

# **Nanoelectromechanical Systems Market (Nano Relay and Switches, BioNEMS, Nano Tweezers, Nanoactuators, Nano Sensors, Nanoresonators, Gyroscopes Nanoaccelerometers, Nanorobots; Graphene Based NEMS, Silicon Based NEMS, Silicon Carbide Based NEMS, Indium Arsenide Based NEMS, Gold and Platinum Based NEMS, Gallium Arsenide Based NEMS; Semiconductor Industry, Automotive, Monitoring and Detection, Industrial Process and Control, Communication, Medical Sector, Military & Defense; By Geography: North America, Europe, Asia-Pacific, RoW) Global Scenario, Market Size, Outlook, Trend and Forecast, 2015 – 2024**

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## **Abstracts**

As per the latest report published by Variant Market Research, Global Nanoelectromechanical Systems (NEMS) Market is estimated to reach \$126.9 Million by 2024; growing at a CAGR of 27.7% from 2016 to 2024. Global Nanoelectromechanical systems (NEMS) are made of electromechanical devices controlled by electric circuit. NEMS have critical dimensions ranging from hundreds to few nanometers. Their heat capacities are far below than yoctocalorie and low in energy dissipation. NEMS are produced mainly by two methods such as top-down and bottom-up. They can also be produced by combination methods where molecules are combined into a top-down framework system. The next generation NEMS are being made by carbon nanotube, known as the building block, owing to increasing knowledge of

electrical and mechanical properties and overall technological advancements. NEMS are highly used in various applications such as biological & chemical sensors, energy harvesting, ultrahigh frequency resonators, drug delivery and others.

Driving factors such as rising demand for low cost, less power consumptions and miniaturization form of devices are propelling the growth of the NEMS market. Increasing use of NEMS technology in automobile and electric sector also boosts the growth of the market. Increasing applications in combination of biology and biotechnology might provide several growth opportunities in the coming years. Though high cost on nano elements may hamper the growth of the market.

The Nanoelectromechanical Systems (NEMS) market is segmented based on the product type, material, application and geography. Product type segments includes nano Tweezers, sansoresonators, nano replay & switches, BioNEMS, nano sensors, gyroscope, nanoaccelerometers, nanoactuators, nanorobots and others. Material segment is bifurcated into gold & platinum based NEMS, grapheme based NEMS, silicon carbide based NEMS, silicon based NEMS, gallium arsenide based NEMS, indium arsenide based NEMS and others. Furthermore, application segment is divided into communication, semiconductor industry, monitoring & detection, industrial process & control, medical sector, automotive, military & defense and others.

The NEMS market by geography is segmented into North America, Europe, Asia-Pacific and rest of the world (RoW). The U.S., Mexico and Canada are covered under North America wherein Europe covers France, Germany, UK, Spain, Russia, Italy and others. Asia-Pacific covers China, India, Japan, South Korea, Australia, Singapore and others. Rest of the world (RoW) covers South America, Middle East and Africa.

Key market players include Bunker Corporation, Nanoshel LLC, Agilent Technologies Inc., California Institute of Technology, Nanocyl SA., Sun Innovations, Inc., Cnano Technology Limited Showa Denko K.K., and Applied Nanotools Inc.

The key takeaways from the report

The report will provide detailed analysis of Nanoelectromechanical Systems (NEMS) Market with respect to major segments such as product type, material type and application

The report will include the qualitative and quantitative analysis with market estimation over 2015-2024 and compound annual growth rate (CAGR) between

2016 and 2024

Comprehensive analysis of market dynamics including factors and opportunities will be provided in the report

An exhaustive regional analysis of Nanoelectromechanical Systems (NEMS) Market from 2015 to 2024 has been included in the report

Profile of the key players in the Nanoelectromechanical Systems (NEMS) Market, will be provided, which include key financials, product & services, new developments and business strategies

## Scope of Nanoelectromechanical Systems (NEMS) Market

### Product Type Segments

Nano Tweezers

Sansoresonators

Nano Replay & Switches

BioNEMS

Nano Sensors

Gyroscope

Nanoaccelerometers

Nanoactuators

Nanorobots

others

### Material Type Segments

Gold & Platinum Based NEMS

Grapheme Based NEMS

Silicon Carbide Based NEMS

Silicon Based NEMS

Gallium Arsenide Based NEMS

Indium Arsenide Based NEMS

Others

#### Application Segments

Communication

Semiconductor Industry

Monitoring & Detection

Industrial Process & Control

Medical Sector

Automotive

Military & Defence

Others

#### Geographical Segments

North America

US

Canada

Mexico

Europe

Germany

France

United Kingdom

Spain

Russia

Italy

Others

Asia-Pacific

China

India

Japan

South Korea

Australia

Singapore

Others

RoW

South America

Middle East

Africa

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