

Aircraft Oxygen System Market by 2030 Top Winning Strategies

Aircraft Oxygen System Market by Component : Global Opportunity Analysis and Industry Forecast, 2023-2032

NEW CASTLE, DELAWARE, UNITED STATES, September 21, 2023 /EINPresswire.com/ -- An aircraft oxygen system provides oxygen supply to passengers and crew of an aircraft when it is in operation. These systems are used when the cabin air pressure reduces due to the aircraft operating above 12,000 ft., or in emergency situations. The human body, as a highly aerobic organism, uses oxygen at tissue levels in accordance with metabolic needs. Any drop in atmospheric pressure affects the



amount of oxygen available for inhalation. The cabin of the aero plane must be pressurized to replicate the pressure at a lower height in order to allow human presence in the flight at high altitudes. Aircraft oxygen systems are designed to regulate and dilute oxygen levels as needed, or to create a supply of pure oxygen for use by the crew or passengers. The use of oxygen in gaseous form is frequent in aero planes, however the use varies depending on the aircraft type. The oxygen cylinders are adapted properly to feed a system via a regulator and tubing in light twin-engine aircraft oxygen systems, which are built-in on high performance. If individual oxygen is required, the passenger portion features multiple breathing stations where all passengers can plug in a hose and mask. The aircrafts that are used for transport have an expanded gaseous oxygen system that is built-in and serves as a backup system for cabin pressurization.

Due to the COVID-19 outbreak, the operations of numerous industries have either been temporarily halted or are functioning with a minimal workforce due to enforced lockdowns and imposed restrictions by respective governing bodies. The global military <u>aircraft oxygen system</u> <u>market</u> is no different, and this factor is anticipated to have a significantly negative impact on the

revenue growth of this industry. Additionally, the high costs associated with the installation and maintenance of these machines is also a factor that may hamper the revenue growth of the global military aircraft oxygen system market over the course of this forecast period.

Increase in air travel, replacement of aging aircraft, and increasing passenger traffic are the major factors drives the growth of the aircraft oxygen system market.

Stringent regulations for safety, and supplier production capacity limitations are the restraints that hindered the growth of the aircraft oxygen system market.

Reconfiguration of cabin structure and system setup challenge doors are the major factors offering an opportunity for the growth of aircraft oxygen system market.

Three main reasons are generally cited to explain the ongoing global growth in air travel. First is the increase in low-cost carriers, who have almost doubled their market share. Second is the growth of the global middle class. Both these developments have increased the number of consumers able to afford air travel. Finally, there is also the growth in airport infrastructure spending, which has increased the global carrying capacity. The number of scheduled passengers handled by the global airline industry has increased in all but one of the last 15 years. Scheduled passengers refer to the number of passengers who have booked a flight with a commercial airline. Excluded are passengers on charter flights, whereby an entire plane is booked by a private group. The highest share of airline passenger traffic accounting for one third of the global total. The region also includes the busiest air routes. For instance, 3AA and 3HT cylinders, and DOT 3AA 1800 (3AA) cylinders are standard industrial size steel cylinders found mostly in airplanes. They are being replaced with 3HT cylinders.

Increasing air travel continues to remain a preliminary factor influencing the development of advanced aircraft oxygen system. According to the analysis of IATA (International Air Transport Association), around 7.8 billion passengers are expected to adopt air travel by 2036. This has paved potential pathways for aircraft oxygen system manufacturers to introduce advanced products for airlines, which is projected to spearhead the growth of the aircraft oxygen system market in the coming years. Moreover, in order to cope up with the cabin pressure in the aircraft, it has been recommended by the ICAO (International civil Aviation Organization) to use supplementary oxygen to avoid hypoxia which has fuelled the sales of aircraft oxygen system. OEMs (Original Equipment Manufacturers) of new generation aircrafts are engaged in integrating

advanced features. This has encouraged incorporation of smart aircraft oxygen system that includes sensors for detecting oxygen levels and facilitate uninterrupted supply of oxygen. For instance, the OBOGS (On Board Oxygen Generating System) produces oxygen and carries out filtration, oxygen gas monitoring and quality control in aircrafts.

Due to the aging aircraft and other strategic structures, nondestructive evaluation (NDE) is needed to monitor the condition of the structures. Due to the wide use of continuous carbon fiber polymer-matrix composites in structures, NDE of this material is particularly needed. The electrical resistance technique described a method of NDE. Other methods include infrared (IR) thermography (Pawar and Peters, 2013) and ultrasonic inspection. The structural integrity of aging aircraft structures can be directly related to corrosion. As the service life of aircraft increases, eventually there will be a growing probability of corrosion formation, along with other forms of damage such as fatigue cracks, stress-corrosion cracking and other local or global damage. In addition, aging aircraft can accumulate residual structural stresses in their structures, or on the rivets and around rivet holes, decreasing the mechanical properties of Al alloys and reducing the lifetimes of these highly expensive pieces of equipment. For instance, the Aging Airplane Safety rule requires all airplanes operated under FAR 121 of all U.S.-registered multiengine airplanes operated under FAR 129, and all multiengine airplanes used in scheduled operations under FAR 135, to undergo record reviews and inspections by the Administrator after their 14th year in service and to ensure that the maintenance of their age-sensitive parts and components has been adequate and well timed.

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Many times when older aircraft change hands or have original interiors, a cabin reconfiguration is desired, such as adding a divan, a cabinet, or changing the club seating arrangement. Aircraft manufacturers and companies are modifying their aircrafts for augmenting the safety of the passengers and the crew by installation of security and emergency solutions namely aircraft oxygen system. Switching out window shades might also require structural modifications to the aircraft. Also, keep in mind that if you want something that is not a factory-approved layout or a supplemental type certificate (STC) approval has not been previously acquired for your aircraft, the development and approval of an STC may be required meaning additional cost and downtime. Keep in mind not all configurations may receive approval, so advanced notice is critical. For instance, cabins have 16G seats like CJs, XLS, Citation X, and others, these seats have to be built to STC standard, which includes fire blocking and other requirements. Because of additional guidelines, 16G seat rebuilds alone typically require an additional two to three weeks of downtime.

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This study presents the analytical depiction of the aircraft oxygen system market along with the current trends and future estimations to determine the imminent investment pockets.

The report presents information related to key drivers, restraints, and opportunities along with challenges the aircraft oxygen system market.

The current market is quantitatively analyzed to highlight the market growth scenario of aircraft oxygen system market.

The report provides a detailed aircraft oxygen system market analysis based on competitive intensity and how the competition will take shape in coming years.

Who are the leading players in the aircraft oxygen system market?

What are the critical challenges faced by manufacturers in the aircraft oxygen system market?

What are the market trends, driving factor and opportunities involved in this market?

What are the key segments covered in the aircraft oxygen system market?

What are the future projections of aircraft oxygen system market would help in taking further strategic steps?

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Oxygen Storage System

Oxygen Delivery System

Oxygen Mask

Passenger Oxygen System

Crew Oxygen System

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Narrow Body Aircrafts

Wide Body Aircrafts

Others

Commercial Aviation

Military Aviation

Others

North America (U.S., Canada, Mexico)

Europe (France, Germany, UK, Russia, Rest of Europe)

Asia-Pacific (China, Japan, India, South Korea, Rest of Asia-Pacific)

LAMEA (Latin America, Middle East, Africa)

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