

# Identifying emerging pollution prevention technologies for direct insertion.

Gary E. Baker, Jerad A. Ford, and  
Charles R. Valley

April 2003

NDIA 29<sup>th</sup> Environmental and Energy  
Symposium and Exhibition

# Technology Insertion overview

---

- The IPT
- Identification of solutions to specific needs
- Ranking and prioritization
- The Decision Package
- Results
- Next steps

# The IPT concept



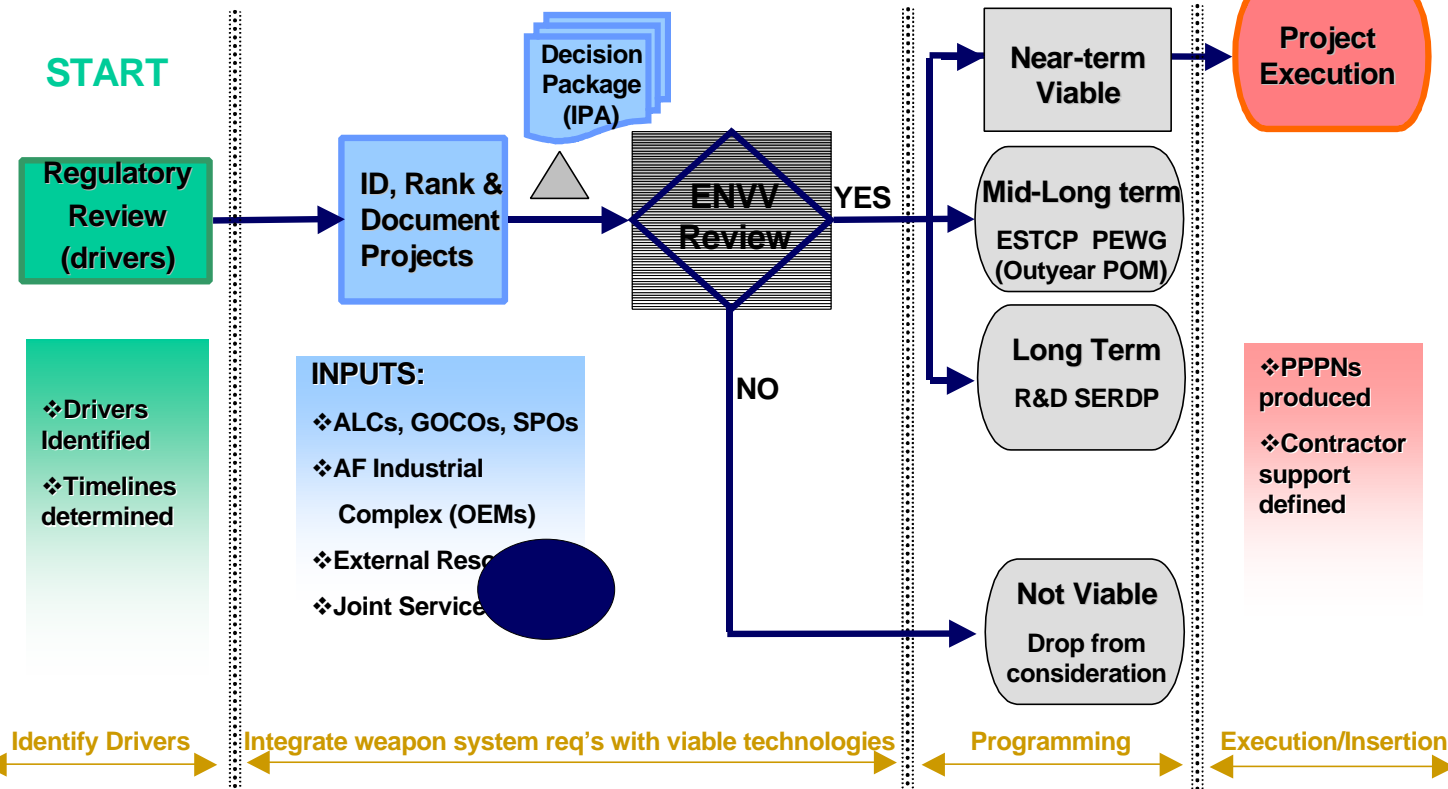
## IPT Overview

*Birthplace, Home and Future of Aerospace*

Regulations - TBD

Project Development - Valley (Battelle Support)

Project Execution and HQ Conduit - Capt Hill



Battelle

# Solutions for specific needs

---

- Regulatory drivers identified by another group
- The customer 'network'
  - OEMs-Boeing, Lockheed-Martin, Raytheon, others
  - Air Logistics Centers
  - Special program offices, GOCOs and ASC co-locates
  - Academic and research organizations
  - Scores of ongoing technology proving organizations
  - Scores of URL sites and progress data

# Solutions for specific needs, continued

---

- Ensure no redundancy or duplication
- Establish project-specific advocacy and definition
  - 'golden letters' of support
    - Chief Scientists to process directorates
- Establish data needs and insertion obstacles
  - Efficacy, economics, environment and energy drivers
- Establish the basis for the Business Case Analysis

# Ranking and prioritization

---

- Criteria are subjective to fund source
  - O&M, R&D, maintenance, aircraft/missile specific
- Perspective of funding authority biased
  - Pollution prevention (environmental burden reduction)
  - Multiple weapon system involvement or interest
  - Payback
  - Match to 'need level'

# Ranking and prioritization, continued

CRITERIA	POSSIBLE	WEIGHT	SCORE	SUB TOT
Availability/ Quality of Cost Data	<b>10</b> – very likely/extremely favorable <b>8</b> – Likely/favorable <b>5</b> – Not Likely/unfavorable			
Technological Maturity	<b>10</b> – very likely/extremely (GOTS/COTS) <b>8</b> – Likely/favorable (DEM/VAL, FIELD QUAL) <b>5</b> – Not Likely/unfavorable (R&D, possible POM project)			
Duplication/ Redundancy	<b>10</b> – Not Likely <b>8</b> – Possible existing overlap <b>5</b> –very likely/documented overlap			
Advocacy	<b>10</b> – very likely/extremely favorable <b>8</b> – Likely/favorable <b>5</b> – Not Likely/unfavorable			
Probable Benefit	<b>10</b> – very likely/extremely favorable <b>8</b> – Likely/favorable <b>5</b> – Not Likely/unfavorable			
Basis for Need	<b>10</b> – very well documented (Commendation letters, etc.) <b>8</b> – Documented to some extent/may be in question (some hesitation) <b>5</b> – Unfounded (confusion abounds within the community)			
			TOTAL SCORE	

# The Decision Package

---

- Executive summary
- Abstract
- Scoring and ranking criteria
- Business case analysis
- Supplemental information
  - White papers
  - Published articles
  - Golden letters



# The Decision Package, continued

<b>PROJECT</b>	<b>Plural Component Paint Dispensing System</b>
<b>DESCRIPTION</b>	A full PSOA has been completed at OO-ALC regarding this technology. The Navy has implemented a version in Jacksonville. This technology provides for precise proportioning of two part paint systems.
<b>APPLICATION</b>	These systems are best suited for large, multi-color and/or dual-component painting needs such meeting specific AF needs.
<b>POC</b>	Glen Baker, OO-ALC/LA
<b>DRIVER(S)</b>	Significantly reduced cleanup wastes and PPE; increased environmental compliance; reduced labor and material costs; vastly reduced paint cans and debris.
<b>BENEFIT(S)</b>	Purchase of paint in bulk quantities; potential to use tinting systems; potential to apply low VOC/non-HAP paint gun cleaning systems.
<b>COST</b>	Capital costs for full implementation are: 100K in FY04 for the F-16 area (2 units) 100K in FY05 for the A-10 area (2 units) 200K in FY06 for the C-130 area (3 units)
<b>DURATION</b>	Extension of the OO-ALC PSOAs to full aircraft (F-16, C-130, and A-10) feasible immediately.
<b>PAYBACK</b>	F-16 payback is 0.35 years; C-130 payback is 0.82 years, A-10 payback is 0.67 years
<b>CROSS-REFERENCES</b>	NADEP Jacksonville project is included in Appendix B. Cost analysis from Hill PSOAs documented in Appendix A.

# The Decision Package, continued

CRITERIA	POSSIBLE SCORE	SCORE
Availability/ Quality of cost data	10 – very likely/extremely favorable 8 – Likely/favorable 5 – Not Likely/unfavorable	10
Technological Maturity	10 – very likely/extremely (GOTS/COTS) 8 – Likely/favorable (DEM/VAL, FIELD QUAL) 5 – Not Likely/unfavorable (R&D, possible POM project)	10
Duplication/Redundancy	10 – Not Likely 8 – Possible existing overlap 5 –very likely/ documented overlap	8
Advocacy	10 – very likely/extremely favorable 8 – Likely/favorable 5 – Not Likely/unfavorable	8
Probable Benefit	10 – very likely/extremely favorable 8 – Likely/favorable 5 – Not Likely/unfavorable	10
Basis for Need	10 – very well documented (Commendation letters, etc.) 8 – Documented to some extent/may be in question (some hesitation) 5 – Unfounded (confusion abounds within the community)	8
<b>TOTAL SCORE</b>		<b>56/60</b>
<b>CURRENT RANK</b>		<b>2<sup>nd</sup> Place Tied w/ APC - HFAPC</b>

# The Decision Package, continued

---

Weapon System	Payback
F-16	0.35
C-130	0.82
A-10	0.67

# Results

---

- FINPLAN and outyear POM
  - Five projects for the FY04 cycle
  - Sixteen additional projects for FY04-FY09
- ALC relationships built and fostered
  - Provided review of packages and BCA scrutiny
- Programming of FY04
  - Specific format accommodated
  - Internal ASC Acquisition Strategy Plan review conducted

# Results, continued

---

- Evaluation of various funding sources conducted
- Initiated ALC cross-feed forum
  - Multiple ALCs = multiple weapon systems
  - Economics enhanced by wide-based insertion
- Preliminary work with external and internal groups
  - NCMS/CTMA
  - JTEG
  - AFMC/EN; ASC/AAAT; AFRL

# Next steps

---

- Continue to define the ASC ranking 'perspective'
- Define project management and deliverables system
  - Joint effort with sponsor and ASC technical POC
- Revise the FINPLAN and POM
  - Support defense of FY04 project(s)
  - Align others for fallout potential

# Next steps, continued

---

- Integrate efforts of ASC/ENV into Depot Modernization Program
  - Support Applied Technology Council
  - Support Technology Advisory Group
  - Support the 'transition agent' for AFRL
- Seek alternative funding
  - SERDP, ESTCP, CPP, ManTech
  - DMAG, SMAG, SBIR