

OPENING ADDRESS BY MR HENG SWEE KEAT
CHAIRMAN, NATIONAL RESEARCH FOUNDATION
AT THE OFFICIAL OPENING OF THE NIRBA S9 HUB SPACE
NATIONAL UNIVERSITY OF SINGAPORE
21 JULY 2026

Distinguished guests, colleagues, partners, and friends,

I am delighted to join you today for the official opening of the **NIRBA Hub** here at the National University of Singapore.

2 Today's launch marks an important milestone — not just for the National Initiative for RNA Biology and Its Applications or NIRBA, but for Singapore's broader commitments to strengthen our capabilities in RNA biology and its applications.

3 When I officiated at the national launch of NIRBA in March 2025 – it seems like a long time ago – it marked the beginning of a bold collective effort, supported by S\$130 million over seven years by the National Research Foundation (NRF).

4 The intellectual foundations for this initiative were laid down even earlier, growing out of the Foundational Research Capability studies initiated by NRF in 2021 and 2022, which culminated in a rigorous, evidence-based report led by none other than Professor Ashok Venkitaraman. That study underscored the transformative potential of RNA biology and technologies and made a compelling case for Singapore to further deepen our investments in the field.

5 Today, with the opening of this Hub, we move from vision to implementation. Singapore's investment in promising scientific frontiers and emergent technologies has been a long-standing principle of our research and innovation journey. When the science of genomics was still in its nascent stages, we made an early investment by establishing the Genome Institute of Singapore over 25 years ago.

6 The opening of this NIRBA Hub is timely, coming at the beginning of the next five years of Singapore's Research, Innovation and Enterprise—or RIE—2030 plan. This builds on nearly three decades of steady RIE investments. Over this period, we have developed world-class research expertise and talent. RIE programmes have helped anchor and expand industry R&D and economic activities in Singapore, as well as applications in hospitals, and our tech startup ecosystem is increasingly vibrant.

7 Just a few weeks ago, I was at Lindau for the 75th anniversary of the Lindau Nobel Laureate Meeting. I met many Nobel laureates and scientists there, including several from a certain country who were very troubled by the way science has been politicised and by changes to the way research funding is evaluated. Several spoke to me, and I told them they were welcome to come to Singapore, where the government is committed to investing at least 1% of GDP into R&D, with one-third going into basic sciences. This comes at a time when we are seeing some retreat from funding science, and from funding the major challenges facing humanity.

8 In RIE2030, we will put particular focus on 3 areas:

- firstly, big moves to create greater impact in national economic and strategic priorities;
- secondly, sustaining our investments to grow key sectors; and
- thirdly, keeping our basic research capabilities and talent at the cutting edge.

9 NIRBA sits at the intersection of all three. Let me say a few words on this. Within RIE2030, the Human Health and Potential domain aims to keep Singaporeans healthier for longer, and strengthen Singapore as a global hub in biomedtech and biomanufacturing, and my view is that what is good for a small city like Singapore will also be good for cities all over the world. NIRBA is an integral part of this strategy.

10 A key priority in RIE2030 is to strengthen the linkages and synergies between our major national programmes — the National Precision Medicine programme, NIRBA, the Nucleic Acid Therapeutics Initiative, the Diagnostics Development Hub, and the Experimental Drug Development

Centre. Together, these form synergistically overlapping programmes covering the spectrum from foundational discovery, through translation, to clinical and commercial application. NIRBA is a key anchor at the upstream end of that pipeline. The deep insights into the mechanics of RNA modifications, delivery, and cellular interactions can fuel the downstream translational programmes.

11 The National Precision Medicine programme is a good illustration of how this systems approach works in practice. Through SG100K, we sequenced the whole genomes of 100,000 Singapore residents, a world-first multi-ancestry Asian genomic database that provides unique insights into Asia's genetic diversity. The insights generated are already informing how genomic information can be used to support improved health outcomes, and how precision medicine can be integrated into clinical care in a thoughtful, sustainable and equitable way. NIRBA's foundational work in RNA biology is a natural complement to this: where the NPM programme illuminates the genetic landscape of disease, NIRBA builds the molecular toolkit to act on it.

12 Within NIRBA itself, this systems thinking is reflected in four innovation clusters — the impact of Asian genetic diversity on RNA biology and disease; RNA modifications and host immunity; mechanisms; the manipulation of RNA delivery and distribution; and cellular mechanisms underlying personalised RNA medicine. These clusters have been carefully selected. Together, they bring the questions of who is affected by disease, how disease develops, how treatments reach the right cells, and how they can be matched more precisely to patients.

13 While our investments in R&D is large by our own budget standards, it is a tiny fraction of what the whole world is investing in. We must distinguish our work in Singapore not just by what and how much we fund, but how we deliberately organise ourselves to contribute more effectively. This approach is reflected in the choice of these clusters.

14 RNA biology resides at the very forefront of modern medicine. The COVID-19 pandemic was a vivid demonstration of its transformative potential — mRNA vaccines went from concept to global deployment in under a year, saving millions of lives, but the therapeutic horizon extends

far beyond infectious diseases. As of March 2026, an estimated 25 RNA therapeutics had received FDA approval, while 734 clinical trials were ongoing worldwide. The clinical pipeline is expanding beyond rare diseases into areas such as oncology and cardiovascular, renal and metabolic conditions—healthcare priorities of growing relevance to ageing populations.

15 Commercial adoption is also gathering pace - RNA therapeutics generated more than seven billion US dollars in estimated global sales in 2025, and is estimated to grow to 30 billion by 2030. For Singapore, building deep and differentiated capabilities in this field is essential to capture high-value segments of this rapidly growing global market. Beyond therapeutics, NIRBA's research creates fresh opportunities across biotechnology and synthetic biology – areas that RIE2030 identifies as part of our emerging bioeconomy strategy – as well as in food sustainability.

16 NIRBA is our commitment to ensure that Singapore is not just a beneficiary of these breakthroughs, but a contributor to them. NIRBA's work is also relevant to research and translation in the area of ageing. By 2030, one in four Singaporeans will be aged 65 and above – I myself just added to this number very recently. Becoming a super-aged society will have significant implications for our healthcare system, our economy, and our society.

17 RIE2030 has responded to this with the launch of the RIE Grand Challenge on Maximising Healthy and Successful Longevity — a major national research effort to increase our understanding of the biology of ageing, develop new approaches to maintain brain health and physical function, and delay the onset of cognitive and functional decline.

18 RNA biology is deeply implicated in the molecular mechanisms of ageing and age-related disease. The basic science being pursued here builds the knowledge base from which future interventions could ultimately emerge. The path from foundational discovery to clinical application takes time, but this is precisely the kind of investment that makes translational breakthroughs possible.

19 This brings me to what this Hub represents physically and operationally. Singapore has a thriving biomedical ecosystem, spanning

A*STAR research institutes, universities, academic medical centres, and hospitals. The S9 Hub will help leverage this diversity. By clustering leading researchers from across these institutions, providing shared state-of-the-art infrastructure, and fostering interdisciplinary expertise in a single space, the Hub enables talented researchers, who might otherwise work in isolation, to work as research teams and communities which can drive towards even greater excellence and global impact.

20 This model — shared access, shared infrastructure, and shared expertise made accessible to all — also reflects a broader principle in RIE2030 - that national resources should be deployed efficiently and collaboratively, not siloed institutionally. A researcher at any node of our ecosystem can leverage the collective strength of the whole — that is how Singapore as a small nation can compete at the frontier.

21 The establishment of this Hub is the result of meticulous planning, cross-institutional commitment, and shared purpose. I wish to warmly congratulate Professor Ashok Venkitaraman and his team for their leadership in bringing this space to life.

22 Let me also thank Professor Tan Chorh Chuan and the NRF leadership team, whose stewardship has been instrumental in nurturing NIRBA from its early conceptual stages to the active national platform – from gestation to delivery.

23 Our capacity to respond effectively to the challenges and opportunities of the future — in breakthrough science, in pandemic preparedness, in advanced therapeutics, in a super-aged society—rests on the infrastructure, collaborations, and talents we build today. The opening of the S9 Hub is the start of just the beginning chapter. It is the inauguration of new possibilities. I look forward with great anticipation to seeing the discoveries that will emerge from this space — and to the lives they will ultimately improve.

Thank you.