International Conference on Biosensors and Bioelectronics | April 22-23, 2020 | Tokyo, Japan

Ioannis (Yiannis) Karapanagiotis

Associate Professor, Department of Management and Conservation of Ecclesiastical Cultural Heritage Objects, University Ecclesiastical Academy of Thessaloniki, Greece, E-mail: y.karapanagiotis@aeath.gr

Supporting Journals:

Journal of Biomedical Imaging and Bioengineering: https://www.alliedacademies.org/biomedical-imaging-and-bioengineering/
Asian Journal of Biomedical and Pharmaceutical Sciences: http://www.jbiopharm.com/
Biomedical Research: https://www.alliedacademies.org/biomedical-research/

Market Analysis Report of Biosensors:

Currently biosensors market is witnessing continuous innovations and giving high-end and simple products by proper monitoring and diagnosis. Further developments and advancements in biosensor technology, inflation in emerging markets along with the endless need for advanced monitoring devices provides advantageous growth potential to biosensors industry expected over the future.

Biosensors can be available at less cost, are easy to operate, render quick results and are portable to use. This has headed to the quick adoption of biosensors in different fields like agriculture, environment monitoring and medicine. The rise in use of point-of-care diagnostics, increasing geriatric populations and increasing prevalence of diabetes are the important factors, which would leads to the growth of biosensors market globally, during the period of analysis. The improvement in the area of nanotechnology has simplified the innovative creation of advanced products such as non-invasive biosensors in the market. This has generated more opportunities for existing as well as new market players. The factors which are restraining the growth of market are strict regulatory environment, safety concerns regarding biosensors used in point of care testing, research laboratories, bio-defense and home healthcare diagnosis.

The world-wide market of biosensors is classified on the basis of application, technology, product type and geography. The technology based biosensors includes Electrochemical Biosensors, Optical Sensors, Piezoelectric Sensors, Thermal Biosensors and others like Field Effect Transistor. Applications oriented market of biosensors is segmented into Medical, Agriculture, Food Toxicity Detection, Environmental Monitoring, Industrial Process Control, and other applications like defense and drug abuse prevention. Based on the product type, the biosensors market is divided into Wearable and Non Wearable Biosensors. Wearable Biosensors are further divided into Wrist Wear, Eye wear, Body Wear, Foot Wear, Neck Wear and Biosensor rings Based on Region, the market is divided across 4 regions, North America, Europe, Asia Pacific and LAMEA. One of the approaches adopted by foremost market players is collaboration. For example, in the year of 2014, Universal Biosensors associated or collaborated with Siemens. This association empowered the companies to inaugurate the product Xprecia Stride, a Coagulation Analyzer used for the point-of-care diagnostics.

The biosensors market is projected to grow from USD 19.2 billion in 2019 to 31.5 billion by 2024 at a CAGR of 8.3% and is likely to reach USD 33.76 billion by 2026 with a CAGR of 8.1%. The various applications in the medical field, rapid technological advancements and high demand for miniature diagnostic devices are the key factors for biosensors market growth. In recent years, the demand for simple, user-friendly, cost-effective and easily disposable devices with fast response time has increased extensively leading to increase in the sales of these products, thereby driving the market.

Non-wearable biosensors market hold major market share of over 52. Increasing prevalence of chronic diseases such as cancer, diabetes, and other disorders will increase demand for conventional methods of diagnosis and detection. High efficiency and accuracy provided by non-wearable biosensors along with continuous product developments will highly impact the segmental growth over the coming years.

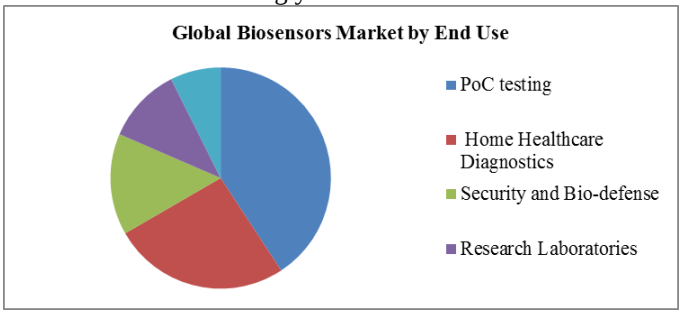
The market size of electrochemical biosensors technology held USD 12.8 billion. Growing utilization of electrochemical biosensors in disease diagnosis and food analysis will enhance the segment growth during the forecast period. Expanding incidence of diabetes colliding the maintenance of glucometers based on electrochemical biosensor technology will impel the growth of business. Furthermore, rising popularity of chronic diseases will speed up the demand for electrochemical biosensors to aid accurate diagnosis, thereby sustaining segmented growth.

Optical biosensors segment is forecasted to progress at a momentous pace of 7.5% CAGR during the projected period. Increasing requirement of optical biosensor can be associated to growing developments in optical biosensors. Advantages provided by optical biosensors are compact design, specificity, high speed, real-time measurement and remote sensing enabling minimal invasive detection. Moreover, continuous technological innovations in optical biosensing technology will boost the optical biosensors industry growth in the upcoming years.

Cholesterol testing biosensors medical application segment is forecasted to grow at rapid 8.6% CAGR during the projected time period . Growth can be attributed to increasing obesity rates and related disorders that increase cholesterol level in the blood. According to the Division for Heart Disease and Stroke Prevention, National Center for Chronic Disease Prevention and Health Promotion about 29 million Americans suffered from cholesterol issues during 2015-16. Such expanding occurrence of high cholesterol levels will increase the business growth of cholesterol testing during the forthcoming years.

The end use part of biosensors includes home PoC testing, research laboratories, healthcare diagnostics, food industry and security and bio-defense. Use of Biosensors in PoC testing dominated the market. Technological innovations and advancements pertaining to innovative or ideal product

development such as ultrasensitive printable biosensors that help in monitoring or detecting biological fluids such as blood, urine, sweat, and saliva are among the key rendering drivers attributing to the growth of usage of biosensors in point of care diagnostics market over the foreseeing years.



U S market dominated the North American biosensors industry with USD 6 billion revenue size. Increasing preference of wearable biosensors due to growing prevalence of chronic disorders will provide remarkable industry growth of biosensors. Increasing investment in research and development activities to cater to rising and varying consumer demand should escalate the demand for biosensors in the country. In addition, over the upcoming years, growing geriatric population base will serve as high impacting factor for industry growth of U.S. biosensors.

Germany accounted for over 20% of European biosensors revenue size due to high approval rate of advanced technology across the nation. Technological innovations in the development of biosensing devices like electrochemical biosensor allowing detection of antioxidant levels will positively influence business growth. Various research institutes in Germany are collaborating to enhance the biosensor research and development thereby stimulating industry growth over the forecast period.

Few of the key players who are operating in global market of biosensors are DowDuPont, Johnson & Johnson, Roche Diagnostics, Abbott Laboratories, Thermo-Fisher Scientific and Siemens Healthcare. Major industry partners are expanding their market presence by launching of new biosensor devices integrated with recent advanced technology.