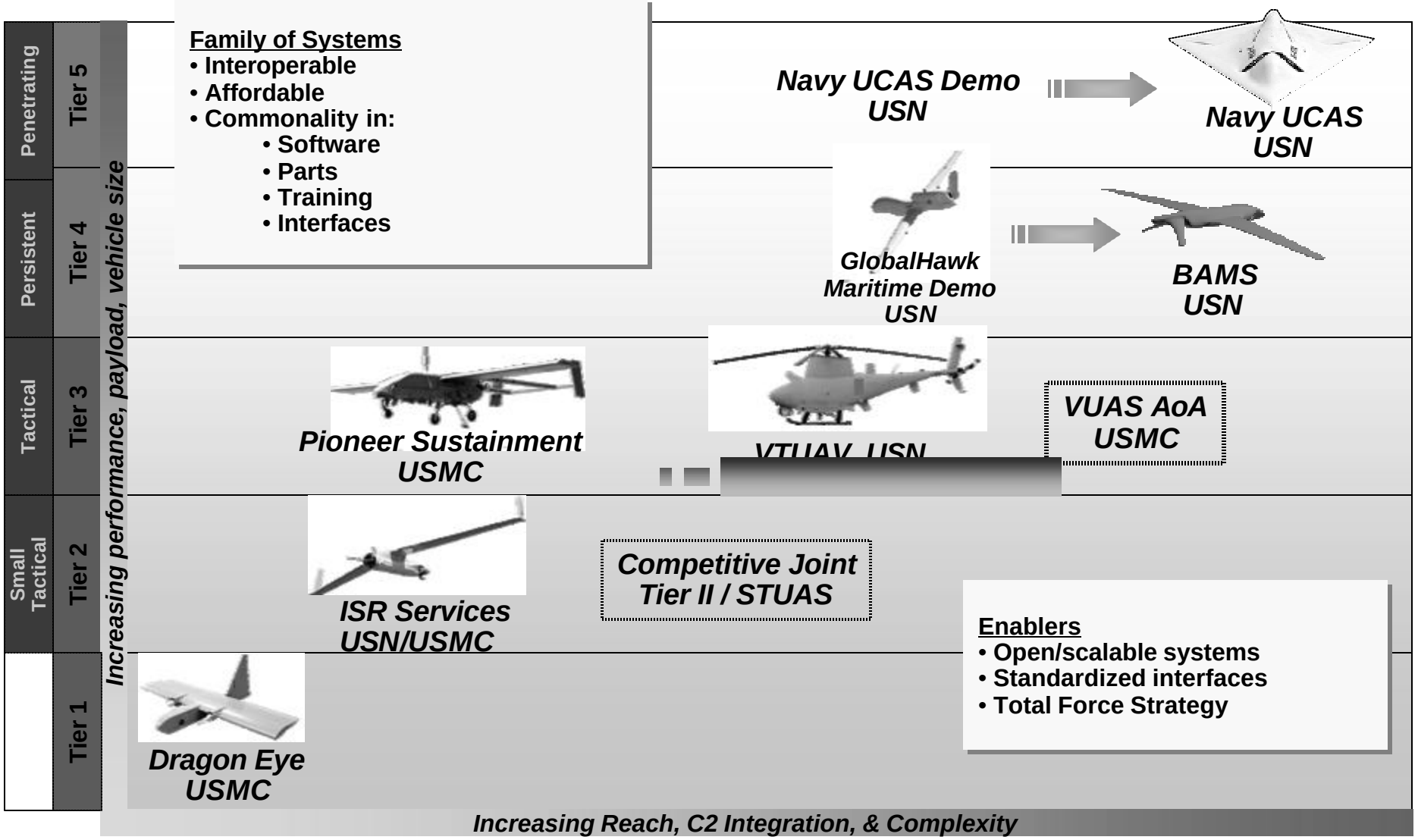
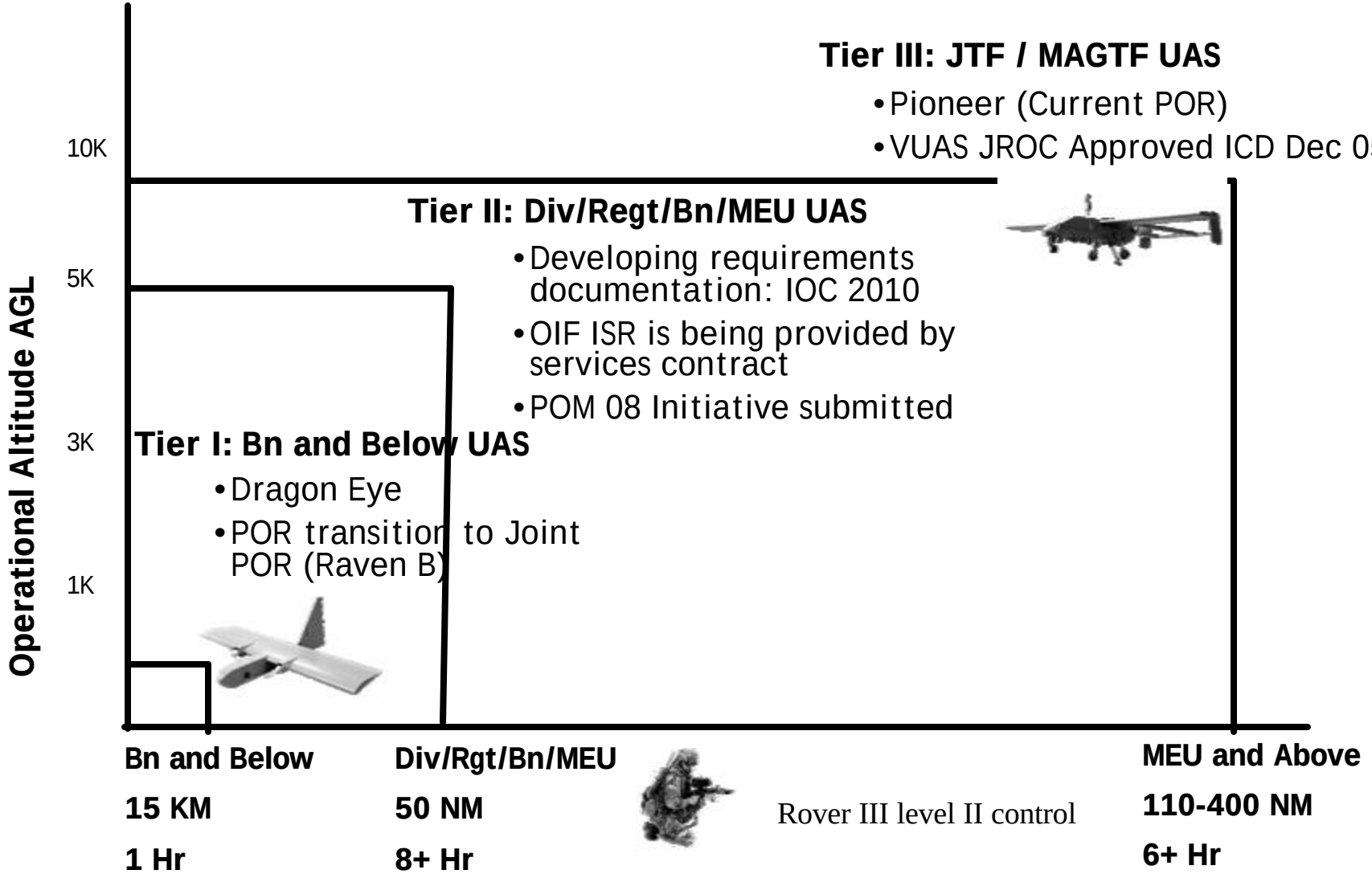
…on the fringe of interoperability

Naval UAS Family of Systems



USMC Three-Tier UAS Strategy



UAS Efforts

- Tier-I
  - Dragon Eye
  - Raven-B
- Tier-II
- Tier-III
  - Pioneer
  - VUAS
- RVT
  - ROVER

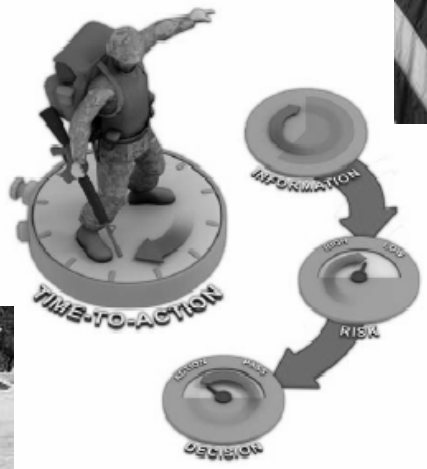
Tier-II

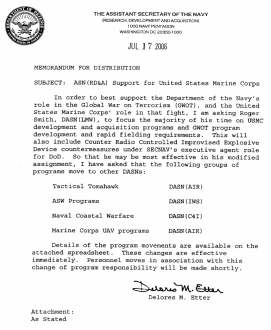
- ISR Services
- MCWL Concept Demonstrator
- ISR Services Competition

Workhorse

Focus, Shift, Align

- MCSC & PEO(W) MOA
  - MDA
  - ERB
- ASN-RDA Memorandum
  - GWOT
  - USMC Support
  - Program Migration
  - TIER-II Program of record





THE ASSISTANT SECRETARY OF THE NAVY
(RESEARCH, DEVELOPMENT AND ACQUISITION)
1000 NAVY PENTAGON
WASHINGTON DC 20350-1000

JUL 17 2006

MEMORANDUM FOR DISTRIBUTION

SUBJECT: ASN(RD&A) Support for United States Marine Corps

In order to best support the Department of the Navy's role in the Global War on Terrorism (GWOT), and the United States Marine Corps' role in that fight, I am asking Roger Smith, DASN(LMW), to focus the majority of his time on USMC development and acquisition programs and GWOT program development and rapid fielding requirements. This will also include Counter Radio Controlled Improvised Explosive Device countermeasures under SECNAV's executive agent role for DoD. So that he may be most effective in his modified assignment, I have asked that the following groups of programs move to other DASNs:

Tactical Tomahawk	DASN(AIR)
ASW Programs	DASN(IWS)
Naval Coastal Warfare	DASN(C4I)
Marine Corps UAV programs	DASN(AIR)

Details of the program movements are available on the attached spreadsheet. These changes are effective immediately. Personnel moves in association with this change of program responsibility will be made shortly.

Delores M. Etter

Attachment:
As Stated

Tier-II POR

- ICD development and leadership: DC CD&I
- Program management: PMA-263
- MDA: PEO(W)
- Resource Sponsor: N-86

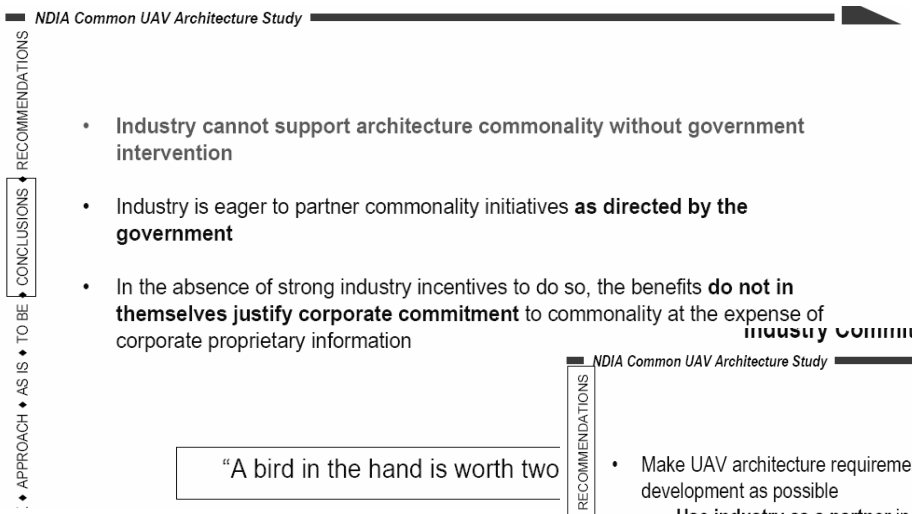
NDIA Study

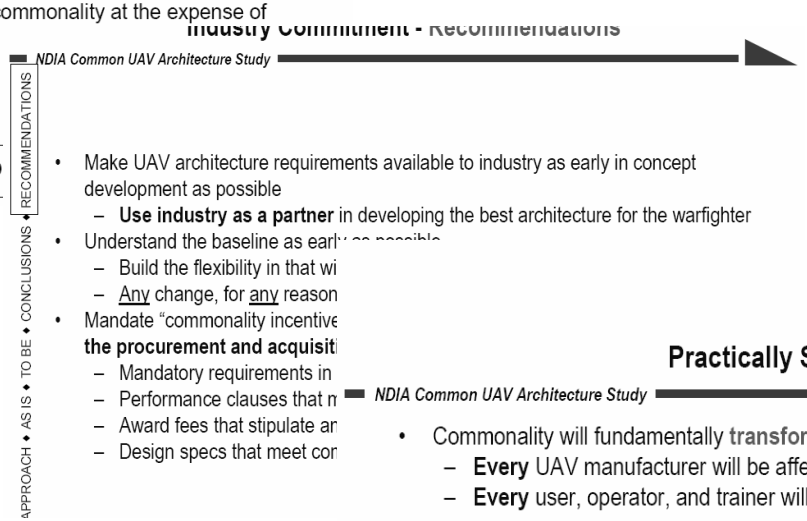
1. UAV stovepipes…biggest barrier
2. …no one in Industry moving toward architecture commonality
3. …compliance with [standards] is not being mandated
4. Organizational resistance to change is easily the most intractable obstacle
5. The group recommended that the Defense Department designate a single office to be in charge of mandating commonality within the UAV programs, as well as the budget authority to enforce standards

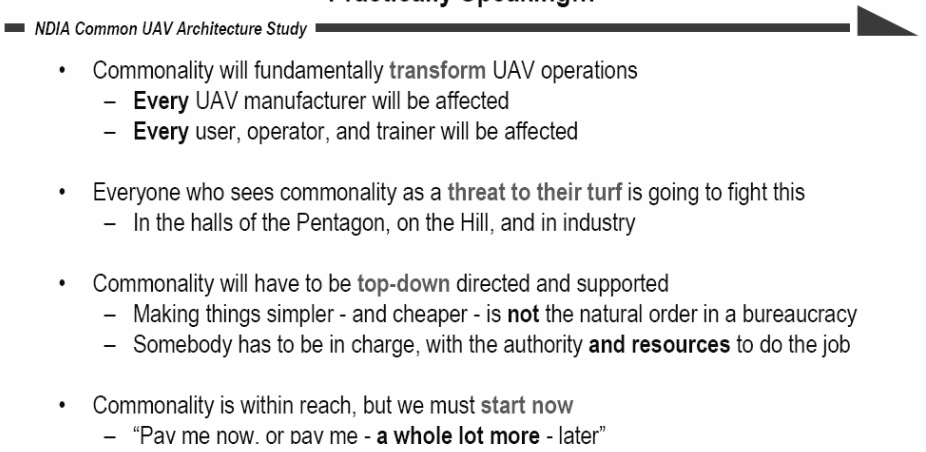
NDIA Study (con't)

6. A top level architecture can be common, but must fit within a concept of operations.
7. …UAV concepts of operations are inconsistent in their approach to C2 interfaces
8. …A similar problem exists to the data that UAVs collect and disseminate

…man in the mirror







Impediments to interoperability

- UUNS & Proprietary data
- Selective Interpretation & Selective Implementation
- Acquisition system Vs Technology refresh vs Operational context

The Six Phases of Every Project

1. Enthusiasm
2. Disillusionment
3. Panic
4. Search for the Guilty
5. Punishment of the Innocent
6. Praise and Honors for the Non-Participants

Lexicon

- Interoperability Vs.
  - Interdependence
  - Commonality
  - Compatibility
  - Integrated

- Standard definitions
  - TIERS
  - Elements
  - Enablers
  - CLASS
  - C2
  - Architecture
  - Standards
  - Interfaces

Types of Interoperability

- Technical- Standards (STANAG)
- Operational-CONOPS (NOC)
- Programmatic- Design, Structure
- Industrial-Cooperation
- Leadership-Policy “Hammer”
- Emergent-von oech

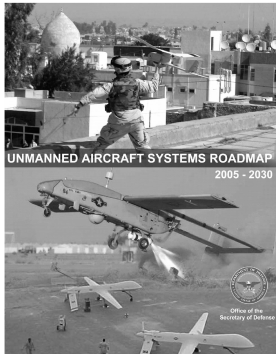
- D
- O
- T
- E
- M
- I
- L
- P
- F

Expanding our Concept of Interoperability

- HP Hospital Monitor
- Lego factory
- iTunes
- FSR

Recipe for success

- Boundaries and constraints
  - Article 142
- Guides and Sherpas
  - JROCM 136-05
    - JCOE
    - JUAS-MRB
- Play Book
  - UAS road map
- Orientation
  - The individual warfighter



THE JOINT STAFF
WASHINGTON, D.C. 20318-0909

JOINT REQUIREMENTS OVERSIGHT COUNCIL

JROCM 136-05
5 July 2005

MEMORANDUM FOR: Vice Chief of Staff, US Army
Vice Chief of Naval Operations
Vice Chief of Staff, US Air Force
Assistant Commandant of the Marine Corps

Subject: Joint Unmanned Aerial Vehicle (UAV) Executive Agent

1. The Joint Requirements consider the issue of Joint UA JROC Memorandum (JROCM) the scope, charter, and requir

2. The JROC agreed to est Joint UAV Center of Excellenc

a. The JCOE shall be estal NV, with a goal of 1 October 2 focus on operational issues, s Specific responsibilities will b document.

b. The JCOE shall be com inter-Service rotational basis. Director. The Army shall pro provide the first deputy.

c. The JCOE shall be man billets, to include the comme creation of the billets.

3. The JROC requested the S Overarching Integrated Proce recommendations:

a. The JOIPT shall addres Specific responsibilities will b

b. The JOIPT shall be cha starting with the OIPT's curre recommendations shall be co

Integration and Development System (JCIDS). Therefore, the JOIPT's 3-star General Officer Steering Council shall be disbanded.

c. The JOIPT shall include representatives of all Services, Joint Staff, US Joint Forces Command, and OSD. Combatant commands will be represented when appropriate.

4. The enclosed diagram represents the intended relationship between the JCOE, the JOIPT, the Services, and the Joint Staff.

a. The JCOE and JOIPT will submit recommendations to the JCIDS via the appropriate Functional Capabilities Board and will serve as JCIDS' coordination source for Service-sponsored UAV submissions.

b. The JCOE and JOIPT will maintain formal liaison with the Services and each other. Formal charters will codify the relationships.

5. The JROC identified the following tasks:

a. Army and Air Force shall name the initial JCOE commander and deputy, respectively.

b. A Joint Site Activation Task Force (SATAF) and initial JCOE leadership shall finalize the JCOE mission, organizational construct, TOR and finalize JCOE reporting chain issues. The Joint Tiger Team shall support these initial actions. JCOE leadership shall report progress to the JROC within 60 days of the signing of this JROCM.

c. The JOIPT shall redraft its charter to reflect its revised mission, membership, and liaisons.

PETER PACE
General, United States Marine Corps

Date: 11 Oct 2005

Charter for the
Joint UAS Materiel Review Board (JUAS MRB)

Mission:
To provide an Unmanned Aircraft Systems (UAS) forum to identify or resolve requirements and corresponding materiel issues, regarding interoperability and commonality, prioritize potential solutions; assess the focus of current and future programs, and to seek strategies common to all services.

Goals:
- The primary goals of the JUAS MRB are:
- To facilitate the Joint Capabilities Integration Development System (JCIDS) process by coordinating with and making recommendations to the appropriate Functional Capabilities Board(s), Joint Capability Board and Joint Requirements Oversight Council (JROC).
- To improve commonality of payloads and ground control stations.
- To improve interoperability through adoption of common standards.
- To improve data dissemination through adoption of a common communication architecture.
- To provide a corporate body of knowledge composed of subject matter experts from all services and relevant defense agencies to facilitate the JCIDS process.

Objectives:
Standing objectives for the JUAS MRB are:
- Facilitate Service-level coordination of UAS capabilities and potential future systems.
- Identify, resolve, and/or mitigate materiel issues at the earliest opportunity in the JCIDS process.
- Coordinate Government and industry UAS issues.
- Coordinate UAS materiel initiatives with the Science & Technology Community.

Tasks:
Supporting tasks for the JUAS MRB include, but are not limited to:
- Bring Member's issues to the forum for discussion, action, and resolution.
- Rotate O-7 service lead chairmanship at 18-month intervals.
- Develop a Plan Action and Milestones (POA&M).
- Provide DoD-wide knowledge of current status of all UAS systems to the Capabilities Boards.
- Coordinate with the JUAS Center of Excellence (JCOE).
- Establish Working Groups to support JUAS MRB goals.
- Topics for the Working Groups will be decided by the JUAS MRB.
- Representation to the Working Groups will be based on the task it is intended to accomplish and may require representation from the requirements, acquisition, training, and test communities.

Organization	Name/Rank	Contact Info
Chair	Mg(Sel) William Catto	william.catto@ c.navy.mil; 703-432-1460
Core Voting Members		
USA	COL John Burke	John.burke1@us.army.mil 703-614-0871
USMC	Col Clarke Lethin	Clarke.lethin@usmc.mil 703-784-5733
USN	CAPT Steven Wright	steven.w.wright1@navy.mil; 703-614-2644
USAF	Col Robert Martin	robert.martin1@pentagon.af.mil 703-695-6241
Joint Staff	LT COL P. Mestadoras	peter.mestadoras@js.pentagon.mil; 703-614-6458
OSD	Mr. Dyke Weatherington Col Steven Crandall	dyke.weatherington@osd.mil; 703-695-8188 steven.Crandall@osd.mil 703-604-0421
JFCOM	LTC Stuart Morse	Stuart.Morse@jfcom.mil; 757-836-5766
SOCOM	Lt Col Randy Curtis	curtisr@socom.mil; 813-826-2210
STRATCOM	Mr. Bob Johanson	Robert.Johanson@js.pentagon.mil; 703-692-9702
Representatives		
JUAV COE	Col Larry Felder	larry.felder@usfk.af.mil; 703-453-8529
Coalition	As Required	

Meeting Frequency:
The designated lead will host meetings approximately four to six weeks and may call unscheduled sessions, as required. Meeting will be held at a time and location determine by the chairman.

Effective Date and Duration: Charter becomes effective upon date of ratification by the last signatory. The need for this body will be re-evaluated and ratified every 18 months, during the change in lead service.

: Chief of Naval Operations
: Chief of Staff, US Air Force
istant Commandant of the Marine Corps

Aircraft System Materiel Review Board

nts Oversight Council (JROC) approved the charter
:raft System Materiel Review Board. The JROC
unned Aircraft System Materiel Review Board to
ion with the Joint Unmanned Aircraft System
tters of unmanned aircraft system commonality and

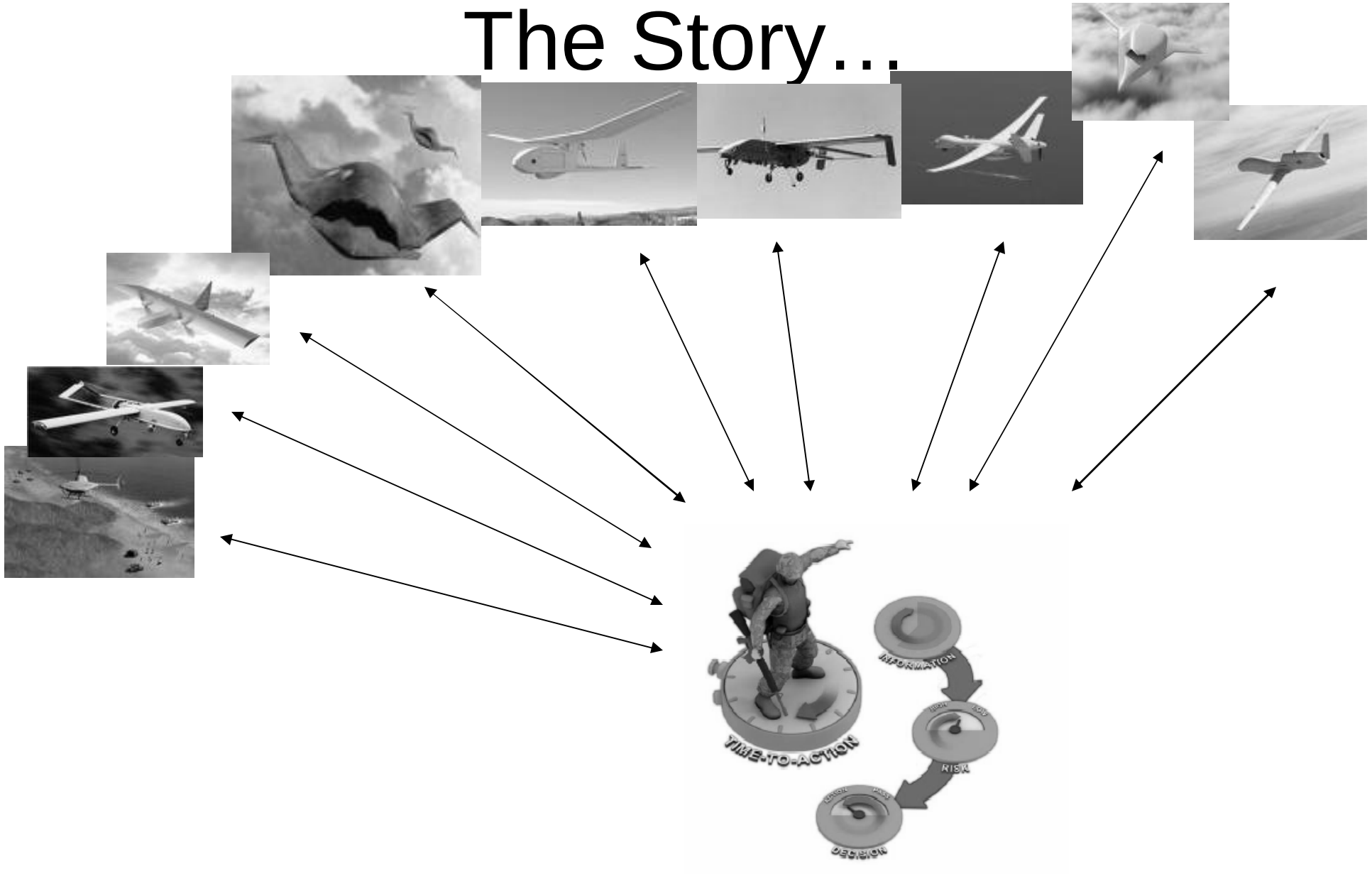
E. P. GIAMBASTIANI
Admiral, US Navy
Vice Chairman
of the Joint Chiefs of Staff

Copy to:
Commanding General, Marine Corps Systems Command
Commander, Joint Unmanned Aircraft System Center of Excellence

MRB Study Tasking

- Research Standards Related to UAS Data Flow
  - Data Link/Comms
  - Sensor Data/FMV
- Conduct Case Studies
  - Representative Set of UAS
- Perform Analysis
  - Data Flow Assessment / Standards Compliance/Value/Risk
- Make Recommendations
  - Standards-related interoperability improvements

The Story…



Interoperability

- Technology makes it possible

- Warriors make it happen

People targets

- DC CD&I, LtCol Jay Mullin 703-784-6604
- N-88, LtCol Ralph McCReary (703) 614-2639
- HQMC, Major “Muddy” Kerr 703-693-2525
- MCSC, Major George Ehlers 703-432-4041 & Mr. Larry Bochenek 703-432-4031
- PMA-263, Major Ben Stinson 301-757-5866