

Scaling Japan's Defense Needs: Airpower in Asia and the FX Program

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The widespread modernization of Asian air forces is changing the strategic landscape in the Asia-Pacific. The United States, South Korea, Taiwan, Australia, Singapore, and India are all engaged in upgrading their military's fighter fleets as security competition in the region is on the rise. Among Asia's burgeoning air force modernization programs, the most important to U.S. security (apart from America's own) is that of the Japan Air Self-Defense Force (JASDF) — Tokyo is the United States' closest Asian ally and U.S.-Japan alliance is the lynchpin of America's alliance structure in the region.

The ongoing competition for Japan's new fighter jets (i.e., FX program) will come to a close some time in December 2011. Japan's Ministry of Defense is looking to add 40-60 new jets to its fleet, which will cost the Japanese government approximately \$6-8 billion. Competitors for the program include the Lockheed Martin (LMO) F-35 Joint Strike Fighter (JSF), the Boeing F/A-18 Super Hornet, and the Eurofighter Typhoon. Bids from each company were submitted on September 26 and, should Japan decide to buy from an American company, a Foreign Military Sale (FMS) Letter of Offer and Acceptance (LOA)—the equivalent of a U.S.-Japan deal to purchase the aircraft—is expected in mid-2012.

Japan's Defense Needs

Japan's desire for a more modern air force is largely driven by China's technological advancement across a broad range of military capabilities (especially in air defenses and in fighter aircraft) and North Korea's nuclear arsenal. Tokyo defined its defense needs in the December 2010 National Defense Program Guidelines (NDPG), which described Japan's security environment and how Tokyo intends to respond to developing regional threats. Of the many objectives laid out in the 2010 NDPG, there are five in particular that can be advanced through enhanced airpower:

1. Deepening the U.S.-Japan alliance;
2. Increasing security cooperation with other Asia-Pacific states;
3. Defending Japan's offshore islands;

4. Enhancing intelligence, surveillance, and reconnaissance (ISR) capabilities;
5. Countering ballistic missile strikes

In order to deepen the alliance, Japan wishes to consult with the United States on “common strategic objectives, and roles, missions, and capabilities,” to promote “intelligence cooperation ... bilateral contingency planning, [and] various operational cooperation,” and to strengthen “regular cooperation, such as joint training.” In a similar fashion, Japan aims to work toward the creation of a region-wide “security network ... by combining bilateral and multilateral security cooperation in a multi-layered manner.” To that end, Japan plans to focus on enhancing security and defense cooperation with South Korea, Australia, and member states of the Association of Southeast Asian Nations (ASEAN).

Given Japan's desire for interoperability to strengthen the U.S. alliance, buying the Eurofighter would make little sense. Since the dawn of the alliance, the United States and Japan have always strived to fly similar fighters. Putting an end to that practice could harm the capacity for operational coordination that helps bind the allied forces together.

While certainly a capable platform, choosing the Eurofighter would be counterproductive to Japan's strategic goals. No East Asian countries operate the Typhoon. Rather, South Korea, Australia, Taiwan, Singapore, and other Southeast Asian countries all fly American aircraft. Seoul, Canberra, and Singapore are likely to field the F-35 in the coming



years. For policy and strategic reasons, Japan should purchase a fighter that would enhance U.S.-Japanese interoperability and provide Tokyo with the capabilities it seeks in its overall defense structure and plans. But which one meets Japan's stated requirements?

An American Aircraft, But Which One? F/A-18 vs. F-35

While Japan is concerned about security threats emanating from North Korea and Russia, the NDPG clearly imply that China is Japan's primary external national security threat. The defense guidelines stated the need for better ISR, to defend against invasions of the offshore islands, and to defend against ballistic missiles (objectives 3-5 above) make that point clear.

Over the past decade, the People's Liberation Army (PLA) has demonstrated military capabilities that present a number of new challenges for Japan. In particular, China's maritime activities in recent years are perhaps the most pressing concern. Chinese naval and civilian vessels have transited between Japanese islands on a number of occasions. More troubling, these vessels have entered "disputed" waters within Japan's jurisdiction. Such incursions have sparked multiple crises in the Sino-Japanese relationship.



Last fall, for example, Japan arrested the captain of a Chinese fishing boat that had rammed a Japanese Coast Guard vessel. Beijing responded by stoking nationalist anti-Japanese fury in China and by cutting off the export of rare earth minerals to

Japan. By denying Japan rare earth exports (REEs), which are critical to Japan's consumer electronics industry, Beijing chose to escalate what should have been a minor incident at sea into a bilateral crisis. The seriousness of the confrontation should not be understated as China quickly resorted to economic warfare when faced with what was, by all accounts, a reasonable Japanese action that Beijing did not like. China's growing maritime assertiveness, both directly and indirectly (through the potential for escalating crises) poses a clear threat to Japan's security.

Ostensibly, Japan also feels threatened by China's successful efforts in upsetting the balance of power in the Taiwan Strait. While Beijing would prefer a "peaceful" settlement of its dispute with Taiwan (as long as that settlement ultimately comports with Beijing's terms), it is prepared to fight as well. A Taiwan that is unified with China—especially if by force—is one of Japan's nightmare scenarios. A PRC-occupied Taiwan would allow Beijing to overturn Japan's southern flank, severely complicating the alliance's ability to defend the Japanese islands, and to threaten vital sea lines of communication. Given Beijing's willingness to use economic warfare, these are circumstances that Tokyo could not tolerate.

Indeed, Tokyo might feel compelled to intervene in any cross-Strait conflict. Even if Tokyo was not particularly sanguine about doing so, any U.S. intervention would likely drag Japan into the fight. It should not be surprising, then, that in 2005 the United States and Japan for the first time explicitly identified Taiwan as a mutual security concern. Japanese leaders may not say so publicly, but they know they must be ready to fight for Taiwan's continued freedom.

In considering any potential conflict that involves China, Tokyo will have to think carefully about countering Chinese growing aerospace forces. The development of China's ballistic and cruise missile forces are well known in the public sphere. Any PLA attack on Taiwan—or on another offshore island—is likely to involve missile strikes not only on Taiwan, but also on Japanese airbases to preclude U.S. and Japanese intervention. China would likely follow a missile strike with strike aircraft.



Chinese fighters are increasingly modern and likely a match for U.S.-made 4.5th-generation aircraft. Meanwhile, China's stealthy J-20, its first 5th-generation aircraft, may take to the skies before decade's end. At the same time, the PRC's integrated air defense system (IADS) is also becoming quite advanced, making safe penetration by allied 4th or 4.5th-generation fighters for retaliatory strikes a dicey prospect.

Given these new challenges, the capabilities that the new Japanese fighter aircraft require are clear. Allied forces need platforms that can gather and quickly share ISR information. Allied airpower must be operationally capable of achieving air dominance in an environment where its own airbases could come under attack and where the skies would have to be wrested back from an enemy's 4th- and possibly 5th-generation aircraft. Finally, airpower should be able to penetrate advanced air defenses, achieve air supremacy, and conduct successful strike missions over enemy territory.

Indeed, the F/A-18 Super Hornet is one of the world's premier fighter aircraft, excelling at both air-to-air and air-to-ground missions as its F/A moniker implies. Its AESA radar is more advanced than the Eurofighter's (the Europeans have yet to even *field* a first-generation AESA radar), making it better able to identify China's most advanced aircraft. Its relatively small radar cross-section makes it more difficult for those same aircraft to spot. Yet with the airpower environment developing in the region as it is (e.g., Chinese stealth aircraft on the way; advanced IADS already in place on the mainland)—and given the pure number of planes that the PLAAF and PLAN-AF can put in the air over the Taiwan Strait or the East China Sea, the F/A-18s lack of a pure stealth capability is increasingly a liability. While the Super Hornet carries new, advanced air-to-ground weapons, its

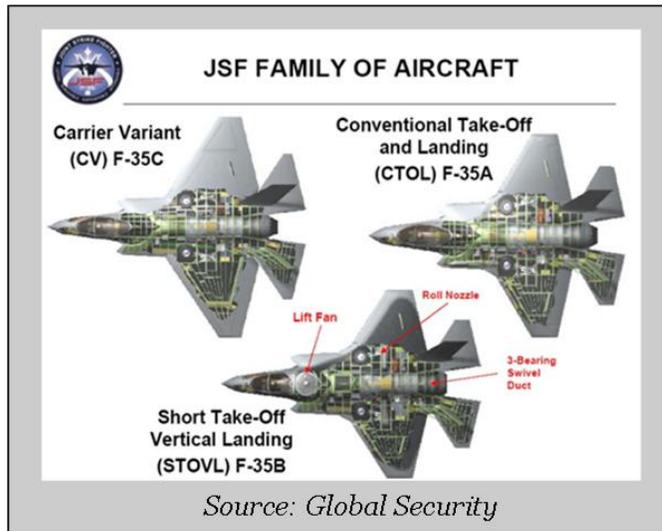
ability to penetrate Chinese airspace to carry out strike missions are limited. On the other hand, the F-35's stealth capability will allow it both to gain air dominance, even when outnumbered, and to successfully penetrate enemy airspace and carry out strike missions. Moreover, given its abilities to assure air superiority, to provide extended ISR coverage, and to provide a common operating picture, the F-35 enhances the air-to-air and air-to-surface effectiveness of the 4th-generation fighters that will remain in Japan's air fleet (e.g., the F-15J and F-2).

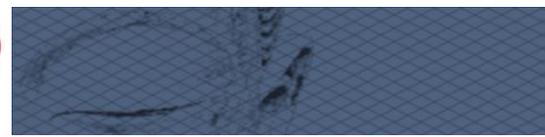
The F-35s are also mounted with *second* generation AESA radars, which according to former USAF intelligence chief Lt. Gen. David Deptula:

[F-35s] need to be thought of not just as fighters, but as integrated flying ISR sensor nodes with an additional capability to engage adversaries if necessary. We may in fact value them more for their ability to penetrate denied airspace, collect adversary information and then distribute it to decision-makers, than the traditional notion of a fighter.¹

The F-35's ISR penetration range could be greater than five times deeper than traditional ISR aircraft. The fighter's ISR capability, moreover, allows it to provide airborne command and control (C2) and more efficient battlefield management.

If Japan decides to procure the F-35 for strategic and operational reasons it could choose a mix of variants (A for the ASDF, B and C for MSDF). The F-35B's greatest advantage is that it is designed for Short Takeoff/Vertical Landing (STOVL). The STOVL capability will allow the F-35B to take off from missile-strike-shortened runways and to land virtually anywhere, making it safer for pilots to operate in a highly contested environment. If Japan chooses this option, China will find it much more difficult to render Japan's Air Force ineffective by striking airbases. The B variant,





meanwhile, could give Japan a naval air power projection capability for the first time:

In export and international production, the F-35B can similarly transform warships such as the Japanese Hyuga-class Helicopter-Carrying Destroyer into light carriers capable of strike and air superiority missions. The F-35B is a force multiplier in the literal sense: It turns amphibious warships with limited strike capabilities into aircraft carriers roughly as capable as their most formidable foreign counterparts (i.e., non-US carriers).²

Such a capability would make up for the B variant's more limited range and combat radius, and thus more easily allow Japan to project air power over Taiwan, mainland China, or even the South China Sea. It would enhance Japan's ability to conduct joint training with a wider variety of partners and to contribute forces to a much wider variety of allied operations.

Conclusion

The United States, not Europe is the primary stakeholder for security in Asia. It follows that Japan should fly the same aircraft as the United States and other allies' militaries. That should leave Japan with the choice between F-18s and F-35. But given the IADS environment, as well as the requirements for stealth ISR and EW, Japan best option is the F-35. For its part, Washington needs to start thinking about arms sales in a larger strategic framework. Much lip services have been paid to "building alliance capability." The F-35 is an important test case. If the U.S., Australia, Singapore, South Korea, Japan and Singapore all fly the most advanced aircraft the possibilities for ISR and general airpower cooperation spike up considerably. While the USG cannot favor one company over another for export, it can make clear its desires for coalition airpower. In Asia, stealth, ISR, EW, and VSTOLS are becoming a necessity.

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¹ <http://www.c4isrjournal.com/story.php?F=4756598>

² <http://www.worldpoliticsreview.com/articles/10234/over-the-horizon-the-transformative-capabilities-of-the-f-35b>