# Lean Aerospace Initiative

## Enterprise Value: The New Lean Horizon

Lean Effects on Aerospace Programs
F-16 Case Study
March 27, 2002

Presented By: Alexis Stanke MIT



Research Sponsored By Lean Aerospace Initiative



#### **Program Highlights**

- Over 4000 aircraft delivered to 21 countries
  - Over 100 different versions



- Nearly constant price since 1990 (constant year dollars)
- Decreasing production rates (180/yr 24/yr)
- Significant improvement in system capability

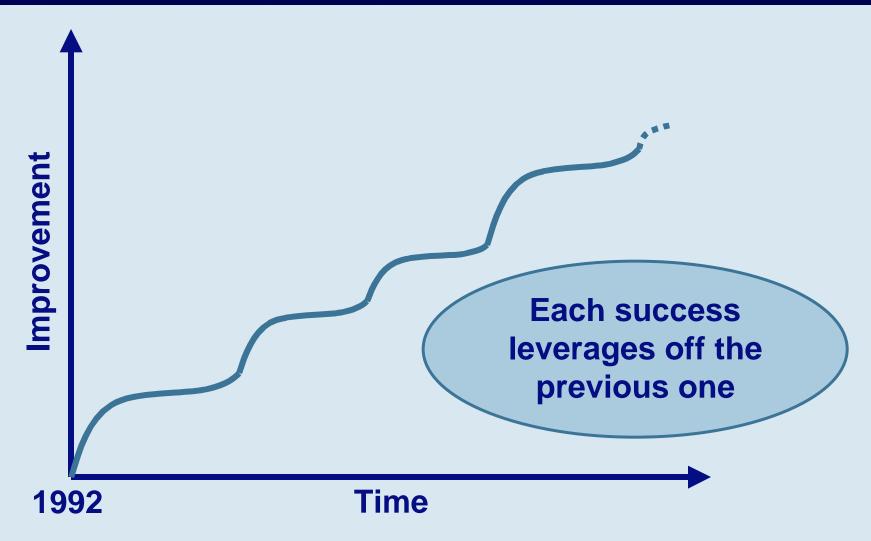
### Lean Aerospace Initiative

#### Timeline

Point	– 1992 ———	New VPs of Operations and Engineering Emphasis on customer New policies to improve quality
	Focus on core competencies	
	- 1996 <del></del>	Internal restructuring - Separation of programs and core functional groups Formal IPT implementation on programs
	– <b>1998</b> ––––	Formalization of Lean group
	Pilot projects	in lean production
	Improvement of interface between engineering and production	
	– <b>2000</b> ———	Corporate focus on lean showing top-down commitment



#### Continuous Improvement





1992

1998

2000

#### Enablers



New leadership - shift in attitude

Metrics including goals

Core competencies

1996 o IPT structure

Pilot project successes

Customer participation

Advances in IT tools

Senior corporate leadership commitment



#### Future Opportunities



- Extending pilot projects throughout entire program
- Incentives for supplier network integration
  - 60% of cost of aircraft is procured
- Interaction with other programs
  - Learning and sharing