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Military Aircraft Digital Glass Cockpit Systems Market Research Report—Global Forecast till 2030

Report / Search Code: MRFR/A&D/0790-CR **Publish Date:** November, 2022

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Description:

Military Aircraft Digital Glass Cockpit Systems Market Overview

Military Aircraft Digital Glass Cockpit Systems market to be valued at USD 1,88.12 million in 2030 and expected to grow with a CAGR rate of 3.1% by 2022-2030

A digital glass cockpit, also known as electronic flight information systems (EFIS) and cockpit display system (CDS), is an aircraft cockpit that consist digital flight instrument displays, generally large LCD screens, instead of conventional analog dials and gauges. A digital glass cockpit simplifies aircraft operations and navigation by enabling the usage of several displays driven by flight management systems, that can be adjusted (multi-function display) to display flight information as needed.

Advanced digital glass cockpit systems utilize LCD screens to display crucial flight information. Digital glass cockpit displays systems are based around primary flight displays (PFDs), engine indications and crew alerting system (EICAS) and multifunction displays (MFDs). This enables the replacement of mechanical flight instrument gauges with graphical representations of information from onboard and external sensors and navigation systems.

The digital glass cockpits are being increasingly adopted by military and defense along with airline companies, as they eliminate the need for a flight engineer, in turn reducing costs. In recent past, this digital glass cockpit has become widely available in small aircrafts too.

This study on the global Military Aircraft Digital Glass Cockpit Systems market provides detailed information on industry trends, market dynamics, market size, competitive landscape, and growth opportunities. This research report categorizes the global Military Aircraft Digital Glass Cockpit Systems markets system, aircraft type, and region/country.

Based on system, the Military Aircraft Digital Glass Cockpit Systems market has been divided into Multi-Functional Display Systems, Primary Flight Display, Engine-Indicating & Crew Alerting System (EICAS) Display. Multi-Functional Display Systems segment dominated the market in 2021 and is estimated to remain the same during the review period, while Engine-Indicating & Crew Alerting System (EICAS) Display is expected to register the highest CAGR during the forecast period from 2022 to 2030.

COVID-19 Analysis

The COVID-19 pandemic affected the numerous industry verticals, including aerospace & defense. However, the military Aircraft Digital Glass Cockpit Systems market reported a significant impact due to aircraft manufacturing delays. However, demand over the next couple of years is unlikely to be affected due to the pandemic prior budget allocation for the defense projects by nations and the projects stand to be critical as it is a concern of national defense.

The semiconductor industry faced supply chain issues, production scarcity, shortage of raw materials, transportation & logistics irregularities, and increased demand from several end-use industries, including aircraft manufacturing. However, aircraft manufacturers continued to face a shortage of cash flows, production challenges due to insufficient supply of essential equipment, including semiconductors, and cascading effects throughout the supply chain that may weaken the industrial base that supports complex manufacturing. Defense contractors experienced falling demand over the long run due to national governments opting for reduced deficits and controlling their expenses in harsh times.

Market Dynamics

The global military Aircraft Digital Glass Cockpit Systems market is a very dynamic market and is expected to witness significant growth over the forecast period. The growth of the Military Aircraft Digital Glass Cockpit Systems market is mainly influenced by factors such as the rising number of cockpit upgrades to the existing military aircraft fleet and increasing military expenditures. However, the limited number of manufacturers is one of the factors that are responsible for hindering the growth of the Military Aircraft Digital Glass Cockpit Systems market. On the other hand, the market is opportune for technological advancements.

Drivers

Rising Number of Cockpit Upgrades to The Existing Military Aircraft Fleet

The conventional cockpits comprised multiple round meters with analog displays measuring the values for different parameters using a needle pointer. However, this was a tedious task for crew members to monitor those multiple meters and make their decisions. Although, the conventional displays were gradually replaced with advanced glass cockpits that enabled the integration of multiple instruments in one display, replacing the pilot's workload while utilizing the resources efficiently. Additionally, the glass cockpits are more accurate than that of their predecessor since they work on digital technology and display the readings in digits instead of a conventional display. Adding on, glass cockpit displays offer compact designs saving on space, power consumption, and utilization of different parameters.

On the other hand, the conventional cockpits comprise more than 100 analog cockpit instruments and electromechanical controls, crowded with indicators, crossbars, symbols, and the rise in the number of cockpit elements has been creating challenging environments for pilots and aircraft designers. These instruments generate large amounts of data that may be used and required for regulatory purposes and optimization of safety and operationality. Hence, digitalization of cockpits has become a necessity as many systems communicate with glass cockpit displays, including attitude and heading reference systems (AHRS), air data computers, temperature probes, magnetometers, and cockpit voice and flight data recorders. These factors contributed to the growth in demand for cockpit upgrades to the existing military aircraft fleet.

Opportunity

- **Advancements In Technology**

Technology is rapidly advancing with time, and with an increase in digitization, aircraft are coming up with innovative looks and ergonomics. Glass displays are gradually replacing conventional displays, allowing integration of multiple instruments in one display, thereby reducing the pilot's workload efficient utilization of resource. Also, glass displays show digital values precisely and have reduced the clutter all around the cockpit. Display errors are more common in conventional analog cockpits, but glass displays have overcome this by throwing reliable reading values.

Market Segmentation

The Military Aircraft Digital Glass Cockpit Systems Market has been segmented based on system, aircraft type and region.

By System, the Military Aircraft Digital Glass Cockpit Systems market has been segmented into Multi-Functional Display Systems, Primary Flight Display, Engine-Indicating & Crew Alerting System (EICAS) Display.

Based on Aircraft Type, the global Military Aircraft Digital Glass Cockpit Systems market has been segmented into Fighter Jet, Transport Aircraft, Helicopter & Special Mission, and Other Aircraft.

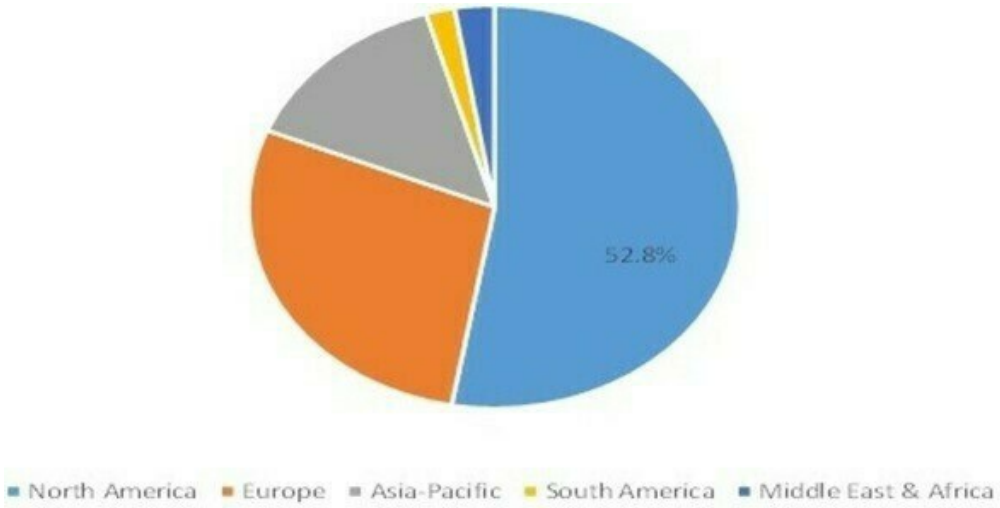
Regional Analysis

Globally, the Military Aircraft Digital Glass Cockpit Systems market has been categorized into five different regions—North America, Europe, Asia-Pacific, Middle East & Africa, and South America. North America accounted for the largest market share, with a market value of USD 99.37 Million in 2021; it is expected to register a CAGR of 2.9% during the forecast period. Europe was the second-largest market in 2021, valued at USD 53.44 Million; it is projected to register CAGR of 2.5%.

North America dominates the Military Aircraft Digital Glass Cockpit Systems market. According to Aerospace Industries Association, the aerospace & defense industry in the US contributed over 1.8% of the total US GDP with a value of USD 382 billion in 2020. However, the industry accounted for 18.8% of overall non-food manufacturing revenue generated in the country. Additionally, the US is a NATO member. In 2020, the alliance increased its defense spending by a cumulative total of USD 190 billion since 2014, when NATO pledged 2 percent of GDP for defense; eleven Allies met that benchmark in 2020.

The European Military Aircraft Digital Glass Cockpit Systems market is steadily rising, the region has the presence of several big players in the aircraft industry, including Airbus (large commercial and military aircraft, drones, and spacecraft), Airbus Helicopters, Dassault Aviation (high-end business jets, fighter aircraft, UAVs), ATR (passenger and cargo turboprop aircraft for regional transport, an Airbus JV with Italian firm Leonardo), and Daher (TBM and Kodiak light aircraft and business turboprops).The Asia-Pacific Military Aircraft Digital Glass Cockpit Systems market, based on country, has been segmented into China, Japan, India, South Korea, and the rest of Asia-Pacific.

GLOBAL MILITARY AIRCRAFT DIGITAL GLASS COCKPIT SYSTEMS MARKET, BY REGION, 2021 (% SHARE)



Source: Industry Expert, Secondary Research, and MRFR Analysis

Asia-Pacific Region to Bolster the Military Aircraft Digital Glass Cockpit Systems Market

The Asia-Pacific region is expected to grow significantly during the forecast period. The Indian Air Force (IAF) holds a

mix of old as well as new aircraft that covers a multitude of over-battlefield requirements. However, the country is emerging in space exploration activities. IAF showcased 'Made in India' fighter jets named Tejas at Singapore Air Show held in February 2022. Tejas was developed by Hindustan Aeronautics Limited (HAL) in collaboration with Aeronautical Development Agency (ADA) for Indian Air Force and the Indian Navy. The Indian government ordered 83 LCA Tejas aircraft from HAL, costing over INR 48,000 in January 2021. Further, India is expected to continue increasing its expenditure on defense, with a defense budget of USD 44.6 billion for the year 2019–2020, up 9.3 percent. The country plans to spend over USD 130 billion in the next five years modernizing armed forces and strengthening combat capabilities.

Competitive Landscape

The global market for Military Aircraft Digital Glass Cockpit Systems has witnessed significant growth over the forecast period due to the rising number of cockpit upgrades to the existing military aircraft fleet and increasing military expenditures. There are several domestic, regional, and global players operating in the Military Aircraft Digital Glass Cockpit Systems market who continuously strive to gain a significant share of the overall market. During the study, MRFR has analyzed some of the major players in the global Military Aircraft Digital Glass Cockpit Systems market who have contributed to the market growth. These include Thales Group, Astronautics Corporation Of America, Elbit Systems Ltd, Collins Aerospace, Garmin Ltd, Sandel Avionics Inc., L3harris Technologies, Inc., Transdigm Group, Meggitt Plc, and Honeywell International Inc.

During the study, MRFR has analyzed some of the major players in the global Military Aircraft Digital Glass Cockpit Systems market who have contributed to the global market growth.

Key Players

- Garmin Ltd
- L3Harris Technologies, Inc.
- Elbit Systems Ltd
- Honeywell International Inc.
- Transdigm Group, Inc.

Recent Developments

- In February 2022, Astronautics updated the L-100 with its Badger integrated flight display system, providing an integrated glass cockpit designed to maximize crew situational awareness with digital interfaces and displays, enhanced functionality, and additional safety features which provide information such as traffic, terrain, and weather. Astronautics' Badger integrated flight display system can enable its Night Vision Imaging System (NVIS)/ Night Vision Goggles (NVG) capability, depending on customer requirements.
- In March 2022, CMC Electronics (TransDigm Group) partnered with Calidus, to supply its state-of-the-art mission-ready avionics and software applications for the all-new Calidus B-250, a next-generation light attack combat and training aircraft. CMC's solution includes the PU-3000, the latest generation certified avionics computer with video processing capabilities powering both a Large Area Display (LAD) and a heads-up display for critical missions.
- In October 2021 Honeywell launched aircraft cockpit system, built with an always-on, cloud-connected experience that improves flight efficiency, operations, safety and comfort. The Honeywell Anthem flight deck offers unprecedented levels of connectivity, an exciting and intuitive interface modeled after everyday smart devices, and a highly scalable and customizable design. Honeywell Anthem is powered by a flexible software platform that can be customized for virtually every type of aircraft and flying vehicle, including large passenger and cargo planes, business jets, helicopters, general aviation aircraft, and the rapidly emerging class of advanced air-mobility (AAM) vehicles.

Report Overview

This study estimates revenue growth at global, regional, and country levels and offers an overview of the latest developments in each of the sub-sectors from 2019 to 2030. For this analysis, MRFR segmented the global Military Aircraft Digital Glass Cockpit Systems Market report based on system, aircraft type, and region.

By System

- Multi-Functional Display Systems
- Primary Flight Display
- Engine-Indicating & Crew Alerting System (EICAS) Display

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