

INTERNATIONAL
FIGHTER



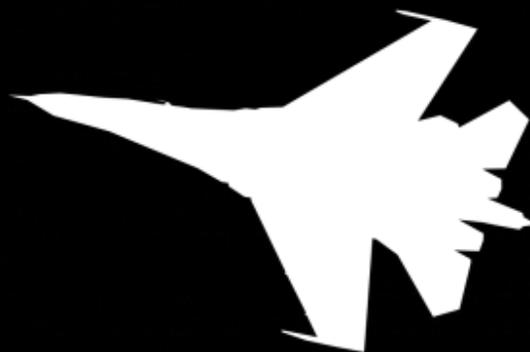
**FIGHTER
PROCUREMENTS &
DEVELOPMENTS**

SUMMER 2014



MARKET

An estimated 4,600 Fighters, valued at \$230 billion will be procured over the next 10 years. Despite the rapid increase in Unmanned Aerial Vehicles (UAVs) numbers worldwide and future plans for Uninhabited Combat Air Vehicles (UCAVs), the fighter market is still buoyant. Fighter programmes are planned to continue well into the 2020s in the U.S.A, Russia, China, India and Sweden, while Japan, Indonesia, South Korea and Turkey have plans to enter the fighter market with their own indigenous designs. The largest fighter programme is the F-35 Joint Strike Fighter, over 3,000 of which are currently planned for 11 countries.



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NORTH AMERICA



U.S.A.

Current planning will see 1,763 F-35As procured for the USAF and 680 F-35B/Cs for the USN and USMC. IOC for the USMC is July 2015, for the USAF, IOC is 2016 and the carrier variant for the USN has an IOC of 2018.

In August 2013, Boeing unveiled a new version of the F-18E/F Super Hornet, equipped with Conformal Fuel Tanks (CFTs), an Enclosed Weapons Pod and new Radar Cross-Section (RCS) enhancements. The RCS improvements reportedly reduce the aircraft's low-observable signature by 50%. Integration of an internal Infra-Red Search and Track (IRST) and increased engine performance (by 20%) are also planned.

Upgrades to the F-22 Raptor include Increment 3.2A, commencing in 2014, which will add new Electronic Protection Measures and Combat Identification Capabilities. Data from the jet's receive-only Link 16 data-link will also be fused with the F-22's integrated sensors.

In 2017 Increment 3.2B is a hardware and software upgrade that will fully incorporate the Raytheon AIM-120D and AIM-9X air-to-air missiles onto the F-22. The aircraft's geo-location and electronic protection capabilities will also be upgraded. The subsequent Increment 3.3 upgrade will be funded as a separate procurement programme.

Boeing has been contracted to provide 38 FA-18 fighter aircraft (along with 21 EA-18 Growlers) to the US Navy. The U.S. Marine Corps is considering adding a Link 16 enhancement and Variable Message Format Datalinks to the AV-8B Harrier II in order to keep the aircraft relevant until its planned retirement date in 2030.

A Helmet-Mounted Cueing System may also be added, plus a Radar Upgrade. There are currently 131 AV-8B/TAV-8Bs in the USMC inventory.

Under the Combat Avionics Programmed Extension Suite (CAPES) programme, 300 USAF F-16 aircraft were to receive an avionics upgrade, but this may now be de-funded in FY 2015.

An F/A-XX RFI was issued by US Navy in April 2012 to replace the Super Hornet in the 2030s.

The Sixth Generation USAF fighter programme is the TACAIR/F-X which is at the early stages of development.

CANADA

Although Canada plans to procure 65 F-35A Joint Strike Fighters, cost escalation of this aircraft has led the Canadian Government to request technical information on other fighters, including the Gripen. Planning is 'paused' until more information can be assessed.

**MEXICO**

Limited funding has been allocated for the acquisition of new interceptor aircraft. 8 F-5E/Fs are currently in service.

LATIN AMERICA



BRAZIL

It was announced in December 2013 that the Gripen NG was the winner of the FX-2 Fighter Replacement Programme, with Embraer and Saab teaming on the \$4.5 bn contract. 36 aircraft are to be procured, with the first 10 to be leased from 2016-2018 and the final delivery due in 2023.

The majority of the AMX fleet (56 aircraft) is to be modernised to AM-1 standard then retired in 2030. The Navy AF-1 Skyhawks (12 aircraft) are also being modernised ahead of a 2025 retirement date.

ARGENTINA

The Argentine Air Force (FAA) plans to procure 14 upgraded IAI Kfir C.10 fighters from IAI in Israel.

CHILE

Chile may be a potential customer for an F-16 upgrade. The Chilean Air Force currently operates 46 F-16A/B/C/Ds.

COLOMBIA

The Colombian Air Force plans to procure a 'New Fighter Squadron.' The F-16, Mirage 2000, SU-30, Rafale and Gripen are all possible contenders.

PERU

The Peruvian Air Force has requested information on the Eurofighter Typhoon, Boeing F/A-18E/F Super Hornet, Dassault Rafale, RAC Mig-35, Saab Gripen NG and Sukhoi Su-30/35.

However, Spain had tendered a proposal for 18 Tranche 1 Eurofighters from Spanish Air Force stocks with delivery anticipated one year from contract signature.

Neither the Mirage 2000 nor the MiG-29 is likely to remain in service beyond 2025.

URUGUAY

The Uruguayan Air Force (FAU) has had a requirement for 6 radar-equipped light fighters since 2010, but as an interim measure, pending a government decision on this procurement, a deal to acquire 4 A-37B Dragonfly light attack aircraft from Ecuador is under consideration. 4 OA-37Bs are currently operated by the FAU, with 2 more aircraft in reserve. Buying surplus F-5E/F Tigers from Chile may be an option for the fighter requirement.

EUROPE



U.K.

Development of the Phase 1 Enhancement B (P1EB) software for Typhoon will see the first Tranche 2 aircraft delivered to this configuration in mid-2014. Tranche 3 aircraft are also expected in service by mid-2014. The RAF will receive 40 Tranche 3 Typhoons, in addition to 109 Tranche 1 and 2 aircraft.

A 4th F-35B Joint Strike Fighter has been ordered for the U.K. from a currently planned total of 48 aircraft. F-35B IOC is currently scheduled for December 2018. 617 Squadron will be the first F-35B squadron to stand up.

BELGIUM

A Request for Information for a fighter to replace the F-16 has been issued to companies indicating interest in the F-35 Lightning II, Boeing F/A-18F Super Hornet, Dassault Rafale, Saab JAS-39 Gripen, and Eurofighter Typhoon. 59 F-16A/Bs are currently in service and their planned out-of-service-date is 2023, indicating that a replacement decision must be made by early 2016 at the latest.

DENMARK

Requirement for a new fleet of 30 fighters. Bidding initially opened in 2010 but was delayed until 2013 and a decision is now considered likely in 2015. Vying for the contract are Boeing's F/A-18E/F Super Hornet, Lockheed Martin's F-35, Saab's Gripen E and Eurofighter's Typhoon. The winning contender will replace the F-16 fleet of 46 F-16A/Bs which have an out-of-service date of 2024.

NETHERLANDS

The planned F-16 out-of-service date is 2024. 74 F-16A/Bs are currently in service, but these will gradually be reduced in number to 61, imminently, 55 in 2020, 45 in 2021, 34 in 2022 and 24 in 2023. The Royal Netherlands Air Force (RNLAf) will procure 37 F-35A Joint Strike Fighters to replace its F-16s.

NORWAY

Following on from the purchase of 4 F-35A Joint Strike Fighters for testing and training, Norway's parliament has approved the purchase of 6 more F-35A Joint Strike Fighters, of a currently planned total of 52 aircraft. First deliveries of the test aircraft are scheduled for 2015.

GERMANY

94 Typhoons are currently in service, with a further 35 on order.

SWEDEN

The first of 3 Gripen E test aircraft will fly in 2015. 60 Gripen Cs are being converted to Gripen Es between 2013 and 2026. Initial deliveries of Gripen Es will commence in 2018. 98 Gripen C/Ds are currently in service.

SPAIN

65 EF-18 A/B/Ms are having IRIS-T and TAURUS missiles integrated, plus the Scorpion Helmet, to continue in service. 20 other EF-18 A/B/Ms are being stood down. Spanish Navy Harriers will eventually have to be replaced by new units and the F-35B Joint Strike Fighter is the only current option available. 45 Typhoons are in service, with 26 more on order.

SWITZERLAND

22 Gripen Es are to be ordered to replace the F-5E/Fs, subject to a national referendum, which will be held on the 18th May 2014.

AUSTRIA

Austria is considering mothballing 3 of its 15 Typhoon Tranche 1 fighters, due to financial problems. In addition, flying hours on the remaining aircraft may be reduced by a third.

GREECE

The Hellenic Air Force (HAF) has a long-term requirement for 40 new fighter aircraft to replace both the McDonnell Douglas F/RF-4E Phantom and the Northrop Grumman (Vought A-7E) Corsair II. The government originally planned to procure Eurofighter Typhoons to address this problem, but the programme was cancelled in 2004. The country's current economic problems make this project seem unlikely to proceed, at least in the short-term.

However, Greece may be a potential customer for an F-16 upgrade, subject to funding being available. The HAF currently operates 156 F-16C/Ds.

CROATIA

5 second-hand MiG-21bis are being acquired by Croatia from Yemen after upgrading in the Crimea. An additional 7 MiG-21 bis are also being refurbished in the Crimea for Croatia. The first aircraft was delivered in April 2014.

CZECH REPUBLIC

A new 12 year contract, with an option on 2 more years, was signed in September 2013, which will provide the continued lease of 14 Gripen C/Ds until at least 2027.

HUNGARY

The Hungarian Air Force's lease of 14 Gripen C/D fighter aircraft from Sweden, was extended in January 2012 by 10 years, to 2026 (the original expiry was in 2016).

ITALY

75 F-35A/B Joint Strike Fighters are planned for procurement.

68 Typhoons are currently in service, with 28 more on order.

FRANCE

A contract for the next generation of the Rafale fighter, designated F3R, was awarded to Dassault by the French military procurement agency, the DGA, in January 2014. Completed development of the F3R is expected by 2018 and will involve the integration of the Meteor BVRAAM, AASM (SBU-54 Hammer) air-to-surface precision weapon and PDL NG new generation airborne multi-spectral laser targeting pod.

The aircraft's Man-Machine Interface (MMI), SPECTRA EW System, RBE2 AESA Radar, TSC 2032 IFF, Navigation System and Link 16 Datalink will also be enhanced.

87 Rafale B/Cs have so far been delivered to the French Air Force and 39 Rafale Ms to the French Navy (from 132 and 48 on order respectively). However, the recently released French Defence White paper plans a future force structure which includes only 40 Rafales for the Navy and 132 for the Air Force. In addition, 53 Mirage 2000Ds or 2000-5s are to be modernised. All of the Rafales will be upgraded to F4 standard, which includes an AESA radar, by 2020.

POLAND

Poland has a requirement for 64 fifth generation combat aircraft to be acquired from 2021. They are planned to replace the 36 SU-22 and 31 MiG-29 aircraft currently in service. Meanwhile, the SU-22s will receive a minor upgrade to keep them operational until 2024-2025.

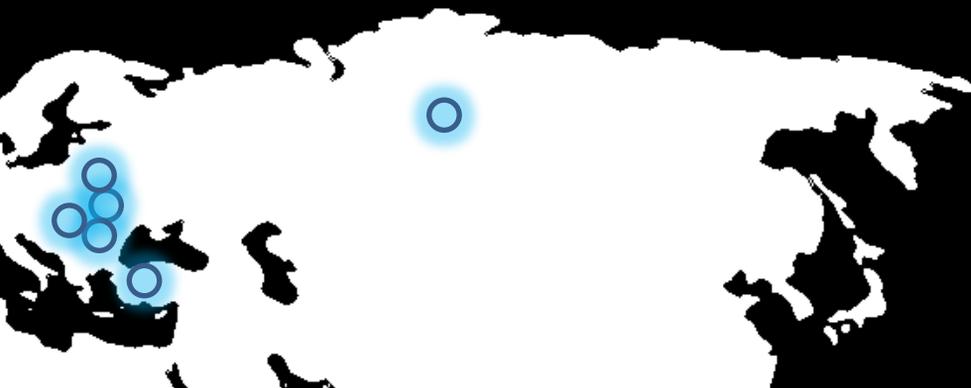
SLOVAKIA

Requirement to replace its 12 MiG-29s. A Gripen lease deal is possible.

SLOVENIA

Hungary and Slovenia signed an agreement in January 2014, under which Hungary will protect Slovenian airspace with its Gripen fighters.





UKRAINE

The Ukrainian Air Force has an SU-27 upgrade programme planned, which will extend the service life of the aircraft to 2030. 36 SU-27s are currently in service, although only 16 are reported to be fully operational. There is also a long-term requirement for a small quantity of new fighters.

RUSSIA

RSK-MiG is reportedly developing a new lightweight fighter concept, that would be a single-engine complement to the Sukhoi T50/PAK-FA stealth fighter now in flight testing. T50/PAK-FA IOC is likely to be c.2020. 60 are planned initially.

A new 'heavy' fighter to replace the MiG-31BM is also planned, for an in-service date of 2028, but it is doubtful that sufficient funding will be available to sustain 3 separate fighter programmes. 134 MiG-31s are currently in service.

48 SU-35S Flanker Es are currently on order for the Russian Air Force. 10 were delivered prior to 2013, 12 were delivered in 2013, 12 more will be delivered in 2014 and 14 in 2015.

16 more MiG-29SMTs have been ordered for delivery from 2016. 28 MiG-29SMTs were received by the Russian Air Force in 2009-2010, following Algeria's cancellation of its order for the aircraft. An order for 100 MiG-35s is expected in 2016.

TURKEY

Turkish National Defence Minister has disclosed that Ankara plans to buy 116 conventional take-off and landing variants of the F-35 Lightning II Joint Strike Fighter. It was previously thought that Turkey would procure 100, which may, in fact, be a more likely total.

Turkish officials are seeking foreign partners to help build the country's first jet fighter. TAI will produce the "conceptual design" of a fighter aircraft to be built after 2020.

Turkey may also be a potential customer for further F-16 upgrades. The Turkish Air Force currently operates 242 F-16C/Ds and plans to keep them in service until at least 2040.

BULGARIA

Bulgaria has a requirement for eight new or pre-owned multirole combat. An RfI was issued in late January 2011, but due to financial restrictions, no further progress has been reported.

However, after being grounded for over 12 months, around 5 Bulgarian Air Force MIG-21s are being returned to service.

BELARUS

Up to 20 SU-27 Flankers are to be taken out of storage, refurbished and upgraded..

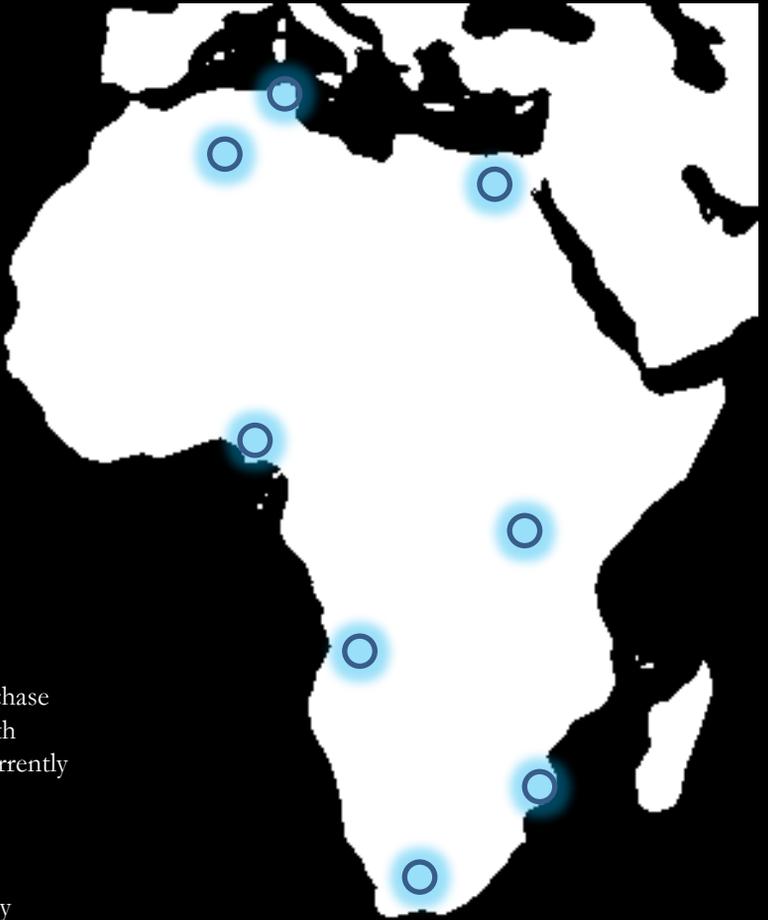
SERBIA

Only 4 MiG-29s are believed to be airworthy. There were reports in April 2013 of a possible purchase of 6 new MiG-29M2s from Russia.

ROMANIA

Romania has signed a contract with Portugal to buy 12 F-16AM/BM Block 15 fighters. The first aircraft will arrive in Romania in 2015, with all 12 scheduled to be in service by 2017. Further Block 15 aircraft may be purchased at a later date.

AFRICA



ALGERIA

16 SU-30s are on order. 28 SU-30s are currently in service.

ANGOLA

The Angolan Air Force (FANA) is planning to purchase 12 former Indian Air Force SU-30K Flanker-Fs, with deliveries commencing in 2015. 7 SU-27/30s are currently in service.

EGYPT

20 F-16C/D Block 52s are on order. Egypt currently operates 209 F-16A/B/C/Ds.

MOZAMBIQUE

The Mozambique Air Force (FAM) is to receive 8 second-hand MiG-21bis/UMs under a contract with Aerostar of Rumania.

NIGERIA

The Nigerian government has approved funding for new fighters, although the number required is unknown.

TUNISIA

The Government of Tunisia has requested Block 1 avionics upgrades for the Tunisian Republic Air Force's fleet of 12 F-5E/F Tiger II aircraft. This will include an LN-260 standard GPS/INS, Control Display Unit and Environmental Control System. Northrop Grumman will be the prime contractor.

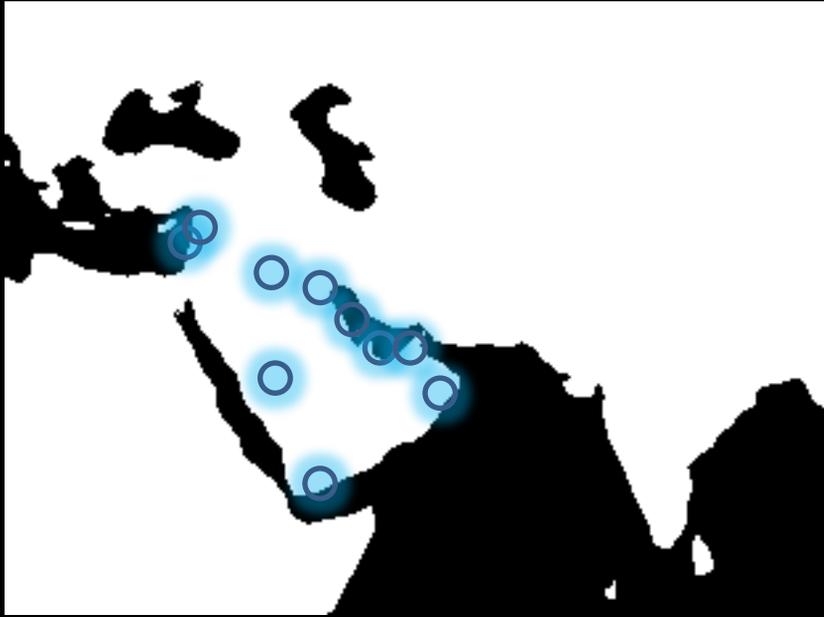
UGANDA

4 SU-30s are on order. 8 are already in service.

SOUTH AFRICA

Twelve of the South African Air Force's 26 Gripen fighter jets are reported to be in long-term storage as the Air Force does not have the funding to fly them. The financial shortfall has greatly affected flying hours and pilot training. The Gripens (17 single-seat Gripen Cs and nine two-seat Gripen Ds) were part of the Strategic Defence Procurement Package as the replacement of the Cheetah fleet, which was withdrawn four years early due to funding constraints. This made South Africa the Gripen's first export customer. Deliveries concluded in September 2013.

MIDDLE EAST



BAHRAIN

The planned F-16 upgrade is due to start in 2014 and complete in 2018. It will incorporate a Joint Helmet-Mounted Cueing System (JHMCS) and Sniper targeting pod. 21 F-16C/Ds are currently in service. Newer variants of the F-16 are planned to be procured after 2018 (they may be second-hand as production is scheduled to cease before then) and there is a longer-term requirement (c.2025) for a multi-role 4th/5th generation fighter.

QATAR

There is a requirement to replace the Mirage 2000-5s with between 24 and 36 new fighters. The Eurofighter Typhoon, F-35 Lightning II, F/A-18E/F Super Hornet, F-15E and Rafale have been evaluated.

UAE

The UAE has requested the sale of 30 F-16 Block 61 fighters from the U.S.A., in addition to planning upgrades for its 73 current F-16E/F Block 60 aircraft.

ISRAEL

It is planned to procure the F-35A. 75 are believed to be required.

KUWAIT

Kuwait has expressed an interest in becoming one of the first non F-15 Eagle operators to acquire Boeing's new F-15SE Silent Eagle. However, Kuwait is still considered a Typhoon and Rafale prospect.

LEBANON

While its current fighter fleet comprises just 4 Hawker Hunters, the Lebanese Air Force (LAF) is still planning to introduce more modern fighters.

IRAQ

36 F-16C/D/IQs are on order. Iraq has relied on fighter deployment from Iran and borrowed Sukhoi SU-25s from Russia (alongside US helicopter and UAVs) to assist in countering the recent ISIL insurgency.

OMAN

12 F-16C/Ds and 12 Typhoons are on order. 12 F-16C/Ds are already in service. The first of the new batch of F-16s will be delivered in 2014 and the Typhoons will be delivered by 2017.

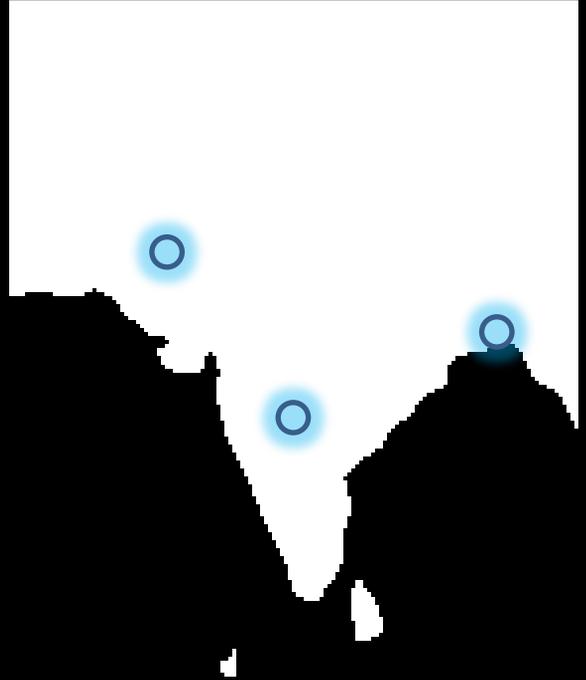
YEMEN

A further 32 MiG-29s are required. 24 are currently in service.

SAUDI ARABIA

The Saudis could require more Typhoons, over and above the current order for 72 aircraft. All 24 of the first batch of aircraft have been delivered, as well as 12 from the second batch.

SOUTH ASIA



PAKISTAN

The 50th and final Block 1 JF-17 Thunder rolled out of the Kamra facility of the Pakistan Aeronautical Complex (PAC) in December 2013. Production of Block 2 aircraft has now been launched. A total of 150 aircraft are believed to be required.

The Pakistan Air Force (PAF) is near to concluding the purchase of up to 13 F-16A/B fighters from the Royal Jordanian Air Force. Currently, the PAF operates 37 F-16A/Cs and 27 F-16B/Ds.

BANGLADESH

The Bangladeshi Government has approved plans to purchase new combat aircraft for the Bangladesh Air Force. No timescale is yet known for this procurement.

INDIA

A contract for 126 Rafales has still to be signed but deal (estimated at \$15-17 billion or Rs. 100,000 crores) is understood to be in the last phase. A further 92 SU-30MKIs are on order. 162 SU-30MKIs are currently in service.

The joint Fifth Generation Fighter (FGFA) programme with Russia has been delayed, due to disagreements over work and cost-share. The preliminary design phase was completed in mid-2013. The first FGFA prototype, based on the Sukhoi T50/PAK-FA, was due to arrive in India for evaluation in 2014. 144 are required.

EAST ASIA



CHINA

The J-20 'Stealth Fighter' made its first flight, which lasted about 20 minutes, on the 11th January 2011. 3 prototypes of the J-20 have now flown. IOC is c.2020.

The FC-1/JF-17 is being marketed to Azerbaijan, Egypt, Indonesia and others.

The Shenyang J-15 is being developed as a carrier-borne fighter to equip the aircraft carrier 'Liaoning.'

The Shenyang J-31 fifth generation fighter flew in October 2012 for the first time and is reported to be planned as an export fighter.

TAIWAN

The Taiwanese MND has procurement plans for 66 F-16C/D fighter aircraft, but so far the U.S. has not given approval for the deal. Upgrades to 145 F-16A/B fighters, will commence in 2016 and will include an AESA radar.

THAILAND

18 F-16A/Bs are being given a Mid-Life Upgrade (MLU) which is due for completion in 2017. However, Thailand may be a potential customer for more F-16 upgrades. The Thai Air Force currently operates 54 F-16A/Bs.

JAPAN

13 of the 18 F-2s damaged by the Tsunami are being repaired. The F-2s and newer F-15s are being upgraded.

The first flight of the indigenous ATD-X fighter is planned for 2014.

Initial funding has been approved for the first 6 F-35A Joint Strike Fighters of a total of 42 currently planned.

SOUTH KOREA

South Korea and Indonesia have signed a memorandum of understanding that will see Jakarta participate in the Korean KFX programme to develop a next-generation fighter platform.

The joint development programme will be led by the two countries' state-owned military aerospace companies – Korea Aerospace Industries (KAI) and PT Dirgantara Indonesia. Having been suspended in May 2013, KFX/IFX development will now continue and it is planned that a prototype will fly before the end of 2019.

South Korea will buy 40 F-35A Lightning II fighters to satisfy its FX-III fighter requirement. Deliveries will commence in 2018 and continue until 2024. A further 20 aircraft may be procured at a later date, subject to funding availability.

VIETNAM

20 SU-30s are on order. 27 SU-27/30s are already in service.

SOUTH-EAST ASIA & AUSTRALIA

PHILIPPINES

The Philippine Air Force (PAF) has agreed to purchase 12 KAI F/A-50 light fighters from South Korea. A contract was signed in March 2014 and two were announced to be ready for delivery in July. In the medium-term, a Squadron of multi-role fighters is also required.

INDONESIA

If the long-planned F-16 upgrade takes place it will extend the service life of the Indonesian Air Force's current 10 F-16A/Bs from 4,000 to 8,000 flight hours. A fleet-wide upgrade is likely to cost around \$150 million.

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AUSTRALIA

The first 2 F-35A Joint Strike Fighters of a planned total of 100, will be delivered to the Royal Australian Air Force (RAAF) in 2014.

It was announced in April 2014 that Australia will procure 58 more F-35As in addition to 14 already approved by the Australian government, bringing the total on order to 72 aircraft, to replace the country's Boeing F/A-18A/B Hornets. The first Royal Australian Air Force F-35A squadron stands up in 2020.

SINGAPORE

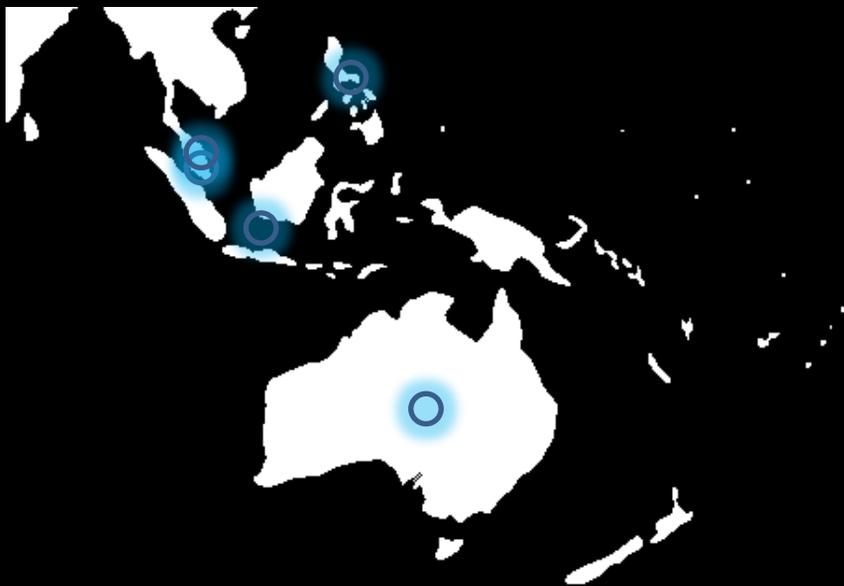
A large procurement decision awaiting the air force in the next couple of years is whether the RSAF will convert its Security Cooperation Participant status in the F-35 Lightning II joint Strike Fighter (JSF) programme into a firm order or step back from the project. Singapore is continuing its evaluation of the F-35, with a view to acquiring the aircraft.

The RSAF has been rumoured to be contemplating buying up to 100 JSF's to replace its F-16s but suspicion is growing that the aircraft could be too pricey.

The most likely scenario, is that the F-15SG will form the backbone of the future RSAF, while Singapore's F-16C/Ds will be put through an extensive modernisation programme to keep them in service for another decade or more. The Singaporean Air Force (SAF) currently operates 60 F-16C/Ds.

MALAYSIA

The RMAF has requested funding for the purchase of a squadron of Multi-Role Combat Aircraft (MRCA) to replace the MiG-29s. The Typhoon and F/A-18E/F are contenders for this requirement, but another possibility is a Gripen NG loan arrangement. 18 aircraft are believed to be required.



INTERNATIONAL FIGHTER

International Fighter Conference: Rethinking Fighter Capabilities To Meet The New Threat

The 14th Annual International Fighter conference returns to London on the 18-20 November. As it does each and every year, the event features a brand-new speaker faculty with 2014 boasting the most senior line-up yet, a fascinating agenda and excellent networking opportunities for the **Jet Fighter community**.

Building on the success of last year we are delighted that **Lt. Gen. Deptula**, recently listed as one of the 100 Most Influential People in American Defence, will once again chair the conference. Based on the feedback you gave us last year, we are expanding the focus on **Naval Aviation and Carrier Strike** as well as feature more presentations relating to the flagship **F-35 Joint Strike Fighter** program. Issues under discussion will also include the reliance on space assets, cyber security, advances fighter radar technology, and the **limitations of stealth**.

With perspectives invited from **air forces and naval aviation wings** from both large and small nations, we are anticipating a range of exciting and relevant perspectives at both an operational and strategic level.

It's a big claim to make when you have been bringing together Air Force Officers and Air Power advocates and industry for well over a decade – but I am confident that 2014 will deliver the **best conference experience yet**.

I'm already looking forward to November, meeting new delegates and old friend, and learning more than ever about fighter aircraft, their use, procurement and the challenges faced.

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2014 Will Feature:

- **Industry Panel Discussion** – hear the vision that industry holds for the future of the fighter market with senior leadership across sectors
- **Independent analysis and global trends** in fighter aircraft. The state of the market, current headline hitting stories and the perception of defence procurement in an age of austerity
- **Leadership Strategy Debate** – senior air force leadership put forward their views on force structure, force development and operating in a resource constrained environment, and took questions from a crowd eager to take advantage of the opportunity
- **Naval Aviation and Carrier Strike Focus Day** – a focus day looking at naval aviation, carrier strike and the strategic importance of projecting power through fighter aircraft

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