



F-35: The Future of Air Power

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Future Air Power for 11 Nations... And Growing



CTOL

STOVL

CV



United States

United Kingdom

Canada

Australia

Netherlands

Turkey

Denmark

Italy

Norway

Israel

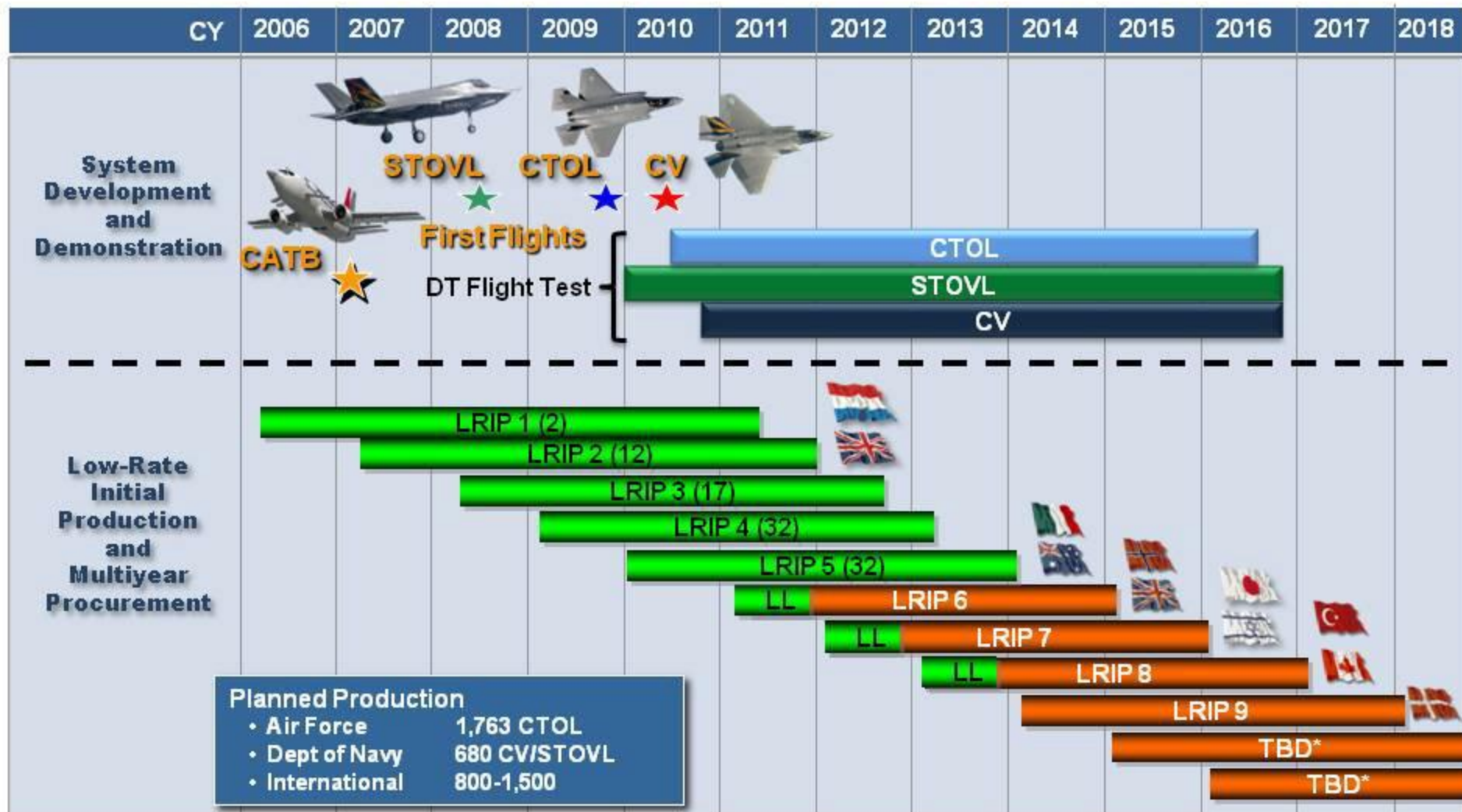
Japan

F-35 Master Schedule

CTOL

STOVL

CV



*Single Year Lot or Multiyear Lot Decision TBD

F-35 Multi-Role Effectiveness

CTOL

STOVL

CV



Attributes

- *Survivability*
 - VLO Stealth
 - Electronic Attack
- *Fighter Performance*
- *Range*
- *Payload*
- *Quantities*

Mission Effectiveness*

Air-to-Air



Air-to-Surface



Electronic Warfare



Survivability



*USG & Partner Validated and Verified Results

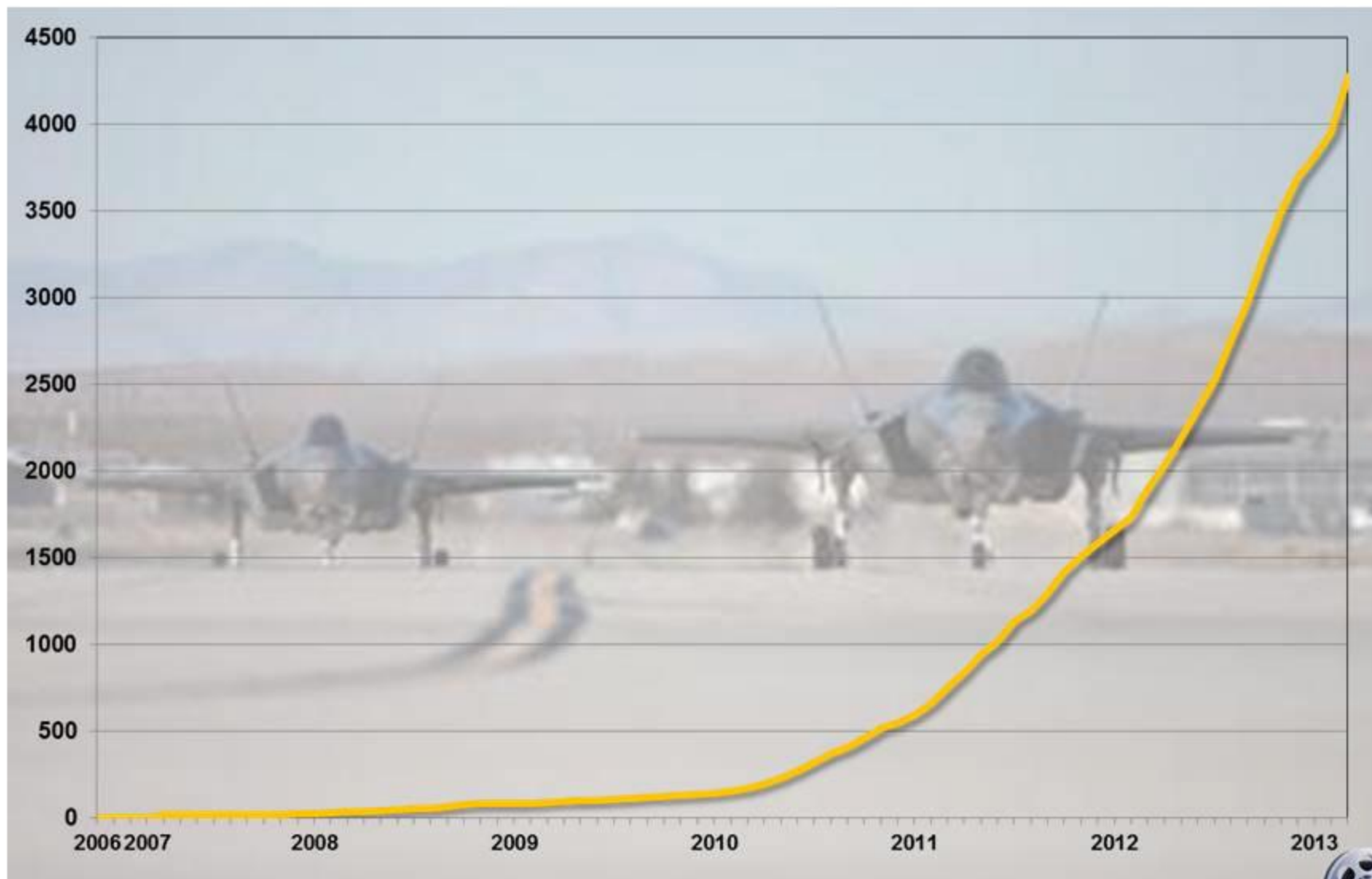
5th Generation Preserves Air Dominance

Technical Focus Areas

- **Helmet**
- **Lightning**
- **Tail Hook**
- **Horizontal Tail Heating**
- **Weight Management**



2006-2013 Cumulative Flights



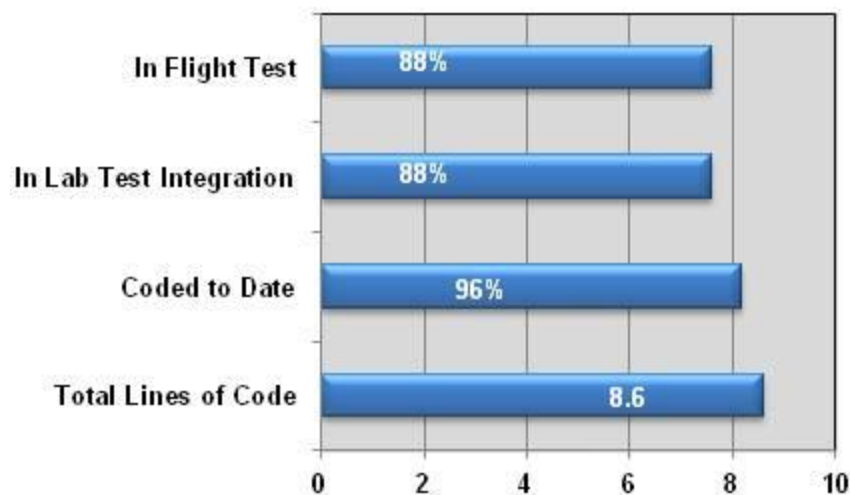
Airborne Software

CTOL

STOVL

As of 25 February 2013

CV



Block 2B Released on Time – Flying on Aircraft Today

Acoustics

CTOL

STOVL

CV



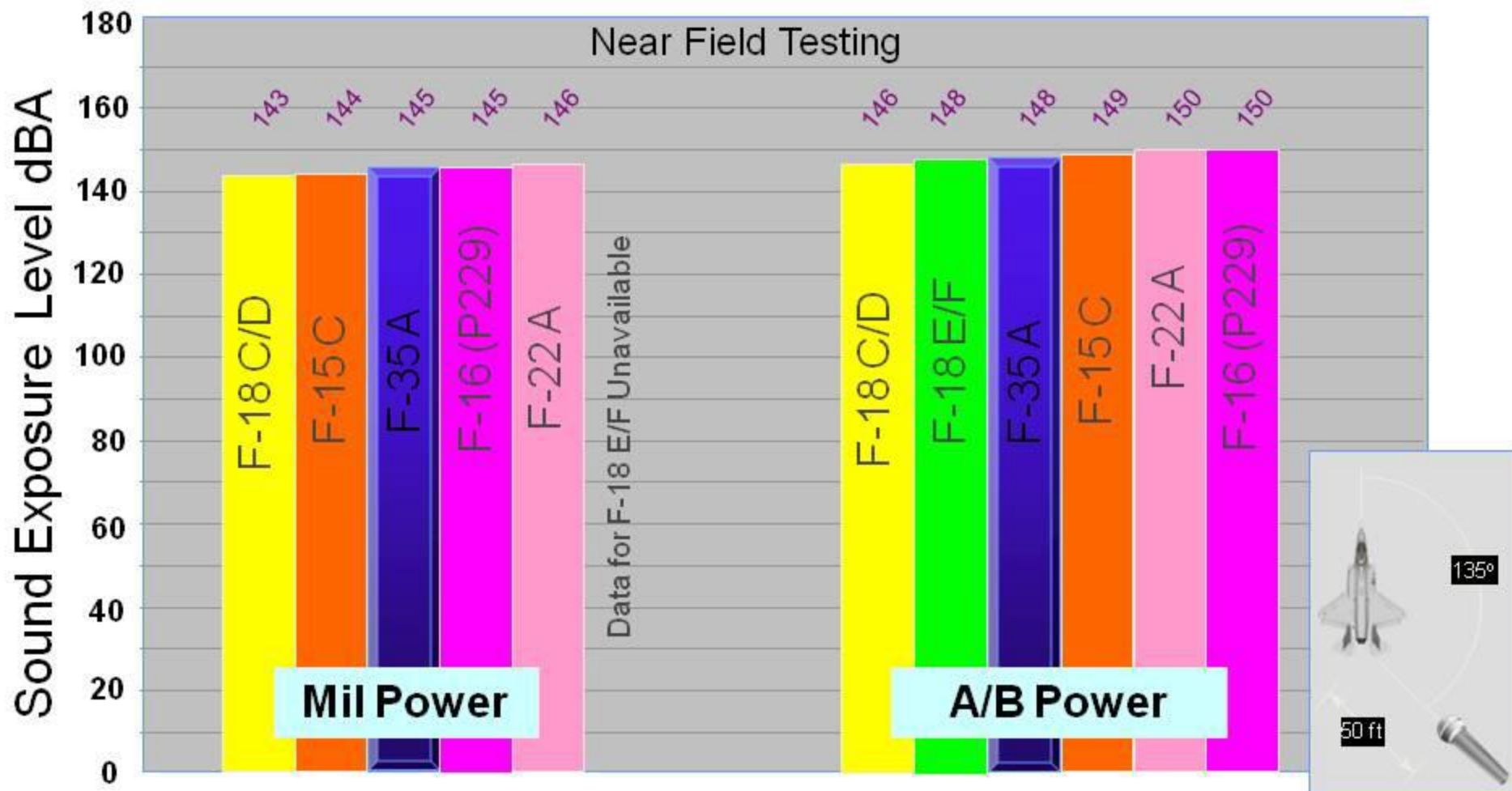
F-35 Comparable to Current Fighter Aircraft

Acoustics

CTOL

STOVL

CV



F-35 Comparable to Current Fighter Aircraft

CTOL

STOVL As of 25 Apr 2013 CV

F-35 Production Status

- **81 Aircraft Rolled Out**
- **63 Aircraft Flying**



CTOL STOVL CV



Credit Suisse Conf. – March 12, 2013

CTOL

STOVL

CV



- Mr. Frank Kendall,
Deputy Undersecretary of Defense
 - *“F-35 is DoD’s number one priority”*
 - *“Despite sequestration, we still have a budget that is adequate to support F-35”*



F-35 -- Pro-Active Strategic Deterrence

- **5th Generation Fighter**
- **Advanced Sensors, Fusion & Data Links**
- **True Stealth While Carrying Bunker Busters**
- **External Weapons for Maximum Carriage**
- **Large Internal Fuel for Long Range**



5th Generation Air Power: The Need for F-35





The Strategic Advantage of Air Power



"Not to have an adequate airforce in the present state of the world is to compromise the foundations of national freedom and independence."

Winston Churchill, 1933



Desert Storm



Bosnia



Afghanistan



Iraqi Freedom



Libya

Iraqi Army – Without Air Power

- *Enemy Fighters Neutralized*
- *Coalition Power Projection Achieved*



Coalition Forces – With Air Power

- *Freedom to Maneuver*
- *Freedom from Attack*
- *Freedom to Attack*



Air Power Is an Essential Core Competency



Threat Environment

We Are Going From This...



... To This



Low-Tech Insurgent Warfare to Sophisticated Conventional Capabilities

Production Comparison

Aircraft Entering Operational Status – U.S. vs. PRC



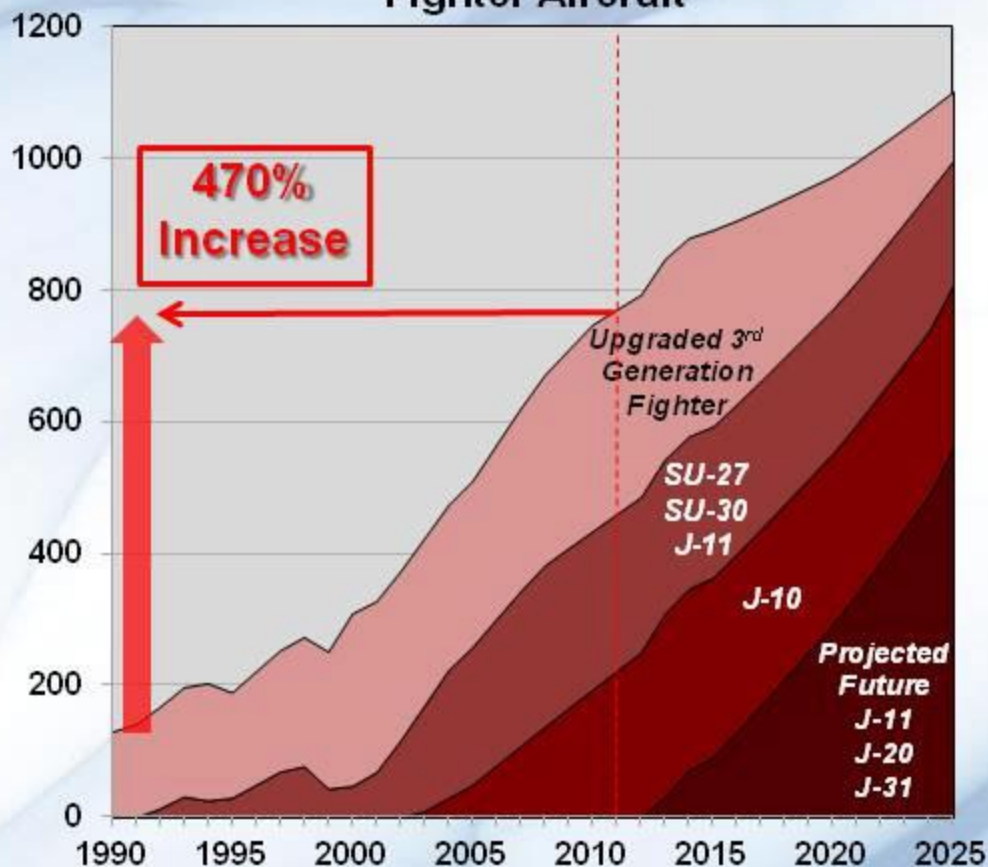
Quantities of Sufficient Quality Need To Be Produced



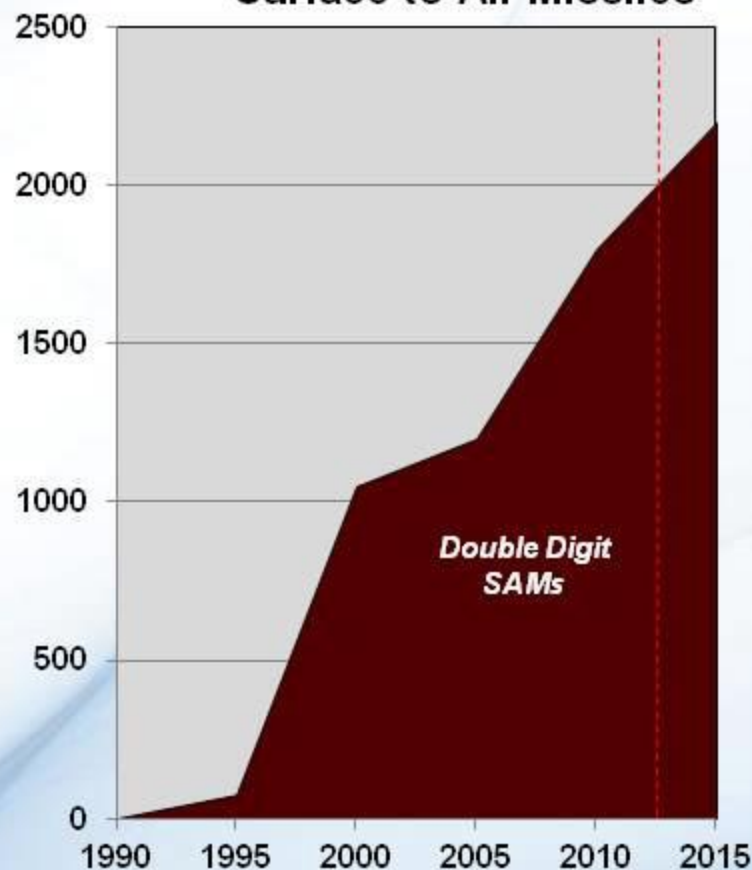
PRC IADS Inventories

PRC Inventories Over Time

Fighter Aircraft



Surface-to-Air Missiles



Threat Inventories Are Steadily Increasing



The Value of Stealth

Lessons Learned From Desert Storm

4th Generation

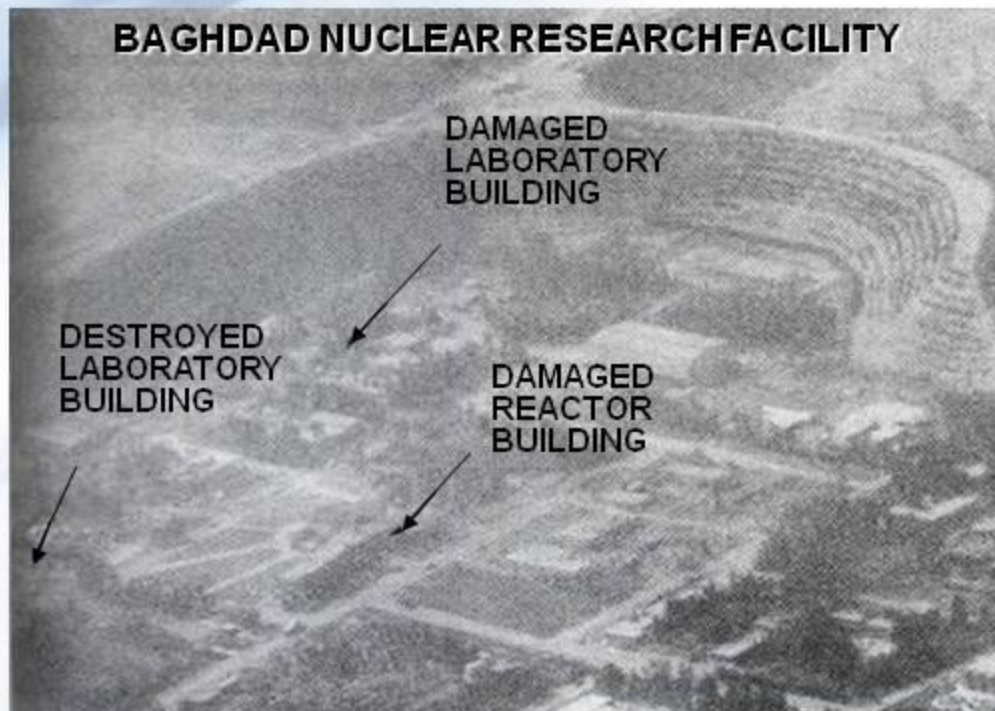


75

2

0%

BAGHDAD NUCLEAR RESEARCH FACILITY



AIRCRAFT
AIRCRAFT LOST
MISSION SUCCESS

AIRCRAFT
AIRCRAFT LOST
MISSION SUCCESS

F-117



10

0

100%

4th Gen is Expensive, Ineffective and Vulnerable

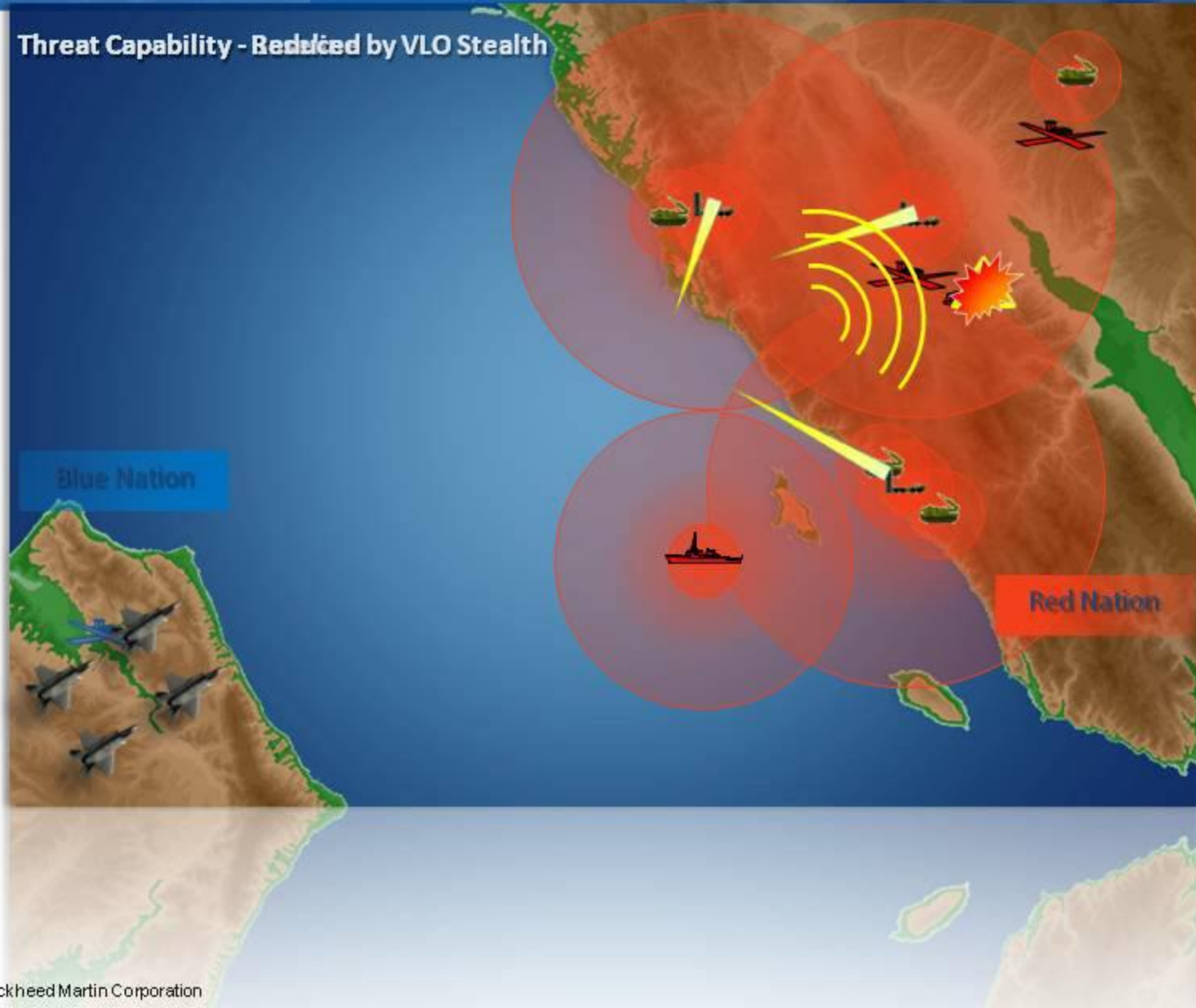
Countering Advanced Threat Systems

CTOL

STOVL

CV

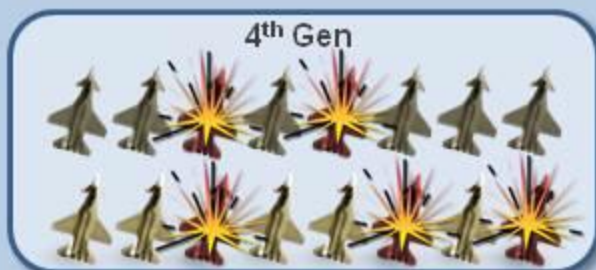
Threat Capability - Reduced by VLO Stealth





4th Gen Aircraft Are at Risk

Anti-Air Warfare



vs.



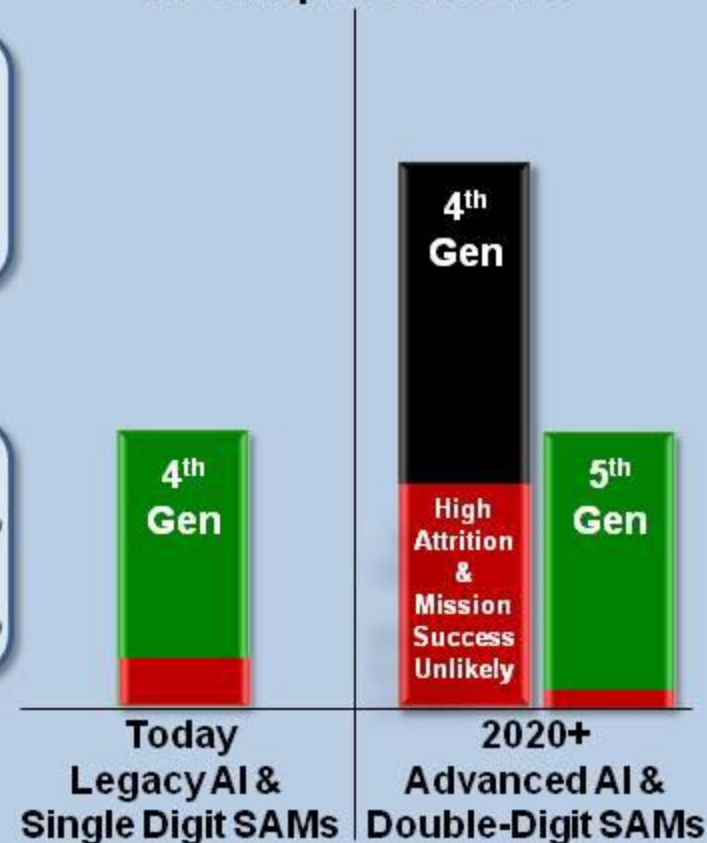
Anti-Surface Warfare



vs.



Force Structure Required To Complete Mission



5th Gen Counters Tomorrow's Threats With Today's Force Size

F-35 Multi-Role Effectiveness



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Full Spectrum Capability

F-35 is Relevant Across the Full Range of Operations



