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QDR 2010: Implementing the New Path for America's Defense

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By

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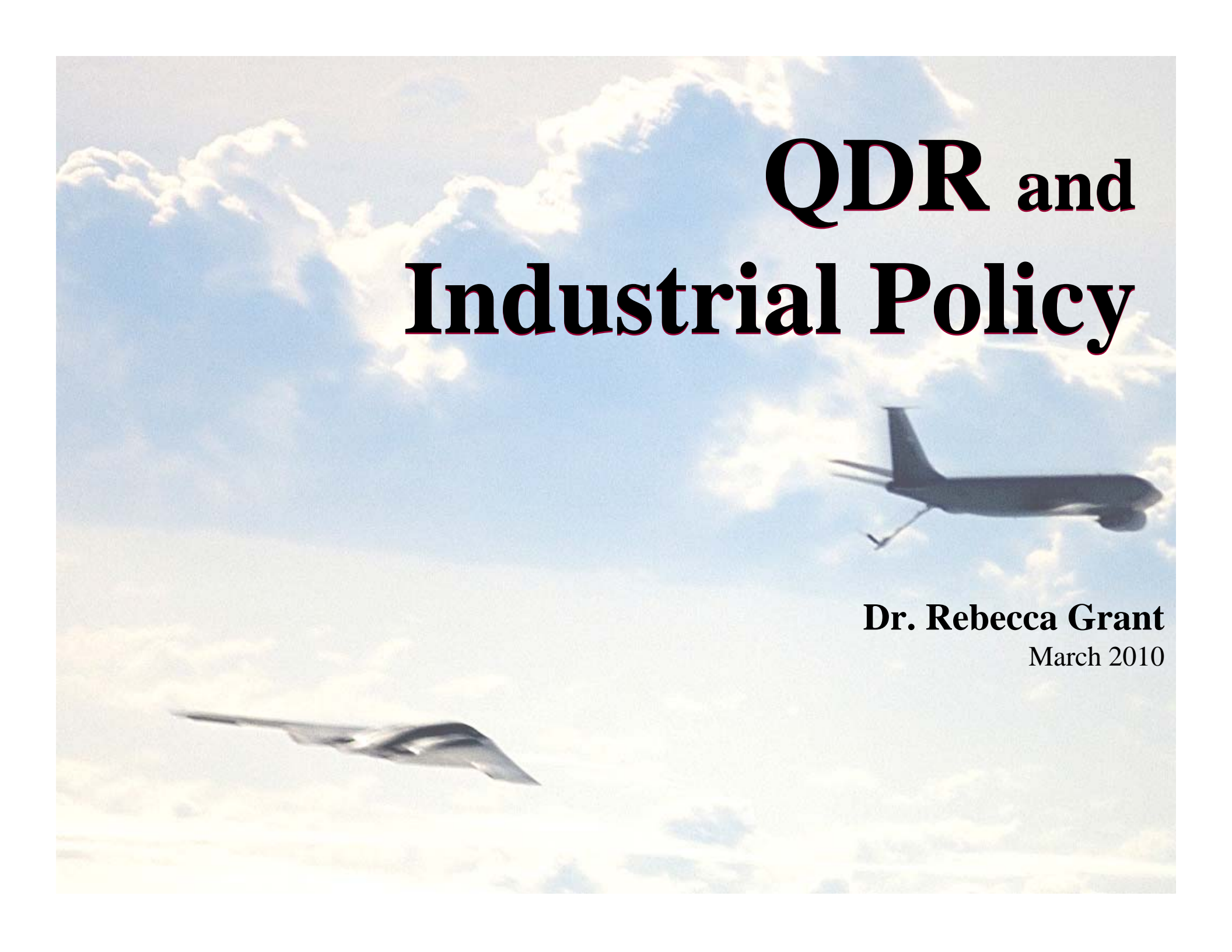
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QDR and Industrial Policy

Dr. Rebecca Grant

March 2010

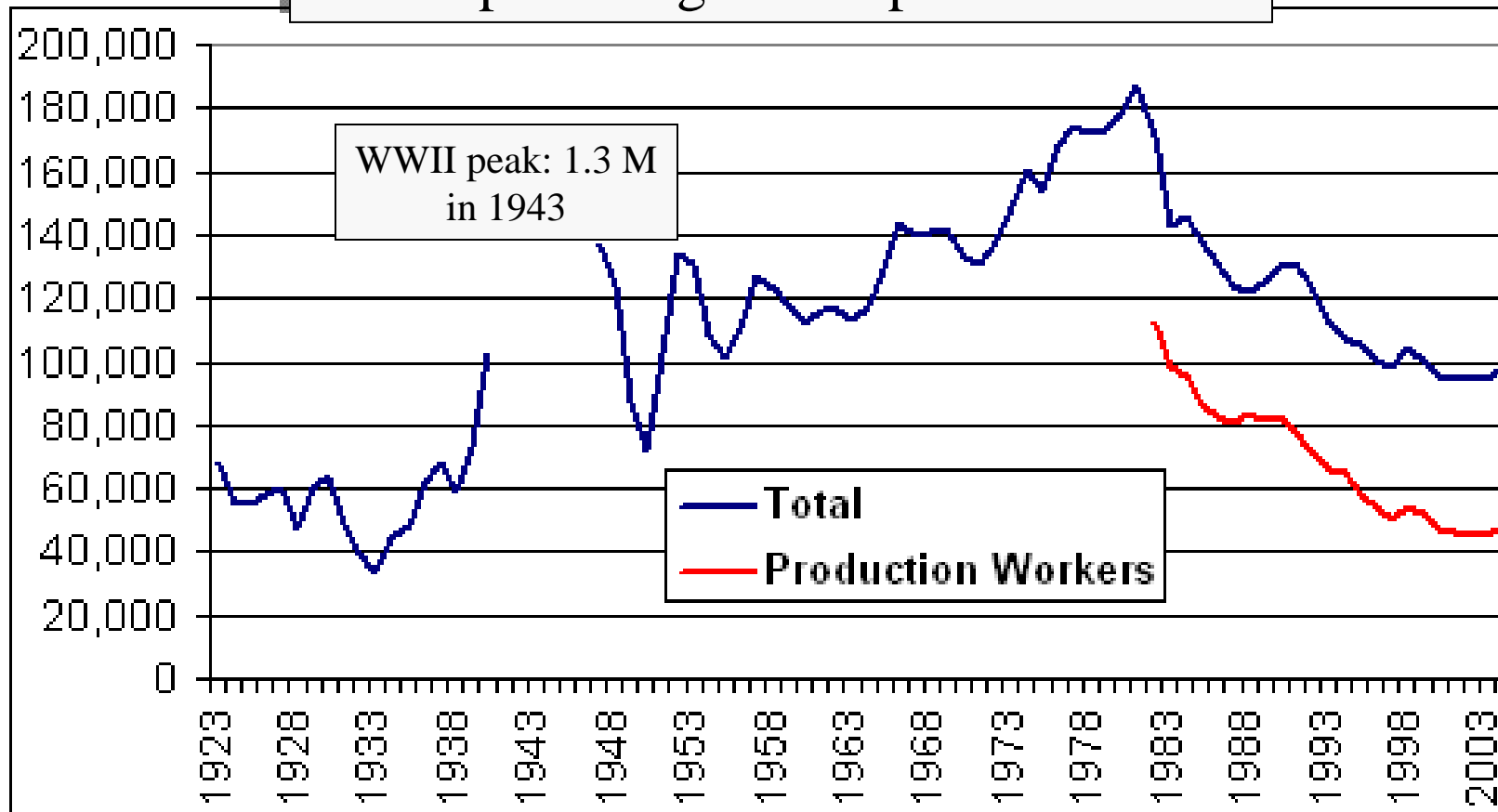
What the QDR Said

- “Unfortunately, the federal government as a whole and the Pentagon in particular have not adequately addressed the changes both within the industry and in the Department’s needs in the current strategic environment.”
- “Remedying the outdated – for decades, largely hands-off – attitude toward the U.S. defense industrial base cannot be done quickly, and change will require a long-term approach undertaken in partnership with industry and Congress.”
- Rely on market forces but be prepared to intervene
- Don’t forget suppliers, financiers, allies
- Lean forward in ongoing assessment

Shipbuilding

- In 2008, about 85,262 manufacturing jobs

US Shipbuilding and Repair 1923-2004



Aerospace Industry at a Glance 2008 Data

- 3,100 firms manufacturing aircraft, spacecraft and guided missiles
- 2008 sales for aerospace parts and products = \$257B
- 503,900 workers averaging 43.8 hours/week (41.1 hrs. avg in other manufacturing work)
- 61% employed in companies with over 1,000 employees
- “not a static entity...highly vulnerable to market conditions and decisions by DoD” – *Marion Blakey, President, AIA*





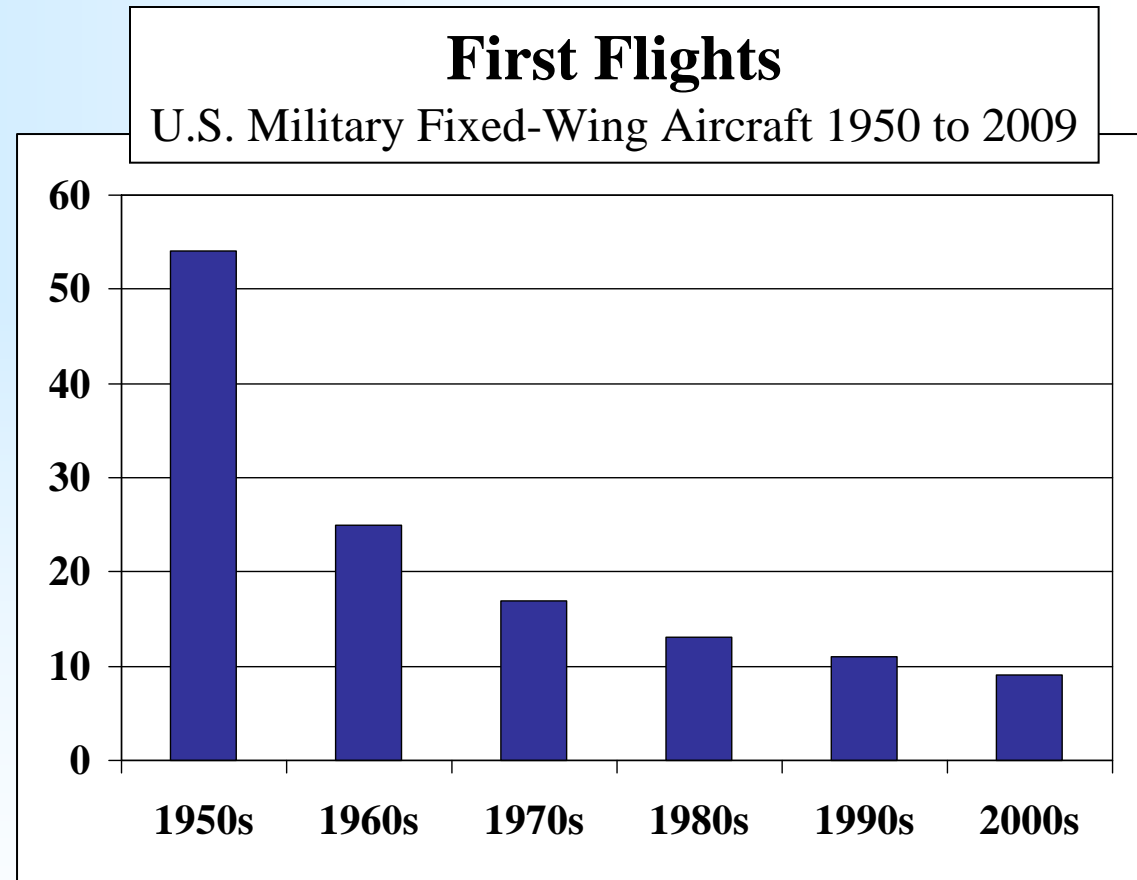
World War II US Aircraft Production

North American	41,188
Consolidated Vultee	30,903
Douglas	30,696
Curtiss	26,154
Lockheed	18,926
Boeing	18,381
Grumman	17,428
Republic	15,603
Bell	13,575
Martin	8,810
Chance Vought	7,890

Total **229,554**

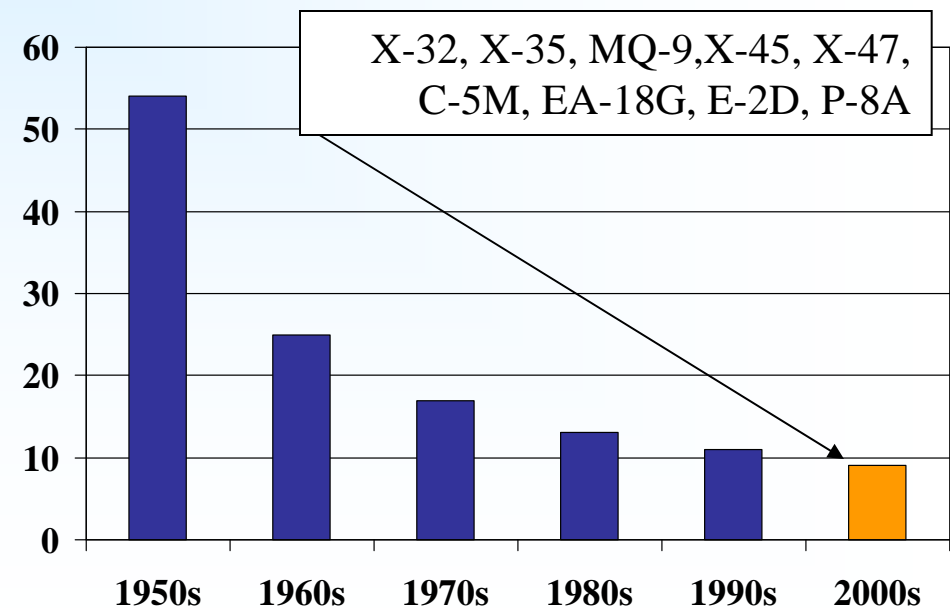
First Flights 1950 to 2009

- Continued 1940s pattern of recapitalization by system
 - Post-war market decline offset by major advances in 1947 to 1949
- 1950s to 1960s saw over a dozen firms making aircraft
- Sustained regional aerospace strengths in California and other regions
- Major aircraft programs focused airframe and subsystem design



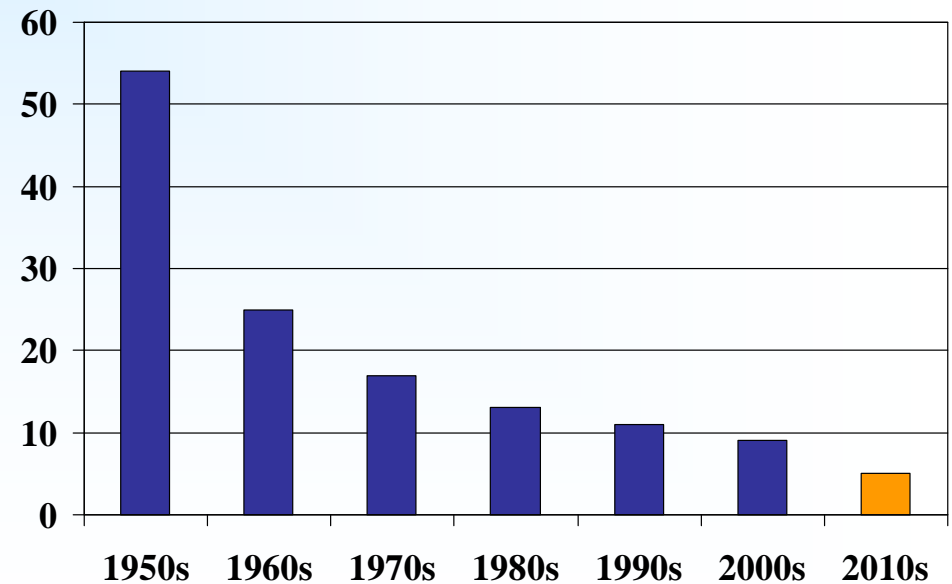
2000s

- Nine first flights through P-8A*
- One major competition for Joint Strike Fighter
 - X-32 and X-35
- Five Navy types including EA-18G, E-2D
 - Experimental aircraft like X-45, X-47 assigned to Navy UCAS
- Will dwindling programs unravel process of sustaining airpower?



2010s?

- Tanker
- Light utility aircraft
- Light attack aircraft
- Stealthy UAVs
- Innovative mobility aircraft
- No current plans for next generation bomber
- No planned fighter first flight
 - Navy F/A-XX?
 - F-22 retirements begin just after 2020



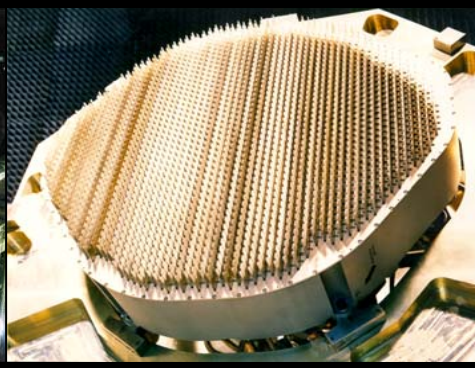
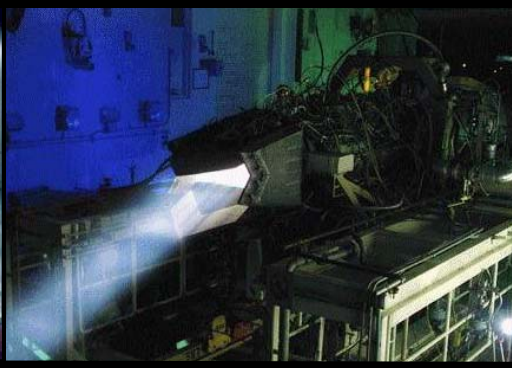
Risk Calculus in the mid-1990s



Undersecretary Kaminski, 1996:

- “We concluded from the **heavy bomber study** that with 20 B-2s, our bomber fleet size and mix will meet our mission needs.”
- “When we examined the specific industrial capabilities needed for the B-2 and previous bombers, we found there is **not a unique bomber industrial base.**”
- “The capabilities required to design, develop and produce bombers are **available in the broader military and commercial aircraft industries.** For example, all 54 of the key B-2 suppliers also supply other aircraft and/or other non-aircraft programs.”

Technology Transition

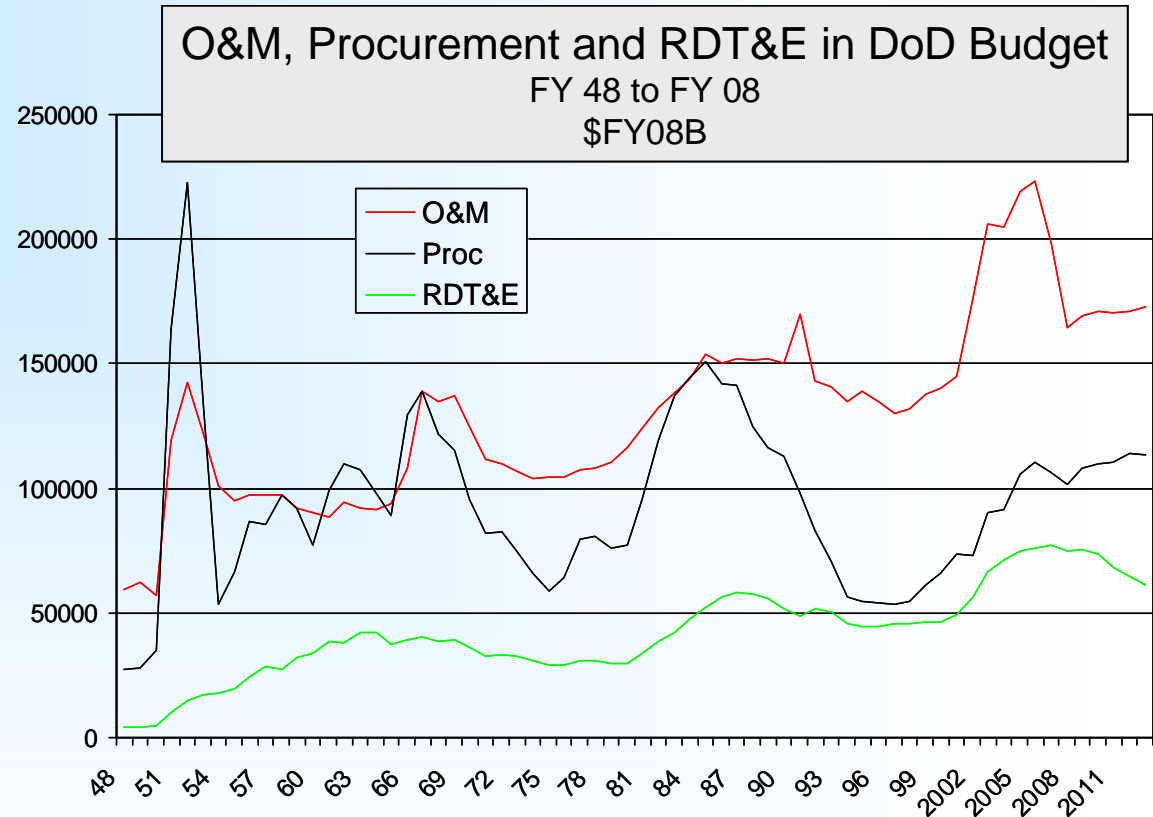


?

- Composites
- Improved stealth design and **materials**
 - Easier to maintain
- **Advanced engines**
- Radars, **sensors** and other systems
- Hypersonic platform
 - Weapons a good possibility
- Space transiting vehicle

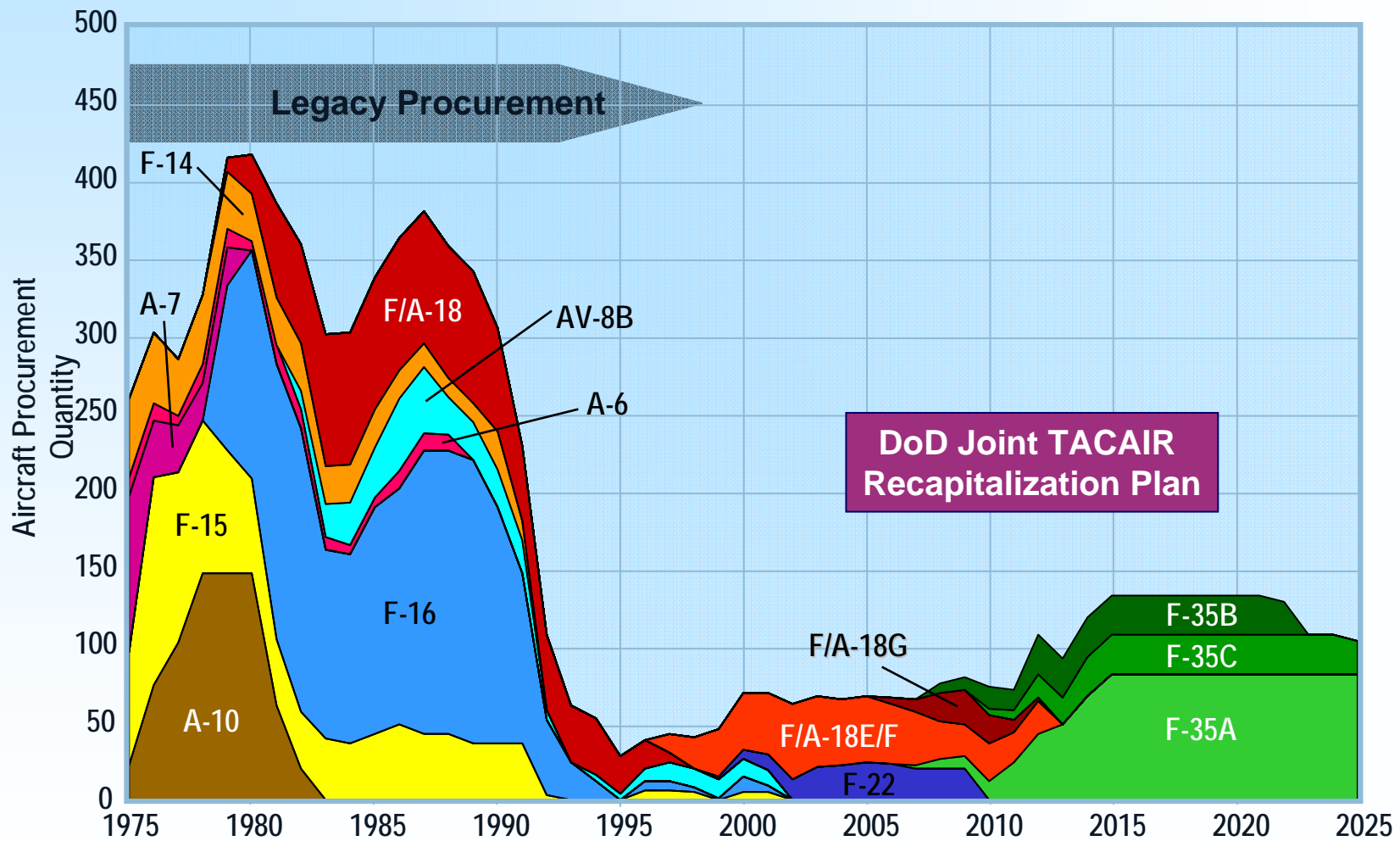
Risk Factors Today

- Defense budget and rising operations and maintenance costs
- Unprecedented gap between topline and procurement
- Failure to capitalize on investment
 - Poor “ROI”
- Lack of planned new starts destabilizes model



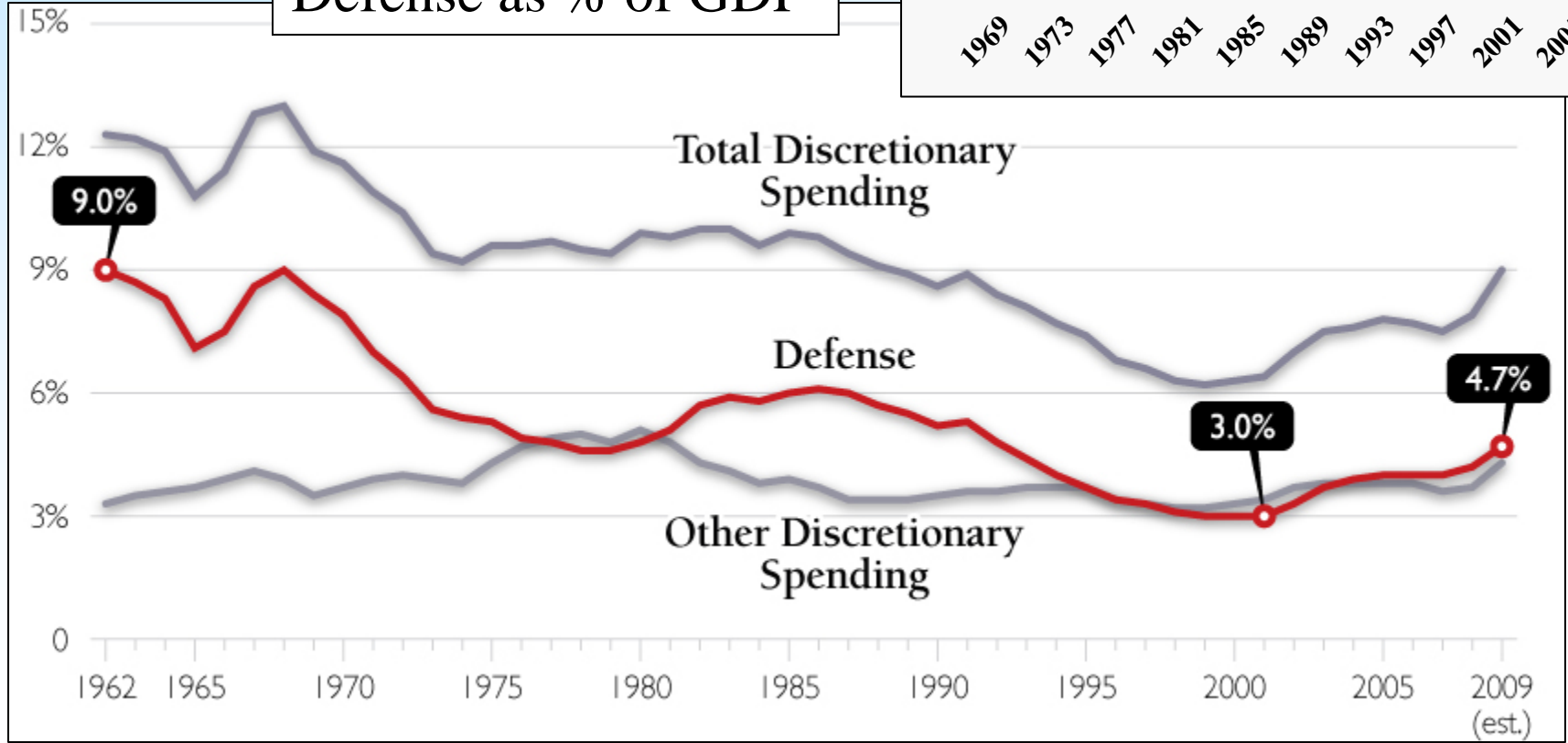
People are the most important aspect of the industrial base

Lower Recapitalization: Program Impact



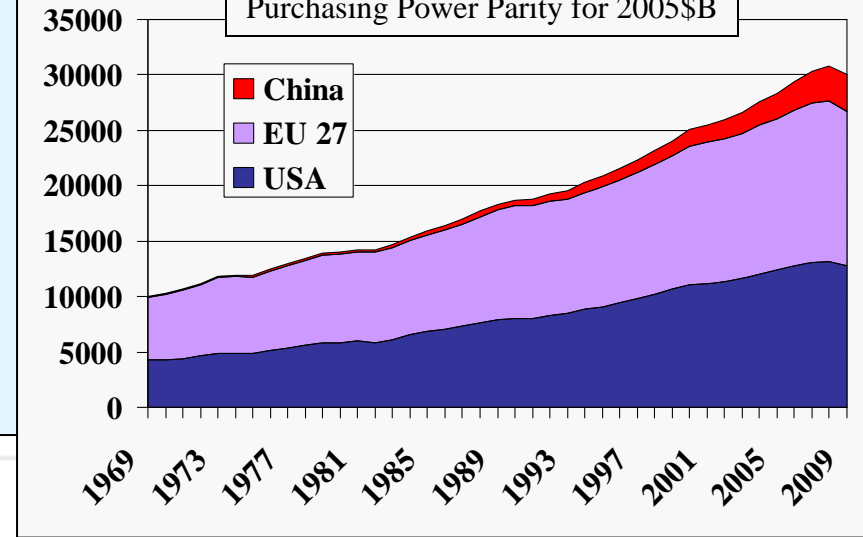
Room to Maneuver

Defense as % of GDP



GDP Growth Trends

Purchasing Power Parity for 2005\$B



Observations and Recommendations

- Keeping the “satisfactory nucleus” of manufacturers is critical
- Aerospace industry thrives on close relationship with customers
 - Only the Wright Brothers truly “went it alone”
- Core industrial policy should be lodged within the Services
 - Air Force and Navy should resume active role in assessing health of aerospace industrial base
 - Already common for shipbuilding, with < one-third of the employment of the aerospace industry
- Invest in technology, not just for “the wars we are in”

Conclusion: Dawn of the Jet Age

- Me 262 first flight 1941
- Airacomet first flight 1942
- P-80 first flight 1944
- Major production post-WWII
- Would jet age have progressed with investment focused on “the wars we were in?”

