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Desired Characteristics of the 21st Century Defense Industrial Base

Robert H. Trice

<http://hdl.handle.net/10945/33200>



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21st Century Defense Industrial Base

Acquisition Symposium

Monterey, California

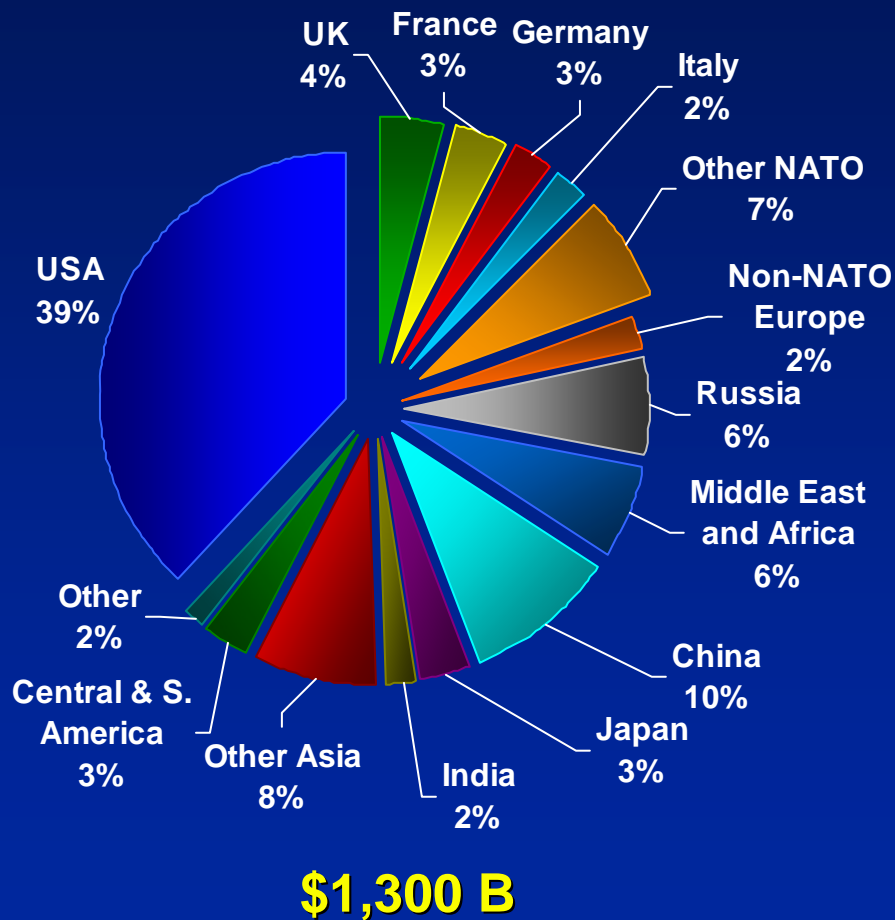
May 16, 2007

LOCKHEED MARTIN



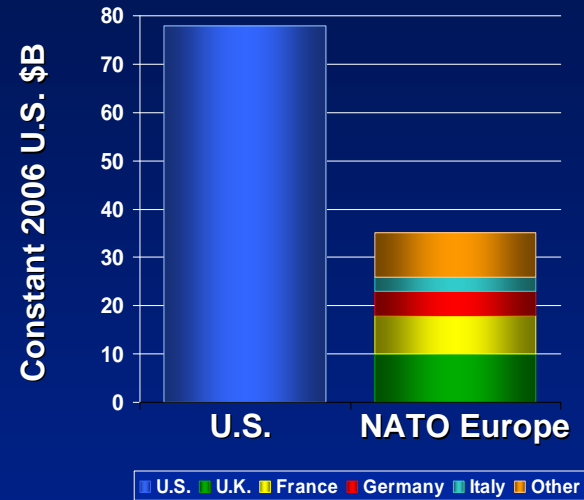
**Robert H. Trice
Senior Vice President
Business Development**

Estimated Global Defense Expenditures 2006

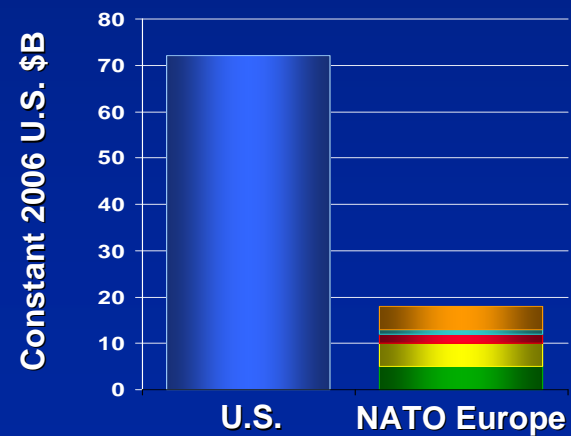


Sources: IISS *The Military Balance* and Other Estimates

Procurement



R&D



Force Structure Reductions

	1990	2006	Change
• Army Divisions	18	10	- 45%
• Aircraft Carriers	15	11	- 27%
• Attack Submarines	97	52	- 46%
• Surface Ships	546	285	- 48%
• Naval Aviation Wings	13	10	- 23%
• Air Force Wings	24	12	- 50%
• Marine Corps Divisions	3	3	- -

Source: Center for Strategic and Budgetary Assessments

US Combat Equipment – Average Ages

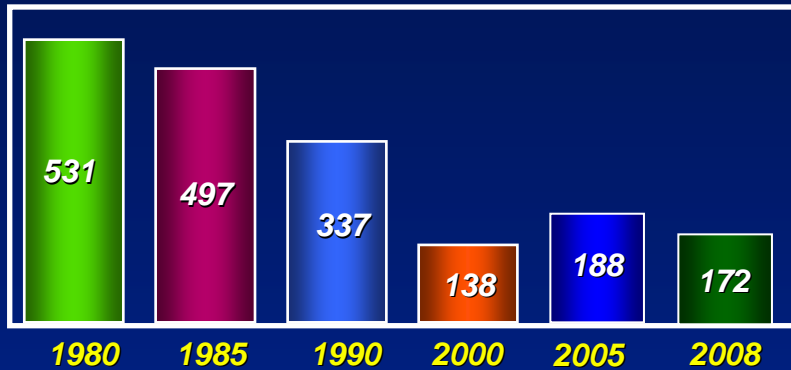
- **B-52 Bombers/C-135 Tankers** 44 years
- **C-130 Transports/H-53 Helicopters** 34 years
- **F-15 and F-16 Fighters** 17 years
- **U-2 Reconnaissance Aircraft** 22 years
- **Naval Amphibious Ships** 20 years
- **Coast Guard Cutters** 35 years
- **M1 Abrams Tanks** 20 years
- **HUMVEE Fleet** 16 years
- **Army Medium Trucks** 21 years

Sources: Air Force Association, AUSA, Navy League

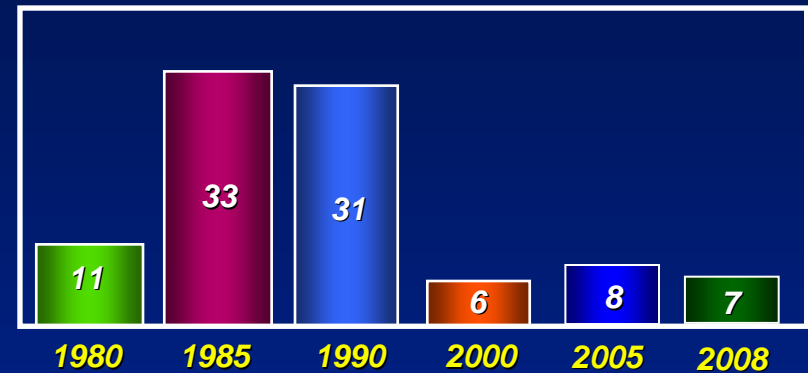
Defense Systems Procured



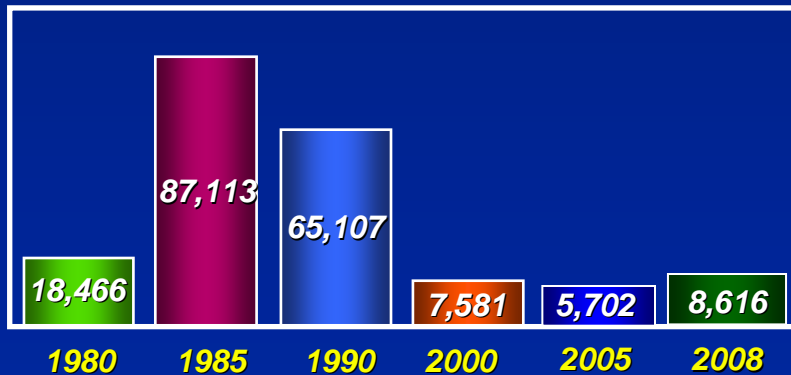
Aircraft Procurement



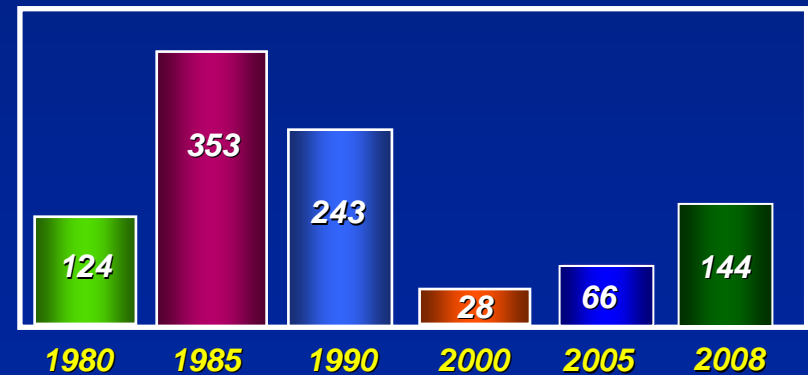
Ship Procurement



Missile Procurement

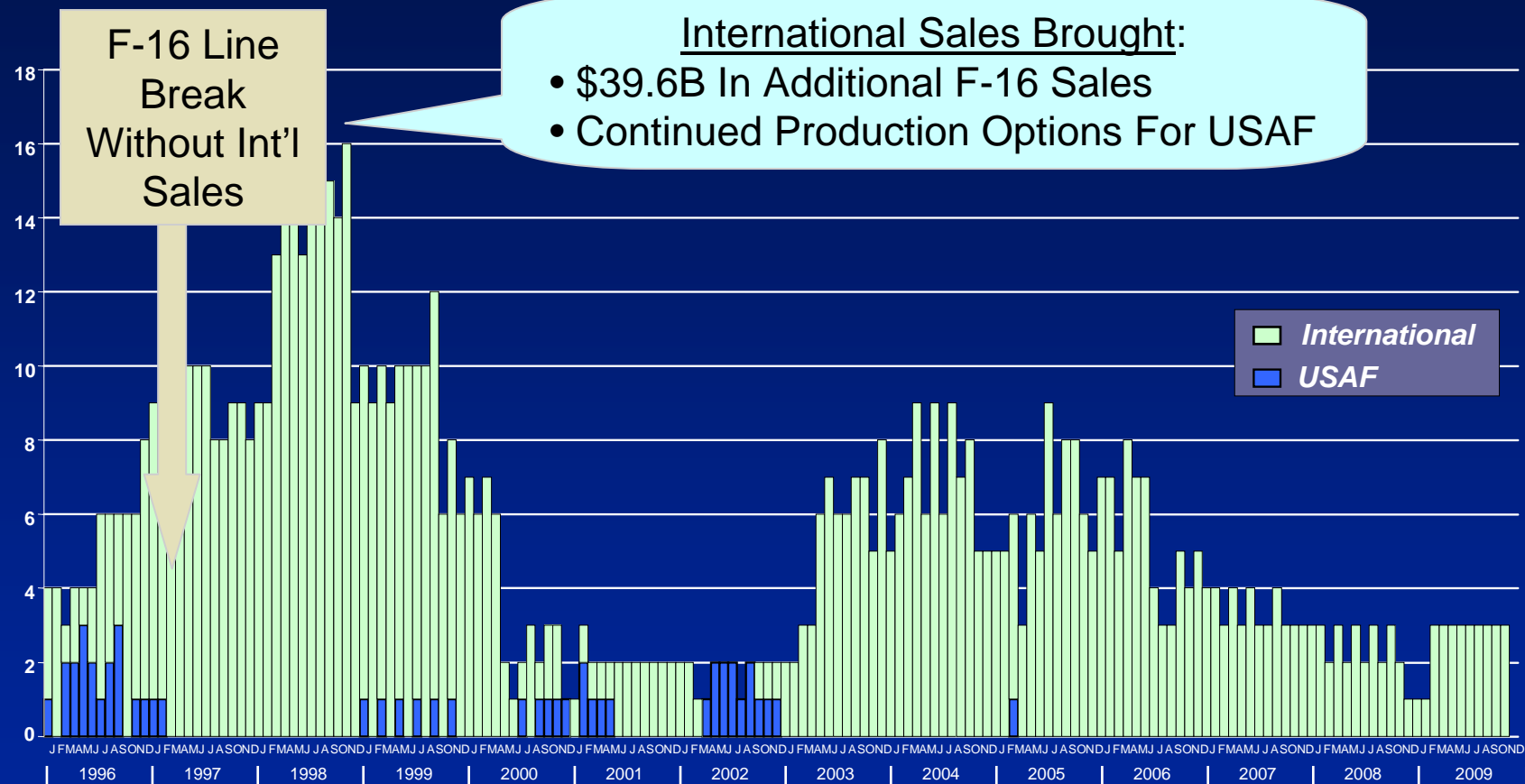


Helicopter Procurement



Source: DoD Procurement Programs P-1

International Sales Can Be Vital

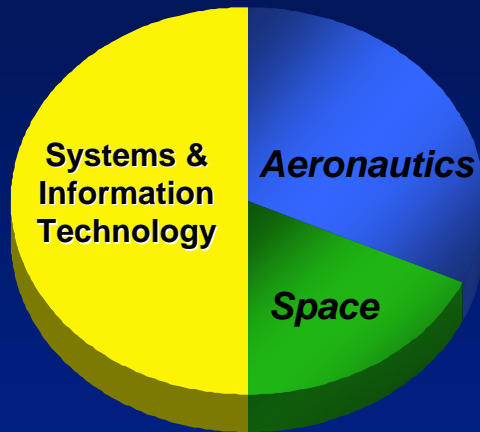


682 deliveries to 12 Countries; 32 to U.S.

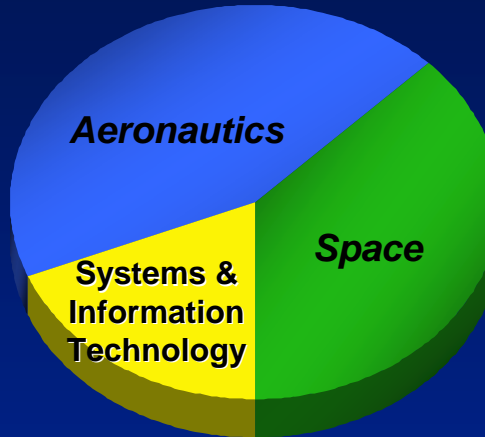
U.S. Defense Industry is Diversifying



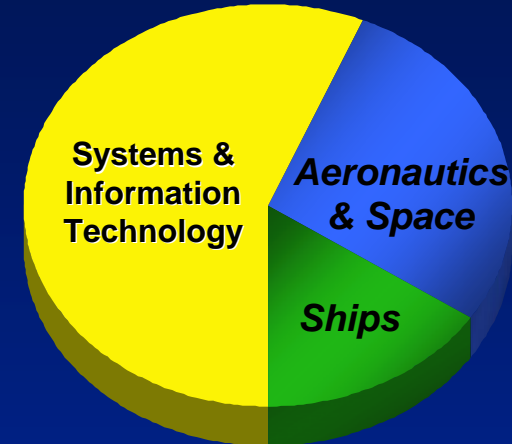
Lockheed Martin



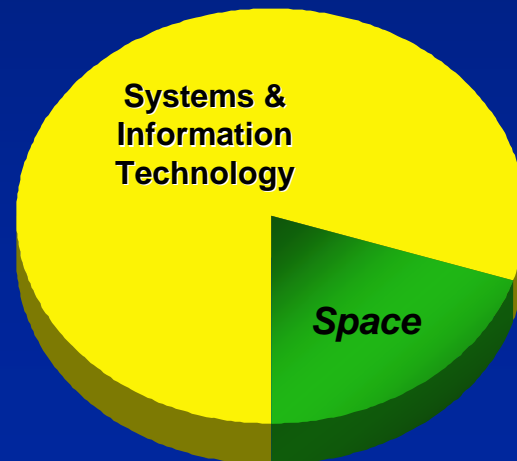
Boeing (Defense)



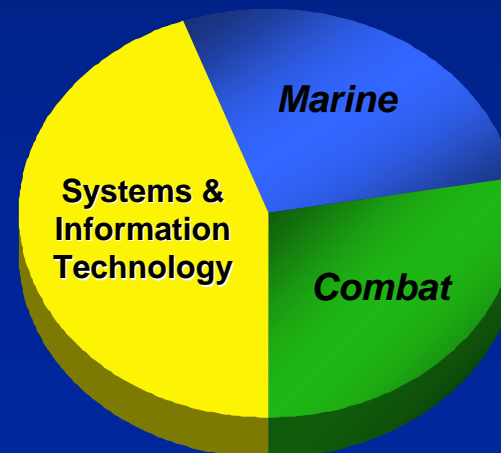
Northrop Grumman



Raytheon



General Dynamics



Note: Commercial Aerospace not included

Sources: Company Reports

Relative Dependence on Home Market



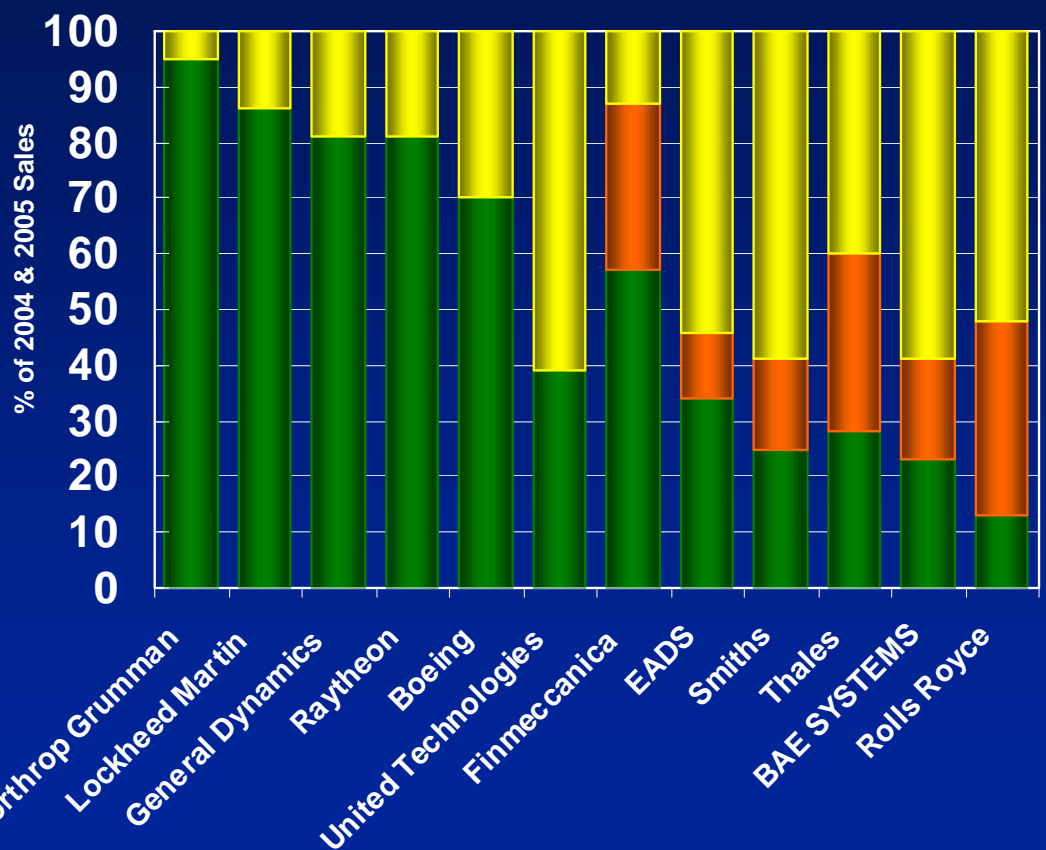
THALES

24,726 (45%)
Employees
Outside of
France

BAE SYSTEMS

Approx. 38,000
(40%) Employees
in North America

■ Home Market ■ Other Europe ■ Export



EADS

16,488 (14.9%)
Employees
Outside of Home
Countries

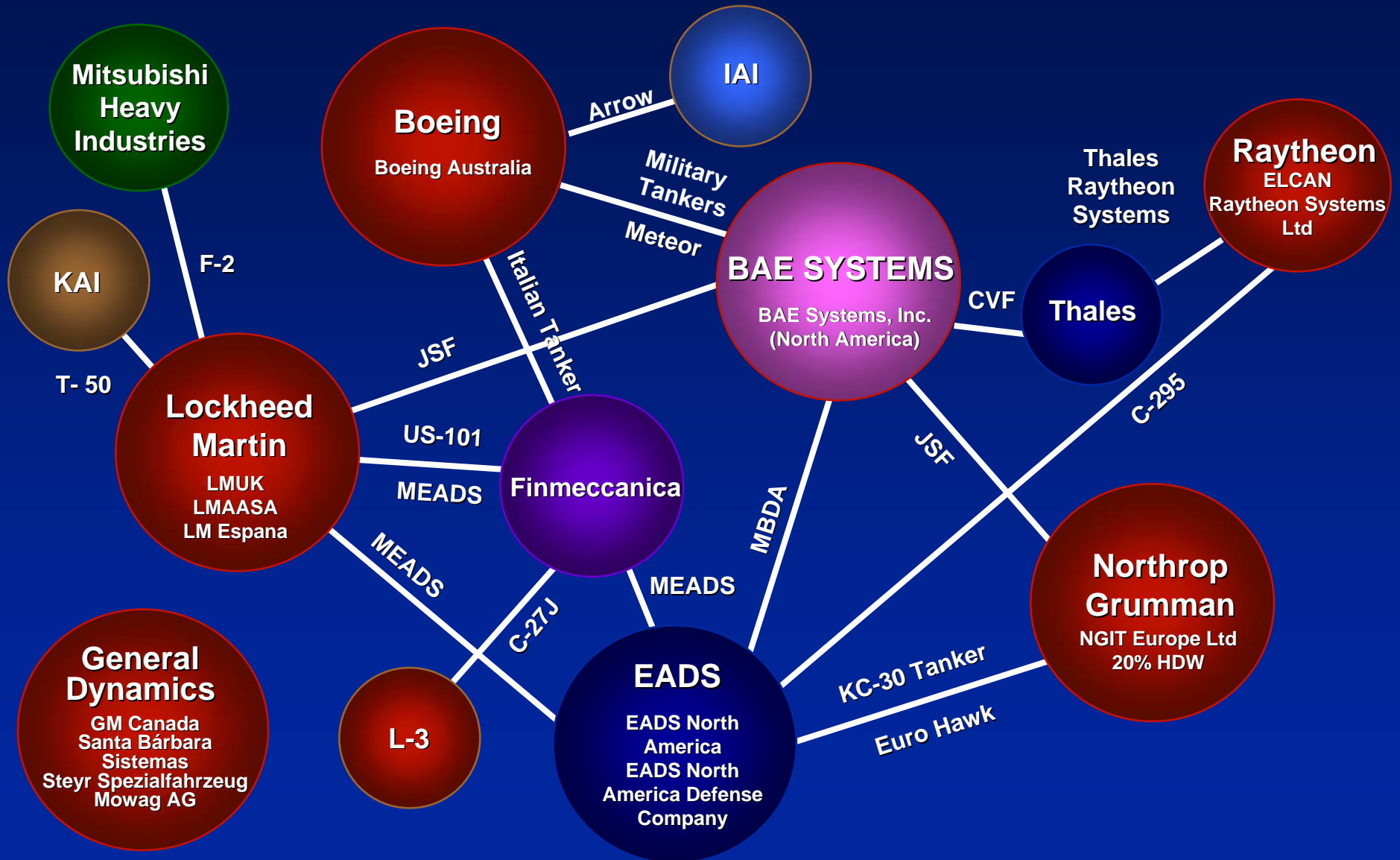
smiths

22,200 (74%)
Employees
Outside of the
the U.K.

For Europeans, ~ 75% of A&D Sales are Exports

Source: Company Annual Reports

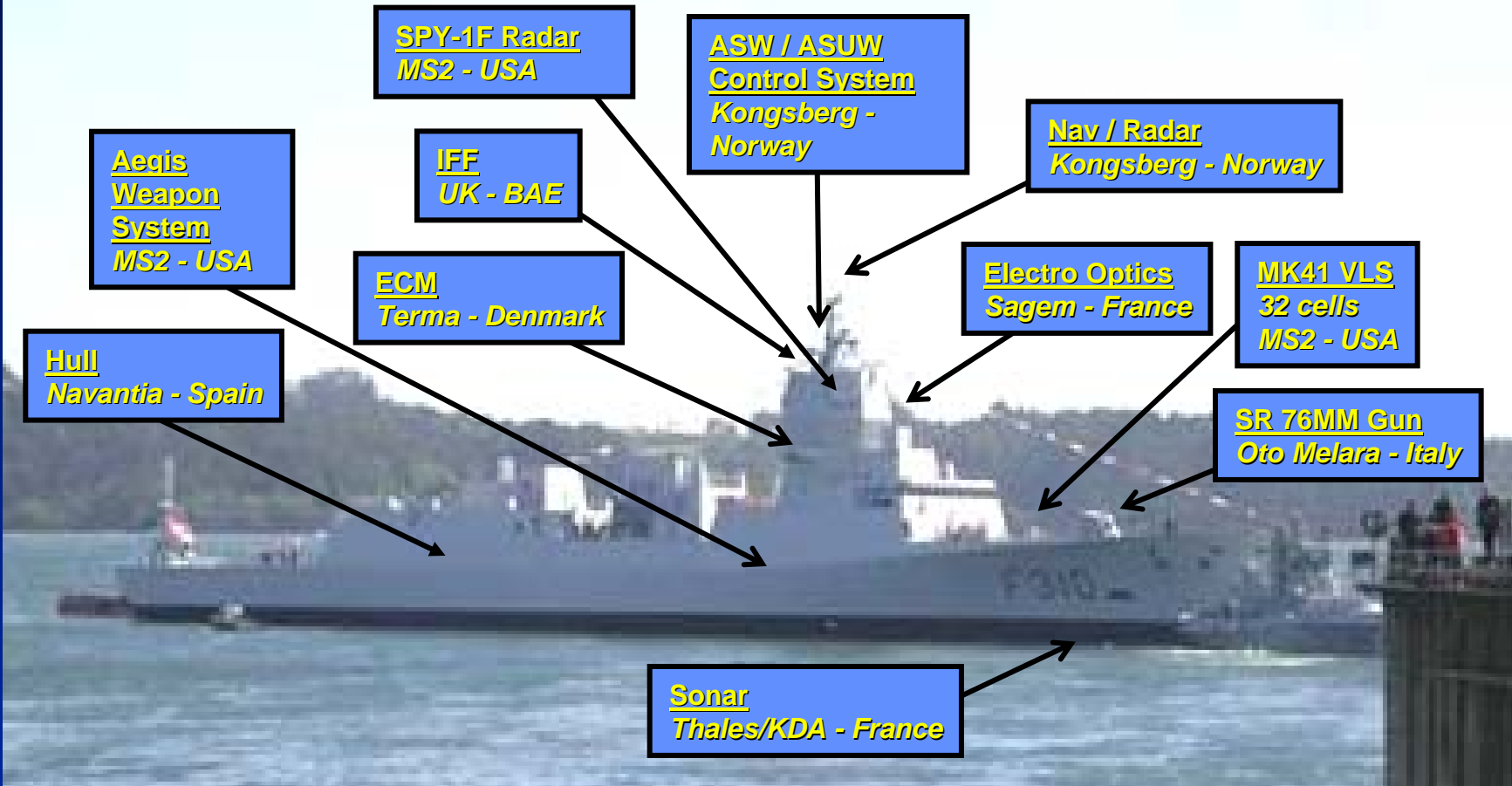
Defense Cross Border Relationships



F310 Norwegian Frigate



Fridtjof Nansen Launch – Ferrol, Spain - 2006



Robust Global Defense Supply Chain Exists
Genuine Collaboration on Defense Opportunities Expanding



New Business Models Are Required

Previous Model

- Domestic Markets
- Defense Products
- Government Funded Development
- Exports and Co-Production

Recent Models

* VH-71 * PFI/PPP * RD 180 *

* GMLRS * F-16 BIK60 *

- Defense & Civil Govt.
- Customer-Funded R&D
- International Launch Customers
- Global Supply Chain

* F-2 * C-130J * T-50 * MFTS/BWC *

Future Models



Global Products for Global Markets

What the A&D Industry Needs to Do

- **Generate Innovative, Affordable Solutions**
- **Reduce Costs with Targeted R&D Investments and Streamlined Production Processes**
- **Meet Government Customer Expectations on Cost, Schedule and Performance**
- **Retain Competitive Suppliers**
- **Leverage State-of-the-Art Commercial Technologies and the Global Marketplace**
- **Recruit and Retain a Skilled and Diverse S&T Workforce**

What Government Can Do

- **Engage Industry to Promote a Common Understanding of Defense and Civil Gov't Strategies and Acquisition Objectives**
- **Maintain Stable Program Requirements and Funding**
- **Adopt Multiyear Procurements for Mature Programs**
- **Promote a Rational Technology Transfer / Export Control Regime**
- **Support Efforts to Increase the Pool of Young, Diverse Scientists and Engineers**

