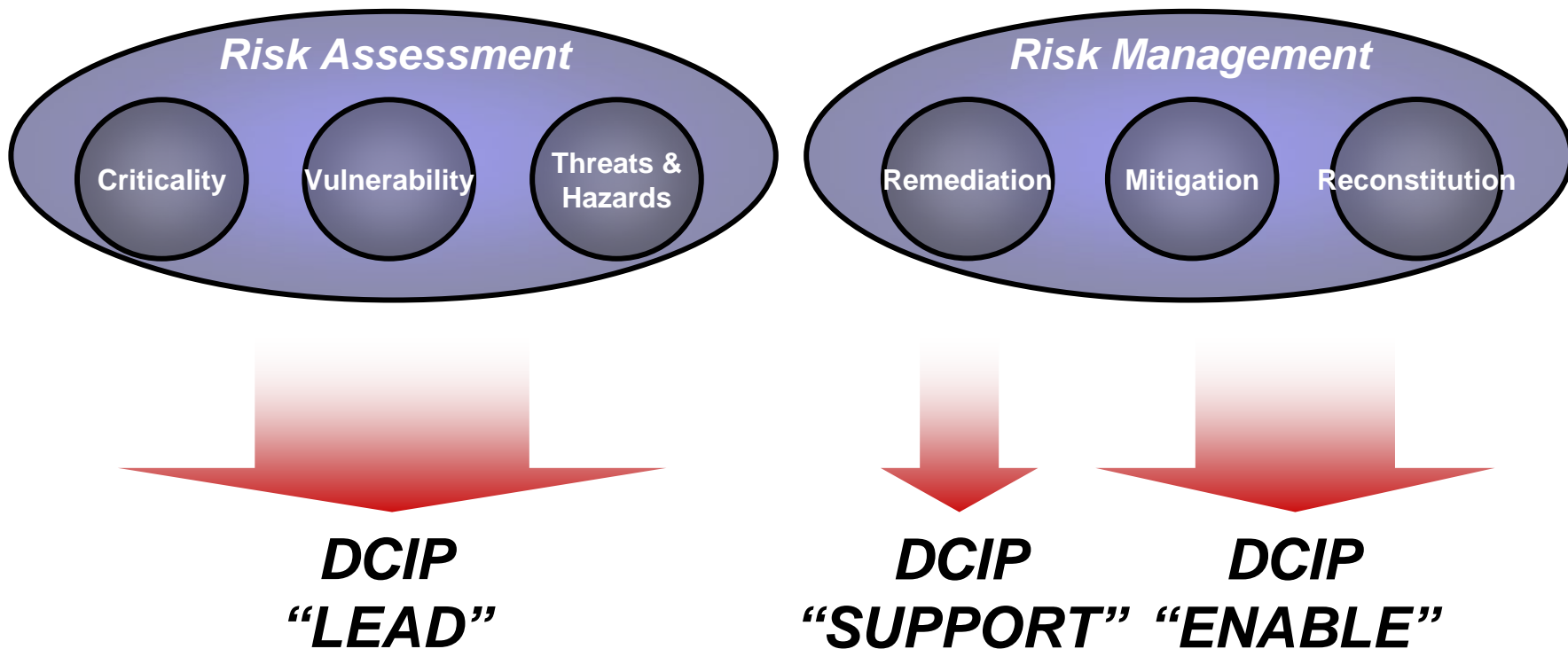- Resourcing At All Levels
- Education and Outreach

DoD CIP Organizational Framework

U.S. Department of Homeland Security

Secretary of Defense

USD(Policy)

- **Governance Council**
- **Critical Infrastructure Protection Integration Staff (CIPIS)**
- **Defense Infrastructure Sector Council (DISC)**

ASD(HD&ASA)
Director, CIP
CIP Oversight & Resource Advocate

DEFENSE SECTORS, LEAD AGENCIES & PRINCIPAL STAFF ASSISTANTS

Sector	Lead Agency	PSA
Transportation	USTRANSCOM	USD(AT&L)
Public Works	USACE	
Logistics	DLA	
DIB	DCMA	
Financial Services	DFAS	USD(C)
Health Affairs	ASD(HA)	USD(P&R)
Personnel	DHRA	
GIG/C2	DISA	ASD(NII)
ISR	DIA	USD(I)
Space	USSTRATCOM	ASD(ISP)

MILITARY DEPARTMENTS

JOINT STAFF

- **Operations Advisory Board (OAB)**

SERVICES/NGB
Army   USMC   Navy   USAF NGB

USCG

Defense Agencies

Defense Field Activities

COMBATANT COMMANDS
CENTCOM   EUCOM   JFCOM   NORTHCOM   PACOM
SOCOM   SOUTHCOM   STRATCOM   TRANSCOM

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Defense Critical Infrastructure Program Core Activities

Risk Assessment

- Criticality
- Vulnerability
- Threats & Hazards

Risk Management

- Remediation
- Mitigation
- Reconstitution

DCIP "LEAD"

DCIP "SUPPORT"   "ENABLE"

Risk Assessment: A systematic examination of risk, using disciplined processes, methods, and tools. It provides an environment for decision making to continuously evaluate and prioritize risks and recommend strategies to remediate or mitigate those risks. (from DoDD 3020.40)

Risk Management: A process by which decision makers accept, reduce, or offset risk. (from DoDD 3020.40)

Homeland Security Presidential Directive (HSDP)-7

- Enhance the protection of our Nation's critical infrastructure and key resources against terrorist attacks

- Identify, prioritize and coordinate the protection of critical infrastructure and key resources in order to prevent, deter and mitigate the effects of deliberate efforts to destroy, incapacitate or exploit them.

- Work closely with State and local governments **and the private sector**.

NATIONAL CI/KR SECTORS

Department of Agriculture
- Agriculture, food (meat, poultry, egg products)

Department of Health and Human Services
- Public Health and healthcare
- Food (other than meat, poultry, egg products)

Environmental Protection Agency
- Drinking water and wastewater treatment systems

Department of Energy
- Energy, including the production, refining, storage, and distribution of oil and gas, and electric power (except for commercial nuclear power facilities)

Department of the Treasury
- Banking and Finance

Department of the Interior
- National monuments and icons

Department of Defense
- Defense Industrial Base

Department of Homeland Security
- Chemical
- Commercial facilities
- Dams
- Emergency services
- Commercial nuclear reactors, materials, and waste
- Information Technology
- Telecommunications
- Postal and shipping
- Transportation systems
- Government facilities

The Defense Industrial Base

- The Defense Industrial Base (DIB) is the DoD, government, and private-sector worldwide industrial complex with capabilities to perform research and development, design, produce, and maintain military weapon systems, subsystems, components, or parts to meet military requirements.

- Because the DIB is inherent to and integrated with the infrastructure vital to the DoD execution of the National Military Strategy, the Defense Critical Infrastructure Program (DCIP) includes DoD efforts to identify, prioritize and coordinate the protection of critical DIB assets.

Office of Small Business Programs

The Department of Defense (DoD) Pilot Mentor-Protégé Program seeks to encourage major DoD prime contractors (mentors) to develop the technical and business capabilities of small disadvantaged businesses (SDBs) and other eligible protégés. www.acq.osd.mil/osbp/mentor_protege

The Department of Defense (DoD) SBIR and STTR programs fund $900 million each year in early-stage R&D projects at small technology companies -- projects that serve a DoD need and have commercial applications. www.acq.osd.mil/osbp/sbir/index.htm

- The Indian Incentive Program (IIP) is a congressionally sponsored program that provides a 5 percent rebate, on the total amount subcontracted to an Indian-Owned Economic Enterprise or Indian Organization, back to the prime contractor in accordance with DFARS Clause 252.226-7001. Through the generation of subcontracts to the above mentioned entities, the IIP fulfills its purpose as an economic multiplier for Native American communities. DoD prime contractors, regardless of size of contract, that contain the above referenced clause(s) are eligible for incentive payments. www.acq.osd.mil/osbp/programs/iip/index.htm

Note: DoD prime contractors with a contract of $500,000.00 or more, that contain the above referenced clause(s), are eligible for incentive payments.

Office of Small Business Programs

The DoD Women-Owned Small Business (WOSB) Program highlights the DoD efforts to achieve the 5 percent goal for prime and subcontract awards to small business concerns owned and controlled by women.
www.acq.osd.mil/osbp/programs/wosb/index.htm

– *The program objectives are:*

- *To facilitate, preserve, and strengthen full participation for WOSB concerns in the DoD acquisition programs for goods and services.*
- *Through programs and activities, including outreach and technical assistance, support the growth of women-owned small business concerns.*

The DoD Comprehensive Subcontracting Plan Test Program authorizes the negotiation, administration, and reporting of subcontracting plans on a plant, division, or company-wide basis as appropriate. The purpose of the test is to determine whether comprehensive subcontracting plans will result in increased subcontracting opportunities for Small Business while reducing the administrative burdens on contractors.
www.acq.osd.mil/osbp/programs/csp/index.htm

Office of Small Business Programs

The DoD Regional Councils for Small Business Education and Advocacy are a nationwide network of small business specialists organized to promote the National Small Business Programs of the United States. www.acq.osd.mil/osbp/programs/regional/index.htm

The DoD has undertaken an aggressive outreach effort to identify small business concerns that are owned and controlled by veterans and service-disabled veterans. The purpose of the DoD outreach effort is to improve prime and subcontracting opportunities for veteran and service-disabled veteran-owned small business concerns.

www.acq.osd.mil/osbp/programs/veterans/index.htm

The HUBZone Empowerment Contracting Program stimulates economic development and creates jobs in urban and rural communities by providing Federal contracting preferences to small businesses. These preferences go to small businesses that obtain HUBZone (Historically Underutilized Business Zone) certification in part by employing staff who live in a HUBZone. http://www.sba.gov/hubzone/

Office of Small Business Programs

The Department of Defense has entered into agreements with Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), Tribal Colleges and Universities (TCUs), and other minority institutions of higher education.
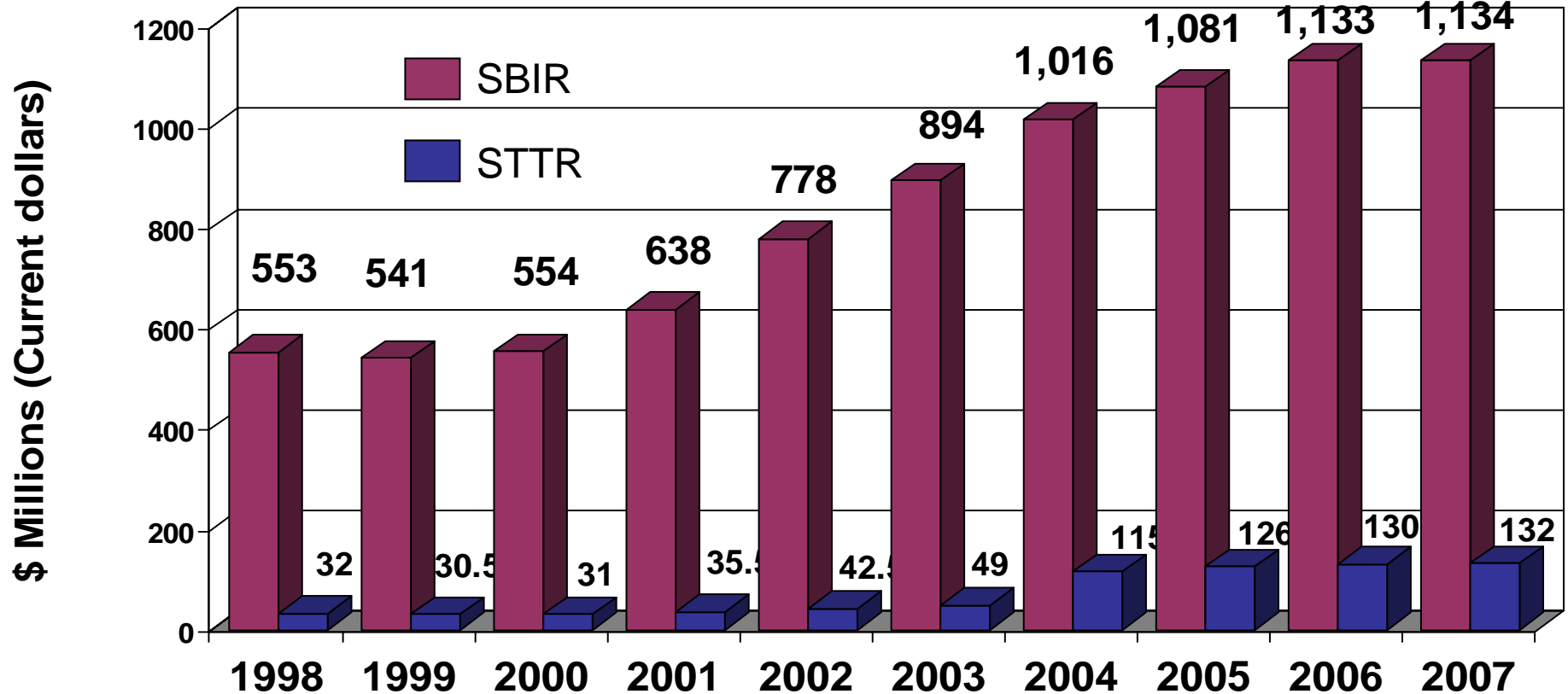
DoD Prime and Subcontract Awards to Small Businesses
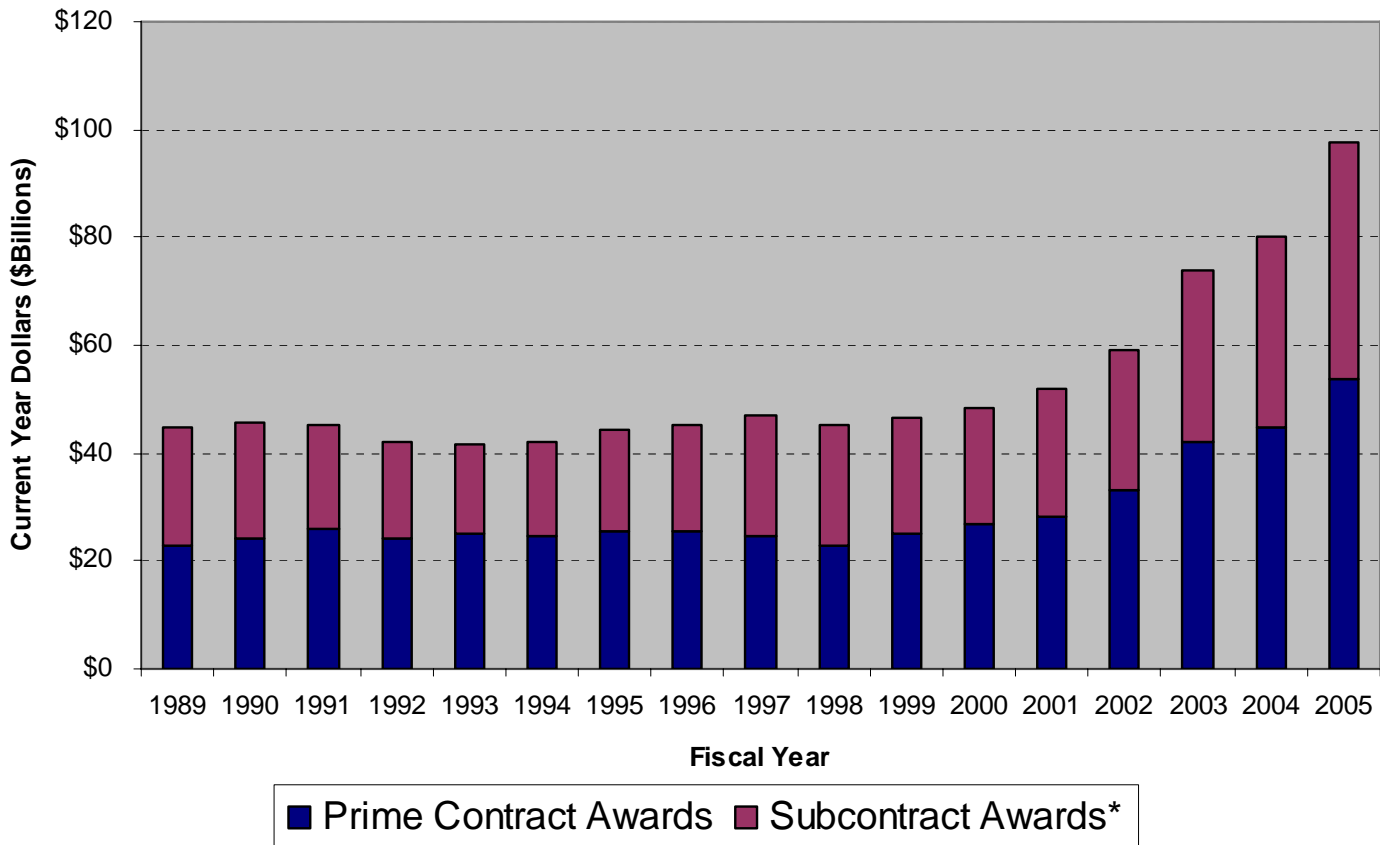
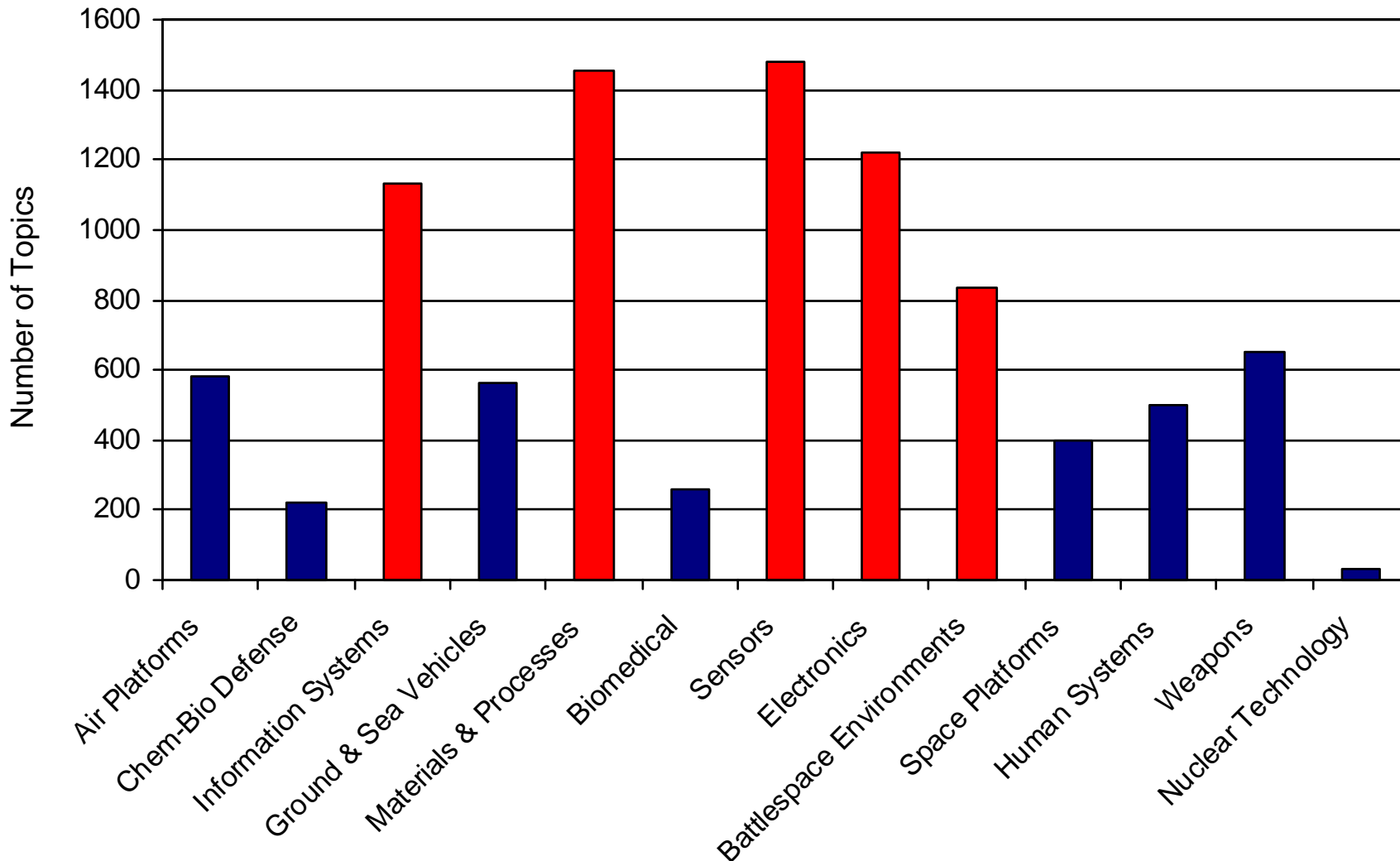**Small businesses play a critical role within the defense supplier base—prime and subcontract dollars are increasing.**

*Includes only reportable subcontracts

SBIR & STTR BUDGETS HAVE GROWN

Increasing RDT&E appropriations have driven strong SBIR and STTR budget growth.

AT&L GOALS

TOPIC TECHNOLOGY AREAS:
Focus of SBIR Investments

Number of Topics (y-axis, 0 to 1600)

Categories (x-axis): Air Platforms, Chem-Bio Defense, Information Systems, Ground & Sea Vehicles, Materials & Processes, Biomedical, Sensors, Electronics, Battlespace Environments, Space Platforms, Human Systems, Weapons, Nuclear Technology

CONCENTRATION OF EFFORT

Knowledge Display & Aggregation System (KDAS)

DCIP Infrastructure Resilience Knowledge System

The Infrastructure Resilience Knowledge System is a tool set to provide capabilities that support DoD's Defense Critical Infrastructure Program (DCIP) missions and objectives of ensuring the availability of critical networked assets through the identification and assessment of resources essential for executing the national military strategy. This integrated, comprehensive system consists of an intuitive GIS-based graphic user interface (GUI) and toolset that allows for the collection, integration, analysis, visualization, and output of disparate data related to defense critical infrastructure worldwide. These tools provide a means to assess the status as well as the adequacy of resources in the event of a loss or degradation of critical infrastructure elements through identification and prioritization of critical infrastructures, impact assessment on the military industrial complex, assessment of infrastructure interdependencies, resource location and allocation analysis, and facilitation of critical decision making. The system is also useful for efficiently disseminating information gleaned from the analysis results via digital and hardcopy maps, consequence analysis reports, and database visualizations, related to vulnerability, threat assessments, warnings, and mitigation options.

In addition to providing critical information at the time of a loss or degradation, this GIS application can also be used for pre-event planning to formulate mitigation, preparedness, and possible recovery scenario priorities through analysis of existing and real-time data.

Networked Assets

Geospatial Data

Incidents

Communications

Power Infrastructure

Transportation Networks

Population

Natural Features

Geography

Tabular Data

Access

Integrate

GIS Engine
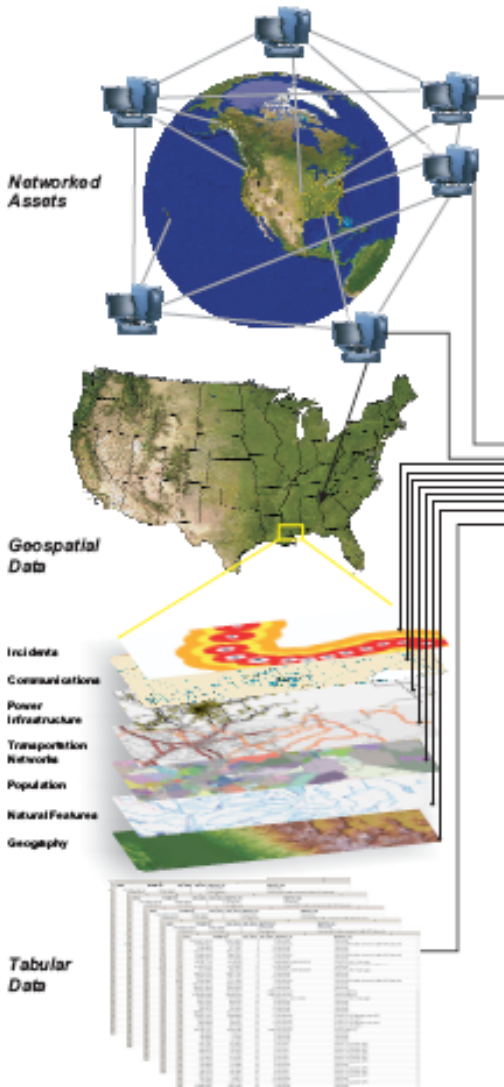
Link disparate databases through a common user interface.

Visualize
- Digital Representations
- Database Visualizations
- Vendor Distributions
- System Distributions
- Infrastructure Distributions
- Spatial Model Results

Analyze
- Proximity
- Network
- Geographic Dependency
- Multi Criteria
- Consequence
- Prioritization

Output
- Incident Reports
- Risk Calculations
- Hard Copy Reports and Maps
- Digital Reports and Maps
- Restoration Prioritization
- Recovery Planning

Graphical User Interface

Infrastructure Resilience Knowledge System

Distribution Analysis and Visualization

Database Visualization

Incident Report

Consequence Analysis
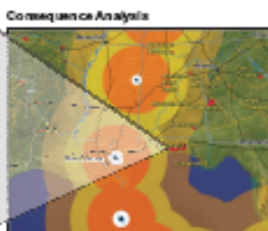
Data Sources

GOVERNMENT AGENCIES

Department of Defense

GIS & RSI Source Agencies

Federal Agencies & Commissions

Cabinet Departments

Law Enforcement Agencies

Intelligence Agencies

DISDI

PRIVATE INDUSTRY

ESRI

RDI

NAVTEQ

GDT GEOGRAPHIC DATA TECHNOLOGY

American Hospital Association

MAPSearch

esa

Burns & McDonnell

Acquiring data

Various methods of data acquisition

- **Government**
  - Direct data exchanges/partnerships
    - NGA, USGS, IVT, DISDI
  - Omnibus federal use license (NGA)
    - NAVTEQ, PLATTS, TGS, IONICS/MCH, Dunn & Bradstreet

- **Commercial/Industry**
  - Purchase existing data sets
    - Telcordia
  - MOU's/ Non-disclosure agreements
  - Contract to build new data sets

- **Coordination activities**
  - HIFLD – Homeland Infrastructure Foundation Level Database
    - Federal, state and local government participation
    - Commercial/Industry participation
  - DISDI – Defense Installation Spatial Data Infrastructure
    - Standardize installation data for all services
  - HSIP – Homeland Security Infrastructure Program
    - Joint effort with USGS and NGA
  - NADB-National Asset Database Working Group

Data Sources

Infrastructure Data

Imagery

Baseline Map
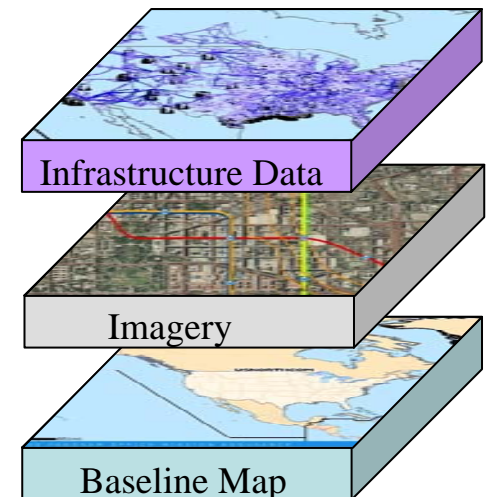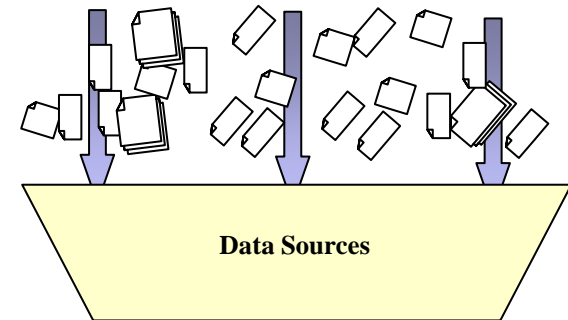
Data Management and Analysis

Data Verification, Management, and Analysis

Data Review and Verification

- *Data alone does not produce a quality DCIP product. It needs evaluation for quality/accuracy.*

- *Infrastructure experts integrate and evaluate multiple data sources using various tools to produce DCIP products.*
  - Criticality
  - Dependencies
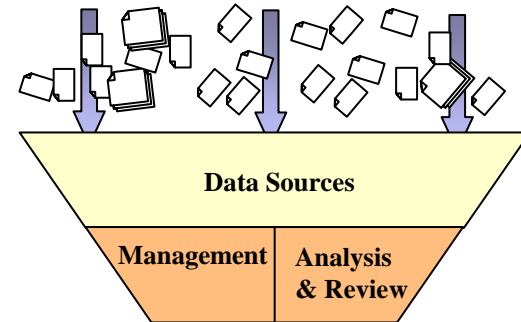 - Single Points of Failure
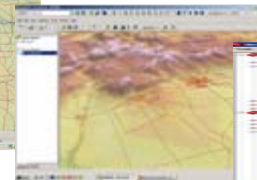
Data Management and Organization
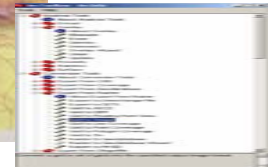

ArcCatalog

DCIP DMS
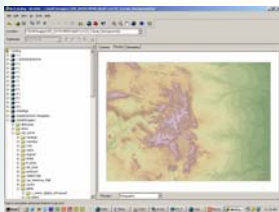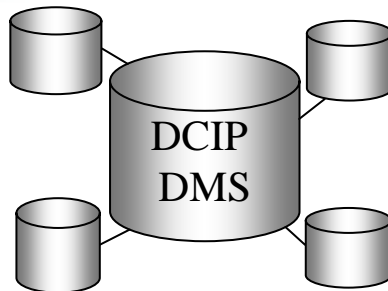
ArcSDE
Advanced Spatial Data Server

Data Sources

Management	Analysis & Review

Commercial Software Tools

ArcMap
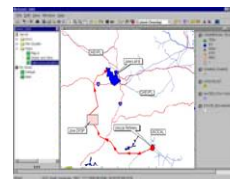
ArcScene

ArcToolbox

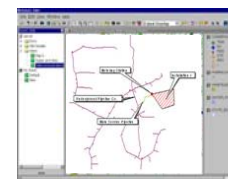**Custom Software Tools**

Telecommunications

Electric Power
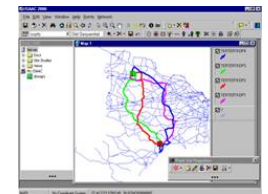
Road & Rail

Petroleum

Natural Gas
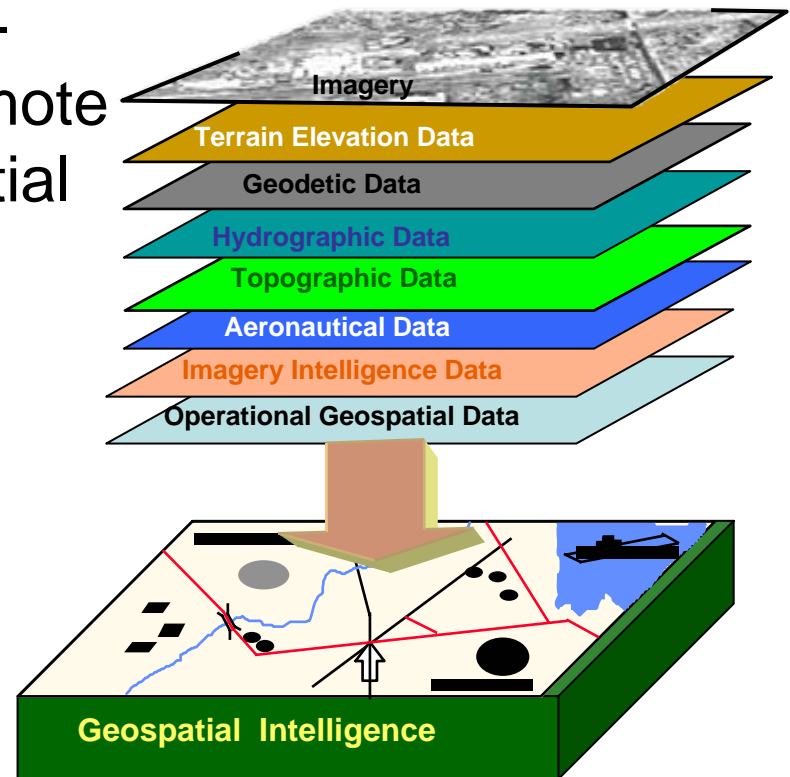
Water

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Why HIFLD Started

- Needed to fuse, analyze and visualize information – everything has a location

- Maps for decision makers were wrong

- PowerPoint Clip Art was default map of U.S.

- Needed a common geospatial foundation for multiple Homeland Defense/Homeland Security (HD/HLS) uses

- Needed partnerships to accomplish

Foreign Threat

Domestic Threat

Critical Infrastructure Protection
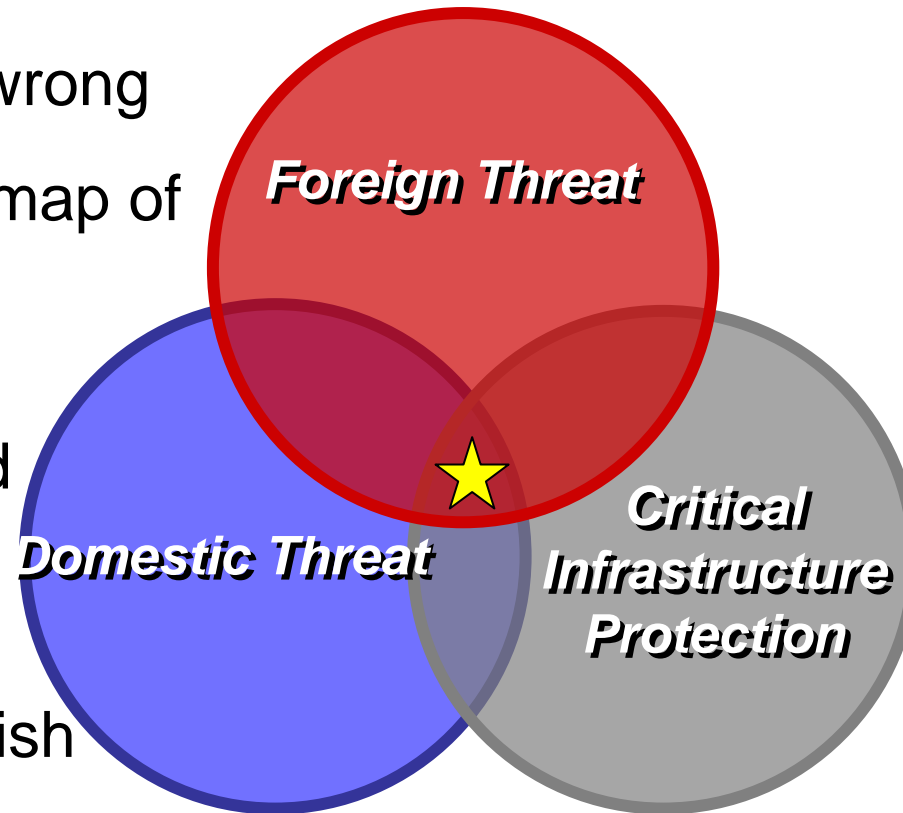
HIFLD Objective

- Collaborate with DoD, the Inter-Agency and its partners to promote domestic infrastructure geospatial information

  - **Gathering**
  - **Sharing**
  - **Protection**
  - **Visualization**
  - **Knowledge management**

Imagery

Terrain Elevation Data

Geodetic Data

Hydrographic Data

Topographic Data

Aeronautical Data

Imagery Intelligence Data

Operational Geospatial Data

Geospatial Intelligence

Visit the HIFLD Website

- **MUST be a Federal government member or be sponsored by one**
- **Access can be requested via non-passworded website (http://hifldwg.org)**
  - **"How to Join" link at top of page**
  - **Web-based access request template**
  - **If not a Federal government member, you will be prompted to provide contact info for your Federal government sponsor**
- **HIFLD Website Content:**
  - **Information and on-line registration for upcoming WG meetings**
  - **Agendas, attendee lists, briefings, and minutes from previous meetings**
  - **Searchable library of HIFLD and homeland infrastructure-related documents**
  - **Roster and contact info for all HIFLD WG members**
  - **Federal geospatial data guidance**
  - **On-line HSIP Gold data request form**

HIFLD
Homeland Infrastructure Foundation Level Database Working Group

home | about us | library | roster | calendar | acronyms | organizations | password | log out | admin

Welcome Jeffrey C. Wiser!

▶ News

HSIP Gold Available for Distribution
NGA has compiled their first annual HSIP Gold data release, which is now available for distribution.* You may request a copy of the HSIP Gold Data by submitting the following on-line data request form:

HSIP Gold Data Request Form

*For more information on HSIP Gold, what it contains, and its format, please download the HSIP GOLD Production Status Brief, which was presented at the June 05 HIFLD session.

Date added: 10-04-2005

Meeting Follow Up
The last HIFLD Working Group meeting was held on 18-19 October in Dahlgren, VA. The focus sector for this meeting was Postal & Shipping Sectors and Defense Logistics. Meeting minutes will be posted soon.

- Agenda (Word)
- Attendee List (Excel)
- Briefings

Date added: 10-20-2005

▶ Next HIFLD Meeting

When:
7-8 February 2006
(Tues-Wed)

Where:
USGS HQ Auditorium, Reston, VA

Focus Sectors:
Financial Services / Food & Agriculture

Registration:
Please register here if you plan to attend.

Logistics:
Interactive Map
Map, Directions and Hotel

Security:
Meeting will be at UNCLAS-FOUO level. There will be no need to pass clearances.

Contact Information

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