Website address:
https://www.gesundheitsindustrie-bw.de/en/article/press-release/additional-partnership-medical-technology-bosch-and-r-biopharm-strengthen-vivalytic-analysis-platform

Additional partnership in medical technology: Bosch and R-Biopharm to strengthen Vivalytic analysis platform

The market for medical technology is innovative, dynamic, and growing. Bosch sees medical technology as a strategic growth field and intends to expand its Bosch Healthcare Solutions subsidiary, based in Waiblingen. Bosch has now entered into a new partnership with the German diagnostics solutions company R-Biopharm. This partnership will be focused on Bosch's universal, fully automated Vivalytic molecular diagnostic analysis platform.

The two companies will invest a total of 150 million euros by the end of the decade. Within their strategic development and distribution partnership, the partners intend to develop new in vitro diagnostic tests[1] for the Vivalytic platform – including a PCR test[2] for multiresistant bacteria based on the innovative Bosch BioMEMS technology. They are also looking to strengthen their marketing operations.

"We are expanding in medical technology, a market we have defined as a strategic growth field. The fact that we can apply our many years of expertise and experience in the research and development of microchips, molecular diagnostics, and miniaturization, as well as our manufacturing know-how, makes this an attractive prospect for us," says Stefan Hartung, chairman of the Bosch board of management. "In medical technology, partnership models are a useful way of shortening product cycles and opening up distribution channels in this dynamic, innovative market," he adds. Point-of-care molecular diagnostics is expected to become a market worth billions. Bosch Healthcare Solutions and R-Biopharm aim to achieve sales in the medium nine-figure range by 2030.

The R-Biopharm Group, based in Darmstadt, Germany, has many years of expertise in clinical and food diagnostics. In addition, the company has well-established sales channels worldwide and knowledge of the relevant markets. "Our partnership with Bosch Healthcare Solutions marks a significant milestone in the implementation of the R-Biopharm Group's growth strategy in the field of clinical diagnostics," says Dr. Frank Apostel, Chief Operating Officer Clinical Diagnostics and Nutrition Care at R-Biopharm. "Together, we will work toward the goal of offering excellent products and solutions that can play a major part in combating diseases and developing medicines," he adds.

Partnership goals: develop new PCR tests and strengthen sales

One development goal within the ten-year partnership is a test for multiresistant gram-negative (MRGN) bacteria[3], which is to be implemented using Bosch's innovative, novel BioMEMS technology. The healthcare system faces the challenge of coping with an increasing number of diseases caused by multiresistant bacteria: in 2019, antimicrobial resistance had a hand in 4.95 million deaths worldwide, and each year, 670,000 infections caused by antibiotic-resistant bacteria occur in Europe[4]. In recent years, these bacteria have become a problem in hospitals – which administer particularly large quantities of antibiotics in the course of treating patients. In addition to the health risks, the financial burden of hygiene and quarantine measures in the healthcare sector should not be underestimated.

Vivalytic: even faster and more efficient with Bosch BioMEMS technology

As compact as a desktop computer tower, the universal, fully automatic Vivalytic Analyser is a platform for which various manufacturers can quickly and easily adapt and implement tests. The test cartridges already contain all the necessary reagents. "You could say we've shrunk a laboratory down to the size of a smartphone," says Marc Meier, president of Bosch Healthcare Solutions. "BioMEMS technology makes our Vivalytic platform even faster and more efficient, since this high-performance silicon chip, developed and manufactured by Bosch, enables fully automatic, simultaneous testing of up to 250 genetic characteristics such as pathogens in a single test cartridge, in some cases in less than 15 minutes," he adds. "This marks the entry of Bosch and its partners into nanofluidics, which processes very small quantities of liquids in the nanoliter range." This further miniaturization underscores the advantages of the Vivalytic platform: its compact size enables fast and targeted diagnostics directly at the point of sample collection – either at the doctor's office or in the hospital – without the frequently time-consuming detour via a central laboratory. Medically trained specialists can carry out the PCR tests without

special laboratory training.

The two companies want to develop further PCR tests to detect tuberculosis and determine any drug resistance. A few days ago, Bosch announced its first partnership with the Northern Irish medical technology company Randox Laboratories Ltd. By the end of the decade, Bosch and its two partners will have invested some 300 million euros in the further development of the Vivalytic analysis platform.

Footnotes:

[1] In in vitro diagnostic tests, samples such as blood or saliva are taken from the human body to be analyzed.

[2] PCR tests are a standard procedure for detecting pathogens such as viruses. The test is based on a biochemical reaction known as the polymerase chain reaction (PCR), which replicates the virus's DNA, making it possible to detect viruses even if only a few pathogens are present. The resulting high level of sensitivity means that PCR tests can detect the virus with a high degree of accuracy. PCR tests also have a high specificity, meaning they can test specifically for one particular virus.

[3] Multiresistant gram-negative (MRGN) bacteria is a collective term for a large group of different bacteria, including Escherichia coli and Klebsiella pneumoniae.

[4] https://www.bfarm.de/DE/Aktuelles/Blog/_docs/2021-11-18-antibiotikaresistenzen.html.

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