

North America Safety Instrumented Systems Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The North American safety instrumented system market is expected to register a CAGR of 5.44% during the forecast period. Government regulatory agencies, such as the Occupational Safety and Health Administration (OSHA) in the US and the Environmental Protection Agency (EPA) in the US and insurance companies, set the highest standards of safety for company employees, communities, and the environment.

? As a result, they need businesses to conduct a process hazard analysis to determine the steps required for maximum safety. 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 the possibility of fire, explosion, tank overflow, gas release, or chemical exposure, chemical, petrochemical, mining, gas compression, and many other types of accidents, plants and manufacturing facilities can be extremely dangerous places to work.

? To mitigate risks like the ones listed above, the Occupational Safety and Health Administration (OSHA) and several chemical companies, along with ISA and other professional groups, have adopted the idea of defining risks as risks associated with processing functions rather than as isolated processing lines or tank risks.

? ? The functional safety concepts were developed into the standards ISA 84 and IEC 61508. Later, both standards, known as ISA in the US and IEC in Europe, were merged into ISA-84/IEC-61511. To eliminate functional risks, functional safety would be handled in a plant by installing a distinct, well-designed safety instrumented system.

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? The COVID-19 pandemic has also significantly impacted the growth of various industries as most companies had to put a complete stop or limit their production owing to several restrictions placed by the government to curb the spread of the virus. As a result, the pandemic had a notable impact on the growth of safety instrumented systems (SIS).

? For instance, the oil and gas sector, which is among the largest end users of SIS, is experiencing an unprecedented double blow, owing to the oil market's 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.

North America Safety Instrumented Systems Market Trends

Chemical and Petrochemical Industry is expected to Hold 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 before predetermined conditions are violated.

? The growing benefits of safety instrumented systems over traditional safety systems are fueling market demand. The chemicals and petrochemicals industries are identified as continuously developing industries, where the need for expansion and upgrading of aging safety problems and infrastructure 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 to 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 market 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 machines. Moreover, the industry's 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.

The US Expected to Hold Significant Market Share

? The US was one of the leading countries for installed renewable energy in 2020. However, China was leading in renewable energy installations with a capacity of around 895 GW. The US, in second place, had a capacity of around 292 GW. This is likely to fuel the adoption of safety instrumentation systems within power plant installations.

? Moreover, the US safety instrumented system market is expected to grow rapidly over the forecast period with increasing urbanization coupled with rapid industrialization driving the market. There is a growing demand for energy globally, and the risk of industrial accidents is increasing. As a result, the need for safety measures is steadily increasing. Safety system user needs have emerged from a safety standpoint and the convenience of use in connection with other systems and system functions, such as DCSs and operation and monitoring functions.

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? US is currently one of the severely hit countries globally, with a growing number of casualties and positive cases in the wake of the COVID-19 pandemic. Its various sectors, such as consumer electronics, oil & gas, manufacturing, chemical & petrochemicals, and automotive, are negatively impacted. At the same time, sectors such as the pharmaceutical, retail, and food & agriculture sectors are seeing significant growth as they are also deemed essential in the country.

? For instance, pipeline construction projects, such as Pecos Trail Pipeline Project, Penn East Pipeline Project, and Atlantic Coast Pipeline, are some of the projects expected to be completed in the next few years. These projects are expected to create considerable demand for ultrasonic non-destructive testing equipment in the country over the next few years.

? Moreover, the country is the world's largest nuclear power producer, accounting for more than 30% of the global nuclear electricity generation. According to the World Nuclear Association, the US has 93 operational nuclear reactors with a combined net capacity of 95.5 GWe. Nuclear power generated 19.7% of the country's electricity in 2020.

North America Safety Instrumented Systems Market Competitor Analysis

The North American safety instrumented systems market is moderately competitive with several major players like Rockwell Automation Inc., Honeywell International Inc., Emerson Electric Company, etc. A few significant players currently dominate in terms of market share. With a prominent share in the market, these major players are focusing on expanding their customer base across other 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 during the forecast period.

? In October 2021, Emerson introduced its first valve assemblies that meet the design process requirements of Safety Integrity Level (SIL) 3 per the International Electrotechnical Commission's IEC 61508 standard. These Fisher Digital Isolation final element solutions serve customers' needs for shutdown valves in critical safety instrumented system (SIS) applications.

? In January 2021, ABB Ltd launched ABB Ability Safety Plus for hoists, the first fully SIL 3 certified mine hoist solution with the highest levels of safety. It includes 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.

Additional Benefits:

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

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