

Albaugh on NCO

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also in the workplace.

Jim Albaugh, Boeing Integrated Defense Systems president and CEO, recently spoke to *Boeing Frontiers* about IDS' transformation into a network-enabled company, the challenges this presents and the company's success in delivering NCO solutions to the customer. He also discussed the significance of NCO to enhancing Boeing's core capabilities and competitiveness now and in the future.

Q: Looking at aerospace over the last 100 years, there have been a number of major defining moments. Does NCO represent the next major milestone?

A: There have been four defining moments in aerospace, starting with Kitty Hawk [N.C., the site of the Wright Brothers' first flight] in 1903, then World War II, the Jet Age, and going to the moon. I think a fifth defining moment may be happening today with network-centric operations. NCO is the intersection of aerospace and

information technology. Its application to individual platforms offers remarkable benefits in terms of improved capabilities, lower costs and meeting the needs of the customer.

Q: How has IDS embraced and applied NCO to the way the business unit operates, and what more needs to be done?

A: Business Excellence (an IDS initiative that focuses on improving every day and executing better than competitors do) will drive us to common processes and eventually to becoming a network-enabled organization.

This will allow us to bring to bear the capabilities of many different sites and businesses to providing solutions for our customer. We have already demonstrated the ability to act as a network-enabled company on programs such as Future Combat Systems and Ground-based Mid-course Defense.

We have charged Howard Chambers (vice president, Program Management and Independent Review) to make sure that as we adopt Business Excellence and apply the Malcolm Baldrige (quality award pro-

gram) criteria, NCO is the future state.

Q: What is the biggest impediment to becoming truly network-centric?

A: The resistance to NCO always comes back to the question, "Is there a desire to change?" I think everyone believes in NCO and in common systems, particularly if the systems are theirs. To be successful with NCO and common processes often requires suboptimization at lower levels in order to optimize at a program, company, or national security level. This takes buy-in by the Pentagon,

elected officials, Boeing as a defense contractor and our executive leadership.

Q: How has IDS adapted to embrace NCO?

A: Future Combat Systems and the use of the Advanced Collaborative Environment system is the best example of how we have organized ourselves and tailored processes to support a network-enabled approach to program execution. We have the ability to use a common database and apply common tools across multiple sites in the development of complex systems. The Advanced Collaborative Environment system will be the basis for much of what we do in the future.

Q: How important is modeling, simulation and analysis to helping IDS and its customers apply NCO?

A: Modeling and simulation allows us to fight future battles in today's laboratories first.

It helps us understand the best approaches to winning these conflicts and avoid mistakes. We get to test and validate these concepts and stress systems in a virtual networked environment that includes the participation of the warfighter. We

have just opened the Virtual Warfare Center in St. Louis, which allows our customers to come in and talk about the threats they face. It allows us to take those threats and model possible solutions and come up with an optimal mix of platforms, sensors and strategy.

Q: What does being a horizontally integrated company mean, and how does this give IDS a competitive edge?

A: Historically, capabilities have been developed at site locations to support the design and manufacturing of platforms. In Mesa [Ariz.], IDS builds helicopters; in St. Louis, it's fighters; and in Seattle, airborne surveillance products. In the past we were very good at working programs that only required "stovepipe" site capabilities.

Today, our ability to be successful requires us to bring together all of those capabilities and work across the enterprise to solve the complex large-scale system engineering challenges we face and to meet our customers' needs. That's what I mean by horizontal integration. If we can do that better than the competition, we can be the lead system integrator and the contractor of choice. ■

Q: Does this mean that IDS is moving away from its traditional role as a platform manufacturer?

A: Absolutely not. Some of the most successful programs we have are aircraft: the C-17, F/A-18 and F-15. We see future programs such as the Multi-mission Maritime Aircraft and tankers as a continuation of this success. If we consider how to make those aircraft more valuable to the customer, it's by making them network-enabled. And that's what we're trying to do with NCO. What we have learned building and integrating subsystems into aircraft is that we have the engineering expertise to integrate one level higher and provide a system-of-systems capability.

Q: If we fast-forward 20 years, where do you foresee NCO taking Boeing, its customers and the aerospace industry?

A: You will still see Boeing as a great aerospace manufacturer but also a leader in information and communications networks. I think you'll see our customer much more dependent on knowledge as opposed to force structure. Finally, I see the industry as a whole benefiting from this confluence of information technology and aerospace. ■



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