



# Acquisition Reform How are we Doing?



## Source of This Perspective

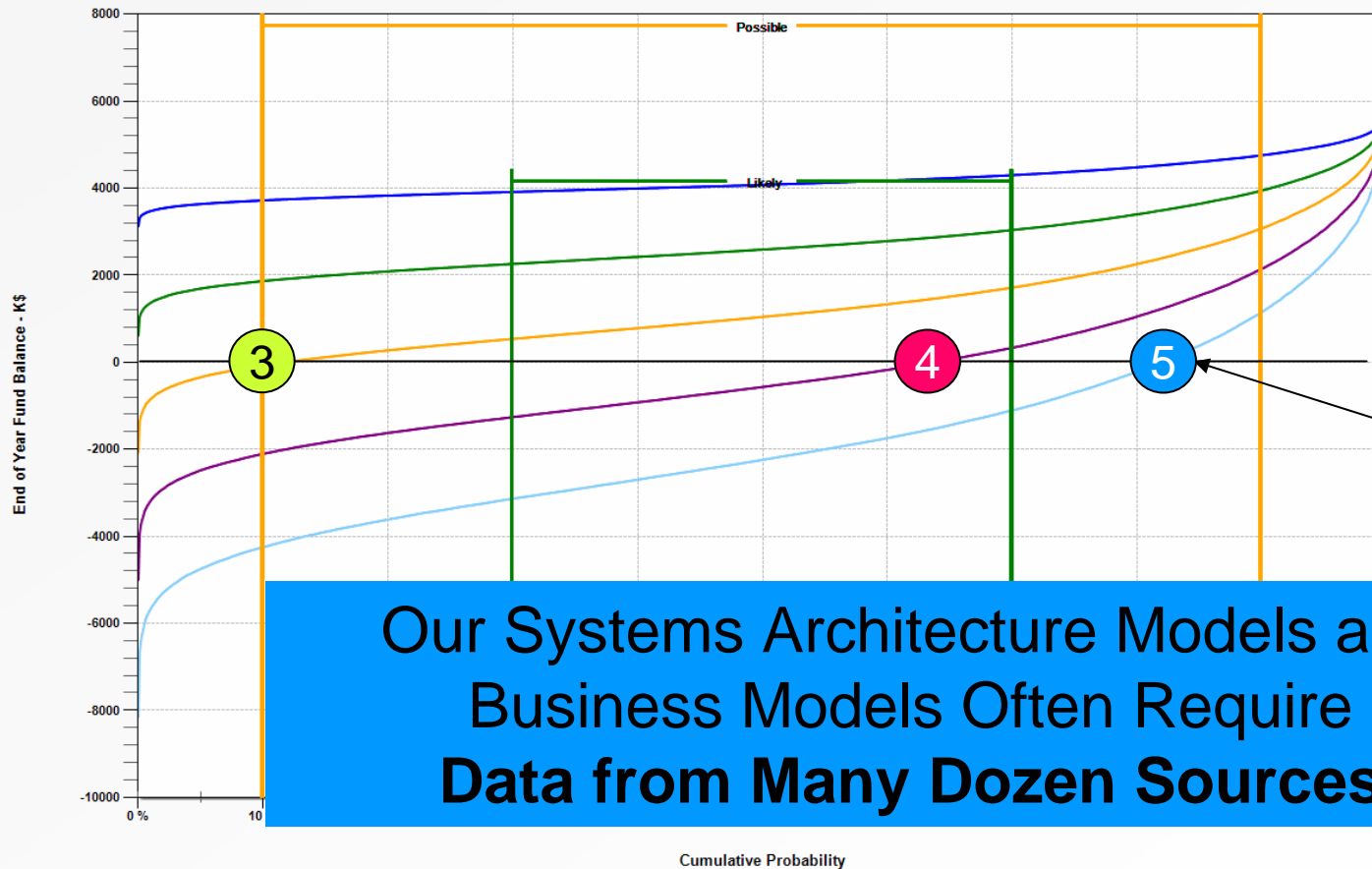
- Lone Star provides support for industry in program capture and execution
  - Game Theory Modeling
  - Financial and Pricing Analysis
  - Outsourced Systems Engineering and Architecture
  - Requirements Derivation and Analysis
- Lone Star provides program and product support for government
  - Requirements Derivation and Analysis
  - Cost of requirements
  - Export analysis
  - AoA

*These are Data Driven Work Products...*

*Which drives our perspective*



# Example of a Client Study Monte Carlo Analysis of a Business Case



Near Zero Chance  
of Liquidity Failure  
in year 1 & 2

About 10% year 3

About 65% year 4

About 82% Year 5

**Our Systems Architecture Models and  
Business Models Often Require  
Data from Many Dozen Sources**

Fund Balance Year 1    Year 2 Fund Balance    Year 3 Fund Balance    Year 4 Fund Balance    Year 5 Fund Balance



One Customer Said...

"Lone Star, those are the data guys."

Which proves our marketing messages didn't stick.

But also shows customers believe we do

**FACT BASED MANAGEMENT AND ANALYSIS**

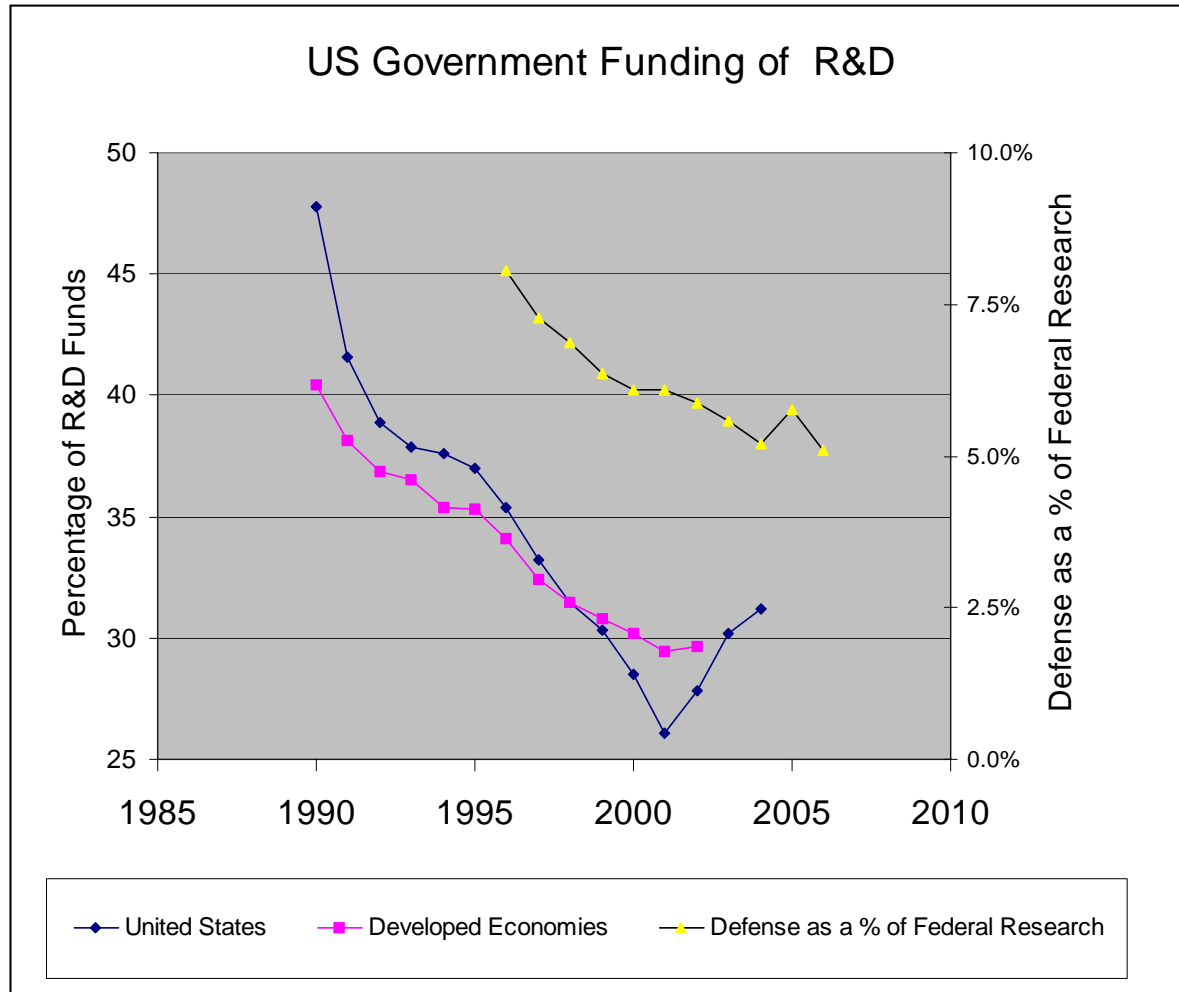


# Rate Commercial Product Technology Change

- We examined data from product developments in more than 10 industries
  - Data from hundreds of product developments
- We found that product development times outside aerospace and defense are accelerating
- We found that other industries are shortening their product development cycles, and are seeing more of their product development complete on time
- We found that the pace of introduction of new component technologies and standards *was accelerating – non Defense is better, and the gap is getting wider*



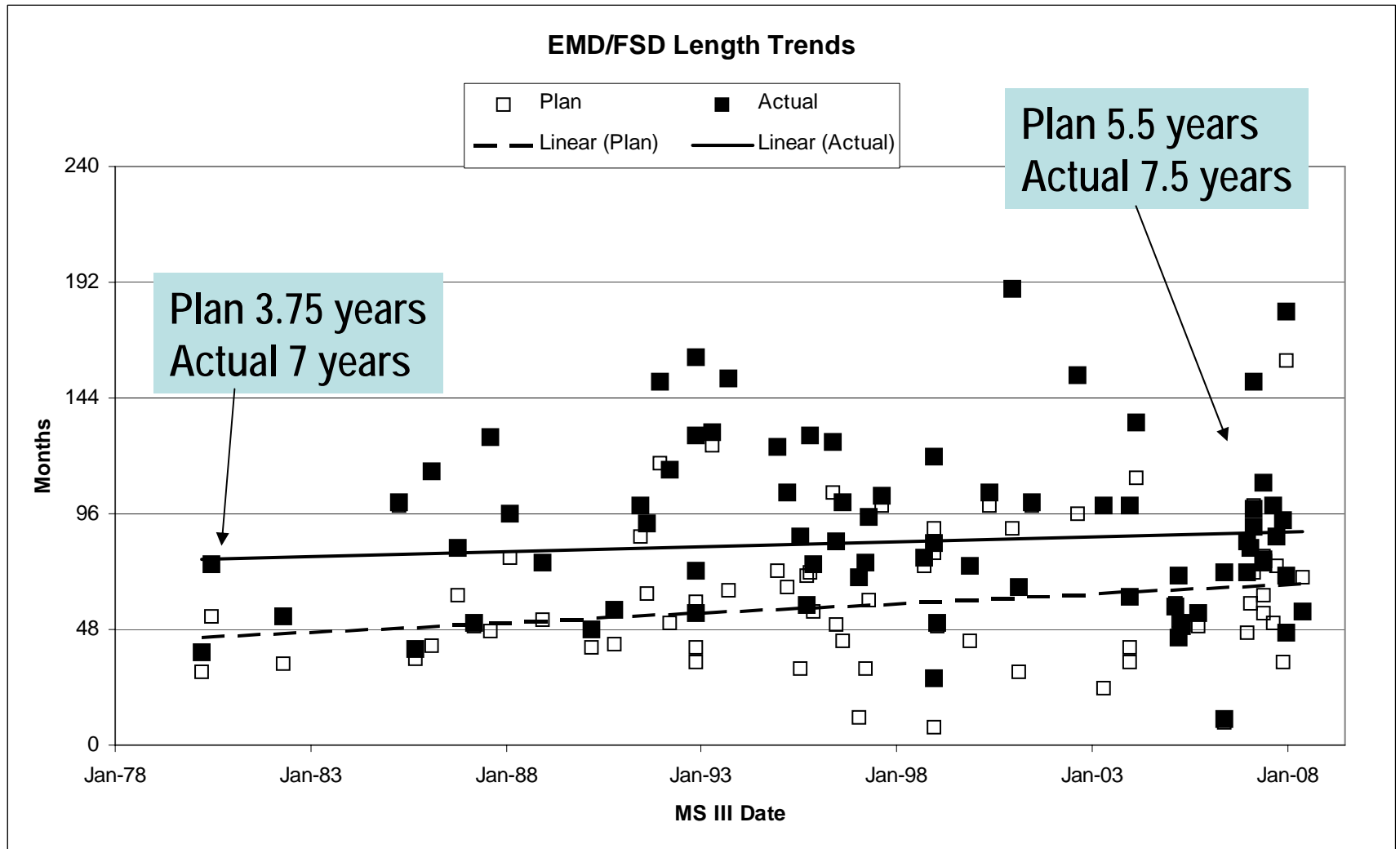
# Meanwhile, Defense Is NOT a Primary Source of New Technology



- For about 20 years, private sector funds the majority of R&D; mostly non-defense
- Since 9-11, there has been a slight upswing in Government R&D
- But, the long term trend remains unabated
- The defense market is a relatively unimportant source of market place innovation and a small fraction of Government funded R&D



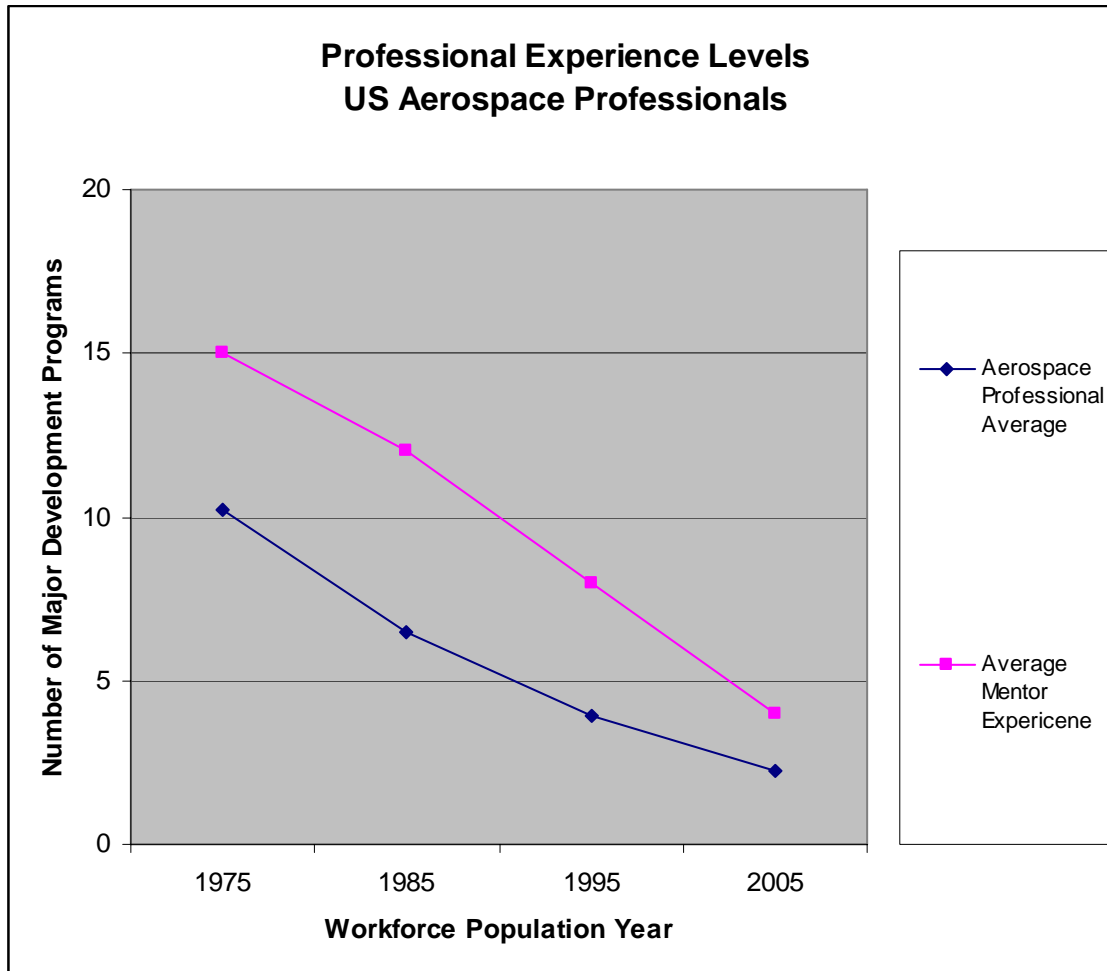
# While Technology Accelerates, DoD Product Development Times are Getting Longer



Source: DAU, Lone Star Estimates based on more than 70 programs



## And... Aerospace and Defense Experience Levels are in Decline in Industry and Government



In addition to having fewer people in the industry, the people who are in the industry, are, on average, ***less experienced than their historical counterparts***





# Vicious Cycles

- Programs stretch out
  - Fewer cycles of professional learning in DoD Engineering and Science Talent Pool
  - Harder to insert technology that is changing faster than our core products
  - Technology which we don't control
  - Technology which our engineers have less experience applying than their commercial counterparts
  - Which is one of the reasons program stretch out



# What about Best Practices?

- Different Procurement Commands have ideas about best practices, some of which simply are not supported by evidence
  - We can't share the most outrageous examples
- CMMI is a good example of a "Best Practice" promoted across DoD
  - We have studied a large number of DoD Programs
  - We survey about 100 defense executives each year in industry and government
  - We survey several hundred product developers a year
- Results
  - Negative correlation between actually using CMMI & believing it is a best practice
  - Negative (or no) correlation between CMMI rating & CPAR results
  - Consistent findings over a number of independent data sets, and in the case of CPAR – CMMI correlation by another firm



## Summary

- Our databases suggest that
  - Acquisition Reform since the end of the cold war has not been effective
  - Many best practices are not effective, or not effectively implemented
  - These issues are erode our human capital base in industry, and in government, drive up costs, slow introduction of capability
  - DoD product development community is becoming increasingly disconnected from the mainstream of technology which it needs
  - Requirements, Budgeting, Contracting processes all do their part as root causes; no single evil to correct
- Some potential hope
  - Emphasis on spirals rather than “home runs”
  - Emphasis on TRL to form a common language for understanding technology maturity and risk
  - *But, these are barely a good start*