

Investment in deeptech companies soars to propel APAC pharma R&D

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The pandemic put severe pressure on many healthcare systems and pharma companies, indirectly providing impetus for large pharma and startups to focus on R&D and innovation and development of sustainable business models. Despite the general slowdown in investments globally, biopharma and life sciences companies continue to witness a steady influx of investments, though many pharma and biotech companies have been forced to realign their research priorities and business strategies.

Pharma investments in the Asia Pacific (APAC) region continued to surge in 2022, bolstered by several factors, including an evolving R&D ecosystem, a growing number of innovative startups, partnerships with large pharma/biopharma companies, favourable regulatory policies, and growing unmet healthcare needs in the region. The APAC biopharma ecosystem is brimming with activity since 2020 - pharma, biotech, diagnostics, biomanufacturing, life sciences, and deep technology startups playing a pivotal role in early-stage R&D, product development, and translation to clinic.

Many countries in the APAC region are a crucial but often undermined component of the global pharma ecosystem. However, the landscape is changing, with several global pharma companies such as GSK, Sanofi, Pfizer, Merck, Roche investing in companies in the region and VC investors also turning their heads towards innovative R&D-focused biosciences companies. Several companies in the APAC region are repositioning themselves from CROs and generic developers to innovation-driven biopharma and deep technology-focused companies. For instance, Indian pharma companies such as Dr. Reddy's Laboratories, Piramal, and Reliance Biosciences are investing heavily in R&D for new biologics and NCEs.

Steady Flow of Investments to Accelerate Advanced Therapeutics R&D

A steady influx of capital from both domestic and global players is enabling APAC companies to drive innovation. Cell and gene therapy developers and RNA therapeutics-focused startups in the region received sizable investments from big pharma and VC to advance their R&D and progress clinical pipelines in the last two years. Companies with innovative immunology candidates (cellular therapies, ADCs, and antibodies) attracted the highest funding in the region in the last one year, with novel biologics and NCEs for neurology, metabolic and rare diseases emerging as active areas of R&D and therapeutic development in the region.

Astellas and Takeda have made rapid strides in terms of R&D for advanced therapeutic modalities and expanding their portfolio and capabilities by making strategic investments in other companies across the globe. For instance, Astellas invested \$50 million in Cell and Gene Therapy company Tayesha Gene Therapies, while Takeda Ventures invested in the Norway-based Zelluna Immunotherapy to advance development of the 'off the shelf' allogeneic TCR-NK cell therapy. Chinese RNA therapeutics developers, Therorna (circRNA), and Stemirna Therapeutics (mRNA) have also raised more than \$250 million in the last two years to advance their platform and pipelines.

In October 2022, Pfizer/BioNTech established the first Asia Pacific R&D center in Australia, which will be key for the company to collaborate with local researchers and provide research capabilities in the region. Some of the other notable VC deals around advanced modalities were Singapore-based Tessa Therapeutics and RVAC Medicines securing \$126 million Series A funding and \$140 million Series B, respectively, to advance their cell therapy and mRNA platforms.

Fostering a Startup Ecosystem

While Singapore is known as the hub of biosciences innovation, countries such as Japan, Taiwan, and India have also indicated innovation in R&D as a priority, with both federal and private investments pouring in for novel drug development, vaccines, and platform technologies. Biosciences accelerators such as ClavystBio were launched in Singapore in late 2022 to support innovations from early-stage biotech companies in the country. It has invested more than \$220 million in investment commitments to six early-stage companies - Allay Therapeutics, CoV Biotechnology, Engine Biosciences, Hummingbird Bioscience, Medisix Therapeutics, and Sunbird Bio.

In 2023, federal budget announcements in India and Japan have promised to foster an innovative biosciences environment where collaboration and R&D-focused incentives will drive growth. India is expected to broaden its focus from generics and vaccine manufacture to innovative biologics and vaccine development and is the first country to launch a DNA vaccine for COVID-19. Japan aims to nurture its startup ecosystem with major funding announcements in its 2023 budget - 100 billion yen towards DeepTech companies and 300 billion yen for drug discovery.

On similar lines, the Indian budget has also emphasised investing in R&D and promoting PPPs. The Kansai area of Japan has emerged as a deeptech hotspot in Japan and recently formed its startup ecosystem. Interestingly, some of the notable R&D startups from the Kansai region were biosciences companies such as Luxna Biotech, Bio Palette Co. Ltd, PeptiStar Inc., among others.

Indigenous cash-rich pharma companies such as Astellas and Eisai are investing in startups via their corporate ventures arm. Pharma companies from the region are also collaborating beyond drug development R&D. In December 2022, Astellas Pharma, Eisai Co, Daiichi Sankyo, and Takeda Pharmaceutical announced that the four companies would collaborate to develop sustainable pharma packaging technologies.

In the APAC, there is a growing trend in investing in deeptech companies, and AI, data analytics, and digital platforms to drive pharma R&D and workflow management are garnering traction from both pharma and VC investors. Deeptech biosciences startups such as Engine Biosciences, Insilico Medicine, Xtalpi, Iktos, and others are focused on developing cutting-edge technologies to drive innovation in the industry and have attracted large amounts of VC funding and strategic

collaborations with big pharma over the last two years.

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