



## Acquisition Research Program: Creating Synergy for Informed Change

# **Market Dominance, Efficiency, Innovation, and Globalization: A Case Study of the Tanker Competition between Boeing and Northrop Grumman / EADS**

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# The Aerospace and Defense Industry is a Key Sector in the Global Economy

- The global aerospace and defense market had 2007 revenues of \$636.8 billion in 2007
  - The defense segment generated \$481.2 billion
  - The civil aerospace sector generated \$155.6 billion
- In 2007, the Americas contributed to 53.5% of the market value of the sector, Europe contributed 28.8%, and Asia Pacific contributed 17.7%.
- The global aerospace and defense market overall exhibited a CAGR of 4% during 2003-2007
  - The US market exhibited CAGR of 6.1%
  - The European market exhibited a CAGR of 1%
  - The Asia-Pacific market exhibited a CAGR of 3.6%.
- The largest firms by market share in the global aerospace and defense industry are:
  - Boeing (9.3%)
  - EADS (6.8%)
  - Lockheed Martin (6%).

Source of data: Datamonitor's *Global & US Aerospace and Defense Industry Profiles*, January, 2008



# Various Forces Have Re-shaped the Competitive Landscape Over the Past Twenty Years

- Reductions in defense budgets following the end of the Cold War contributed to consolidation among US defense contractors
  - The top five defense contractors in 2001 received 34% of all prime contract awards, which was the same share that the top ten defense firms in 1985 had received
  - 51 separate defense firms or units as of 1980 had been folded into the top 4 defense firms by 2001
- Shift in the US industrial base away from manufacturing and toward services
- Post 9/11 period has been marked by the emergence of a new type of threat in the form of terrorism, which transcends the boundaries of nation-states and poses significant risks to the global community
- Shift toward more transparent processes both in corporate practices in the post-Enron world and in government procurement processes
- Innovation has continued to be important for US defense contractors
  - As they compete against smaller entrants in a more open government procurement process
  - As they struggle against the concern that manufacturing is shifting overseas and away from the US
  - As they handle the dual role of foreign companies as allies in the war on terror and as competitors



# Background on the Tanker Contract

- These forces were important considerations in the controversy over the award of the initial \$35 billion contract to replace the USAF's fleet of aerial refueling tankers to a team composed of Northrop Grumman and EADS, instead of to Boeing, which had been providing the tankers to the USAF for almost 50 years
- Contract may involve the most expensive purchase in defense history, with the exception of the F-35 JSF made by Lockheed-Martin.
- Recapitalization of the USAF has become a priority. The average age of the existing KC-135 tankers is 47 years, and the planes were first put into service in 1957
  - 531 tankers from the Eisenhower period
  - 59 tankers built by McDonnell Douglas in the 1980's
- This award was to constitute the first of three awards which could, including maintenance, be worth \$100 billion.



# Background on the Tanker Contract

- The award of the contract to Northrop / EADS was announced on February 29 and was a surprise.
  - A poll of 10 industry analysts had forecast a win for Boeing
  - General Moseley (USAF Chief of Staff) noted on February 28 that he himself did not know who would get the contract.
- Boeing met with the USAF on March 7 to receive its briefing on why it lost the contract.
- On March 10, it announced that it would challenge the decision by filing a protest with GAO, which would then have 100 days to determine if the contract had been fairly awarded or if a new competition was needed
- The hearings on the contract began on May 5.
- GAO is expected to rule on the case by June 19.



# Comparison of the Two Proposals

- The winning tanker, the KC-45a, was a modification of the Airbus A330.
  - Air Force General Lichte noted that the KC-45a provided, “More passengers, more cargo, more fuel to offload” and suggested that the bigger capacity of the tanker has been an important consideration in awarding the contract.
  - The Air Force argued that the Northrop / EADS bid had done better than Boeing on 4 of the 5 criteria
- Boeing, which proposed a modification of the 767, argued that it had provided the Air Force exactly what was requested in the RFP and that if a larger plane had been required, they could have provided a modification of the 777.
  - They argued that the Air Force had changed its requirements on the amount of ramp space, etc. to keep Northrop in the competition.
  - On March 17, Boeing released a study suggesting that since the A330-200 required 24% more fuel than the 767-200ER, it would cost the USAF \$30 billion more in fuel costs.



# Should the Contract be Awarded to a Foreign Manufacturer?

- Congressional representatives from regions in Washington, Kansas, and Connecticut, which would have benefited if Boeing had received the contract, strongly protested the decision and argued that US jobs were being sent overseas and have threatened to develop a bill to block funding for the tanker.
- Labor unions, such as the Association of Machinists and Aerospace Workers, have requested Congress to enact legislation preventing the US from awarding contracts to overseas companies receiving government subsidies, since the EU has been accused of providing subsidies to Airbus.
- Senator McCain, “I’ve never believed that defense programs should be—that the major reason for them should be to create jobs. I’ve always felt that the best thing to do is to create the best weapons system we can at cost to taxpayers.”



# Should the Contract be Awarded to a Foreign Manufacturer?

- In fact, while 85% of Boeing's tanker would have been made in the US with 44,000 jobs, the tail would have been made in Italy and the fuselage in Japan
- About 60% of the Northrop / EADS tanker would be made in the US, and 48,000 jobs would have been created nationwide, especially in Mobile, AL, where the final assembly work would occur.
- EADS has already spent \$500 million to build an engineering center in AL and plans to not only create 48,000 jobs by assembling the KC-45a, but also to work on the A330 there, which would create an additional 22,000 jobs. The facility will be the third largest manufacturing facility in the world.





# Should the Contract be Awarded to a Foreign Manufacturer?

- Defense Secretary Robert Gates stated that “defense manufacturing is a global business” and officials have expressed concern that if Northrop / EADS lose the contract, other countries could retaliate by buying fewer US weapons.
- Boeing is an example of a global firm in that it makes weapons systems for other countries, so its hard for it to argue that its unfair for a government to outsource a contract to a foreign supplier.
  - Sells C-17’s to the UK, Australia, and Canada
  - Sells F-15’s to Japan, Korea, and Singapore
  - Sells aerial refueling tankers to Italy and Japan
  - Boeing’s 2007 revenues were \$66.4 billion:
    - \$27.1 billion came from commercial and military sales overseas.
    - Sales to Europe comprised \$6.3 billion of which 16% came from sales to the military
    - About 13% of its total revenues from defense production came from overseas and included contracts to produce rockets in France, “early warning” systems in South Korea and Turkey, and helicopters in Saudi Arabia, Israel, and Egypt.



# Should the Contract be Awarded to a Foreign Manufacturer?

- All classified military technology would be installed by Northrop after the aircraft was assembled so that EADS would not be handling it
- Foreign contractors have worked on other key US defense contracts.
  - EADS has been working on a \$2 billion Army contract to replace 345 Huey helicopters, in addition to providing the Coast Guard with radar systems and search / rescue aircraft
  - Presidential helicopter was partially built by Italy's Finmeccanica
  - Britain's BAE Systems has been involved in a number of projects since it purchased United Defense Industries in 2005.



# Have Boeing and EADS Competed Against Each Other Previously for Tanker Contracts?

- Since 2001, Boeing and EADS have faced each other in competitions for tankers in 6 countries
- EADS has won 4 of the competitions to supply a total of 25 planes (Saudi Arabia, UAE, Australia, Britain)
- Boeing has won in Italy and Japan to supply 8 planes
- EADS has won many of these competitions by manifesting the traditional behavior of a successful entrant in being innovative and in absorbing risk, while Boeing has behaved like a traditional incumbent
  - Example 1: EADS' willingness to assume financial risk in constructing planes and leasing them when it won the \$26 billion contract in 2004 to replace the UK's tankers
  - Example 2: EADS' willingness to use its own R&D money to test and develop a boom in the Australian competition



# Impact on Boeing

- Is this part of a gradual erosion in Boeing's defense operations? Will the force of its protest disrupt its long-term relationship with USAF?
- Will Boeing's loss of its traditional role in building USAF tankers put it at a disadvantage in other competitions?
  - Possibly, since if the trend continues in which EADS wins the competitions, the countries supplied by Boeing—Japan and Italy—may end up with “orphan fleets” which will have higher maintenance costs than if Boeing had developed the scale economies in costs to maintain the parts through obtaining other contracts
  - As other potential customers see the higher maintenance costs, the cycle will become self-reinforcing
  - In itself, the loss of the contract should not affect Boeing, since it would only lose 12-18 tankers per year, although in the long run, it's a large contract



# Other Factors Impacting Boeing

- Boeing recently announced a further 6 month delay for its new, more fuel-efficient 787 Dreamliner (the third delay). Originally planned to deliver 112 of its 787's by the end of 2009; now they plan to deliver 25.
- Over 50 airlines are waiting for 892 Boeing 787's and are lining up to ask for compensation.
- Japan Airlines and ANA, which are customers for the 787-3, which has been indefinitely delayed, may have to overhaul their entire strategy for dealing with the higher fuel costs. Indeed, they may switch to Airbus.
- Cost of penalties could exceed \$4 billion and higher R&D costs will squeeze its cash flow
- The future of the C-17 is in question, since the Pentagon has not recently added any new planes and Boeing is itself funding the production of 30 extra planes
- Nevertheless, their quarterly profit of \$1.62 beat the analysts average forecast of \$1.36 per share and their full year profit target is unchanged



# Impact on EADS

- May have a greater capability to penetrate the US defense market and to win other competitions
- Winning the contract will provide EADS with a much-needed boost because it has been struggling.
  - Weak dollar: EADS sells airliners in dollars, but often pays suppliers in euros.
    - Has hiked prices beginning May 1 due to the 6.5% increase in metals prices and the 17% decline in the dollar against the euro over the past 12 months
    - Plans to shift production more into dollar-zone countries
  - Financial impact of its delays with the A380 and the A400M
  - But, it has delivered 26 helicopters to the Army on time or ahead of schedule and is transferring production work from Germany to Mississippi.



# Impact on the Government Procurement Process

- Suggests that the government procurement process does not always favor incumbents and that there is an increasing emphasis on obtaining the most appropriate product at the best cost
- If the tanker's funding is successfully blocked by Congressional reps who did not support the award to Northrop / EADS, then it will suggest that the political landscape can overturn a decision made by defense procurement experts weighing the costs and benefits
  - May lead to contractors being less likely to make the investments necessary to produce the best product at the lowest cost
  - May result in contractors focusing on locating production in states with powerful Congressional representatives
  - Could lead to a reduction in innovation due to the shift away from quality and toward political considerations



# Conclusions

- The tanker competition embodies many of the key debates across industries in the US economy
- The award of the contract to a foreign manufacturer highlights the recognition that the defense industry is global and must respond to a wide range of threats to the global community.
- Boeing's focus on its pre-existing tanker models and the degree to which they met the RFP is indicative of the behavior of a traditional incumbent
- EADS is exhibiting the innovative tendencies and flexibility of a successful entrant
- Arguments that US jobs would be lost are often made to protect declining industries or failing incumbents. These arguments often don't examine why the industry or firm is uncompetitive and do not aid in the development of strategies for improvement.
- Hopefully, the outcome will reinforce the move toward more transparent processes, innovative and low cost products, and the recognition of a global defense environment.

