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**SINGAPORE ADVANCES mRNA MANUFACTURING CAPABILITIES WITH OPENING OF non-GMP<sup>1</sup> NATi mRNA BIOFOUNDRY**  
***First-of-its-kind facility in Asia paves the way for national pandemic preparedness and nucleic acid therapeutics manufacturing***

**SINGAPORE** – The Nucleic Acid Therapeutics Initiative (NATi), a national platform hosted by the Agency for Science, Technology and Research (A\*STAR), officially launched the non-GMP NATi mRNA BioFoundry today. Located at the A\*STAR Bioprocessing Technology Institute (BTI), this state-of-the-art facility marks a significant milestone in Singapore’s efforts to build self-reliance in mRNA technology and strengthen the country’s position in nucleic acid therapeutics.

Officiating the launch, Second Minister for Trade and Industry Dr Tan See Leng highlighted the facility’s impact: “The NATi mRNA BioFoundry will position Singapore at the forefront of mRNA manufacturing, providing critical infrastructure to support nucleic acid therapeutics research and production. This marks an important first step towards realising RNA therapies that are not only discovered but also manufactured right here in Singapore, contributing to our ambition of becoming a leading hub for biomedical innovation.”

The non-GMP NATi mRNA BioFoundry is a first-of-its-kind facility in Asia dedicated to mRNA manufacturing. As part of the \$97 million NATi programme announced by Minister Tan during this year’s MTI Committee of Supply debate, this facility supports NATi’s mission of advancing nucleic acid therapeutics. Built in collaboration between NATi, A\*STAR, and Wellcome Leap, the facility will strengthen Singapore’s leadership in nucleic acid therapeutics and potentially pave the way for a commercially sustainable GMP Biofoundry in Singapore.

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<sup>1</sup> GMP stands for Good Manufacturing Practices, a set of industry standards that ensure the quality and safety of materials used in industries such as the pharmaceutical sector for clinical purposes. A non-GMP facility, like this BioFoundry, is designed to produce research-grade materials for use in pre-clinical studies. The processes and innovation developed at the NATi mRNA BioFoundry can then be seamlessly transferred to a GMP facility for scaling up as needed for clinical trials or commercial manufacturing.

Singapore is also a key research performer in the Wellcome Leap R3 Program, which brings together researchers from around the world. Wellcome Leap R3 aims to develop and deploy RNA technologies and innovations, to realise RNA's potential in new vaccines and therapeutic applications. By being part of the R3 global network, Singapore can enhance local NATi efforts, positioning itself as a regional hub for RNA therapeutics. This collaboration allows Singaporean researchers to connect with international institutions and companies, advancing RNA technologies and accelerating their application in vaccines and therapeutics.

### **Advancing Health Solutions with Cutting-Edge Technology and Automation**

The non-GMP NATi mRNA BioFoundry provides vital infrastructure for developing and producing mRNA-based products, such as vaccines. While currently focused on research and preclinical production, the NATi mRNA BioFoundry is equipped to scale up swiftly during national health crises, ensuring Singapore's ability to respond effectively to future emergencies.

"The non-GMP NATi mRNA BioFoundry demonstrates Singapore's commitment to building critical infrastructure for nucleic acid drug development and future pandemic preparedness," said Dr Koh Boon Tong, Executive Director of A\*STAR BTI and NATi. "The shift from manual to automated mRNA manufacturing processes has enhanced productivity and lowered production costs, making it possible to accelerate breakthroughs in both research and commercialisation."

What sets the non-GMP NATi mRNA BioFoundry apart is its focus on automation. The facility integrates advanced technologies developed or tested during the Wellcome Leap R3 Program to streamline production, improve efficiency, and reduce costs.

"The automated processes allow for prompt scaling of mRNA production, ensuring a steady supply for preclinical research and clinical trials," said Dr Duccio Medini, Wellcome Leap R3 Program Director. "This is a critical step in a partnership that will benefit from further technology developments towards a multi-scale, fully automated, continuous flow GMP manufacturing platform."

As the facility grows and continues to innovate, it will play a pivotal role in attracting new research opportunities, fostering partnerships, and advancing the country's capabilities in healthcare and biomanufacturing.

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### **About the Nucleic Acid Therapeutics Initiative (NATi)**

The Nucleic Acid Therapeutics Initiative (NATi) is a national platform with the mission to build Singapore up as the regional hub and model of excellence for research and clinical translation, and commercialisation of nucleic acid therapeutics with built-in preparedness and resilience against future epidemics. Hosted by the Agency for Science, Technology and Research (A\*STAR), NATi works collaboratively with public sector and industry partners to accelerate the translation and commercialisation of RNA assets, while strengthening resilience. Learn more here: [www.a-star.edu.sg/NATi](http://www.a-star.edu.sg/NATi)

### **About the Agency for Science, Technology and Research (A\*STAR)**

The Agency for Science, Technology and Research (A\*STAR) is Singapore's lead public sector R&D agency. Through open innovation, we collaborate with our partners in both the public and private sectors to benefit the economy and society. As a Science and Technology Organisation, A\*STAR bridges the gap between academia and industry. Our research creates economic growth and jobs for Singapore, and enhances lives by improving societal outcomes in healthcare, urban living, and sustainability. A\*STAR plays a key role in nurturing scientific talent and leaders for the wider research community and industry. A\*STAR's R&D activities span biomedical sciences to physical sciences and engineering, with research entities primarily located in Biopolis and Fusionopolis. For ongoing news, visit [www.a-star.edu.sg](http://www.a-star.edu.sg).

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### **About Wellcome Leap**

Wellcome Leap builds and executes bold, unconventional programs, funded at scale. Programs that aim to deliver breakthroughs in human health over 5 – 10 years. Founded by the Wellcome Trust in 2020 as a US nonprofit with initial funding of \$300 million, Leap programs target complex human health challenges with the goal of achieving breakthrough scientific and technological solutions. Operating at the intersection of life sciences and engineering, Leap programs require best-in-class, multi-disciplinary, global teams assembled from universities, companies, and nonprofits working together to solve problems that they cannot solve alone.

### **About the R3 Program**

RNA Readiness + Response (“R3”), a \$60M program jointly funded with the Coalition for Epidemic Preparedness Innovations (“CEPI”), will develop ‘living’ RNA- based, distributed, and multi-product biofoundries that provide increased access to diverse biologics in non-emergency times and economically sustainable, state-of-the-art surge capacity in an emergency. Such a global network would support a 1,000 to 10,000-fold increase in the number of innovators developing diverse biologics as treatments for cancer, metabolic disorders, cardiovascular conditions, and autoimmune diseases and would provide the capacity to produce up to 20B doses of RNA-based vaccines in a month, equitably, across the world during an outbreak.