



 **EMBRAER**



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EMBRAER DEFENSE & SECURITY

TAILOR-MADE INTEGRATED SOLUTIONS.
THROUGHOUT THE WORLD.

Embraer Defense & Security is the leading aerospace and defense industry in Latin America. In addition to the A-29 Super Tucano light attack and advanced trainer and the multi-mission C-390 MILLENNIUM military airlift, it provides a full line of integrated solutions and applications such as Command and Control Center (C4I), radars, ISR (Intelligence, Surveillance & Reconnaissance) and Space. This also includes integrated systems for information, communications, border monitoring and surveillance as well as aircraft for VIP transportation and special missions. With a growing presence in the global market, Embraer Defense & Security products and solutions are present in more than 60 countries.

AERIAL PLATFORMS



C-390 MILLENNIUM

MORE PAYLOAD, MUCH FASTER, ANYWHERE

The C-390 MILLENNIUM is a new generation multi-mission aircraft which combines a highly flexible platform with the lowest life cycle cost in the medium airlift market.

The C-390 MILLENNIUM is capable of transporting and launching cargo and troops and performing a wide array of missions:

- MEDICAL EVACUATION
- SEARCH AND RESCUE
- AERIAL FIRE FIGHTING
- AERIAL REFUELING (fighters and helicopters)
- HUMANITARIAN ASSISTANCE

Modern cargo handling system which can transport large-sized cargo:

- PALLETS
- VEHICLES
- HELICOPTERS
- TROOPS
- PARATROOPERS
- MEDEVAC STRETCHERS
- MIXED CONFIGURATIONS

Control of the C-390 MILLENNIUM is facilitated by an integrated avionics system and fly-by-wire flight control. It can also be equipped with a Defensive Aids Suite (DAS) and ballistic protection. This improves its ability to operate in hostile environments.



C-390 MILLENNIUM

PERFORMANCE

Maximum concentrated payload	26 metric ton / 57,320 lb
Maximum distributed payload	23 metric ton / 50,706 lb
Maximum cruise speed/ Mach Number	470 KTAS / 0.80 Mach
Maximum operational altitude	36,000 ft (cabin altitude 8,000 ft)
Range with 23 metric ton	1,520 nm
Ferry range	3,310 nm
Cargo configurations	80 soldiers, 66 paratroopers, 74 stretchers, 7 463L type pallets, 3 Humvee, 1 Blackhawk helicopter, 1 LAV-25, among others

EXCELLENT CARGO CAPACITY



CONFIGURABLE WITH UP TO TWO PALLETIZED FUEL TANKS



DAMAGE TOLERANT STRUCTURE

Modern structural design - strong and durable airframe.

IAE V2500 ENGINE

Minimum FOD ingestion.
Optimum position (high clearance and forward).
Wide chord metallic fan blades.
Part 33 Certified Engine.

ANTARCTIC OPERATION

Operational from an unpaved runway covered with ice and snow on the freezing cold Antarctic continent.

SEMI-PREPARED OPERATION

Worst Semi-Prepared Runway from MIL 8866B.

LANDING GEAR

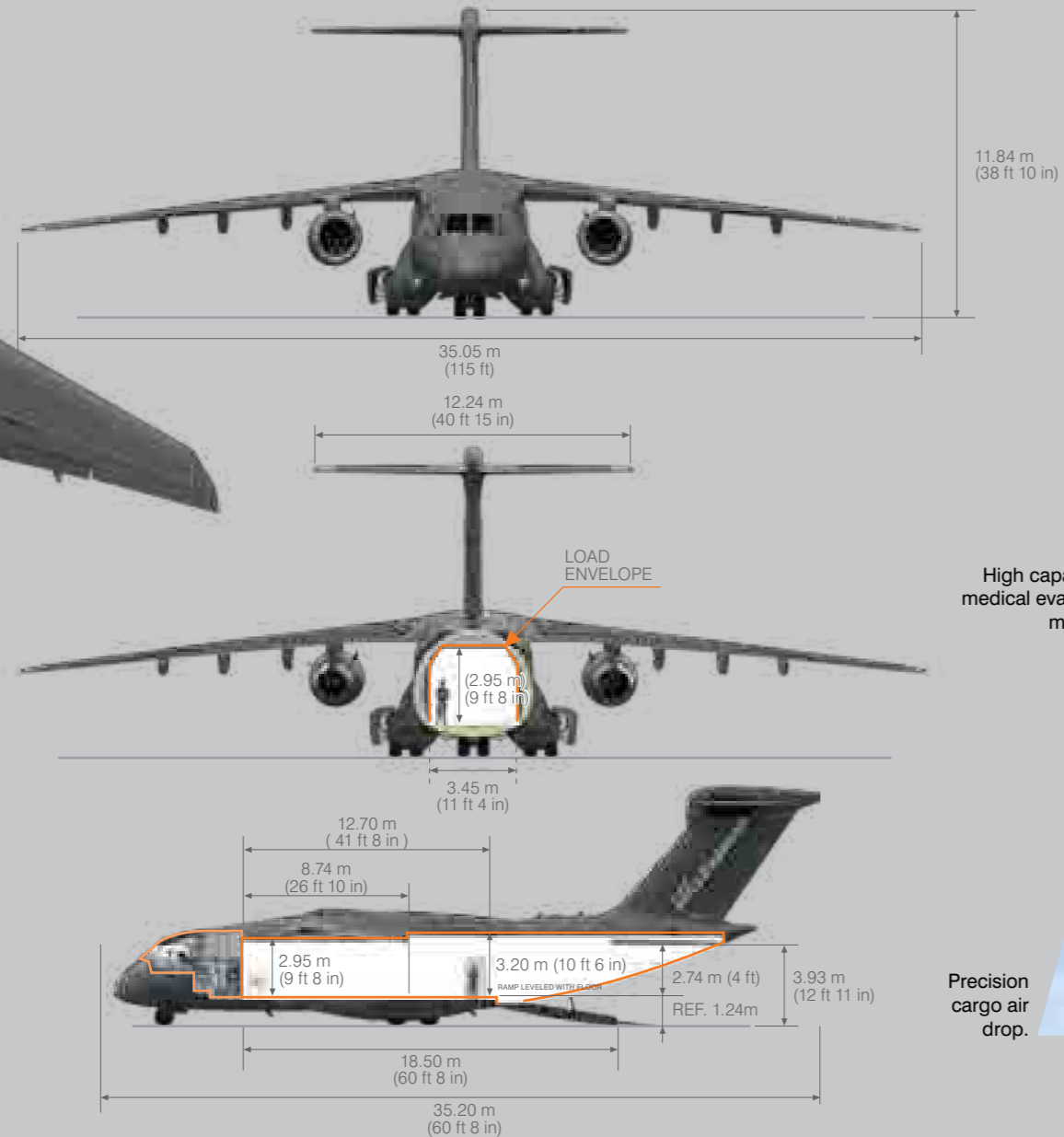
Low Resistance Airfields (CBR-4),
Brake-by-Wire, Wheel-by-Wheel.

ALL WEATHER

Designed for extreme climates, including hot and sandy desert conditions.



C-390 MILLENNIUM



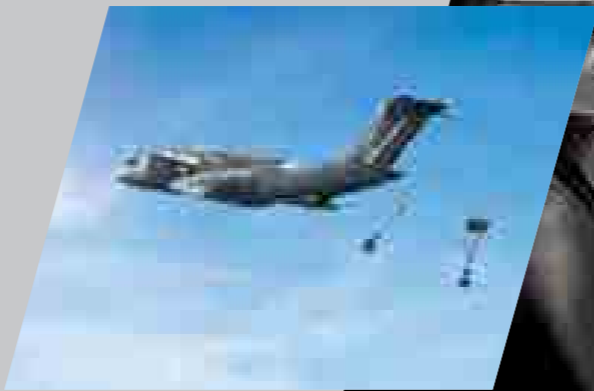
Rapid response for search and rescue missions.



High capacity for medical evacuation missions.



Precision cargo air drop.



Pilot cockpit.



SUPER TUCANO

HIGH PERFORMANCE WITH LOW COST

The most effective combination of Training qualification (Basic and Advanced) and Light Attack capability in one platform.

The A-29 Super Tucano provides excellent capability with high mission reliability for numerous Air Forces in the Americas, Africa and Asia.

- Flexible avionics system, in continuous evolution in order to fulfill the Customers' and Operators' operational requirements.
- Allows the integration of new systems and configurations, such as the JDAM-class intelligent armament system.
- The perfect aircraft to prepare the new generation of pilots to participate in Network-Centric Warfare operations through the provision of an encrypted Data Link system.

STRUCTURE

G Limit	7G / -3,5 G
Pressurization	5.0 psi
Armored	Cockpit/ Engine (optional)
Integrated Stores	Mk81, Mk82, Rockets, Mk82-LGB, M-117, SUU-20, EO/IR Turrets, Towed Aerial Target, MAA-1, Wing-mounted .50" caliber Machine Guns
Munition Configuration	More than 150

WEIGHTS

Empty Weigh	7,055 lb/ 3,200 kg
Maximum Take-off Weight	11,905 lb/ 5,400 kg
Cargo (External Cargos/Munition)	3,420 lb/ 1,550 kg

PERFORMANCE

Cruise Speed	280 ktas/ 520 km/h
Service Ceiling	35,000 ft/ 10,668 m
Endurance – Internal Fuel	3.5 hours
Endurance – with External Tanks	8.4 hours
Take-off Distance	2,950 ft/ 900 m
Landing Distance	2,820 ft/ 860 m



SUPER TUCANO

Excellent flight qualities and advanced man-machine interface.



REFERENCE IN CLOSE AIR SUPPORT

- Weapons system with GPS Inertial Navigation unit which allows extremely accurate Navigation and Weapon Aiming.
- Performance in Close Air Support/Surveillance (CAS/ISR) day and night missions makes the A-29 the best-in-class light-attack platform in the market.
- Robust and efficient design, proven in unpaved-runway tests as part of USAF-LAS (Light Air Support) project assessments and in worldwide combat operations.

REFERENCE IN BASIC AND ADVANCED TRAINING

- Full set of training qualification, integrated via Data Link with virtual Radar, Electronic Warfare and BLOS (Beyond Line of Sight) Missile systems.
- Training package is complemented by: Simulator, Mission Planning Station, Mission Debriefing Station, Free Play, Maintenance Station and Computer Based Training, all developed by Embraer.

➤ **DESIGNED** according to the operational requirements of the Brazilian Air Force.

➤ **USED** by numerous air forces worldwide.

➤ **PROVEN** in combat.

➤ **CHOSEN AND CERTIFIED BY THE UNITED STATES AIR FORCE** as the aircraft for the Light Air Support program.

➤ **ASSEMBLED IN BRAZIL** and in the United States.

Designed and built for unpaved-runway operations.

All-Glass cockpit & HOTAS: advanced HMI, similar to 4th generation fighter airplanes.



Continuous evolution: Recce Pod SAR/P-Band Scanning & Detection.



SUPER TUCANO

MAIN EXTERNAL STORES SETTINGS



SPECIAL TRANSPORTATION AIRCRAFT

TECHNOLOGY,
RELIABILITY AND SAFETY

Tradition in government authorities transportation and large delegations.

A wide range of products allows Embraer to provide the ideal aircraft for any kind of mission – from short-range flights to long trips with large delegations.

➤ **PHENOM FAMILY** – well suited for short-range routes and operating from small airfields, with unrivaled comfort in its category.

➤ **LEGACY FAMILY** – versatile, ideal for the intermediary segment, complemented by the flexible regional jet family ERJ 145.

➤ **LINEAGE 1000** – At the high end, the Lineage 1000 represents the maximum in terms of comfort. The E-Jets are ideal for long duration travels with large delegations.

➤ **AEROMEDICAL EVACUATION (MEDEVAC) VERSIONS**

Quick-installation and/or removal of Medevac equipment make the platforms more flexible. Special communications systems (V/UHF and IFF tactical radios) can also be installed, as well as self-protection systems.



E-Jets



Self-defense in use



Lineage 1000 E





	PHENOM® 100 BY EMBRAER	PHENOM® 300 BY EMBRAER	LEGACY® 450 BY EMBRAER	LEGACY® 500 BY EMBRAER	LEGACY® 650E BY EMBRAER	Lineage® 1000E BY EMBRAER	E-Jets Data from EMBRAER 190
PERFORMANCE							
Range	1,178 nm with 4 pax, NBAA reserves	1,971 nm with 6 pax, NBAA reserves	2,300 nm with 4 pax, NBAA reserves	3,125 nm with 4 pax, NBAA reserves	Range 3,900 nm with 4 pax, NBAA reserves	4,400 nm with 8 pax, NBAA reserves	2,400 nm with 98 pax, FAR domestic
Maximum cruise speed	390 ktas	450 ktas	M 0.82	466 ktas	M 0.80	472 ktas	M 0.78
MMO	M 0.70	M 0.78	M 0.83	M 0.83	M 0.80	M 0.82	M 0.82
Maximum operating altitude	41,000 ft	45,000 ft	45,000 ft	45,000 ft	41,000 ft	41,000 ft	41,000 ft
Take-off distance (max. take-off weight, sea level, ISA)	3,125 ft / 953 m	3,138 ft / 956 m	4,000 ft / 1,219 m	4,600 ft / 1,402 m	5,741 ft / 1,750 m	6,076 ft / 1,852 m	6,890 ft / 2,100 m
EXTERNAL DIMENSIONS							
Height	14 ft 3 in / 4.35 m	16 ft 9 in / 5.1 m	22 ft 1 in / 6.74 m	22 ft 1 in / 6.44 m	21 ft 9 in / 6.64 m	34 ft 1 in / 10.57 m	34 ft 8 in / 10.57 m
Wing span	40 ft 4 in / 12.3 m	52 ft 2 in / 15.9 m	66 ft 5 in / 20.25 m	66 ft 5 in / 20.25 m	69 ft 5 in / 21.17 m	94 ft 3 in / 28.72 m	94 ft 3 in / 28.72 m
Length	42 ft 1 in / 12.82 m	51 ft 4 in / 15.6 m	62 ft 10 in / 19.15 m	68 ft 1 in / 20.74 m	86 ft 5 in / 26.33 m	118 ft 11 in / 36.24 m	118 ft 11 in / 36.24 m
CABIN DIMENSIONS							
Height	4 ft 11 in / 1.5 m	4 ft 11 in / 1.5 m	6 ft / 1.82 m	6 ft / 1.82 m	6 ft / 1.82 m	6 ft 7 in / 2.00 m	6 ft 7 in / 2.00 m
Width	5 ft 1 in / 1.55 m	5 ft 1 in / 1.55 m	6 ft 10 in / 2.08 m	6 ft 10 in / 2.08 m	6 ft 11 in / 2.10 m	8 ft 9 in / 2.67 m	9 ft / 2.74 m
Length	11 ft / 3.35 m	17 ft 2 in / 5.23 m	22 ft 5 in / 6.83 m	27 ft 6 in / 8.37 m	49 ft 10 in / 15.18 m	84 ft 4 in / 25.7 m	70 ft 2 in / 21.40 m
Cabin volume	212 ft³ / 6.00 m³	324 ft³ / 9.2 m³	720 ft³ / 20.39 m³	826 ft³ / 23.4 m³	1,650 ft³ / 46.72 m³	3,914 ft³ / 110.8 m³	3,531 ft³ / 100.00 m³
Overall baggage capacity	70 ft³ / 1.98 m³	84 ft³ / 2.37 m³	150 ft³ / 4.25 m³	155 ft³ / 4.39 m³	286 ft³ / 8.1 m³	443 ft³ / 12.54 m³	799 ft³ / 22.63 m³
Internal baggage capacity	10 ft³ / 0.28 m³	11 ft³ / 0.31 m³	40 ft³ / 1.13 m³	45 ft³ / 1.27 m³	286 ft³ (all internal) / 8.1 m³	323 ft³ / 9.14 m³	323 ft³ / 9.14 m³

Embraer Defense & Security is able to offer quality support and services in all continents.



Phenom 100



MEDEVAC



Legacy 650 E

FIS (FLIGHT INSPECTION SYSTEMS)

MULTI-MISSION PLATFORM LEGACY 500

The Legacy 500 FIS is a state-of-the-art platform able to perform flight inspection tasks in the following modes:

- > SITE EVALUATION
- > COMMISSIONING INSPECTION
- > PERIODIC INSPECTION
- > SURVEILLANCE
- > TEST INSPECTION

FLY-BY-WIRE

The most advanced Flight Control System, which increases mission efficiency and reduces pilots' workload.

SPEED

The best in class. Maximum speed cruise: M 0,82.

RANGE

3,125 nm range with 4 passengers, with the lowest operating and maintenance costs.

COMFORT

A new comfort paradigm for the segment.



MEPT (MULTI-ENGINE PILOT TRAINING)

MULTI-MISSION PLATFORM PHENOM 100

The Phenom 100 MEPT is a capable platform able to support all multi-engine pilot training tasks with the following enhanced capabilities:

- SINGLE-PILOT WORKLOAD PHILOSOPHY
- LOW OPERATING COSTS
- DESIGNED FOR HIGH UTILIZATION AND AVAILABILITY
- OBSERVER SEAT
- MILITARY COMMUNICATION
- QUICK ACCESS RECORDER TO RETRIEVE FLIGHT DATA

Phenom 100 MEPT has been the multi-engine training tool of choice of renowned training institutes in the civilian and defense sectors.



MEDEVAC (AEROMEDICAL EVACUATION)

MULTI-MISSION PLATFORM PHENOM 300

The Phenom 300 MEDEVAC is an excellent solution derived from the Phenom 300 aircraft with modifications to make it suitable for medical evacuation services. The LifePort™ PLUS platform installed on this aircraft provides:

- RAMP LOAD SYSTEM
- STRETCHER
- MOUNTS FOR MEDICAL EQUIPMENT
- ELECTRICAL INVERTER (1,000-WATT, 115 VAC, 60 HZ)
- CONTROL PANEL WITH MULTIPLE FUNCTIONS
- OXYGEN (8,500 LITERS ON TOTAL)
- COMPRESSED AIR PUMP



DEFENSE SYSTEMS









BORDER CONTROL SYSTEMS

INTELLIGENCE AND TECHNOLOGY TO MEET THE GOALS OF EACH MISSION

Border monitoring and control, ensuring the protection of strategic structures and natural resources.

- > **COMMAND, CONTROL & COMPUTERS**
- > **COMMUNICATIONS**
- > **INTELLIGENCE**
- > **INFORMATION**
- > **SURVEILLANCE**
- > **RECONNAISSANCE**

- LIGHT ATTACK SUPPORT (Super Tucano – A29) 
- AERIAL SURVEILLANCE AND RECONNAISSANCE (ISR Systems) 
- UNNAMED AIRCRAFT VEHICULAR (UAV) 
- GROUND SURVEILLANCE RADAR (Sentir - M20) 
- AIR SURVEILLANCE RADAR 
- COMMUNICATION INTELLIGENCE 

- TACTICAL COMMUNICATIONS 
- STRATEGIC COMMUNICATIONS 
- SATELLITE COMMUNICATIONS 
- MOBILE COMMAND AND CONTROL CENTER 
- FIXED COMMAND AND CONTROL CENTER 
- DECISION-MAKING SUPPORT SYSTEM 



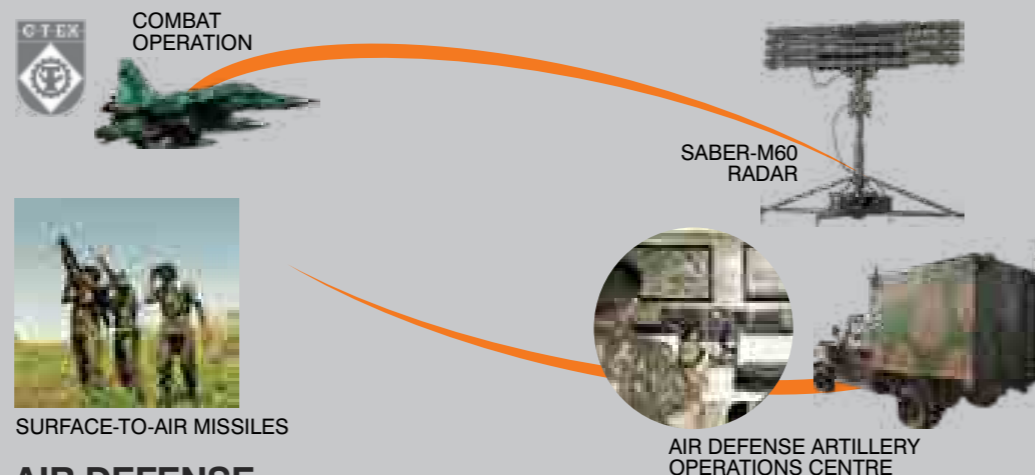
COMMAND AND CONTROL

Advanced technology that generates accurate information to support accurate and expeditious decisions.



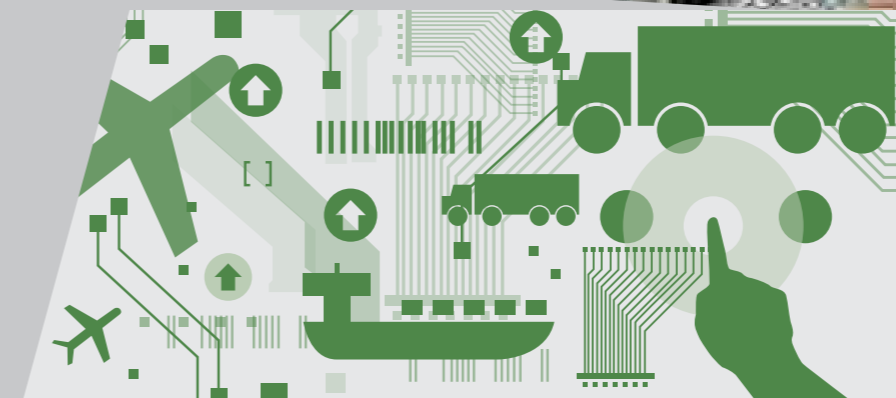
FIXED AND MOBILE COMMAND AND CONTROL CENTERS

Empower designated personnel to exercise lawful authority and direction over assigned forces for the achievement of missions and tasks. It includes hardware, software, military shelters, vehicles, furniture and all the infrastructure improvements needed to provide situational awareness to higher chains of command.



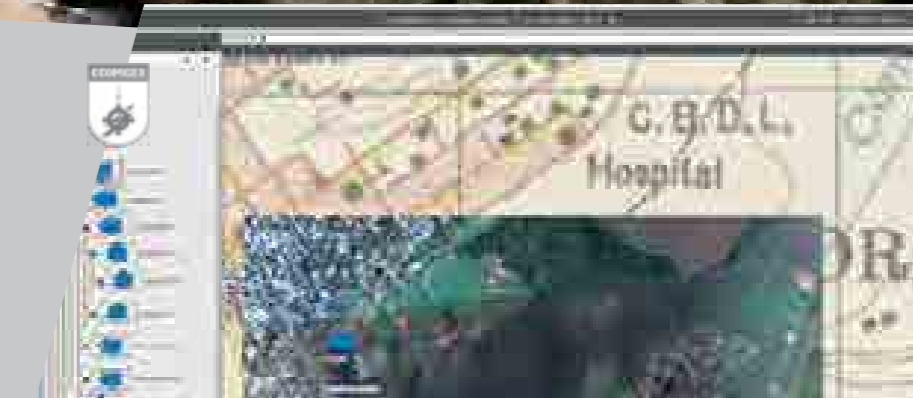
AIR DEFENSE OPERATIONAL MODULE

Low altitude air defense system composed by a SABER M60 Radar, an Air Defense Artillery Operations Center and a tactical communication equipment suite. The Radar is capable of target localization and data transmission to the Operations Center with all security needed.



LOGISTICS MANAGEMENT SUITE

Support system designed to increase the management capacity of logistics activities which provides customer support through the planning, implementation and monitoring of maintenance activities.



DECISION-MAKING SUPPORT SYSTEM

Fully customized system composed of several integrated software modules, which increase situational awareness through the capture, analysis and dissemination of critical data in order to enhance military operation effectiveness.

COMMUNICATIONS

Systems that combine mobility and security in data and voice transmission.



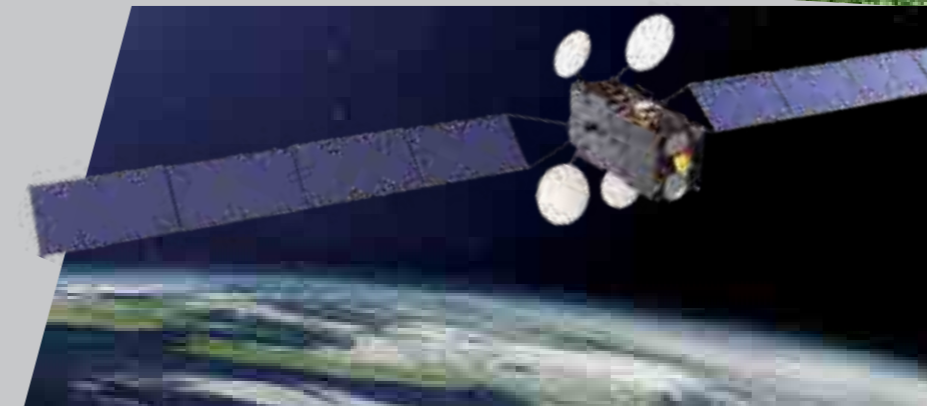
TACTICAL COMMUNICATIONS

Several types of radio communications systems distributed on the battlefield with high mobility and flexibility. Provide seamless secure data transmission from sensors to command and control centers, allowing real-time decision making.



STRATEGIC COMMUNICATIONS NETWORK

Wide band communications backbone with secure encrypted radio links able to interconnect different governmental and military organizations with high availability, providing high capacity links between the sensors and command and control centers.



SATELLITE COMMUNICATIONS

Fixed and mobile ground stations allow voice and data communication between sensors and military organizations located in remote regions.



NETWORK OPERATIONS CENTER (NOC)

The NOC is a dedicated operations center to ensure the readiness and availability of critical communication systems in order to maintain the entire integrated network within satisfactory levels of reliability.

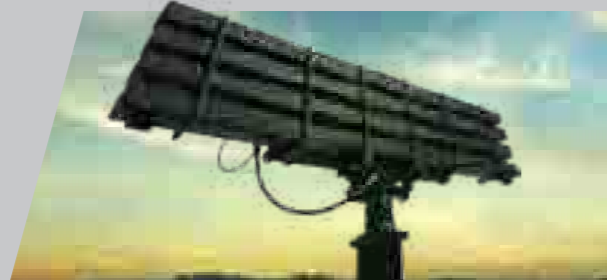
SENSORS

Flexibility to operate in different environments and accuracy in target detection.



SENTIR-M20

Portable ground surveillance radar capable of detecting a crawling man up to 1 km, a walking man up to 10 km and light vehicles up to 30 km, performing the automatic classification and tracking of up to 100 simultaneous targets on land or low altitude. Implemented for the SISFRON project, the SENTIR M20 allows remote access and control of data through the Command and Control Centers.



SABER-M60

3-D low altitude anti-aircraft artillery radar able to track up to 60 targets simultaneously within a radius up to 60 km (32 nm) and up to 5,000 m (16,400 ft) in height. The radar uses Doppler pulse technology that allows unique target detection and aircraft automatic classification (IFF). With low maintenance cost, it is a robust and flexible radar, designed for transportation in any type of terrain, with set up time of 15 min by only three operators.



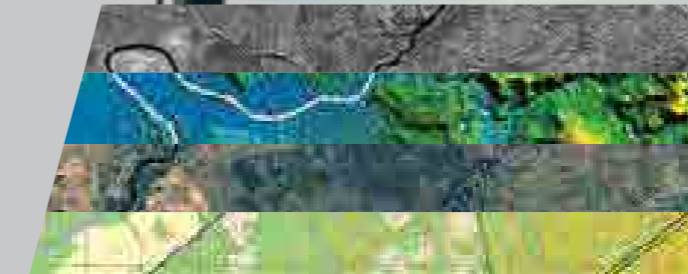
SABER-M200

Long range, multirole, software-defined radar based on phased array technology that combines solution for air traffic control, air defense, anti-aircraft artillery and weather surveillance, with low probability of interception. It combines functions of primary and secondary radar complying with requirement of civilian and military air traffic control, besides the ability to perform functions of missile guidance and precision approach radar.



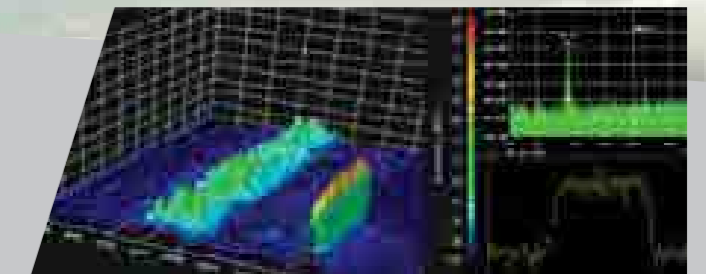
SABER-S200

Fully redundant, monopulse technology secondary surveillance radar designed for Air Traffic Control (ATC) with a range of 200 nm and a processing capacity of 600 simultaneous tracks, able to operating in Interrogation Friend or Foe (IFF) encrypted identification Mode 4.



SAR

New airborne remote sensing system for mapping and monitoring with high precision and resolution. The system generates altimetric and planimetric maps through the X and P radar bands, and can be operated day or night and in low visibility condition. Applications: topographic mapping, change detection (e.g., deforestation, flooding, invasions and erosion), forest biomass estimation, search and rescue, and ground and maritime surveillance.



COMMUNICATION INTELLIGENCE

Fixed and mobile systems dedicated to monitoring communication emitters and performing the direction finding for transmitters target location. It is based on wide band receivers that intercept radio frequencies in several bands, providing the necessary data to support electronic warfare and empowering strategic decision-making. Developed and produced in Brazil, it is the only product in this segment that can be deployed outdoors without forced cooling.

INTEGRATED SYSTEMS

TO BE APPLIED IN THE CRITICAL DECISION-MAKING PROCESS FOCUSED ON DEFENSE AND SECURITY

Technological solutions for complex mission-critical systems in the areas of Command and Control, Embedded Systems, Cybersecurity, Instrumentation & Control, Simulation and Public Safety.



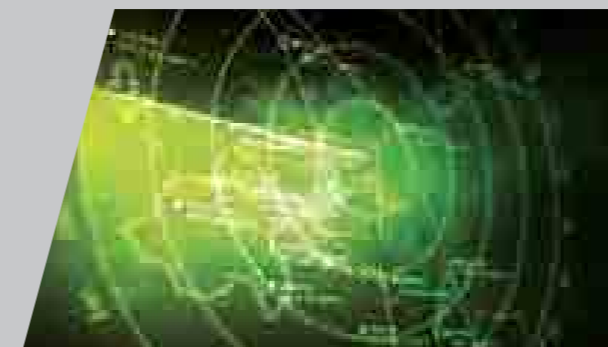
ARKHE COMMAND & CONTROL

Planning and action cycle integrated to the entire chain of command. Acting in an integrated way, allowing the use of several sources of information to promote situational awareness. Flexible and scalable structure, allowing users to develop their physical and logical structure by adding new components and sub-systems to the system, such as radars, cameras, and legacy systems.



ARKHE MISSION & COMBAT

Complete control for tactical missions by land, air, and sea. Product suite dedicated for embedded solutions area, effectively serving different missions due to its full integration with aircraft, vehicle and vessel systems and sensors. The solutions provide a set of features that allows operators to conduct all stages during missions, considering planning, execution, control, and debriefing, enabling the decision-making process.



ARKHE INTELLIGENCE

Intelligence for decision-making. Solutions developed to handle one of the main challenges in decision-making: efficiently and timely processing large volumes of data from various sources through consumption, processing, analysis, and presentation, transforming data into knowledge.



ARKHE CYBER

Protecting information integrity. Thinking about the fifth domain of war, a suite of products developed for the area of cybersecurity, to ensure that organizations' essential information is always protected and properly used.



ARKHE ACADEMY

Training, qualification, and independence to apply knowledge. A solution that promotes training of qualified professionals, supports users to create centers of excellence, and focuses on continuous training of those who not only operate systems and equipment, but also who disseminate knowledge.



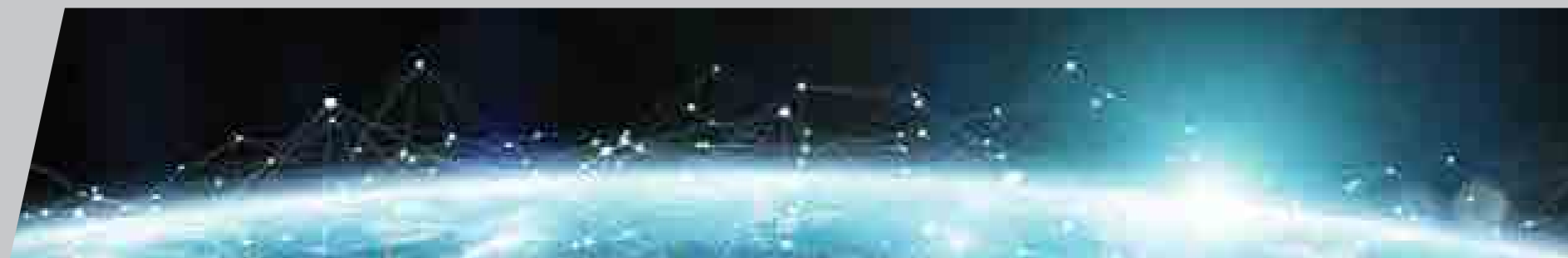
INTEGRATED SYSTEMS

TO BE APPLIED IN THE CRITICAL DECISION-MAKING PROCESS AND TO INCREASE EFFICIENCY

Solutions that provide a full set of situational awareness technologies and support decision-making in air traffic control and management, cybersecurity, simulators, logistics systems, assets management, smart connections, and training.



AIR TRAFFIC CONTROL AND MANAGEMENT



MAKRON

Full set of solutions created in compliance with International Civil Aviation Organization (ICAO) regulations. Modular and customizable systems, including system design, engineering, development and integration of situational awareness technologies, delivering optimized safety, efficiency and operations for air navigation service providers, airport operators and airlines, military aviation agencies and air defense.

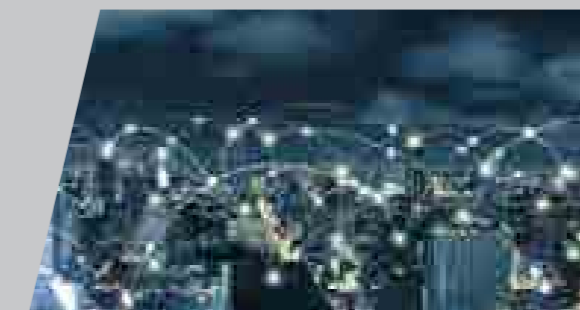
ATC / SAGITARIO	ATFM / SKYFLOW	SWIM / AQUILA
OPMET / AURA	AFIS / COSMOS	AMHS / CYGNUS
IFPS / LEO	eFPL / JANUS	ATC SIMULATION / PLATAO

B2B SOLUTIONS



OKTO

Asset management and logistics.
A set of dynamic solutions capable of operating at a global scale, managing logistics and assets efficiently, reliably and with high performance: monitoring of assets conditions, planning and scheduling of maintenance and operation, scheduling of cargo transport, as well as management of maintenance, asset strategy, procedure documents, services and events costs.



SMART CONNECTIONS

Solutions that help companies tackle recent challenges in the Internet of Things and Industry 4.0, such as remote access to operations centers or control rooms, sensors, meters, control equipment, cameras, and remote locations without any communication or infrastructure available.



DIGITAL SECURITY

Protection solutions against cyber-attacks, conducting intrusion tests to identify vulnerabilities and employ technical know-how to promote a secure culture within enterprises.

SUBSIDIARY COMPANIES

Comprehensive defense solutions that combine strategic knowledge and cutting-edge technology.



To consolidate its leading position in Latin America, Embraer Defense & Security holds the control of a set of companies with recognized expertise in critical areas of intelligence, monitoring and control.



Develops solutions in command, control and intelligence and offers specialized engineering technical and logistic support services for each cycle of system projects. It is a strategic defense organization which works as a Brazilian integrating company in strategic projects and systems.



One of the world's most renowned providers of maintenance services and of complex aircraft structures. In the MRO market, OGMA offers high-quality services for defense and civil aviation. For the aerostructures market, OGMA provides built-in solutions for the main worldwide manufacturers and first class suppliers.



Savis is a Brazilian company dedicated to developing, designing, certifying, industrializing, integrating and implementing systems and services for border control and protection of strategic structures.



A partnership between Embraer Defense & Security and Telebras, Visiona focuses on the integration of the Geosynchronous Satellite of Defense and Strategic Communications System of the Brazilian government. Its mission is to establish itself as a key contractor to provide for the satellite systems' needs, developing critical technologies in the aerospace area and offering support to strengthen the national industrial chain.





SEPTEMBER 2020



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