

UAE Life Science Tools Market Assessment, By Type [Instruments, Consumables, Services] By Technology [Genomics, Proteomics, Cell Biology Technology, Lab Supplies, Other Analytical & Sample Preparation Technology], By Product [Cell Culture Systems & 3D Cell Culture, Liquid Chromatography, Mass Spectrometry, Flow Cytometry, Cloning & Genome Engineering, Microscopy & Electron Microscopy, Next Generation Sequencing, PCR & qPCR, Nucleic Acid Preparation, Nucleic Acid Microarray, Sanger Sequencing, Transfection Device & Gene Delivery Technologies, Nuclear Magnetic Resonance, Others], By End-user [Healthcare, Government & Academic Institutions, Biopharmaceutical Company, Industrial Applications, Others], By Region, Opportunities and Forecast, 2016-2030F

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Abstracts

UAE Life Science Tools market size was valued at USD 1.75 billion in 2022 which is expected to reach USD 3.12 billion in 2030 with a CAGR of 7.51% for the forecast period between 2023 and 2030. The United Arab Emirates (UAE) has witnessed significant growth in the life science tools market in recent years. The market is being driven by factors such as growing awareness and adoption of life sciences tools,

government initiatives, increasing healthcare expenditure, and medical tourism coupled with growing research and development activities. The UAE has made substantial investments in research and development, aiming to establish itself as a knowledge-based economy. These investments have created a favorable environment for life science research, leading to increased demand for sophisticated tools and technologies. Moreover, the growing healthcare infrastructure, including hospitals, research centers, and academic institutions, has contributed to the expansion of the life science tools market.

The country has been actively promoting medical tourism, attracting patients from around the world, and necessitating advanced diagnostic and research capabilities. This has resulted in a higher demand for life science tools that aid in areas such as genomics, proteomics, cell biology, and molecular diagnostics. Furthermore, UAE's strategic geographical location and its reputation as a business hub has made it an attractive destination for manufacturers and suppliers. Many international companies have established their presence in the UAE, capitalizing on the growing market and leveraging the country's infrastructure and logistical advantages.

Increasing Adoption and Popularity of Mass Spectrometry

The adoption and popularity of mass spectrometry in the UAE has been on the rise over the past few years. Its ability to provide highly sensitive and accurate measurements of molecules has made it a valuable tool for research, diagnostics, and quality control in the life sciences sector. In the UAE, the increasing focus on scientific research and development, coupled with the country's efforts to enhance healthcare services, has led to a growing demand for advanced analytical techniques like mass spectrometry. Mass spectrometry has become an important part of various applications within the life sciences domain, including pharmaceutical research, proteomics, metabolomics, and environmental analysis. Mass spectrometry offers high sensitivity, specificity, and accuracy, making it a preferred choice for analyzing complex biological samples and identifying biomarkers. UAE has a flourishing pharmaceutical industry, with a significant emphasis on drug discovery and drug development. Mass spectrometry plays a crucial role in the drug development process, assisting in compound identification, pharmacokinetic studies, and drug metabolism analysis. The pharmaceutical companies in the UAE are increasingly adopting mass spectrometry to streamline their research and enhance the efficiency of drug discovery pipelines.

In the UAE, a clinical study was carried out to investigate the metabolic characteristics of obese Emirati individuals with type 2 diabetes compared to obese individuals without

diabetes. The study employed both untargeted and targeted metabolic techniques to examine the metabolite profile. By utilizing mass spectrometric analysis, the researchers identified specific alterations in the levels of five amino acids and biogenic amines that were significantly different in the obese patients with type 2 diabetes when compared to the obese controls who did not have diabetes.

Next-Generation Sequencing has Emerged as a Revolutionary Technology

NGS is a powerful technology that enables high-throughput sequencing of DNA and RNA, providing valuable insights into genomics, transcriptomics, and epigenomics. In the UAE, NGS has found applications in various areas, including clinical research, personalized medicine, agriculture, and microbial genomics. NGS has been employed in the UAE for genetic research, studying inherited diseases, identifying genetic variations, and understanding population genetics. It has also played a crucial role in the diagnosis and treatment of genetic disorders by enabling precise and rapid sequencing of patients' genomes. The technology's ability to generate vast amounts of sequencing data has contributed to the development of personalized medicine approaches in the country. NGS is being used in the field of oncology for cancer genomics, allowing for the identification of specific mutations and guiding targeted therapies. It has helped researchers and healthcare professionals gain a better understanding of tumor genetics and develop more effective treatment strategies.

In May 2023, Mediclinic announced its partnership with Digi7 with the aim of launching Geneyx Analysis, an AI-driven solution for analyzing next-generation sequencing data. This initiative aims to accelerate genetic diagnosis and research in Middle East.

Technological Advancements

The life science tools sector in the UAE presents abundant prospects for innovation and has the potential to emerge as a global hub for life science innovation, benefiting from a distinctive blend of favorable attributes. By combining cutting-edge scientific advancements with technological solutions, it fosters collaboration among leading researchers and offers promising opportunities for future growth and advancement. The UAE life science tools market has experienced remarkable advancements in technology that have transformed the landscape of scientific research and healthcare. One such innovative technology is high-throughput screening (HTS), which has played a crucial role in accelerating drug discovery processes. By automating and miniaturizing assays, HTS enables the screening of thousands of compounds against specific targets or biological assays, leading to the identification of potential drug candidates in a more

efficient and timely manner.

G24 announced its collaboration with InterSystems in May 2020, to implement InterSystems' TrakCare Lab Enterprise (TCLE), a comprehensive solution for managing laboratory operations. By leveraging the capabilities of TCLE, the laboratories successfully performed a significant volume of daily COVID-19 polymerase chain reaction (PCR) tests. This increased processing capacity and facilitated the accurate diagnosis and identification of potential COVID-19 cases, as well as the screening of individuals in close contact or belonging to high-risk groups. By streamlining testing workflows and expediting the screening process, the InterSystems TCLE system proved to be helpful in enhancing efficiency within the laboratories.

Genomics Witnesses Rapid Growth

In the UAE, genetic disorders pose a notable health issue. As per CTGA (Center for Arab Genomic Studies), 665 genetic disorders have been reported in 2023. Just like various Arab nations, the United Arab Emirates (UAE) exhibits a comparatively high occurrence of genetic disorders. The UAE has a higher occurrence of blood disorders such as thalassemia, sickle cell disease, and G6PD. Moreover, specific genetic conditions like cystic fibrosis, Joubert syndrome, and Meckel syndrome are relatively widespread. The UAE has made significant investments in genomics medicine in recent times. A primary aspect of genomics medicine in the UAE is centred around identifying and screening individuals who may be susceptible to genetic disorders. The objective is to take preventive measures and provide tailored treatment based on these findings. Several specialized centres for genomic medicine, including the Dubai Genome Centre and the Abu Dhabi Genome Centre. These centres are dedicated to offering genomic services and research resources aimed at enhancing healthcare standards within the country.

In 2020, department of health initiated the Emirati Genome program with the objective of enhancing the well-being of the UAE population. This initiative involves analysing and deciphering the genetic information of Emirati Nationals to better understand their genetic makeup. The goal of this initiative is to utilize the genomic data for prevention and treatment of chronic diseases.

Impact of COVID-19

The COVID-19 pandemic had a significant impact on the life sciences tools market in the UAE. There was a surge in demand for diagnostic tools such as PCR machines,

testing kits and laboratory-related equipment due to the rising need for rapid and accurate testing. The market witnessed a notable increase in the production and distribution of these tools to meet the rising demand for testing. Additionally, the pandemic highlighted the importance of advanced research and development in the life sciences sector, leading to increased investments in technologies such as genomics, proteomics, and bioinformatics. This resulted in the growth of the life sciences tools market in the UAE, as organizations and institutions are focusing on strengthening their capabilities to address future health challenges effectively. The market growth of genomics was significantly influenced by its prominent role in developing personalized and cost-effective medicines during the COVID-19 pandemic.

Key Players Landscape and Outlook

The UAE life sciences tools market showcases a dynamic landscape with several key players operating in the industry. Prominent companies and organizations are actively involved in the development, production, and distribution of life sciences tools and technologies in the UAE. These key players include multinational corporations such as Thermo Fisher Scientific, Agilent Technologies, and PerkinElmer, which offer a wide range of innovative instruments, reagents, and laboratory equipment for various life sciences applications.

Additionally, local companies such as Gulf Scientific Corporation, Bionneeds Scientific Services, and Arab Genomics provide specialized services and solutions in areas like genomics, proteomics, and diagnostics. Furthermore, academic institutions and research centers like Khalifa University, Dubai Biotechnology and Research Park (DuBiotech), and Abu Dhabi Stem Cell Center contribute to the vibrant life sciences ecosystem in the UAE. The collective efforts of these key players contribute to the growth and advancement of the life sciences tools market in the UAE, fostering innovation and research in the field.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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