Executive Roundtable:

Transforming the Industry to Assure the Future

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Phoenix, AZ
October 25, 2011

Beginning in 2004, the Aviation Week Executive Roundtable has brought together leaders from across industry and the government to discuss the issues most pressing in assuring delivery of quality systems to end-users. For 2011, t his conversation takes on renewed urgency as economic pressures mount for society as a whole and specifically for A&D customers globally whose funding comes from taxpayers.

The 2011 Executive Roundtable was hosted by Gene Fraser, Sector VP for Engineering and Technology at Northrop Grumman Aerospace Systems, and Tony Velocci, editor in chief of Aviation Week & Space Technology. Siemens PLM Software sponsored the roundtable, in conjunction with Aviation Week.

Core topics for the roundtable included

- **Understanding and managing the customer's need for affordability, beyond just cost, to assure best value for all stakeholders.**
- **Determining a cohesive message on the need to preserve innovation in an economic down cycle.**
- **Maintaining a strong manufacturing base (capacity and capability) as defense production shrinks.**

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- **Developing near-term strategies to move the effort forward versus continued paralysis.**

Participants in the roundtable divided into seven small discussion groups to respond to a list of questions in these areas. Each group presented its findings to the roundtable, and participants then selected the areas of highest priority. These actions will be referred to associated governance bodies and used by individuals as they move their organizations forward.

Participating in the roundtable were individuals from CPI Aeroframe, Aurora Flight Sciences, EADS N.A., Northrop Grumman, Boeing, Oracle, Oak Ridge National Laboratory, Deloitte, DelTek, Industrial Tool Die & Engineering, Lockheed Martin, BAE Systems, Hi-Rel Products, NASA, Plasma Ruggedized, IBM, Rockwell Collins, Raytheon, Honeywell Aerospace, Maritime Helicopter Support Co., Defense Acquisition University, Pratt & Whitney, L-3 Communications, Samford Global, Rolls-Royce and Siemens PLM Software.

The highest priority actions include:

- Identify and implement alternative business models across industry – using joint ventures, strategic partnerships, academic and economic assistance from government as the framework.
- Enforce discipline in innovation processes that support the business case.
- Work toward longer-term contracts to improve stability.
- Work with government customers to shape priorities and prevent a “peanut butter” spread approach to cost cutting.
- Steer a portion of DoD funding toward value engineering.
- Push for continued export reform to help assure best cost at higher run rates possible through foreign military sales.
- Align incentives among users of our products/programs, acquisition officers and business.
- Manage the ongoing consolidation of the industry.
- Push for better management of fleet support of systems (spares/parts/services) to achieve immediate cost savings.
- Build the case for the defense Department picking winners and losers (programs) now. Continued uncertainty is undermining investment and parts of the supply chain.

Details of the table discussions follow.

Table 1

Affordability from our perspective is getting what you want for what you pay.

- In the past the government obtained price certainty for a product it defined.
  - Now, government wants the same product in smaller quantities but at a lower cost.
  - Requires balance of what the government must have versus what it must live without
- It is easier to attack cost on a program-by-program basis, versus the smarter, more strategic approach of what the customer can afford across the portfolio
- The uncertainty of which weapons programs the government will support is weakening capability; the Defense Department needs to choose which programs are going to survive a soon as possible.
- Achieving alignment between buyer and seller (including the extended supply chian) is not as simple as employing longer-term contracts. It will require acceptance of investment, a reasonable return on investment and alignment of all stakeholders.
- Industry will have to demonstrate how to lower prices, create a quality product and still earn a return for shareholders; government cannot do this.

Group 2
How can we shift the conversation to best value vs cost cutting?

- In the future
  - Comparisons with next best alternatives
  - Value engineering.
  - Overall service cost vs per unit cost.
  - Add section to all proposals on value (including methodology and metrics).
  - Insist on fewer requirements per RFP.
- Role of international business and how to enable international as part of building a strong business case.
  - Allocate non-recurring engineering for additional capabilities needed for foreign military sales; the FA-18 is a good example, with initial cost borne by U.S. but additional capabilities allocated across all sales, including foreign military sales.
  - Virtual fleet sustainment – drives down cost if supports/spares/parts are shared across the fleet.
  - Fewer but higher regulatory walls.
- What one thing needs to happen in next 12 months for your operation to succeed?
  - Funding stability – but that won't happen.

- Avoid redundant and unused reviews – the disruption, time and cost are not visible.
- Provide clarity. Pick the survivors and move on, versus eroding the enterprise's strengths and capabilities.

Group 3

- **What are the most significant challenges A&D enterprises face?**
  - Uncertainties around Defense Department plans.
  - Next generation of aerospace and defense engineers being impacted by decisions being/not being made.
  - How does a business reward a long-term view during a downturn?
    - In many cases, trying to maintain margin results in losing critical technological capability, making a bad situation worse in terms of recruiting and retaining talent.
  - Managing the ongoing contraction in a constructive way that doesn't threaten the industry's future.
- Solutions
  - Industry can help shape Defense Department priorities
    - Specific vs. "peanut butter" spread cuts.
  - Identify redundant and non-competitive core capabilities, and package to assure cost effectiveness (e.g. do we really need a different power supply for each program?)
  - Sharing of research, development and engineering – determine how much technology we license prudently? Just as important, though seldom asked, is how much technology did we license into our organizations or for use domestically?
  - Value engineering – provide younger professionals an opportunity to learn/gain experience while saving money.
  - Develop tools that accelerate cycle for innovation – we believe we are poised to acquire highly effective tools that will allow concurrent collaboration.
  - Internal to each organization, rationalize RD&E spend and focus – buying expertise would be more efficient use of some RD&E and would allow industry to move more quickly *and* focus on all-new technologies.

Group 4

Preserving Innovation

- If this is a two-year down cycle, there is no time to make systemic changes to innovation process – we are more likely to spend less and innovate less.

- If it is longer term, companies must take risks and spend money on best bets for unique positioning in areas identified by military customers.
  - Are military users in agreement with strategy put forth (core tech areas) by Office of Secretary of Defense?
- Need to expend innovation effort on developing alternative business models.
  - Consolidate some innovation capacity via joint ventures or strategic partnerships between members of industry.
  - Industry and government partner for innovation.
  - Industry and academia partner (European Union 7 framework and Canada/Pratt & Whitney models as examples).
- Create and close the business case on innovation process more effectively.
- Assure processes and environment to stimulate ideas about new markets, new technologies and how to transform.

Group 5
What are the missing links or gaps that are challenging the industry?

- The defense sector is burdened with excess capacity, which will result in the closure of some facilities and layoffs, while the commercial side is adding capacity and hiring. At the same time, to gain access to foreign market, there is the expectation that companies will invest in developing capabilities and talent in host countries.
- There is an ongoing requirement for companies to build capabilities and expertise in advanced materials.
- Incentives need to be developed to fuel innovation and development (tax credits/deferrals).
- There will continue to be consolidation within the industry, especially among lower-tier suppliers, and the impact needs to be assessed and investment made, with an eye toward global competitiveness.

Group 6
What must be done to advance critical manufacturing capability and innovation?

- The sheer complexity of requirements is stifling innovation and capability throughout the value chain (competing sets of requirements from DoD customer).

- Innovation investment would go further if key data sets were standardized – a single part being manufactured may utilize three different data sets for three different depots; modeling cannot handle the associated added cost effectively.
- When was the last time a regulation was retired?
- Supplier input and the role of government customer with the supply chain should be defined.
- ITAR needs to adapt to the desired speed of business
- There currently is no strategic vision of manufacturing for the industry, as there was in the case of the manufacture of ball bearings during World War II, and Sematech and the semiconductor industry in the 1980s. Today, what does the government perceive as most important, and how does it intend to resolve this shortcoming?
- In the next 12 months, we probably will not see funding and requirements stabilize. Nor are we likely to see much additional ITAR reform, but we will see additional consolidation.

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