

Asia Pacific Functional Safety Market Size and Forecast (2021 - 2031)

<https://marketpublishers.com/r/A20F0C862CBAEN.html>

Date: April 2026

Pages: 182

Price: US\$ 3,450.00 (Single User License)

ID: A20F0C862CBAEN

Abstracts

The Asia Pacific Functional Safety Market is projected to grow significantly, reaching an estimated US\$ 3,199.6 million by 2031, up from US\$ 1,840.9 million in 2024. This growth represents a compound annual growth rate (CAGR) of 8.5% from 2025 to 2031, indicating a robust expansion in the sector.

Executive Summary and Market Analysis

The functional safety market in the Asia Pacific region encompasses several key countries, including China, India, Japan, Australia, South Korea, and other nations in the region. A notable driver of this market is the rapid expansion of the chemical industry. For instance, China is a dominant player, accounting for 55% of the global acetic acid production capacity, 50% of carbon black capacity, and 45% of titanium dioxide capacity as of 2023. Additionally, India ranks as the sixth largest producer of chemicals globally and third in Asia, with its chemical industry valued at approximately US\$ 220 billion. Projections suggest that this value could rise to US\$ 300 billion by 2030 and reach US\$ 1 trillion by 2040.

The International Energy Agency (IEA) reported that in 2022, the Asia Pacific region produced 23,802,667 terajoules (TJ) of natural gas, with China contributing 33.2%, Australia 22.9%, Malaysia 11.3%, Indonesia 8.7%, and India 5%. The increasing investments in the oil and gas sector are further stimulating production, with the Shell LNG Outlook 2021 forecasting that global liquefied natural gas (LNG) demand will hit 700 million tons by 2040. This growing demand for natural gas in the Asia Pacific is expected to significantly boost the functional safety market in the coming years.

Strategic Insights

Market Segmentation

The Asia Pacific Functional Safety Market can be segmented based on various criteria:

By Offering: The market is divided into Components and Services, with the Components segment leading in 2024.

By System: This includes Emergency Shutdown Systems (ESD), High Integrity Pressure Protection Systems (HIPPS), Burner Management Systems (BMS), Fire and Gas Monitoring, Turbo Machinery Control (TMC), and others. The ESD segment was the largest in 2024.

By End-user Industry: The market is categorized into Power Generation, Oil and Gas, Chemicals, Pharmaceuticals, Food and Beverages, and others, with Power Generation being the dominant segment in 2024.

Market Outlook

The advent of Industry 4.0 and the Industrial Internet of Things (IIoT) presents significant opportunities for the functional safety market. As manufacturing and process industries increasingly adopt automation, connectivity, and real-time data analytics, functional safety systems must adapt to these digital transformations. Integrating functional safety within Industry 4.0 ecosystems enables the development of smarter, more flexible safety architectures that can function seamlessly in interconnected, data-driven environments.

For example, the use of smart sensors, edge computing, and cloud platforms can facilitate the creation of distributed safety systems capable of real-time monitoring, remote error diagnosis, and automated responses. This evolution not only enhances the reliability of safety systems but also supports predictive maintenance, remote diagnostics, and dynamic risk assessments, ultimately reducing downtime and operational costs.

As IoT technology permeates sectors such as energy, oil and gas, automotive, and pharmaceuticals, the necessity for operational efficiency and functional safety in these hyperconnected systems drives investments in integrated safety solutions. Furthermore, the increased connectivity heightens vulnerability to cyber threats, which in turn

escalates the demand for cybersecure safety solutions. Functional safety systems that are integrated with Industry 4.0 must be designed to withstand both physical failures and digital threats, prompting suppliers to offer combined safety and cybersecurity solutions. Thus, the integration of functional safety with Industry 4.0 and IoT technologies represents a significant market opportunity for intelligent, connected, and resilient safety solutions that align with the future of industrial automation and smart manufacturing.

Country Insights

The Asia Pacific Functional Safety Market is further segmented by country, with China holding the largest market share in 2024. China is a major consumer of oil and gas, with the IEA reporting that global oil demand reached 101.7 million barrels per day in January 2023, with a substantial portion attributed to China. The country is actively forming strategic partnerships for upstream projects to secure its energy future, aiming to reduce import dependency and enhance refinery exports through new refinery constructions. For instance, in March 2023, China partnered with Saudi Aramco to invest approximately US\$ 10 billion in a new oil refinery complex in Panjin, Liaoning province, expected to be completed by 2026. This development is anticipated to drive demand for functional safety systems in China in the near future.

Company Profiles

Key players in the Asia Pacific Functional Safety Market include ABB Ltd, Schneider Electric SE, Emerson Electric Co, Honeywell International Inc, Rockwell Automation Inc, Siemens AG, OMRON Corp, Yokogawa Electric Corp, GE Vernova Inc., and HIMA Paul Hildebrandt GmbH. These companies are employing various strategies such as expansion, product innovation, and mergers and acquisitions to enhance their market presence and deliver innovative solutions to their customers.

Contents

1. INTRODUCTION

- 1.1 Report Guidance
- 1.2 Market Segmentation

2. EXECUTIVE SUMMARY

- 2.1 Key Insights
- 2.2 Market Attractiveness

3. RESEARCH METHODOLOGY

- 3.1 Secondary Research
- 3.2 Primary Research
 - 3.2.1 Hypothesis formulation:
 - 3.2.2 Macroeconomic factor analysis:
 - 3.2.3 Developing base number:
 - 3.2.4 Data Triangulation:
 - 3.2.5 Country-level data:

4. FUNCTIONAL SAFETY MARKET LANDSCAPE

- 4.1 Market Overview
- 4.2 PEST Analysis
- 4.3 Ecosystem Analysis
- 4.4 List of Vendors in the Value Chain

5. ASIA PACIFIC FUNCTIONAL SAFETY MARKET – KEY MARKET DYNAMICS

- 5.1 Market Drivers
- 5.2 Market Restraints
- 5.3 Market Opportunities
- 5.4 Future Trends
- 5.5 Impact of Drivers and Restraints:

6. FUNCTIONAL SAFETY MARKET - ASIA PACIFIC MARKET ANALYSIS

6.1 Asia Pacific Functional Safety Market Revenue (US\$ Million), 2024 – 2031

6.2 Asia Pacific Functional Safety Market Forecast and Analysis

7. ASIA PACIFIC FUNCTIONAL SAFETY MARKET REVENUE ANALYSIS – BY OFFERING

7.1 Component

7.1.1 Overview

7.1.2 Component: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

7.2 Services

7.2.1 Overview

7.2.2 Services: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

8. ASIA PACIFIC FUNCTIONAL SAFETY MARKET REVENUE ANALYSIS – BY SYSTEM

8.1 Emergency Shutdown System (ESD)

8.1.1 Overview

8.1.2 Emergency Shutdown System (ESD): Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

8.2 High Integrity Pressure Protection System (HIPPS)

8.2.1 Overview

8.2.2 High Integrity Pressure Protection System (HIPPS): Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

8.3 Burner Management System (BMS)

8.3.1 Overview

8.3.2 Burner Management System (BMS): Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

8.4 Fire and Gas Monitoring

8.4.1 Overview

8.4.2 Fire and Gas Monitoring: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

8.5 Turbo Machinery Control (TMC)

8.5.1 Overview

8.5.2 Turbo Machinery Control (TMC): Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

8.6 Others

8.6.1 Overview

8.6.2 Others: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

9. ASIA PACIFIC FUNCTIONAL SAFETY MARKET REVENUE ANALYSIS – BY END-USER INDUSTRY

9.1 Power Generation

9.1.1 Overview

9.1.2 Power Generation: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

9.2 Oil and Gas

9.2.1 Overview

9.2.2 Oil and Gas: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

9.3 Chemicals

9.3.1 Overview

9.3.2 Chemicals: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

9.4 Pharmaceutical

9.4.1 Overview

9.4.2 Pharmaceutical: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

9.5 Food and Beverages

9.5.1 Overview

9.5.2 Food and Beverages: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

9.6 Others

9.6.1 Overview

9.6.2 Others: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

10. ASIA PACIFIC FUNCTIONAL SAFETY MARKET – COUNTRY ANALYSIS

10.1 Asia Pacific

10.1.1 Asia Pacific Functional Safety Market Revenue and Forecast and Analysis – by Country

10.1.1.1 Asia Pacific Functional Safety Market Revenue and Forecast and Analysis – by Country

10.1.2.2 China: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

10.1.2.2.1 China: Asia Pacific Functional Safety Market Share – by Offering

10.1.2.2.2 China: Asia Pacific Functional Safety Market Share – by System

10.1.2.2.3 China: Asia Pacific Functional Safety Market Share – by End-user

Industry

10.2.3.3 Japan: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

10.2.3.3.1 Japan: Asia Pacific Functional Safety Market Share – by Offering

10.2.3.3.2 Japan: Asia Pacific Functional Safety Market Share – by System

10.2.3.3.3 Japan: Asia Pacific Functional Safety Market Share – by End-user

Industry

10.3.4.4 South Korea: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

10.3.4.4.1 South Korea: Asia Pacific Functional Safety Market Share – by Offering

10.3.4.4.2 South Korea: Asia Pacific Functional Safety Market Share – by System

10.3.4.4.3 South Korea: Asia Pacific Functional Safety Market Share – by End-user

Industry

10.4.5.5 India: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

10.4.5.5.1 India: Asia Pacific Functional Safety Market Share – by Offering

10.4.5.5.2 India: Asia Pacific Functional Safety Market Share – by System

10.4.5.5.3 India: Asia Pacific Functional Safety Market Share – by End-user Industry

10.5.6.6 Australia: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

10.5.6.6.1 Australia: Asia Pacific Functional Safety Market Share – by Offering

10.5.6.6.2 Australia: Asia Pacific Functional Safety Market Share – by System

10.5.6.6.3 Australia: Asia Pacific Functional Safety Market Share – by End-user

Industry

10.6.7.7 Rest of APAC: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

10.6.7.7.1 Rest of APAC: Asia Pacific Functional Safety Market Share – by Offering

10.6.7.7.2 Rest of APAC: Asia Pacific Functional Safety Market Share – by System

10.6.7.7.3 Rest of APAC: Asia Pacific Functional Safety Market Share – by End-user Industry

11 COMPETITIVE LANDSCAPE

11.1 Heat Map Analysis by Key Players

11.2 Company Market Share Analysis, 2024

12 INDUSTRY LANDSCAPE

12.1 Overview

12.2 New Product Development

12.3 Merger and Acquisition

12.4 Other Strategic Developments

13 COMPANY PROFILES

13.1 ABB Ltd

13.1.1 Key Facts

13.1.2 Business Description

13.1.3 Products and Services

13.1.4 Financial Overview

13.1.5 SWOT Analysis

13.1.6 Key Developments

13.2 Schneider Electric SE

13.2.1 Key Facts

13.2.2 Business Description

13.2.3 Products and Services

13.2.4 Financial Overview

13.2.5 SWOT Analysis

13.2.6 Key Developments

13.3 Emerson Electric Co

13.3.1 Key Facts

13.3.2 Business Description

13.3.3 Products and Services

13.3.4 Financial Overview

13.3.5 SWOT Analysis

13.3.6 Key Developments

13.4 Honeywell International Inc

13.4.1 Key Facts

13.4.2 Business Description

13.4.3 Products and Services

13.4.4 Financial Overview

13.4.5 SWOT Analysis

13.4.6 Key Developments

13.5 Rockwell Automation Inc

13.5.1 Key Facts

13.5.2 Business Description

13.5.3 Products and Services

13.5.4 Financial Overview

13.5.5 SWOT Analysis

13.5.6 Key Developments

13.6 Siemens AG

13.6.1 Key Facts

13.6.2 Business Description

13.6.3 Products and Services

13.6.4 Financial Overview

13.6.5 SWOT Analysis

13.6.6 Key Developments

13.7 OMRON Corp

13.7.1 Key Facts

13.7.2 Business Description

13.7.3 Products and Services

13.7.4 Financial Overview

13.7.5 SWOT Analysis

13.7.6 Key Developments

13.8 Yokogawa Electric Corp

13.8.1 Key Facts

13.8.2 Business Description

13.8.3 Products and Services

13.8.4 Financial Overview

13.8.5 SWOT Analysis

13.8.6 Key Developments

13.9 GE Vernova Inc.

13.9.1 Key Facts

13.9.2 Business Description

13.9.3 Products and Services

13.9.4 Financial Overview

13.9.5 SWOT Analysis

13.9.6 Key Developments

13.10 HIMA Paul Hildebrandt GmbH

13.10.1 Key Facts

13.10.2 Business Description

13.10.3 Products and Services

13.10.4 Financial Overview

13.10.5 SWOT Analysis

13.10.6 Key Developments

14. APPENDIX

14.1 About The Insight Partners

List Of Tables

LIST OF TABLES

Table 1. Europe Functional Safety Market Segmentation

Table 2. List of Vendors

Table 3. Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Table 4. Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by Offering

Table 5. Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by System

Table 6. Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by End-user Industry

Table 7. Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by Country

Table 8. Germany: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by Offering

Table 9. Germany: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by System

Table 10. Germany: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by End-user Industry

Table 11. France: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by Offering

Table 12. France: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by System

Table 13. France: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by End-user Industry

Table 14. United Kingdom: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by Offering

Table 15. United Kingdom: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by System

Table 16. United Kingdom: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by End-user Industry

Table 17. Italy: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by Offering

Table 18. Italy: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by System

Table 19. Italy: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031

(US\$ Million) – by End-user Industry

Table 20. Russia: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by Offering

Table 21. Russia: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by System

Table 22. Russia: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by End-user Industry

Table 23. Rest of Europe: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by Offering

Table 24. Rest of Europe: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by System

Table 25. Rest of Europe: Europe Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million) – by End-user Industry

Table 26. Heat Map Analysis by Key Players

List Of Figures

LIST OF FIGURES

Figure 1. Asia Pacific Functional Safety Market Segmentation – Country

Figure 2. PEST Analysis

Figure 3. Ecosystem: Functional Safety Market

Figure 4. Asia Pacific Functional Safety Market – Key Market Dynamics

Figure 5. Impact Analysis of Drivers and Restraints

Figure 6. Asia Pacific Functional Safety Market Revenue (US\$ Million), 2024 – 2031

Figure 7. Asia Pacific Functional Safety Market Share (%) – by Offering, 2024 and 2031

Figure 8. Component: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 9. Services: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 10. Asia Pacific Functional Safety Market Share (%) – by System, 2024 and 2031

Figure 11. Emergency Shutdown System (ESD): Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 12. High Integrity Pressure Protection System (HIPPS): Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 13. Burner Management System (BMS): Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 14. Fire and Gas Monitoring: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 15. Turbo Machinery Control (TMC): Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 16. Others: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 17. Asia Pacific Functional Safety Market Share (%) – by End-user Industry, 2024 and 2031

Figure 18. Power Generation: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 19. Oil and Gas: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 20. Chemicals: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 21. Pharmaceutical: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 22. Food and Beverages: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 23. Others: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 24. Asia Pacific Functional Safety Market Breakdown by Key Countries, 2024 and 2031 (%)

Figure 25. China: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 26. Japan: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 27. South Korea: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 28. India: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 29. Australia: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 30. Rest of APAC: Asia Pacific Functional Safety Market – Revenue and Forecast, 2021 – 2031 (US\$ Million)

Figure 31. Company Market Share Analysis, 2024

I would like to order

Product name: Asia Pacific Functional Safety Market Size and Forecast (2021 - 2031)

Product link: <https://marketpublishers.com/r/A20F0C862CBAEN.html>

Price: US\$ 3,450.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/A20F0C862CBAEN.html>