Global Safety Instrumented System - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Global Safety Instrumented System Market size is estimated at USD 4.60 billion in 2024, and is expected to reach USD 6.43 billion by 2029, growing at a CAGR of 6.93% during the forecast period (2024-2029).

The widespread adoption of safety regulations and standards, coupled with increased awareness about the need for industrial safety management and competency at both individual and organizational levels, has led to the rapid adoption of safety switches in manufacturing units to prevent any accidents.

Key Highlights
-Around seven employees fell ill after inhaling poisonous gas at Shakti paper mills in Tetla village near Raigarh, and a fire broke out at a pharmaceutical packaging factory in the Satpur area near Nashik city all in one day, in 2020 in India. Such an alarming situation has emphasized the need for the adoption of high integrity pressure protection systems by various end-user industries in the country. HIMA, a vendor of safety solutions for the oil and gas industry, offers pivotal solutions for industrial safety specific to Malaysian oil and gas producers. According to the company, the offshore oil and gas companies face huge losses due to unplanned downtime, and the company offers its HIMA Flex SILon TMC with HiMax, an integrated solution that provides safe and cost-effective turbomachinery operation, to tackle such issues.
-Further, the industrial processes across chemicals and petrochemicals, power generation, pharmaceutical, food and beverage, oil and gas, and other end users are closely regulated by various governing bodies to prevent sudden breakdowns and mishaps. The regulatory environment has tightened to encourage the deployment of SIS as a precautionary measure. The widespread adoption of safety regulations and standards, coupled with increased awareness about the need for industrial safety management and competency at both individual and organizational levels, has led to the rapid adoption of safety switches in manufacturing units to prevent any accidents.

-The deployment of the SIS in the oil and gas industry is driven by the strict laws and acts that are formulated to restrict catastrophic spillage and avoid environmental pollution. For instance, the US Oil Pollution Act, alongside Oil Spills Prevention and Preparedness Regulations, is placed to prevent such accidents. Several compliance programs like the On-Site Civil Inspection Procedures Rule, as contemplated by section 7 of EO 13892, Ensuring Reasonable Administrative Inspections check if the facilities are complying with the environmental laws. The growing regulatory environment in various industries contributes to market growth.
-The global outbreak of COVID-19 has significantly impacted the growth of various industries as most companies had to put a complete stop or limit their production owing to several restrictions put by the government to curb the spread of the virus. As a result, the pandemic had a notable impact on the growth of the Safety Instrumented Systems (SIS). For instance, the oil and gas industry, which is among the largest end-user for the SIS, is experiencing an unprecedented double blow, owing to the oil market collapse with the benchmark price for US crude oil, briefly touching a record low and a global economic slowdown driven by the COVID-19 pandemic.
-According to International Energy Agency, the oil and gas revenues for a number of key producers fell between 50 to 85% in 2020; compared with 2019, the losses could even be larger depending on future market developments. Furthermore, for many oil-producing developing countries, wherein oil contributes the majority of their exports and government revenues, the impact was even higher, limiting the ability of these countries to respond to the multidimensional domestic pressures produced by COVID-19.

Safety Instrumented System Market Trends

The Chemical and Petrochemical Industry is expected to Hold a Major Market Share

- A Safety Instrumented System is encompassed of sensors, logic solvers, and final control elements for the single purpose of taking the process to a safe state when predetermined conditions are violated. The growing benefits of safety instrumented systems over traditional safety systems are fueling the market demand. The chemicals & petrochemicals industries are identified as continuously developing industries, wherein the need for expansion and upgrading of aging safety problems and infrastructures is essential. Traditional safety systems are deployed through an electrical control system and are hardwired, leading to potential accidents affecting people, assets, and the environment.
- This will surge the demand for safety instrumented systems in petrochemical industries that deliver several advantages such as prolonged field life, reduction in unplanned downtime, reduction in annual maintenance cost, elimination of unexpected repair expenses, and adherence to current codes and standards. Thus, the increasing advantages of safety instrumented systems over traditional safety systems will drive industry growth.
- In September 2020, Yokogawa Electric Corporation announced that it had developed the OpreX Managed Service, which supports the remote monitoring and maintenance of chemical plant equipment. This service can prevent unexpected plant shutdowns by identifying and correcting issues with plant equipment and devices before breaking down. It can be accessed and utilized in various ways, depending on customer requirements.
- Chemical industries have hazardous environments due to gas, oil, or dust, creating an explosive atmosphere in and around the machines. Moreover, the industry issues related to regulation, geopolitical risk, legal limits on using natural resources, shareholder activism, and increasing public scrutiny have created additional challenges. Thus, safety equipment such as fire and gas monitoring and detection, SCADA, and HIPPS installation is of utmost importance.
- Further, many companies offer controllers for emergency and safety shutdown duties and handle complex equipment maintenance in the petrochemical plant. For instance, HIMA, a smart safety company, offers controllers that perform classic emergency shutdown duties and handle complex equipment functions. The SafeEthernet protocol ensures safe cross-communication between controllers at safety integrity level 3 (SIL 3). It also offers fast response times in a safety shutdown, and the high operational safety (SIL 3) within safety-critical production processes contribute to the acetylene plant's high

availability and productivity.

Asia Pacific is Expected to Witness High Growth Rate

- In many industrial processes and automation systems, safety instrumented systems play an important role in delivering protective layer functions. The term "safety system engineering" refers to a disciplined and methodical approach to hazard identification, safety requirement specifications, and system maintenance and operation throughout the life of a plant. The rise of the petrochemical and energy sectors is critical to the growth of the safety instrumented system industry. Furthermore, as the process sector advances toward embracing greater safety standards, control systems that can manage changes, such as steam turbines, compressors, and variable speed drives, may become necessary to maintain profitability while meeting agile needs.
- Because of stagnating industrial growth in industrialized countries, demand for valves and actuators has slowed. The government's increasing support for new industries, as well as political conditions, make the country conducive to industrial expansion. As a result, foreign corporations are looking to invest in this industry. In addition, there are ongoing and planned initiatives for establishing water and wastewater treatment plants in the region. For example, the Cambodian government and the Japanese International Cooperation Agency struck an agreement to construct a wastewater treatment plant in the Dangkor area. With a USD 25 million investment, the project aims to improve the drainage infrastructure in the district so that wastewater can flow directly to the plant rather than into the river. Such projects are expected to fuel the market for safety instrumentation systems in the Asia Pacific region.
- The food and beverage sector has a moral and legal responsibility to protect its employees. Heavy machinery, hazardous chemicals, and slick surfaces are among the immediate concerns, while dust inhalation, hearing loss, and repetitive strain injuries are among the more gradual threats. Coca-Cola, the world's largest beverage company, has noticed a surge in demand for sugar-free and low-sugar beverages in Southeast Asia. After the COVID-19 epidemic, this became more prominent.
- Due to rapidly increasing industrial activity, rising cost pressures and production rates, and favorable government policies in developing countries like China and India, the Asia Pacific area is predicted to grow the fastest. Manufacturers have responded by developing new goods for specific uses in response to changing demands based on usage. Furthermore, an increase in the number of safety instrumented systems has resulted in the creation of more complex systems. Furthermore, the use of these systems has increased in the oil and gas, chemicals, and power industries because they help monitor usage hours, different aspects of boiler management, stack temperature, boiler, and fuel efficiency, all of which are important in this business.
- Moreover, at the 2020 National People's Congress, the CCP announced that in addition to doubling down on its Made in China 2025 and China Standards 2035 initiatives, it might spend approximately USD 1.4 trillion on a digital infrastructure public spending program. China's New Infrastructure initiative presents exciting opportunities for global companies. Owing to the same, the number of SIS equipment adopters in different sectors, such as new energy vehicles, oil and gas, 5G equipment, logistics, and energy and power, is expected to grow, providing a boost to the growth of the market in the region.

Safety Instrumented System Industry Overview

The Global Safety Instrumented Systems Market is moderately competitive with several major players like Siemens AG, ABB Ltd., Schneider Electric SE, etc. In terms of market share, few significant players currently dominate the market. With a prominent share in the market, these major players are focusing on expanding their customer base across foreign countries. These companies are leveraging strategic collaborative initiatives to increase their market share and profitability. The competition, rapid technological advancements, and frequent changes in consumer preferences are expected to threaten the market's growth of the companies during the forecast period.

- January 2021 - ABB Ltd. Launched ABB Ability Safety Plus for hoists, the first fully SIL 3 certified mine hoist solutions with the highest level of safety. It includes include Safety Plus Hoist Monitor (SPHM), Safety Plus Hoist Protector (SPHP), and Safety Plus Brake System (SPBS), including Safety Brake Hydraulics (SBH). It has been designed in accordance with the international 'safety of machinery' standard IEC62061.
- February 2021 - Yokogawa Electric Corporation announced the addition of new turbidity detectors, chlorine sensor units, and liquid analyzers lineup in its product portfolio for water treatment facilities.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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