

## Will the United States lose its air supremacy?

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The [announcement](#) [1] of Russia's newest fifth-generation fighter, the [Sukhoi PAK FA](#) [2], stunned the world. To put it succinctly, the "Future Frontline Aircraft System" is a game-changer. Its closest rival is the [F-22 Raptor](#) [3], and yet production on the United States' premier air-superiority fighter has been [scrapped](#) [4] in favor of the F-35. Are we repeating the mistakes of the past?

Air Power Australia has a highly-influential [piece](#) [5] analyzing the PAK FA. On Tuesday, they released a follow-up, "[Why the F-22 and the PAK-FA have the 'Right Stuff' and why the F/A-18 and the F-35 do not](#) [6]." It paints a sobering picture of future air combat, with the PAK-FA king of the skies. Its conclusion should stir policymakers (italics mine):

"The Su-35S has seriously dangerous and effective capabilities, even against an F-22A. The stealthy PAK-FA, albeit in an early phase of development, is showing naked air combat power in the form of extreme plus agility and persistence that, with the addition of advanced sensors, countermeasures and weapons, will likely soundly defeat the Raptor *but will certainly annihilate the F-35 and the Super Hornet*. Work on the F-22E needs to start immediately and be undertaken with the urgency required of a grave threat to the national defence and security of the USA and its Allies."



Essentially, the F-22 is faster and more maneuverable, but the F-35 is cheaper and more versatile. The *Raptor's* stealth capabilities make it nigh-untouchable—except, of course, by the PAK-FA. But the F-35 is being marketed as a "Joint Strike Fighter," meaning one base model and up to three variants:

- The F-35A, conventional take off and landing (CTOL) variant will replace the F-16 and A-10 (the "Warthog") for close-air support and other missions
- The F-35B, short-take off and vertical-landing (STOVL) variant will replace the Marines' Harrier "jump jet."
- The F-35C, carrier-based CATOBAR (CV) variant will replace the Navy and Marine Corps' F-18 Hornet.

With assembly line production and standardization, the F-35 was supposed to be (relatively) cheap. But with costs spiraling out of control, Secretary Gates was

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recently forced to [fire the program manager](#) [7].

How much *will* the JSF cost? An online defense journal [posits](#) [8] that, taking into account R&D and testing, F-35's could end up costing \$139-160 million apiece. The F-22's price tag is approximately \$200 million. In making the case for the F-35, Secretary Gates boasted that it'd be "less than half the total cost of the F-22." Why such a wide disparity between conception and reality?

In "Wired for War", P.W. Singer analyzes this phenomenon of "requirements creep." As Singer points out, "The decision on what to buy and the requirements of what must go into the systems are too frequently made by those least familiar with new technology...whenever any new weapon is contemplated, the military often adds wave after wave of new requirements...it builds in new design mandates, asks for various improvements and additions...in turn, the makers are often only too happy to go along with what transforms into a process of gold-plating, as adding more bells, more whistles, and more design time means more money." This would explain why (among other things) the F-35's price tag has risen exponentially. Rather than compliment the F-22, the F-35 is being touted as "the backbone of America's tactical aviation fleet for decades to come."

According to APA, "the PAK-FA renders all legacy US fighter aircraft, and the F-35 Lightning II Joint Strike Fighter, strategically irrelevant." Secretary Gates doesn't deny the F-22's air-superiority capabilities. So why choose the F-35?



The military often suffers from "last war-itis," using prior engagements to predict the future. But new tech skews the paradigm, and at the start of nearly every major war of the 20th century, the US was woefully unprepared. Are we poised to repeat those mistakes? The F-22 is [banned from sale](#) [9] to foreign governments. The PAK-FA is not. Therefore, it's not unreasonable to assume that a potential adversary, such as China or North Korea, could get their hands on Russia's fifth-generation fighter. Only the F-22 could stand against the PAK-FA in air-to-air combat, a fact freely acknowledged by Secretary

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Gates. So again, why choose the F-35?

If one believes that future conflict will primarily be “[asymmetric warfare](#) [10],” then the F-22’s capabilities are superfluous. In a speech before the Economic Club of Chicago, Sec. Gates [remarked](#) [11] that, “it is ill-advised, if not suicidal, to fight a conventional war head-to-head against the United States: fighter-to-fighter, ship-to-ship, tank-to-tank.” Gates believes the F-22 is a “niche, silver-bullet solution,” and absent conventional state-on-state conflict, is unsuitable for current mission requirements. Among other things, the F-35 excels at air-to-ground missions (i.e. taking out enemy air defenses), making it more relevant for current engagements.

What about drones? The insurgents we face in Iraq, Afghanistan, and Pakistan don’t have jets or sophisticated anti-aircraft weapons. Unmanned aerial vehicles are more than sufficient for close-air support against such an enemy.

Unmanned aerial vehicles are the future. Yet much of their promise is theoretical—autonomous systems with digital reflexes, unhindered by human physiological limitations. Theoretically, unmanned fighters would far surpass the manned variety. But we’re nowhere close to fielding drones that can compete with the most advanced jet fighters in a dogfight.

The 2010 National Defense Authorization Act sounded the death knell for the F-22. It capped the *Raptor* at 187 planes, and promoted, in its place, the F-35 and UAVs. It’s a fact that the United States has been unprepared for nearly every major war she’s fought. Here’s hoping that Sec. Gates isn’t suffering from “last war-itis.”

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### Links:

- [1] <http://en.rian.ru/russia/20100129/157715872.html>
- [2] <http://www.globalsecurity.org/military/world/russia/pak-fa.htm>
- [3] <http://www.globalsecurity.org/military/systems/aircraft/f-22.htm>
- [4] <http://www.cnn.com/2009/POLITICS/04/06/gates.budget.cuts/index.html>
- [5] <http://www.ausairpower.net/APA-2010-01.html>
- [6] <http://www.ausairpower.net/APA-NOTAM-300310-1.html>
- [7] <http://www.dodbuzz.com/2010/02/01/gates-fires-jsf-program-manager/>
- [8] <http://www.dodbuzz.com/2010/04/01/how-much-will-jsf-cost/>
- [9] <http://www.thomas.gov/cgi-bin/bdquery/z?d105:HZ00295:>
- [10] [http://en.wikipedia.org/wiki/Asymmetric\\_warfare](http://en.wikipedia.org/wiki/Asymmetric_warfare)
- [11] <http://www.defense.gov/speeches/speech.aspx?speechid=1369>