

C-27J SPARTAN Next Generation

Unrivalled multi-mission airlifter



AIRCRAFT DIVISION

 **LEONARDO**



RUGGED, RELIABLE, PROVEN, VERSATILE

The C-27J Spartan Next Generation is the most effective multi-mission airlifter available on the market today. Its capability to operate from the most rudimentary airstrips in extreme environmental conditions cannot be matched by any other twin-engine airlifter.

With the introduction of new equipment and aerodynamic solutions, the C-27J Next Generation has improved operating efficiency and enhanced performance. The C-27J Next Generation features comprehensive new avionics to comply with the new Performance Based Navigation international standard to operate in civil air space without limitations, and to enhance interoperability in tactical scenarios. While the new winglets contribute to improve climb performance and increase the MTOW up to 1,000 kg.

Thanks to its exceptional structural strength and systems redundancy, the Spartan offers unique qualities, not found in other aircraft of the same class or derived from commercial turboprops: ruggedness, reliability, outstanding survivability and maneuverability.

Ordered and employed with full satisfaction by the most important air forces, the Spartan is already fully proven and is able to effectively accomplish any tactical transport mission, ranging from disaster relief to "last tactical mile" troops support.

The Spartan is a remarkably robust tactical airlifter with state-of-the-art technology and a powerful turboprop propulsion system, delivering extraordinary performance, extreme operational flexibility and cost effectiveness.

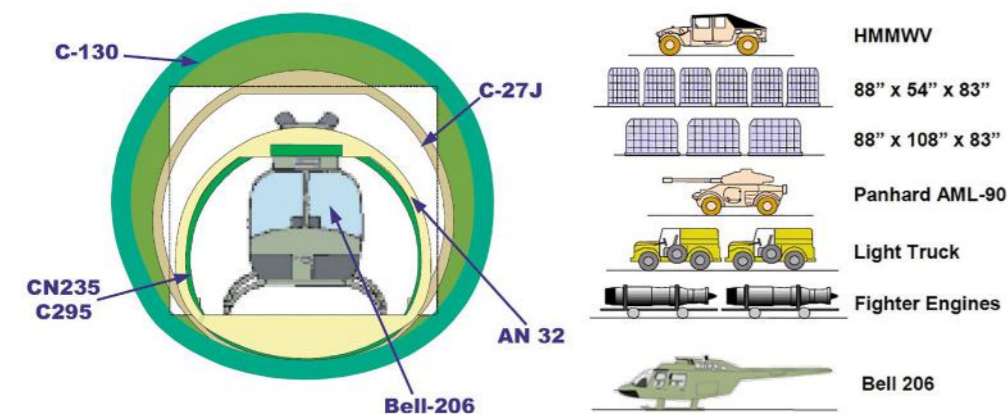


ONE AIRLIFTER, MULTIPLE CAPABILITIES

Nowadays, a modern Air Force needs a highly cost effective aircraft, capable of being quickly reconfigured to perform a high number of alternate missions, whilst retaining its primary role of tactical airlifter. Thanks to multiple, roll-on/roll-off easily installable and transportable mission kits and systems, the C-27J can be configured to carry out tactical transport including troops, cargo, paratroops and cargo airdrop; Medevac/Casevac; VIP and personnel transportation.

The C-27J has a cargo bay with the largest cross section in its class (3.33 x 2.60 m), a wide rear door with opening ramp, a very strong cargo floor (4,900 kg/m max load for the entire fuselage length), large paratroop side doors, a cargo loading system designed to handle standard 463L pallets/platforms and many types of cargo loads which can be easily loaded, transported and airdropped.

The C-27J is the only aircraft in its class with the capability to adjust the cargo floor both in height and inclination, to facilitate the loading/unloading operations where no external support (cargo loader, etc..) is available.



COMBAT PROVEN BATTLEFIELD AIRLIFTER

The ruggedness of the C-27J is confirmed by mission availability rates in excess of 85% recorded in years of operational deployments by several Air Forces since 2006, in the austere and extreme Middle East and Central Asia environments.

The C-27J, expressly designed for intra-theatre operations, can be equipped with a full Defensive Aids Sub-Systems suite, secure communications and battlefield armor providing ballistic protection in order to operate in high threat environments, delivering cargo and people wherever they are needed.

The C-27J can directly upload large payloads, like standard 463L pallets or large vehicles such as light trucks, Humvees as they are unloaded from heavier airlifters such as the C-130 (Hercules) family or helicopters in the CH-47 (Chinook) class, delivering them straight to the frontline and austere forward operating bases, without repackaging, dismount parts or deflate tires, increasing safety and mission tempo.

The aircraft is equipped with an APU (Auxiliary Power Unit), fundamental for autonomous operations in improvised airfields and to restart the engines in flight. Aircraft loading aids can be stowed on board to allow autonomous operations in remote locations.



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UNRIVALLED ABILITIES

The glass cockpit includes 5 Color Multipurpose Display Units, a dual redundant Flight Management System, two Digital Autopilot-Flight Director Systems with Auto-throttle capabilities, radar for tactical transport missions and a comprehensive communications suite. These features, coupled with many large cockpit windows, full NVIS/NVG compatibility and optional Head-Up Displays availability, minimize pilot workload while increasing situational awareness in day, night and adverse weather conditions.

The latest baseline configuration for the C-27J Next Generation includes brand-new avionics system to comply with Next Gen Air Traffic Control requirements, including FANS 1/A+ datalink; TCAS 7.1; ILS Cat.II; Enhanced video TAWS; new cockpit and cargo panels and updated lighting system with LED technology; new cockpit displays; new weather radar; new navigation and communication capabilities; IFF/ADS-B out Mode 5 upgraded to the latest standard; tactical VNAV.

The Spartan has an unrivalled ability, and is qualified in performing short take-offs and landings (STOL) on snowy, sandy and unprepared airfields.

Compared with other military transport aircraft in its class, the C-27J has the best descent and climb rate (4000 and 2,500 ft/min) and can also perform 3 g tactical maneuvers, minimizing its approach phase and reaching a safe altitude, faster in high threat scenarios.

The Spartan is qualified for extreme temperature conditions and is capable to carry its load in extreme hot and high conditions as already demonstrated in the Andes.

Winglets, now standard, improve climb performance (OEI ceiling altitude increase of around 500 ft also in hot/high conditions) and increase the Maximum Take-Off Weight (+2,205lb/ 1,000 kg) .

In-Flight Refueling capabilities with hose and drogue system can be added, to extend mission endurance and range if required. Nighttime IFR with NVG can also be accomplished.



ONE PLATFORM, MULTI-MISSION CAPABILITIES

Evolution of the proven tactical airlifter, the C-27J Next Generation multi-mission aircraft can be reconfigured to become a C3-ISR (Command, Control, Communication, Intelligence, Surveillance and Reconnaissance), SIGINT (SIGnal INTelligence) or Combat Support asset, thanks to roll-on/roll-off systems and different sensors and equipment:

- › AESA Search Radar
- › Electro-Optical/Infra- Red (EO/IR) system
- › Electronic Support Measure (ESM) for ISR and SIGINT/ELINT missions
- › Self Protection System (SPS)
- › Palletized Mission System with up to 4 operator stations
- › Enhanced Communication System including data links and SATCOM capabilities, also for SIGINT/COMINT purposes
- › Store Management System to employ Precision Guided Munitions (PGM)
- › Three hard points under each wing for PGMs
- › Two fixed, single barrel Ordnance Launchers (for PGMs, flare and smoke markers).

This extensive suite, coupled with state-of-the-art avionics and outstanding performance, allows the C-27J multi-mission aircraft to support Special Operations Forces (SOF) and ground troops with direct fire also performing armed ISR, Close Air Support and Combat Search And Rescue (CSAR).

For Electronic Warfare purposes (counter radio controlled IED, electronic attack comms, intel ops broadcast) a dedicated suite can be added.

The Mission System, based on palletized, quickly removable equipment, manages the installed sensors, analyzes the gathered information and performs a true data fusion, providing both operators and pilots with a detailed, real time overall tactical picture.



THE MARITIME PATROL AIRCRAFT

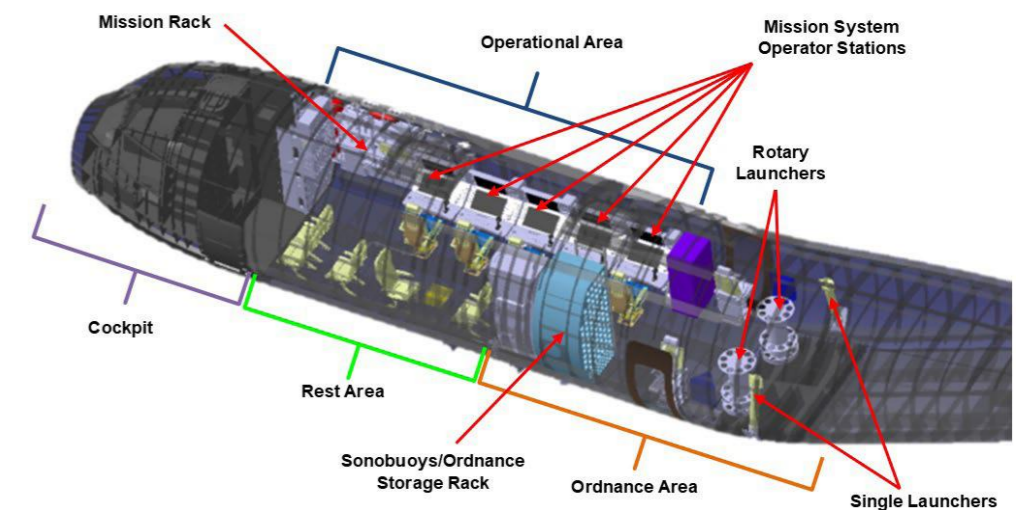
To perform Maritime Surveillance and Search And Rescue (SAR), Maritime Patrol and to cope with emerging threats from submarines and sea surface units, the C-27J Next Generation multi-mission aircraft can also evolve to become an effective SAR, MP, Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASuW) platform. Both roll-on/roll-off and fully dedicated configurations are available with additional sensors and dedicated equipment:

- › AESA Search Radar
- › Electro-Optical/Infra- Red (EO/IR) system
- › Automatic Identification System (AIS)
- › Two Observation Windows with observer seats
- › SAR kits
- › Mission System with up to 5 operator stations
- › State-of-the-art Communication System including data links and SATCOM capabilities
- › Electronic Support Measures (ESM) for ISR and SIGINT/ELINT tasks
- › Self Protection System (SPS)
- › Magnetic Anomaly Detector (MAD) system
- › Acoustic Subsystem
- › Two removable, ten-barrels Rotary Sonobuoy Launchers
- › Two fixed, single barrel Ordnance Launchers (for Sound Underwater Signals, flare and smoke markers)
- › Store Management System and six wing pylons to employ lightweight torpedoes, anti-ship missiles and naval mines (max weapons payload 7,495 lb/3,600 kg)
- › Rest area with seats and galley

The large and comfortable cabin is ideally suited for safe and efficient operations and has significant space provision for additional operator stations, seats and equipment, if requested.

The aircraft is capable to stay on station for 9+ hours in armed configuration, moreover an already qualified In Flight Refueling system can be added.

The palletized roll-on/roll-off solution allows the C-27J Next Generation MPA to be reconfigured for Naval Mine Warfare to transport and airdrop up to 6 "Murena" mines from the rear ramp.



HUMANITARIAN ASSISTANCE AND DISASTER RELIEF SUPPORT

The Spartan has already fully demonstrated its capability to effectively accomplish any transport mission related to disaster relief efforts, humanitarian assistance and support of Homeland Security missions, thanks to its total autonomy from ground support and ability to airlift materiel, equipment and people from/to remote and unprepared fields or areas where civil infrastructure has been damaged or destroyed, including precisely and timely airdrop of pallets and bundles with goods and life-saving supplies as needed on the ground.

The aircraft can also collect people in distress or wounded, thanks to its ability to configure the cargo cabin with several standard stretchers for rapid medical evacuation (Medevac). Special Aircraft Transit Isolators can also be employed to transport patients suffering from highly contagious infectious diseases (biomedical containment).



© Peruvian Air Force

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THE GAME CHANGER IN FIREFIGHTING

For firefighting duties, 6 “Guardian” System water/fire retardant containers can be effectively airdropped from a safe altitude (500-1,500 ft), also at night, on a single passage with no aircraft modifications.

Furthermore, the C-27J Next Generation Fire Fighter with roll-on/roll-off off second generation Modular Airborne Fire Fighting System (MAFFS II) by Maffs Corp. - the world leader in design, manufacturing and certification of some of the most powerful aerial application systems - represents the very latest in airborne firefighting capability.

C-27J Next Generation’s capabilities and performance at low altitude and in hot and high conditions are ideally suited for firefighting.

The FAS MAFFS II can be easily installed or removed by a minimal crew in 90 min. via the aircraft’s rear loading ramp. MAFFS II can launch 7,950 l/2,100 US Gal of water/fire retardant via an outboard nozzle assy installed in left side paratroopers ‘stub’ door (original locked up in position). It is possible to split the load into two volume drops of 50% liquid each.

The Fire Fighter configuration is a flexible solution, ideal for enhancing the capabilities of the C-27J Next Generation multi-mission aircraft with significantly lower acquisition and operating cost than a firefighting dedicated platform. When not used in firefighting duties, the aircraft can be quickly reconfigured for transport, humanitarian support, civil protection and SAR roles.



USCG

“Throughout hurricane response operations, the C-27J proved to be well suited for rapid movement of small to moderate-size loads of personnel, equipment and supplies over relatively short distances. The availability and reliability of the deployed C-27J aircraft provided planners with an alternative to dedicating the larger C-130 aircraft that, if used, would have flown with a partially empty cargo compartment.”

Capt. Eric Storch, U.S. Coast Guard HC-27J APO commanding officer
September 2017 – USCG website



Australia

“It’s got a lot of power behind it. Where we would typically put a C-130J’s nose up to 10 degrees for takeoff, we’re up around 17 or 18 degrees for takeoff for the C-27J. Even with a load, it’s still a bit of a rocket.”

WGCDR Ben Poxon, 35 SQN Commanding Officer, RAAF / June 2018 - Australian Aviation magazine

“The C-27J Spartan is an agile aircraft that can land in austere airfields and along dirt strips enabling the quick insertion of supplies to areas that need it most, and would have otherwise been inaccessible for larger aircraft or via road transport.” [Supporting flood relief efforts in Queensland on February 2019]

SQNLDR Mark Seery, 35 SQN pilot, RAAF / June 2019 – RAAF News magazine





Italy

"The C-27J is quite well-balanced from the cockpit side. Many other aircraft are good, but I've seen pilots putting a lot of effort into setting up their plane even before take-off. Let's say that the ground time was one hour or even more to set up for the mission. [...] In contrast the C-27J is quite easy to set up and quite fast, normally 40-45 minutes for a complex mission and once you set it up usually both pilots are looking outside most of the time instead of facing down. It is well engineered and robust and has really nice landing gear. You can land on very uneven surfaces; I've landed on grass, dirt, gravel, ice and it all felt the same."

Maj Ruggero S, 98° Gruppo pilot, 46a Brigata Aerea, Aeronautica Militare Italiana
(full name withheld on security reasons)
November 2019 – Air Forces Monthly



Perù

"It's a powerful and robust plane. It can take off from a short runway and can climb rapidly to the maximum cruise ceiling of 30,000 ft and while carrying heavy payload. C-27J is perfect for operation in mountainous regions of Peru"

Col. Alejandro Caceda, Peruvian Air Force
December 2015 – Vanguard Canada website



SUPPORTING THE SPARTAN

Leonardo Customer Support, Services & Training offers integrated logistics services designed to best support the customer's C-27J fleet, maximizing its availability and competitiveness of supported products in terms of time, quality and life cycle cost.

Evolving from standard Integrated Logistic Support (ILS) through advanced Performance Based Logistics (PBL), Leonardo delivers Turnkey and Full PBL services to the most demanding customers' fleet. All logistic operations, including 24/7 service for AOG, are supported by a dedicated Logistic Hub.

Leonardo offers aircrew and ground crew training courses that enable operators to use their C-27J Next Generation aircraft in the most effective way, helping customers achieve and sustain operational capabilities.



C-27J Next Generation CHARACTERISTICS

WEIGHTS

MTOW	71,650 lb	32,500 kg
Maximum Landing Weight	67,241 lb	30,500 kg
Max Payload	24,912 lb	11,300 kg
Max Payload (tactical)	17,196 lb	7,800 kg
Fuel capacity	3,255 US Gal	12,320 l

POWERPLANT

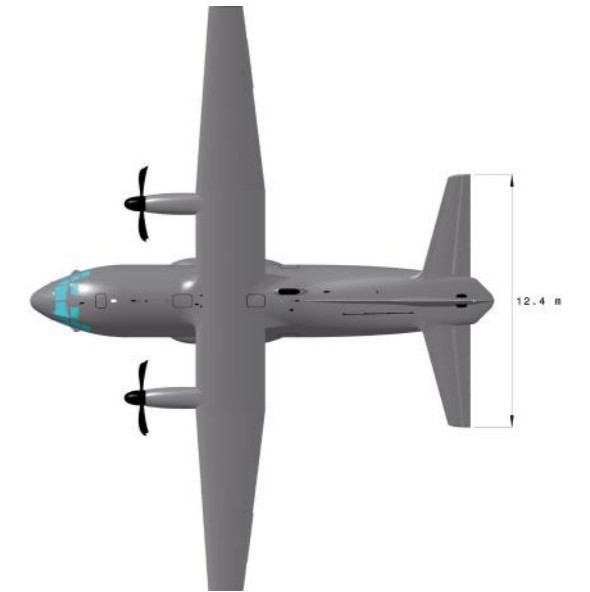
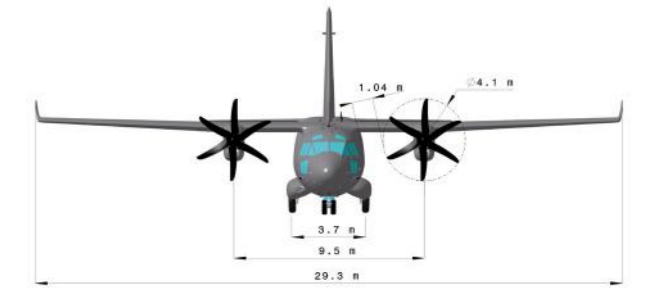
Engines: 2 Rolls-Royce AE 2100-D2A	4,637 shp each	3,458 kW each
Propellers 2 Dowty R-391 six-blade		

PERFORMANCE

Take-Off Ground Run (MTOW, ISA, S.L.)	2,264 ft	690 m
Landing Ground Roll (MLW, ISA, S.L.)	1,279 ft	390 m
Top Cruising Speed	325 KTAS	602 km/h
Service Ceiling	30,000 ft	9,144 m
Cruise Altitude (95% MTOW)	27,500 ft	8,382 m
Range with 10,000 lb (4,536 kg) of Payload @ MTOW normal, ISA	2,730 nm	5,056 km
Max Range	3,160 nm	5,852 km

CONFIGURATIONS AND LOADS

Troops Transport	46 troops, up to 60 troops in high-density configuration
Paratroops Transport	34 fully equipped paratroopers, up to 46 if lightly equipped
Cargo Transport	Bulk loads, wheeled and tracked vehicles, aircraft engines, light helicopters, etc... 3 HCU-6E (5,000 kg max single load) 463L pallets + 1 HCU-12E on the ramp 6 HCU-12E (2,500 kg max single load) 463L pallets (1 on the ramp)
Cargo Airdrop	up to 9,000 kg with 2 platforms (6,000 kg max single load) up to 6 A22 CDS Bundles (908 kg each) up to 5,000 kg with 1 or 2 platforms (5,000 kg max single load) by LAPES up to 6,000 kg by combat off-load with 3 HCU-6E 463L pallets
Medevac/Casevac	up to 36 standard stretchers + 6 medical attendants
VIP and Personnel Transportation	6 VIP plus 18 escort passengers plus a service module
Fire Fighting	up to 6 "Guardian" System containers (6,000 l of water/fire retardant) roll-on/roll-off MAFFS II with 7,950 l capacity





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