

Breakout Group 1

**Improving Technology Insertion
to Support 21st Century Transformation**

Program Managers' Workshop

April 30-May 2, 2002

Breakout Group Information

- **Group Co-Chairs**

- Al Shaffer, Director, ODDR&E Plans and Programs
- John Gresham, Dep. PM, Army Recon, Surveillance and Target Acquisition

- **OSD Discussion Group Facilitators**

- Policy: Ms. Beth Foster (Technology Readiness Assessment and Levels) and Mr. Dan Cundiff (Affordability Task Force and Transition Issues)
- Funding: Ms. Joanne Spriggs (Quick Reaction Special Projects)
- Process: Mr. Ben Riley (ACTD Programs)

- **Presentations**

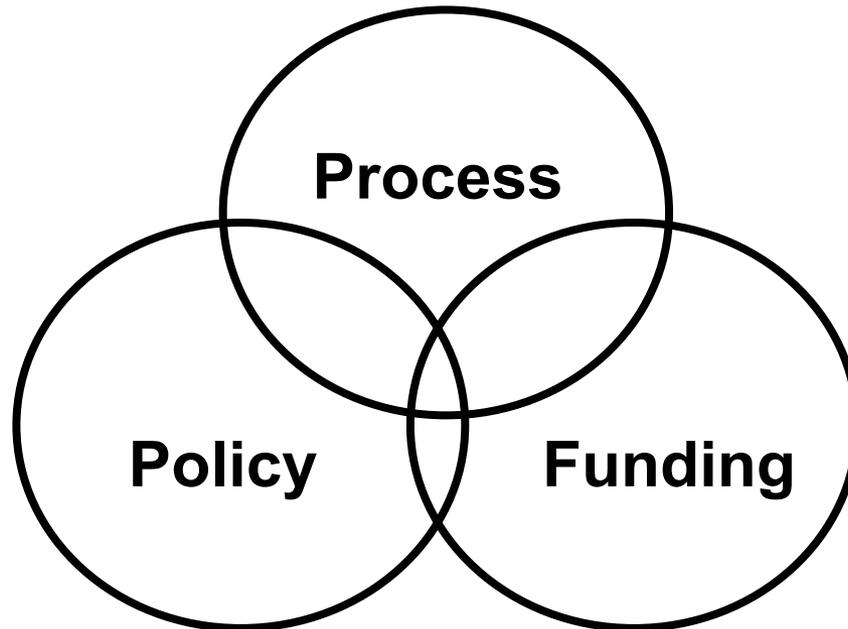
- Acquisition Initiatives and Intellectual Property / LtCol Greg Redick, OSD
- ODUSD(S&T) Office of Technology Transition Programs / John Todaro
- Army RAPT Program / Ron Mlinarchik
- Air Force WRAP Program / LtCol Chris Warack
- MDA Quality, Reliability, and Manufacturing Program / Anne Finney
- Future Naval Capabilities / Rich Kikla
- Air Force Applied Technology Council / Lanny Jines

- **Recorders**

- Dr. Richard F. Parisse, Tiburon Associates
- Ms. Becky F. Terry, AT&T Government Solutions
- Ms. Elizabeth Leff, Booz Allen Hamilton

Issue Statement

Insertion of Technology Into Current and Emerging Operational Systems Does Not Work Well



Identify Five Barriers in Each

Macro

- **This is a hard, complex problem**
- **No singular solution / no silver bullet**

Insertion / Transition is a Contact Sport

“Big 5” Barriers

	Policy	Process	Funding
No Transition “Czar”	X	X	X
Industry & PM Not Incentivized	X		X
Lack of Flexible Funding	X	X	X
Inflexible Requirements Process	X	X	
Risk Aversion	X	X	X

Recommended Actions

Barrier	Actions
No Transition “Czar”	SAE Designate Senior SES with Budget Authority
Industry & PM Not Incentivized	Make Technology Insertion Plan a Part of the Regular Up-front Planning of All Acquisition Programs, Tied to Performance Bonuses
Lack of Flexible Funding	Establish / Support: <ul style="list-style-type: none">- Execution Year Programs- Increased Re-programming Authority
Inflexible Requirements Process	<ul style="list-style-type: none">- Implement Spiral Requirements Process- Implement Capabilities-based Requirements
Risk Aversion	Develop a Pilot Process to Fail Small, Fail Early

In Closing

- **Tech Transition / Insertion Issues Remain Unchanged**
- **.... Does It Matter?**

BACK-UP SLIDES

Dimensions to Technology Transition

- **Rate of Technology Change is Increasing**
- **Capabilities-based Planning Changes Requirements/Needs Process**
- **Acquisition Excellence and Spiral Insertion Provides New Transition Model**
- **Availability of Commercial Technology Increasing; Need to use to Maximum Extent**
- **Try Before Buy**
- **Fail Small, Fast, Early**

Multiple Dimensions Mean Multiple Solutions Needed

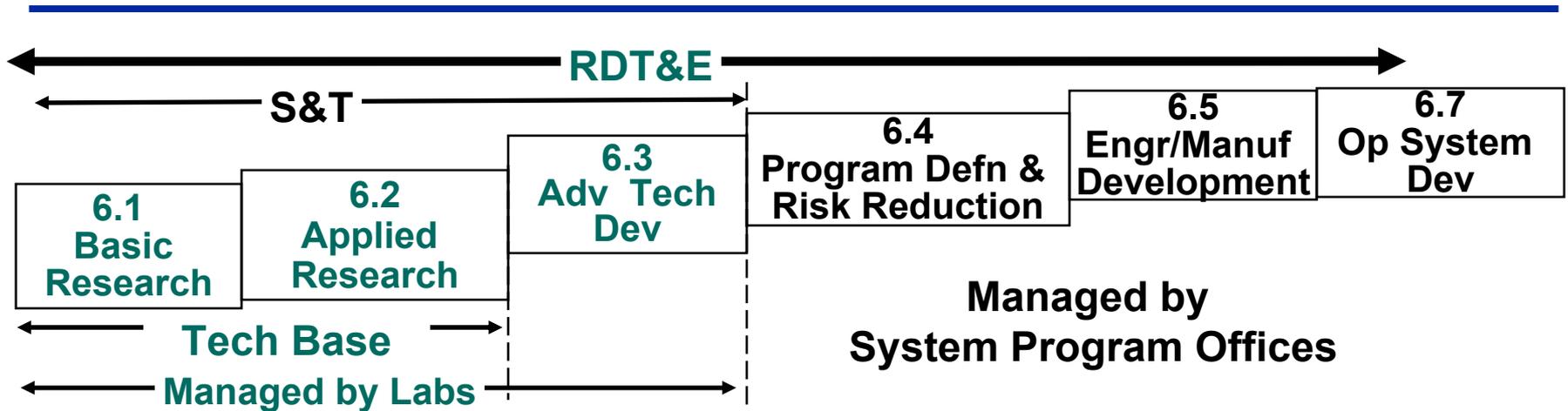
Facets of Transition

(R&D View)

- **Technology Transition**: Improving, moving, & speeding the movement of technology from the labs to acquisition systems, e.g.,
 - the next phase of acquisition; OR
 - an actual military system that has been or may be fielded; OR
 - a military / commercial test facility or depot
- **Technology Insertion**: The introduction, placement, and integration of a demonstrated defense or commercial technology into a military system, component, or application
- **Technology Transfer**: The process of sharing, transmitting, or conveying technology data and information between the government agencies, industry, and academia
- **Affordability**: Consideration of “best value” options that integrates performance, cost, producibility/manufacturability, reliability, supportability, and risk
 - Does not mean the “cheapest”

Speeding Technology Transition

“The Challenge”



Technology Transition “Seam”

“Perceptions” of the S&T Community

- S&T’s job is complete at the tech development stage
- Implementation of the technology is the customer’s (problem) responsibility
- The role of S&T is “tech push”— If it’s good technology — they will come!
- Development cycle for S&T is too long for most Acquisition and Warfighter customers
- Focus only on the technology and not on the business rationale for implementation

Valley of Death

Key Impediments

- **Budget:** Lack of Transition Funds
- **Transition Process Lacks Definition & Visibility**
- **Culture:** Difference Goals & Timelines between S&T and Acquisition Managers
- **Lack of Incentives**

Policy Discussion Group

Key Participants

- **OSD Facilitators**
 - **Beth Foster, OSD Plans and Programs**
 - **Dan Cundiff, OSD Office of Tech Transition**
- **Presenters and Topics of Discussion**
 - **Dan Cundiff, OSD, Transition and Affordability**
 - **Beth Foster, OSD, Technology Readiness Levels**
 - **Colonel Greg Redick, OSD, Intellectual Property Issues**
- **Recorder: Becky Terry, AT&T Government Solutions, Inc.**

Policy Discussion Group

Barriers and Solutions

- **Barrier: Risk Aversion vs. Risk Taking**
 - Policies / processes do not incentivize taking risks
 - Perception that S&T “pet rock” projects inhibit leap ahead
 - Limited S&T and acquisition funds
 - Commercial industry will not risk sharing their “best” technology; concerned with Intellectual Property Rights (IPR)
- **Solutions:**
 - Dual path funds for PEOs/PMs
 - Bring back 6.3b fund ?
 - Fewer programs in S&T and acquisition
 - more dollars per program
 - captures PM interest
 - Technology maturity agreements in key S&T and acquisition programs
 - Integrate IPR into key DAU acquisition / S&T courses

Policy Discussion Group

Barriers and Solutions (Cont'd.)

- **Barrier: Lack of adequate funding for transition and insertion**
- **Solutions:**
 - **Make hard decisions on terminating S&T and acquisition programs (it's OK to “fail small”)**
 - **Stop the “salami slicing”**
- **Barrier: Contractors & labs not incentivized to transition by law or policy**
- **Solutions:**
 - **Increase profit ceilings**
 - **Use of Other Technology Agreements (OTAs) for research and transition (e.g., initial production)**
 - **Allow government and contractor personnel to recoup % of savings due to cycle time reduction**

Policy Discussion Group

Barriers and Solutions (Cont'd.)

- **Barrier: No Technology Broker**
 - Few PMs understand issues faced by S&T, acquisition and industry
 - Technology push versus requirements pull ?
- **Solutions:**
 - Chief scientist in PM office
 - Internships (e.g., trade S&T with PM people, and vice versa)
 - Partnering with industry
 - Include transition measures in both the S&T and Acquisition Manager's performance plan
 - Provide the broker resource authority
 - More discipline (6.3 must have customer)

Policy Discussion Group

Barriers and Solutions (Cont'd.)

- **Barrier: Lack of established requirements / constantly changing requirements**
- **Solutions:**
 - **Prioritize via the Integrated Product Team**
 - **Use IPPD tools where applicable, e.g., Cost as an Independent Variable, Total Ownership Cost, Quality Function Deployment, Design for Six Sigma,**
 - **Potential Joint Staff / JROC issue**
 - **Potential breakthrough technologies not getting visibility**
 - **Address transition/insertion requirements in Operational Requirements Documents (ORDs)**

Funding Discussion Group

Key Participants

- **OSD Facilitator**
 - Joanne Spriggs, OSD Plans & Programs
- **Presenters and Topics of Discussion**
 - Joanne Spriggs, OSD, Quick Reaction Special Projects (QRSP)
 - John Todaro, OSD Office of Tech Transition (OTT), OTT Programs
 - Ron Mlinarchik, Army SAALT Program Office, Rapid Acquisition Program (RAPT)
 - LtCol Chris Warack, Air Force, Warfighters' Rapid Acquisition Program (WRAP)
 - Anne Finney, Missile Defense Agency (MDA), Quality, Reliability, and Manufacturing Program
- **Recorder**
 - Elizabeth Leff, Booz Allen Hamilton

Funding Discussion Group

Barriers and Solutions

- **Barrier: Program Planning and Budget System (PPBS) doesn't respond to needs**
 - Too much time between identification of needs and receiving funds
- **Solutions:**
 1. Transition requirements in ORDs (becomes part of PM responsibility)
 2. Financial flexibility – larger management reserves
- **Action: Develop policy for writing transition into ORDS and give direction on incorporation of transition requirements and funds**
- **Milestone: September 1, 2002, Policy memo, requirements generation change**
- **Points of Responsibility:**
 - USD (AT&L) for policy
 - Joint staff for requirements generation change

Funding Discussion Group

Barriers and Solutions (Cont'd.)

- **Barrier:** Lack of top level commitment to encourage insertion as part of PPBS
- **Solutions:**
 1. Policy to require technology transfer be planned as part of program
 2. DPG should include direction for technology transition and what is the right level of funding; OSD needs to enforce
- **Actions:**
 1. Develop top level policy for each Service to act upon relative to policy for technology insertion requirements
 2. Authority to fund policy for technology insertion
- **Milestones:**
 1. Policy to be approved to support 04 POM
 2. Program funding to support 04 POM
- **Points of Responsibility:**
 1. OSD
 2. Service Executives

Funding Discussion Group

Barriers and Solutions (Cont'd.)

- **Barrier: Inflexible PPBS Process**
- **Solutions:**
 1. “No color” and “no year” money fund
 2. Increase reprogramming threshold
 3. Create and source fund without taxing
- **Actions:**
 1. Legislative action to create this capability (e.g., ~ Title III)
 2. Comptroller acting today
 3. POM 04 Initiative
- **Milestone (1.-3.): DUSD(AT&L) and Comptroller define requirement prior to POM 04 review**
- **Points of Responsibility:**
 - USD (AT&L)
 - Comptroller

Funding Discussion Group

Barriers and Solutions (Cont'd.)

- **Barrier: No single person responsibility for technology transition**
- **Solutions:**
 1. **Assign Service Acquisition Executives (SAEs) responsibility to stand up and ensure programmatic stability and execution of technology transition 'czar'**
 - Resources with budgets
 2. **OSD, S&T Executives, Comptroller also have responsibility**
 - Establish metrics for Services
- **Action: USD (AT&L) establishes policy to ensure Services assign SAEs, S&T Executives, Comptroller responsibility for technology insertion**
- **Milestone: Build into POM 04 cycle**
- **Responsibility: USD (AT&L)**

Funding Discussion Group

Barriers and Solutions (Cont'd.)

- **Barriers:** No Incentive for PM, and industry to conduct IR&D-- risk with no reward
- **Solution:** Establish Rapid Technology Transition Program (RTTP) at \$100M per year in each Service and at OSD (e.g., joint “pot” focused on ACTDs)
- **Action:** USD (AT&L) and SAEs establish RTTP
- **Milestone:** \$100M/yr, POM 04–09, before POM lock
- **Responsibility:**
 - USD (AT&L) and SAEs
 - Service Chiefs

Process Discussion Group

Key Participants

- **OSD Facilitator: Ben Riley, ACTD Program Office**
- **Presenters and Topics of Discussion**
 - **Ben Riley, Advanced Concept Technology Development (ACTD) Program Office, ACTD Process**
 - **CAPT Richard Kikla, Office of Naval Research, Future Naval Capabilities**
 - **Lanny Jines, AF Research Laboratory, Applied Technology Council**
- **Recorder: Richard Parisse, Tiburon Associates, Inc.**

Process Discussion Group

Barriers to Insertion - Prioritized

- 1. Lack of transition process / policy / guidance / responsibility**
- 2. Requirements process does not foster innovation**
- 3. Lack of communication**
- 4. Lack of funding**
- 5. Leadership instability**

Process Discussion Group

Barriers and Solutions

- **Barrier: Lack of transition process / policy / guidance / responsibility**
- **Unconstrained Solutions:**
 - **Single purple manager at OSD (e.g., cradle to grave)**
 - **Outsource all PM functions to industry**
- **Pragmatic Solutions:**
 - **Establish a standard process**
 - **Tech transition champion in each Service**
 - **Technology roadmap “cradle to grave”**

Process Discussion Group

Barriers and Solutions (Cont'd.)

- **Barrier: Requirements process does not foster innovation**
- **Unconstrained Solution**
 - **NEVER change requirements !!**
- **Pragmatic Solutions**
 - **Increase interaction between acquisition/ warfighter / S&T and requirements**
 - **Make spiral requirements mandatory**
 - **Iterative requirements development**

Process Discussion Group

Barriers and Solutions (Cont'd.)

- **Barrier: Lack of communication**
- **Unconstrained Solution: None**
- **Pragmatic Solutions – Ensure:**
 - **Processes mandate communication**
 - **Diversity of IPT membership**
 - **Proper IPT feedback and functioning**
 - **DoD disseminate vision / needs**
 - **Industry use for investment**

Process Discussion Group

Overall Actions

- **Establish DoD process for technology transition**
 - **Joint industry / government team should develop**
 - **Adopt common elements of Service processes**
 - **Issue a Directive and/or Instruction**
- **Milestones: TBD**