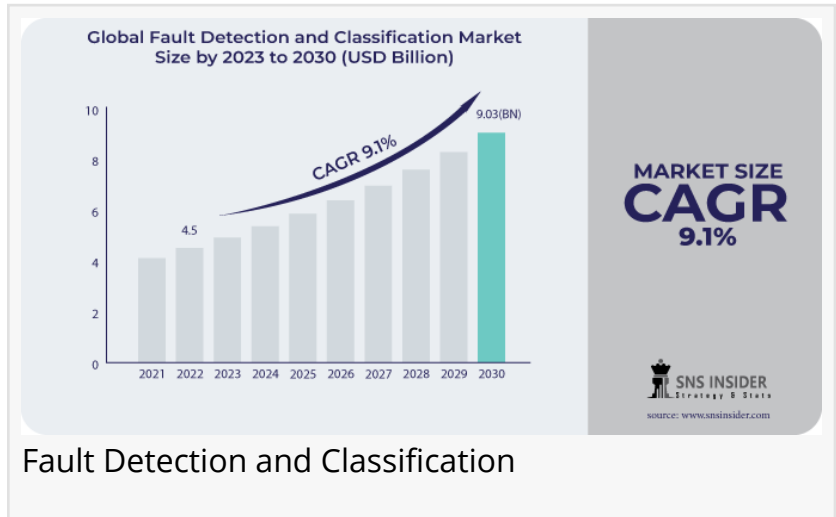


Fault Detection and Classification Market: FDC's Contribution to Product Integrity Will Reach at \$ 9.03 billion by 2030.

Fault Detection and Classification Market Expected to grow to USD 9.03 billion by 2030 and grow at a CAGR of 9.1%

AUSTIN, TEXAS, UNITED STATES, March 21, 2024 /EINPresswire.com/ -- Market Size-

The SNS Insider report indicates that the [Fault Detection and Classification Market](#) was valued at USD 4.5 billion in 2022, and it is projected to achieve a market size of USD 9.03 billion by 2030, with a compound annual growth rate (CAGR) of 9.1% expected over the forecast period from 2023 to 2030.



Available Exclusive Sample Copy Of This Report: <https://www.snsinsider.com/sample-request/4033>



The Fault Detection and Classification Market increasing demand for quality assurance across various industries such as production, automotive, electronics, and pharmaceuticals”

SNS Insider

Market Report Scope –

Fault Detection and Classification Market revenue generated by the detection and classification FDC market is expected to be driven by these drivers. Furthermore, the complexity of manufacturing processes is increasing around the world and this also constitutes a major driver for FDCs. With the adoption of advanced automation, robotics and Industry 4.0 technologies, manufacturing processes have become more complex and demanding which in turn makes it necessary to use sophisticated FDC systems for effective monitoring and control.

Market Growth Factors –

The growing demand for quality assurance is a key driver of the FDC market for fault detection

and classification. The increasing demand for stringent quality control in different sectors such as production, automotive and electronics is largely to blame for this significant increase. For example, FDC solutions have led to significant improvements in quality control by manufacturers of semiconductors such as Taiwan Semiconductor Manufacturing Company. Moreover, FDC systems have become essential for fault detection and classification in sectors such as pharmaceuticals that are subject to very strict regulations, which has been demonstrated by the fact that they were adopted by a number of leading manufacturers like Pfizer and Roche. These trends point to the global emphasis on quality assurance and highlight FDC's role as a key player in ensuring that products are of high quality.

Segmentation Analysis –

The market consists of manufacturing and packaging on the basis of application. The manufacturing sector accounted for the highest revenue share on the market from 2022 onwards. For manufacturers, the priority is to ensure that products are of quality. In order to prevent counterfeit products from entering the market, FDC systems assist in detecting defects and anomalies at an early stage. The FDC systems provide a wealth of information and insight that manufacturers use to optimize their production processes. The adoption of FDC systems in manufacturing is driven by the desire for improved quality, efficiency and cost savings. FDC systems will continue to play an increasing role in ensuring product quality and process optimization as technology advances and production become increasingly automated and interconnected.

Key Regional Development –

The study provides insight into North America, Europe, Asia Pacific and Rest of the world markets by region. The North American Region Fault Detection and Classification (FDC) market dominated in global level due to the ongoing advancements in sensor technology, data analytics, and artificial intelligence are enhancing the capabilities and accuracy of FDC systems. In addition, the United States, Canada, Germany and France were among the major countries covered by this market report.

Major Key Players of Fault Detection and Classification Market:

Keyence Corporation (Japan)
Cognex Corporation (US)
KLA Corporation (US)
Teledyne Technologies (US)
OMRON Corporation (Japan)
Microsoft (US)
Tokyo Electron Limited (Japan)
Siemens (Germany)
Amazon Web Services, Inc. (US)
Synopsys, Inc. (US)

Market Segmentation:

By Fault Type
Dimensional Fault
Surface Defects
Contamination Faults
Process Variability
Others

By Technique/Technology
Sensor Data Analysis
Statistical Methods
Machine Learning Algorithm
Others

By Application
Manufacturing
Packaging

By End Use
Automotive
Electronic and semiconductor
Metals & machinery
Food & packaging
Pharmaceuticals

Due to the growing awareness of energy efficiency, reduced interruptions and operating costs, Europe's fault detection and classification market accounts for a 2nd place share on the global market. In addition, the German market for fault detection and classification FDC was the largest in Europe with a share of more than 30 %, while the United Kingdom market for fault detection and classification FDC also grew significantly.

The Asia-Pacific Fault Detection and Classification (FDC) market is expected to grow at the fastest CAGR from 2023 to 2032. The demand for FDC solutions is increasing due to the growth of emerging markets' manufacturing sectors, as well as an expansion of existing production industries. In addition, the Chinese market for detection and classification of FDCs accounted for the largest share in Asia's Pacific FRD Market the Indian market for detection and classification of IFCDs has grown at a faster pace.

To know about the Research Methodology: <https://www.snsinsider.com/reports/fault-detection-and-classification-market-4033>

Key Takeaway's–

FDC solutions have been used by major global manufacturers such as General Electric to solve the problems associated with complicated production processes. GE's experience shows that the

implementation of FDC systems has significantly improved the efficiency of the process and reduced the number of defects. These trends in manufacturing complexity represent an integral part of the role played by FDC systems to optimise operations, which are increasingly complex and thus stimulating growth on the world market for FDC.

Recent Developments –

Samsung SDS introduced an AI-powered FDC solution for transportation in March 2023. The system is intended to enhance efficiency and safety by assisting transportation providers in identifying and categorizing infrastructure and vehicle issues.

Synopsys Software Risk Manager, a potent new application security posture management (ASPM) solution, was introduced in August 2023 by Synopsys, Inc. With the aid of Software Risk Manager, security and development teams may more easily coordinate and streamline their application security testing (AST) across projects, teams, and AST technologies.

KLA Corporation and imec (Belgium), a center for nanoelectronics research, joined in May 2023. The alliance will launch the Semiconductor Talent and Automotive Research (STAR) program, which will concentrate on building the infrastructure and talent pool required to drive advanced semiconductor applications for electrification and autonomous mobility and advance the automobile sector.

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Akash Anand
SNS Insider Pvt. Ltd
+1 415-230-0044
info@snsinsider.com
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