

# ***Simulation Based Acquisition Conference***



## **JSF Perspective**

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## Report Documentation Page

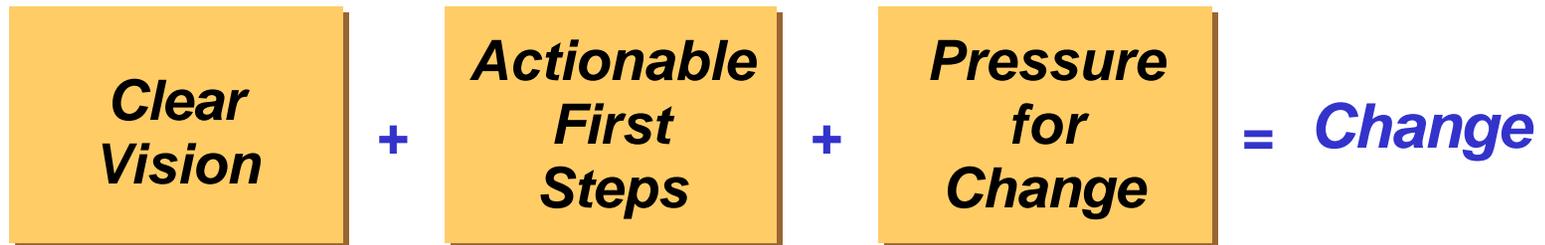
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- **Lockheed Martin JSF Program Has Achieved a 50 Percent + Reduction in Acquisition Cycle Time and Cost, via, Modeling and Simulation, and the Savings Have Been Incorporated Into Our Proposal Bid**
- **SBA Can Improve the Acquisition Process Only 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

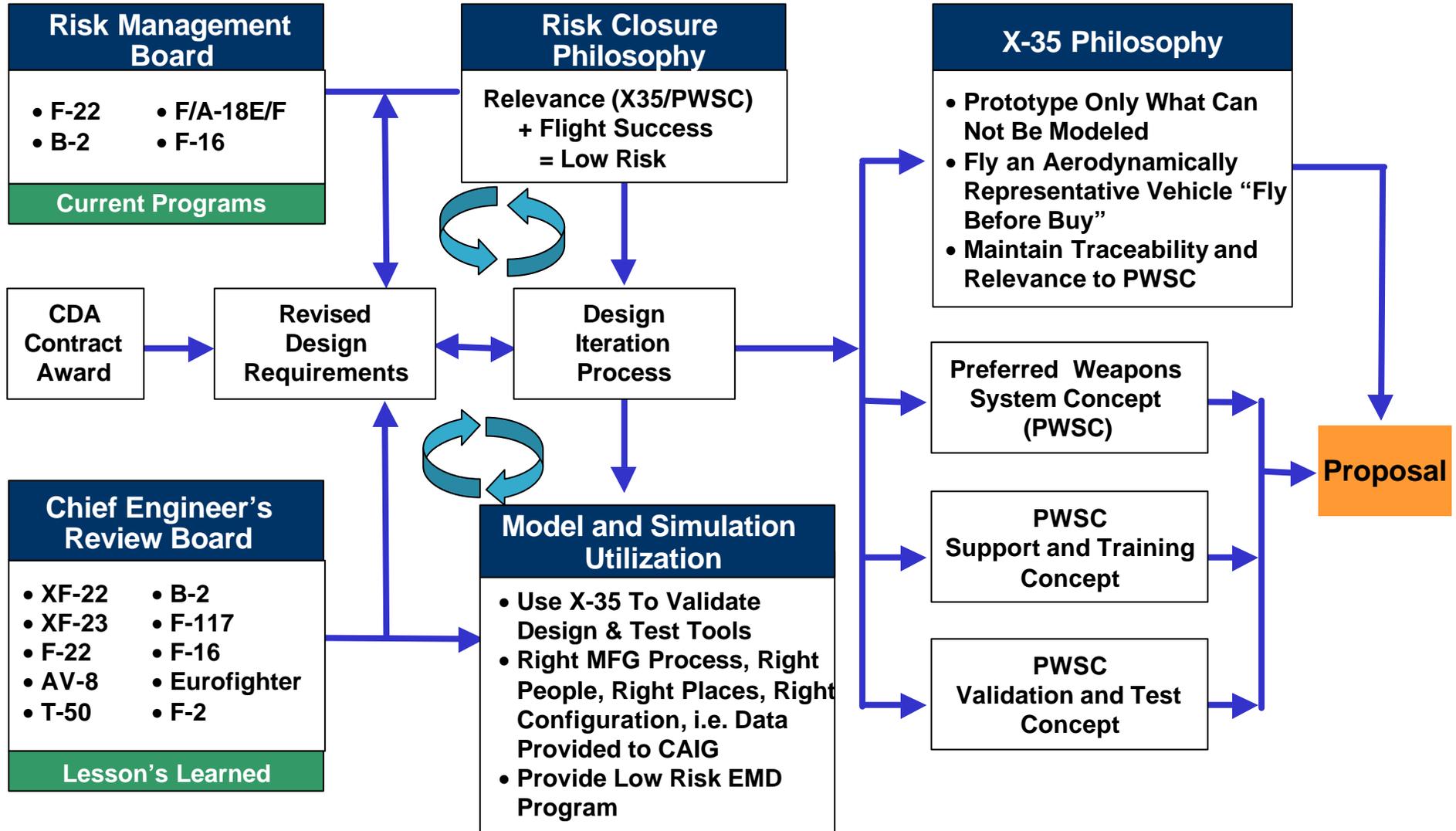


- **There is a Clear Vision of the Simulation Based Acquisition**
  - *Designed X-35 Using Simulation and Modeling Tools and Validated Tools in Flight Test*
  - *Focused Simulation and Modeling On Tasks and/or Problems That Lend Themselves To Modeling*
  - *Execute Philosophy That*
    - *Relevance (X-35/PWSC) + 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*