Their 'Flight Plan'

5 ways the Super Hornet team works to ensure combat superiority—for today and the next three decades

By Philip Carder

It's one thing to create a technologically advanced product. But what's the plan to maintain that edge?

Companies in all industries must address that question, and it's a matter that the Super Hornet program at Boeing takes seriously. As the program continues to deliver F/A-18E/F aircraft to the U.S. Navy customer, it's following a strategy—the F/A-18E/F Super Hornet "Flight Plan"—that charts the course for this multirole strike fighter's combat capability over the next three decades.

"When I look at what the Super Hornet offers our warfighting commanders today, I really feel we are unmatched at what we bring to the fight," said Bob Gower, Boeing's F/A-18 and EA-18 vice president.

Thanks to a total system engineering effort, coupled with Lean+ business practices, the program has delivered more than 360 aircraft to the Navy—each on time and under budget—and is positioned for air dominance well into the future.

"The Flight Plan is our advanced capability insertion road map that partners Boeing with the U.S. Navy to ensure the Super Hornet and its electronic attack variant, the EA-18G Growler, remain in front of developing threats over the next three decades," said Mike Gibbons, F/A-18E/F and EA-18G Flight Plan manager.

Here's a look at five ways the Flight Plan adds continuous capability upgrades to the Block II Super Hornet.

• **Improved situational awareness.** The second phase of Block II enhancements upgraded the APG-73 radar, a mechanically scanning radar, with the APG-79 Active Electronically Scanned Array (AESA) radar as the heart of the system. Additionally, the Advanced Targeting Forward Looking Infrared (ATFLIR) pod and Shared Reconnaissance Pod provide upgraded sensor capability.

"You need all of the right sensors on the platform, and you need to integrate what those sensors are telling you. That is where we stand out," Gibbons explained. "The Super Hornet pilot knows where all of the threats are and can then decide to either avoid or engage and eliminate the threat."

• **Accuracy and lethality.** The powerful AESA radar and the ATFLIR—part of the Super Hornet's network for multisource integration—can pinpoint targets with devastating accuracy. "We can correlate data between the AESA and ATFLIR via multisource integration, and then algorithms integrate that data, enabling the deletion of any targeting error," said Shelley Lavender, F/A-18 program manager.

Another destination on the Flight Plan map is the addition of an In-

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frared Search and Track (IRST) system that will enable the F/A-18E/F to operate in a completely passive mode while scanning the battlespace for heat emitters, or enemy aircraft.

"IRST will allow the Super Hornet to detect and track targets based on heat," said Gower. "Even stealth has a hard time hiding heat. This is part of our balanced approach to lethality."

• **Network-centric-operations support.** Lavender said another hallmark of the day/night all-weather strike fighter is its versatility when connecting into the warfighting network commonly known as net-centric operations. For example, when forward air controllers on the ground employ the Remotely Operated Video Enhanced Receiver (ROVER) system, the F/A-18E/F sends video to the ROVER. The system confirms in a matter of seconds that the pilot is engaging the correct target by evaluating the real-time air-to-ground video captured by the Super Hornet's sensors.

• **User-friendly interface.** The Super Hornet's Multifunctional Information Distribution System/Link 16 can instantly pass targeting information between aircraft with the push of a single button. "It is a machine-to-machine interface," Lavender said, "that used to take 27 keystrokes before the targeting data could be transferred and the weapon could be employed. Obviously, this goes a long way toward reducing pilot workload."

• **Versatility.** "We can perform simultaneous air-to-air and air-to-ground combat with the addition of the APG-79 radar," Gibbons said. "That hasn't historically been available. To date, it has been an either air-to-air or air-to-ground mode. Now, the Super Hornet is smashing that paradigm. With the F/A-18E/F it's same-time air and ground missions. That's tough to match."

Yet the Super Hornet can do more than that. Because of its 11 weapons stations, it can fight its way into target areas, launch weapons, and fight its way out. The Super Hornet is "the preeminent multirole platform in the world today," Gower said. The F/A-18E/F's unlimited angle of attack flying capability coupled with its ability to execute air-to-air, fighter escort, air-to-ground, close air support, maritime attack/tactical maritime operations and reconnaissance missions, and even serve as a tactical air refueler, make it a true force multiplier. "There just aren't any other platforms out there that can match what we bring to the fight," Gower said.

Gower said the Navy will operate the Super Hornet until 2035 or 2040, because it is the only platform that offers such unique, combat-proven capabilities. But, Gower said, the Super Hornet team must continue following the Flight Plan and enhance and upgrade the F/A-18E/F to remain ahead of threats that continue to emerge.

"And we've only tapped the surface of what the APG-79 radar can do," he said. "You will continue to see capability leaps as we go forward." ■

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Internationally attractive

Thanks to its track record of reliability, affordability and availability, the Super Hornet is an attractive option for international customers. Australia recently became the first international Super Hornet customer—with its acquisition of 24 F/A-18 dual-seat F models. Additionally, the Super Hornet is a competitor in India's Medium Multi-Role Combat Aircraft competition. Other nations are eyeing this aircraft to meet their air combat needs.

Among the Super Hornet's many advantages is its versatility. It can execute air-to-air, fighter escort, air-to-ground, close air support, maritime attack/tactical maritime operations and reconnaissance missions, and even serve as a tactical air refueler.

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