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Bracing For Impact:
Fifth-Generation Jet Fighter Programmes in Asia

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Four major regional powers in Asia – China, India, Japan and South Korea – seek to acquire fifth-generation (5G) jet fighters in less than ten years' time. The security implications of this air power race would go beyond the Sino-Indian arms dynamics.

THE 5G fighter jet, a term coined by the Russians, refers to a new advent of fifth generation fighter jets. It combines advanced very-low observable (VLO) stealth with integrated information and sensor fusion network. This combination interfaces with a range of precision-weapon capabilities to derive new fighting agility, reliability, ease of maintenance and deployment.

Currently, only two 5G fighters fly in the world: the American F-22 Raptor and the Russian PAK FA. The American F-35 Lightning II, the next-generation strike fighter which Singapore has an eye on, remains under development. The F-22, which entered service in 2006 at over US$150 million apiece, testifies to US air power dominance. While attention to date has been focused on the West, interestingly most of the other countries with the desire to have their own indigenous 5G jet fighter programmes are found in Asia, namely China, India, Japan and South Korea.

The Asian 5G Jet Fighter Race

The Asian encounter with indigenous 5G jet fighter programmes began with Tokyo's decision, after Washington's refusal to sell it F-22s, to develop an indigenous demonstrator called ATD-X *Shinshin* in July 2007. This aircraft, comparable to the Saab *Gripen* in size and US F-22 in technology, was conceived in 1990. However, it was primarily intended to raise Japan's bargaining position vis-a-vis the US instead of catalysing indigenous fighter production. The scheduled maiden flight of ATD-X in 2011 is likely imperilled by drastic budget cuts.

South Korea also possesses its own 5G jet fighter programme, known as the KFX *Boramae* – a

controversial US$13 billion-project initiated in 2001. The first units of the planned 120 aircraft are scheduled to enter service in 2017 but this plan has been stifled by technical and fiscal difficulties. With only a modest track record of licence-producing Lockheed Martin's F-16 and co-producing with it the T-50 advanced jet trainer, Korea Aerospace Industries possesses only 63% of the requisite technological capacity for KFX. As South Korea seeks international partnership, the programme remains stuck at the feasibility stage with little progress forward.

China is known to have a 5G jet fighter programme referred to as J-XX/J-12. While little of it is known, J-XX reportedly embeds design features similar to the F-22's. However, the extent of its developmental progress remains to be seen. Having demonstrated remarkable technological prowess with the J-10 and J-11 fighters, and boasting over 100 variously-sized enterprises involved in its aviation industry, China is certainly a rising aerospace player to be reckoned with.

In February 2010, India inked a deal with Russia to co-develop the PAK FA, dubbed '*Raptorski*', for its Fifth Generation Fighter Aircraft (FGFA) programme. Like South Korea, India envisages the first of its 5G jet fighters to be operational by 2017. Unlike South Korea, however, India enjoys the benefit of riding on Russia's success with the PAK FA, of which 70% of its technological content has been fulfilled by Sukhoi. With India throwing the financial weight behind Russia's technical expertise, the bilateral 5G jet fighter collaboration may well blossom.

Clash of Two Titans

Out of this stable of four Asian 5G jet fighter players, only two – China and India – appear to be forging ahead while the Japanese and South Korean programmes languished for want of funding and/or technological expertise. With the experience of producing fourth-generation J-10, China possesses a reasonable margin of success in realising its J-XX programme despite the possible lack of any forthcoming Russian help (due to intellectual property concerns) and before the Western arms embargo is lifted. India, despite its lack of technical expertise, is able to leverage on the Russian PAK FA.

For long India has lagged behind China in defence self-sufficiency, especially in aerospace sector. The FGFA programme, a potential beneficiary of the PAK FA's success, might allow India to supersede China in putting a 5G jet fighter in service. Therein lies the potential risk: the longstanding animosity between China and India means that India's success could spur increased effort by Beijing to keep pace with its own J-XX programme. That is not all, however.

The potential spillovers beyond the Sino-Indian dynamics could not be ignored. China's countervailing measures might spur Japan's efforts with its ATD-X, especially if the latter is unable to secure the F-22 or F-35 to replace its aging F-4EJ (and even F-15J/DJ) fleet to counter the rising Chinese air power. Japan's ATD-X might be further catalysed if South Korea is able to secure much-needed international partnership to accelerate its KFX programme. Anticipated progress with the ATD-X could create more incentives for China to hasten its J-XX programme, thereafter feeding back into Indian countermeasures in a classical security dilemma.

The broader security implications for Asia may have been a factor for countries with interest in this development. Singapore is already a participant in the F-35 programme (with possible procurement plans to replace the venerable F-5S/T fleet), while Vietnam is reportedly interested in the PAK FA. The 5G jet fighter race, if spun out of control, could encourage other regional states to acquire similar capabilities.

Beyond Geopolitics, Money Matters

No doubt Asia has managed to emerge from the economic crisis in better shape than the West. Still,

the financial and technical hurdles associated with such complex programmes as an indigenous jet fighter (and a 5G one at that) should not be underestimated. The Obama administration's decision to halt the F-22 production demonstrates the intractability of cost matters even a superpower cannot escape from. While the 5G jet fighter competition might spur domestic technological progress and self-sufficiency, the fiscal and technological risks involved are probably as significant.

Security considerations might not be the singular driving force behind 5G jet fighter programmes in Asia. Factors such as prestige might inspire such projects. Without financial, technical and real operational needs being given proper deliberations, regional 5G jet fighter programmes pursued out of sheer impulse could potentially heighten fiscal risks. This is particularly so in the case of bad debts incurred for projects that go wrong. Therefore, 5G jet fighter programmes in Asia need to be pursued with moderation and restraint for both domestic and geopolitical purposes.

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