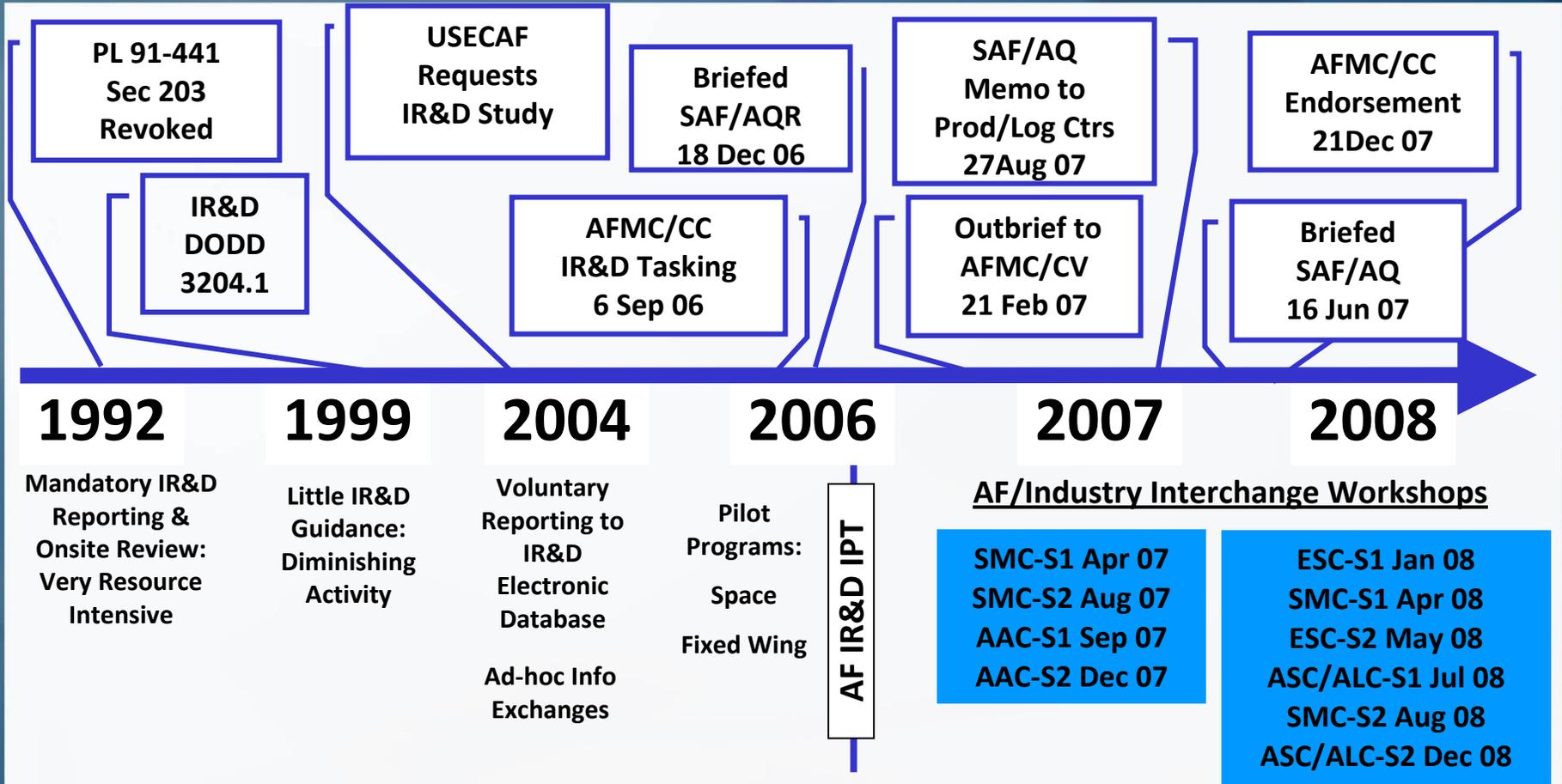




Air Force IR&D Program

**Wendell D. Banks, SES
Director, Plans & Programs
Air Force Research Laboratory
Wright-Patterson AFB OH 45433
Wendell.Banks@us.af.mil**

IR&D History





AF AFMC/CC charge to Reinvigorate IR&D

- Study & Pilot Options to Re-Invigorate IR&D
 - Implement AF-Wide IR&D Integrated Process Team
 - IPT stood up in late 2006
 - Participants
 - AF MAJCOMs
 - PEO/Product Centers
 - Air Logistics Centers
 - Test Centers
 - AFRL
 - Industry (AIA)
- Results
 - AF IR&D Framework
 - AF/Industry Technical Interchange Workshops



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE MATERIEL COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

MEMORANDUM FOR SEE DISTRIBUTION

SEP 06 2006

FROM AFMC/CC
4375 Chidlaw Road
Wright-Patterson AFB OH 45433-5001

SUBJECT: Independent Research and Development (IR&D) Integrated Process Team (IPT)

1. In the coming years, our ability to exploit industry's IR&D efforts will profoundly affect the future Air Force. One of our major challenges is to develop and implement a new Air Force IR&D process that effectively supports both industry and Air Force needs. In concert with SAF/AQ, an effort is presently underway to review and propose changes to the existing Air Force IR&D process. The initial emphasis will be on the four enterprise areas of Air, Space, Munitions/Weapons and Cyber. As a result of their review, a new Air Force IR&D process will be developed.
2. We would appreciate your support to ensure this new IR&D process and implementation plan is robust. Your organization is invited to nominate a candidate at the O-6 or equivalent rank to be a working member of an Air Force IR&D IPT. The defense industry Aerospace Industries Association (AIA), will also be asked to provide input into this process, to ensure this new IR&D process and implementation plan is acceptable to industry. Our initial planning includes several meetings to develop a draft process by late 2006. Additional information regarding the team, presented in the Terms of Reference (TOR), is furnished as an attachment to his letter.
3. Please have your representative contact Mr. Giovanni Pagán, Air Force Research Lab IR&D Manager, (937) 656-9176, or Giovanni.Pagan@wpafb.af.mil, concerning this matter. I would appreciate a response within 14 days of the date of this letter.


BRUCE CARLSON
General, USAF
Commander

Attachment:
IR&D IPT Terms of Reference (TOR)



IR&D Framework Objectives

- Make better use of limited resources
- Effectively communicate AF technology needs
- Understand / Leverage IR&D investments
- Capitalize on recurring Industry Days and Small Business Innovation Research (SBIR) events
- Exploit major contractor / SBIR Synergies

AF/Industry IR&D Interchange Framework + Focus

2 Year Cycle

AF Transmits
Tech Needs/Gaps
To Industry

Gov → Ind

Step 1

Aligned with Major AF & Industry Events

Industry
Describes
IR&D

Ind → Gov

Step 2

ID Partnering
Opportunities

Assess/Align

**Investment
Strategies**

- AF POM
- Industry IR&D

Step 3

Created/Adopted by the AF/Industry IR&D IPT – Dec 06

Endorsed by SAF/AQ & AFMC/CC

AFRL IR&D Process Endorsed by SAF/AQ

I would like to enlist your assistance in reinvigorating Air Force participation in the Independent Research and Development (IR&D) program. I believe IR&D can lend valuable support to maintaining a strong acquisition program and I am committed to taking a more active role in this important program...

To ensure the maximum benefit to the Air Force, these exchanges should be conducted in time to incorporate results in the Fiscal Year 2010 Program Objective Memorandum. I encourage everyone to solicit user/Combatant Command (COCOM) inputs to the maximum extent possible. My focal point for IR&D policy is the Deputy Assistant Secretary for Science, Technology and Engineering (SAF/AQR)."

"General Carlson, I applaud Christine Anderson's approach to this and stand by to support in any way."

*The Honorable Sue C. Payton
Assistant Secretary of the Air Force
27 August 2007*

**High Level
Leadership
Support**



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC



OFFICE OF THE ASSISTANT SECRETARY

AUG 27 2007

MEMORANDUM FOR HQ AFMC/CC

FROM: SAF/AQ
1060 Air Force Pentagon
Washington, DC 20330-1060

SUBJECT: Management of Air Force Independent Research and Development Programs

I would like to enlist your assistance in reinvigorating Air Force participation in the Independent Research and Development (IR&D) program. I believe IR&D can lend valuable support to maintaining a strong acquisition program and I am committed to taking a more active role in this important program.

Recently, the Air Force Research Laboratory (AFRL) and Space and Missile Systems Center (SMC) hosted an IR&D exchange between industry and the Air Force. This event, called SMC Space Day, capitalized on recurring Industry Days and Small Business Innovation Research activities and offers an excellent model for other Product Centers to effectively communicate Air Force needs to leverage technology developments from industry. Towards this end, I am asking my PEOs and request you to encourage the Logistics Centers to conduct similar government/industry IR&D exchanges with AFRL in the near future.

To ensure the maximum benefit to the Air Force, these exchanges should be conducted in time to incorporate results in the Fiscal Year 2010 Program Objective Memorandum. I encourage everyone to solicit user/Combat Command inputs to the maximum extent possible. My focal point for IR&D policy is the Deputy Assistant Secretary for Science, Technology and Engineering (SAF/AQR).

SUE C. PAYTON
Assistant Secretary of the Air Force
(Acquisition)

cc: See Distribution

*General Carlson
I applaud Christine Anderson's
approach to this and stand
by to support in
anyway Best,
Sue*

OSD Statement on IR&D...2008

“Currently, the Department pays IR&D costs with: limited awareness of the work being accomplished; no standards for quality; and no assurance of value for the taxpayer....

...The IR&D DST will make a series of recommendations to improve the effectiveness, efficiency and fairness of the Government's IR&D expenditure.”

**The Honorable John J. Young, Jr.
Under Secretary of Defense
21 June 2008**



THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

JUN 21 2008

MEMORANDUM FOR DEPUTY UNDER SECRETARY OF DEFENSE
(ACQUISITION AND TECHNOLOGY)
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING
SERVICE ACQUISITION EXECUTIVES
DEPUTY UNDER SECRETARY OF DEFENSE
(INTERNATIONAL TECHNOLOGY SECURITY)
DEPUTY UNDER SECRETARY OF DEFENSE
(INDUSTRIAL POLICY)
CHIEF, NAVAL RESEARCH
DEPUTY ASSISTANT SECRETARY OF THE ARMY
FOR RESEARCH AND TECHNOLOGY
DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE
FOR SCIENCE, TECHNOLOGY AND ENGINEERING

SUBJECT: Independent Research and Development (IRAD)

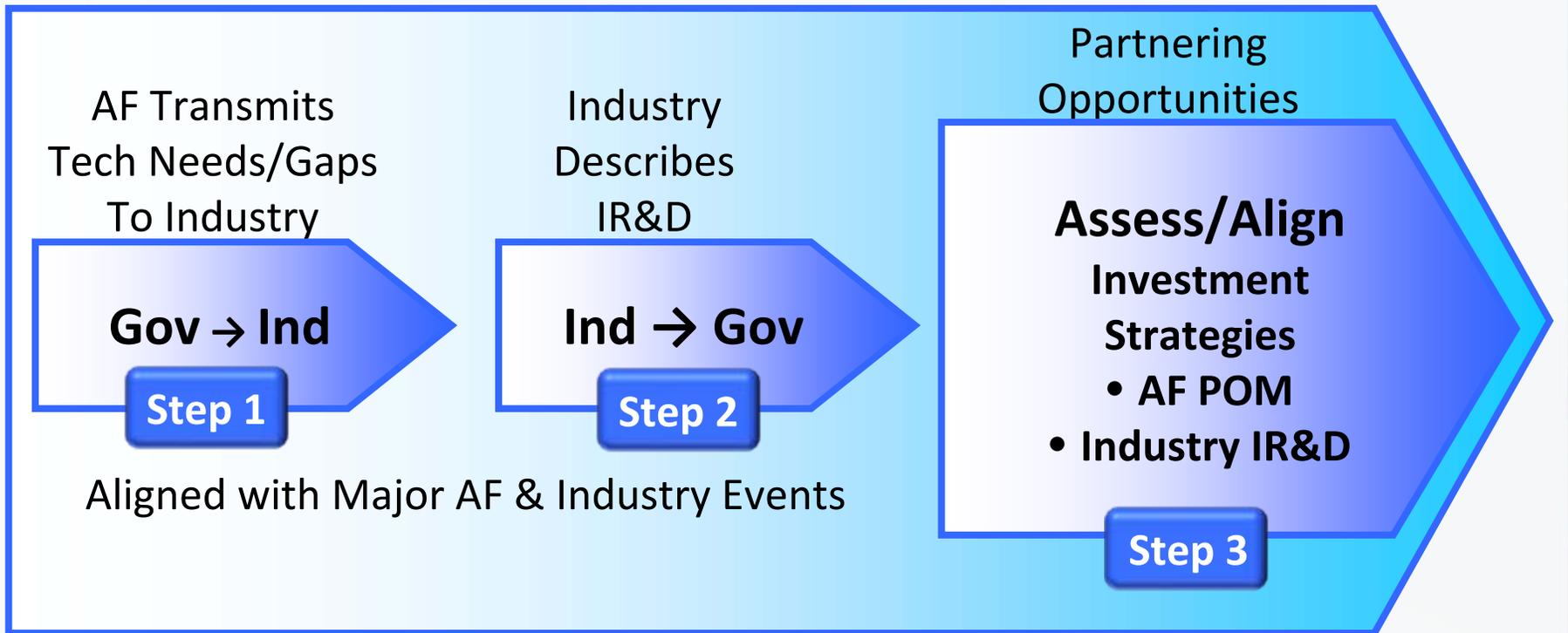
The Department of Defense has for years had a policy of reimbursing IRAD efforts conducted by industry. IRAD reimbursement comes in the form of an indirect expense against our contracts.

In the 1970s, IRAD was graded by the government, and payments depended on the quality of the work. Additionally, the Department of Defense participated in guiding the research and assured that the taxpayer received value for these tax dollars. This process changed in the 1980s. Currently, the Department pays IRAD costs with: limited awareness of the work being accomplished; no standards for quality; and no assurance of value for the taxpayer.

I am directing the formation of a Defense Support Team (DST) on IRAD. The DST will be co-chaired by Mr. Alan Haggerty, Deputy Under Secretary of Defense for International Technology Security, and Mr. William Greenwalt, Deputy Under Secretary of Defense for Industrial Policy. The DST will include all relevant government stakeholders, including one or more representatives from each Service. The Service Acquisition Executives are to each designate one acquisition person to participate fully in this DST. The DST will include broad representation from industry, including companies that participate in production and those companies that do not. The team will also seek participation from non-defense firms. Appropriate industry representation will include experienced acquisition and technology development professionals from small, medium and large companies.



AF/Industry IR&D Framework Step by Step





3-Step Process

- **Step 1 – Effective Communication of AF Needs to Industry**
 - Product Center Briefs Technology Needs
 - AFRL Briefs Corresponding Development Efforts
 - Govt Team Identifies Gaps and IR&D Opportunities
- **Step 2 – Focused and On-Target Response from Industry**
 - Industry SMEs Selects Candidate IR&D Efforts to Brief
 - AF SMEs Down select from Candidate Abstracts
 - Industry Transforms Selected Abstracts into Briefs
- **Step 3 – Incorporate Acquired Knowledge into AF's and Industry's Investment Strategy**
 - AF Selects Most Promising Needs vs IR&D Efforts
 - 1-on-1 AF & Industry Deep Dives Into Selected Efforts
 - Define, Seek, and ID Synergies and Partnering Opportunities



Representative Agenda

Technology Interchange Workshop – Step 1

Day 1

PLENARY SESSION

- 0700 Registration Opens
- 0800 Welcome
- 0815 AFMC/A5 Perspective on Sustainment Technology Process
- 0830 ASC/XR Perspective on ASC Needs
- 0845 AF/Industry Technology Interchange Workshop Process Focused on Aeronautical and Depot Sustainment Systems
- 0900 AFMC STC Technology Working Group Views of ALC Technology Needs
- 1040 ASC Systems Groups' Views of Air Technology Needs
- 1200 Lunch
- 1300 AFRL Responses to AFMC STC and ALC Technology Needs
- 1600 Break
- 1615 AF IR&D Program
- 1630 AF SBIR Transition Support
- 1645 Reception

Day 2

IR&D Q&A Sessions

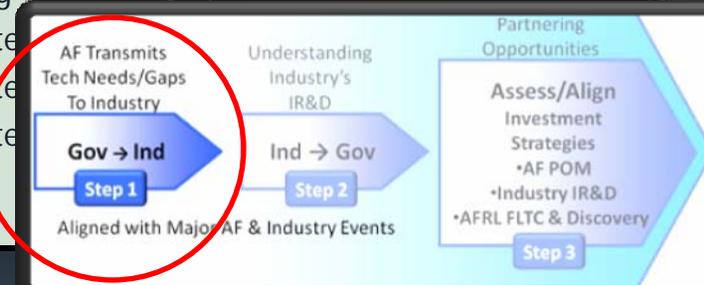
- 0730 Govt team review
- 0800 Contractor team # 1
- 0830 Contractor team # 2
- 0900 Contractor team # 3
- 0930 Contractor team # 4
- 1000 Gov Meeting
- 1030 Contractor team # 5
- 1100 Contractor team # 6
- 1130 Contractor team # 7
- 1200 Lunch
- 1300 Contractor team # 8
- 1330 Contractor team # 9
- 1400 Contractor team # 10
- 1430 Gov Meeting
- 1500 Contractor team # 11
- 1530 Contractor team # 12
- 1600 Contractor team # 13

Day 2

Facilitated SBIR One-on-One Sessions

- 0800 Prime # 1 with Small Business (SB) # 1
- 0830 Prime # 1 with SB # 2
- 0900 Prime # 1 with SB # 3
- ⋮ ⋮ ⋮
- 1700 Prime # 1 with SB # n

[Note: The ops tempo shown above for SBIR CPP occurs simultaneously with approximately 10 prime contractors; each prime contractor meets with Small Business to discuss their Phase II SBIR which is





3-Step Process

- Step 1 – Effective Communication of AF Needs to Industry
 - Product Center Briefs Technology Needs
 - AFRL Briefs Corresponding Development Efforts
 - Govt Team Identifies Gaps and IR&D Opportunities
- **Step 2 – Focused and On-Target Response from Industry**
 - Industry SMEs Select Candidate IR&D Efforts to Brief
 - AF SMEs Down-select from Candidate Abstracts
 - Industry Transforms Selected Abstracts into Briefs
- Step 3 – Incorporate Acquired Knowledge into AF's and Industry's Investment Strategy
 - AF Selects Most Promising Needs vs IR&D Efforts
 - 1-on-1 AF & Industry Deep Dives Into Selected Efforts
 - Define, Seek, and ID Synergies and Partnering Opportunities



Representative Agenda

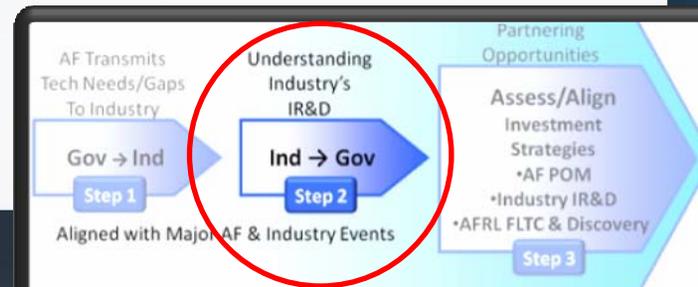
Technology Interchange Workshop - Step 2

Electronic Systems Workshops

- 6-8 May 2008 in Billerica, MA

Time	Tue 6 May 08	Wed 7 May 08	Thu 8 May 08
800	GOV	GOV	0800 – 0915 LMCO
830	0830 – 1030 BOEING	0830 – 1030 GENERAL DYNAMICS	GOV (0915-0930)
900			
930			
1000			
1030	GOV (1030-1045)	GOV (1030-1100)	0930-1200 RAYTHEON
1100	1045-1145 SWRI	1100-1200 L3COM	
1130	1145-1230 LUNCH	1200-1300 LUNCH	GOV
1200	1230-1400 TEXTRON		
1230			
1300			
1330	GOV (1400-1415)	1330 – 1600 NORTHROP GRUMMAN	
1400			
1430			
1430	1415-1615 BOEING		
1500			
1530	GOV	GOV	
1600			
1630			

Yr	Attnds	KTRs in S1	Q&A Break Out	KTRs in S2	IR&D Funds (\$M)
2008	230	12	35 38	9	\$XXX





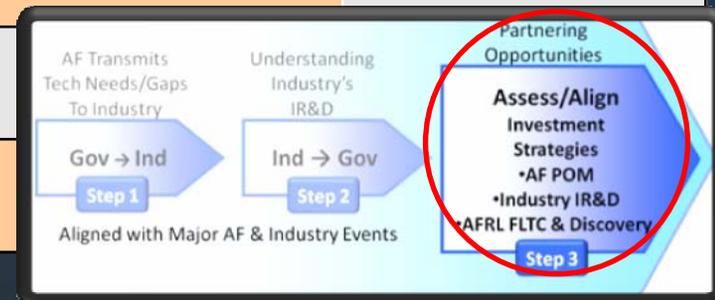
3-Step Process

- Step 1 – Effective Communication of AF Needs to Industry
 - Product Center Briefs Technology Needs
 - AFRL Briefs Corresponding Development Efforts
 - Govt Team Identifies Gaps and IR&D Opportunities
- Step 2 – Focused and On-Target Response from Industry
 - Industry SMEs Selects Candidate IR&D Efforts to Brief
 - AF SMEs Down-select from Candidate Abstracts
 - Industry Transforms Selected Abstracts into Briefs
- Step 3 – Incorporate Acquired Knowledge into AF's and Industry's Investment Strategy
 - AF Selects Most Promising Needs vs IR&D Efforts
 - 1-on-1 AF & Industry Deep Dives Into Selected Efforts
 - Define, Seek, and ID Synergies and Partnering Opportunities

Representative Agenda

Technology Interchange Workshop - Step 3

ALLOTTED TIME/ CAPABILITY AREAS	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	NEED 1	NEED 2	NEED 3	NEED 4
0900 – 0950	Company A	Company B	Company C	
1000 - 1050			Company C	
1100 - 1150			Company D	
1150 - 1250	LUNCH			
1300 - 1350	Company A	Company C		
1400 - 1450	Company B	Company A		
1500-1550				



Step 1

Step 2

Step 3

**Recent
& Planned**

Gov → Ind

Ind → Gov

Assess/Align



SMC
Industry Day
20 Apr 07

One-on-One
AFRL BFI
23-24 Aug 07

KTR + AF
Align Investment
Strategy



AAC
Workshop
12-13 Sep 07

One-on-One
Workshop
10-12 Dec 07

KTR + AF
Align Invest Strategy
Sep 09



ESC
New Horizons
24-25 Jan 08

One-on-One
Workshop
6-8 May 08

KTR + AF
Align Investment
Strategy



SMC
Industry Day
14 Apr 08

One-on-One
AFRL BFI
21-22 Aug 08

KTR + AF
Align Investment
Strategy



ASC + ALCs
AFRL WDI
17-18 Jul 08

One-on-One
Workshop
9-11 Dec 08

KTR + AF
Align Invest Strategy
Oct 09



Past Workshops Proceedings in DTIC

Report Number	AFRL Report Title	Accession #
AFRL-WS-WP-TM-2007-9003	2007 AF/Industry Space Technology Interchange Workshop for IR&D and SBIR (Step 1)	ADB326755
AFRL-WS-WP-TM-2007-9004	2007 AF/Industry Air Armament Technology Interchange Workshop for IR&D and SBIR (Step 1)	ADB333428
AFRL-WS-WP-TM-2008-9005	2008 AF/Industry Electronic Systems Technology Interchange Workshop for IR&D and SBIR (Step 1)	ADB337023
AFRL-WS-WP-TR-2008-9008	2008 AF/Industry Space Technology Interchange Workshop for IR&D and SBIR (Step 1)	ADB340533
AFRL-WS-WP-TR-2008-9010	2008 AF/Industry Air and Sustainment Technology Interchange Workshop for IR&D and SBIR (Step1)	ADB345303



IR&D Interchange Workshop Statistics

Product Center	Step 1		Step 2	
	Attendees	KTRs Q&A	1-on-1	Reported (\$M)/ Total (\$M)
Space & Missile Ctr (2007-SMC)	180	14	9	\$158 / \$319 6 Reported
Space & Missile Ctr (2008-SMC)	140	12	11	\$280 / \$748 10 Reported
Air Armament Ctr (2007-AAC)	186	12	9	\$184 / \$184 7 Reported
Electronic Systems Ctr (2008-ESC)	230	12	9	\$312 / \$1051 9 Reported
Aeronautical Systems Center and Air Logistic Ctrs (2008-ASC + ALCs)	228	14	10	\$113 / \$113 5 Reported
Totals	964	64	48	\$1047 / \$2415

Step 1

Step 2

Step 3

Planned Events

Gov → Ind

Ind → Gov

Assess/Align



AAC
Workshop
Sep 09

One-on-One
TBD 10

KTR + AF
Align Investment
Strategy



ASC + ALCs
Workshop
Oct 09

One-on-One
TBD 10

KTR + AF
Align Investment
Strategy



ESC
Workshop
Jun 10

One-on-One
Oct 10

KTR + AF
Align Investment
Strategy



SMC
Workshop
Apr 10

One-on-One
Aug 10

KTR + AF
Align Investment
Strategy



NWC
TBD

One-on-One
TBD

KTR + AF
Align Investment
Strategy



Industry Workshop Feedback

- AF needs presented to Industry as a “Single Voice”
 - Needs vetted through strategically-driven process
- Improved competitive position
 - Better knowledge of Air Force technology interests and Acquisition Programs reduces guessing about what AF thinks is important
 - Opportunities for collaboration and partnerships
- Optimizes Resource Allocation within IR&D
 - IR&D portfolios can be tailored to market
- Small Business / Large Business relationships

Helps Industry Target Products Towards Near-Term Investment Opportunities



Workshop Benefits to AF

- Insight into Industry programs and capabilities
- Improved responses to DoD/AF Requirements
 - Better Support Air Force Acquisition Programs
- Ability to Leverage Industry Capabilities
 - Opportunities for collaboration and partnerships
- Improved resource allocation within AF
 - AF S&T investment informed by IR&D investment

Helps AF Fulfill The Mission Through Leveraging Opportunities



Summary

- DoD and AF take IR&D very seriously
- We have a shared interest in improving IR&D productivity
- IR&D Workshops have been very successful to date
 - Linking IR&D with SBIR is paying great dividends
 - Industry Feedback has been extremely positive
- Please join us at an upcoming AF event

For more info, contact: Mr. Giovanni Pagán
AF IR&D Program Manager, AFRL/XPPN
AFRL Plans & Programs Directorate
Wright-Patterson AFB OH 45433
giovanni.pagan@us.af.mil
Comm Phone: 937-656-9176
DSN: 986-9176