



Boeing EA-18G Growler program manager Mike Gibbons and his team have been at the forefront of a new disciplined process, which is being used on development programs, called Opportunity Management. The process encourages engineers to look for opportunities to offset risk. These include design innovations that will save time and money. "Almost any Boeing team can benefit from Opportunity Management," says Gibbons.



Opportunity knocks

Boeing engineering leaders are today reaping the benefits of a simple yet powerful process that identifies and leverages opportunities on development programs.

by Jay Spenser

Most of us have heard of risk management. Aerospace engineers use it to identify potential risks in a development program and to create plans to mitigate them. But risk also has an upside that engineers can turn to a program's advantage. It's being done right now through a newly formalized Boeing process called Opportunity Management.

Developed within Engineering, Operations & Technology (EO&T), by Program Management Best Practices, Opportunity Management is a disciplined process for identifying and managing opportunities both within and beyond a program's stated purpose. In this context, an opportunity is a situation or circumstance with a realistic likelihood

of occurring that could yield a potential technical, schedule or cost-performance benefit to the program.

For example, it prompts engineers to ask searching questions: If overall program performance achieves a specified threshold level, can a scheduled test be scaled back or eliminated? Can we machine a single part to do what a built-up assembly did in the past?

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The P-8A Poseidon anti-submarine and anti-surface warfare aircraft being developed by military and commercial teams at Boeing has been leveraging Opportunity Management. Poseidon program leader Bob Feldmann says that one day engineers across the enterprise will be assessing opportunities as readily as they do risks.
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Can suppliers deliver their parts ready for assembly, and can assembly times be reduced by sequencing subassemblies more efficiently?

Although Integrated Defense Systems is pioneering Opportunity Management, it is applicable across the enterprise. Any Boeing research and development effort, existing product and support program, or other complex team endeavor that involves products or services can benefit from it.

For all its rewards, Opportunity Management is surprisingly simple. Its six systematic decision-making steps guide users through setting improvement goals and objectives, identifying opportunities, analyzing those opportunities, dispositioning them, communicating and tracking them, and then developing and implementing effective plans to capture identified benefits to meet or exceed program goals.

Pioneering implementation

The Boeing EA-18G Growler program was among the first to experiment with Opportunity Management. “Opportunity Management played a big role in our flying and delivering early and staying within budget,” says EA-18G Program Manager Mike Gibbons. “It let us identify and go capture potential benefits, including many that were beyond our program’s defined scope.”

Boeing invests in the future through development programs. Engineers and engineering managers across the enterprise know that these programs will be challenging. Because risks cannot be reduced to zero, it is important also to cultivate opportunities. Opportunities offset the risks and allow Boeing to replenish

cost and schedule margins to ensure a healthy program. Opportunity Management also allows teams to improve technical performance and to add capabilities that increase the total product value for Boeing customers.

In Opportunity Management, the savings realized from successfully exploiting opportunities are used to build a time and budget buffer. Then when unexpected problems arise, as they often do when technological frontiers are expanded, this margin is available to help resolve them without upsetting the program’s base. As the Growler program shows, Opportunity Management can even result in better performance than planned.

Opportunities abound when people go looking for them at program start. Better still, Opportunity Management encourages people to seek opportunities beyond the program’s established baseline. This can mean securing additional business in existing markets or opening up entirely new markets.

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For example, when new components are being developed to replace obsolete ones, there are usually opportunities to design them for even greater affordability, reliability, and future growth. Maybe new systems that have added capabilities the customer will appreciate and value can be integrated into existing aircraft. Maybe products and services can be envisioned that customers don’t yet know they need and thus haven’t asked for.

Although the Growler program arose before Opportunity Management was systemized, it offers a good example of a business opportunity successfully exploited. When the U.S. Navy needed to replace its aging Vietnam-era EA-6B Prowler electronic warfare airplanes, Boeing proposed exploring the F/A-18F Super Hornet airframe as the basis for a new-generation airborne electronic attack fleet.

The resulting EA-18G meets Boeing growth goals by delivering greater value to the customer on two fronts. It has entirely new capabilities. The Growler can keep up with strike aircraft, and it can also communicate while actively suppressing enemy air defenses. Another value is the Growler’s extensive commonality with the Navy’s F/A-18 fleet. That yields lasting benefits through spares-part provisioning and other fleetwide economies.

“We pushed the envelope effectively on the Growler and it worked out awfully well for us,” concludes Gibbons. “Although this was a development program, almost any Boeing team can benefit from Opportunity Management. This broadly applicable process promises to be a valuable tool for achieving gains under the Lean+ initiative.”



The EA-18G Growler represents a business opportunity successfully exploited. Proposed as a successor to the Vietnam-era EA-6B Prowler, it is delivering greater value to the customer by providing commonality with the existing F/A-18 carrier fleet and through its ability to communicate while suppressing enemy air defenses.

Risk and reward

In the past, engineering teams that spotted opportunities elsewhere often couldn't pursue them beyond their own immediate organizations. Opportunity Management changes this. It has a built-in mechanism for realizing profound benefits through broad, objective analysis and collective buy-in.

Of course, there is uncertainty in opportunity as there is in risk. Opportunity Management addresses this uncertainty by encouraging everyone to target and capture potential improvements. The result is a more balanced, effective, and ultimately successful path to attaining program goals.

"When you focus just on the risk side of the equation, people naturally tend to become risk-averse," says F/A-18 Risk Manager Jim Warren, a key architect of Opportunity Management. "That's not what we want; instead, we need people to take calculated and intelligent risks. Opportunity Management helps by giving us a positive way to improve our plans and products; we're not just trying to avoid problems and train wrecks."

When a risk is not mitigated, the consequences can range from mild to serious. By contrast, there are few if any reminders of squandered opportunities. Perhaps for this reason, Opportunity Management is not immediately intuitive to some aerospace engineers. However, once the process is explained or witnessed in action, it quickly wins converts.

Both Integrated Defense Systems and Boeing Commercial Airplanes provide approved Boeing Process Instructions for im-

plementing Opportunity Management, and training is available. Several programs are already using the process.

One is the P-8A Poseidon anti-submarine and anti-surface warfare aircraft that Boeing is developing for the U.S. Navy. Based on the Next-Generation 737, the multimission P-8A will also perform intelligence, surveillance and reconnaissance duties.

Vice President Bob Feldmann leads the Poseidon program. In his previous role as vice president of F/A-18 programs, he directed the Growler's development and saw firsthand what Opportunity Management can do. When he relocated from St. Louis to Seattle to take up his new duties on the P-8, he brought it with him.

"In a company committed to maximizing value, we value every opportunity," Feldmann says. "Opportunity Management lets us do this. But we're not very practiced at it yet, so unique and sustained management commitment is essential to its successful implementation."

Word is spreading fast about this remarkable new tool – both about its growing success and direct applicability under Lean+. In Feldmann's view, it is only a matter of time before engineers across the enterprise begin assessing opportunities as readily as they do risks. ■