
Summary of Workshop Results

Breakout session Summary

BREAKOUT SESSION

Clearance Processing

Situation Statement

- Security clearance processing is a long-standing problem with a myriad of causes and consequences. Recent legislation (2004 Defense Authorization and National Intelligence Reform Acts) addressed a number of the issues and position the community for improvement. Critical improvement is needed in the areas of:
 - Investigation/Adjudication backlog
 - Reciprocity/Portability
 - Standardized data and processing
 - Technology investment needs longer term

**Must put teeth into the implementation of
the legislation.**

Key Challenges and Barriers

- Culture of government agencies (“turf and trust”), resistance to implementation of law
- Volume of investigations requested unconstrained, no filter
- Priority of investigations
- Over-classification of positions, documents, info, etc
- No central set of rules or single responsible authority
- Current technology in use is a barrier
- Costs to industry and the government
- Portability of clearances
- Clearance criteria (suitability) – not applied even-handedly and some out-dated criteria

Recommended Actions

RECOMMENDED ACTION	RECOMMENDED ACTION ORGANIZATION	RECOMMENDED RESULT
Immediately establish one central agency for all investigations	NID, OPM*	One responsible entity and one set of policies versus today's "rainbow"
Immediately shorten timelines for investigations	NID, OPM*	Backlog worked off and achievement of steady state, acceptable timeline goals
Immediately establish universal Reciprocity and Portability	NID, OPM*	Immediately recognizable and accepted clearances by all entities

***National Intelligence Reform Act says the President will designate.**

BREAKOUT SESSION

Qualitative Perspective of the Industry Workforce Situation

Situation Statement

- The mix on skills/shortages is affected by funding and program uncertainties, a multi-faceted national vision without necessary long-term support, the inability to anticipate next threat and lack of accepted integrated plan for change.

“Making predictions is tough...particularly about the future.”

Key Challenges and Barriers

- Funding/project uncertainties make projections difficult re specific skills and gaps as well as clearance status
- Govt difficulty in establishing on-campus recruiting target; wait for vacancies to develop (retirements)
- Handling retiree knowledge/experience/relations transition
- Know what core science/engineering required to maintain national “edge” despite global economy and coalition needs; we don’t know
- Research for research sake – is it possible to maintain, ROI for govt and companies
- Status of academia – concern due to lack of knowing status on their skill gaps, retirements, etc.)
- Multi-faceted vision – terrorism, Moon2Mars, transport advances, security/defense volatility

Recommended Actions

RECOMMENDED ACTION	Who	RECOMMENDED RESULT
Integrated plan of developing future workforce for national defense/security owned by single authority for continuous planning/ action – macro level	DDRE	<ul style="list-style-type: none"> . Share best practices . Outreach . Focused vision/imperative . Research/data analysis . Establish new blood policy across DoD to sustain entry level recruiting (requires budget line)
Clear technical/security/defense imperative that results in continuous forecast of future Science Tech Eng Math and enabler/ enterprise job skills (top 10 or 25, not hundreds) needed for national defense/ security	Pres. Council on Science & Tech – Pres. Science Advisor (OSTP)	<ul style="list-style-type: none"> . Focused mission/ rallying point that has longevity . Applied research budget to sustain
Common lexicon for top-level skills <u>and</u> highly detailed inventory re jobs (e.g. system engineer) Must include production workforce	AIA/NDIA	Maximize professional development, Identify replacement requirements across gov't, industry and academia (ride the troughs) Funding to maintain database

BREAKOUT SESSION

Anticipating Demand and Tracking Supply

Situation Statement

- Macro level data are good for the current state of national workforce. However, specificity for National Security needs is lacking for both demand and supply of US citizens. There is a need for consistent feedback between unmet workforce demands and sources of supply for both industry and government. In addition, labor demand analysis lacks integration and sufficient correlation with projected government budgets, technology needs, and global competition.

Key Challenges and Barriers

- **Challenges with a broad impact**
 - Metrics to assess status and guide management to adapt to changes
 - Perishable (time sensitive) specific information
 - Micro level data
 - Specificity in labor categories by US citizenship
 - Surveys/data collection (Timing & Impact on respondents)
- **Supply**
 - Weak data and lack of Timely accessibility
 - New graduates field of study vs actual job (for AA and BS)
 - Forecasting (relatively static processes)
- **Demand**
 - Rapidly changing technology impact on occupations -- change faster than sources of supply
 - Weak data
 - Forecasting (relatively dynamic processes)
- **Feedback, Matching and Oversight**
 - Competition for skilled labor
 - Technology impacts on academia throughput
 - Industry shortages to academia and other supply sources
 - Integrated human capital investment planning
 - Integrated sharing of human capital/labor market information

Recommended Actions

RECOMMENDED ACTION	RECOMMENDED ACTION ORGANIZATION	RECOMMENDED RESULT
<p>METRICS. Identify tiered metrics associated with S&E promotional activities, curriculum progress, and career planning and decisions at all levels of education, training, and work. Determine data and information gaps and recommend integration and/or additional collection.</p>	<p>DOD, DOEd, BLS, NSF, DOE</p>	<p>Process feedback & control</p>
<p>DEMAND. Routinely collect dynamic specific National Security industry data on unfilled requisitions, make data readily accessible in useful form at the subdiscipline levels, track trends. Institutionalize workforce forecasting into standard planning & budgeting processes, incorporating impacts of budgets, technology needs, and global competition.</p>	<p>Industry, DOD, DOE, IC, BLS, professional societies</p>	<p>Current knowledge and trends of specific needs. Improved data quality.</p>
<p>SUPPLY. Develop National Security S&E supply estimates at the discipline and subdiscipline level from all sources, make data readily available. Incorporate global supply of S&E specialists.</p>	<p>DOD, NCES, IC, NSF, DOE, DOEd, Universities</p>	<p>Current estimates of specific resources available currently and trends. Improved data quality.</p>
<p>FEEDBACK & INTEGRATION. Integrate data and information on supply, demand, curriculum, career planning, training, education, internships, incubators, etc to provide a common access point. Facilitate strategic and daily planning at the subdiscipline level across all National Security activities. Integrate into National Security planning processes.</p>	<p>DOD, DOE, industry, universities, professional societies, NSF, IC</p>	<p>Focus on problem areas and successful efforts to efficiently allocate resources, adapting to trends.</p>

BREAKOUT SESSION

Best Practices in Attracting, Retaining and Training People

Situation Statement

- The current system for providing qualified employees to the science and technology community does not keep up with the requirements of the industry. This includes barriers such as:
 - **Lack of true partnering between government, industry and academia**
 - **Not leveraging successful efforts**
 - **Not identifying non-traditional talent pools**
 - **Our current education system**
 - **Our current hiring practices**
 - **Our current leadership – people management practices**

Key Challenges and Barriers

- Identification of critical skills, sustaining educational programs
- Clearances
 - **Inform students and families prudently**
 - **Retention of employees with security clearances**
 - **Burnout of clearance employees**
 - **Competing for clearance talent**
- Obtaining an inclusive workforce
- Students don't understand the possibilities and opportunities of sciences & engineering
- Phased retirement issues (gov't & industry)
- Lack of mentors and role models
- Microwave Society – immediate vs waiting
- Employability – competencies , skills, continuous learning

Recommended Actions - Attract

RECOMMENDED ACTION	RECOMMENDED ACTION ORGANIZATION	RECOMMENDED RESULT
<p>Create a shared vision – a culture of technically skilled individuals.</p> <ol style="list-style-type: none"> 1. Market 2. Pool resources 3. Branding 4. National vision for USA (Apollo) 	<p>Association action – membership of each association has to agree it is important enough to fund</p>	<p>Shared vision within the National Security Workforce and broader understanding of the NSW by the general public</p>
<p>Improved Marketing and Communication System for Scientist and Engineers across Industry, Academia and Gov't for National Security</p>	<p>OPM- Improved Website, Best Practice Sharing Working Group, Applicant Tracking System One centralized location for all retiring military and gov't employees and students to submit resumes. DoL and POM partner with Industry to develop one stop shop</p>	<p>Better Applicant Experience, Survey, More Applicants Hired, Improved turnaround time from resume submittal to contact and success metrics established of 30 days from open to accept.</p> <p>A bigger pool of cleared talent with critical skills.</p>

Recommended Actions - Attract

RECOMMENDED ACTION	RECOMMENDED ACTION ORGANIZATION	RECOMMENDED RESULT
Better awareness and training of folks using the current compensation systems to attract, retain and motivate performance	OPM	More equity across the industry for pay
Identify and market to non-traditional talent pools and target groups like young people, parents and mid-career individuals to go into the Aerospace and National Security Industry.	AIA and NDIA	Increased percentage of employees in aerospace and national security careers

Recommended Actions - Retain

RECOMMENDED ACTION	RECOMMENDED ACTION ORGANIZATION	RECOMMENDED RESULT
Gather retention best practices	AIA – security industry association groups	Best practices understood & adopted by individual organizations

Recommended Actions - Train

RECOMMENDED ACTION	RECOMMENDED ACTION ORGANIZATION	RECOMMENDED RESULT
Identification and implementation of universal skills & competency requirements (technical & leadership skills)	Existing SCANS (DoL) DOD-NDIA-AIA- NASA-FAA-DHS- NSF-NSA-DOC- DOE	Baseline certification across national security workforce
Implement or enhance professional development programs that support multiple career paths across national security workforce. Including: Degreed S&E's, technicians, apprentices, machinists	Same as above	Clear & ongoing dual career pathways & professional development programs across national security workforce

BREAKOUT SESSION

Building Capacity In Higher Education in Critical Disciplines

Situation Statement

- A shortage of linguists and an inadequate pipeline of qualified future US engineers and scientists exists and the situation is getting worse in specific national security areas
- Multiple barriers
- Cultural change needed
- Better incentives needed
- Unified approach needed
- Motivation of S&T must start early in academic career
- Systemic Problem; requires systemic approach
- Pervasive national security issue
- Urgent – need to fix it now and maintain it
- Mentor rich environment

Key Challenges and Barriers

- Existing culture regarding these skill areas
- Poor math and science literacy
- Inadequate market incentives
- Inadequate teacher training
- Lack of comms regarding demand and opportunities
- Lack of common metric and process for assessing and representing requirements
- Fragmented efforts rather than joint, with a common goal
- Lack of national imperative
- Lack of a political champion
- Salary scales
- Political correctness of American dependencies on international skills

Recommended Actions

RECOMMENDED ACTION	RECOMMENDED ACTION ORGANIZATION	RECOMMENDED RESULT
<p>Initiate programs to enhance national security related education,</p> <ul style="list-style-type: none"> –Revise aspects of NDEA 1958 for NDEA 2006. –Gain state and local gov’t support for employing former national security professionals as teachers of both the subject matter and applications in public schools –Establish a vigorous presidential early career awards program for national security scientists and engineers to build university faculty in areas of high value to national security –Use training grants to support US citizen STEM students for national security careers in critical skills areas with requirements for internships at federal labs –Promote the articulation of 2 year programs with 4 year institutions. –Reenergize the language and advance degree (STEM) programs for Government National Security workforce (including the Officer Corps). 	<p>AIA, NDIA</p> <p>AAAS, NGA, Chambers of Commerce</p> <p>NSTC/EOP</p> <p>NSTC</p> <p>Association of community and 4 year colleges</p> <p>OPM, DoD, JCS, DHS, etc.</p>	<p>Enactment</p> <p>Teachers who are competent and engaging</p> <p>Increase US citizen tenured STEM professors</p> <p>Increase US citizen trained in STEM critical areas</p> <p>Increase STEM enrollment (US Citizen) in 4 year colleges</p> <p>Larger pool of qualified personnel</p>

Recommended Actions

RECOMMENDED ACTION	RECOMMENDED ACTION ORGANIZATION	RECOMMENDED RESULT
Charter an organization to bring coherence to the multitude of independent activities focused on national security workforce education. e.g. Establish a clearinghouse of information. , utilize behavioral science community to collaborate.	NRC	Unified, systemic National strategy
Build an interface (and resource appropriately) with the academic community (K-16) into the job requirements for employees and scholarship recipients in the skill areas needed for national security	Each and every agency	Thousands of ambassadors
Launch a national public awareness/media campaign (TV show, commercials) around the importance of STEM/ foreign language education and avocation and the benefits of a national security career	NSF, AAAS, ASEE, chartered organization above	Shift in the cultural perception of STEM
Create partnership in support of increase National Security R&D investment between industry, Gov't (including NSF, NIH, DOE office of science, etc.), Academe, and the international community	OSTP	Increased global technology awareness, and an increased pool of talent.

Recommended Actions

RECOMMENDED ACTION	RECOMMENDED ACTION ORGANIZATION	RECOMMENDED RESULT
Establish a training program for existing STEM teachers to provide remedial education	AAAS, NSTA, NCTM	Improved content knowledge