



AVIATION WEEK EXECUTIVE ROUNDTABLE:

ANNUAL ISSUES REVIEW & PLANNING

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AVIATION WEEK'S Executive Roundtable convened for the fourth annual meeting October 30, 2007. The annual event focuses on identifying key initiatives to be undertaken by industry leaders focusing on resolving industry-wide issues affecting program performance. Held in Phoenix, Ariz., the Executive Roundtable was led by its new chairman, Christopher M. Chadwick, VP/GM Global Strike Systems, Precision Engagement and Mobility Systems with Boeing Integrated Defense Systems, and Anthony L. Velocci Jr., editor-in-chief, AVIATION WEEJK. Chadwick replaces Charles T. "Tom" Burbage, VP/GM global integration for the F-35 Lightning II, Lockheed Martin Aeronautics Co. Burbage had chaired the AVIATION WEEK Executive Roundtable since its launch in November 2004. The AVIATION WEEK Executive Roundtable series has been hosted by Siemens Product Lifecycle Management Software (formerly UGS PLM Solutions) to focus senior leadership attention on common industry challenges, potential solutions and best practices.

The 2007 AVIATION WEEK Executive Roundtable, hosted by Siemens PLM (formerly UGS), was shaped around forming an accomplishable action plan surrounding several critical issues to the industry. Lead among these is the initiation and successful formation of global collaborative teams, people capabilities and staffing issues, continuous operational improvement, and 21st century enabling technologies, capabilities and business strategies.

Chadwick challenged the group to look beyond specific program or business issues to address the

factors all programs and business have in common. Operating in a global environment is key to this challenge, he noted, making it a requirement for the entire aerospace and defense industry to develop this ability.

AVIATION WEEK Executive Roundtable participants included representatives from NASA, the Office of Secretary of Defense, U.S. Army Aviation, U.S. Air Force Research Laboratory, Boeing, Honeywell Aerospace, GE Infrastructures, Airbus, General Dynamics, Lockheed Martin, AAI, IBM, General Atomics Aeronautics Systems, Northrop Grumman, Pratt & Whitney, Rockwell Collins, CSC, PricewaterhouseCoopers, Embraer, Bombardier, Mitre, L-3 Communications, EuroControl, and Siemens.

Executive Roundtable findings, on which future actions will be developed, included:

- Identification of core competencies required and in demand to accomplish program performance
- Identification of leading indicators to signal success/problems with global coalitions
- Identification of the industry's greatest vulnerabilities in achieving continuous improvement.
- Form industry forum of all major OEMs to drive common standards to facilitate global, secure, seamless collaboration across the entire lifecycle and complete value chain.

Core Competencies/People

Company leaders identified core competencies and lead indicators of staffing issues within the aerospace and defense industry.

The core competencies for critical skills to perform to the work of today and the future include:

- Systems engineering and systems architecture
- Program/Project leadership
- Avionics
- Embedded software
- Core physics
- Analytics
- Financial analysis and management

Outside basic domain expertise, the Executive Roundtable indicated a high degree of need for cultural awareness, the ability to negotiate to common language and process (imperative to global collaboration), team building and a mentality of shared destiny, integrity and surfacing/addressing problems without killing the messenger.

Indicators that a collaborative team is missing any one of these core competencies include:

- High degree of staffing changes outside of plan
- Technical readiness appropriate to the work to be achieved (beyond Software Maturity, etc.)
- Technology/knowledge reuse estimated and actual
- Risk mitigation progress to plan
- Supplier readiness and stability
- Review participation by appropriate stakeholder leaders
- Inch-stone, as well as milestone, achievement
- Customer confidence

The actions identified to address the core competencies and indicators include:

1. Share competency requirements with academia
2. Develop metrics regarding lead-indicators and seek standard to assist in program/project leadership and evaluation
3. Source methodology with regard to Customer Confidence Index
4. Integrate cultural awareness/geopolitical intelligence as part of professional development.

Create 21st Century Capabilities, Enablers

The ability of any government entity to build 21st century capabilities was a key point of discussion, with the Executive Roundtable leaders agreeing that the true role of government would be limited to

- Funding basic scientific research
- Developing a cooperative (State Dept., Defense Dept. Commerce Dept.) and consistent process for ITAR approvals
- Reviewing other policies and impact on global imperative (e.g. the Berry Amendment which was initiated in support of the utensil/flatware industry)
- Government customers identifying standard data and requirements commonality in the pre-Request for Proposal stage so as to level the RFP and bid process on a standardized format.
- Working with other governments to establish common standards where possible (e.g. air traffic management where the U.S. and Europe vary in systems developed/required)

From an industry responsibility stance, the group identified the key indicators of successful global collaboration as:

- Best practice sharing across industry and with other industries concerning true supplier integration.
- Latency of data
- Core metric understanding and visibility, and performance at every level of supply chain
- Level of change requests from customer through supply chain
- Evidence of virtual teaming (immediate feedback, lag time, etc.)
- Alignment of processes across global team
- Establish methods to develop personal relationships based on business and that alert leaders to dysfunction.

Leaders also discussed critical vulnerabilities to global collaboration. The core action item in this area involved additional staffing and competency – operating outside the immediate work task to constantly monitor and address as opportunity or risk. Also:

- Culture – not just distance but also what we hold important and if in fact we are communicating versus talking/writing
- Security of data that is core to each organization and country
- True win-win contracting is difficult
- Complexity of supply chain and asset visibility
- Political stability
- Non-standard information technology
- Quality standards accepted at every level of supply chain and equal in meaning
- Impact of outside/natural factors on supply chain (shipping strike, hurricane/fire, etc.)

Maintain Focus on Continuous Improvement

The Executive Roundtable participants noted that the industry has integrated an understanding of

continuous improvements and its necessity. However, economic change and future budgetary constraints will be the true test of how well the industry has embraced continuous improvement as its base strategy.

Among these tests, or vulnerabilities, will be the commitment exhibited to both the supply chain and customers in a downturn. For that reason, leaders focused on meeting the current high demand in a manner that will support long-term stability of the industry. A base concern is the ability to flex to meet surge in a LEAN environment (just-in-time delivery versus inventory allowing for flex). Added to the vulnerability list was % required customer-off-the-shelf mandates and impact of technology evolution and obsolescence.

Key actions to create stability and drive continuous improvement while responding to demand identified were:

- Continue global collaboration that allows for the spread of risk
- Integrate the supply chain from program development through sustainment
- Work with government customers to track money saved/costs avoided to be reinvested to increase efficiency – increase dollar visibility throughout program life
- Extend reach of performance-based contracting through additional supply chain tiers.
- Remove arrogance in identifying and accepting technical capability and availability outside the A&D industry.
- Accept changing workforce requirements that focus on mobility, independence and gaining relevant experience that can be used in any industry.

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In November 2006, AVIATION WEEK presented Siemens PLM Software's TeamCenter the 2006 Product Breakthrough Award in the defense design category, recommended by a panel of industry experts and cited for its impact on the Lockheed Martin F-35 Lightning II program, the Boeing F-18 program and many others.