



# SPAWAR Systems Center Pacific FY12 EOY Brief to NDIA

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# RADM Patrick Brady's Guidance

## Information Dominance Vision




### Commander's Guidance

#### 2012

During 2011, SPAWAR made great strides in establishing itself as the Navy's Information Dominance Systems Command and demonstrated a renewed focus on the Fleet. This year, we will be executing some difficult decisions in response to our nation's austere fiscal environment. Without exception, we must keep our focus on delivering core Naval Information Dominance programs that enable information to become a main battery of our warfighting capability. Together, we will tackle the challenges facing us and achieve success.



RADM Pat Brady, Commander, SPAWAR

#### The Navy's Information Dominance Vision

Information will be a **main battery** of Naval warfighting capability

Our Navy is **prominent** and **dominant** in the fields of Intelligence, Surveillance, and Reconnaissance; Cyber Warfare; Command and Control; Information & Knowledge Management

**Warfighting wholeness** replaces sub-optimal stovepipes

#### SPAWAR Vision: Making the Navy's Information Dominance Vision a Reality

**SPAWAR Priorities:**      **Keep the Fleet Ready to Fight**

The Fleet comes first. We will actively engage with the Fleet, improving C4I support to the warfighter by reducing baselines, delivering the right capability and providing robust sustainment of our systems.

**Build Information Dominance Technical Authority**

We will realign our engineering workforce and grow their technical depth and breadth in order to develop and implement a System-of-Systems approach that enforces government insight, oversight and baseline control for all Navy Information Technology (IT) systems to effectively manage acquisitions and drive integration and interoperability into the Navy's IT portfolio.

**Focus on Work Integral to the Navy's Future**

As we align with the CNO's Sailing Directions, we must part with programs, roles, and processes that are not integral to the Department of the Navy's future vision or a core element of our mission.

Overarching Strategies	Guiding Principles
<ul style="list-style-type: none"> <li>• Maintain, modernize and integrate the existing Fleet</li> <li>• Build affordable future Information Dominance capability</li> <li>• Develop a premier Information Dominance acquisition workforce</li> </ul>	<ul style="list-style-type: none"> <li>• Support the Fleet</li> <li>• Collaborate through teamwork</li> <li>• Be accountable</li> <li>• Foster innovation</li> <li>• Be transparent</li> <li>• Deliver best value to the customer</li> <li>• "No seams"</li> <li>• Develop our people</li> </ul>

"The budget changes we are considering may mean the Navy will be smaller in the future. The bottom line, we cannot become a "hollow" force. And while the Navy might become smaller, I am confident we will become even more relevant to our country's national security needs."

- Admiral Jonathan Greenert, CNO

## Commander's Guidance 2012

"Information will be a main battery of Naval warfighting capability."

### SPAWAR Priorities:

- Keep the Fleet Ready to Fight
- Build Information Dominance Technical Authority
- Focus on Work Integral to the Navy's Future

# SSC Pacific: FY12 Profile

*Our People are Our Greatest Strength*

**FY12 = \$2.6 B (TOA)  
Navy Working Capital Fund**

**Highly educated workforce:**

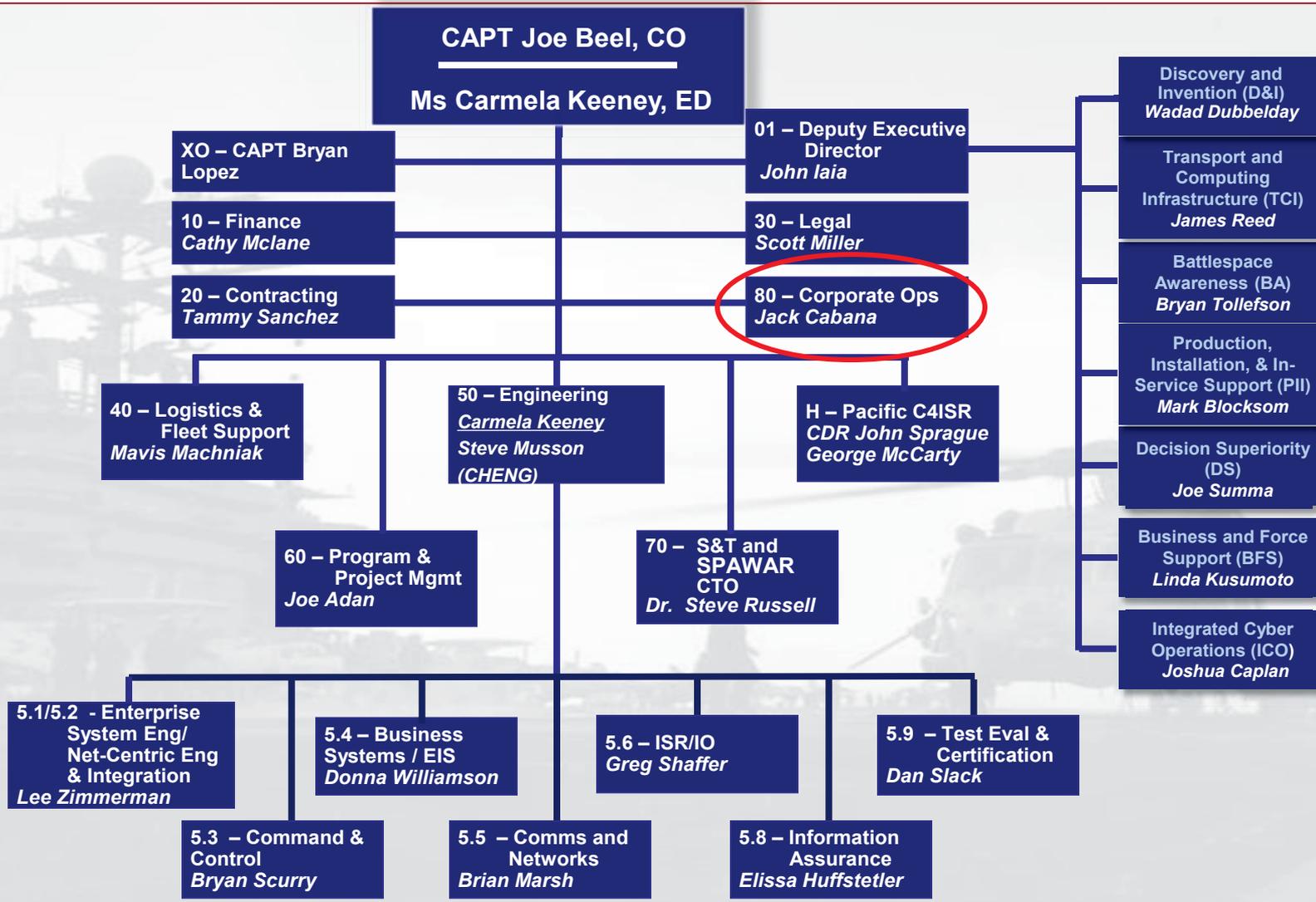
- ✓ 162 PhDs/ JDs
- ✓ 982 Masters



**387 Civilians Directly  
Supporting C4ISR with the  
Fleet Around the World**

<b>CIVILIANS</b>	<b>4179</b>
Scientists & Engineers	1987
Technicians	388
Tech Specialists	650
Administrative	883
Clerical	185
Ungraded / Other	77
ST	3
SES	6
<b>MIL</b>	<b>213</b>
Enlisted	147
Officers	66
<b>TOTAL</b>	<b>4392</b>

# SSC Pacific: Organization



# FY12 Major Initiatives

## Enterprise Software Licensing (ESL)

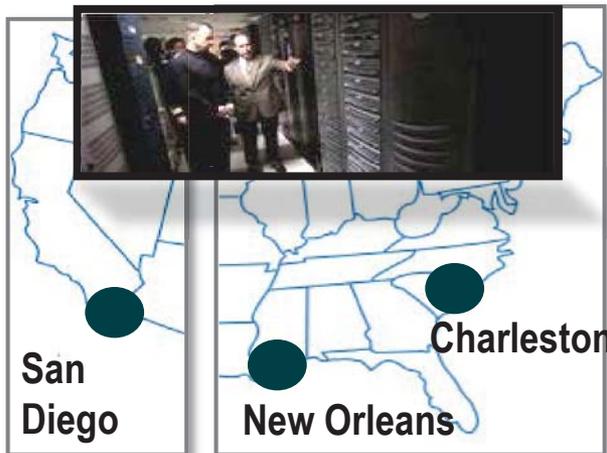


- ▼ Consolidate and centralize IT acquisition to reduce cost and optimize licensing terms
- ▼ DON ESL increases IT spend visibility and improves asset management
  - ▼ Microsoft May 2012
- ▼ DoD ESI leverages the DoD's combined buying power and implements unified vendor and contract management strategy



## Data Center Consolidation (DCC)

- ▼ ASN (RDA) directed COMSPAWAR to Lead
- ▼ Consolidate Navy legacy data centers into SPAWAR Data Centers from FY12 - FY17
- ▼ FY12: Systems – 107 / Servers – 620
- ▼ State-of-the-art 36,000 square-foot Data Centers/system hosting facilities
- ▼ Data Center and Application Optimization (DCAO) Directorate stood up



## UxV Data to the Cloud via Widgets



- ▼ Develop and demonstrate widgets leveraging Synapse Common Data Model to access unmanned system data stored in the cloud for post mission analysis
- ▼ Demonstrate direct control of unmanned systems from Ozone Widget Framework
- ▼ Aligns with principles from DCNO for Information Dominance to reduce manning, transition to autonomous systems, and one operator controlling multiple platforms

# FY12 S&T Highlights

**Microbial Fuel Cells: Free Power from the Mud!**

The diagram illustrates the process of generating power from sediment. It shows a cross-section of the seabed with a cathode at the surface and an anode at approximately -10cm depth. The cathode reaction is  $2O_2 + 4H^+ + 4e^- \rightarrow 4H_2O$ . The anode reaction is  $C_2H_5COO^- + 2H_2O \rightarrow 2CO_2 + 4H^+ + 4e^-$ . Organic matter is fermented into acetate, which is then oxidized at the anode. The resulting electrons flow through a circuit to the cathode, generating power. Key components include a carbon-graphite anode and a biocoupling agent. The system is shown in various stages: sediment power potential, relation to environmental conditions, applicability in the deep sea, operational testing, and scale-up & deployability.

**Large Displacement UUV (LDUUV)**

A large, green, autonomous underwater vehicle (AUV) is shown in a deep blue ocean environment. The vehicle has a streamlined, conical nose and a cylindrical body with various sensors and instruments mounted on its exterior. It is depicted in a dynamic, forward-moving posture.

**Mission Ready**

The interface displays a 'Mission Ready' status for the USS Benford (DDG-51). It includes a 'Unit' section with a ship icon and 'Conduct MIO Tasks' button. A 'NETOPS' indicator shows a green status. A 'Sensors' indicator shows a green status. An 'Overall Ready' indicator shows a red status with the number '4'. A central text box states: 'MTC2 provides dynamic C2, anchored by Enhanced SA through a rapid-access Information "Halo"'. Below the interface, a blue banner reads: 'Maritime Tactical C2 (MTC2) with C2 Rapid Prototyping Continuum (C2RPC) Capability'.

**AEODRS Prototype**

**Add-on Autonomy Module for Ground Robots**

A black, tracked ground robot with a large, cylindrical sensor or camera module mounted on top. The robot is shown on a light-colored surface.

**OTM C3 - HMMWV to MRAP**

**Networking on the Move (NOTM)**

A collage of images showing military vehicles and personnel. The top left shows soldiers in desert uniforms. The top right shows a large military truck. The bottom image shows a Humvee (HMMWV) and a Mine-Resistant Ambush Protected (MRAP) vehicle on a dirt road. A red banner with white text reads 'OTM C3 - HMMWV to MRAP'. Below the images, a blue banner reads 'Networking on the Move (NOTM)'.

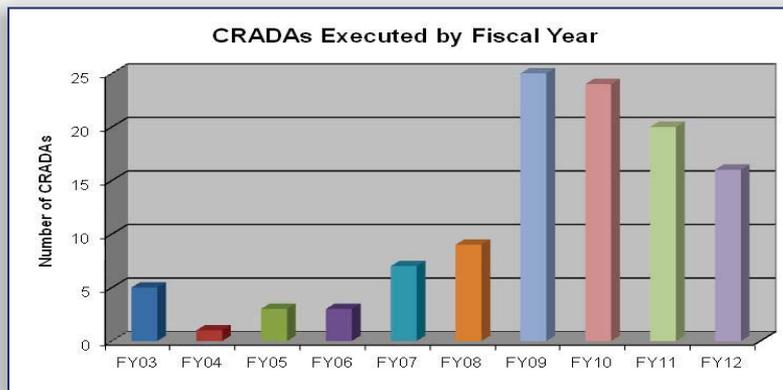
**Application of Cryogenic Cooling to Signals Exploitation**

A close-up view of a complex electronic control panel or interface. It features numerous buttons, switches, and indicator lights, arranged in a grid-like pattern. The panel is dark with metallic accents.

# Intellectual Capital and Partnerships

## CRADA - Cooperative Research and Development Agreement

- ▼ CRADAs help establish and foster R&D partnerships with industry and academia
- ▼ CRADAs help advance technology and move innovation from the lab to the market and ultimately the warfighter



### ▼ San Diego based Collaborators:

- Assure Controls
- Intellisis
- Sullivan Energy and Technology
- Trex Enterprises Corporation
- AT&T Government Solutions
- Lumedyne Technologies
- Cubic Defense Applications
- City of San Diego
- Vision Robotics Federal Systems
- SeaSpace Corporation

## Technology Transfer

### ▼ Why T2 is important at SSC Pacific

- Promotes innovation and creativity with SSC Pacific technology
- Important pathway to move Navy innovation from lab to market and ultimately the warfighter



- ▼ Two San Diego based start-up companies formed as a result of licensing SSC Pacific technologies

## Patents & Publications

PATENTS	FY12	PUBLICATIONS	FY12
Disclosures	96	Journal Article	109
Patents Filed	58	Conf. Papers	318
Patents Issued	71	TRs/TDs	29

# FY 12 Engineering Highlights



**Accelerated Midterm Interop Improvement Program (AMiIP)**



**Ballistic Missile Defense System (BMDS)**



**Explosive Ordnance Disposal Unmanned Underwater Vehicles**



**Intelligence Carry On Program (ICOP)**

**Achieved CMMI-DEV Maturity Level 3 (v1.3)**

**First successful Navy lab CMMI v1.3 appraisal**



**P-173 NCTAMS PAC Communications Center**

# FY 12 Fleet Support Highlights



- ▼ Completed 271 C4ISR installations (166 afloat, 105 ashore)
- ▼ Trained 1200+ Sailors and Civilians on Fleet C4I; delivered 115 Mobile Training Team events.
- ▼ REMEDY Tickets Created By SSC Pacific C4I Help Desk Listed By System for Fiscal Year 2012 – 14,223

## Count for FY12 IMO installations:

Platform	Completed	In progress
Ship	118	374
Sub	48	115
Shore	105	195
<b>Total</b>	<b>271</b>	<b>684</b>



# 2012 Significant Awards



**Bret Thomson**

ASN RD & A Top Scientist & Engineers of the Year Award



**Carmela Keeney**

2012 Hispanic Engineer National Achievement Awards Corporation (HENAAC)



**Sandra Cain**

2012 National Organization for Mexican American Rights (NOMAR) Meritorious Service Award



**Michelle Bui**

2012 Women of Color Technology Awards



**ITCS Jeremy Morris**

NDIA San Diego Chapter Fleet Support Awards - A. Bryan Lasswell Award



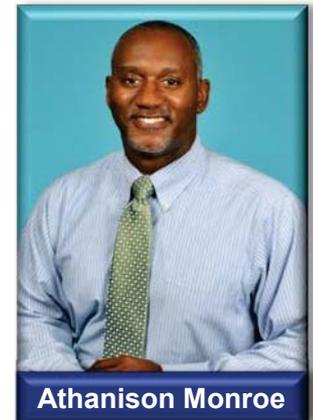
**Linda Kusumoto**

2012 American Indian Science and Engineering Society (AISES) Awards



**NCTAMS PAC C4I MILCON**

2012 DoN Information Management/Information Technology (IM/IT) Excellence Award



**Athanson Monroe**

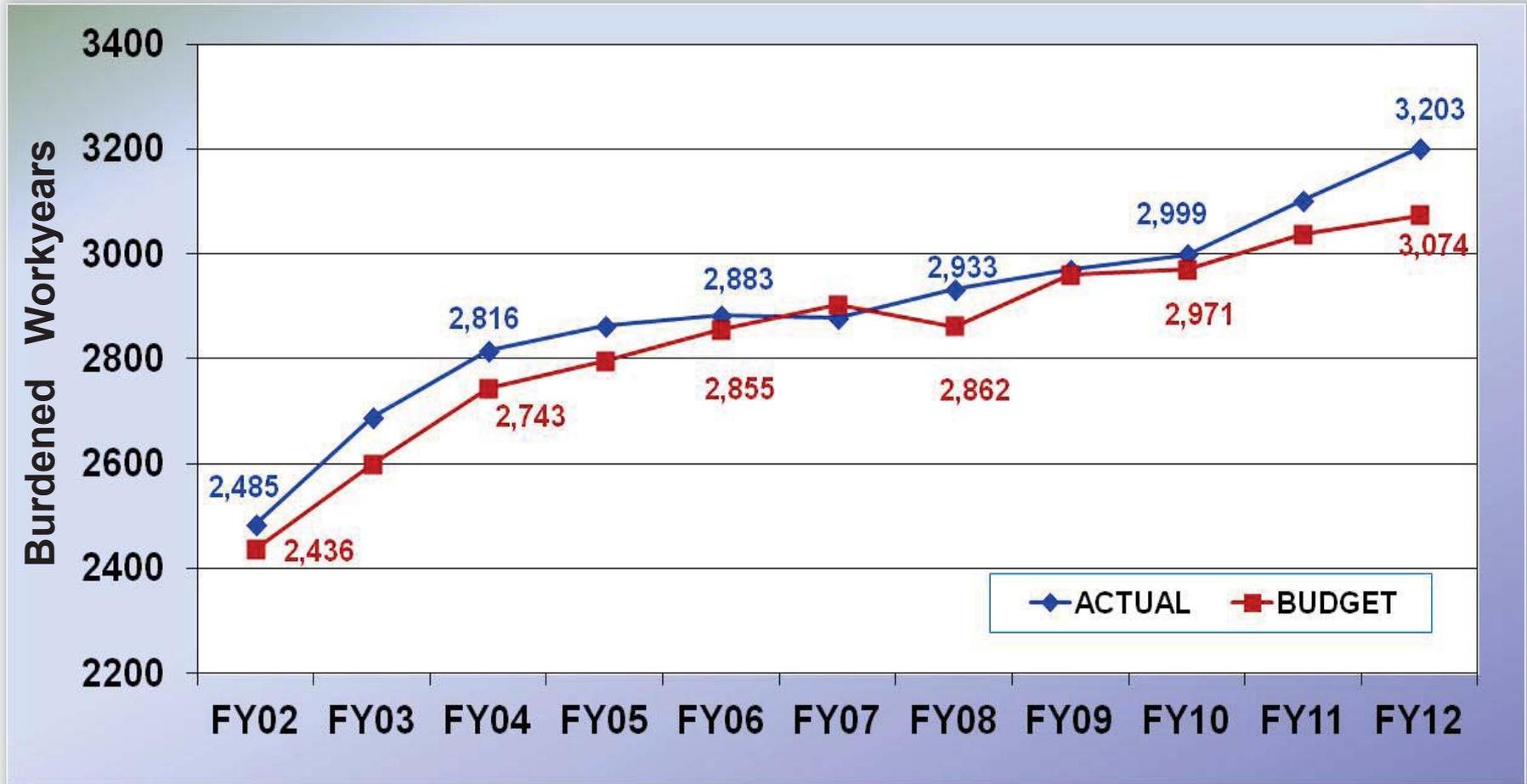
2012 Blacks in Government (BIG) Meritorious Service Award

# End of Year Snapshot

# End Strength



# Total Burdened Workyears

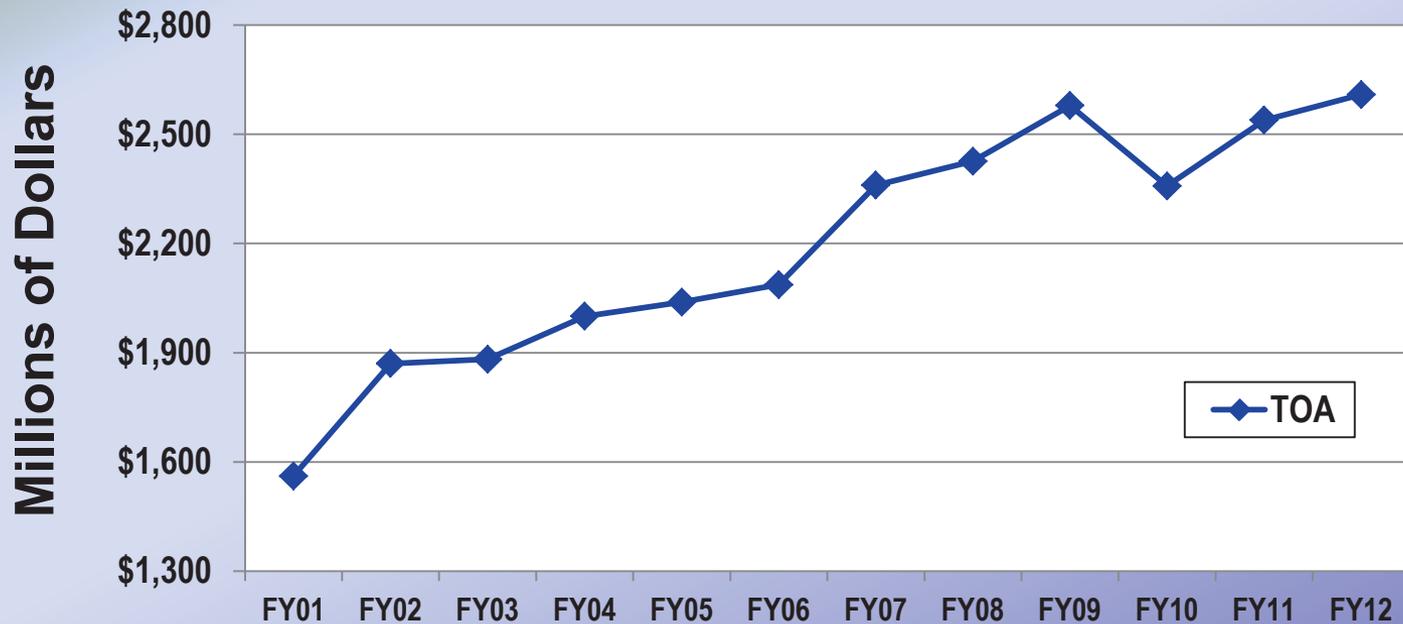


# FY12 EOY Financial Highlights

- ▼ **Total Funding ( TOA): \$2.609B**
- ▼ **Net Operating Results**
  - OSD Budget: \$5.411M Loss
  - Actual NOR: \$1.621M Profit
- ▼ **Carryover**
  - Ceiling: \$508 M
  - Actual: \$510 M
- ▼ **FY12 Efficiencies - \$30.1M Total**
  - Organizational restructuring & resource sharing - \$9M
  - Restructured operations support and staffing solutions - \$9.9M
  - Facilities, energy, admin, and IT - \$5.9M
  - Travel - \$4.8M
  - Conferences - \$0.5M

# Total Funding by Fiscal Year

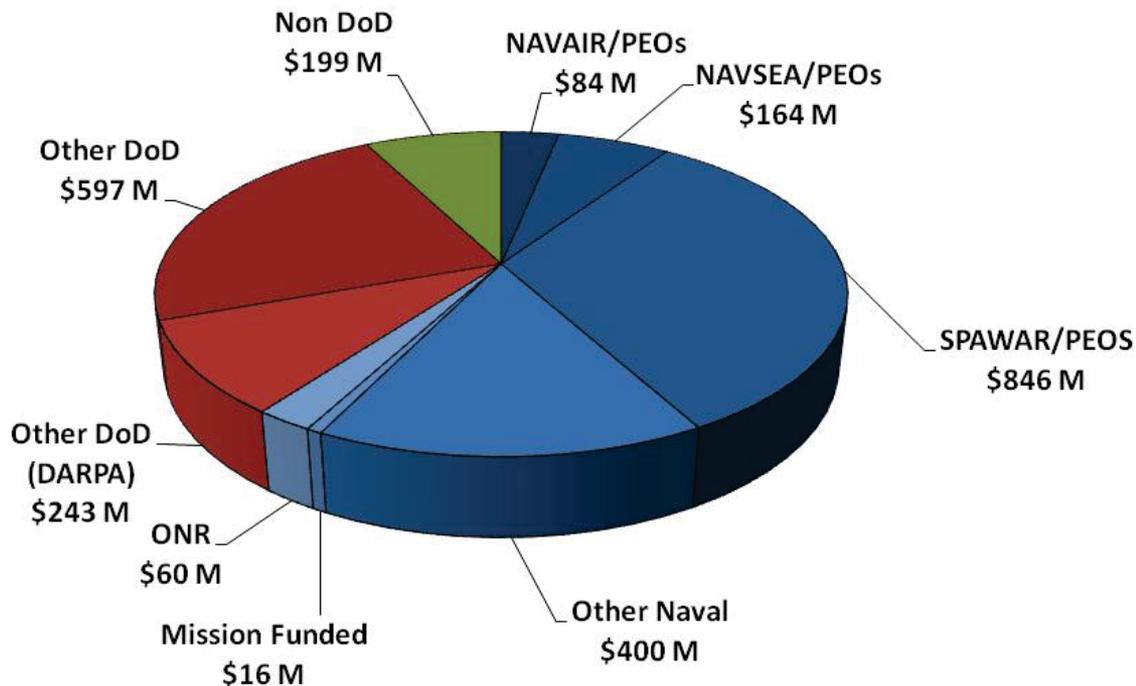
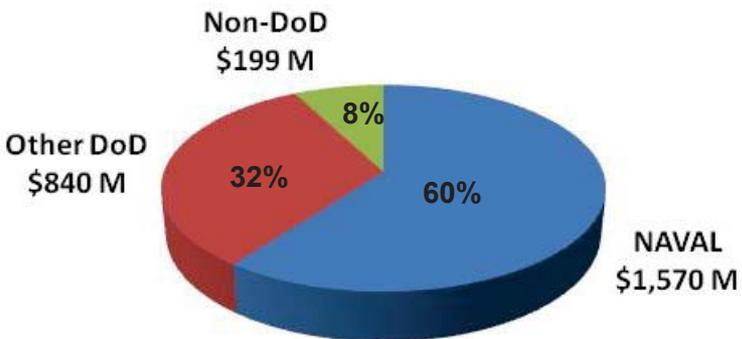
## Total Obligation Authority (TOA)



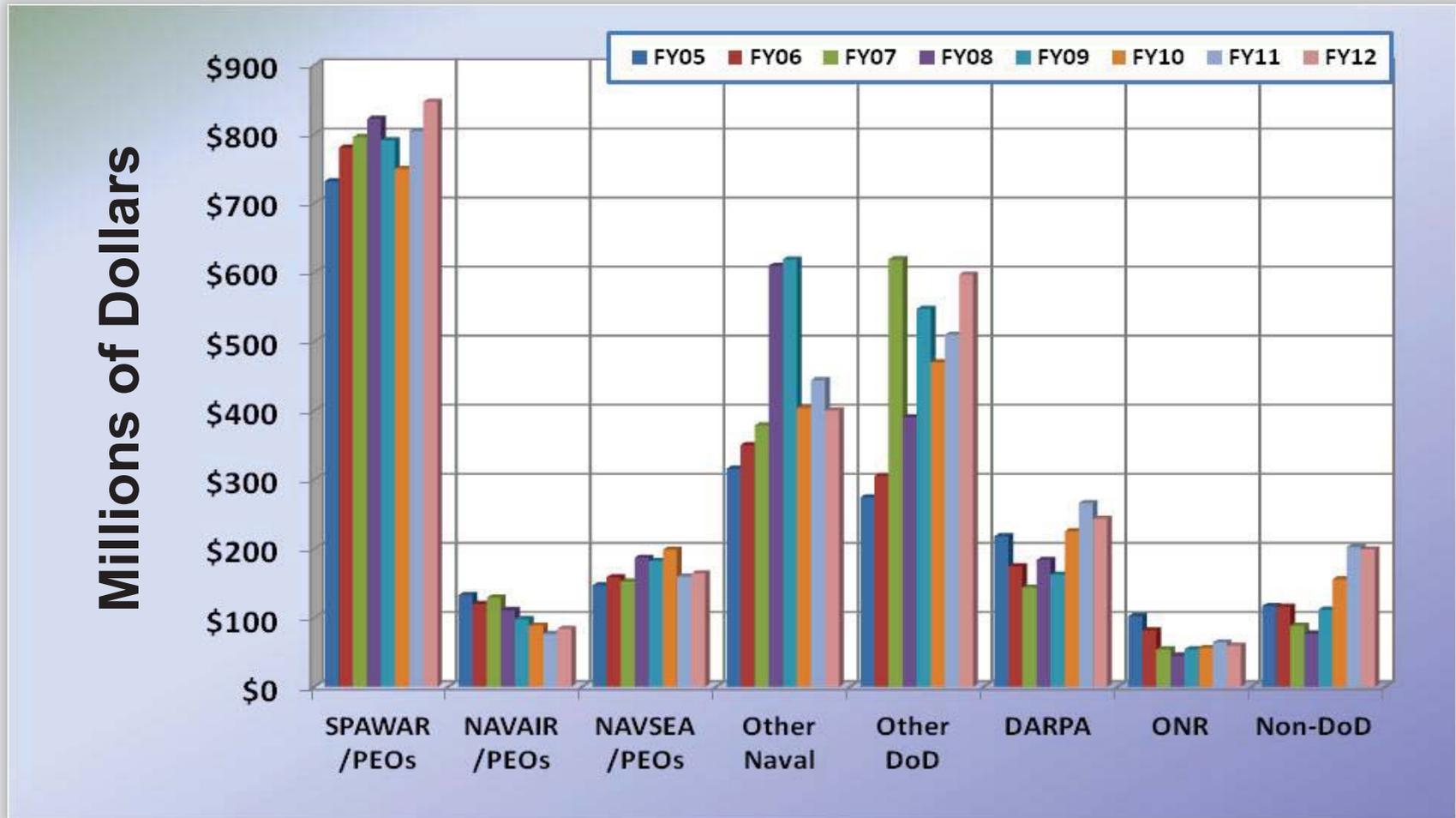
**More than \$15 B awarded to local industry and small businesses in the last 10 years.**

# FY12 Funding By Sponsor

## SPONSOR

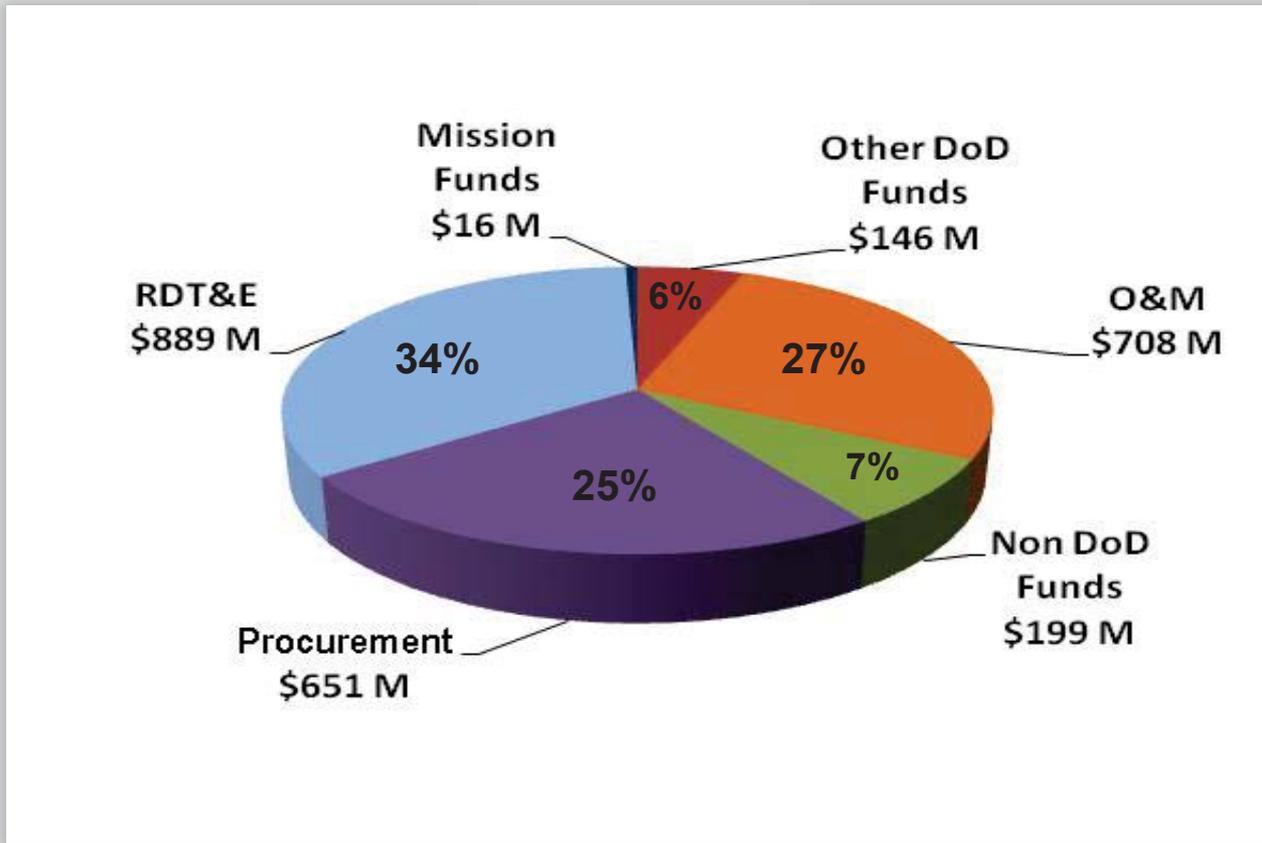


# Funding by Sponsor (FY05-12)

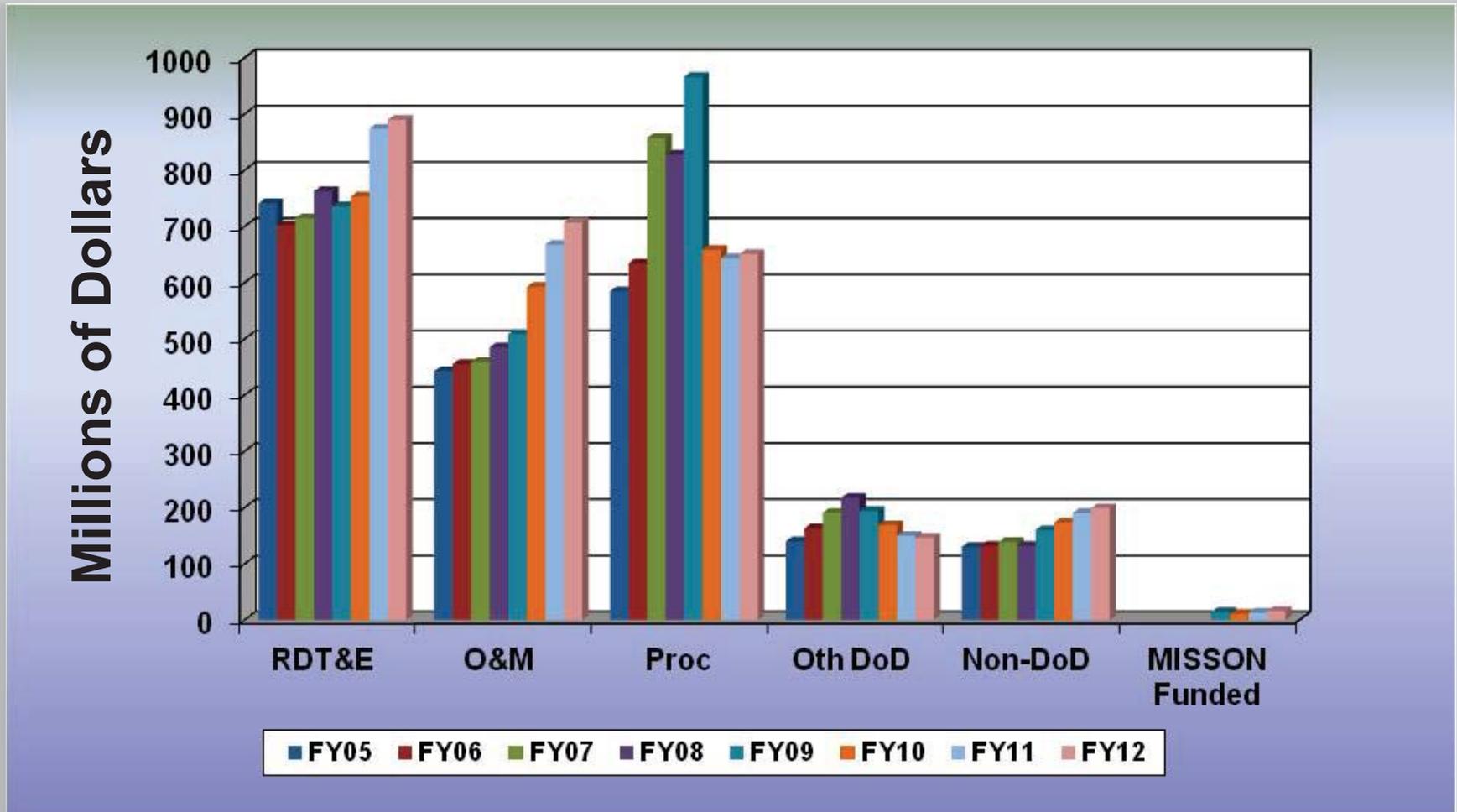


# FY12 Funding by Type of Appropriation

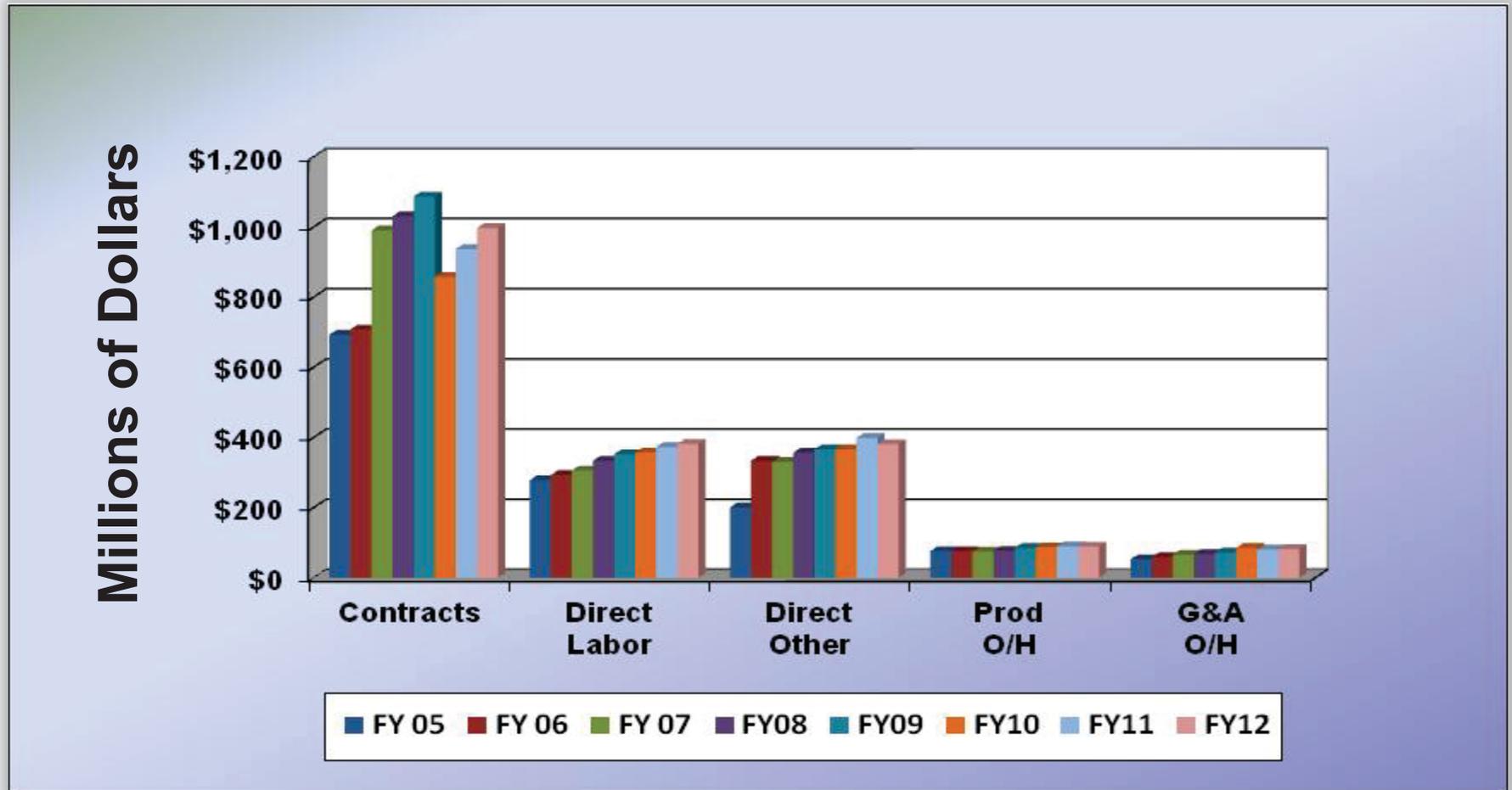
## TYPE



# Funding by Type (FY05-12)



# Distribution of Costs (FY05-12)



# FY12 Contracts

## TOTAL CONTRACTS

**Competition:** Target – 80%. Achieved 81.4%

**Active contracts:** 537 (including grants)

**Firms awarded contracts:** 822 (including simplified acquisitions)

## Small Businesses

TYPE	Achieved	Target
Small Business Awards	30.18%	24.82%
HUBZone Small Businesses	2.44%	1.39%
Disadvantaged /8(a) Small Business	11.62%	5.61%
Woman-Owned Small Business	6.49%	5.93%
Service-Disabled Vet-Owned Small Business	2.29%	1.40%

**EXCEEDED ALL SMALL BUSINESS TARGETS**

# As We Move Forward, Our Focus is On

- ▼ Warfighter Needs
- ▼ Tech transition, agility, rapid delivery of capabilities
- ▼ Innovation, disciplined system engineering and continuous process improvement
- ▼ Integration and Interoperability
- ▼ Reduce the cost of doing business
- ▼ Savings – Make every dollar count

***Delivering Information Dominance***