

Simulation Based Acquisition Conference



JSF Perspective

Frank Cappuccio

May 12, 2001

Report Documentation Page

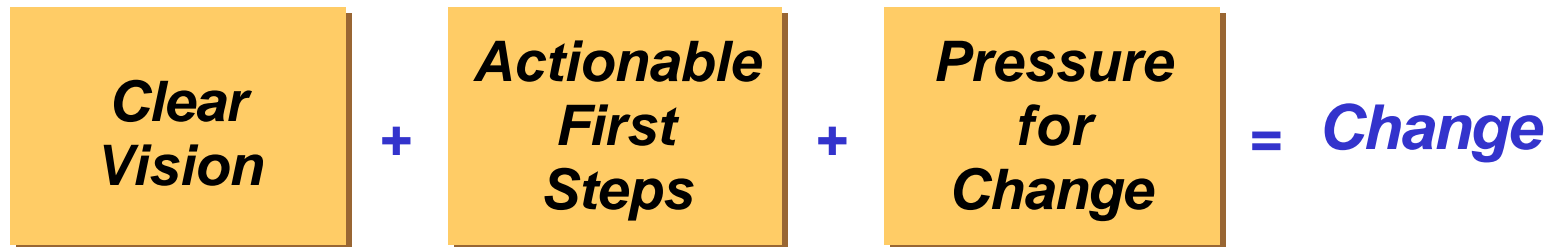
Report Date 12052001	Report Type N/A	Dates Covered (from... to) -
Title and Subtitle JSF Perspective	Contract Number	
	Grant Number	
	Program Element Number	
Author(s) Cappuccio, Frank	Project Number	
	Task Number	
	Work Unit Number	
Performing Organization Name(s) and Address(es) Lockheed Martin	Performing Organization Report Number	
Sponsoring/Monitoring Agency Name(s) and Address(es) NDIA (National Defense Industrial Association 2111 Wilson Blvd., Ste. 400 Arlington, VA 22201-3061	Sponsor/Monitor's Acronym(s)	
	Sponsor/Monitor's Report Number(s)	
Distribution/Availability Statement Approved for public release, distribution unlimited		
Supplementary Notes Proceedings from Armaments for the 3rd Simulation Based Acquisition Conference, 15-17 May 2001 sponsored by NDIA., The original document contains color images.		
Abstract		
Subject Terms		
Report Classification unclassified	Classification of this page unclassified	
Classification of Abstract unclassified	Limitation of Abstract UU	
Number of Pages 6		



- **Lockheed Martin JSF Program Has Achieved a 50 Percent + Reduction in Acquisition Cycle Time and Cost, via, Modeling and Simulation, and the Savings Have Been Incorporated Into Our Proposal Bid**
- **SBA Can Improve the Acquisition Process Only if**
 - **Fully Embraced by All Stakeholders, i.e., Industry, OSD, DoD and Congress**
 - **Leadership is Willing To “Tough it Out”**
- **The Implementation Process Has Numerous Minefields, i.e., SBA Will Test Everyone’s Resolve**
- **The Need To Understand the Dynamics of Change is Critical to Success, i.e. Lockheed Martin Lessons Learned**



The Change Equation

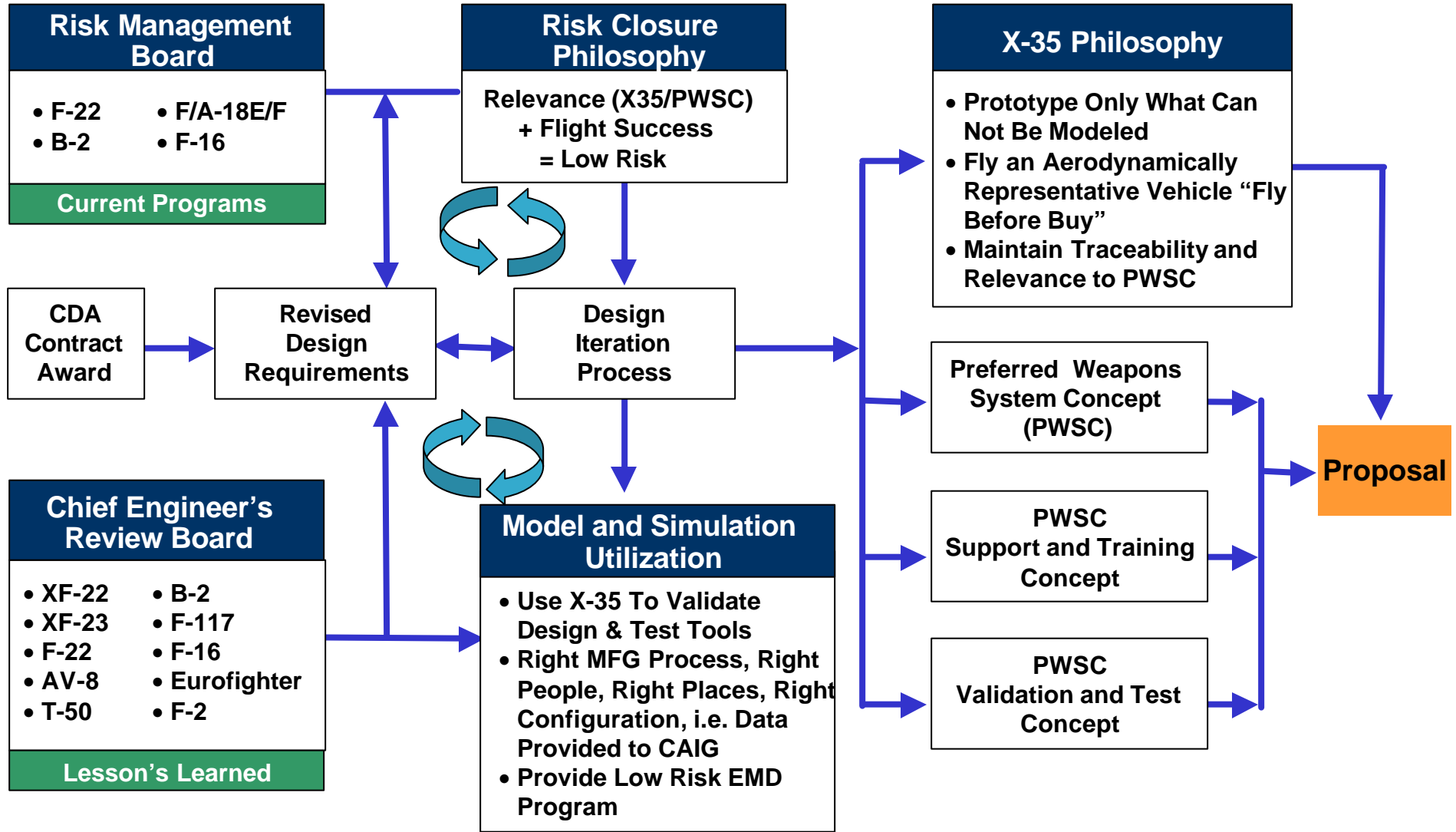


- **There is a Clear Vision of the Simulation Based Acquisition**
 - *Designed X-35 Using Simulation and Modeling Tools and Validated Tools in Flight Test*
 - *Focused Simulation and Modeling On Tasks and/or Problems That Lend Themselves To Modeling*
 - *Execute Philosophy That*
 - *Relevance (X-35/PWSC) + X-35 Flight Success = Low Risk EMD*
- **There Are Some Actionable First Steps**
 - *Someone is Willing To Show the Way, i.e. Champion*
 - *Government is Willing To Partner in the Process, i.e. No Rice Bowls*
- **There is Pressure for Change**
 - *Reward/Benefit for Changing*
 - *Cost of Not Changing*

A Good Vision is Not Sufficient



Lockheed Martin Approach



50% Plus Improvement Across the Board



Lockheed Martin SBA Successes Study



- **Transformed Lockheed Martin Aircraft Product Development and Test Processes**
- **Provide Government Validated Manufacturing Data, Processes, and Tools for JSF EMD**
- **Achieved Revolutionary Reductions in Cycle Time and Cost**
 - **50% + Development**
 - Product Design
 - Software Development and Test
 - System Test
 - **50% + Manufacturing**
 - Leanest
 - Supplier Alliances
 - Virtuality
 - **50% + S&T**
 - Product Attributes
 - System Support Attributes



Lessons Learned



- **Make Sure There is Substance to Your SBA Vision and Not Just Rhetoric**
- **Partnership and Model Sharing With Government Critical for Success**
- **Many Fatal Implementation Road Blocks Exist, i.e. Leadership, Culture, Funding, etc., So Constant Vigil is Required**
- **Committing JSF to SBA is the Right Decision and Will Force a Paradigm Shift, However, We Must Honestly Address the Following**
 - *Will Government IPT Leaders Ever View Simulation and Modeling as Low Risk?*
 - *Will the Replacement of Hardware Testing With Simulation Be Accepted?*
 - *How Does Industry Get Credit for Change?*
 - *Whose Cost Models Do We Use?*
 - *Will Companies Readily Drop Model Proprietary Barriers*