
MILITARY
FLIGHT TRAINING



**GLOBAL MILITARY
FLIGHT TRAINING
MARKET REPORT
2018 - 2019**

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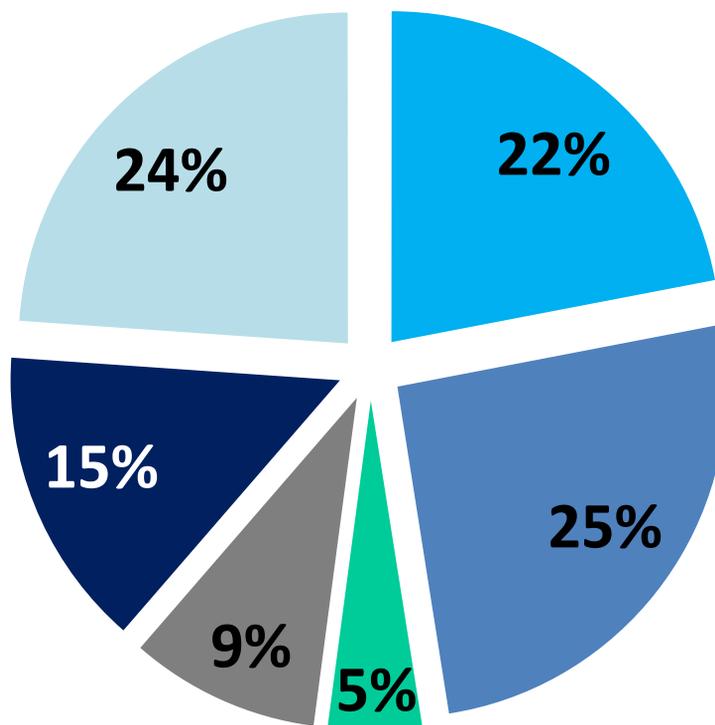
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FIXED-WING TRAINER MARKET

FIXED-WING MARKET SUMMARY

The world's Air Forces operate 8,103 fixed-wing training aircraft, with a further 524 on order. These represent an increase of 3.4% in the total in-service and a decrease of 26.7% in the number on order in the last year. 23.9 % of the total fleet is in North America, with 25.5% in Asia-Pacific and 22.0% in Europe. Of those on order, 30.9% are in Asia-Pacific, with 21.6% in the Middle-East, 5.5% in North America, 29.8% in Europe and 10.1% in Latin America.

Proportion of military trainer aircraft currently in service



■ Europe ■ Asia-Pacific ■ Africa ■ Latin America ■ Middle East ■ North America

FIXED-WING MARKET SUMMARY

ELEMENTARY/PRIMARY TRAINERS

There are generally smaller numbers of Elementary/Primary Trainers in service than Basic or Advanced Trainers. Nevertheless there are significant fleets of certain types in operation.

- Grob 115 – 194 + 28 on order
- Grob 120/120TP – 160
- T-35 – 150 + 4 on order
- MFI-15/17/395 – 187+ 71 on order

In addition, the latest generation of Diamond DA-20/40/42 and Cirrus SR.20/22 aircraft are being procured in increasing numbers;

- DA-20 – 11
- DA-40 – 97
- DA-42 – 18
- SR.20 – 40
- SR.22 – 41

BASIC TRAINERS

930 T-6A/B/Cs are in service with nine countries (plus 46 on order), although 447 of these are operated by the U.S. Air Force and a further 294 by the U.S. Navy. Outside of the U.S.A., Pilatus of Switzerland dominates this market with 307 PC-7s in 15 countries, 182 PC-9s in 13 countries and 131 PC-21s in six countries, plus 76 on order. Embraer of Brazil has 357 Tucanos and Super Tucanos (plus two to be delivered) operated by 14 countries.

180 KAI KT-1s are in service in four countries, with six more on order, while the ubiquitous SF-260 still numbers 300 still in service in 19 countries (plus three to be delivered). 128 T-34s are also still in service with five countries (including 76 with U.S. Navy, but these are being replaced by the T-6).

FIXED-WING MARKET SUMMARY

ADVANCED JET TRAINERS

The most numerous advanced jet trainer in service is now the BAE Hawk, with 640 operated by 14 countries and a further 34 on order.

597 L-39s are in operation in 28 countries (plus four on order). 579 T-38s are in service, but 501 of these are operated by the U.S. Air Force. 270 K-8s are operated by 13 countries, with a further 50 on order.

Of the latest generation of advanced jet trainers, 72 M.346s have been ordered so far (66 delivered), 122 T-50s (96 delivered) and 155 Yak-130s (127 delivered).



**COUNTRY-BY-
COUNTRY
KEY FIXED-WING
PROGRAMMES &
REQUIREMENTS**

ARGENTINA

The Argentine government has approved a contract signed by the Fábrica Argentina de Aviones (FAdeA) and the Fuerza Aérea Argentina (Argentine Air Force) to provide the air arm with another three IA-63 Pampa IIIs.

The Tucano fleet of the Fuerza Aérea Argentina has relocated to the northern base of the III Brigada Aérea (3rd Air Brigade) at Reconquista in the province of Santa Fe. The change followed the arrival in country of the new T-6C+ Texan II trainers that have replaced the EMB-312 with the Escuela de Aviación Militar (Military Aviation School) at Córdoba.

Argentina is modernising and re-equipping its Air Force and has contracted 12 next-generation Beechcraft T-6C+ Texan II aircraft from the US.

- The first four aircraft were delivered and presented last October
- These new aircraft will replace the Tucanos, which were purchased more than 30 years ago from EMBRAER

AT MILITARY FLIGHT TRAINING 2019

Lieutenant General Alejandro Gabriel Amorós, General Director for Plans, Programmes and Budgets, Argentine Air Force will share exclusive insights on Argentina's Air Force modernisation. He will speak on the recent acquisition of the T-6 Texan II trainer and improving cooperation with the USAD and international partners.



AUSTRALIA

The Australian Defence Force is procuring 49 Lockheed Martin PC-21s along with simulators and training devices under the AIR 5428 Pilot Training System.

- 22 aircraft have been delivered to Australia
- The new aircraft will replace the CT-4B Air trainer – which is currently used for basic training – and the Pilatus PC-9/A advanced trainer – which has been in service since 1988, due to be retired in 2019 after 30 years of service and more than 500,000 flying hours
- AIR 5428 is an integrated system designed to train all pilots from the Air Force, the Navy and the Army
- Lockheed Martin is the prime contractor and will provide the ground-based training environment; Pilatus will supply the PC-21 aircraft and Hawker Pacific will provide maintenance support

AT MILITARY FLIGHT TRAINING 2019

Group Captain Chris Hake, Officer Commanding No. 78 Wing, Royal Australian Air Force will share insights on the Air Force's strategy for 2017-2027; he will outline the Air Force's pilot training system facilities project, and will examine AIR 5428 PHASE 1 and the combat training capability. He will speak on Plan Jericho and Australia's plans to capitalise on future high technology systems to transform the training system to ensure agile decision-making in information-dominated environments.

AUSTRIA

Diamond Aircraft Industries has delivered all four DA40NG trainers to the Luftstreitkräfte (Austrian Air Force) for the Instrumental Flight Rules training of PC7 flight instructors and pilots.

BELARUS

The Belarusian defence minister, Lt Gen Andrei Ravkov, has confirmed that the country will receive an additional four Yak-130 *Mitten* combat trainers before the end of the year.

BELGIUM

The Belgian Government aims to acquire 34 F-35A built by Lockheed Martin Lightning II conventional take-off and landing combat aircraft for EUR4.11 billion.

The deal includes the aircraft, two flight simulation centres, equipment, information and technology systems, and high-technology helmet systems for the F-35 pilots and the retraining of pilots and technical personnel from now until 2030

AT MILITARY FLIGHT TRAINING 2019

Colonel Patrick Goossens, Head of Training, Belgian Air Component will share insights on Belgium's air combat capability programme. He will give an overview of the Belgian fixed-wing and rotary-wing flying training system and the transformation of the MFTS in anticipation of the F-35A Lightning II procurement. He will speak on the establishment of linked synthetic mission training systems and networking simulators to enable multi-entry and multi-location training exercises.

CANADA

A basic trainer (turbo-prop), lead-in fighter trainer, multi-engine trainer and helicopter trainers may all be procured in the future.

CHILE

Two Cirrus Aircraft SR-22T aircraft have been delivered to the Grupo de Aviación No 8 (Aviation Group No 8) of the Fuerza Aérea de Chile.

- A first pair of SR-22Ts arrived in Chile in May 2013, followed by a second pair in September 2015 and a third pair in August 2016

CZECH REPUBLIC

The first of three Aero Vodochody L-159T2 two-seat advanced jet trainers has made its maiden flight in August in preparation of its enter in service in the Czech Air Force.

- The aircraft were ordered to provide a newer-generation L-159 trainer to fulfil the advanced flying training and future tactical needs of the air force

AT MILITARY FLIGHT TRAINING 2019

Colonel Jan Susekar, 21 Tactical Air Wing Commander, Czech Air Force will speak on outsourced training as a cost-effective measure. He will share insights on retaining air superiority to conduct air policing and deter Russian aggression; evaluating industry engagement to amplify basic and advanced training; assessing challenges associated with adapting to advanced software in fighter cockpit; adapting the training system to ensure effective pilot transition into fighter aircraft.

ECUADOR

A retirement ceremony has marked the end of 40 years of service by the T-34C-1 Turbo Mentor with the Fuerza Aérea Ecuatoriana (Ecuadorian Air Force).

- Three T-34Cs were also operated by the Aviación Naval Ecuatoriana (Ecuadorian Naval Aviation)

FRANCE

France has welcome the Swiss-built Pilatus PC-21 trainer aircraft into service in its Air Force in October.

- In total, France is acquiring 17 aircraft that should all be delivered by early 2019
- The PC-21 programme is being managed under a 11-year contract signed with a joint venture between Babcock Mission Critical Systems France and Dassault

FRANCE (c'td)

- France becomes the second European nation to adopt the PC-21 after Switzerland

AT MILITARY FLIGHT TRAINING 2019

Colonel Julien Moreau, Commander Flying Schools, French Air Force will speak on shaping the French Air Force education and training system for new challenges; outlining industry engagement and modernisation of ground-based training facilities to prepare fighter jet crews for the full spectrum of operations in an increasingly complex battlespace; exploring scalable options to satisfy single, tandem, and side-by-side seating configurations; addressing the role of light combat attack aircraft in advanced training and counter-insurgency; developing ground-based systems and fielding reconfigurable threat emulation.

GREECE

Twelve new Tecnam P2002JF single-engine trainers are being bought by the Elliniki Polemiki Aeroporia (Hellenic Air Force) to replace obsolete T-41D Mescaleros in the basic training role.

INDONESIA

Indonesia has taken delivery of a further six Grob G 120TP-A basic trainers, bringing the total acquired by the Tentara Nasional Indonesia – Angkatan Udara (Indonesian Air Force) to 30.

- The first 26 aircraft have been delivered between 2013 and 2016

IRAN

Iran's military plans to field a new light-attack and training jet called the Kosar by 2020; it will then undertake a five-year test programme.

IRAQ

Under a contract effective from the 30th June 2015, the IQAF is acquiring ten single-seat L-159As and a pair of twin-seat L-159T1s.

- Iraq took on its first two-seat L-159T1 trainer with the arrival of an Advanced Light Combat Aircraft (ALCA) at Balad Air Base on the 20th May, bringing the aircraft fleet in the 115th Attack Squadron to 11

The Iraqi Air Force (IQAF) received a second batch of T-50IQ jet trainer/light attack aircraft on the 7th March.

- Iraq signed a contract with Korea Aerospace Industries (KAI) for 24 T-50IQs, valued at more than US\$1.1bn, in December 2013

ISRAEL

Elbit Systems has finished delivering the final Ground Based Training System (GBTS) to the Israeli Air Force for its Aermacchi M-346 Lavi trainer aircraft.

- The upgrade of the 30 trainer aircraft was completed in 2017 and included new software, the fitting for external fuel tanks and the ability to drop live and practice ordnance. The GBTS's delivery reflects this upgrade
- The GBTS contains networked simulators that will provide 'an advanced virtual-constructive training solution that enables the IAF pilots to conduct effective and safe flight training', as described by Elbit Systems

AT MILITARY FLIGHT TRAINING 2019

Lieutenant Colonel Ben Blustein, Head of Fighter Exercises Branch, Israeli Air Force will share insights on LVC training in mixed inventories of new and legacy platforms and fifth-generation training. He will evaluate the performance of *Adir* F-35 pilots and will address the integration of fourth and fifth generation fighter aircraft into combined LVC exercises.

ITALY

The last of 18 T-346A jet trainers for the Aeronautical Militare (AM, Italian Air Force) was officially handed over at Leonardo's Aircraft Division site at Venegono Superiore, Varese, on the 27th February.

LEONARDO and the AM are to collaborate on an International Flight Training School (IFTS).

- From 2021, the AM's entire advanced and pre-operational training syllabus will be moved to a new, dedicated facility at Lecce-Galatina

The M-345 is planned to replace the MB-339s, with deliveries expected from 2020.

JORDAN

Although not publicly announced, the RJAF had ordered 14 G 120TPs, of which 12 had been delivered by the time the video was released and the remaining two are thought to have since entered service.

The Royal Jordanian Air Force is renewing its trainer fleet and displayed two new fixed-wing types at the SOFEX show in May.

- 10 Pilatus PC-21s will conduct advanced training and will replace the CASA C10CC Aviojets; the first has been delivered last August
- The Slingsby Fireflies have been replaced by the Grob G 120TP for the basic/instructor training role; 14 were purchased, of which two were given by the German government and entered service in April 2017

LIBERIA

Two Armed Forces of Liberia pilots have completed training with the Nigerian Air Force and received their wings on the 16th April.

MEXICO

Argentina and Mexico have signed a letter of intent at FIDAE 2018 on the possible co-manufacture of the IA-63 Pampa III.

MYANMAR

Myanmar is the latest customer for the Yak-130, with an order for six aircraft in June 2015.

- The first three were delivered in late 2016 and three more arrived last year. An additional order has been placed by the same customer for an undisclosed number of aircraft, slated for delivery in 2018
- The list of prospective new export customers for the Yak-130 includes America, Egypt, Kazakhstan, Laos and Vietnam

NETHERLANDS

The current fleet of 13 PC-7 Turbo Trainers of the Woensdrecht-based 131 EMVO Squadron is slated for replacement.

PAKISTAN

Last December, the Pakistan Air force inaugurated a new lead-in-fighter-training (LIFT) unit to prepare pilots' transition to JF-17 and F-16, which now form the backbone of the Pakistan Air force fleet.

AT MILITARY FLIGHT TRAINING 2019

Air Vice Marshal Nasser ul Haq Wyne, Inspector General, Pakistan Air Force will share insights on optimising the pilot pipeline and enhancing multinational training opportunities. He will give an overview of the LIFT unit and its role in preparing pilots for transitioning to the JF-17 and F-16; he will outline the Multinational Military Flight Crew Training Centre established in partnership with Turkey.

PERU

Peru has concluded local production of the KT-1P Torito turboprop trainer, due to a lack of interest for follow-on orders.

- SEMAN Peru will continue to provide maintenance for the 20 units acquired by the Peruvian Air Force

POLAND

The Polish Armament Inspectorate has signed a contract with Leonardo for four more M-346 Master aircraft for the Advanced Trainer Jet system.

- The contract, worth PLN1 billion (US\$294 million) includes the delivery of four aircraft, a logistics package and seven simulation-based training stands by 31 October 2020
- There is an option for Poland to acquire another four M-346s for PLN550 million for delivery by 31st October 2022
- The trainer aircraft are replacing the 37 remaining PZL Mielec TS-11 Iskra jet trainers, manufactured in Poland in 1963-87

AT MILITARY FLIGHT TRAINING 2019

Colonel Wojciech Pikuła, Commander of the 4th Training Wing, Polish Air Force Inspectorate and **Colonel Konrad Madej, Head of Training, 4th Training Wing, Polish Air Force Inspectorate** will speak on the Polish Air Force solution for fast jet training. They will elaborate on the Polish Training System 2019, the new road map for the fast jet training; technology supporting training capability; Ground-Based Training System in PLAF fast jet training; requirements to sustain proper rate of training with the Integrated Logistic Support.

Colonel Norbert Chojnacki, Chief of the Air Combat Branch, Polish Air Force Inspectorate will share insights on maximising training effectiveness to retain the competitive edge. He will give an overview of the main priorities and challenges associated with the replacement of TS-11 Iskra jet trainers and will speak on the acquisition of M-346 trainer aircraft. He will talk about enhancing flexibility and operational versatility by integrating synthetic training devices and ensuring effective pilot interactions in real time with a virtual tactical scenario.

PORTUGAL

The Alpha Jets have been withdrawn from use in January, after 25 years of service in the Portuguese Air Force.

QATAR

Qatar's previously announced order for six Hawk Advanced Jet Trainers has been increased to nine, along with an initial support package, confirmed by BAE Systems in a contracts update announcement on the 29th June.

- The first Hawk delivery to the Qatar Emiri Air Force (QEAF) is expected in 2021

SENEGAL

President of the Republic of Senegal Macky Sall has announced the purchase of four new-build L-39NGs from Aero Vodochody.

- Deliveries are expected to start in early 2020



SLOVAKIA

The Slovakian Ministry of Defence announced in July its intention to purchase 14 F-16 Block 70 aircraft from Lockheed Martin to replace its fleet of Mikoyan MiG-29s.

- The total deal is estimated to be worth US\$2.91 billion and includes the aircraft, subsystems, weapons, logistics and training costs

AT MILITARY FLIGHT TRAINING 2019

Major General Ľubomír Svoboda, Commander, Slovak Air Force will share insights on the transformation of the Slovak Air Force and its flight training capability. He will cover the replacement of the obsolete fleet of MiG-29s; the reformation of pilot and ground personnel training and airfield infrastructure development in anticipation of the fourth generation aircraft. He will also evaluate future capability development and engagement in multinational training exercises.



Picture: Tech. Sgt. Dave Ahlschwede

SOUTH KOREA

South Korea's Ministry of National Defense announced on the 2nd May that the country's air force has officially retired the T-103 (Ilyushin Il-103) training aircraft from service.

- It is to be replaced by the similar, but locally built, KAI KT-100 trainer

AT MILITARY FLIGHT TRAINING 2019

Lieutenant Colonel Sanghyon Park, Air Attache, South Korean Embassy will share insights on improving training for F-35 fighter aircraft and UAVs. He will speak on enhancing conversion training to prepare pilots to fly the F-35; assessing synthetic training requirements for UAV pilots; he will give an overview of the Mitt squadron.

SPAIN

South Korea and Spain are discussing a potential trade of trainer and transport aircraft, which would involve around 50 basic and advanced trainer jets manufactured by Korea Aerospace Industries and four to six Airbus A400M airlifters.

- Spain is looking to replace its older trainer fleet of Chilean ENAER T-35C Pillan jets. The country has ordered 27 A400M transport aircraft but has decided not to use 13 of them; it has approval from Airbus to sell the surplus products to other countries
- If the estimated US\$890 million deal goes through, Spain would sell four to six A400Ms to South Korea in exchange for the acquisition of 34 KT-1 basic trainer aircraft and 20 more T-50 supersonic trainer jets for advanced pilot training

AT MILITARY FLIGHT TRAINING 2019

Colonel Enrique Martinez Vallas, Chief of Acquisitions Programme Section, Spanish Ministry of Defence will speak on developing a training system for the 21st century and its procurement aspects. He will share insights on the Spanish Integrated Training System programme.

SRI LANKA

Six new PT-6 training aircraft have been delivered to the Sri Lankan Air Force for ab initio training.

- They were formally handed over at the AVIC Hongdu factory in Nanchang, China, on the 15th May

SYRIA

A small number of Syrian Arab Air Force MBB-SIAT 223K1 Flamingo aerobatic trainers have recently been made airworthy again, after years in storage.

THAILAND

Korea Aerospace Industries has completed delivery of four T-50THs to the Royal Thai Air Force.

- Thailand signed a US\$110m contract for four T-50THs in September 2015 and another eight examples were ordered last July in a deal valued at US\$260m
- Delivery of the second batch is likely to begin late next year

TURKEY

The T-X Project will replace the T-38s in the early 2020s.

U.K.

The RAF began instructor pilot tuition on its new Embraer Phenom T1 on the 16th April.

- The aircraft replaces the Beech King Air 200 aircraft in the multi-engine training role

U.K. (c'td)

The BEECHRAFT King Air B200/200GT was withdrawn from service with No 45 Squadron at RAF Cranwell, Lincolnshire in March.

At RAF Cranwell, Lincolnshire, the last pair from 23 Prefect T1s on order were delivered on the 8th and 14th March respectively.

At RAF Valley, Wales, two more of ten Beechcraft T-6 Texan T1s on order have joined the first pair, delivered in February.

The MOD's 15-year Air Support to Defence Operational Training (ASDOT) deal will start on the 1st January 2020, and is said to be worth around £1.2bn.

- ASDOT comprises a complex set of aggressor-type training requirements for all three of the UK's armed services and has attracted much attention from industry
- The MOD will define its requirements by listening to the bidders
- A winner should be announced by mid-2019, leading to full operational capability by the end of 2020

AT MILITARY FLIGHT TRAINING 2019

Air Vice Marshal Warren James, Air Officer Commanding 22 Group, Royal Air Force will deliver the opening address of the conference on the changing face of flying training; lessons learned and anticipated progress in line with MFTS; the modernisation of MFTS to meet the requirements of the front line; and the challenge of innovation.

Air Commodore J H Hunter, Director Flying Training No 22 Group, Royal Air Force will share lessons learned from 100 years of operations. He will speak on replacing existing contracted services to meet air warfare support requirements across all services and joint forces commands; outlining the current RAF training requirements; and establishing a Joint Secure Air Combat Training System to prepare Airmen for operations in congested battlespaces.

UKRAINE

Ukraine is upgrading its MiG-29 “Fulcrum” fleet to a 4+ generation multi-purpose aircraft in two phases, MiG-29MU1 and MiG-29MU2.

- In August, two MiG-29MU1 aircraft were delivered to the Ukrainian Air Force; they should receive the SN-3307 satellite navigation system to improve navigation and instrument landing, along with a more powerful radar capable of detecting targets over a greater distance
- The MiG-29MU2, which should be delivered in 2019, will receive an upgraded 20PM weapons-management system, upgrades on the R-862 radio system, replacement of the A-323 RSBN navigation system and the MSD-2000 databus
- Serial production of the MU2 modification is planned to start in 2020
- The Lviv State Aircraft Repair Plant, prime contractor of the upgrade, has already started work on a third phase of the modernisation, the MiG-29MU3



U.S.A.

Aero Vodochody announced two new sales of its L-39NG/CW jet trainer during the Farnborough International Airshow in July.

- A letter of intent has been signed with RSW Aviation, a military training provider in the US, to deliver 12 new-build L-39NG aircraft and upgrade six legacy L-39s into the L-39CW variant
- Meanwhile, Aero announced a binding agreement with SkyTech, which provides military aviation services and funding solutions, to deliver ten L-39NGs, and the firm has taken options on an additional six aircraft

A new Airborne Systems Training and Research Support (ASTARS) III aircraft, representing the newest generation of 'flying classrooms' has been delivered to the United States Naval Test Pilot School (USNTPS) at Naval Air Station Patuxent River, Maryland.

A Boeing-Saab partnership has won a US\$9.2 billion contract to produce the US Air Force's next-generation jet trainer.

- As the winners of the competition, Boeing and Swedish aerospace firm Saab are set to capture sales of at least 351 training jets to the US Air Force, with possibly more in the international market
- The indefinite-delivery/indefinite-quantity contract will allow the Air Force to buy up to 475 aircraft and 120 simulators, although the current plan is to buy 351 T-X aircraft, 46 simulators and associated ground equipment
- Under the initial US\$813 million award, Boeing will be responsible for delivering five T-X aircraft and seven simulators, with the first simulators arriving at Joint Base San Antonio-Randolph, Texas, in 2023
- According to the T-X request for proposals issued in December 2016, the Air Force will then execute contract options for two batches of low-rate production and eight rounds of full-rate production
- The contract also includes ground training systems, mission planning and processing systems, support equipment, and spares

U.S.A. (c'td)

- Initial operating capability is planned by the end of fiscal 2024 when the first squadron and its associated simulators are all available for training. Full operational capability is projected for 2034

AT MILITARY FLIGHT TRAINING 2019

Brigadier General Andrew P. Hansen, Director, USAFE-UK will share insights on enhancing combined training and interoperability to support USAFE objectives and providing support to US European Command, NATO and USAFE within the UK. He will speak on deploying and sustaining contingency operations and facilitating combined training exercises to ensure interoperability and institute common interfaces among partners.

Major General Kevin A. Huyck, Director of Operations, US Air Combat Command will speak on training combat air forces in support of US security objectives. He will share insights on expanding simulation, augmented reality and gaming to accelerate the progression of Airmen through the training pipeline; outlining requirements for adversary air and examining *Operation Location Laydown* going to contract in 2020-21; addressing pilot shortage and skills retention; evaluating the role of light attack aircraft in near peer-on-peer conflict.

Rear Admiral Gregory Harris, Chief of Naval Air Training, US Navy will speak on improving LVC and full-immersion mission experience for pilots and sensor operators. He will share insights on advancing VR and high-fidelity ground based training; leveraging advanced educational technology and ensuring ample learning opportunities for the US Navy; developing the immersive training to expand intellectual agility and mitigate cognitive complexity; enhancing LVC and war-gaming to enable complex, multi-domain warfare scenarios.

U.S.A. (c'td)

Major General Patrick J. Doherty, Commander 19th Air Force, US Air Force will dive into immersive training and high-fidelity simulation for the future force. He will speak on developing AI to support learning and select content based on specific strengths and weaknesses of Airmen; achieving efficiency without compromising quality, and leveraging COTS for a better, faster and cheaper training; ensuring software compatibility and inter-connectivity of AI and synthetic training devices; mitigating challenges associated with the incompatibility of legacy aircraft and advanced trainers.

Colonel William A. Ryan, Deputy Commander, US Army Aviation Center of Excellence will share insights on meeting select training readiness requirements. He will speak on implementing and managing live, virtual, constructive, gaming and mission command efforts that support Institutional Initial Military Training and Professional Military Education; ensuring that simulators safely meet aircrew training task standards when fielded, modified, and sustained; developing doctrine and TTPs to retain high operational readiness of rotary-wing, air traffic control, and unmanned aerial systems.

GLOBAL FIXED- WING HOLDINGS

EUROPE



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
ARMENIA	6 L-39
AUSTRIA	13 PC-7 4 DA40NG 18 Saab-105
BELGIUM	33 SF-260 28 Alpha Jet
BELARUS	10 L-39 8+4 YAK-130
BULGARIA	5 PC-9 6 L-39
CROATIA	11 PC-9
CZECH REPUBLIC	8 L-39 4 L-159Ts
DENMARK	27 T-17
FINLAND	28 L-70 Vinka 11+22 G115 9 M-290 TP 43 HAWK 51/51A/66
FRANCE	15 SR.20 (+1 Navy) 8 SR.22 (+3 Navy) 0+17 PC-21 37 TB-30 18 G.120 22 EMB-121 102 Alpha Jet

EUROPE



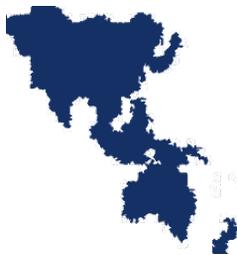
COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
GEORGIA	4 L-29 4 L-39
GERMANY	7 G.120
GREECE	0+12 Tecnam P2002s 45 T-6A 40 T-2C/E
HUNGARY	2 Zlin 242L 2 Zlin 143 Sli
IRELAND	8 PC-9
ITALY	30 SF-260EA 72 MB 339 18 MB 346
MALTA	4 Bulldog
NETHERLANDS	13 PC-7
NORWAY	16 T-17
POLAND	16 PZL-130 TC1/11 36 TS-11 6+6 M346
PORTUGAL	14 TB-30
RUSSIA	201 L-39 90+20 Yak-130
SERBIA	14 Lasta 95 1 Seneca

EUROPE



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
SLOVAKIA	7 L-39
SLOVENIA	9 PC-9
SPAIN	35 T-35 64 C-101
SWEDEN	48 Saab-105 (SK 60)
SWITZERLAND	27 PC-7 8 PC-9 8 PC-21
TURKEY	25 T-41D 35 SF-260D 40 KT-1 0+15 Hurkus B 68 T-38A/M 0+52 MFI-395
UKRAINE	46 L-39C
UK	97 G-115 + 6 Navy 23 G-120TP 41 Tucano 4+6 T-6C 38 Hawk T-1 + 14 Navy 25 Hawk T-2 8 King Air 200/350 3+2 Phenom 100 4 King Air 350 (Navy)

ASIA PACIFIC



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
AUSTRALIA	59 PC-9/9A 33 HAWK 127 8+4 KING AIR 350 10+39 PC-21
AZERBAIJAN	0+10 Super Mushshak 12 L-39
BANGLADESH	15 Yak-130 9 FT-6 11 FT-7 9 K-8 7 L-39
BRUNEI	4 PC-7 Mk. II
CHINA	170 JL-8 (K8) +11 Navy 35 JJ-7 2 L-15 14 JJ-6 (Navy) 2 JL-9 (Navy)
INDIA	104 HAWK 132 11+6 HAWK (Navy) 80 HJT-16 + 20 Navy 75 PC-7 Mk.II
INDONESIA	26 G-120 TP 14+2 KT-1 18 SF-260 7 HAWK 109 15 T-50

ASIA PACIFIC



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
JAPAN	201 T/XT-4 13 BEECH JET 400 16 KING AIR 90 (Navy) 49+47 T-3 (Navy)
KAZAKHSTAN	17 L-39 0+4 YAK-130
KYRGYZSTAN	
MALAYSIA	22 PC-7 Mk.II 7 MB-339 5 HAWK 108 2 KING AIR 350
MYANMAR	20 G120TP 16 PC-7 10 PC-9 6 FT-7 3 G-4 12 K-8 +50 on order 6 YAK-130
NEW ZEALAND	11 T-6C 4 KING AIR 200
NORTH KOREA	30 FT-2 135 FT-5
PAKISTAN	9 FT-6 8 FT-7 38 K-8 20+24 T-37 120 MFI-395

ASIA PACIFIC



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
PHILIPPINES	15 T-41B 8 T-41D 21 SF-260F 3 S-211 2+3 TC-90 4+8 T-50PH
SINGAPORE	19 PC-21 12 M-346
SOUTH KOREA	106 KT-1 2+21 KC-100 59 T-50A/B
SRI LANKA	1 FT-7 6 PT-6 5 K-8
TAIWAN	37 T-34 25 F-CK-1B 49 AT-3
TAJIKISTAN	4 L-39
THAILAND	10 DA-42 23 PC-9 35 L-39 4+8 T-50
UZBEKISTAN	2 L-39
VIETNAM	28 L-39

SUB-SAHARAN AFRICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
ANGOLA	12 Tucano 22 PC-7 4 PC-9 6 L-29 3 L-39
BOTSWANA	5 PC-7 Mk.II
BURKINA FASO	4 SF-260
BURUNDI	5 SF-260
CAMEROON	6 Alpha Jet
CHAD	2 PC-7 1 PC-9 1 SF-260
EQUATORIAL GUINEA	2 L-39
ERITREA	8 M-290TP 6 MB339
ETHIOPIA	4 SF-260 10 L-39
GHANA	4 K-8 1 DA42
KENYA	11 Bulldog 12 Tucano 6 G120A

SUB-SAHARAN AFRICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
MALI	1 SF-260 0+2 Super Tucanos
MAURITANIA	5 Tucano 4 SF-260
MOZAMBIQUE	1 L-39
NAMIBIA	12 K-8 2 FT-7 5+5 Super Mushshak 6 MB339
NIGERIA	17 L-39 4 DA40 2 FT-7 6 TB-30
SENEGAL	0+4 L-39NG 0+4 KT-1
SOUTH AFRICA	35 PC-7 23 Hawk 120
TANZANIA	1 FT-6 2 FT-7 5 K-8
TOGO	2 TB30 6 EMB-326 5 Alpha Jet

SUB-SAHARAN AFRICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
UGANDA	4 SF-260W 3 L-39A/ZO 13 SF-260
ZAMBIA	6 L-15 2 FT-6 16 K-8 15 MFI-15
ZIMBABWE	28 SF-260 10 K-8

LATIN AMERICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
ARGENTINA	9 G.120 TP-A 18+18 AT/IA-63 14 Tucano 4 T-6C+ 10 T-34 (Navy)
BELIZE	1 T-67
BOLIVIA	9 DA-40 2 PC-7 9 Zlin Z-142 6 K-8 1 Foxtrot 4
BRAZIL	103 Tucano 61 Super Tucano
CHILE	8 SR-22 12 Super Tucano 31 T-35 7 PC-7 (Navy)
COLOMBIA	14 Tucano 25 Lancair T90 Calima 17 T-37
CUBA	26 L-39
DOMINICAN REPUBLIC	4 T-35
ECUADOR	11 DA-20 17 Super Tucano 3 T-35 (Navy)

LATIN AMERICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
EL SALVADOR	3 T-35
GUATEMALA	4 T-35
HONDURAS	9 Tucano (3 more required)
JAMAICA	2 DA-40 1 DA-42
MEXICO	31 PC-7 1 PC-9 25 G120TP 25 SF-260 48+7 T-6C 2 Lancair IVP/Super ES (Navy) 5 M-290TP (Navy) 11 T-6C (Navy)
PANAMA	4 T-35
PARAGUAY	6 Tucano 9 T-35
PERU	17 Tucano 20 KT-1P 5 MB 339 2 T-34 (Navy)

LATIN AMERICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
URUGUAY	5 PC-7 10 SF-260 1 T-34 (Navy) 0+4 T-35 (Navy)
VENEZUELA	24 DA40 6 DA42 19 Tucano 12 SF-260 25 K-8 0+24 L-15

MIDDLE EAST & NORTH AFRICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
ALGERIA	38 L-39 16 Yak-130
BAHRAIN	3 T-67 6 Hawk 129
EGYPT	74 G-115 54 Tucano 120 K-8 10 L-39 39 L-59 27 Alpha Jet
IRAN	35 PC-7 3 FT-7 15 Tucano (Revolutionary Guard)
IRAQ	19 Lasta 95 4 Cessna 208 2 L-159 6+18 T-50
ISRAEL	17 G-120 20 T-6A 30 M-346 2 King Air 200
JORDAN	8 T-67 13 CASA 101 12 Hawk 63 13 G-120TP 4+6 PC-21

MIDDLE EAST & NORTH AFRICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
KUWAIT	12 Tucano 10 Hawk 64
LEBANON	3 Bulldog
LIBYA	10 L-39 14 G-2 38 SF-260 24 T-6C
MOROCCO	23 Alpha Jet 4 King Air 100
OMAN	12 PC-9 10+2 Hawk 103/166 7 MFI-395
QATAR	24 PC-21 4+4 MFI-395 0+9 Hawk
SAUDI ARABIA	25 SR22 40 MFI-17/395 55 PC-21 66+23 Hawk 65/165
SUDAN	6 K-8 0+6 JL-9
SYRIA	63 L-39 6 MFI-17

MIDDLE EAST & NORTH AFRICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
TUNISIA	18 SF-260 9 L-59 12 G-115 1 GA8
UAE	31 PC-7 25 PC-21 12 MB-339 31 Hawk 61/63/102 3 King Air 90
YEMEN	19 L-39

NORTH AMERICA



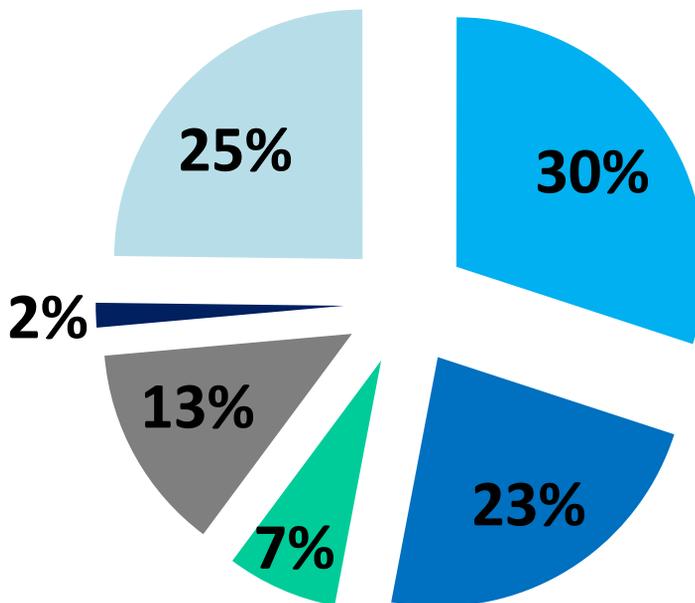
COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
CANADA	27 CT-114 14 G-120 18 HAWK 115 (CT-155) 7 KING AIR 90 22 T-6A
USA	157 BEECHCRAFT T-1A 54 DA-40 11 SUPER TUCANO 25 SR.20 (T-53A) 447 T-6A 6 G120TP (CAE Operated) 501 T/AT/NT-38 4 T-6D (Army) 11 King Air 100/200 (Army) 3 T-34 (Marine Corps) 57 KING AIR 90/200 (T-44/TC-12-NAVY) 294+29 T-6A/B (NAVY) 75 T-34 (NAVY) 10 T-38 (NAVY) 196 T-45A/C (NAVY)

ROTARY-WING TRAINER MARKET

ROTARY-WING MARKET SUMMARY

There are 1,425 Military Helicopters operated in training roles worldwide, a 7% increase on 2017, with the regional breakdown as follows:

Proportion of military trainer aircraft currently in service



■ Europe ■ Asia Pacific ■ Middle East ■ Latin America ■ Africa ■ North America

In addition, there are known orders for 55 Military Training Helicopters.

The most widely operated type is still the Bell 206 Jet Ranger (also known as the OH-58), of which there are 445 in service in 19 countries. This represents 31.2% of the total World Military Training Helicopter fleet.

**COUNTRY-BY-
COUNTRY**

KEY

**ROTARY-WING
PROGRAMMES &
REQUIREMENTS**

AUSTRALIA

A new helicopter training system for the Australian Navy and Army has been approved by the Australian Government.

- Boeing Defence Australia will provide 14 Airbus Helicopters EC-135s, with Initial Operating Capability scheduled for late 2018

CHILE

The Chilean Army has a requirement for piston-engined helicopters for training.

CROATIA

Hellenic Army Aviation plans to acquire 70 ex-US Army Bell OH-58D Kiowa Warrior helicopters.

- This comes after the US donated 16 Kiowa helicopters to Croatia between 2012 and 2016
- The helicopters should be transferred this autumn at a cost of US\$44.1 million financed through a Foreign Military Sales funding
- 36 of the 70 helicopters have a complete communications/navigation/weapons suite and are fully operational. 24 have a basic communications/navigation suite and will be used for training by the Joint Helicopter Training School that will be soon set up. The remaining 10 will be used for spare parts
- The deal includes maintenance trainers, spare parts and technical training

AT MILITARY FLIGHT TRAINING 2019

Brigadier General Mato Mikić, Commander, Croatian Air Force will speak on enhancing basic flight training doctrine and TTPs, will address the recent procurement of Kiowa helicopters and will share insights on the remodelling of the training system.

GERMANY

The Sea Lion variant of the NH90, manufactured by Airbus Helicopters, has completed qualification testing ahead of initial deliveries to the German Navy and is scheduled for Q4 2019.

- A total of 18 aircraft are on order for the German Navy
- They will be equipped with the CMC Electronics CMA-9000 Flight Management System (FMS) and CMA-5024 GPS Landing System.

AT MILITARY FLIGHT TRAINING 2019

Commander Jan Keller, Commander Flying Group, German Navy will speak on the introduction of the NH90 Sea Lion into the German Navy; army aviation training as forerunner to naval specialisation; the German Naval Aviation Flying Training Concept.

ISRAEL

Israeli Air Force is in the final stages of selecting a new rotorcraft for its training academy, with the AgustaWestland AW119, Airbus Helicopters 407GXP in contention.

- A selection is expected before year-end to replace the service's use of aged Bell 206 basic trainers



ITALY

Leonardo and the Italian Air Force have signed an agreement to create the 'International Flight Training School' (IFTS), to support national and international pilot training on fixed, rotary and unmanned platforms.

AT MILITARY FLIGHT TRAINING 2019

Major Matteo del Nevo, Army Aviation Command, Italian Army will deliver a brief on the Italian Army Aviation approach to flying training and will share lessons learned from multinational and multi-domain training exercises. He will speak on training in mixed inventories of new and legacy rotary-wing platforms and will outline new qualifications and pilot training requirements for new fleet of helicopters.

JORDAN

Jordan has displayed a new type of rotary-wing aircraft at the SOFEX show last May.

- The Robinson R44 Raven II have been acquired to replace the Hughes 500D/E for the initial rotary-wing training role



MALAYSIA

The Royal Malaysian Air Force has received in March 2017 a new flight and navigation training simulator from Thales.

- The flight and navigation procedures trainer II simulator has been designed for pilot training on H120 helicopters

AT MILITARY FLIGHT TRAINING 2019

Major General Dato Asghar Khan bin Goriman Khan, Air Education and Training Commander, Royal Malaysian Air Force will share insights on sustaining operational capabilities through to 2055; examining the planned procurement of light combat aircraft as part of wider plans to meet current and emerging threats in the rapidly evolving regional security environment; reducing flying training costs through synthetic training; overview of the recent procurement of flight and navigation procedures trainer II simulator and its impact on combat capability; advancing LVC and ensuring effective integration of trainer aircraft with simulators.

PAKISTAN

Four Enstrom 280FXs have been delivered to Global Services and Solutions of Pakistan. It is believed that these are destined for the Pakistan Army, for rotary-wing tuition.

PORTUGAL

The Alouette III helicopter requires urgent replacement but no funds are expected until 2018 when the Portuguese Air Force will de-commission the Alouette III fleet, even for second-hand aircraft.

SPAIN

A single helicopter type will be used for basic and advanced helicopter training in the future.

U.K.

Ascent Flight Training has been awarded a £1.1bn contract by the UK Ministry of Defence to deliver the rotary-wing training element of the UK Military Flying Training System programme.

- The contract was announced on the 20th May 2016 and will involve delivery of 29 H135s and 3 H145s, by Airbus Helicopters
- 286 students will be trained annually by 161 instructors: 102 military and 59 from Ascent
- A military rotary-wing aircrew training service will be delivered until 2033
- Aircrew across the three Services will continue to conduct their basic and advanced rotary-wing training at RAF Shawbury and Army Air Corps Middle Wallop. Mountain and maritime rotary-wing aircrew training will take place at RAF Valley, Anglesey
- The H135s and H145s will deliver the 28,000 flying hours per year required to meet the training requirement.

U.S.A.

The US Army aims to acquire 11 more Airbus UH-72A Lakota helicopters for pilot training at its Aviation Centre of Excellence.

- The service foresees the delivery of the aircraft by fiscal year 2021
- This order comes after the announcement in March of a US\$273 million contract between the Army and Airbus Helicopters for the delivery of 35 UH-72As

**GLOBAL
ROTARY-WING
HOLDINGS**

EUROPE



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
BULGARIA	4 Bell 206
CROATIA	16 OH-58D 8 Bell 206B-3
FINLAND	5 MD500 (Army)
FRANCE	2 H225/EC225 17 AS555 (Army) 16 SA341/342 (Army) 37 EC-120
GERMANY	14 EC135 (Army)
GREECE	19 NH-300C (Army)
IRELAND	1 EC135
ITALY	38 NH500E
POLAND	24 SW-4 2 MI-2 (Army)
RUSSIA	43+7 Ansat-U 29 Mi-2 8+16+36 Mi-28UB
SLOVENIA	4 Bell 206

EUROPE



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
SPAIN	15 EC120B 6 S-76 14 EC135 (Army) 7 MD500 (Navy)
SWEDEN	20 AW109 (Defence Forces Helicopter Wing)
TURKEY	33 Bell 206 (Army)
UK	22 AS350 (DHFS) 1 AW139 (DHFS) 19+12 H135 3 H145

ASIA PACIFIC



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
AFGHANISTAN	3 SA-315
AUSTRALIA	6 Bell 206 (Army) 12 AS350 (Navy) 4 Bell 429 (Navy) 14 H135 (Army) 6 H125/AS350 (Navy)
BRUNEI	3 Bell 206
CHINA	93 HC 120 8 MI-8 (Navy)
INDONESIA	10 EC120B 2 EC120B (Army) 2 EC120B (Navy)
JAPAN	30 EN480 (Army) 15 EC135 (Navy) 7 MD500 (Navy)
NEW ZEALAND	5 AW109
PAKISTAN	8 SA316 4 Enstrom 280FX (Army)
SINGAPORE	5 EC120B
TAIWAN	29 Bell 206 (Army)
THAILAND	16 F480B (Army) 45 Schweizer 269 (Army) 1 R44 (Army)

SUB-SAHARAN AFRICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
NIGERIA	2 R66 12 AW109 1 Mi-34
ZIMBABWE	8 Bell 412

LATIN AMERICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
ARGENTINA	5 Bell 206 (Army)
BOLIVIA	5 R44 1 R44 (Army)
BRAZIL	30 AS350 16 Bell 206B (Navy)

LATIN AMERICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
CHILE	4 Bell 206 6 Bell 206 (Navy) 9 MD530 (Army)
COLOMBIA	8+30 Bell 206 30+30 TH-67A
DOMINICAN REPUBLIC	2 Schweizer 333 4 R-22 (Army) 3 R-44 (Army)
ECUADOR	8 Bell 206 1 Bell 206 (Navy)
EL SALVADOR	5 Schweizer 269
MEXICO	9 Bell 206 3 MD 500 (Navy) 1 R22 (Navy) 1 R44 (Navy) 4 Schweizer 269 (Navy) 10 Schweizer 333 (Navy)
PERU	6 Schweizer 269 6 Enstrom F28 (Army) 1 R44 (Army) 4 Enstrom F28 (Navy)
VENEZUELA	6+12 Enstrom 280/480 1 Bell 206 (Army) 2 Bell 206 (Navy)

MIDDLE EAST & NORTH AFRICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
BAHRAIN	8 AH-1P 4 BO105
EGYPT	5 A342
IRAN	1 Bell 206
IRAQ	9 Bell 206 (Air Force) 3 Bell T-407 (Army) 1 OH-58C (Army)
ISRAEL	18 OH-58B
LEBANON	4 R44
MOROCCO	17 Bell 206
SAUDI ARABIA	19 S-434 (Army)
UAE	1 AS350 13 Bell 407

NORTH AMERICA



COUNTRY	CURRENT MILITARY TRAINING AIRCRAFT
CANADA	13 Bell 206 (Allied Wings) 9 Bell 412 (Allied Wings) 38 TH-1H 113 Bell 206 (TH-57) (Navy)
USA	5 TH-72A (Navy) 3 OH-58 (Navy) 116 Bell 206 (TH-67A) (Army) 1 Mi-24 (Army) 55+8+9 UH-72A (Army)

MILITARY FLIGHT TRAINING

DELIVERING THE NEXT GENERATION AIR FORCE

26-28 March 2019 | The Hurlingham Club | London, UK



VIEW THE EVENT GUIDE

Force Public Affairs

REASONS TO ATTEND

Pilot pipeline

Reduce training costs and increase availability of live flight hours by outsourcing training and meeting leading solution providers of basic and advanced flying training

Ensure seamless pilot transition into next generation combat aircraft by learning how to upgrade and embed, ground-based training systems

Attain interoperability and institute common architectures for multinational operations by learning about software compatibility, integrated LVC and high fidelity synthetic training

Deliver training in contested environments by meeting world-class solution providers of aggressor training