

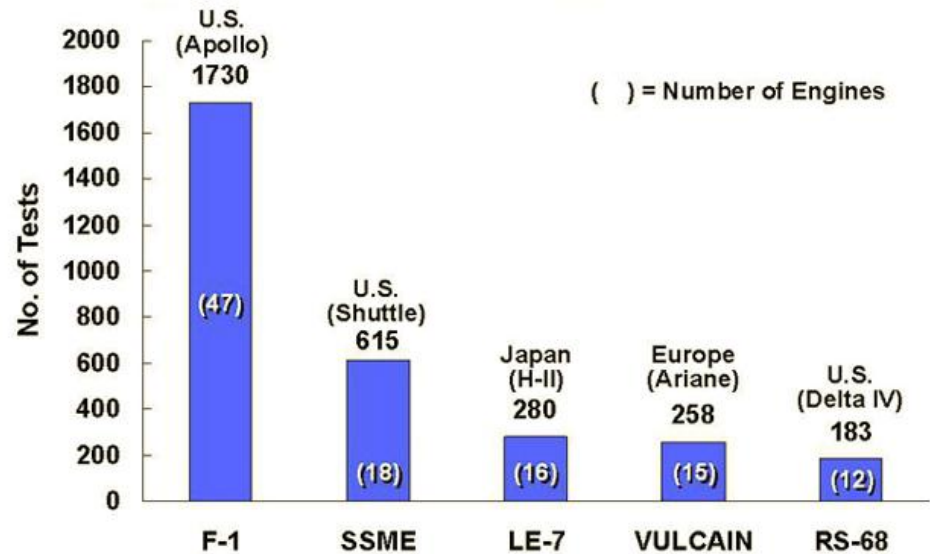
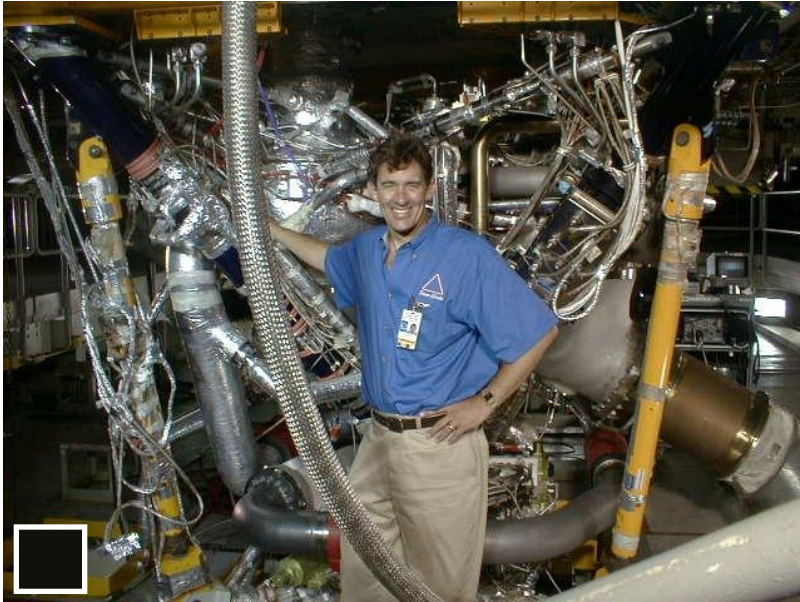


Testing at the Speed of Need

ITEA Annual Symposium

Rick Baily
Vice President
Engineering & Mission Assurance
Boeing Defense, Space & Security
September 18, 2012

Myth-Busting Testing Programs Can Occur!



Source: AIAA 2002-4324 "Propulsion for the 21st Century—RS-68"; B.K. Wood

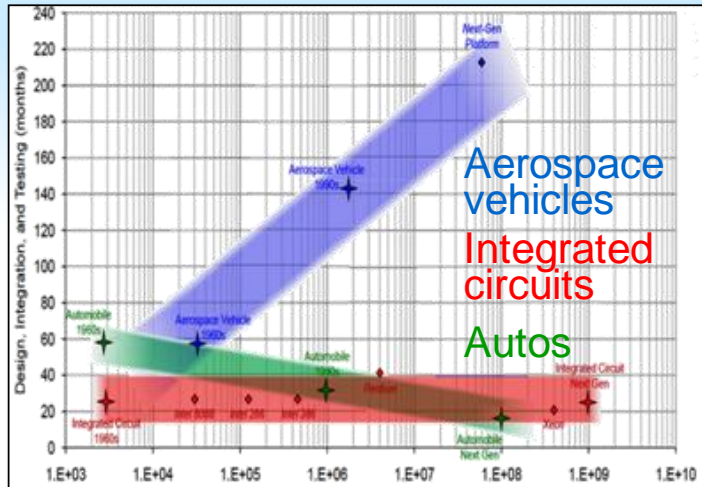
Where are we going?.... Consistent myth-busting execution

We already know the secrets to success...

- **Early Engagement**
- **Drive out risk to prevent late discoveries**
- **Lean & efficient, requirements-based test programs**

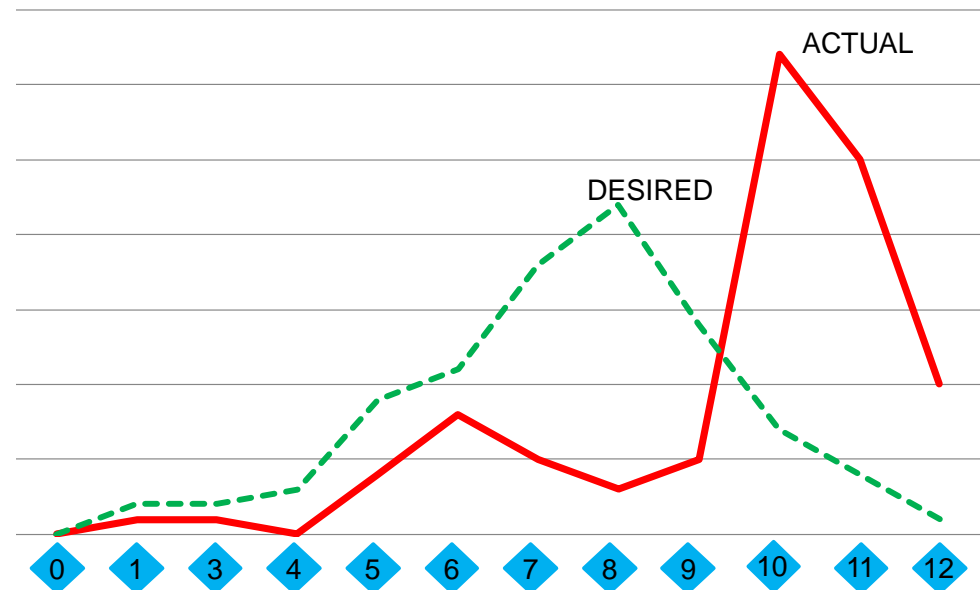
But, in Aerospace, we're not always successful in implementing what we know...

Trend in Time to Develop, Build, and Test



Some Industries Have Seen Better Results

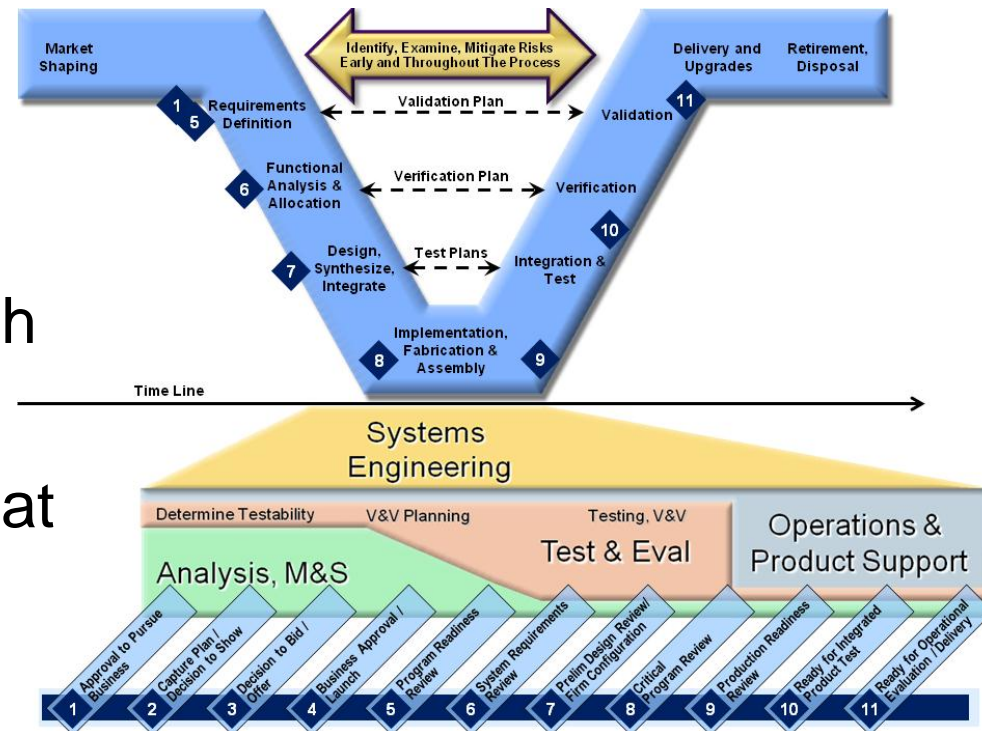
“Late Discovery” of Issues



How do we break through the barriers?

Early Engagement

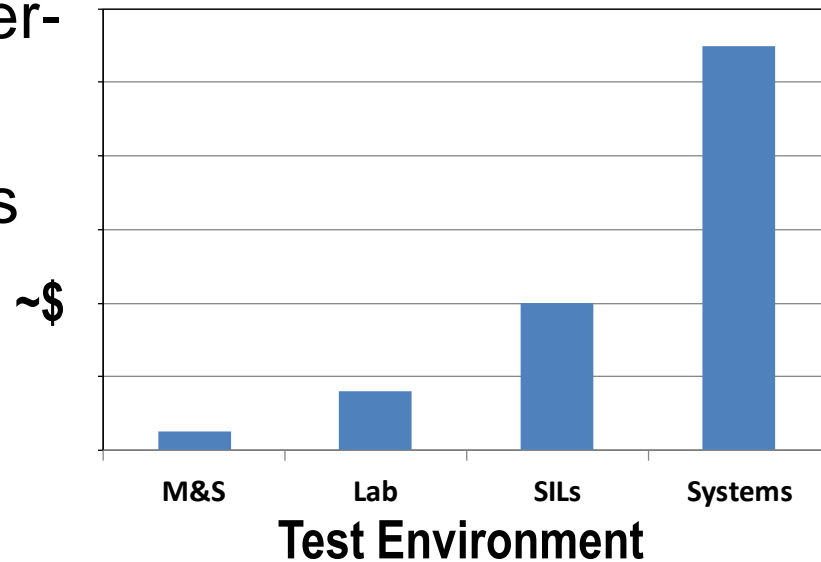
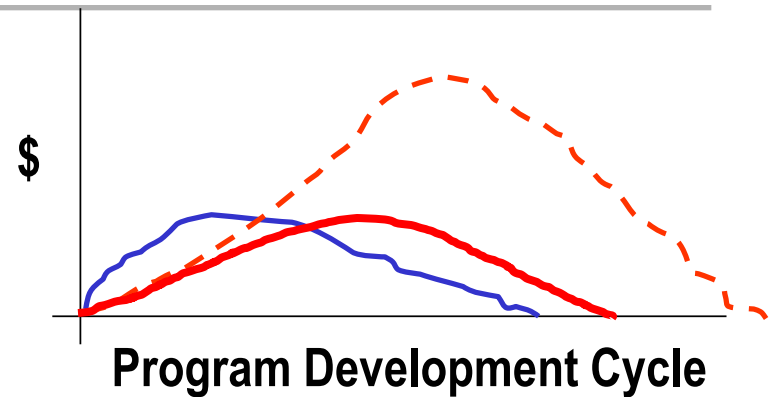
- Disciplined “gated” process
- True System Engineering, Integration, and Test (SEIT) team/process
- End-to-end collaboration with T&E across supply chain
- Product design strategies that reduce testing requirements (e.g.: reuse, etc.)



Ensure right level of participation and influence

Drive Out Risk to Prevent Late Discovery

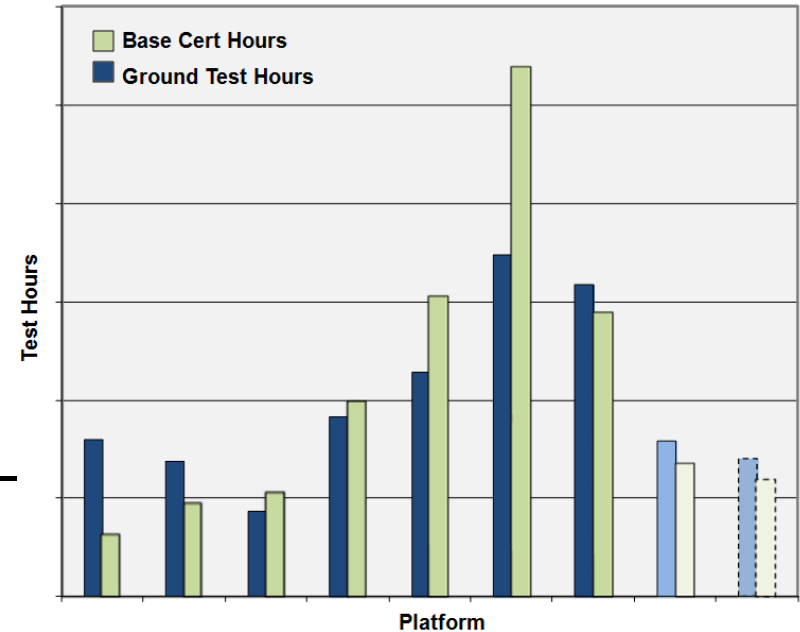
- Fund risk reduction
- Use right environment for right task (across supply chain)
- Early test of assumptions, higher-risk designs, and interfaces
- Focus on end-to-end threads as early as possible



Earliest tests possible, with integrated test environments

Lean & Efficient, Requirements-Driven Test Programs

- Invest in “optimizing” test program (DOE, etc.)
- Design capability for test point “density”
- Create “real time” linkages to virtual environment
- Automate where ever practical – test and data analytics
- Test once, use for many purposes (collaboration)



No compromise on safety/integrity, but must aggressively plan for efficiently achieving test requirements

Call to Action

- We know the secrets to success
- Actions to overcome barriers are more in our control than we take credit for
- We make the difference in the outcome

It's up to us

