



# **Air Force S&T Affordability Education and Training**

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# Outline

- AF S&T Affordability Strategy
- S&T Affordability Education/Training Strategy
- Why IPPD?
- AF S&T IPPD Offerings
- Progress
- Lessons Learned
- Summary



# Resource Backdrop & Trends

(In real buying power since end of Cold War FY89)

- DoD TOA down over 30%
- Force Structure Cut by 1/3
- Procurement Cut over 1/2
- Defense Industry IR&D down 50% (keyed to Defense Procurements)
- Overall Defense S&T lowest since FY86
- Services S&T at 22-year low
- Increased pressure on Defense S&T to to maintain Technology and Military Advantage across wider range of options and mission scenarios with Reduced Budget



# AF S&T and Affordability

- S&T is part of the Acquisition community and contributes to or determines several system attributes
  - System architecture
  - Reliability & Maintainability
  - Alternatives to currently deployed systems
  - New capabilities
- Keys to S&T affordability are training and clearly defined expectations
- Training requires an integrated approach for educating both our leadership and our people



# AF S&T Affordability Strategy: Approach

**Affordability Metrics**

**Pilot Programs  
with  
On-going Support**

**IPPD  
Education & Training  
for Cultural Change**

**Supplemental  
Training &  
Workshops**

**Technology Maturity  
Risk/Value Assessment**



# Why IPPD Training?

DDR&E Affordability Task Force (ATF) review of pilot programs shows that the best way to address affordability is by using IPPD:

- Employ IPPD education and training
- Use IPPD methods and tools
- Develop a transition plan
- Establish and track measurable goals

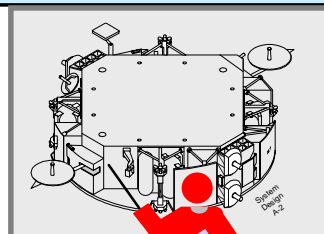


# AF S&T Education/Training Strategy

- Focus on Integrated Product and Process Development (IPPD)
  - Successfully used in acquisition to focus on balancing Performance-Cost objectives - must be tailored for S&T
  - Helps you to “do the right things” to increase the transition of affordable technology
- Begin with 6.3 pilot programs
  - Cost and risk of transition must be managed to ensure success
  - The team can be trained just in time and immediately put the new concepts to practice
- Broaden the awareness to 6.2/6.3 community
  - Use lessons learned and examples from pilot programs
  - Target managers whose support is critical (may include 6.1)



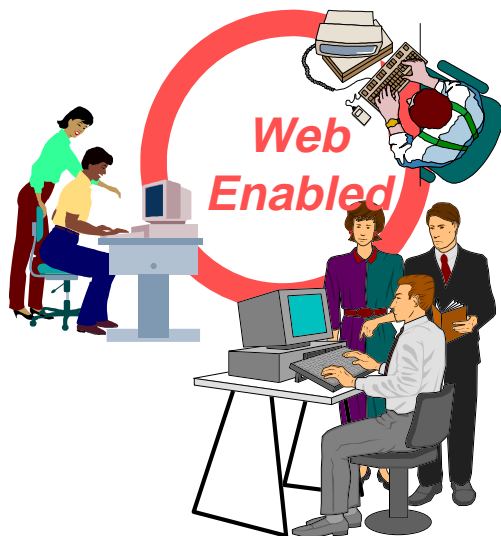
# AF S&T Education/Training Strategy



Classroom  
Training  
(2 Courses,  
Tailored to S&T)

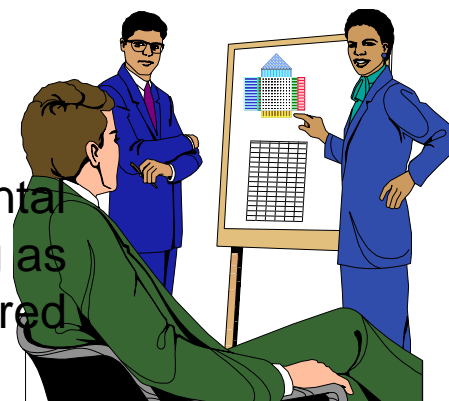


**AFFORDABLE  
TECHNOLOGY**



Ongoing  
Technical  
Support

Supplemental  
Training as  
Required







## 3.5-Day Course

# Affordable Technology through IPPD (AT/IPPD)

- Purpose: Prepare to apply IPPD to Specific S&T Project(s)
- Audience:
  - Laboratory PMs and their technical personnel
  - Contractor PMs and their technical personnel
  - Customer PMs and their technical personnel
- Hands-on application of methods and tools
  - Assess technology risk, readiness for transition
- Focused for direct application to participants' 6.3 project(s)
- Metrics, S&T Exit Criteria
- Value Scorecard -- assessing competing technologies
- Quantifying risk for new technologies -- specific methods
- Follow-up training with expert support and supplemental courses
- Implications for S&T management



# Two-Day Course

## Affordability in S&T: An Introduction

- Purpose: Introduction/Overview
- Audience:
  - Laboratory PMs and their managers
  - Line management, senior managers
  - Customers & support organizations
- Hands-on exercises
- Emphasis on total S&T, IPT structure and function
- Web-enabled methods and tools for IPT collaboration
- Requirements analysis for S&T
- Value Scorecard -- assessing competing technologies
- Quantifying risk for new technologies
- Implications for S&T management



# CD-ROM/Web Guide

- Objective
  - Introduce & Augment S&T IPPD Training (Pre and Post)
  - Comprehensive Reference with Case Studies, etc.
- Target Audience
  - Managers, Branch, Division (Overview Portion)
  - Program Managers (Mgmt Guidance, Tools, etc.)
  - Technical Personnel (Contractors, etc.)
- Format
  - Layered (levels of detail)
  - Hyperlinked, Context-sensitive helps, click-to-web references
  - Wizards (step-through examples)
  - Multi-media (embedded)



# Progress

- **2-Day Course**
  - » 6 Deliveries, 2 to AF, 1 to DDR&E/ATF, 3 to Army
- **3.5-Day Course**
  - » 11 Deliveries to IPTs - 225 people, 125 AF, 100 contractors
- **Compact Disc being prepared - 1st draft Oct 98.**
- **Affordability pilots are supported by experts and by a web-based affordability test bed.**

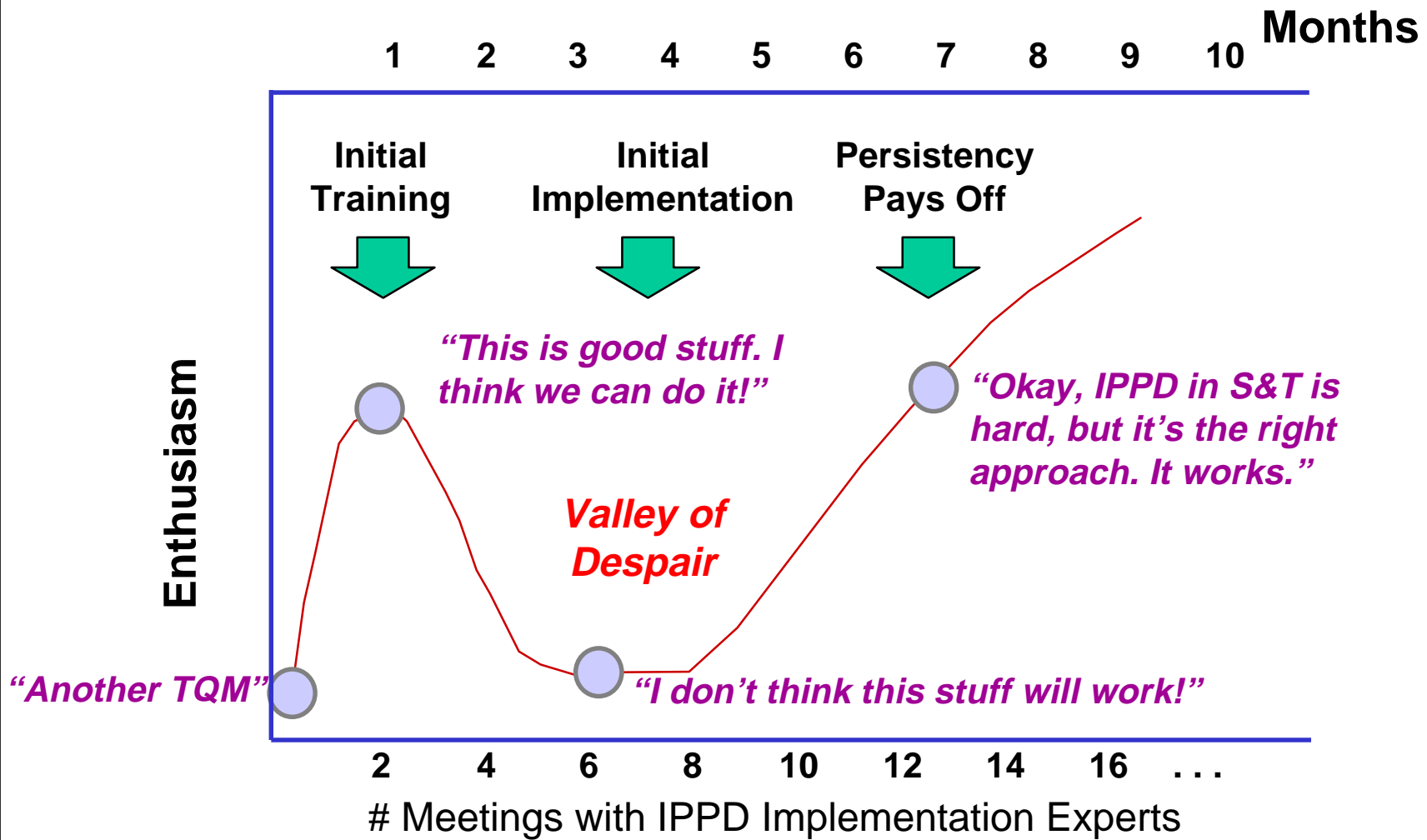


# Lessons Learned

- Tailor for 6.3 and earlier
- Real time application to projects
- Train 3.5 day course with entire team
  - Customer, AF PM, AF Engineers, Contractors
- Classroom = Step 1
- Periodic retraining (due to IPT turnover)
- Plan for the “valley of despair”



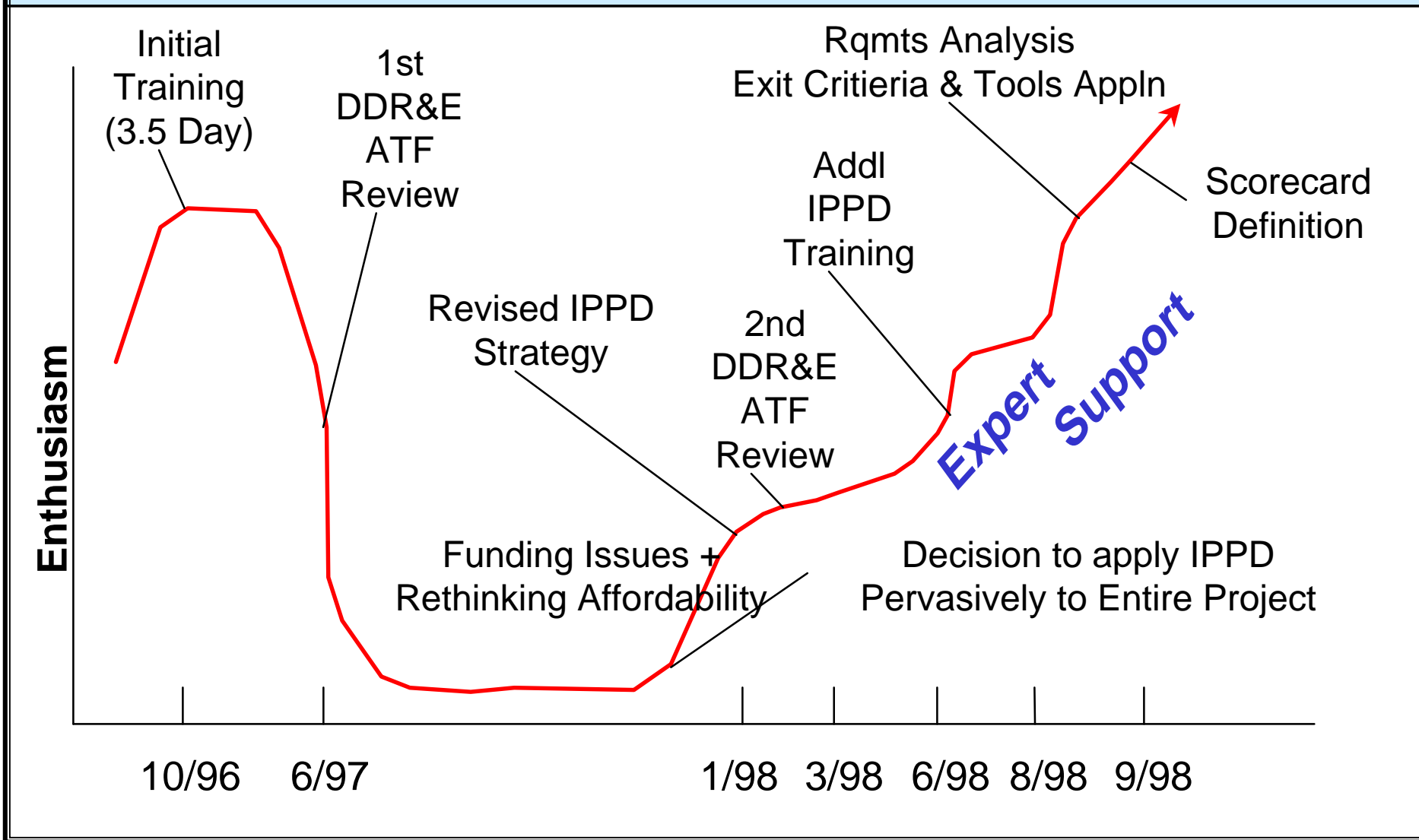
# Implementation Lessons Learned: Valley of Despair





# Valley of Despair

(Example: Large Aircraft Infrared Countermeasures-LAIRCM)





# Summary

- AF emphasis and support for Affordability Education and Training continues to be strong.
- AF has successfully tailored courses for S&T affordability
- Continued use of expert support and web-based training and tools is essential to assure real implementation
- Culture change is slow but we are making progress