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US MIL-STD-1553 Data Bus Protocol For Military Market Size and Forecast (2021 - 2035), Country Share, Trend, and Growth Opportunity Analysis Report Coverage: By Component {Hardware [1533 Bus Controller, Remote Terminals, Bus Monitors, Cables and Couplers, Microelectronic Chip and ICs (1533 Transceivers, Protocol Processors, and Hybrid and SoC Solution), and Others], and Software}, Platform Type (Avionics and Aircraft, Ground Vehicles and Tanks, Naval Systems, and Missiles and Space Systems), and Application (Flight Control System, Weapons and Targeting Systems, Communication and Data Networking, Electronic Warfare and Radar Systems, and Vehicle Health Monitoring and Diagnostics)

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Abstracts

The US Mil-STD-1553 data bus protocol for military market size was valued at US$ 3.97 billion in 2024 and is expected to reach US$ 6.77billion by 2035; it is estimated to register a CAGR of 5.1% during 2025–2035.

The US Mil-STD-1553 data bus protocol for military market is segmented into hardware and software. The hardware segment dominated the US Mil-STD-1553 data bus protocol for military market in 2024. The MIL-STD-1553 data bus industry primarily

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works with the integration of a variety of hardware components; these include connectors, 1553 bus controllers (BC), remote terminals (RT), bus monitors (BM), cables and couplers, and microelectronic chips and ICs. These components are designed to survive harsh environments and provide accurate communication in military and aerospace systems. Components such as couplers, transformers, cables, and connectors are pivotal to maintaining the signal integrity and resistance to noise. Further, the growing trend for miniaturization of military devices and systems, resulting in reduced size, weight, and power consumption, encourages market players to develop small-sized hardware suitable for the differentiated needs of military applications. The development of miniaturized hardware components is critical for current applications such as drones, satellites, and next-generation airplanes. Additionally, the advent of hybrid connectors that increase data handling flexibility while reducing system complexity is creating opportunities for the market players offering MIL-STD-1553 data bus hardware.

The hardware segment is divided into 1553 bus controllers (BC), remote terminals (RT), bus monitors (BM), cables and couplers, microelectronic chips and ICs, and others. Bus controller is the central command unit in an MIL-STD-1553 system, responsible for initiating and managing all data transfers on the bus. They also direct remote terminals when to transmit or receive data. This component works by scheduling communications, sending commands, error checking, and ensuring message sequencing and deterministic data flow within the military communication network. It acts as the system's communication master and aids in synchronizing operations. These capabilities also make bus controllers a crucial hardware component in military and aerospace applications where timing and reliability are paramount. Technological advancements in controller technology have resulted in more efficient, power-optimized controllers that can handle higher throughput and fault tolerance. Moreover, the integration of bus controllers with system-on-chip (SoC) architectures improves scalability while reducing system complexity in the military communication network. The expansion of space exploration missions, a surge in the deployment of unmanned systems, and an increase in electronic warfare operations further propel the demand for MIL-STD-1553 bus controllers.

On the basis of application, the market is segmented into flight control systems, weapons and targeting systems, communication and data networking, electronic warfare (EW) and radar systems, and vehicle health monitoring (VHM) and diagnostics. The MIL-STD-1553 data bus serves as the backbone for aircraft flight control systems, enabling deterministic communication between flight computers, control surface actuators, inertial navigation systems, and cockpit displays. It provides a reliable,

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predictable, and fault-tolerant communication infrastructure to improve the performance of flight control systems. These features increase its importance in aircraft mobility and stability by making the flight control systems highly reliable and redundant. MIL-STD-1553 data bus's dual-redundant design and time-division multiplexing protocol ensure that sensor inputs and control commands are transmitted continuously on priority between flight control computers, sensors, and actuators. This is especially important in fly-by-wire systems. The protocol's command/response format and error-checking features reduce data corruption and assure system responsiveness under adverse environments. MIL-STD-1553 also allows interoperability between older and new platforms, making it easier to upgrade flight control components without extensive rewiring or requalification. Moreover, increased aircraft flexibility, reliability, and operational safety, especially in military settings where mission success is strongly reliant on precise and dependable control inputs, result in a wider-scale integration of MIL-STD-1553 data bus protocols.

Sital Technology; Holt Integrated Circuits; TE Connectivity Ltd; Amphenol Corporation; Data Device Corporation; United Electronic Industries (UEI); Excalibur Systems Inc.; Curtiss-Wright Corporation; Astronics Corporation; Infinite Electronics International, Inc.; Keysight Technologies Inc; National Instruments Corp; Micross Components; are among the key US Mil-STD-1553 data bus protocol for military market players that are profiled in this market study.

The overall US Mil-STD-1553 data bus protocol for military market size has been derived using both primary and secondary sources. Exhaustive secondary research has been conducted using internal and external sources to obtain qualitative and quantitative information related to the US Mil-STD-1553 data bus protocol for military market size. The process also helps obtain an overview and forecast of the market with respect to all the market segments. Also, multiple primary interviews have been conducted with industry participants to validate the data and gain analytical insights. This process includes industry experts such as VPs, business development managers, market intelligence managers, and national sales managers, along with external consultants such as valuation experts, research analysts, and key opinion leaders, specializing in the US Mil-STD-1553 data bus protocol for military market.

Reason to buy

- Save and reduce time carrying out entry-level research by identifying the growth, size, leading players and segments in the US MIL-STD-1553 data bus protocol for military market.

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Highlights key business priorities in order to assist companies to realign their business strategies

The key findings and recommendations highlight crucial progressive industry trends in the US MIL-STD-1553 data bus protocol for military market, thereby allowing players across the value chain to develop effective long-term strategies

Develop/modify business expansion plans by using substantial growth offering developed and emerging markets

Scrutinize in-depth global market trends and outlook coupled with the factors driving the market, as well as those hindering it

Enhance the decision-making process by understanding the strategies that underpin commercial interest with respect to client products, segmentation, pricing and distribution

The List of Companies – US MIL-STD-1553 Data Bus Protocol for Military Market

Sital Technology

Holt Integrated Circuits

TE Connectivity Ltd

Amphenol Corporation

Data Device Corporation

United Electronic Industries (UEI)

Excalibur Systems Inc.

Curtiss-Wright Corporation

Astronics Corporation

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Infinite Electronics International, Inc.

Keysight Technologies Inc

National Instruments Corp

Micross Components

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Contents

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9. US MIL-STD-1553 DATA BUS PROTOCOL FOR MILITARY MARKET ANALYSIS – BY MICROELECTRONIC CHIP AND ICS

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List Of Tables

LIST OF TABLES

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List Of Figures

LIST OF FIGURES

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