

06 Mar 2008 Charts for Discussion with Dr. Leonard Haynes, Executive Director for the White House Initiative on Historically Black Colleges & Universities

“Named Laboratories” LLC
A Strategic Business Approach to Developing Applied Research Capabilities at HBCU/MI

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An Initiative of the Science, Engineering, Technology and Workforce Development for America’s Security (SETWAS) Alliance © AHDC 2002-2008

6-Mar-08

1

PROPRIETARY

Legacy Defense-Industry-Academia RDT&E Base

A sample of Federally Funded Research and Development Centers administrated by universities & colleges

	Yr Est.	Budget	Institution
Ames Laboratory	1947	\$29M (FY2003)	Iowa State University
Argonne National Laboratory	1946	\$475M (Est. Annual)	University of Chicago
Brookhaven National Laboratory	1947	\$467M (FY2005)	Stony Brook University
Lawrence Berkeley National Laboratory	1931	\$500M (FY2004)	University of California
Fermi National Accelerator Laboratory	1967	\$316M (FY2005)	University Research Associates Consortium
Jet Propulsion Laboratory	1944	\$1.0B (Est. Annual)	California Institute of Technology
Lawrence Livermore National Laboratory	1952	\$1.6B (FY2003)	University of California
Lincoln Laboratory	1951	\$328M (FY1994)	Massachusetts Institute of Technology
Los Alamos National Laboratory	1943	\$1.2B (Est. Annual)	University of California
National Astronomy and Ionosphere Center	1960	\$10.8M (FY2006)	Cornel University
Princeton Plasma Physics Laboratory	1951	\$70M (FY2003)	Princeton University
Software Engineering Institute	1984	\$33M (FY 1994)	Carnegie Mellon University
Stanford Linear Accelerator Center	1962	\$280M (FY 2005)	Stanford University

NOTES:

1. This list does not include many FFRDCs managed by consortia of Universities, Non Profit Corporations and Industry
2. The list does not include University Affiliated Research Centers (UARC)
3. There are no FFRDC or UARC managed by minority institutions to date.

- This is how the challenge of developing science, engineering, technology and workforce was met in the past....

Top 25 NASA Contractors

Government Executive August 15, 2007

Total Purchases: \$14,415,325,294

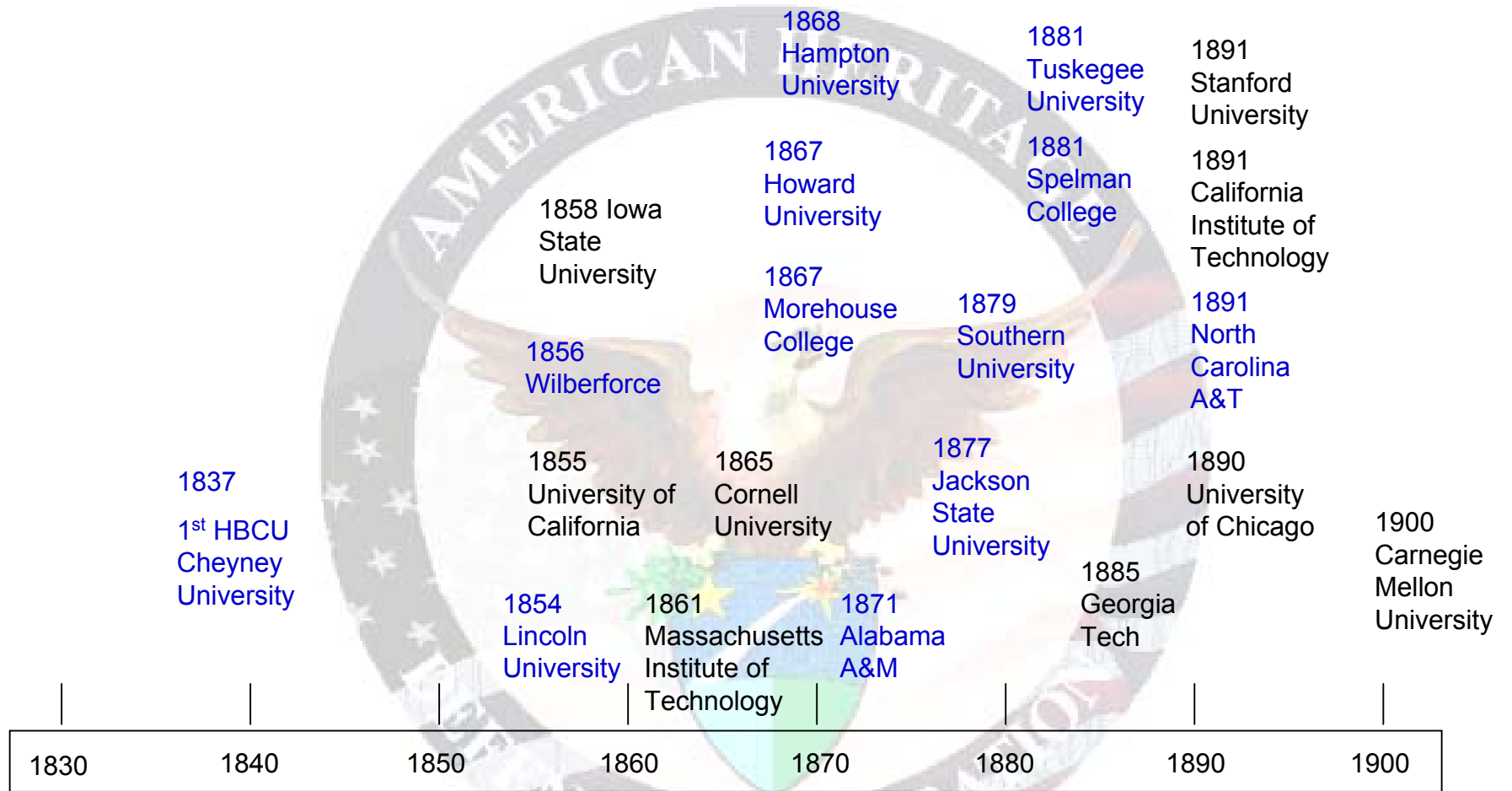
Rank	Parent company	Amount	Market share
1	Lockheed Martin Corp.	\$2,418,561,053	16.77%
2	Boeing Co.	1,821,079,271	12.63
3	California Institute of Technology	1,712,226,318	11.87
4	United Technologies Corp.	519,894,666	3.60
5	Northrop Grumman Corp.	471,989,178	3.27
6	Alliant Techsystems Inc.	460,036,877	3.19
7	Jacobs Engineering Group Inc.	437,678,315	3.03
8	SAIC	434,989,707	3.01
9	Honeywell Inc.	276,535,610	1.91
10	Group 4 Securicor PLC	186,109,403	1.29
11	Computer Sciences Corp.	157,889,107	1.09
12	Johns Hopkins University	140,384,656	0.97
13	Swales Aerospace	127,232,572	0.88
14	Raytheon Co.	119,864,084	0.83
15	Ball Corp.	116,065,216	0.80
16	Perot Systems Corp.	110,330,680	0.76
17	ITT Industries	104,850,715	0.72
18	Wyle Laboratories Inc.	102,869,342	0.71
19	University of California System	102,285,730	0.70
20	SGT Inc.	99,982,998	0.69
21	Universities Space Research Association	97,356,261	0.67
22	InDyne Inc.	90,692,664	0.62
23	Arctic Slope Regional Corp.	81,075,380	0.56
24	Government of Russia	80,001,576	0.55
25	Mississippi Space Services	79,365,323	0.55

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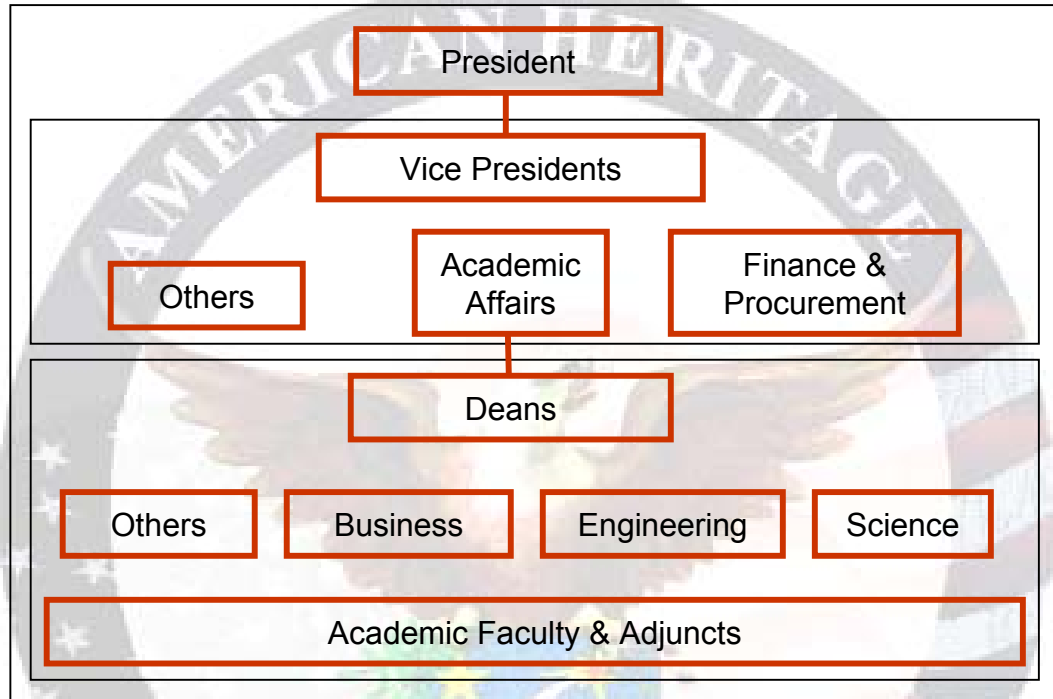
PROPRIETARY

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Historical Timeline



Limitations of Existing HBCU/MI University Structure



“We have no one on hand to chase after Applied Research Projects”

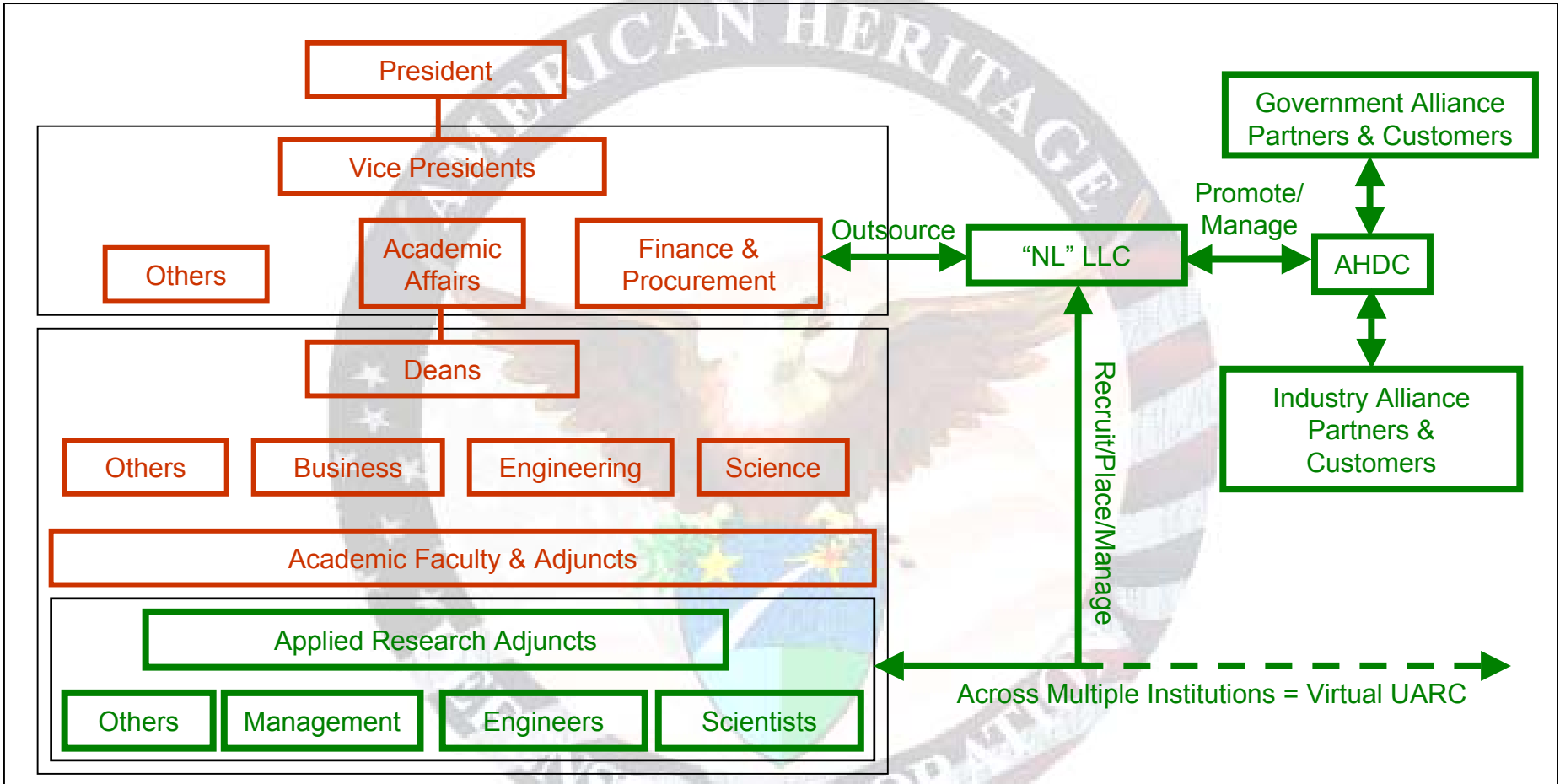
“Our Structure does not allow us to handle efforts of that magnitude”

– Typical Quotes from University Administrators

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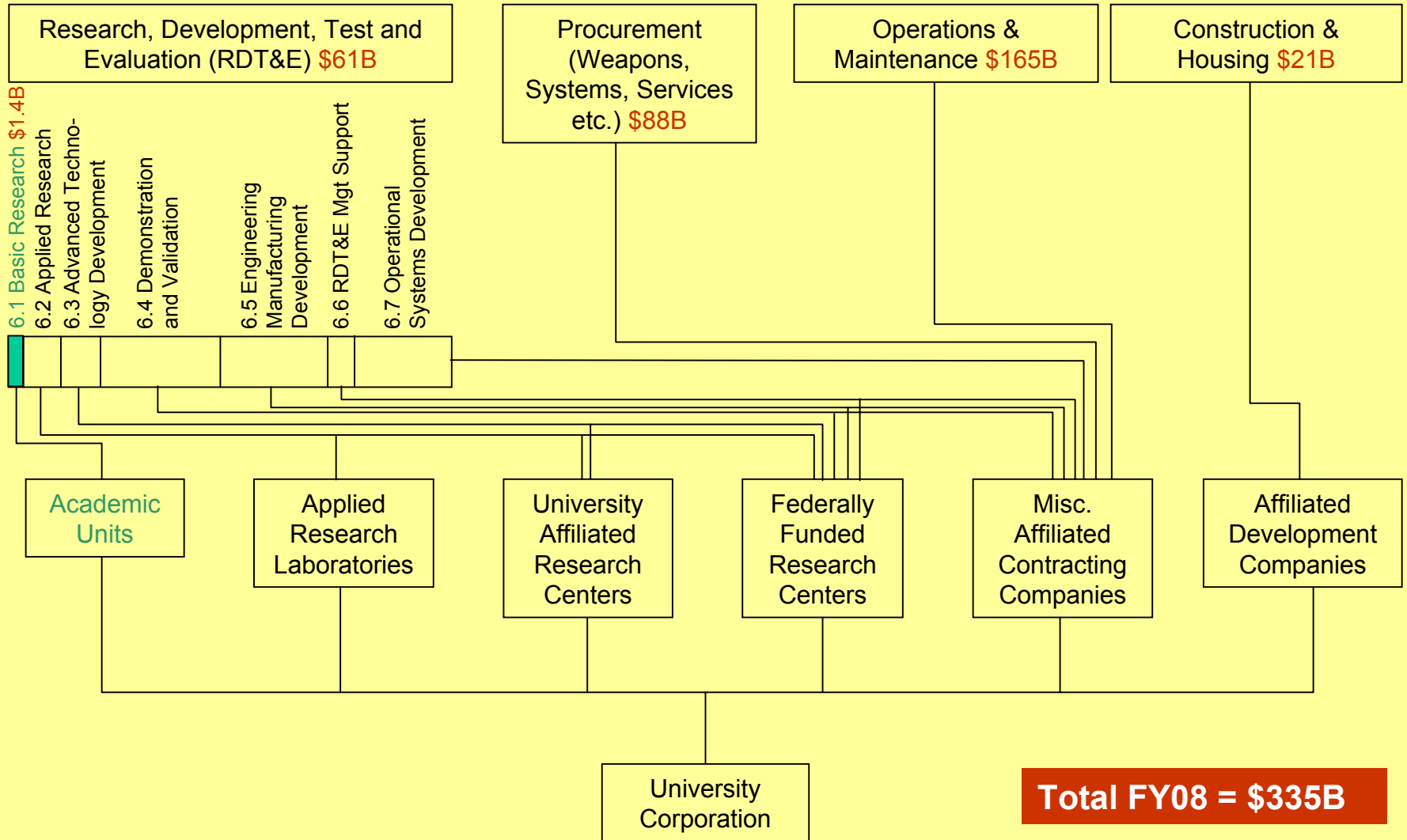
Developmental University Structure



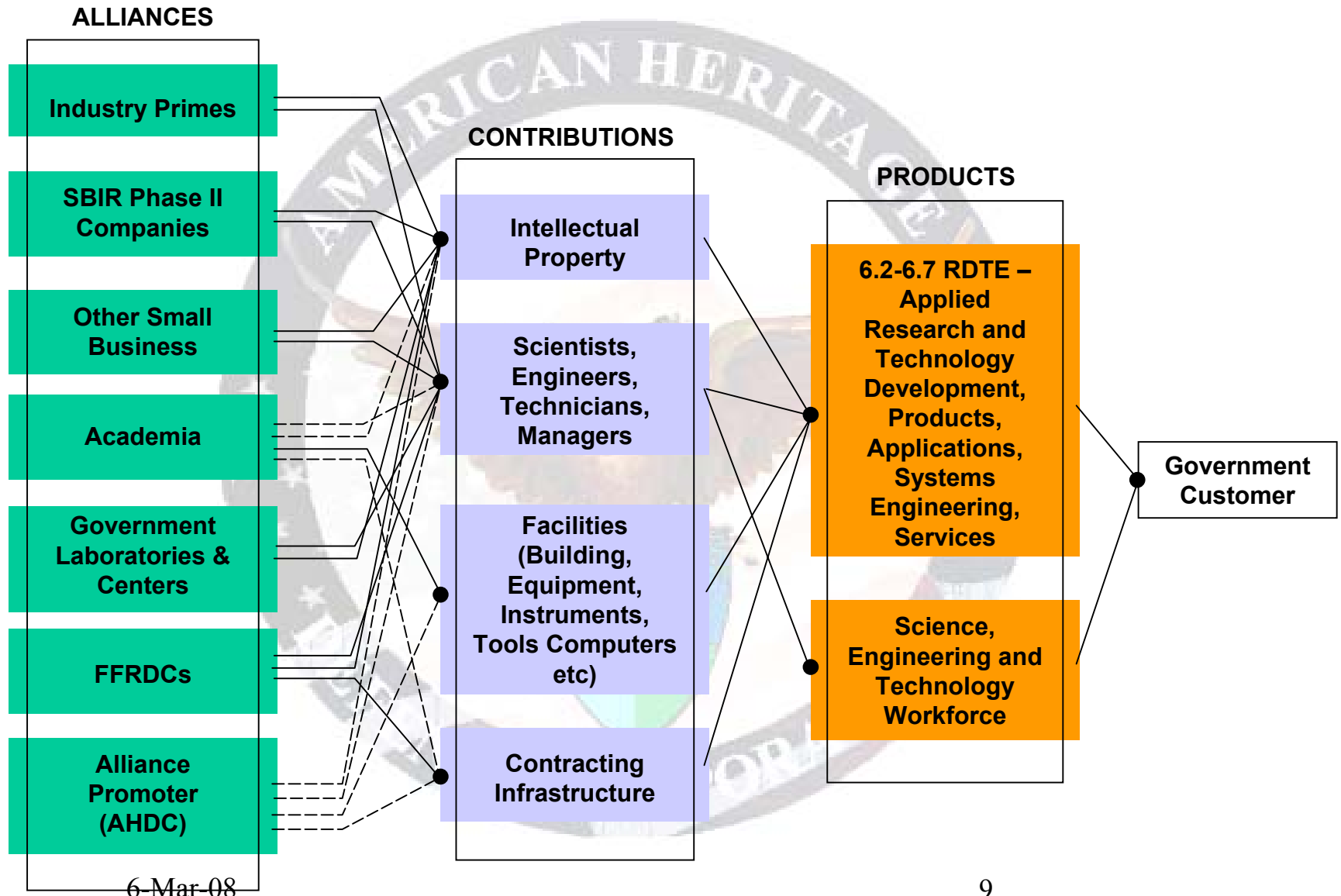
NLLLC REQUIREMENTS

<p>Functional</p>	<ul style="list-style-type: none"> • Technology Business Hatchery [Industry Supply Chain] • Applied R&D for Innovative Technology Commercialization • Interface for HBCU/MI Contracting Opportunities
<p>Business & Financial</p>	<ul style="list-style-type: none"> • Intellectual Property Management Infrastructure • Exit Strategies for VCs • “Name” Endowment • Public/Private Equity
<p>Organizational</p>	<ul style="list-style-type: none"> • For Profit • Limited Liability Company
<p>Federal Contracting</p>	<ul style="list-style-type: none"> • Contract Management Infrastructure for Unlimited Size Contracts • Security Infrastructure for All Levels of Classification • Cost Accounting Infrastructure [DCAA Requirements]
<p>Industry Incentives</p>	<ul style="list-style-type: none"> • Small Business Credits • HBCU/Mi Credits • Mentor-Protégé • Technology Risk Reduction
<p>Science Engineering Technology and Workforce</p>	<ul style="list-style-type: none"> • Technical Workforce • Faculty/Student Internships • Technical Partnerships with Industry and Small Business
<p>Physical Infrastructure</p>	<ul style="list-style-type: none"> • Multi-Campus Laboratory Facilities Located at HBCU/MI • Other Management/Laboratory Locations Per Customer Needs • COCO FFRDC [For Profit]

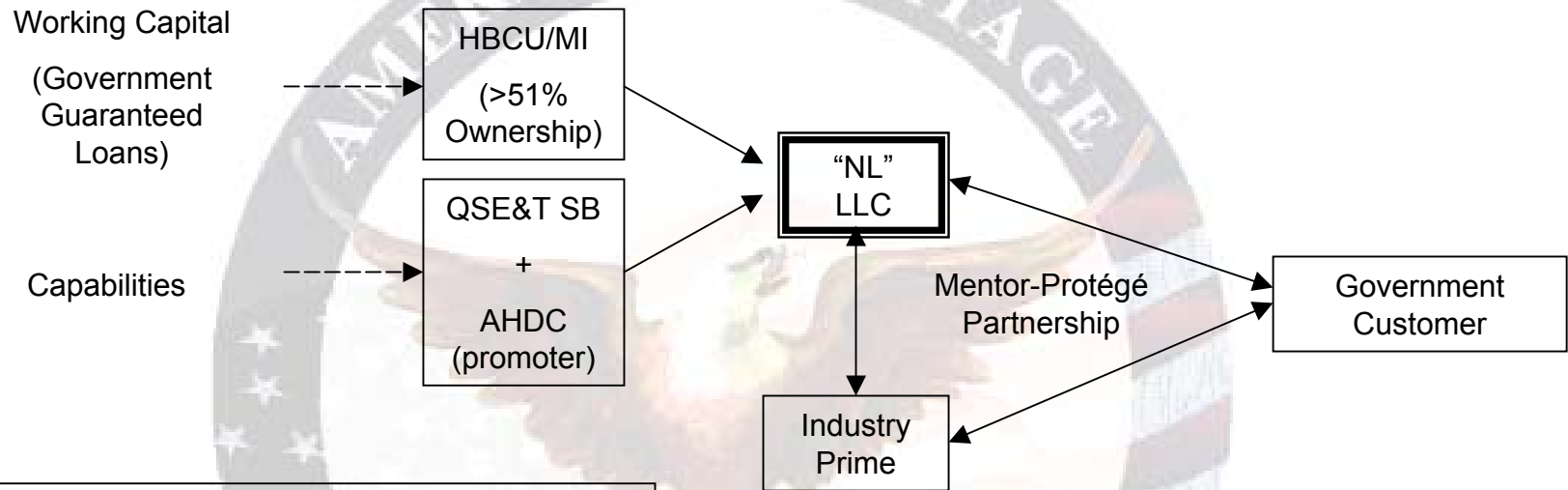
Department of Defense Funding Opportunities for HBCU/MI Referenced in 10 USC 2323



Alliances



Integrated HBCU/MI Mentor Protégé Supply Chain for Industry Primes

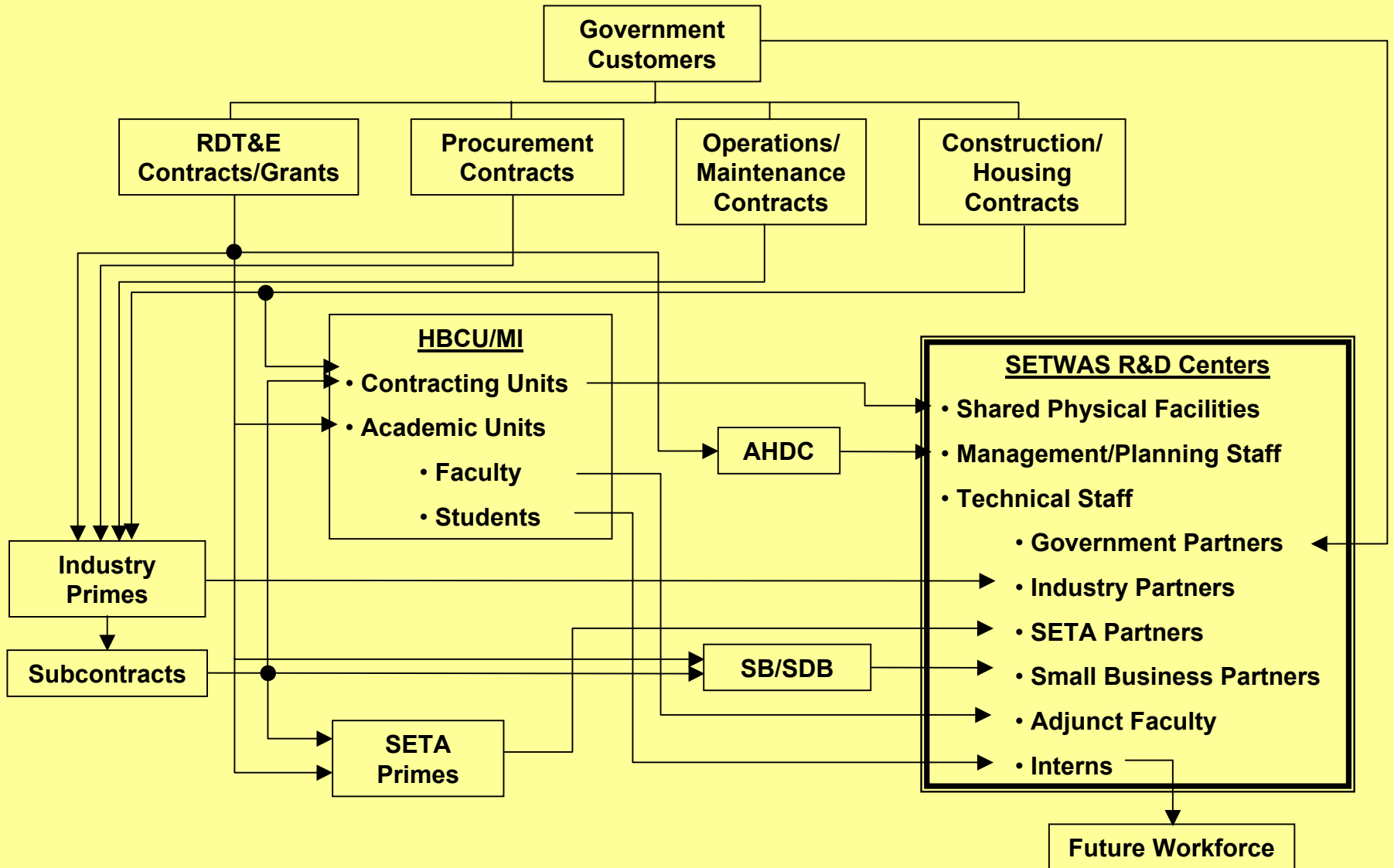


Legend:

HBCU/MI – Historically Black Colleges and Universities/Minority Institutions
 QSE&T – Qualified Science Engineering and Technology Small Business
 AHDC – American Heritage Defense Corporation
 "NL" LLC – "Named" Research and Development Laboratory Limited Liability Company (for profit)

- Industry HBCU/MI Credits
- Rapid Product to Market Development
- Workforce Pipeline

Science, Engineering, Technology and Workforce for America's Security (SETWAS) Proposed Centers



“Named Laboratory” - LLC (SETWAS Approach)

Owners:

- Developer
- Venture Capital
- HBCU/MI (Host)
- AHDC
(Promoter/Manager)

NAICS 541710
Research and
Development in
Physical, Engineering
and Life Sciences

Small Business Size
Standard = 500
Employees



- Management
- Technical Staff
- HBCU/MI Adjunct
Research
Faculty/Staff
- Student-Interns

- Industry Prime
Technical Partners
- Small Business
Technical Partners

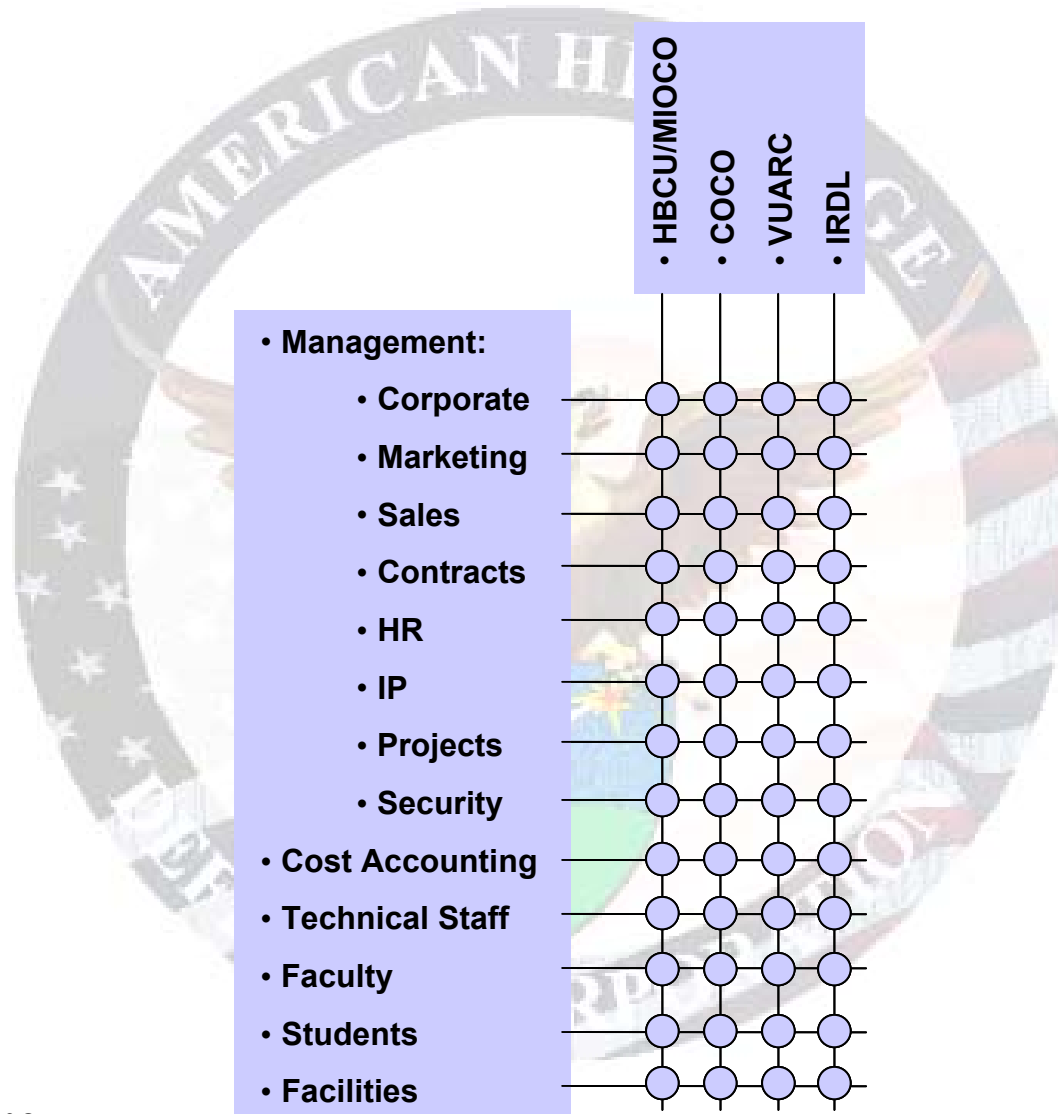


- Federal Agencies
Technical Partners
- State/Local
Government
Technical Partners

Customers:

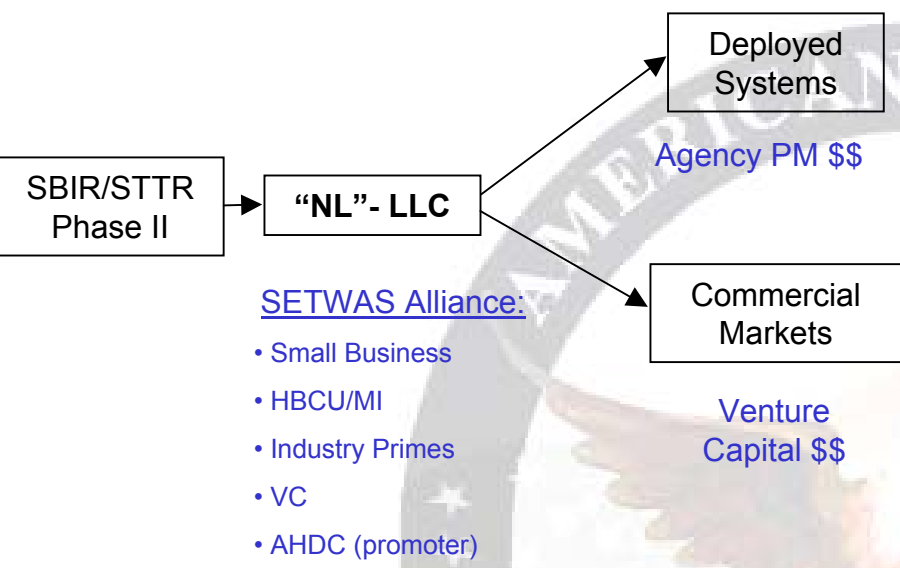
- Federal
Agencies (10USC
2323 Goals)
- Industry Primes
(SB/HBCU/MI
Goals)
- Commercial
- SBIR Phase III
(e.g. Navy CPP)

NLLLC OPERATIONAL MATRIX



“NL”-LLC : Start Up

“Named-Laboratories” Limited Liability Company



SETWAS Alliance: Science, Engineering, Technology and Workforce for America’s Security (SETWAS) Alliances are constituted by stakeholders who share a common interest in broadening the base of America’s continued preeminence in science and technology. Alliance partners will staff "NL"- LLC with expertise and infrastructure and provide opportunities for students and faculty at the host institution to participate in the development of new and innovative technologies.

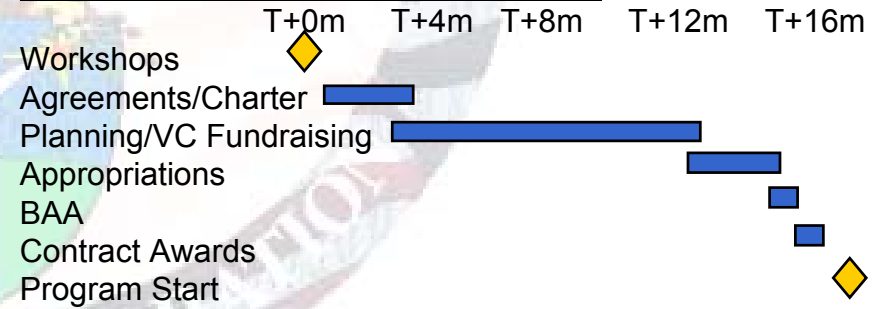
Broader Impact: The applied research activities necessary for transitioning emerging technologies into practical applications coupled with internship programs linked to undergraduate and graduate curricula at the host institution will provide the training ground for future scientific and technological work force.

Goal: To rapidly transition emerging technologies from the demonstration stage to deployed systems applications and commercial markets while at the same time broadening the base of production of America’s future workforce in science, engineering and technology.

Objective of Pilot Program: To establish the first of a network of applied research laboratories dedicated to the transitioning of emerging technologies from the demonstration stages to applications that are deployable in defense and homeland security systems as well commercial markets.

Approach: 1. Identify promising SBIR/STTR Phase II candidate technologies; 2. Form SETWAS Alliance; 3. Plan Pilot "NL"- LLC Activities; 4. Raise VC funding and federal appropriations; 5. Implement Program.

Tasks and Schedule for Program Start:



Seed Funding Budget: \$TBD/18 Mo. Effort

Seed Funding Sources: Government/Industry/VC/Other

Discussion Topics

- Formation of “NL” LLC Planning Board – (Seed Funding)
- How to Get the HBCU/MI Presidents on Board
- Candidate “Names” – (HBCU/MI Billionaire Alumni)
- 11th Largest Economy on Earth (Black America)
- Competition (Domestic, Foreign)
- Working Capital (Endowments, Venture Capital, Grants, Contracts)
- Schedule (18 Month Cycle for Appropriations)
- Follow Up Meetings – Next Steps
- Formal Agreements (Legal Support)
- Miscellaneous



**Department of Defense
2008 African American History Month Observance
and Outreach Program
DoD/HBCU Leadership Symposium
Tuesday, February 26, 2008**

**Redstone Arsenal (Science Engineering
Technology and Workforce for
America's Security - SETWAS) Project**

**Briefing Presented at
Fayetteville State University,
Fayetteville NC**

By

Challenge

- **Increased competition for local technical talent**

- 5,000 DoD technical jobs moving to Huntsville by 2012
- NASA's new space vehicle development in Huntsville

Our policymakers need to acknowledge that the nation's apathy toward developing a scientifically and technologically trained workforce is the equivalent of intellectual and industrial disarmament and is a direct threat to our nation's ability to survive.

The Final Report of the President's Commission on the Future of the United States Aerospace Industry, Recommendation 8, November 18, 2002

- **Most U.S. Aerospace workers over age 45 will leave the field in next six years**

- Over 6 million aerospace jobs will open up with no US Citizens being trained to fill them

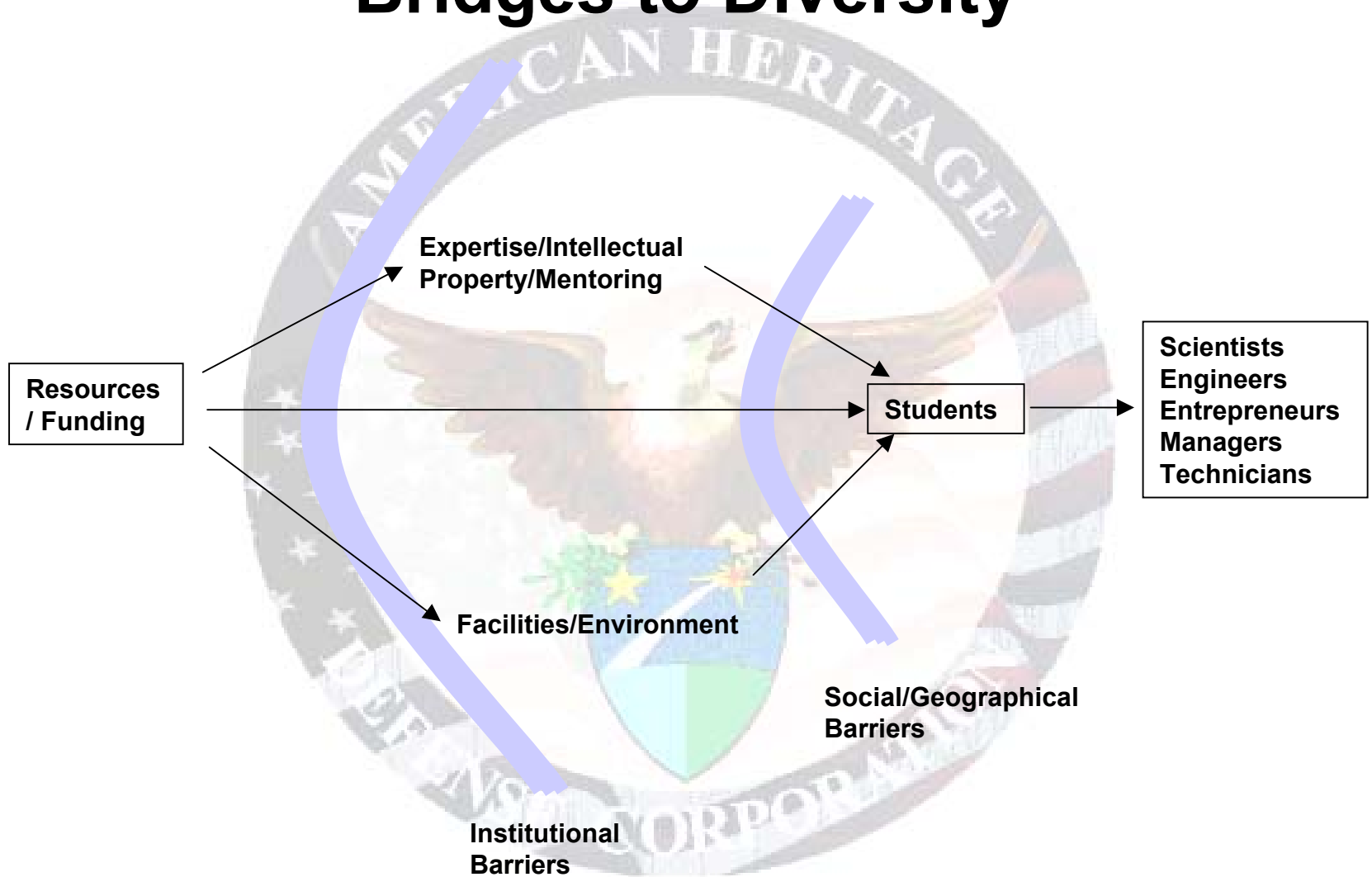
- **Next generation of Scientists and Engineers?**

- Aerospace engineering degrees to U.S. citizens dropping
 - Number of degrees cut in half from 1991 to 2000
 - Numbers continuing to decline
- In 2000 the U.S.
 - Graduated 80,000 engineers and computer scientists
 - Imported 90,000 engineers and computer scientists

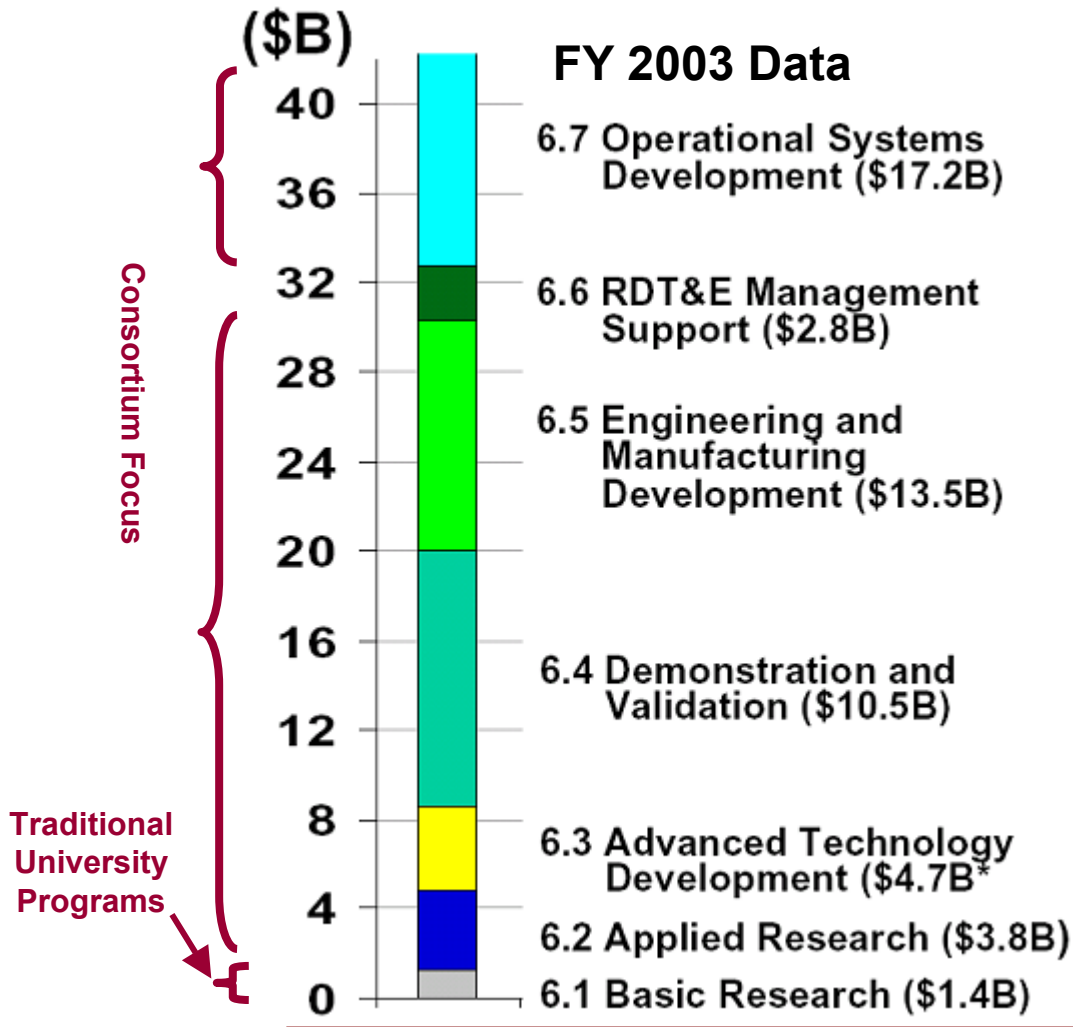
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18

Bridges to Diversity



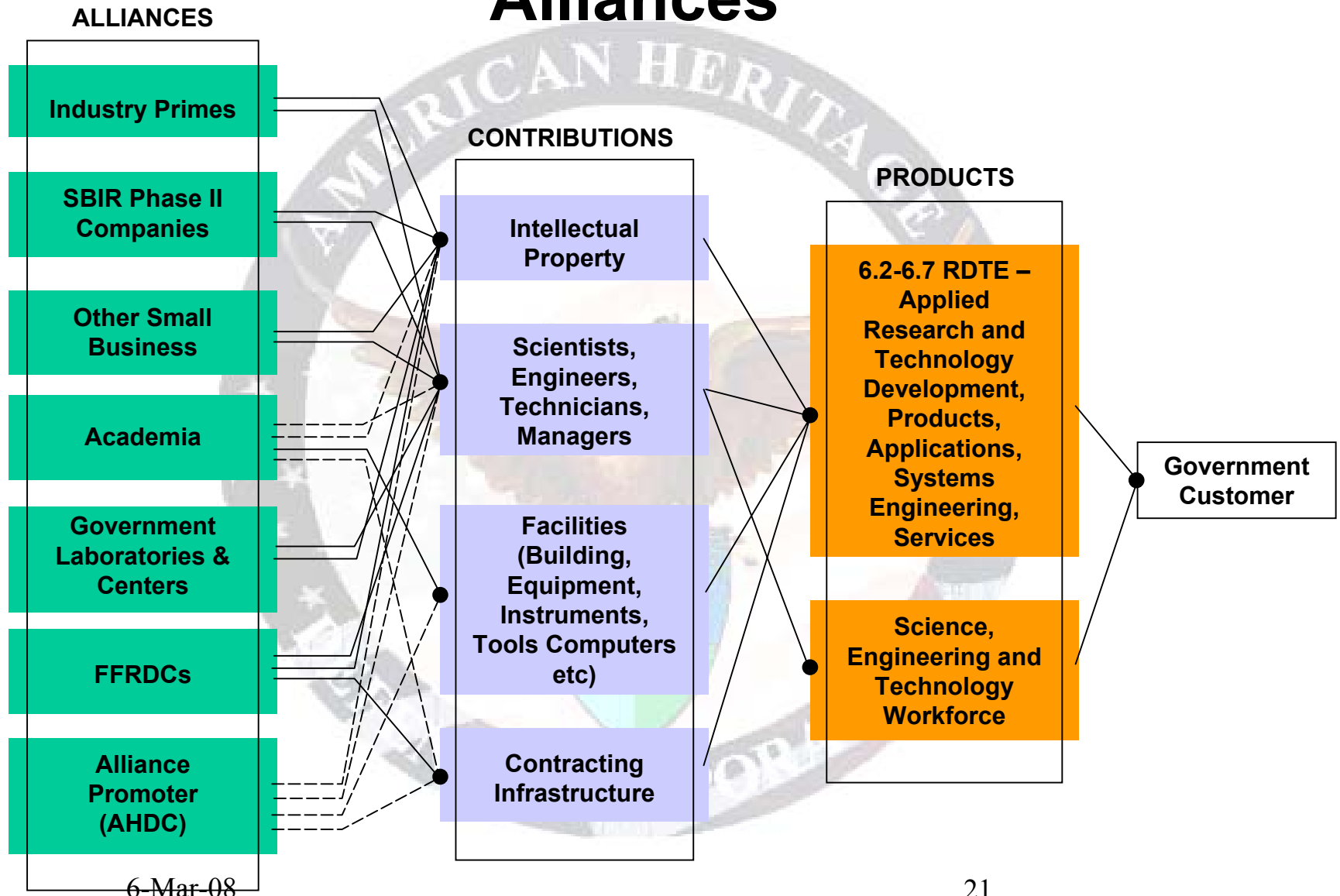
Typical DOD RDT&E Investment Profile



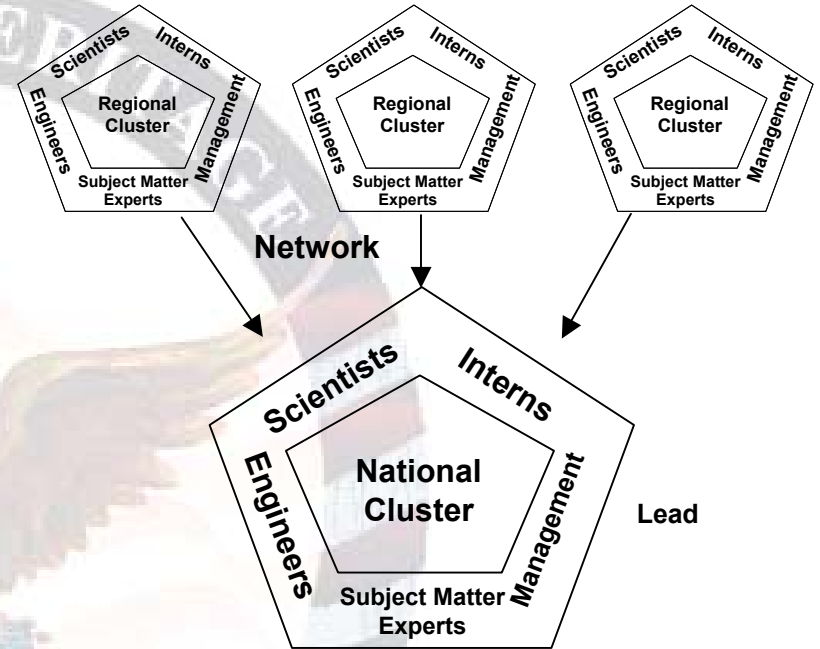
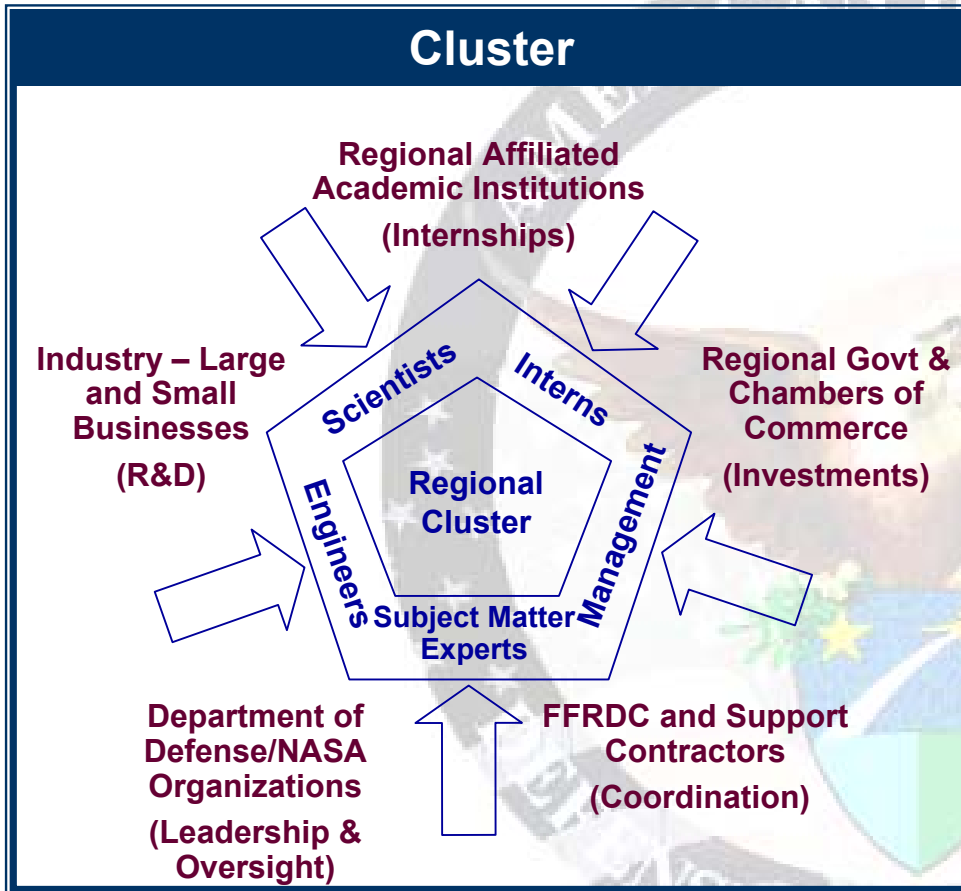
- At the present time, mainly 6.1 RDT&E programs are coupled directly with Academia
- This coupling alone does not do enough to prepare engineers and scientists with adequate exposure to the entire RDT&E expertise range
- Military systems developed only at the 6.1 level remain undeployed due to lack of 6.2-6.7 RDT&E expertise in the workforce
- Academic institutions impacted by 6.2-6.7 RDT&E investments produce top grade SE&T graduates
- Proposed strategic plan will expand the base of academic institutions impacted by 6.2-6.7 RDT&E investments so that more and better trained SE&T workforce is developed for the nation's defense.

Institutions Impacted by 6.2-6.7 Investments Produce Top Grade SE&T Graduates

Alliances



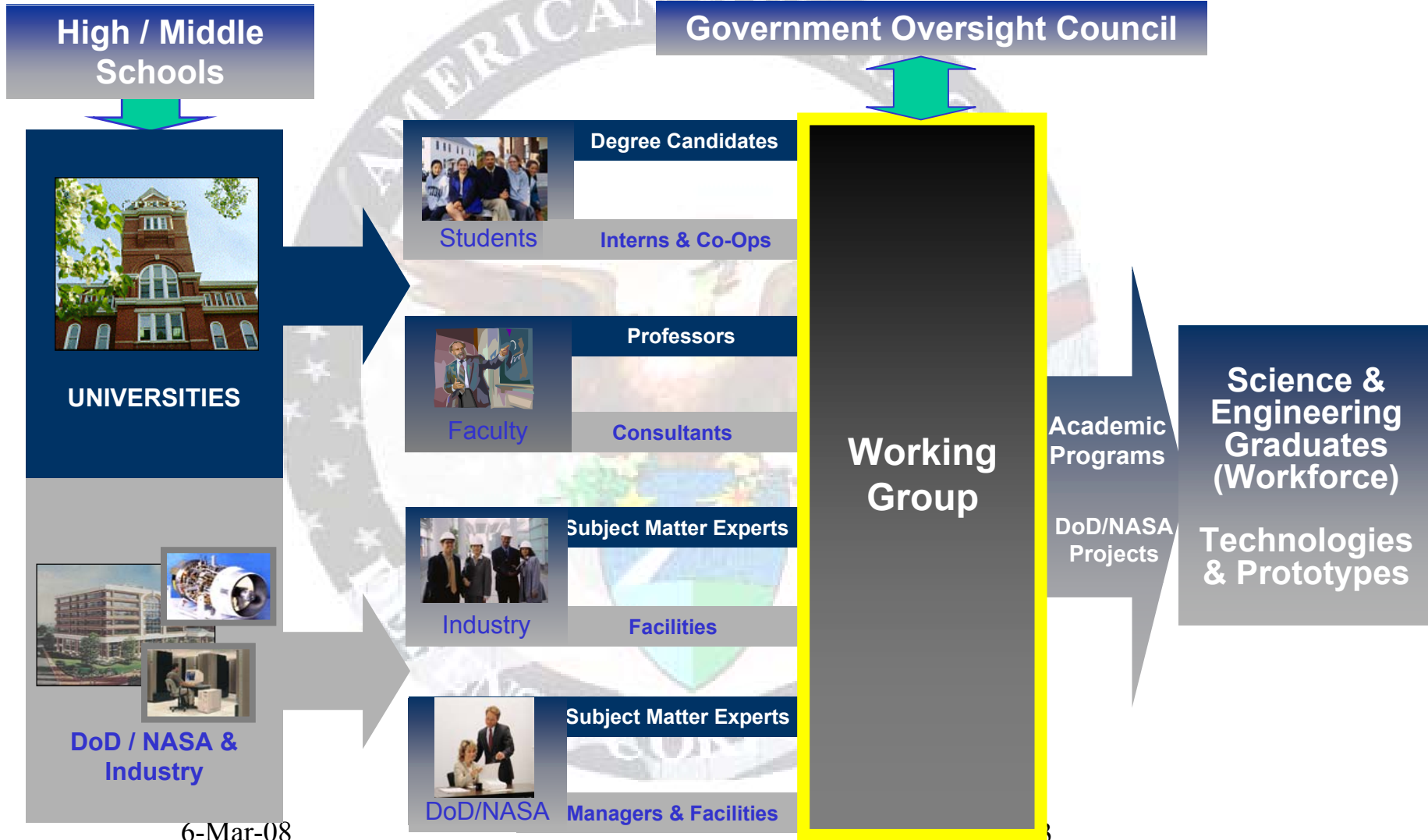
Proposed Approach (National)



- Focus Regional Clusters on RDT&E; site facilities at alliance academia.
- Network Regional Clusters into National Cluster.
- Steer best and brightest scientists and engineers to replenish workforce
- Expand pipeline for production of US Citizen scientists and engineers

Establish Cluster of Government, Industry & Academia R&D Infrastructure

University Consortium Partnership



6-Mar-08

Science Engineering Technology and Workforce for America's Security (SETWAS)

Government Agencies Oversight Council

- **USASMDC**
- **AMCOM**
- **AMRDEC**
- **PEO Missiles & Space**
- **PEO Aviation**
- **Redstone Arsenal
Garrison**
- **NASA**
- **MDA**

Congressional Support

Senator Daniel K. Inouye (D-HI),
is Chairman of Senate
Subcommittee on Defense
Appropriations.

6-Mar-08

DANIEL K. INOUYE
HAWAII

APPROPRIATIONS
Subcommittee on Defense—Ranking Member
COMMERCE
Subcommittee on Surface Transportation and
Merchant Marine—Ranking Member
COMMITTEE ON INDIAN AFFAIRS
DEMOCRATIC STEERING AND COORDINATION
COMMITTEE
COMMITTEE ON RULES AND ADMINISTRATION

United States Senate

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April 20, 2005

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101 AUPUNI STREET, NO. 205
HILO, HI 96720
(808) 935-0844
FAX (808) 961-5163

LtGen Larry J. Dodgen, USA
Commanding General
USASMDC/ARSTRAT
P. O. Box 15280
Arlington, Virginia 22215-0280

Dear General Dodgen:

The challenges of Joint Warfighter Interoperability will require both the development of effective systems and the training of innovative and competent engineers and scientists to research, design, produce, and operate these systems properly. At the present time, our country trains only about half of the engineers and scientists that it needs and imports the rest. For a number of years, I have lent my support to innovative proposals that seek to address the issues of replenishing the Scientific, Engineering and Technological Workforce for America's Security (SETWAS). Innovative and practical approaches have been proposed by the American Heritage Defense Corporation (AHDC), a dedicated, not-for-profit, Federally Funded Research and Development Corporation (FFRDC). These initiatives, in my view, merit support from the Department of Defense.

I am informed that a White Paper to set up a Joint Institute for Systems Interoperability (JISIS), which combines the two important goals of replenishing the science, engineering and technology workforce, and that of expediting Joint Warfighter Interoperability, is scheduled to be presented to you by Dr. James Fabunmi, President and CEO of AHDC. I would appreciate your consideration of the merits of this proposal, and advise me of any suggestions or legislation necessary to implement the provisions of Dr. Fabunmi's proposal.

Thank you for your cooperation.

Aloha,

DANIEL K. INOUYE
United States Senator

DKI:fkw
Enclosure

PROPRIETARY