

# Recent Advances in Biosensor Technology

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## INTRODUCTION

Dear Editor,

Biosensors or biosensors are one of the most valuable and emerging technologies in recent years [1]. These sensors are installed on smart devices such as mobile phones, smart watches, smart bracelets, smart car steering wheels and more. The market for biosensors can be categorized by type (patch sensor and built-in device), product (wearable and non-wearable), technology (electrochemical and optical), application (POC, home diagnostics, research laboratory, food, and beverage) and geography. Global Forecast By 2024, the overall biosensor market is projected to grow from \$21.2 billion in 2019 to \$31.5 billion in 2024 with a combined annual growth rate of 8.3% over the forecast period. This growth is likely to be exacerbated by sustained technological advances in biosensor ecosystems, increased use of biosensors for non-medical applications, profitable growth in POC (clinical instant) diagnostics, and increased demand for glucose monitoring systems [2].

Significant efforts have been made over the past few years to advance biosensors technology and their application. For example, multidimensional detection for environmental control and display is one of the advances that has been made in the biosensor ecosystem. The downsizing has helped develop small, compact, easy-to-use biosensors that have changed the way conventional testing scenarios in the medical and healthcare sectors are. Some examples include intensive blood sugar control systems, cholesterol testing systems and pregnancy testing systems [3]. Point-of-care (POC) diagnoses (performed clinically at the time of diagnosis) contribute to the overall demand for biosensors.

Market players in the POC diagnostics market are increasingly focusing on technological advances and new product development. Product innovation and launch is mainly focused on developing advanced, faster, and easy-to-use devices. Common chronic diseases such as heart disease, stroke, cancer, type 2 diabetes, obesity, and arthritis are among the most common, costly and preventable of all health problems that affect consumers to accept biosensors

for regular detection of pathogenic activities [4]. Also in February 2018, Medtronic received FDA approval for the new Guardian (TM) sensor3 armband. It allows patients to wear the sensor on the upper arm, giving users more flexibility and better performance, as well as improved accuracy [5].

In May 2018, Abbott announced the launch of the Afinion test system (Afinion Analyzer 2) in the United States. The Afinion2 analyzer is a fast and compact platform that simplifies the practical delivery and accurate measurement of hemoglobin A1C (HbA1c) and albumin to creatinine (ACR). Afinion2 builds Abbott's legacy in diabetes care by empowering patients with information about their health so they can talk to their healthcare providers.

In May 2017, Universal biosensors announced that Siemens Healthineers had begun selling the Xprecia Stride coagulation analyzer in the United States [6].

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