Fiscal Year 2014
President’s Budget Request
for the
DoD Science & Technology Program
April 24, 2013

Mr. Bob Baker
Deputy Director, Plans & Programs,
Assistant Secretary of Defense (Research & Engineering)
Theme

• Continue aligning S&T investment to enable development of capabilities consistent with the January 2012 strategic guidance*


• “U.S. Armed Forces will be smaller and leaner, but they will be agile, flexible, ready, and technologically advanced.” “Protect investments in key technology areas and new capabilities…”

- Overview, DoD FY 2014 Budget Request, Apr 2013

• DoD continues to support a strong S&T investment
ASD(R&E) – Organization

ASD(R&E)
Mr. Alan Shaffer (Acting)

Principal Deputy
Mr. Alan Shaffer

DARPA
Dr. Arati Prabhakar

DASD, Research
Dr. Reginald Brothers
PD – Andre van Tilborg

DASD, Systems Engineering
Mr. Stephen Welby
PD – Kristen Baldwin

DASD, Rapid Fielding
Mr. Earl Wyatt
PD - Ben Riley

DASD, DT&E
Mr. Steve Hutchison (Acting)
PD – Steve Hutchison

Political appointee
Career SES
Outline

- Changes, Challenges & Priorities
- FY2014 S&T President’s Budget Request
- Historical Context
- Strategic Planning & Budget Changes
The Changing National Security Mission

- Proliferating WMD capability
- Adversaries will increasingly leverage commercial technology to challenge U.S. military capabilities
- New emerging challenges, e.g., energy security, climate change, cyber security
- Policing and peacekeeping in a coalition of many, in contrast to warfighting
- Balancing current vice future requirements
- Maintaining conventional and irregular warfare capability
- Soft power often more appropriate than hard power
- Failing/failed rather than aggressor states are a big challenge
- Need to rebalance our focus from Iraq and Afghanistan toward the security and prosperity of the Asia-Pacific region

* MG Michael Flynn, DCS, Intelligence, ISAF, Afghanistan
Military operations increasingly depend on being able to operate in places “no one owns” – *the Commons*
FY 2013 Fiscal Challenges Remain

Even though DoD has an FY 13 Appropriations Act:

- Sequestration remains
  - Total cut as much as $41 billion across DoD
  - By law cuts must be across-the-board at Program Element and Project level (≈8%)
- Overseas Contingency Operations (OCO) shortfalls add to problems
  - Actual OCO spending significantly higher than expected
"Our current security challenges are more formidable and complex than those we faced in downturns following Korea, Vietnam, and the Cold War. There is no foreseeable “peace dividend” on our horizon."

GEN DEMPSEY, CJCS
Testimony to SASC, 12 Feb 2013
Primary Missions of the U.S. Armed Forces

Defend the Homeland and Provide Support to Civil Authorities

Counter Terrorism and Irregular Warfare

Conduct Stability and Counterinsurgency Operations

Provide a Stabilizing Presence

Project Power Despite Anti-Access / Area Denial Challenges

Counter Weapons of Mass Destruction

Operate Effectively in Cyberspace and Space

Deter and Defeat Aggression

Conduct Humanitarian, Disaster, Relief and Other Operations

Maintain a Safe, Secure and Effective Nuclear Deterrent

QDR 2010 Key Mission Areas

Defend the United States and Support Civil Authorities at Home

Succeed in Counterinsurgency, Stability, and Counterterrorism Operations

Build the Security Capacity of Partner States

Deter and Defeat Aggression in Anti-Access Environments

Prevent Proliferation and Counter Weapons of Mass Destruction

Operate Effectively in Cyberspace

Two new Missions

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S&T Priorities

- Data-to-Decisions
- Engineered Resilient Systems
- Cyber Science and Technology
- Electronic Warfare / Electronic Protection
- Counter Weapons of Mass Destruction
- Autonomy
- Human Systems
Outline

- Changes, Challenges & Priorities
- FY2014 S&T President’s Budget Request
- Historical Context
- Strategic Planning & Budget Changes
FY14 DoD S&T Budget Request

Total FY13 S&T Request = $11.86B
Army = 2,210  Navy = 1,980  AF = 2,222  DARPA = 2,746  ChemBio = 508  DTRA = 492  OSD = 1,071  Other DA = 632

*DoN Civ Pay is $71.3M in BA 6 and is in addition to $2,033M S&T

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FY13 and FY14 RDT&E Budget Request Comparison
- in Then Year Dollars -

FY13 RDT&E request = $69.41B (Budget Activities 1-7)

- BA6 + BA7 = $30.44B
- BA6 RDT&E Management Support ($4.26B)
- BA7 Operational Systems Development ($26.18B)
- BA4 Advanced Component Development & Prototypes ($12.41B)
- BA5 System Development & Demonstration ($14.69B)
- BA3 Advanced Technology Development ($5.27B)
- BA2 Applied Research ($4.48B)
- BA1 Basic Research ($2.12B)

Technology Base (BA1 + BA2) = $6.59B

PBR13 S&T is 17.0% of RDT&E

FY14 RDT&E request = $67.52B (Budget Activities 1-7)

- BA6 + BA7 = $29.78B
- BA6 RDT&E Management Support ($4.32B)
- BA7 Operational Systems Development ($25.46B)
- BA4 Advanced Component Development & Prototypes ($12.06B)
- BA5 System Development & Demonstration ($13.70B)
- BA3 Advanced Technology Development ($5.19B)
- BA2 Applied Research ($4.63B)
- BA1 Basic Research ($2.16B)

Technology Base (BA1 + BA2) = $6.79B

PBR14 S&T is 17.7% of RDT&E
RDT&E Budget Request Overview
- FY13 and FY14 Comparison -

(BTY Dollars in Millions)

<table>
<thead>
<tr>
<th>BA 1</th>
<th>BA 2</th>
<th>BA 3</th>
<th>BA 4</th>
<th>BA 5</th>
<th>BA 6</th>
<th>BA 7</th>
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<tbody>
<tr>
<td>48</td>
<td>149</td>
<td>-74</td>
<td>-352</td>
<td>-996</td>
<td>62</td>
<td>-724</td>
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## FY14 DoD R&E Budget Request Comparison

<table>
<thead>
<tr>
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<th>PBR 2013</th>
<th>PBR 2014 (FY13 CY $)</th>
<th>% Real Change from PBR 2013 (FY13 CY $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Research (BA 1)</td>
<td>2,117</td>
<td>2,164 (2,128)</td>
<td>0.53%</td>
</tr>
<tr>
<td>Applied Research (BA 2)</td>
<td>4,478</td>
<td>4,627 (4,549)</td>
<td>1.59%</td>
</tr>
<tr>
<td>Advanced Technology Development (BA 3)</td>
<td>5,266</td>
<td>5,192 (5,105)</td>
<td>-3.06%</td>
</tr>
<tr>
<td><strong>DoD S&amp;T</strong></td>
<td>11,861</td>
<td>11,984 (11,782)</td>
<td>-0.67%</td>
</tr>
<tr>
<td>Advanced Component Development and Prototypes (BA 4)</td>
<td>12,409</td>
<td>12,057 (11,854)</td>
<td>-4.47%</td>
</tr>
<tr>
<td><strong>DoD R&amp;E (BAs 1 – 4)</strong></td>
<td>24,270</td>
<td>24,040 (23,636)</td>
<td>-2.61%</td>
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<tr>
<td><strong>DoD Topline</strong></td>
<td>525,449</td>
<td>526,637 (518,854)</td>
<td>-1.26%</td>
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</tbody>
</table>

**Comptroller Information Systems data as of 1 March 2013**
FY14 Technology Investment Compared to Other DoD Categories

DoD Can Not “Fix” Today’s Problems by Reducing S&T

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Recipients of DoD S&T Funds

*Includes non-profit institutions, State & local govt., & foreign institutions

Source: National Science Foundation Report (PBR 2011)

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Outline

- Changes, Challenges & Priorities
- FY2014 S&T President’s Budget Request
- Historical Context
- Strategic Planning & Budget Changes
DoD S&T FUNDING: FY1962-2018
(FY1962-2012 Appropriated, FY1998-2018 President’s Budget Request)

Appropriations

Pres Bud Requests FY1998-2018

Appropriated FY1962-2012

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### DoD Basic Research

**FY2013**

<table>
<thead>
<tr>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
<th>FY2018</th>
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<tr>
<td>PBR-13</td>
<td>2,117</td>
<td>2,162</td>
<td>2,230</td>
<td>2,296</td>
<td>2,322</td>
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<tr>
<td>PBR-14</td>
<td>2,165</td>
<td>2,206</td>
<td>2,247</td>
<td>2,288</td>
<td>2,327</td>
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<tr>
<td>0% RPG</td>
<td>2,117</td>
<td>2,157</td>
<td>2,198</td>
<td>2,240</td>
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Δ - PBR14 versus PBR13:

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<tr>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
<th>FY2018</th>
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<tbody>
<tr>
<td>3</td>
<td>-24</td>
<td>-49</td>
<td>-33</td>
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**Distribution Statement A - Approved for public release. Distribution is unlimited.**
DoD Science & Technology
(TY Dollars in Millions)

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
<th>FY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBR-13</td>
<td>11,861</td>
<td>12,061</td>
<td>12,479</td>
<td>12,756</td>
<td>12,841</td>
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<tr>
<td>PBR-14</td>
<td></td>
<td>11,984</td>
<td>11,955</td>
<td>12,144</td>
<td>12,386</td>
<td>12,578</td>
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<tr>
<td>0% RPG</td>
<td>11,861</td>
<td>12,086</td>
<td>12,316</td>
<td>12,550</td>
<td>12,789</td>
<td>13,032</td>
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<tr>
<td>Δ - PBR14 versus PBR13</td>
<td>-78</td>
<td>-525</td>
<td>-612</td>
<td>-455</td>
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</table>
S&T Breakout
- Services and Defense Agencies as % of Total S&T -

President's Budget Requests

Services as % of S&T

Defense Wide (Agencies & OSD) as % of S&T

Percent of Funding

FY90 FY92 FY94 FY96 FY98 FY00 FY02 FY04 FY06 FY08 FY10 FY12 FY14 FY16 FY18

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Outline

• Changes, Challenges & Priorities
• FY2014 S&T President’s Budget Request
• Historical Context
• Strategic Planning & Budget Changes
DoD Needs to Develop New Ways to Project Power

- Improved Intelligence, Surveillance, & Reconnaissance
- Electronic Attack / Electronic Protection
- Surface to Surface Ship Missiles
- Ballistic and Cruise Missile Defense

Technologically advanced capabilities needed for the future

- Improved Precision Strike
- Cyber and Space Capabilities
- Undersea Warfare
- Advanced Air Defenses
FY 2014 Investments to Meet S&T Priorities

• Project Power Despite Anti-access/Area-denial Challenges (~$2B)
  – Army $20M, Navy $580, Air Force $620M, Defense Agencies $650M
  – Realigned ~$5 billion across the FYDP for A2/AD priorities (not all S&T)
    – Enhanced electronic warfare to include jamming pods and EW test range
    – Advanced Infrared Search and Track (IRST)

• Counter Weapons of Mass Destruction (~$1B)
  – OASD(NCB) components: CBD, DTRA

• Advanced Manufacturing (~$83M – up 41%)
  – Air Force $36M, Defense Agencies $47M
FY 2014 Investments to Meet S&T Priorities (contd.)

• Operate Effectively in Cyberspace & Space (~$1B)
  – **Cyber:** Army $30M, Navy $50M, Air Force $60M, Defense Agencies $340M
  – **Space:** Army $6M, Navy $20, Air Force $330M, Defense Agencies $200M

• Electronic Warfare (~$600M)
  – Army $40M, Navy $160M, Air Force $89M, Defense Agencies $300M

• High-speed Kinetic Strike (~$100M)
  – Air Force $76M

• Developmental Prototyping (+$13.8M) – **New vector**
  – ASD(R&E)
Summary
--Where We Are Today--

• FY 2014 S&T President Budget Request (PBR) is $11.98 billion, an increase of 1% (then year $) as compared to FY 2013 PBR
  – Department protected S&T relative to rest of RDT&E and Overall DoD Topline

• Basic Research and Applied Research increased a total of $196 million

• Defense Advanced Research Projects Agency is funded at $2.9 billion RDT&E to develop technologies for revolutionary, high-payoff, military capabilities

• S&T funding in each Military Department is maintained at approximately $2.2 billion

• Funds aligned to support strategic guidance and S&T priorities

All FY 2013 funding does not take into account sequestration reduction

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BACK-UPS
# FY14 President’s Budget Request

<table>
<thead>
<tr>
<th>Budget Activity</th>
<th>FY2014 PBR</th>
<th>FY2015 PBR</th>
<th>FY2016 PBR</th>
<th>FY2017 PBR</th>
<th>FY2018 PBR</th>
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<tbody>
<tr>
<td>DoD BA 1</td>
<td>2,164,934</td>
<td>2,205,981</td>
<td>2,246,868</td>
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<td>DoD BA 2</td>
<td>4,626,920</td>
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<td>DoD BA 3</td>
<td>5,191,755</td>
<td>5,082,457</td>
<td>5,149,015</td>
<td>5,225,074</td>
<td>5,284,352</td>
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<td>DoD S&amp;T</td>
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<td>Army BA 1</td>
<td>436,725</td>
<td>443,550</td>
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<td>Army BA 2</td>
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<td>854,554</td>
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<td>637,657</td>
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<td>Navy BA 2</td>
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<td>833,018</td>
<td>848,109</td>
<td>863,374</td>
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<td>591,496</td>
<td>599,444</td>
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<td>Navy S&amp;T</td>
<td>2,032,960</td>
<td>2,036,173</td>
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<td>Air Force BA 2</td>
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<td>599,286</td>
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<td>2,281,725</td>
<td>2,309,620</td>
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<td>Def Agencies BA 1</td>
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<td>602,203</td>
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