Helping Iraq Fly Solo Again

Three years ago, a newly elected government assumed full power and authority for the nation of Iraq. Since then, American and multinational forces have been helping the government rebuild society in a number of ways, such as developing basic services like fuel, restoring the electrical power grid, and cultivating new political and economic arrangements at the local level. They have also begun establishing independent control of Iraq's military airspace.

The total rehabilitation of Iraq's capabilities for air defense and military traffic control is a monumental task.

"A broad air modernization plan was created by the U.S. Air Force's Electronic Systems Center [ESC] with assistance from MITRE," explains Charlie Bell, the MITRE chief engineer for ESC's International Operations directorate. "The plan shows the Iraqi government how to position and properly equip the Iraqi Air Force [IAF] to begin operating on its own. The goal is to provide Iraq with a world-class military air defense system independent of any other country's control."

The roadmap details how the IAF can rebuild its forces and infrastructure, so they will be able to defend their airspace and control their assets free of U.S. and coalition assistance. Called the Iraq Air Sovereignty Master Plan, or IASMP, it takes into account the current capabilities, systems, and hardware existing in Iraq, identifies needed equipment, and defines an efficient, cost-effective strategy to rebuild a modern air force.

"The roadmap details how the IAF can rebuild its forces and infrastructure..."

While the government of Iraq is making genuine progress in restoring the many facets of a functioning society, it was in need of a strategic plan to rebuild its air force over the next 15 years. "The master plan shows what steps need to be taken over the next several years, while identifying current priorities," Bell says.

The IASMP is structured to rebuild and train forces using current assets. But it also encompasses a larger view. The plan identifies the near-term, high-priority equipment and systems needed to transition the IAF from its current state to a force that is focused on, and capable of, defending the nation from external threats in the future. "The timeline extends to 2019," Bell notes.

If They Build It

The total rehabilitation of Iraq's capabilities for air defense and military traffic control is a monumental task. It involves everything from acquiring proper air traffic control surveillance and weather systems to establishing training programs that adequately prepare Iraqi military personnel to operate new equipment.

ESC and MITRE staff made sure that Iraqi Air Force officials had considerable input into the draft IASMP. "Creating a plan in a vacuum wouldn't succeed," Bell emphasizes. "We needed the Iraqis' involvement. With the feedback we received from them, we were able to adjust the master plan accordingly to devise a logical, sequenced strategy to make the mission become a reality."

For several months, a half-dozen U.S.-based MITRE engineers and ESC staff, plus representatives from Central Command Air Forces and the Coalition Air Force Training Team (CAFTT), talked weekly with Iraqi generals and colonels via video teleconference. The Iraqis were located at the Baghdad Air Operations Center and were presented with recommendations each week.

While there were some language barriers to overcome, a bigger hurdle was the entrenched military culture. "They were comfortable with operating on their previous command and control architecture model, but we emphasized that technology advances make it possible to do things more efficiently," Bell says.

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The undertaking involved analyzing the current forces, assessing the outcome of proposed improvements, and recommending a feasible implementation plan in tune with both IAF's needs and available funding.

Familiar Territory

ESC and CAFTT called upon MITRE for assistance in assembling the plan because we have extensive experience in all aspects of command and control, systems engineering, and integration. (Systems engineering refers to taking a broad view of large, complex systems by building effective, efficient networks of individual systems to meet the goals of the entire enterprise.)

"Systems engineering is all over this plan—it was an integral part of everything we did," Bell says. "For example, we broke down the implementation of the IASMP into nine different increments. Each increment must be tied together for full operations. However, each piece, such as weather-reporting technology, can be updated separately.

"...a bigger hurdle was the entrenched military culture."

"Each of the team members has been working for at least 20 years on various command and control systems with our partners, including other nations' systems that interoperate with U.S. systems."

The successful drafting and coordination of the IASMP has led to the beginnings of implementation. Over the past several months, ESC has received a number of formal request letters from the Iraqi government, which is the first step in acquiring and developing operating platforms and systems. One such request pertains to the acquisition of a long-range radar system for a new operations center that will give Iraq its first command center to control its airspace.

"We stayed true to MITRE's values throughout this process," Bell sums up. "We began by understanding our customer's requirements and put existing U.S. technology to work in a way that satisfies the customer's needs. By helping an ally with its capabilities, we're doing everything we can do to help Iraq become fully independent, and assist the U.S. Air Force in a gradual withdrawal."

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