

Functional Safety Market By Device Type (Safety Controllers/Modules/Relays, Programmable Safety Systems, Safety Sensors, Emergency Stop Devices, Final Control Elements (Valves, Actuators), Others), By Safety System (Emergency Shutdown Systems (ESD), Burner Management Systems (BMS), High-Integrity Pressure Protection Systems (HIPPS), Turbomachinery Control (TMC) Systems, Fire and Gas Monitoring Control Systems, Supervisory Control and Data Acquisition (SCADA) Systems), By Industry Verticals (Oil and Gas, Power Generation, Food and Beverage, Pharmaceutical, Automotive, Others): Global Opportunity Analysis and Industry Forecast, 2023-2032

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Abstracts

The global functional safety market was valued at \$5.5 billion in 2022, and is projected to reach \$14.7 billion by 2032, growing at a CAGR of 10.5% from 2023 to 2032.

Functional safety is a multidisciplinary approach applied across industries such as pharmaceuticals, process control, mining, power generation, and oil and gas, with the primary aim of preventing physical harm or damage to individuals and communities.

due to environmental factors or system failures. It involves implementing automatic mechanisms within systems to mitigate or prevent harm during unexpected events or failures, ensuring safe operation even under adverse conditions.

The growing complexity of systems emerges as a significant driver in the functional safety market, given its direct correlation with increased risks of failures and hazards. As industries adopt advanced technologies and interconnected systems, the potential for malfunctions or errors also rises exponentially. This heightened complexity underscores the necessity of implementing robust functional safety measures to mitigate risks and ensure operational reliability. Companies across various sectors recognize the importance of investing in comprehensive safety solutions to safeguard personnel, assets, and the environment against potential hazards. Therefore, the increase in system complexity serves as a powerful driver for the adoption of functional safety practices and solutions, fueling continual demand and innovation in the market.

However, limited skilled workforce presents a significant restraint in the functional safety market. The shortage of professionals with expertise in functional safety standards and methodologies poses challenges for businesses seeking to implement and maintain effective safety solutions. As industries across automotive, aerospace, healthcare, and manufacturing sectors increasingly prioritize safety compliance, the demand for skilled professionals adept in functional safety practices continues to rise. However, limited availability of trained personnel capable of managing complex safety standards and protocols hampers the widespread adoption of functional safety solutions. This scarcity not only slows down the implementation process but also increases operational costs and diminishes the overall effectiveness of safety initiatives. Consequently, addressing the shortage of skilled workforce remains a critical challenge for the functional safety market, impeding its growth and development.

Moreover, cross-industry collaboration presents a significant opportunity in the functional safety market. By promoting partnerships between industries, academia, and regulatory bodies, organizations can leverage diverse expertise and resources to drive innovation and develop more efficient and cost-effective functional safety solutions. Through collaboration, stakeholders can share insights, best practices, and technological advancements, accelerating the development and adoption of safety standards and protocols. Furthermore, collaborative initiatives enable the pooling of resources for research and development, promoting the exploration of novel approaches to address evolving safety challenges across industries. By boosting a culture of collaboration and knowledge-sharing, cross-industry partnerships pave the

way for the co-creation of comprehensive safety solutions that enhance operational efficiency, mitigate risks, and ensure compliance with regulatory requirements. As organizations recognize the value of collaboration, they unlock new opportunities to drive sustainable growth and innovation in the functional safety market.

The functional safety market is segmented into device type, safety system, industry vertical, and region. By device type, the functional safety market is divided into safety controllers/modules/relays, programmable safety systems (PSS), safety sensors, emergency stop devices, final control elements (valves, actuators), and others. By safety system, the market is classified into emergency shutdown systems (ESD), burner management systems (BMS), high-integrity pressure protection systems (HIPPS), turbomachinery control (TMC) systems, fire and gas monitoring control systems, and supervisory control and data acquisition (SCADA) systems. By industry vertical, the market is fragmented into oil and gas, power generation, food and beverage, pharmaceutical, automotive, and others. By region, the market is analyzed across North America (the U.S., Canada, and Mexico), Europe (the UK, Germany, France, and rest of Europe), Asia-Pacific (China, Japan, India, South Korea, and rest of Asia-Pacific), Latin America (Brazil, Chile, Argentina, rest of Latin America), and Middle East & Africa (UAE, Saudi Arabia, South Africa, rest of MEA).

The major companies profiled in the report include Rockwell Automation Inc., Emerson Electric Company, Honeywell International Inc., Yokogawa Electric Corporation, ABB Ltd., Siemens AG, Schneider Electric SE, General Electric Company, Mitsubishi Electric Corporation, and Omron Corporation.

Key Benefits for Stakeholders

This report provides a quantitative analysis of the market segments, current trends, estimations, and dynamics of the functional safety market analysis from 2022 to 2032 to identify the prevailing functional safety market opportunities.

The market research is offered along with information related to key drivers, restraints, and opportunities.

Porter's five forces analysis highlights the potency of buyers and suppliers to enable stakeholders make profit-oriented business decisions and strengthen their supplier-buyer network.

In-depth analysis of the functional safety market segmentation assists
to determine the prevailing market opportunities.

Major countries in each region are mapped according to their
revenue contribution to the global market.

Market player positioning facilitates benchmarking and provides a clear
understanding of the present position of the market players.

The report includes the analysis of the regional as well as global functional
safety market trends, key players, market segments, application areas, and
market growth strategies.

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Upcoming/New Entrant by Regions

Market share analysis of players by products/segments

New Product Development/ Product Matrix of Key Players

Additional company profiles with specific client's interest

Additional country or region analysis- market size and forecast

Expanded list for Company Profiles

Historic market data

Key player details (including location, contact details, supplier/vendor network etc. in excel format)

Market share analysis of players at global/region/country level

Key Market Segments

By Device Type

Safety Controllers/Modules/Relays

Programmable Safety Systems

Safety Sensors

Emergency Stop Devices

Final Control Elements (Valves, Actuators)

Others

By Safety System

Emergency Shutdown Systems (ESD)

Burner Management Systems (BMS)

High-Integrity Pressure Protection Systems (HIPPS)

Turbomachinery Control (TMC) Systems

Fire and Gas Monitoring Control Systems

Supervisory Control and Data Acquisition (SCADA) Systems

By Industry Verticals

Oil and Gas

Power Generation

Food and Beverage

Pharmaceutical

Automotive

Others

By Region

North America

U.S.

Canada

Mexico

Europe

UK

Germany

France

Rest of Europe

Asia-Pacific

China

Japan

India

South Korea

Rest of Asia-Pacific

Latin America

Brazil

Argentina

Chile

Rest of Latin America

Middle East and Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East And Africa

Key Market Players

Rockwell Automation Inc.

Emerson Electric Company

Honeywell International Inc.

Yokogawa Electric Corporation

ABB Ltd.

Siemens AG

Schneider Electric SE

General Electric Company

Mitsubishi Electric Corporation

Omron Corporation.

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