

Global Virtual Sensors Market Size study & Forecast, by Component (Solution, Services), by Deployment Type (Cloud, On-Premises), by End User (Oil and Gas, Automotive and Transportation, Process Industry - Manufacturing and Utilities, Electrical, Electronics and Consumer technology, Healthcare, Chemical, Aeronautics and Defense, Others) and Regional Analysis, 2023-2030

<https://marketpublishers.com/r/GA5506E67C8BEN.html>

Date: October 2023

Pages: 200

Price: US\$ 4,950.00 (Single User License)

ID: GA5506E67C8BEN

Abstracts

Global Virtual Sensors Market is valued at approximately USD xx billion in 2022 and is anticipated to grow with a healthy growth rate of more than xx% over the forecast period 2023-2030. Virtual sensors are computational algorithms or models that simulate the behavior or output of physical sensors. Instead of relying on actual sensor measurements, virtual sensors use mathematical models and data fusion techniques to estimate or predict the values of interest. They are particularly useful in situations where physical sensors may be expensive, difficult to deploy, or unable to capture specific parameters. The Virtual Sensors market is expanding because of factors such as the rising deployment of the cloud and increasing vehicle production. Virtual sensors integrate data from multiple sources, such as existing sensors, historical data, and contextual information, to generate estimates or predictions. By combining various data inputs, virtual sensors provide a more comprehensive and accurate understanding of the system being monitored. Its importance has progressively increased during the forecast period 2023-2030.

The virtual sensor cloud facilitates collaboration and sharing of virtual sensor configurations, models, and insights among users or organizations. It allows for the

reuse of virtual sensor designs, promotes knowledge sharing, and fosters innovation in the development and deployment of virtual sensors. According to Statista, in 2021, the cloud storage market accounts for approx. USD 70.19 billion and expected to reach up to USD 376.67 billion by 2029. Furthermore, in 2022, Amazon Web Services was the most popular vendor in the cloud infrastructure services market, holding around 32% of the total market share, followed by Microsoft Azure with a market share of 23%, and Google Cloud with a market share of 10%. Another important factor that drives the Virtual Sensors market is increasing vehicle production. Virtual sensors help optimize the performance of vehicles during production by estimating and predicting key parameters. For example, virtual sensors estimate vehicle aerodynamics, fuel efficiency, or emissions based on design specifications and real-time data from production processes, enabling manufacturers to identify potential improvements and adjust as needed. In addition, as per Statista, in 2022, around 85 million automobiles were manufactured worldwide. This figure represents an increase of around 6% over the previous year. In 2022, China, Japan, and Germany were the top three makers of automobiles and commercial vehicles. Moreover, an increase in data-driven business and the growing popularity of digitization are anticipated to create lucrative growth opportunities for the market over the forecast period. However, technical complexity and increasing cases of data breach stifle market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Virtual Sensors Market study includes Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 owing to the increasing adoption of cloud platforms and the growing presence of key industry players in the region. Furthermore, Asia Pacific is expected to grow significantly during the forecast period, owing to factors such as consumer electronics and automobile production in the world, and the growing integration of sensors with consumer electronics and automobile application systems boost the virtual sensors market in the region.

Major market player included in this report are:

Siemens AG

General Electric

IntelliDynamics

Algorithmica Technologies Inc.

EXPUTECH GmbH

Schneider Electric SE

Honeywell International Inc.

Elliptic Labs AS

Cisco Systems, Inc.

Tactile Mobility Ltd.

Recent Developments in the Market:

In July 2023, Elliptic Labs, a worldwide AI software platform firm and the world leader in AI Virtual Smart Sensors is launching the AI Virtual Proximity Sensor INNER BEAUTY on the HONOUR X50 smartphone. The HONOUR X50 is a smartphone designed for the Chinese market. The HONOUR X50 is powered by Elliptic Labs' partner Qualcomm's Snapdragon 6 Gen 1 chipset. Elliptic Labs previously announced the contract for this launch.

Global Virtual Sensors Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered - Component, Deployment Type, End User, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Component

Solution

Services

By Deployment Type

Cloud

On-Premises

By End User

Oil and Gas

Automotive and Transportation

Process Industry - Manufacturing and Utilities

Electrical, Electronics and Consumer technology

Healthcare

Chemical

Aeronautics and Defense

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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