

BRAC 2005
Technical Joint Cross-Service Group (TJCSG)
Meeting Minutes of December 5, 2003

Dr. Ron Sega, Director, Defense Research and Engineering chaired this meeting. The list of attendees is attached.

Dr. Sega opened the meeting by thanking the TJCSG team for its hard work at its off-site. He then asked Al Shaffer to update the group on the progress made at the off-site. Mr. Shaffer stated that the two-day off site allowed the TJCSG subgroups to initiate their military value analysis process. Using the attached slides, Mr. Shaffer outlined the timeline for the TJCSG subgroups to complete their military value analysis approach:

- Brief the TJCSG principals at today's meeting on preliminary military value attributes and metrics
- Refine the attributes and metrics and present them to the TJCSG principals at the next TJCSG meeting scheduled for December 18, 2003
- Finalize approach to military value at the next TJCSG offsite scheduled for January 7-8, 2004 in Southbridge, Massachusetts
- TJCSG prepared to brief the ISG around January 15, 2004

Mr. Shaffer then turned the meeting over to each of the TJCSG subgroups to brief the TJCSG principals.

The Air, Land, Sea, and Space subgroup briefed the TJCSG on their initial attributes using the attached slides. The TJCSG principals accepted the basic approach of the subgroup.

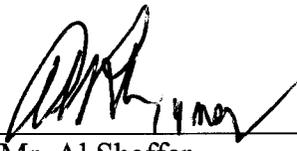
The C4ISR subgroup briefed the TJCSG on their proposed attributes and how they relate to the draft selection criteria using the attached slides. The TJCSG agreed with the basic approach of the subgroup. The TJCSG agreed with the subgroup's observation that the TJCSG must determine the technology capabilities DoD must have to support future warfighter capabilities needs. The CIT will work with the Joint Staff and conduct an inventory of documents for future concepts. For those areas of C4ISR that overlap with the intelligence community's responsibilities, the TJCSG agreed that they would work with the Intelligence JCSG which is being established.

The Weapons and Armaments subgroup briefed the TJCSG on their proposed attributes and metrics using the attached slides. The TJCSG expressed appreciation for the subgroups inclusion of draft metrics in their presentation and agreed with the basic approach of the group.

Using the attached slides, the Enabling Technology subgroup briefed the TJCSG on the attributes and notional metrics the subgroup believes should be used in the military value data call. The TJCSG agreed with the subgroup's overall approach and expressed the belief that many of the attributes developed by the subgroup had application to other subgroups.

The Innovative Technology subgroup was the last subgroup to brief the TJCSG principals. The group briefed their proposed attributes and metrics and observations from the offsite using the attached slides. The TJCSG agreed with the subgroup on the importance of having a technical infrastructure that is flexible and encourages risk taking and accepted the groups overall approach.

At the conclusion of the subgroup briefings, the TJCSG noted that many of the metrics proposed by the groups were input not output oriented. The TJCSG agreed that developing metrics to measure output in areas such as the ability to adapt to rapidly evolving threats, creating revolutionary leaps forward in technology, and achieving synergy is difficult but important to the TJCSG's success. Therefore, the TJCSG agreed to have members from each subgroup meet to assess the future capabilities needed to face the challenges of a global security posture.

Signed: 
Mr. Al Shaffer
Chairman, Capabilities Integration Team

Approved: 
Dr. Ronald Sega
Chairman, Technical Joint Cross-Service Group

Attachments:

1. List of Attendees
2. Technical JCSG Agenda
3. Briefing slides entitled "The Way Ahead" undated
4. Briefing slides entitled "Air Land Sea Space" undated
5. Briefing slides entitled "C4ISR Attributes/Metrics" undated
6. Briefing slides entitled "Weapons and Armaments Subgroup" dated December 5, 2003
7. Briefing slides entitled "Enabling Technology TJCSG Subgroup" undated
8. Briefing slides entitled "Military Value Attributes & Metric: TJCSG Innovative Systems Group" dated December 5, 2003

**Technical JCSG Meeting
5 December 2003**

Dr. Ron Sega, Chairman, OSD
Dr. J. Dan Stewart, Sr. Member, Air Force
Mr. John Erb, Sr. Member, JCS-J4

Dr. John Hopps, DDR&E
Mr. Al Shaffer DDR&E
Mr. Gerald Schiefer, OSD-BRAC
COL Robert Buckstad, DDR&E
Dr. Jim Short, DDR&E
Mr. Harshad Shah, DDR&E
Mr. Gary Strack, DDR&E
Dr. Bob Rohde, ARMY
Mr. Chien Huo, ARMY TABS
BG Fed Castle, USAF
Mr. Andy Porth, OSD-BRAC
Mr. Don DeYoung, NAVY
COL Steve Evans, USMC
Mr. Chris Blake, Air Force
Mr. Al Goldstayn, Air Force
Dr. Charles Holland, DDR&E
Mr. Matt Miezvia, Air Force
Mr. Roy Owens, Army (ALION)
Mr. Larry Shuette, US Navy
Dr. Karen Higgins, US Navy
Me. Joseph Lawrence, US Navy
Mr. Joseph Hoeg, US Navy
COL Frank Higgins, HSA/JCSG
COL Charles Sachs, HSA/JCSG
COL Eileen Walling, Air Force

Technical Joint Cross Service Group (TJCSG)
5 December 2003
Pentagon Room 3E1014
Agenda—Military Value Attributes & Metrics

<u>Time</u>	<u>Topic</u>	
1300 hrs	Military Value Off-site	Mr. Shaffer
	<ul style="list-style-type: none">• Interim Selection Criteria—Attributes—Metrics—Questions• Role of the Subgroups in Military Value Phase	
1315 hrs	Subgroup Reports	
1315 hrs	Air, Land, Sea & Space	Dr. Ogg
1330 hrs	C4ISIR	Dr. Mleziva
1345 hrs	Armaments & Weapons	Dr. Higgins
1400 hrs	Enabling Technologies	Dr. Lawrence
1415 hrs	Innovative Systems	Dr. Schuette
1430 hrs	TJCSG discussion & guidance to Subgroups	Dr. Sega
	<ul style="list-style-type: none">• TJCSG Off-site in Southbridge, MA January 7-8, 2004• Principles, Subgroups, Capability Integration Team, Analytic Team & Service BRAC representatives	
1445 hrs	Status Report on Capacity Questions & Data Call	Dr. Short
1450 hrs	Wrap Up and Action Items	Dr. Sega
	<ul style="list-style-type: none">• Next Meeting – Scheduled December 18, 2003 @ 1300 Interim Report from each Subgroup on military value questions	
1500 hrs	Adjourn	

THE WAY AHEAD

- 5 Dec
 - Subgroups Brief
 - Subgroup “Categories”
 - Statement of Technical Mission
 - Attributes By Selection Criteria
 - Metrics

THE WAY AHEAD (Cont)

- 18 Dec (TJCSG)
 - Subgroups Brief
 - Refined Attributes/Metrics
 - Statement of Technical Mission
 - Describe How Data Will Be Collected (Audit)
 - Initial Set of Questions
 - Draft Due by 15 Dec (COB)
 - CIT-Expanded Meets 16 Dec

THE WAY AHEAD (Cont)

- 7-8 Jan (Offsite)
 - Subgroups Finalize Draft Questions
 - Have Inserted In “Tool”
- CIT-Expanded Meets 9 Jan

THE WAY AHEAD (Cont)

- Loose Ends
 - “Output Metrics”
 - Results/Desired Business Outcomes
 - “Test Case” Across All Functions
 - Address What Technical Functions Will Likely “Need” For Future

Air Land Sea Space

Sub-Working Group Mission

Ensure the Superiority of the Nation's future
Air, Land, Sea and Space Combat
Platforms

Attributes

- People (1, 3, 4)
- Facilities/Equipment (2)
- Physical Environment (2,3)
- Synergy (1,3)
- Operational Impact—Output (1)

Attributes/Metrics

- People (Civilian, military, FFRDC, IPA)
 - Level of education (earned only)
 - % of BS (x 1)+ % MS (x2)+ % PhD (x3)
 - Experience (relevant)
 - <10yrs (x1) + 10-20 yrs (x2) + > 20 yrs (x3)
 - Certification
 - Acquisition: % Lvl I (x1) + % Lvl II (x2) + % Lvl III (x3)
 - Other Professional Certifications (Test pilots, software, etc)
 - # Patents/Refereed Journal Articles/Nat'l level awards
 - List and total
 - QOL
 - Workforce Turnover (Recruit rate?; % accessions/departures)
 - Cost of living
 - % Vacancies

Attributes/Metrics

- Physical Environment
 - Range Space (need to get T&E questions)
 - Area/volume
 - Ordnance, precision impact measurement, LGB, strafing, supersonic corridors, targets, IADS, weapons scoring, etc
 - Measure range capabilities across S&T, D&A, T&E
 - Ability to integrate with other ranges and conduct distributed ops
 - Terrain capability availability
 - Space launch and recovery capability
 - Space Range operations capability
 - Permits/licenses—permits approved for required activities
 - Approving agency?
 - Encroachment—impacts over last XX years; LIMFACS for the future, mission days lost

Physical Environment

- Climatic Testing
 - Natural, non-simulated environments
 - Temperature range, humidity range, salinity, rain density, volume available, media for test
 - % of time experienced desired climatic condition
 - % of utilization for particular climatic condition

Facilities and Equipment

- Types of facilities: Mod/Sim; measurement; H/W in the loop, ISTF, Integration labs, research/analysis facilities, prototype/assembly areas
- Range of capabilities
 - Functions, linkages/connectivity, operational realism/fidelity
 - Controlling parameters
 - Size, spectrum, computational capability
 - Classification level
 - Certifications (NIST, etc)
- Breadth of application (S&T, D&A, T&E)
- Depth of application (stand alone, system, force on force)
- Customer base
- Future capability enhancement
 - e.g. increased mach regime, Directed energy
- Cost of operations

Operational Impacts

S&T

- Technologies transitioned to fielded systems or infrastructure
- Technologies in work focused on validated future needs/capabilities
- # of active ACTD's/ATD's—in A/L/S/S platforms
- Rapid response to operational deficiency

Development/Acquisition

- # of systems fielded in last 10 years
- # of major mods fielded to existing systems
- # of systems/mods currently managed and projected over POM, with associated dollars
- Rapid response/fielding to meet operational deficiency
- # of new starts in last 5 years

T&E

- # of training missions/ops missions supported
- # of systems involved in T&E supporting S&T, D&A, Sustainment
- # of systems/mods verified/fielded through T&E over last 10 years
- Capability to perform T&E on advanced capabilities/systems (DE, hypersonics, etc)

Synergy

- Multiple functions
 - S&T, D&A, T&E
- Joint Interface
 - Functions
 - Operations
- Co-location
 - Customers
 - Users
 - In-service engineers/developers
- Peripheral assets available
 - Academia
 - Industry
 - Other gov't agencies



C4ISR Working Group

(Military Value)

5 Dec 03

Essential Elements of C4ISR Technical Mission



- Enable Net-Centric Operations Warfare
- Every Platform is a Producer and/or Consumer of Information
- Interoperability of Data Essential (Compatible Formats)
- Covers Air, Land, Sea and Space (Including Cyberspace)

Right Information to Right User at Right Time

C4ISR Key Assumptions



- Intelligence in C4ISR and Intelligence JCSG will be deconflicted
- Assessment of MV of development, test and evaluation of facilities will be done by C4ISR WG vice Range's JCSG
- Assessment of MV of platform's embedded C4ISR capabilities will be done by C4ISR WG vice A/L/S/S WG

C4ISR Attributes



1. Scope of Work (C1)
2. Demonstrated Impact to Mission/Output (C1)
3. Physical Resources/Locations (C2)/(C3)
4. Technical Workforce (C3)/(C4)
5. Alternate Source Availability (C4)

C4ISR Attributes and Criteria Matrix



Criteria	A1 Scope of work	A2 Demonstrated Impact to Output	A3 Physical Resources	A4 Technical Workforce	A5 Alt Source Availability
C1 (Current/Fture Ops)	X	X			
C2 (Availability of Resources)			X		
C3 (Contingency/Mobilization)			X	X	
C4 (Cost/Manpower)				X	X

C4ISR Attributes



1. Scope of Work (C1)
 - Joint Acquisition
 - Technical Capabilities
 - Life Cycle (Cradle to Grave)
 - % C4ISR Workload/Total Workload

C4ISR Attributes/Metrics

1. Scope of Work (C1)

- **Joint Acquisition**
 - **% Joint**
 - **Define Joint**
 - **Big/Important Programs**
 - **Service program master list (ACAT/MAIS)**
- **Technical Capabilities**
 - **S&T**
 - **Comm, C2, Sensors, Elect, & Intel Capabilities / Systems**
 - **Supported by R2s**
 - **D&A/T&E**
 - **C2, Comm, Computer, ISR (Sensor) & ISR (Processing)**
- **Life Cycle (Cradle to Grave)**
 - **6.1, 6.2, 6.3, 6.4, Production, Sustainment**
 - **Programs, people and funds**
- **% C4ISR Workload/Total Workload**
 - **Programs, people and funds**

C4ISR Attributes

2. Demonstrated Impact to Mission/Output (C1)

- **Operational Utility**
 - **C2 Functional Concepts for 2015**
 - **Reduce Decisions Cycle Time, Increase Situational Awareness, Disrupt Adversary's Decision Cycle, Meet NCOW Specifications, Ease of Use**
- **Productivity (Systems or products per capita)**
 - **Effectiveness**
 - **Output/(Cost or Resources Consumed)**
 - **\$ Spent per C4ISR Capability (Total \$\$\$--Separate S&T/D&A)—Business \$\$/Employee**
- **Products**
 - **D&A/T&E Characteristics:**
 - **# of Products (ACAT/MAIS)**
 - **S&T Characteristics:**
 - **# of Patents, # R& D Agreements, # Publications, Amount of Customer \$\$\$**

C4ISR Attributes



3. Physical Resources/Locations (C2)/(C3)

- **Facilities**
 - **Quantity and Quality**
 - **Expandability**
 - **Licenses/Permit Issues Unique to facilities**
- **Proximity to Partners**
- **Flexibility/Adaptability**

4. Technical Workforce (C3)/(C4)

- **Quantity**
- **Quality (Education, Experience, Certification, ...)**
- **Ability to Refresh (regenerate from local community)**
- **Flexibility and Adaptability**

C4ISR Attributes



5. Alternate Source Availability (C4)

- **Private Sector**
- **Other Government**
- **In-house/Out Source ratio**

C4ISR WG Request for Assistance



- **How to collect in order to measure:**
 - **Alternate Source Availability**
 - **Productivity for both S&T and D&A/T&E**
- **Who's measuring Joint MV of IT infrastructure**

Military Value Weapons & Armaments Subgroup

December 5, 2003

12/5/03 0900 Draft Deliberative Document—For Discussion Purposes Only—Do not
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1

Technical Mission Statement

Provide and sustain the weapons and
armaments to meet mission requirements of
joint forces at the most economical life
cycle cost.

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2

Major Attributes for Weapons and Armaments Contributing to Military Value

- Output Products
- Operating Cost of Doing Business
- Portability
- Intellectual Capital
- Facilities and Equipment
- Ranges

Map of Major Attributes to Mil Value Criteria

Attributes	Mil Value Criteria			
	I	II	III	IV
Output Products	X		X	
Operating Cost of Doing Business				X
Portability				X
Intellectual Capital	X		X	*
Facilities and Equipment	X	X	X	*
Ranges	X	X	X	*

Note: * indicates partial/minor coverage by metrics in other criteria; duplicate metrics not used

Map of Attributes to MV Criteria

Attributes	Mil Value Criteria			
	1	2	3	4
<u>Output Products</u>				
•Products Sustained/ Supported	X		X	
•Rapid Response Capability	*		X	
•Ability to Supt Future Products	X		X	
<u>Intellectual Capital</u>				
•Tech Expertise Breadth & Depth	X		X	
•Ability to Attract/ Retain/ Hire	X		*	
•Flexibility/ Innovativeness	X		X	*
<u>Operating Cost of Doing Business</u>				X
<u>Portability</u>				X

Note: * indicates partial/minor coverage by metrics in other criteria; duplicate metrics not used

Map of Attributes to MV Criteria

Attributes	Mil Value Criteria			
	1	2	3	4
<u>Facilities & Equipment</u>				
•Flexibility	X	*	X	
•Operational Realism	X	*		
•Future Growth Potential	X	*	X	*
•Uniqueness/ Criticality	X	*		
•Physical State	*	X		
<u>Ranges</u>				
•Flexibility	X	*	X	
•Operational Realism	X	*		
•Future Growth Potential	X	*	X	*
•Uniqueness/ Criticality	X	*		
•Physical State	*	X		

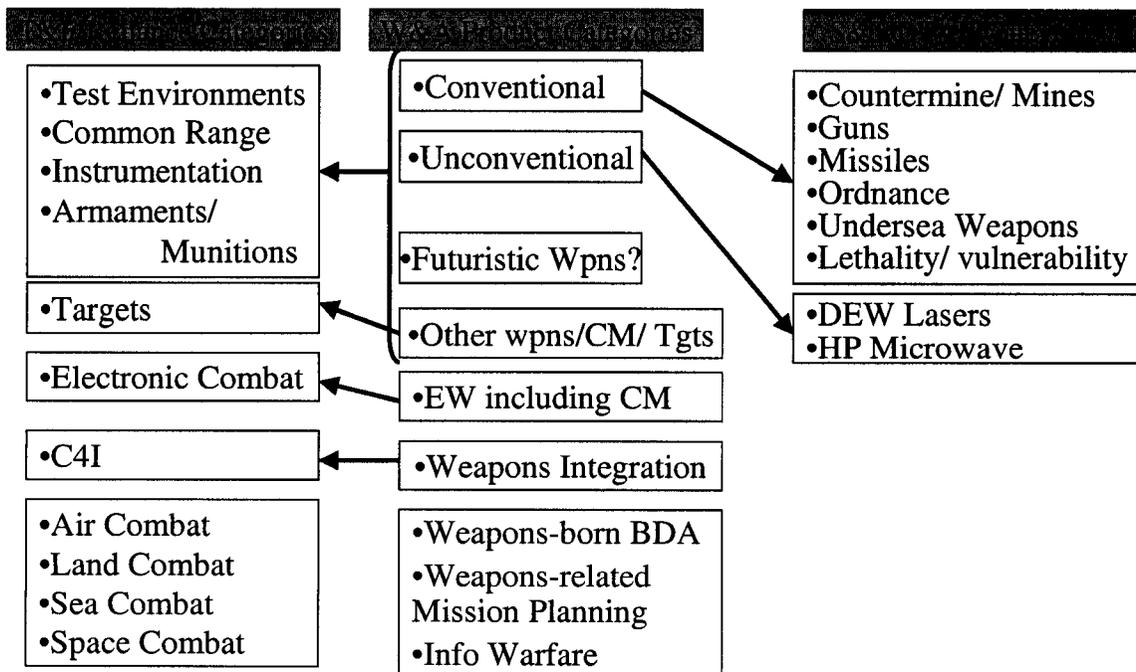
Note: * indicates partial/minor coverage by metrics in other criteria; duplicate metrics not used

Weapons and Armaments

Product Categories

- Conventional Lethal & non-lethal, kinetic & non-kinetic, including Cruise Missiles
- Unconventional [DEW, Nuclear, counter CB]
- Futuristic Weapons??
- Other weapons/ weapons CM/ targets
- Weapons Integration
- Weapons-born BDA
- Weapons-related Mission Planning
- EW including Countermeasures
- Information Warfare including psy-ops

Map to W&A Categories



Criteria 1: Current and Future Mission Requirements

Subgroup: W&A

- Attribute 1: Output Products by W&A Category
 - Metric 1-1: Products Sustained/ Supported
 - 1-1.1: Number/ Type of Systems Fielded in past yy years
 - 1-1.2: Table of Organization & Eq density [proliferation of products to organizations?]
 - 1-1.3: \$, number, type of systems supported. Delineate by life cycle phase: S&T, D&A/ T&E and In-Service in & out-of-production
 - 1-1.4: Number of missions supported per year for the past yy years delineated by Test, Experiment, and Training
 - 1-1.5: Other Technology Areas Supported by name and \$
 - Metric 1-2: Ability to Support Future Products
 - 1-2.1: Number of tech products supported [ATD/ ACTD/ 6.3 Prototypes]
 - 1-2.2: Number of Patents Sold
 - 1-2.3: Describe active disruptive technology programs
 - 1-2.4: List other technology capability areas supported

Criteria 1: Current and Future Mission Requirements

Subgroup: W&A [cont]

- Attribute 2: Intellectual Capital
 - Metric 2-1: Technical Expertise: Breadth and Depth
 - 2-1.1: Number/percentage of S&Es, etc... supporting W&A categories
 - 2-1.2: Number/percentage of S&Es, etc... supporting S&T/ D&A/ T&E
 - 2-1.3: Years of experience by weapons categories
 - 2-1.4: Number of manyears/percent & type of on-site external professional connections/ agreements/ partnerships [industry, academia, other labs, task order contracts, GEO Ctrs]
 - 2-1.5: Demographics of workforce: Education [# PhDs, Masters, Bachelors [individual can have more than 1]/ age-experience distribution/ Age profile
 - 2-1.6: Percentage of S&Es teaching part-time or holding adjunct professorships
 - Metric 2-2: Ability to Attract/ Retain/ Hire
 - 2-2.1: Average S&E, etc attrition rate [other than incentivized retirements, BRAC or RIF related] past 5 years
 - 2-2.2: Number/percentage of new hire S&Es, etc... past 5 years
 - 2-2.3: Access to Universities/ Industry
 - Metric 2-3: Flexibility/ Innovativeness
 - 2-3.1: Cumulative per capita # of Patents and publications past 10 yrs
 - 2-3.2: Recognition: List Departmental or National/ State Awards Received by both people and the organization for the past 5 years
 - 2-3.3: Percent of S&Es etc holding Secret clearance or above

Criteria 1: Current and Future Mission Requirements

Subgroup: W&A [cont]

- Attribute 3: Facilities and Equipment
 - Metric 3-1: Flexibility
 - 3-1.1: Ability to support Cradle-to-Grave
 - Diversity of customer base: List customers by S&T, D&A, T&E, Training for past 5 years
 - Number of programs, \$ by W&A Categories
 - 3-1.2: Multi-Use/ Multi-Purpose Facilities
 - Support of multiple life cycle phases and multiple weapons systems
 - Customer base types: joint, commercial, international...
 - Modularity/ simulated & real environ and synergism w/ other environ [e.g. multi-spectrum]
 - 3-1.3: Interconnectivity
 - Interoperability, Reconfigurability and potential for distributed real-time constructive-virtual-live simulations and exercises of Facilities [Internal & External]
 - Metric 3-2: Operational Realism; Ability to Replicate Environment
 - 3-2.1: Spectrums, terrain/geography
 - 3-2.2: Accuracy, Real Time, Precision
 - 3-2.3: Virtual and Constructive Environments [M&S, HWIL...]
 - Metric 3-3: Ability to Support Future Products
 - 3-3.1: List new Facilities in Support of New Customers
 - Metric 5-4: Unique/ Critical Facilities and Equipment
 - 3-4.1: Name, age, replacement value of facility/eqt
 - 3-4.2: Describe Unique function/capability (security levels, types of programs supported, customers and list unique equipment
 - 3-4.3: Describe Unique geographical/climatological features
 - 3-4.4: # of instances and total hours of use by external customers by joint, industry & int'l
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Criteria 1: Current and Future Mission Requirements

Subgroup: W&A [cont]

- Attribute 4: Ranges
 - Metric 4-1 Flexibility
 - 4-1.1: Ability to support Cradle-to-Grave
 - Diversity of customer base: List customers by S&T, D&A, T&E, Training for past 5 years
 - Number of programs, \$ by W&A Categories
 - 4-1.2: Multi-Use/ Multi-Purpose Facilities
 - Support of multiple life cycle phases and multiple weapons systems
 - Customer base types: joint, commercial, international...
 - Modularity/ simulated & real environ and synergism w/ other environ [e.g. multi-spectrum]
 - 4-1.3: Interconnectivity
 - Interoperability, Reconfigurability of Ranges [Internal & External]
 - Metric 4-2: Operational Realism; Ability to Replicate Environment
 - 4-2.1: Spectrums, terrain/geography
 - 4-2.2: Accuracy, Real Time, Precision
 - 4-2.3: Virtual and Constructive Environments [M&S, HWIL...]
 - Metric 4-3: Ability to Support Future Products
 - 4-3.1 List new Facilities in Support of New Customers
 - Metric 4-4: Unique/ Critical Ranges
 - 4-4.1: Name, age, replacement value of facility/eqt
 - 4-4.2: Describe Unique function/capability (security levels, types of programs supported, customers and list unique equipment
 - 4-4.3: Describe Unique geographical/climatological features
 - 4-4.4: # of instances of use by external customers by joint, industry & int'l

Criteria 2: Availability & Condition of Land/ Facilities/ Airspace; Subgroup: W&A

- **Attribute 1: Facilities and Equipment**
 - **Metric 1-1: Physical State**
 - 1-1.1: Describe any encroachment and environmental/ compliance issues
 - 1-1.2: Security Levels Available
 - 1-1.3: Age/ Unique Equipment/ Economy of Use/ State of the Art
- **Attribute 2: Ranges**
 - **Metric 2-1: Physical State**
 - 2-1.1: Describe any encroachment and environmental/ compliance issues
 - 2-1.2: Security Levels Available
 - 2-1.3: Age/ Unique Equipment/ Economy of Use/ State of the Art

Criteria 3: Contingency, Mobilization and Future Total Force Requirements; Subgroup: W&A

- **Attribute 1: Output Products W&A Category**
 - **Metric 1-1: Products Sustained/ Supported**
 - 1-1.1: Number and names of Joint Programs Supported
 - **Metric 1-2: Rapid Response Capability**
 - 1-2.1: Response Time for xx wartime examples past 5 years including number of urgent needs statements received and delivered
 - 1-2.2: Contingency \$ received for Services / Systems Delivered for wartime urgent needs past 5 years
 - 1-2.3: Number of systems on time/ on budget past 5 years
 - **Metric 1-3: Ability to Support Future Products**
 - 1-3.1: Number of Significant Transitions to the Field past 5 years
- **Attribute 2: Intellectual Capital**
 - **Metric 2-1: Technical Expertise: Breadth and Depth**
 - 2-1.1: Number/percent of S&Es, etc supporting joint service or other agency programs/ initiatives by W&A categories
 - **Metric 2-2: Flexibility/ Innovativeness**
 - 2-2.1: Number/ scope of new start programs [6.3+] past 5 years

Criteria 3: Contingency, Mobilization and Future Total Force Reqts; Subgroup: W&A

- Attribute 3: Facilities and Equipment
 - Metric 3-1: Flexibility; Throughput for Quick Reaction, Normal, Surge
 - Metric 3-2: Future Growth Potential
 - 3-2.1: Surge Capacity
 - 3-2.2: Utilization/Ability to Expand/ Accommodate additional workload
- Attribute 4: Ranges
 - Metric 4-1: Flexibility: Throughput for Quick Reaction, Normal and Surge
 - Metric 4-2: Future Growth Potential
 - 4-2.1: Surge Capacity
 - 4-2.2: Utilization/Ability to Expand/ Accommodate additional workload

Criteria 4: Cost and Manpower Implications including impact on intellectual capital Subgroup: W&A [cont]

- Attribute 1: Operating Cost of Doing Business
 - Metric 1-1: Ratio of manyears contributing to direct products in weapons categories to manyears of indirect support + direct product support
 - Metric 1-2: Loaded rate per man year of S&E work supplied to customers outside the org
- Attribute 2: Portability
 - Metric 2-1: Cost, Feasibility and Impact of moving Facilities and Equipment
 - 2-1.1: Estimated lab/facility and equipment replacement value
 - Metric 2-2: Cost, Feasibility and Impact of relocating Intellectual Capital

Backup

CRITERIA

Subgroup: Weapons and Armaments

- **Criteria 1: Current and Future Mission Requirements**
- **Criteria 2: Availability & Condition of Land/ Facilities/ Airspace**
- **Criteria 3: Accommodate Contingency, Mobilization and Future Total Force Requirements**
- **Criteria 4: Cost and Manpower Implications including impact on intellectual capital**

Weapons & Armaments Categories [detailed]

- Conventional Lethal & non-lethal, kinetic & non-kinetic weapons and armaments including missiles & projectiles including cruise missiles; free-fall weapons; bombs and rockets; guns & ammunition; torpedoes; energetics used in fuzes, propellants, motors, thermobarics; and explosives such as FAE & mines; exo-atmospheric weapons platforms. These weapons may be stationary or range in speed from sub-sonic to hypersonic, with regimes of operation from underwater, to surface, to air, to space.
- Unconventional weapons including DEW [microwave and laser], Nuclear weapons, weapons to counter Chemical/ Biological/ Radiation/ Nuclear; special operations capabilities; national assets used by weapons or weapons systems.
- Futuristic weapons that are in creative phases, such miniaturized robotics and others.
- Other weapons/ weapons countermeasures related systems including flares, illumination devices, smoke generators, chaff, grenades, markers, acoustics as well as “non-aircraft” targets used for weapons testing.
- Integration of weapons on air, land, sea or space platforms, incorporating weapons data links, GPS, launchers and fire control
- Weapons-born Battle-damage assessment capabilities
- Weapons related mission planning
- Electronic Warfare including Countermeasures
- Information Warfare including psy-ops

Enabling Technology TJCSG Subgroup

Military Value Question Development Status Report
Dr. Joseph Lawrence

Technical Mission: The enabling technology WG addresses the fundamental technology base that encompasses the cross functional nature of S&T needed to support the force of the future. The enabling technology WG will evaluate horizontally across the breadth of the fundamental underpinning technologies and associated facilities to support the known & unknown needs of the services in 2020 or later. Vertical evaluation will be supported only for select functions not covered elsewhere (i.e. Chem Bio, Power and Energy, materials, ...).

5 December 2003

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1

DoD Interim Selection Criteria & Attributes

1. The current and future mission requirements and the impact on operational readiness of the DOD's total force, including impacts on joint warfighting, technical capabilities, training, and readiness.
Attributes: Mission, Workforce, Location
2. The availability and condition of land, facilities and associated airspace, including science and technology (S&T)/acquisition/test and evaluation infrastructure, and training areas and staging areas for the use of the Armed Forces in homeland defense missions, at both existing and potential receiving locations.
Attributes: Location
3. The ability to accommodate contingency, mobilization, and future total force requirement at both existing and potential receiving locations to support operations, training, science and technology (S&T)/acquisition/test and evaluation missions.
Attributes: Mission, Operational Responsiveness, Location
4. The cost and Manpower implications, including the impact on intellectual capital.
Attributes: Workforce, Location

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2

Attribute: Mission

Metrics

Alignment

(By Location)

DTAP	S&T	D&A	T&E	Op/ISEA
Cat.	FTE's			
Sub. Cat.				
Other				

Capability - Repeat with focus on qualified capabilities.
Will exceed FTE count for current/funded work.

Jointness - Identify formal and other joint on-site work, by dollars and by funding organization

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3

Attribute: Workforce

Metrics

Credentials — Education, Licenses, Certifications, Prof. Org

Renewal — Prof Dev., Recruiting, Training, Turnover. Diversity....

Outreach/Connectivity — CRADA's, Universities, Liaison, Prof Societies, National and International Panels....

Accomplishments — Patents, Papers, Reports, Contracts
Monitored....

Jointness — Cross-Service Personnel, Work, Facility Utilization

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4

Attribute: Operational Responsiveness

Metrics

Warfighter Support/Liaison - x

Acquisition Support/Liaison - x

Output - How much of 6.3 funding is associated with TTAs/MOAs with D&A customer

TBD – ? how do we measure S&T output?

Jointness

Attribute: Location

Metrics

Geographical/Climatological - list

Licenses and Permits - list

Environmental Constraints - list

Special Support Infrastructure - list

Proximity to Mission Related Organizations - list

Jointness

Status

- ET WG already has developed an initial draft set of questions for Mission, for Workforce and for Location.
- Operational Responsiveness metrics and questions are our current focus.

Questions???

Interim Status Report to the TJCSG



Military Value Attributes & Metric December 5th

TJCSG Innovative Systems Group

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Innovative Systems Group



Dr. Robert Leheny (OSD)

Mr. Chuck Goodrich

Mr. Steve Degrance

BGEN Dan Goodrich (AF)

Ms. Frances Duntz

Mr. Mike Schexnayder (Army)

Dr. Walt Bryzik

Dr. Lawrence Schuette (Navy)

Dr. Tom Kaye

} Attended Offsite

Mr. Mike Crisp

Mr. Tom Carroll

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Observations from the Offsite



Lots of discussion at the Offsite on the role and charter of the Innovative Systems Group.

- All working groups have “Innovative Systems” in their DTAP areas. Innovative Systems are cross-cutting, not vertically integrated.
- ISG will not identify Innovative Systems, but rather the characteristics of Organizations that create Innovative Systems. (Will innovation be rewarded by BRAC?)
- Further Thoughts:
Creativity is risky, accordingly Innovative Systems are risky.

Successful problem solving typically involves reducing risk (or accurately defining and managing risk).

With Innovative systems the risk isn't the risk of the individual components, but rather the “system risk” or the “system of systems” risk.

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Technical Mission



Innovative Systems Group will measure a “facilities” ability to incorporate new ideas, methods, or devices that substantially improve performance or capabilities over pre-existing systems or other approaches to achieving that function.

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Draft Attributes & Metrics:



Criteria 2: The availability and condition of land, facilities, and associated airspace, *including training areas suitable for maneuver by ground, naval, or air forces throughout a diversity of climate and terrain areas and staging areas for the use of the Armed Forces in homeland defense missions*, at both existing and potential receiving locations.

Attribute: **Facilities dedicated to innovative systems development (input)**

Metric: Physical infrastructure

Metric: Government/industry/academia synergy

Metric: Modeling & Simulation

Metric: Costs of moving critical infrastructure

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Draft Attributes & Metrics



Criteria 3: The ability to accommodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations *to support operations and training*.

Attribute: **Organizational Flexibility and Adaptability (input)**

Metric: Alliances with Industry/academia and other government agencies

Metric: Proximity to Centers of Excellence

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