





# SUPER TUCANO

### THE RIGHT CHOICE FOR THREE DIFFERENT SEGMENTS

For Air Forces that need a comprehensive, low-risk solution added to great operational flexibility, the A-29 Super Tucano delivers proven, precise, reliable, and cost-effective combat, reconnaissance, and training answer in a single platform.

The A-29 Super Tucano is the most effective multi-mission aircraft of its category, equipped with the latest-generation systems, including accurate targeting identification, weapons systems and a comprehensive communication suite. Capability is enhanced further by advanced HMI avionics systems integrated with a rugged airframe capable of operating from unpaved runways, at high levels of active and passive survivability features.

Completing the A-29 Super Tucano competitive advantages is a simple maintenance concept that delivers high levels of reliability, availability, and structural strength with low life-cycle costs.

# WORLDWIDE PRESENCE

A-29 Super Tucano is the world leader in its category with more than 260 aircraft ordered and over 500,000 flight hours flown, of which approximately 60,000 have been on active operations.

The number of air forces operating the A-29 Super Tucano is continually growing due to the combination of unique characteristics that make it the lowest risk, affordable and flexible choice.

The A-29 provides a comprehensive solution for air forces operating in asymmetric operating environments. It delivers a proven low-risk procurement and maintenance solution which enables highly effective fleet optimization and misison flexibility.

**16** AIR FORCES

OVER **260** AIRCRAFT ORDERED

OVER **500,000** FLIGHT HOURS

ACCUMULATING ABOUT **60,000** COMBAT FLIGHT HOURS







































**AFGHANISTAN** 

BURKINA **FASO** 

REPUBLIC

**FCUADOR** 

MAII



# LIGHT ATTACK AIRCRAFT



PROVEN SURVIVABLE SOLUTION ALWAYS READY TO IDENTIFY (FIND), DESIGNATE (FIX) AND NEUTRALIZE (FINISH) THE TARGET WITH A HIGH DEGREE OF STRIKE PRECISION.

**CLOSE AIR SUPPORT** 

FAC [A] - FORWARD AIR CONTROLLER [AIRBORNE]

**AIR INTERDICTION** 

SPECIAL OPERATIONS

AIR PATROL

TAC [A] - TACTICAL AIR COORDINATOR [AIRBORNE]



### **VALUE PROPOSITION**

The A-29 Super Tucano is the ideal aircraft for use in asymmetric conflicts in permissive environments. It delivers extensive operational flexibility and is easily reconfigured in the field.

It is a proven combat aircraft, with thousands of flight hours on operations. The robust airframe supports operations in hostile environments including unpaved runways.

In addition, it is highly maneuverable, with controllability and stability that give the pilot precision target acquisition capability.

The A-29 is the only aircraft with integrated in-wing machine guns. This releases all 5 pylons for weapons and fuel which, together, deliver unmatched light attack capability.



HIGHLY MANEUVERABLE AND CONTROLABLE

EXCELLENT COMBAT HANDLING QUALITY

QUALIFIED ASYMMETRIC CONFIGURATIONS

PRECISE CONTROLS
FOR TARGET DESIGNATION
AND WEAPONS RELEASE

### **VALUE PROPOSITION**

#### **COMBAT PROVEN**

Success in ongoing operations. Continued operation in austere environments.

### HIGH LETHALITY AND ATTACK EFFECTIVENESS

Right weapon for the right target. Smart weapons integrated. Proven precision in general purpose weapon delivery.

#### HIGHLY SURVIVABLE

Comprehensive self protection – active and passive.
Highly maneuverable.

#### **OPERATIONAL FLEXIBILITY**

Multi-mission aircraft by design. Several operational configurations available. Easily reconfigurable in the field.

### LOW OPERATING COST (DOC) AND COMPREHENSIVE CUSTOMER SUPPORT

Cost-effective, single platform, multiapplication: combat, ISR and training. Current operators ordering second and third batches.

#### INTEROPERABLE

Selected and ordered by 16 countries. Customizable comms & nav tactical systems.

### ENHANCED SITUATIONAL AWARENESS

Advanced human machine interface (HMI).

### CONFIDENCE IN MISSION ACCOMPLISHMENT

90+% availability in operational conditions.
Outstanding reliability: 95+% in combat condition.







### **AIR INTERDICTION**

The A-29 effectively and affordably accomplishes preventive tactical bombing and strafing against enemy targets that are not an immediate threat, in order to delay, disrupt, or hinder later enemy engagement of friendly forces.

# SPECIAL OPERATIONS

Direct action missions requiring agile air mobility, with a particular focus on infiltration at night operation.





### **EXTERNAL STORES MAIN SETTINGS**

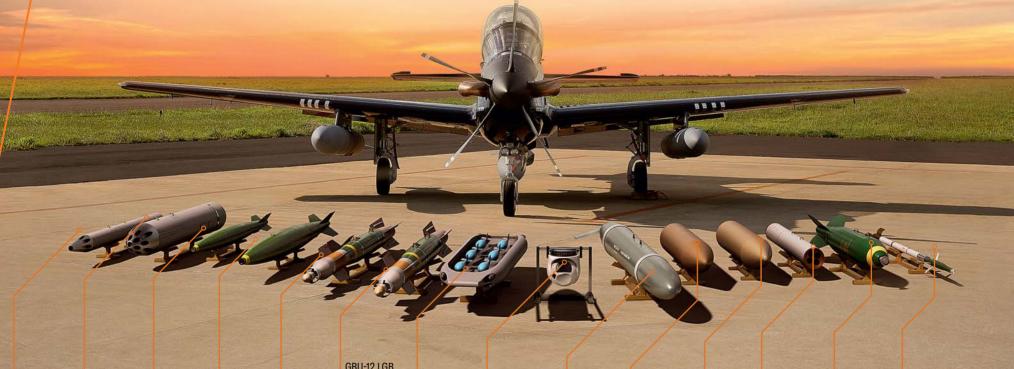


The A-29 Super Tucano is a high-precision attack aircraft, offering optimal targeting weapon matching and target identification accuracy. It's also the only aircraft in its category equipped with an internal machine gun, which releases pylons for use with other weapons and allows for more than 160 configuration possibilities. The precision of the Super Tucano weapons system combined with the controllability and stability of the airframe gives it the highest lethality and attack effectiveness among light attack aircraft.





### **EXTERNAL STORES MAIN SETTINGS**



7 X 70 MM ROCKET LAUNCHER

19 X 70 MM ROCKET LAUNCHER MK-82 GP BOMB (500 LB) MK-81 GP BOMB (250 LB) GBU-58 LGB (250 LB)

GBU-12 LGB GRIFFIN LGB LIZARD IV INS/GPS (500 I B)

SUU-20 TRAINING BOMB DISPENSER

EO/IR HD SENSOR & DESIGNATOR

320 L EXTERNAL DR FUELTANK

LOGISTICAL

AERIAL TARGET TOWING SUU-25 FLARES LAUNCHER M-117 GP BOMB (750 LB) CONVENTIONAL AND LASER GUIDED ROCKET - APKWS

# ARMED RECONNAISSANCE AIRCRAFT

ARMED ISR

**BORDER SURVEILLANCE** 

SCAR
STRIKE COORDINATION AND RECONNAISSANCE

AIR SCOUT

**AERIAL ESCORT** 

ISR

**EXCLUSIVE ECONOMIC ZONE PATROL** 



**PROVEN SOLUTION ALWAYS READY** TO EFFECTIVELY DETECT, IDENTIFY AND, AS REQUIRED, NEUTRALIZE THREATS IN THE AIR OR ON THE GROUND.

### **VALUE PROPOSITION**

The A-29 Super Tucano is an exceptional Armed Reconnaissance Aircraft because it features the ideal combination of high-definition electrical-optical sensors, internal machine guns, and increased endurance.

The latest generation electrical-optical sensors allow the capture of images of the observed regions, both at low and high altitudes, day or night, providing high-precision target identification and reliable information gathering.

The built-in machine gun allows the aircraft to carry out reconnaissance missions while remaining armed for self-defence or opportune strike.

The combination of advanced sensor and communication systems, low crew workload and comfort, and high situational awareness extend the platform's ability to collect and disseminate data and information.



### **VALUE PROPOSITION**

#### SUPERIOR RECONNAISSANCE EFFECTIVENESS

Effective imaging capturing and recording. Outstanding cockpit visibility.

### PROVEN EFFECTIVE INTERCEPTION LOW AND SLOW TARGETS

Impressive speed & range – quick interception and escort capable. High capacity to indentify and register aerial targets.

#### ATTACK ACCURACY A/G & A/A

Weapons system precision proven in combat.
Highly maneuverable armed ISR platform.

#### OPERATIONAL FLEXBILITY

Multi-mission aircraft by design. Several operational configurations available. Cost-effective, single platform, multiapplication: combat, ISR and training.

#### LOW CREW WORKLOAD

Auto-pilot navigation.
EO/IR sensor control on HOTAS system.
Mission system advanced HMI.

### CONFIDENCE IN MISSION ACCOMPLISHMENT

Over 90+% availability in mission configuration. Outstanding reliability: 95+% in combat condition.





### **ESCORT**

### **EFFECTIVE THREAT** IDENTIFICATION AND MONITORING

The protection of other fixed and rotary wing aircraft, ground maneuver units through the effective deployment of the A-29's ISR and strike capabilities.









HIGH SITUATIONAL AWARENESS

INTERCEPTION AGILITY

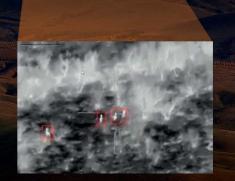
TARGETING ACQUISITION AND ACCURACY

# ARMED RECONNAISSANCE

The A-29 is quipped with the latest generation of sensors for information gathering by observing, monitoring, locating, and identifying potential targets. This is supported by opportune strike capability as required.

EO/IR SENSOR CAPABLE OF OPERATING FROM 15,000 FT
MISSION FOCUS
INCREASED OPERATION SAFETY
LOW FOOTPRINT









## SUPERIOR RECONNAISSANCE EFFECTIVENESS

# TARGET IDENTIFICATION AND INFORMATION GATHERING

The A-29 Super Tucano delivers superior results in reconnaissance missions due to its low footprint, state-of-the-art sensors, and long endurance.







- IMAGE ON BOARD DISPLAYS WITH EO/IR SENSOR CONTROLS ON HOTAS
- MISSION RECORDER SYSTEM FOR POST MISSION ANALYSIS
- MPS AND MDS COMPATIBILITY

# STATE-OF-THE-ART SENSORS

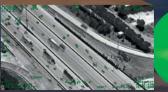
The EO/IR sensor of the A-29 Super Tucano is integrated into the weapons system. It can operate from 15,000 feet and is fully compatible with Night Vision Goggles. The system will generate photos and videos of objects tens of miles away. Payload options include thermal imagers, multiple laser payloads and other advanced systems.

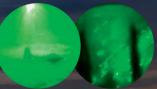
EO/IR SENSOR CAPABLE OF OPERATING FROM 15.000 FT

FULL NVG COMPATIBLE











# TACTICAL TRAINER AIRCRAFT



**ADVANCED TRAINING** 

**LEAD-IN FIGHTER TRAINING (LIFT)** 

JTAC AND FAC[A] TRAINING

**BASIC TRAINING** 

**OPERATIONAL TRAINING** 

#### TACTICAL TRAINER

# **VALUE PROPOSITION**

THE A-29 SUPER TUCANO provides an optimized training solution to support light attack and air reconnaissance training. It allows the download of training hours from fast jets extending the life span of those aircraft and delivering reductions in operating costs. It presents a highly cost-effective solution for the training and maintenance of JTAC skills and air-land integration at the tactical level.

It is more than an Advanced Trainer, delivering efficient and comprehensive training from basics to operational, "training as you fight" once it contains built-in simulator resources. It allows the pilots to make a direct transition to multi-role fighters, improving the air-land integration at the formation level.

Finally, the aircraft allows instantaneous reconfiguration from combat to training, and vice versa, enhancing the fleet productivity and delivering the best value and most comprehensive solution for the Air Force.



#### TACTICAL TRAINER

### **VALUE PROPOSITION**

### COST EFFECTIVE TRAINING SOLUTION

Complete tactical traning solution. High level of air-land integration.

#### COMBAT REPLICATION

Actual mission and weapons systems – live fire. Smooth transition from training to combat.

### EMBEDDED TACTICAL SIMULATION SCENARIOS

Virtual radar and self-protection capabilities. Programmable warfare scenarios simulation on board and on FTD.

#### MULTI-MISSION AIRCRAFT COMPREHENSIVE SOLUTION

Basic, advanced, LIFT, operational and JTAC training capable.

Cost-effective, single platform, multiapplication: combat, ISR and training.

### DIRECT TRANSITION TO A MULTI-ROLE COMBAT AIRCRAFT

High level situational awareness training. Equivalent to the front-line fighters.

### EFFECTIVE AND RELIABLE TRAINING

Over 90+% availability in mission configuration.
Outstanding reliability resulting from its design DNA.
Full set of Ground Training Devices available.





# TACTICAL TRAINER COMPREHENSIVE SOLUTION



ADVANCED TRAINING
AIRCREW COMPLETE TACTICAL TRAINING

**LIFT**FRONT-LINE FIGHTER COMPATIBILITY

LAA/ARA OPERATIONAL TRAINING
TRAIN AS YOU FIGHT

JTAC/FAC [A] TRAINING

JTAC / FAC[A] TRAINING FOR AIR-LAND INTEGRATION



#### TACTICAL TRAINER

# EMBEDDED TACTICAL TRAINING SIMULATION

# THE SYNTHETIC TRAINING PACKAGE IS A SOFTWARE CAPABILITY THAT PROVIDES:

- · Virtual Tactical Scenario, simulating aerial and ground targets/threats.
- · Virtual Radar, simulating Air-to-Air and Air-to-Ground modes.
- · Virtual Electronic Warfare Suite simulation, including:
  - · Counter Measure Dispenser System (CMDS).
  - · Radar Warning Receiver (RWR).
  - · Missile Approach Warning System (MAWS).
- · Simulation of Air-to-Air AIM9 class and AIM-120 class missiles.
- Integration with Data Link. The aircraft can be either friend or enemy.

Runs on-board and/or in the FTD.

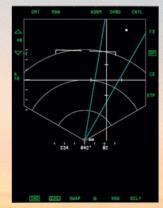
#### VIRTUAL TACTICAL SCENARIO



#### VIRTUAL RADAR



#### MISSILE SIMULATION



#### VIRTUAL ELECTRONIC WARFARE

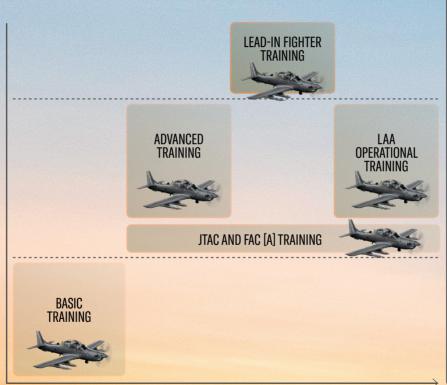


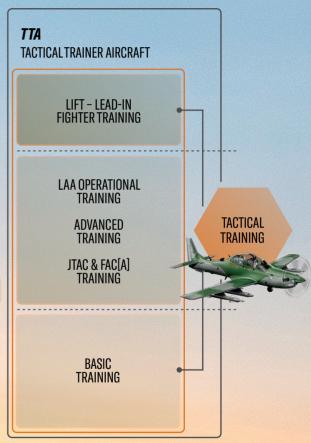
#### TACTICAL TRAINER

### TACTICAL TRAINER

MORE THAN AN ADVANCED TRAINER

COVERING THE TRAINING NEEDS COMPREHENSIVELY





**FLIGHT HOURS** 



# THE AIRCRAFT

The A-29 Super Tucano is a clean-sheet design aircraft, conceived as a rugged platform able to withstand the most hostile environments without constant maintenance downtime. Furthermore it was developed as a multi-mission platform with easy and instantaneous reconfiguration for light attack, air reconnaissance and training missions. This is enhanced by a very flexible and rapid reconfiguration system for weapons and sensors. The robustness of the aircraft structure permits operations from unpaved runways and increases its survivability, offering Air Forces the most comprehensive multi-mission solution in the category.

# **PERFORMANCE**

**OPTIMUM PERSISTENCE** 

#### **SPEED**

Maximum Operating Speed (Vmo)	320
Cruise speed	280
Stall speed	80

### RANGE | ENDURANCE

Maximum Range with 3 external tanks	1,550 NM
Endurance with internal fuel	3.4 hours
Endurance with 2 external tank and EO/IR sensor	5.2 hours

### FIELD PERFORMANCE

Takeoff to clear 50 ft obstacle at sea level 900 / 2,950
Landing to clear 50 ft obstacle at sea level 860 / 2,820

m/ft

#### CLIMB

Rate of climb at sea level Time to climb to 10.000ft	Rate of climb at sea level	3,240 ft / min	
	Time to climb to 10.000ft	3 min	
	Service ceiling	35,000 ft	

### LOADS 'g' Maximum Load Factor +7/-3.5

# WEIGHTS kg Basic Empty Weight 3,200 MTOW (with external loads) 5,400 External loads 1,550

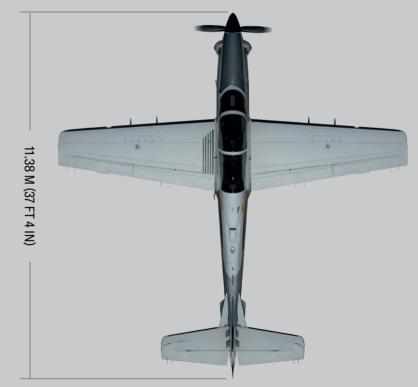


# **PERFORMANCE**

### **CHARACTERISTICS & PERFORMANCE**









# EXTREMELY RUGGED PLATFORM

DESIGNED TO OPERATE FROM FORWARD AIR BASES

BIRD IMPACT RESISTANT WINDSHIELD STRUCTURE WITH HIGH LEVEL OF RESISTENCE CORROSION PROTECTED TO WITHSTAND AGGRESSIVE ENVIRONMENTS

RUGGED LANDING GEAR FOR OPERATIONS IN UNPAVED RUNWAYS

#### HIGH FATIGUE LIFE

Combat: 12000 flight hours
Training: 18000 flight hours

Airframe life monitored through the Fatigue

Index Computation Software - FICS



# SELF PROTECTION SYSTEM





### DON'T BE SEEN

- · Low thermal signature.
- · Low audible signature.
- Low visual signature.
- · Low Logistics footprint.
- Tactics Combat Training.
- · High altitude operation.



### IF SEEN / DON'T BE ACQUIRED

- Enhanced Situational Awareness.
- · Small cross-section.
- · Highly Maneuverable.
- · Exploit terrain.

## IF ACQUIRED /

Self Protection System.

DON'T BE HIT

 Highly Manoeuvrable.

### IF HIT / SURVIVE THE MUNITION EFFECT

- · Armor.
- · System Redundancy.
- Self-sealing tanks.
- Structure with high level of safety.

### IF DEFEATED / CREW SURVIVAL

- Egress System.
- · Survival Kit.





## **MODERN COCKPIT**

### **OUTSTANDING MISSION SITUATIONAL AWARENESS**

The A-29 Super Tucano's cockpit design reduces the pilot's workload and provides maximum situational awareness. Excellent accessibility, ergonomics, and an advanced human-machine interface all support the intuitive control of the aircraft and allows the crew to focus on mission outcomes.

GLASS COCKPIT CONCEPT

TWO REDUNDANT MISSION COMPUTERS (MDP - MISSION AND DISPLAY PROCESSOR)

**ANTI-G** SYSTEM

**AUTO FLIGHT** (AUTOPILOT / FLIGHT DIRECTOR SYSTEM)

**OBOGS** 

HUD - HEAD-UP DISPLAY WITH COLOR HUD VIDEO CAMERA (CHVC)

ARMORED COCKPIT AND FNGINF COMPARTMENT

**UP FRONT CONTROL PANEL** (UFCP)

HOTAS (HANDS ON THROTTLE AND STICK) CONTROLS

**PRESSURIZED COCKPIT** WITH AIR CONDITIONING

**VISUAL OPERATION** WITH HIGH LEVEL OF SITUATIONAL AWARENESS



## SYSTEMS



### ELECTRO-OPTICAL/ INFRA-RED (EO/IR) SENSOR

Lattest generation of EO/IR options for gathering images in day/night operations for target recognition.
Embedded laser designator for target designation and precise attack.

### PROPULSION SYSTEM

The worldwide employed, reliable and fuel efficient Pratt & Whitney PT6A-68C Engine with 1,600 shp. The propulsion system is automatically controlled by a PMU (Power Management Unit) and monitored through the EICAS (Engine Indication and Crew Alerting System).

### LASER RANGE FINDER

The LRF provides enhanced weapons aiming precision even when employing general purpose bombs.

### ELECTRONIC WARFARE SUITE

Configurable self protection system with CMDS, RWR and MAWS capable of automated operations. The system is programmable according to the operational philosophy and scenarios.

### TACTICAL DATA LINK

Enables reliable air-to-air, air-to-ground communication scenarios through encrypted messages transmition and reception.

### RECORDER SYSTEM

Designed to store the mission parameters and images from the sensors. Fully compatible with the Mission Planning and Debriefing Stations for uploading and downloading missions data.

### NIGHT VISION GOGGLE (NVG)

Night operational capability with infra-red vision through the NVG Gen. III integrated for both pilots. Cockpit and external lights fully compatible.

### EJECTION SEATS

Zero-zero
Ejection Seats
with 3 selectabl
modes of
operation.

### STORE MANAGEMENT SYSTEM (SMS)

Fully integrated SMS managing the five NATO Standard stations and the two internal .50 machine guns.

- Master Modes (CCIP/ CCRP/ DTOS/ LCOS/ CCIL/ SSLC)
- Armament Remaining
- In-Flight Re-cocking
- In-Flight Debriefing
- Inventory Selection

## SYSTEMS



### COMM & NAV

The communication suite offers very customizable solution with secure comm options through VHF, V/UHF, HF and Datalink radios. The navigations system is based on the Embedded GPS, Inertial System and Radio Altimeter (EGIR) fully integrated with the weapons system.

### **BRAKE SYSTEM**

The baseline configuration already includes the Anti-Skid system providing a more secure and efficient operation.

### AUTOMATIC RUDDER TRIM UNIT (ARTU)

The ARTU allows the take-off operation with maximum engine power increasing the performance and payload capacity. Furthermore, it also reduces the pilot workload during all flight phases.

### HANDS ON THROTLE AND STICK (HOTAS)

The HOTAS solution philosophy is the same applied in the front-line fighters, it maximizes the pilot situational awareness and delivers enhanced accuracy during attack procedures.

### IDENTIFICATION FRIEND OR FOE (IFF)

The IFF Transponder System provides automatic recognition of the aircraft when interrogated by other airborne. It includes the Automatic Dependent Surveillance-Broadcast (ADS-B) capability. The IFF Transponder system can provide both military and civilian modes.





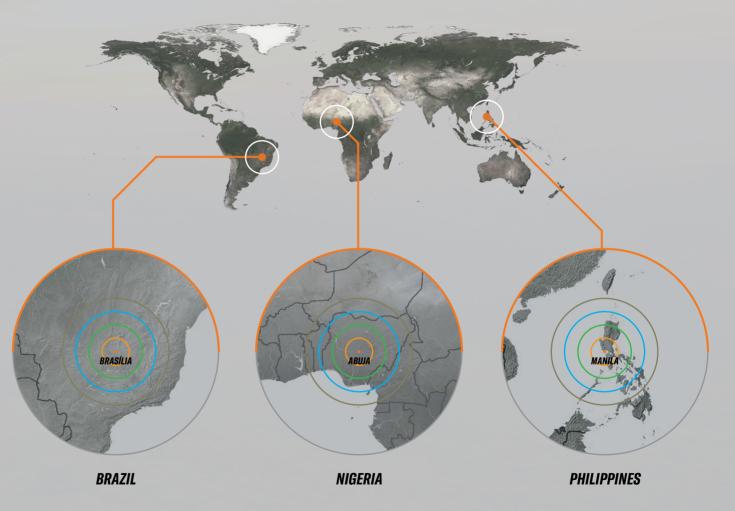
# RADIUS OF ACTION

### LIGHT ATTACK MISSION CONFIGURATION:

- · 2 Internal M. Guns
- EO/IR Sensor
- 2 GBU-12 LGBs
- 2 Tanks

### RANGE/ TIME ON STATION:

- 100 nm / 3:30 h
- 200 nm / 2:40h
- = 300 nm / 1:50 h
- 400 nm / 1:00 h



# **GROUND TRAINING DEVICES & STATIONS**

### **COMPREHENSIVE SOLUTION**

Embraer offers a comprehensive solution for training, from software for use in regular computers to the most advanced Flight Training Device, which the Air Forces can select according to their operational requirements.

Among the many options, the Embedded Tactical Training Simulation stands out. It is an OFP optional capability that simulates the combat environment, showing allied and enemy aircraft and even allowing the simulated use of the weaponry.

The more complete the training solution, the fewer hours the Air Force will spend using the aircraft to prepare the pilots, accelerating the learning process, freeing the aircraft to carry out missions, and optimizing the operational costs.

#### **ADVANCED**

FTD (Povice)

(Flight Training Device)

EMBEDDED TACTICAL TRAINING SIMULATION

(Virtual Radar - Warfare Scenario)

AATD

(Advanced Aviation Training Device)

(Basic Aviation Training Device)

(Cockpit Procedure Trainer)

FREEPLAY

**MPS** 

(Mission Planning Station)

MDS

(Mission Debriefing Station)

LMS

(Learning Management System)

CBT

(Computer Based Training)

BASIC

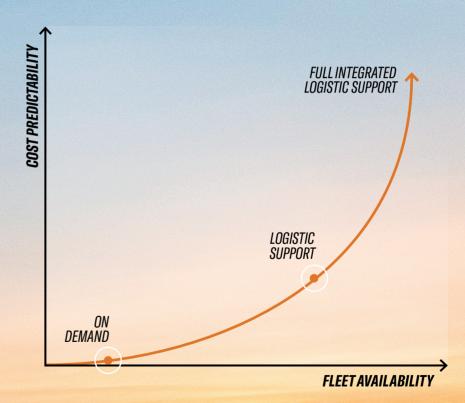


# INTEGRATED LOGISTICS SUPPORT

The A-29 Super Tucano has a complete support solution, with services and parts packages fully customizable according to the Air Forces' needs.

Highlighting the Full Integrated Logistics Support package, for which the Air Force pays per hour of flight and Embraer manages its entire spare parts inventory and performs all preventive maintenance required, with a history of great success in increasing fleet availability.

Coordinating the various Services & Support options available, Embraer maintains a Customer Contact Center working 24 hours, 7 days a week, ready to provide the necessary answers and solutions, and fully committed to keeping the fleet always ready for the mission.





THE BEST

FOR THE MISSION



**DESIGNED FROM THE BEGINNING** as a multi-mission aircraft – LAA | ARA | TTA

**COMBAT PROVEN:** liable and precise with dozens of thousands of combat hours

**SINGLE PLATFORM, MULTI-APPLICATION:** combat, ISR and training

ALWAYS READY: High Level of availability and constantly updated

**OPTIMUM BALANCE** of agility, range and endurance

**CERTIFIED** by the US Military Airworthiness Authority **OPERATES FROM FORWARD BASE** from unpaved runways

HIGHLY SURVIVABLE, low operational footprint

ACCURATE TARGETING SYSTEM with optimal target-weapon matching

**OPERATION AFFORDABLE**The most cost-effetive of the category

IN PRODUCTION and Fully Operational worldwide

TACTICAL INTEROPERABILITY in its core



## EMBRAER DEFENSE & SECURITY, PRESENT IN ALL DOMAINS

Leader in the aerospace and defense industry of Latin America, Embraer Defense & Security offers a complete line of integrated solutions such as C4I (Command, Control, Communication, Computers, and Intelligence) applications, leading edge technologies in the production of radars, advanced information and communication systems, integrated systems for border monitoring and surveillance, as well as military and government transportation aircraft. With a growing presence on the global market, Embraer Defense & Security products are present in more than 60 countries.





Follow us at: im 💆 🌀 🗈







