

Research, Innovation and Enterprise 2030



NATIONAL RESEARCH FOUNDATION
PRIME MINISTER'S OFFICE
SINGAPORE



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Manufacturing, Trade and Connectivity (MTC)

Anchoring High-Value Businesses in Singapore with World-Class Innovation, Opening New Pathways for Deep Tech Enterprises

Why it Matters

The profound ongoing shifts in the global economy and reorganisation of global supply chains, as well as the rapid pace of technological advancements, are creating major challenges for established industries and firms as well as new opportunities. To strengthen Singapore's resilience and further grow our relevance as an advanced manufacturing, trade and connectivity node, we must continue to make sustained, strategic investments in research and innovation.

What's Next

Building on Singapore's research and development (R&D) capabilities that have been developed over the past three decades, RIE2030 will introduce three key thrusts in MTC:

Key Thrust #1:

Intensify R&D investment and raise ambition for high-impact sectors with significant economic and/or strategic value to Singapore.

Key Thrust #2:

Direct R&D investment to support industry development priorities and catalyse emerging sectors that could become key contributors to Singapore's economy.

Key Thrust #3:

Invest in horizontal enabling technologies with cross-sector applications.

Semiconductor RIE Flagship

- Singapore is an integral part of the global semiconductor supply chain, accounting for 10% of worldwide chip production and 20% of global semiconductor manufacturing equipment production, supported by over three decades of research excellence and collaboration with major industry players.
- Aims to position Singapore as a key node in the global semiconductor supply chain, by deepening capabilities in high-impact technology areas where we have established strengths and strengthening the talent pipeline for industry.
- Also aims to expand high-value research and manufacturing in Singapore and grow globally competitive local companies and deep tech start-ups in the semiconductor industry.

RIE2025



Key Achievements

A Thriving Manufacturing Innovation and Enterprise Ecosystem

Since its first National Technology Plan in 1991, Singapore has made steady, sustained investments in advanced manufacturing and engineering R&D to power economic growth and competitiveness.

Under RIE2025, Singapore strengthened its position as an advanced manufacturing hub. We deepened capabilities in Artificial Intelligence (AI), additive manufacturing, and robotics, which anchored high-value MNCs, and uplifted local SMEs to be part of global supply chains.

Partnerships between industry and public sector research performers continued to grow in breadth and depth through new and expanded corporate labs and centres of excellence. These platforms enabled global companies to tap our strong scientific base to co-develop solutions that address real-world manufacturing challenges.

An example was the launch of phase two of the Smart Manufacturing Joint Lab between the Agency for Science, Technology and Research (A*STAR), Rolls-Royce, and Singapore Aero Engine Services Private Limited (SAESL). Building on more than two decades of partnership, it will strengthen Singapore's position as a global aerospace Maintenance, Repair and Overhaul (MRO) and manufacturing hub. The innovation from phase two of the Joint Lab will complement SAESL's S\$242 million investment to build new MRO capabilities and double its output, reinforcing its position as the world's largest Rolls-Royce Trent Engine MRO facility, and to create 500 high-value jobs in Singapore over the next five years.

Singapore has also furthered research in semiconductor-related technologies and opened new pathways for deep-tech enterprises. For example, GlobalFoundries' recent announcement to deepen collaboration with A*STAR together with its acquisition of Advanced Micro Foundry (AMF), an A*STAR spin-off, reflects the growing role of Singapore's semiconductor ecosystem in developing advanced chip technologies.

Securing Singapore's Hub Status in Global Connectivity

In RIE2025, the Civil Aviation Authority of Singapore (CAAS) and the Maritime and Port Authority of Singapore (MPA) launched two major research programmes to support transformation in their respective sectors. These seek to ensure Singapore's continued competitiveness as a supply chain hub amidst increased global competition and geopolitical uncertainties.

The Aviation Transformation Programme is centred on R&D in Next-Generation Air Navigation Services, automated and smart airport systems, and the integration between manned and unmanned airspace. In RIE2025, CAAS continues to advance studies of Trajectory Based Operations (TBO), to achieve its aim of being a world-class Air Navigation Services Provider. As part of efforts to build up air traffic management R&D capabilities in local institutes, it collaborated with the Singapore University of Technology (SUTD) and Design's Aviation Studies Institute in the simulation of TBO scenarios in close partnership with international partners like MITRE.

The Maritime Transformation Programme focuses on next-generation port, smart harbour craft operations and Maritime Autonomous Surface Ships, and the application of green technologies including alternative fuels and vessel electrification. To sustain Singapore's position as a major maritime bunkering hub amidst the energy transition, research was carried out to study safe handling of next-generation fuels. MPA and the Singapore Maritime Institute (SMI) collaborated with A*STAR Institute of High Performance Computing (A*STAR IHPC) on the Dispersion Analysis and Simulation for Handling of Future Fuels programme, which developed a predictive planning tool to model ammonia and methanol dispersion during potential leaks, which was used to support MPA's trials.



Nurturing World-Class Scientific Talent

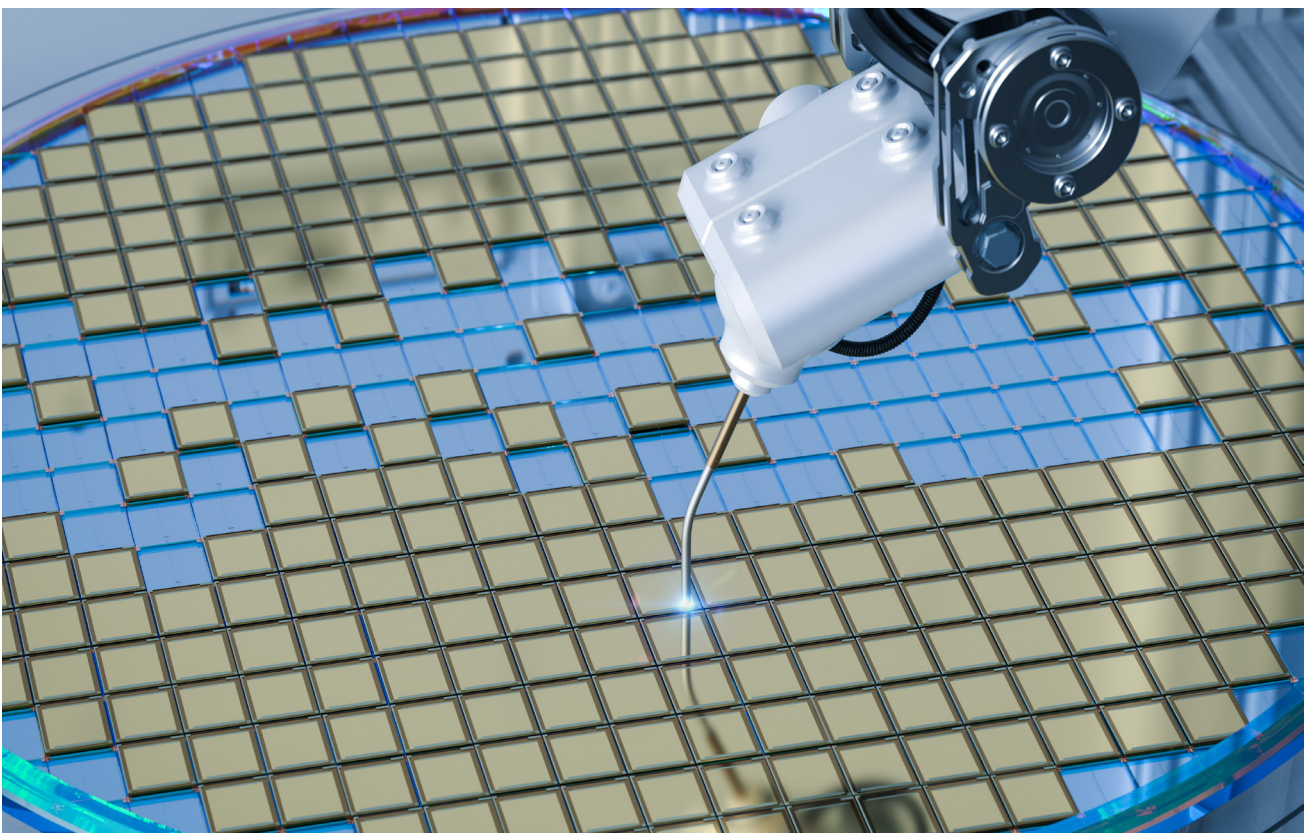
Singapore has continued to build a pipeline of skilled R&D talent in advanced manufacturing and adjacent sectors, to support research and translational excellence.

For instance, in the area of semiconductor, Professor Yeo Yee Chia (A*STAR) and Professor Aaron Thean (NUS) are recognised as scientific leaders who bring deep knowledge and industry experience to bear. Professor Yeo is a renowned scholar in academia and a technology leader in the semiconductor industry, with expertise in transistor architecture, device modelling and simulation, materials, tools and processing technologies. Professor Thean is a well-respected opinion leader in the microelectronics community and prolific inventor with more than 50 US patents.

Our Government agencies, local Institutes of Higher Learning, and key industry partners are also strengthening the semiconductor talent pipeline through education partnerships, student outreach programmes, and training initiatives. NUS launched a Master of Science in Semiconductor Technology and Operations programme with an inaugural batch of 28 students in 2024, and expanded to over 100 places in 2025. A*STAR also launched a new scholarship track recently that is focused on semiconductor research.

Driving Growth in Advanced Manufacturing and Connectivity

Building on our areas of established strength, MTC will focus on three key thrusts in RIE2030:



1. Intensify R&D investment and raise ambition for high-impact sectors with significant economic and/or strategic value to Singapore

In RIE2030, we will sharpen our focus on priority sectors with economic and/or strategic value to Singapore, and double down on R&D efforts in these sectors. A key initiative will be the Semiconductor RIE Flagship in RIE2030, described below.

RIE Flagship in Semiconductor: Positioning Singapore to be a Key Node in the Global Semiconductor Supply Chain



Singapore accounts for 10% of all chips produced worldwide and 20% of global semiconductor manufacturing equipment production.

For more than three decades, A*STAR and our Institutes of Higher Learning have built globally-differentiating capabilities in semiconductor research. National platforms such as the National Semiconductor Translation and Innovation Centres (NSTICs) and the academic research centres such as the Singapore Hybrid-Integrated Next-Generation μ -Electronics (SHINE) Centre and the National Centre for Advanced Integrated Photonics (NCAIP) are advancing research in silicon photonics, flat optics, advanced packaging/heterogeneous integration, and Gallium Nitride, to enable faster, more cost-effective and energy-efficient semiconductor technologies.

This has helped anchor significant operations of global leaders such as GlobalFoundries and Applied Materials, as well as grow globally competitive local companies such as MetaOptics Technologies and NexGen Wafer Systems.

In RIE2030, A*STAR and EDB will lead the Semiconductor RIE Flagship to deepen capabilities in high-impact technology areas such as advanced packaging, heterogeneous integration and advanced photonics, and strengthen the talent pipeline for industry. We aim to further expand high-value research and manufacturing in Singapore and create new opportunities for deep tech start-ups and globally competitive local companies, so that Singapore can be a key node contributing to the global semiconductor supply chain.

We will also continue to develop our strengths in other established sectors such as aerospace, aviation and maritime.

Global Leadership in Aerospace Maintenance, Repair and Overhaul (MRO) and Manufacturing

The aerospace sector is a strong contributor to Singapore's economy, accounting for close to 1% of Singapore's GDP and contributing more than 4% to our total manufacturing output in 2024. We have an established ecosystem of more than 130 aerospace companies across the value chain and account for approximately 10% of global MRO output and 19% of global engine MRO output.

In RIE2030, we will strengthen Singapore's position as a global node for aerospace MRO and manufacturing through the development of technologies such as next-generation MRO and manufacturing processes, sustainable materials and processes to enhance efficiency and productivity.



Fortifying Singapore's Spot in the Global Transport Network

Transport is a key driver of our economy, and transport services comprise over 30% of our Total Service Exports in 2024.

Our status as a key node in global supply chains is critical to Singapore's economic development. Our port and airport connect us to more than 600 seaports and around 170 cities by air. With our transport connectivity, businesses are able to obtain access to supplies, export markets and talent. Our reliable and efficient supply chain infrastructure and capabilities in the handling of complex cargo operations and sensitive goods such as vaccines, make us a trusted partner for companies.

We have embarked on the construction of Tuas Port and Changi Airport Terminal 5, so that our seaport and airport can accommodate greater volumes of cargo and passengers. These serve to provide room for future growth and to strengthen our position as a transport hub.

In RIE2030, the Ministry of Transport (MOT) will deepen R&D efforts to seize new supply chain and transport opportunities and keep Singapore's transport network efficient, resilient, sustainable, and globally competitive as a transport solutions hub. The portfolio will cover maritime, aviation and land transport to improve our productivity and capabilities. Its scope involves areas such as smart autonomous solutions to enable unmanned vessel and port operations like auto-berthing; digital twin and embodied AI solutions to provide more efficient services at Changi Airport; using AI for cost-efficient, safe and optimised rail design; and technologies that assure full integrity and security of goods as they are transported through air, land and sea routes. All these efforts, when integrated, will facilitate the seamless movement of goods and passengers in and through Singapore.

2. Direct R&D investment to support industry development priorities and catalyse emerging sectors that could become key contributors to Singapore's economy.

Beyond R&D investments to support current industry development priorities, we will also identify new opportunities where R&D could significantly enhance our global competitiveness, for example, in Space and Bioeconomy:

- For Space, we will amplify our national pursuit to harness the tremendous potential of space technologies and unlock new opportunities in the space economy. Potential technologies that enable space-based solutions for optimised routing and enhanced efficiency for aircraft and vessels will support our aviation and maritime sectors as well.
- For Bioeconomy, we see an emerging market for sustainable products and early signs of a more mature industrial system taking shape globally. We will leverage our existing energy & chemicals and biotechnology capabilities to transform our existing base and anchor new high-value industrial activities in the energy & chemicals sector. Alternative feedstocks and bioprocess development are examples of areas which will be relevant.

3. Invest in horizontal enabling technologies with cross-sector applications, including AI, Additive Manufacturing, and Robotics.

We will continue to invest in technologies with applications across the MTC sectors and focus on those with significant potential for impact. These include AI, Additive Manufacturing, and Robotics:

- For AI, we will enable the scale-up in adoption of AI solutions in our industries, to increase their competitiveness. Potential areas that could enable our efforts include Agentic AI, Sustainable AI as well as ready-to-go AI models.
- For Additive Manufacturing, we will anchor and scale capabilities in applications where precision, performance, and Intellectual Property (IP) creation drive value. Potential areas include additive manufacturing technologies for energy-efficient processes and high-performance and sustainable materials.
- For Robotics, we will continue to bring together industry end-users, robotics solution providers and our RIE ecosystem to co-develop robotics solutions with economic potential, such as embodied AI.

Manufacturing, Trade
and Connectivity (MTC)

Human Health and Potential (HHP)

Enabling Singapore's Next Bound in Healthcare with Genomics and AI, Keeping Singaporeans Healthier for Longer, Strengthening Singapore as a Global Hub in Biomedtech and Biomanufacturing

Why it Matters

Demographic and societal pressures and opportunities: Singapore faces rapid population ageing, rising chronic disease burden, and AI-driven workforce transformation that will fundamentally reshape how we live, work, and thrive as a society. Reducing the chronic disease burden and increasing healthy longevity will yield significant benefits for individuals and our population.

Human capital as our greatest asset: In a knowledge economy, our people's health, capabilities, and potential directly determine our national competitiveness. Optimising human potential from early childhood through healthy ageing ensures we can adapt and excel in a changing global landscape.

Opportunity for innovation leadership: Singapore's distinctive research strengths in Asian biology and precision health, and our multi-ethnic population position us to advance knowledge and pioneer health solutions that will not only benefit our own citizens, but would also be very relevant to countries around the world facing similar challenges.

What's Next

Building on the distinctive foundations of Singapore's biomedical sciences ecosystem – particularly in Asian biology, precision health, human potential development, population health, and biomedtech innovation – HHP will focus on three key thrusts in RIE2030:

Key Thrust #1:

Harness Precision Health Approaches to Enhance Population Health.

Key Thrust #2:

Strengthen Singapore's Position as a Global Biomedtech and Biomanufacturing Hub.

Key Thrust #3:

Optimise Human Potential Across Life Stages.

We will step up the use of AI, enabled by trusted and secure data systems, to boost research and innovation under HHP.

RIE Grand Challenge: Maximising Healthy & Successful Longevity

- To address Singapore's transition to a super-aged society, and enhance our ability to slow the onset and progression of age-related decline, and in the long-term, contribute to better population-level outcomes.
- Generate key research insights which enable novel evidence-based interventions to support healthy ageing in our population, focused on maintaining brain health and physical function as people age.

Key Achievements

Growth as a global Biomedical Sciences hub

Singapore has made strong progress towards becoming a key global biomedtech hub.

In RIE2025, the number of local biomedtech companies in Singapore grew by 60% from 320 to 493, with a 40% increase in medtech companies, and a doubling of the number of therapeutic biotechs. These companies successfully raised more than US\$3.2 billion from local and international investors, reflecting their quality and attractiveness to the global market. Some notable examples are outlined in the section on “Commercialising biomedical research breakthroughs”.

Enabling and Contributing to Improvements in Health and Healthcare

HHP research findings and solutions have contributed to healthcare in Singapore by informing policies and guidelines, and by driving improvements in clinical practice.

A notable example is the National Precision Medicine (NPM) programme, which started in 2017 and has built one of the world’s largest genomic databases for multi-ethnic Asian cohorts, containing the whole genome sequences of more than 100,000 Singaporeans and Permanent Residents. NPM carried out clinical implementation pilots to assess if genetic testing could improve diagnosis or change treatments in selected conditions. Early findings are already being translated into application. For example, NPM’s findings in the early detection of familial hypercholesterolaemia (FH) provided valuable insights that informed the rollout of the national Familial Hypercholesterolaemia genetic testing programme in June 2025, to identify individuals with FH early and help reduce the risk of premature heart disease for these individuals through timely interventions. NPM has also catalysed significant public-private partnerships and industry investments including with sequencing technology leaders such as Illumina, PacBio, and Oxford Nanopore Technologies, and leading pharmaceutical companies like Boehringer Ingelheim for data science and drug discovery research.



Growing Up in Singapore Towards healthy Outcomes (GUSTO) – Singapore’s largest and most comprehensive birth cohort study – has generated valuable research data that has informed Singapore’s approach to early-life and family health. Its findings have informed national policies and guidance on screening for gestational diabetes in pregnant women, as well as screen use and eating habits for young children. The national public health initiative Grow Well SG, which was launched in 2025, incorporated GUSTO’s evidence-based screen time guidelines. In RIE2025, the GUSTO study continued to follow its participants as they entered adolescence. The first phase of the Integrative Adolescence Research Programme (IARP) was launched to deepen understanding of adolescent health and well-being in Singapore and identify early intervention opportunities. IARP is an integrated multi-disciplinary and multi-institutional programme that builds on the Early Life and Science of Learning initiatives.

The Singapore Eye Research Institute (SERI) is translating research excellence into treatments that benefit patients. Through a decade-long collaboration, SERI contributed significantly to the development of Roche’s Vabysmo, an antibody treatment that requires fewer eye injections for common blinding diseases like diabetic eye disease and age-related macular degeneration (AMD), and is particularly effective for Polypoidal Choroidal Vasculopathy which is more common in Asian populations. Vabysmo achieved more than US\$4 billion of global sales in 2024. The Santen-SERI Open Innovation Lab (SONIC) produced a low-dose atropine treatment that slows childhood myopia progression by as much as 60%, addressing a public health challenge affecting the majority of children in Singapore.

Strengthening Pandemic Preparedness

Two national research programmes, namely the Programme for Research in Epidemic Preparedness and Response (PREPARE) and the Pathogen/Pathway to Vaccine Development to Enhance Singapore's Pandemic Resilience (PrepVax), have brought together and strengthened local research capabilities and established international partnerships to enhance Singapore's preparedness for future outbreaks and pandemics.

These programmes work closely with the Ministry of Health (MOH) and the Communicable Diseases Agency (CDA) to ensure good alignment and coordination between the public health preparedness and response functions, and research.

Singapore has also developed biomanufacturing capabilities that can bridge the gap between research prototypes and clinical products. A*STAR hosts the Nucleic Acid Therapeutics Initiative (NATi) mRNA BioFoundry, the first of its kind in Asia. The BioFoundry uses automation to enable the rapid development of RNA-based vaccines and therapeutics. In the event of a future epidemic or health emergency, these capabilities will help ensure that Singapore can respond quickly and effectively.



Commercialising Biomedical Research Breakthroughs

In RIE2025, there were several notable highlights in terms of the commercialisation of biomedical research breakthroughs from Singapore.

In 2025, Mirxes became the first Southeast Asian biomedtech start-up to achieve a valuation of more than US\$1 billion, when it launched its initial public offering (IPO) on the Hong Kong Stock Exchange. Mirxes is a spin-off from A*STAR. Its flagship product, GASTROClear, was the world's first molecular blood test approved for early gastric cancer detection, and was granted Breakthrough Device Designation by the US Food and Drug Administration (FDA). Mirxes has since expanded into lung, liver, and colorectal cancer diagnostics.

Lucence, a precision oncology and A*STAR spin-off specialising in liquid biopsy diagnostics, benefitted from support under the Global Innovation Alliance (GIA) initiative to establish its US headquarters and clinical laboratory in Palo Alto, California. This strategic expansion enabled Lucence to secure US Medicare coverage for its flagship LiquidHALLMARK® test in 2023, marking the first time an Asian healthcare services provider had achieved this approval from the US national insurer. This achievement helped Lucence expand its global footprint and doubled its revenue to over US\$6 million within a year.

Kyan Technologies, a diagnostics company that develops cancer care solutions, spun off from the National University of Singapore (NUS) and the University of California, Los Angeles (UCLA). Its proprietary and clinically validated precision medicine test provides oncologists with insights into effective therapies for their cancer patients. Through collaboration with Mayo Clinic Laboratories, they were able to further validate its test across the US, providing clinicians with additional testing insights for cancer treatment and enabling Kyan to achieve commercial milestones in the US market.

Enleofen, a spin-off from Duke-NUS Medical School and the National Heart Centre Singapore (NHCS), entered into a landmark licensing and collaboration agreement with Boehringer Ingelheim (BI) in 2020. The deal granted BI exclusive global rights to Enleofen's anti-IL-11 platform and provided for up to US\$1 billion per product in upfront and milestone-based payments.

Other made-in-Singapore innovations such as Pacritinib (an FDA-approved small molecule drug for the treatment of myelofibrosis – a bone marrow disorder leading to decreased blood cell production) and Qdenga (a dengue vaccine projected to reach up to US\$2 billion in sales) have also achieved international commercial success.

Singapore's translation landscape is supported by platforms such as the Diagnostics Development Hub (DxD Hub) and the Experimental Drug Development Centre (EDDC). DxD Hub helps promising diagnostics progress from lab to market. DxD Hub was instrumental in enabling the development, production and distribution of the Fortitude diagnostic test kit in February 2020, within a month of when the novel coronavirus genome sequence for COVID-19 was shared.

Nurturing Clinical and Innovation Key Opinion Leaders Who Create Impact Beyond the Lab

There was a continued strong emphasis on talent development in RIE2025.

The National Medical Research Council (NMRC), through its Human Capital Awards and talent development programmes, offers comprehensive support to clinician scientists at every stage of their career. In 2024, NMRC awarded 84 Talent Awards. Within RIE2025, NMRC supported 155 active nationally-funded clinician-scientists, an increase from 57 in RIE2015 and 101 in RIE2020.

Notable past awardees include Professor Carolyn Lam, Senior Consultant at NHCS, who has made significant contributions to the global understanding and treatment of cardiovascular disease through decades of groundbreaking research, leadership and innovation, as well as Professor Chng Wee Joo, Vice-President (Biomedical Sciences Research), NUS and Executive Director of the Singapore Translational Cancer Consortium (STCC), a globally recognised researcher in the fields of genomics, therapeutics and hematologic malignancies. The National Health Innovation Centre (NHIC), SGInnovate and Singapore Biodesign provide a range of programmes to nurture innovators in biotech and health tech.

A*STAR's scholarship programme has been important in growing a vibrant community of scientists for Singapore. Many of the scholars are now CEOs, CTOs, principal scientists, and professors. Notable examples in biomedtech include A*STAR scholars who have become CEOs of companies like Nuevacor, Auristone, Respiree, and BetaLife, as well as the Executive Directors of the A*STAR Institute of Molecular and Cell Biology (A*STAR IMCB), the A*STAR Genome Institute of Singapore (A*STAR GIS) and principal investigators across Singapore's public sector research institutes and academic medical centres including A*STAR, Nanyang Technological University (NTU), NUS, SERI, and Duke-NUS Medical School.



Enabling Singapore's Next Bound in Healthcare



Building on the distinctive foundations of Singapore's biomedical sciences ecosystem – particularly in Asian biology, precision health, human potential development, population health, and biomedtech innovation – HHP will focus on three key thrusts in RIE2030:

1. Harness Precision Health Approaches to Enhance Population Health

We will harness precision health approaches to improve health at the population level. This will strongly complement conventional broad-based public health measures with precision health interventions targeted at high-risk groups, and tailored to their specific characteristics and requirements. If this can be shown to work at scale, in an effective and cost-effective way, precision health can fundamentally transform population health and healthcare, moving beyond treating illness to keeping people healthy for longer through early detection, prevention and targeted interventions.

As part of this focus on precision health, Phase III of the National Precision Medicine (NPM) Programme will expand to include 400,000 to 450,000 participants by 2031, sequencing

the whole genome of about 10% of Singapore's local resident population. Like the earlier phase, data from NPM Phase III will provide robust, population-specific evidence for the trusted and responsible use of genomics in healthcare.

2. Strengthen Singapore's Position as a Global Biomedtech and Biomanufacturing Hub

We will leverage our research and translational strengths to significantly increase the pipeline and quality of our commercialisable assets in therapeutics and medtech, and advance their development and commercialisation. A key strategy is to further strengthen the linkages and synergies between major programmes such as the NPM programme (well-characterised whole-genome-sequenced cohorts); the National Initiative for RNA Biology and its Applications (NIRBA) and NATi, which will advance RNA therapeutics leadership; and EDDC and DxD Hub.

More resources will also be channelled to tackling bottlenecks in therapeutics and medtech development and manufacturing through industry engagement and anchoring of clinical development capabilities through public-private partnerships.

3. Optimise Human Potential Across Life Stages

In RIE2030, the focus on optimising human potential will shift beyond early childhood development to adolescent health and development, as well as cognition and skills acquisition in working life. Priority areas include adolescent development, well-being and resilience, as well as the impact of Artificial Intelligence (AI) and digital media. The Science of Learning initiative will continue research into the core mechanisms of cognition, learning and skills acquisition across life stages, including adult learning and lifelong capability, with a special emphasis on the impact of AI and technology.

The Integrative Adolescence Research Programme (IARP) will bring together six key cohorts, including GUSTO, to facilitate the study of biological, psychosocial, digital behaviours, and environmental factors that influence adolescent health, and assess how societal shifts such as digital engagement affect development. These insights will inform evidence-based interventions and actionable strategies to meet pressing adolescent health needs.

RIE Grand Challenge: Advancing Frontier Capabilities for Impact

RIE2030 will drive more needle-moving impact in national strategic priorities, leveraging cross-institutional, multi-disciplinary capabilities. One key move will be the RIE Grand Challenge in Maximising Healthy & Successful Longevity.



Keeping Singaporeans Healthier for Longer

By 2030, around 1 in 4 Singaporeans will be aged 65 and above. The rapid transition towards a super-aged society will mean that healthcare systems face increased demand for chronic disease management and long-term care services. Today, Singaporeans live about 10 years longer than they stay healthy – a gap between life expectancy and health-adjusted life expectancy (HALE), which measures the years we live in good health. MOH has already rolled out initiatives like Healthier SG and Age Well SG to combat drivers like chronic diseases and to support healthy ageing.

Most international research focuses on Western populations, creating a critical gap in our understanding – one which Singapore is well-positioned to fill because of our diverse multi-ethnic Asian population (Chinese, Malay, Indian) and established research expertise in large-scale cohort studies. These factors make Singapore an ideal place to conduct healthy longevity research that can benefit people worldwide.

The Grand Challenge will adopt a coordinated and holistic portfolio of research that emphasises the generation of key research insights and its translation into evidence-based approaches, with particular focus on maintaining brain health and physical function as people age. We will leverage Singapore's unique advantages as a testbed for healthy ageing solutions, including our multi-ethnic population and integrated systems that enable rapid translation of research into real-world applications, to validate new findings that could form the basis for novel interventions, especially those with preventive impact.

Singapore's research in this area will be relevant not only locally but across Asia – the world's fastest-ageing region – positioning us to develop insights and exportable solutions that could also benefit others beyond our shores.

Urban Solutions and Sustainability (USS)

*Advancing Decarbonisation, Strengthening Climate Resilience,
and Building a Sustainable, Liveable Singapore*

Why it Matters

Singapore faces unique and existential sustainability challenges arising from our small size, limited natural resources, increasing urban density, and vulnerability to climate change.

By investing in deployable solutions for decarbonisation, climate adaptation, land and space resilience, and sustainable urban development, our efforts in USS drive Singapore's liveability and economic competitiveness, while positioning the nation as a leading Global-Asia hub for urban sustainability solutions.

What's Next

RIE2030 introduces three strategic thrusts to accelerate our transition to a climate-resilient and sustainable future:

Key Thrust #1:

Step up R&D to address climate change and sustainability challenges.

Key Thrust #2:

Drive real-world deployment of sustainability solutions.

Key Thrust #3:

Strengthen talent development and attraction.

Urban Solutions and
Sustainability (USS)

Key Achievements



Laying the Groundwork for a Climate-Resilient and Sustainable Singapore

USS research contributes to a more sustainable and resilient Singapore. Through RIE2025, breakthrough technologies have moved from laboratory research to deployment and commercialisation, including carbon-capturing concrete and innovative coastal protection systems. These successes show how targeted investments translate into real impact for climate resilience and economic competitiveness.

Leading the Energy Revolution with Grid Innovation

Amperesand, a spin-off from NTU's Energy Research Institute (ERI@N) is commercialising solid-state transformer technology that supports larger-scale EV fast charging and smoother integration of intermittent solar energy. This innovation addresses a key bottleneck in Singapore's clean-energy transition, where traditional grid infrastructure cannot manage variable power flows or high-power charging demands. The technology is backed by significant market interest, having secured US\$80 million in Series A funding co-led by Temasek and Walden Catalyst Ventures to accelerate the deployment of the technology in November 2025. Amperesand has also secured its first proof-of-value contract with PSA, demonstrating the viability of this locally developed solution.

Supporting Decarbonisation of Construction with Carbon-capturing Concrete

The Singapore Institute of Technology (SIT), Woh Hup, and Concrete AI have developed a low-carbon concrete that uses recycled aggregates and captures carbon dioxide, cutting embodied emissions by 57.5% compared to conventional ready-mixed concrete. About 350m³ has already been deployed at Copen Grand and Lumina Grand Executive Condos, achieving comparable strength more quickly. The innovation has earned multiple engineering awards, and with Singapore using 13.4 million tonnes of ready-mixed concrete annually, widespread adoption could potentially reduce sectoral emissions by up to 3 MtCO₂e each year.

Enhancing Food and Water Resilience

Singapore's food security goal requires crops specifically optimised for our urban farming conditions. Researchers from NUS have utilised advanced seed genetics and breeding techniques to create vegetable varieties optimised for Controlled Environment Agriculture (CEA). For example, the novel choy sum varieties have 20% higher yield compared to ordinary varieties currently available on the market. The Seed Innovation Hub programme hosted at NUS builds on this development to continue further R&D on fruited crops, such as mini-tomato, cucumber, capsicum and brinjal, in collaboration with leading international and local companies. This positions Singapore well to produce superior seeds tailored for tropical climates, and which are demanded by both local and global markets.

Singapore continues to enhance its water resilience by leveraging advanced desalination technology to convert seawater into high-quality purified water for industrial and domestic use at reduced energy costs. A notable example is the partnership between the Separation Technologies Applied Research and Translation (START) Centre, Gradiant International Holdings, local SME Hydroleap, and NUS, which has led to the testing of novel seawater desalination treatment processes to reduce system-level energy consumption at the Desalination Integrated Validation Plant. In addition, START is working with Gradiant on the development of next-generation ultra-high-pressure reverse osmosis membranes for industrial applications to increase water recovery and reduce waste discharge. These efforts reinforce Singapore's position in the global water technology supply chain and enable the deployment of innovative solutions to address increasingly complex water needs.





Advancing Coastal Defence Against Rising Sea Levels

Singapore's coastal protection relies on imported sand and rock for coastal infrastructure construction, posing supply chain vulnerabilities. NTU researchers have developed an alternative solution made of jute, a composite of plant fibre and calcium waste. These tube-like beams could be deployed at beaches to protect the shoreline from erosion and restore beaches through soil accumulation. This approach reduces reliance on imported materials and recycles construction material that would otherwise require disposal.

To further advance coastal protection efforts, the Coastal Protection and Flood Resilience Institute (CFI) Singapore brings together NUS, NTU, SUTD, SIT and A*STAR to develop integrated and adaptive coastal protection solutions. CFI Singapore harnesses technical expertise from across the research ecosystem, synthesising multidisciplinary knowledge and capabilities from adjacent fields such as climate science, built environment, and environmental economics. These efforts reinforce Singapore's position as a leader in coastal protection and flood resilience.

Enhancing Sustainability Efforts and Tackling Existential Climate Change Challenges



The USS Domain tackles Singapore's most pressing sustainability challenges through targeted investments across five key areas: decarbonisation, climate adaptation, land resilience, sustainable urban development, and innovation translation.

Building on the momentum of RIE2025, USS will accelerate impact in RIE2030 through three strategic thrusts:

1. Step up R&D to address Climate Change and Sustainability Challenges

USS will adopt an integrated research approach spanning climate mitigation, adaptation, and sustainable urban systems to build a liveable, climate-resilient and competitive Singapore.

USS will significantly step up efforts to advance the readiness of low-carbon technologies for the power and industry sectors in support of Singapore's climate commitments.

USS will also deepen our investments into climate science and adaption, in particular weather science and heat resilience.

More details will be announced by respective ministries at a later stage.

2. Drive Real-World Deployment of Sustainability Solutions

USS will strengthen efforts addressing the critical “Valley of Death” where promising research prototypes often stall before reaching commercial application due to funding gaps between proof-of-concept stages and full deployment. To bridge this gap, USS will expand funding support for translation activities such as productisation, validation, testbedding and demonstrations through co-innovation between public researchers and industry receptacles.

These initiatives will support pilots and demonstrations of promising sustainability solutions across USS priority areas. Translation efforts will address key barriers including high upfront capital costs, early adoption risks, and the technical challenges of scaling laboratory research to commercial solutions while connecting solution providers with local industry partners.

Through active collaboration between public researchers and industry, these translation efforts will drive local capability development and raise our ability to develop, deploy and scale up the use of technologies. Such researcher-industry partnerships will create more pathways for innovation, commercialisation and entrepreneurship in our ecosystem, and position Singapore as a vibrant testbed for sustainability innovations that can be deployed regionally and globally.

3. Strengthen Talent Development and Attraction

USS will strengthen talent development to attract and retain expertise in critical sustainability fields. This includes establishing new Centres of Excellence and leveraging Singapore’s position as a trusted global research hub to draw international talent while deepening local capabilities. USS agencies will also build specialist research and engineering talent, including expert programme managers able to integrate novel solutions into urban systems.

Smart Nation and Digital Economy (SNDE)

A Trusted Smart Nation with AI, Quantum and Digital Trust & Security

Why it Matters

Digital technologies like Artificial Intelligence (AI) and quantum drive economic transformation by creating new opportunities across industries, and boosting productivity. They are key to strengthening Singapore's competitive edge in the global digital economy.

Yet these technologies, when misused, can undermine digital trust and amplify security challenges, ranging from cyberattacks on critical infrastructure to harmful content that erodes social cohesion.

By investing in AI, quantum and digital trust and security, we are building a Smart Nation we can trust – one where innovation thrives, businesses can grow confidently, and citizens are protected from harms.

What's Next

RIE2030 will focus on three key thrusts:

Key Thrust #1:

Develop deep capabilities in AI, Quantum and Digital Trust and Security to ensure Singapore remains trusted, innovative and competitive.

Key Thrust #2:

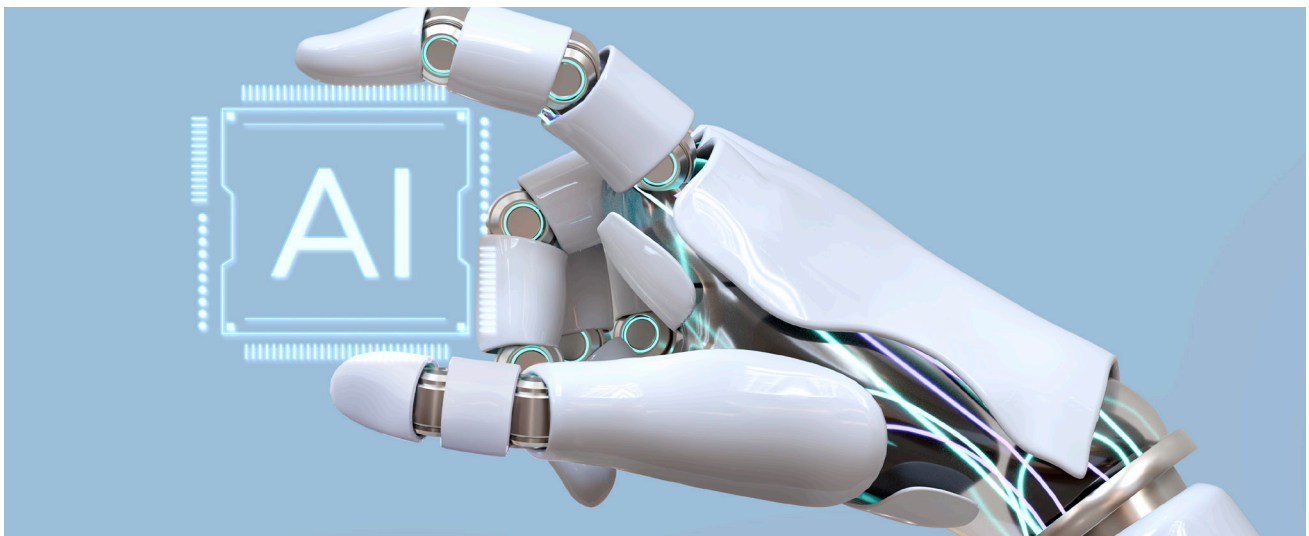
Facilitate research translation and real-world deployment of these technologies.

Key Thrust #3:

Cultivate strong talent pipelines and deepen global partnerships.

Key Achievements

Our RIE efforts to build key technologies for Singapore's digital economy began in 2006 with the Interactive Digital Media Strategic Research Programme. Nearly two decades on, we have built important capabilities in key areas such as AI, quantum, cybersecurity and online trust and safety. Some notable successes from our SNDE RIE2025 initiatives are outlined below.



Anchored deep capabilities in AI

AI Singapore's (AISG) Grand Challenges were among the first cross-discipline, cross-sector efforts in AI, seeding high-impact AI research in materials discovery, health, robust and safe AI, and AI in education, building bridges between researchers with deep AI expertise and domain knowledge. The 100 Experiments programme has supported over 300 industry projects, including insurance fraud detection in collaboration with Sompo Holdings (Asia), and the Singapore Eye Lesion Analyzer, or SELENA+, an eye-screening tool deployed to public polyclinics in Singapore for the detection of diabetic eye disease.

Through the National Multimodal Large Language Model (LLM) Programme, AISG and A*STAR have built two large language models specifically tuned to reflect the Southeast Asian region's linguistic and cultural diversity. The Southeast Asian Languages in One Network, or SEA-LION, supports 13 Southeast Asian languages and has been adopted by regional companies such as GoTo Group (Gojek's parent company) and Tokopedia. The Multimodal Empathetic Reasoning and Learning in One Network, or MERaLiON, can handle local languages including Singlish and Southeast Asian spoken languages, and recognise emotion in conversations. Local and global industry players including DBS, OCBC, SPH Media, NCS, ST Engineering, and Grab have recently joined the MERaLiON

Consortium to co-develop real-world AI applications, demonstrating strong industry interest in Singapore's AI research.

Established the foundation to harness quantum technologies

With sustained investments in talent and infrastructure since 2007, Singapore has built a solid foundation in quantum research. Today, the Centre for Quantum Technologies (CQT) is ranked 6th globally based on h-index. Our quantum ecosystem continues to draw top global talent, such as leading researchers Dr Kavan Modi, a quantum stochastic processes expert, and Professor Lo Hoi Kwong, inventor of Measurement Device Independent Quantum Key Distribution (MDI-QKD) protocol. Following the launch of the National Quantum Strategy in 2024, the National Quantum Office (NQO) has quickly established collaborations with leading companies including Quantinuum, Nvidia, Amazon Web Services (AWS), Quobly and PasQal. Through its Quantinuum partnership, Singapore became the first country outside the US to access the Helios System quantum computer, which can enable breakthrough innovations in pharmaceuticals, materials science, and finance whilst building local quantum capabilities.

Strengthened defences against digital threats through R&D innovations

The National Cybersecurity R&D Programme (NCRP) was launched in 2013 to strengthen Singapore's cybersecurity and national resilience. Some key achievements of our National Cybersecurity R&D programme in RIE2025 include enhancing operational technology security capabilities by launching the world's first Maritime Testbed for Shipboard Operational Technology (MariOT), providing researchers with a safe, high-fidelity and controlled platform to design and validate new and existing technologies for shipboard Operational Technology systems. We also established the CyberSG R&D Programme Office (CRPO) to coordinate cybersecurity research and translation across the ecosystem. CRPO has awarded Translation & Innovation Grants, Grand Challenge Grants, and Themed and Emerging Areas Grants focusing on AI Security and Data Security. CRPO also launched the CyberSG Consortium to connect end users, government agencies, solution providers, and researchers for collaborative opportunities.

The Online Trust and Safety (OTS) Research Programme and its Centre for Advanced Technologies in Online Safety (CATOS) were launched to grow our local capabilities to address new forms of online harms including misinformation and content manipulation. CATOS is developing tools to detect harmful content, including deepfakes, while supporting the adoption of preventive measures such as watermarking and content authenticity technologies. CATOS has contributed educational resources to the National Library Board's S.U.R.E. (Source, Understand, Research, Evaluate) programme to increase Singaporeans' AI literacy and awareness of generative AI and deepfakes, to ensure they are equipped to navigate the digital landscape safely.

Building a Smart Nation – beyond research to real world applications

To realise Singapore's vision as a trusted, innovative and competitive digital economy, SNDE will focus on three key thrusts in RIE2030:

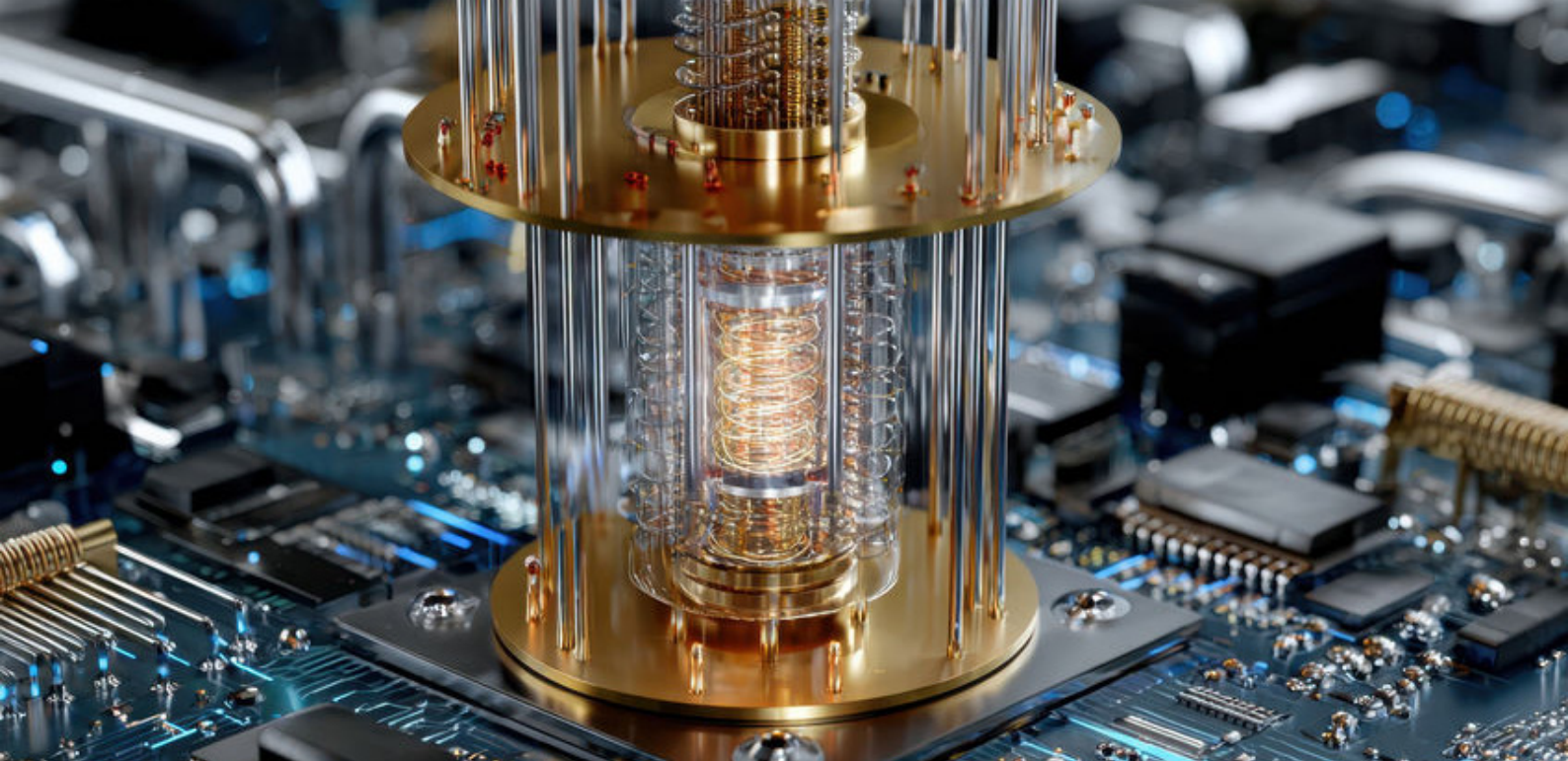


1. Develop deep capabilities in AI, Quantum and Digital Trust and Security to ensure Singapore remains trusted, innovative and competitive

The AI programme supports Singapore's refreshed National AI Strategy 2.0 (NAIS 2.0) by implementing the updated National AI R&D (NAIRD) Plan to build peaks of excellence in fundamental AI research, drive the use of AI to accelerate and boost research and innovation (AI for Science), and apply advanced AI capabilities in high-impact sectors.

The Quantum Programme aims to develop the capabilities and ecosystem to harness quantum technologies for impact, including securing Singapore's data and communications against the threat of quantum decryption. The programme will encompass basic quantum research, Quantum Engineering, Quantum Sensors, Quantum Communications and Quantum Computing, and invest in associated capability, talent and infrastructure development.

The Digital Trust and Security Programme aims to address critical safety risks and security threats in Singapore's digital space. The programme will fund initiatives that address trust, integrity and security challenges across the digital space, such as addressing AI risks, developing quantum-safe solutions, and mitigating online threats.



2. Facilitate research translation and real-world deployment of these technologies

Beyond driving scientific excellence, SNDE will focus on strengthening research translation. We are building up the interdisciplinary capabilities and technological translation capacity needed to apply AI to real-world problems and drive transformational impact. A*STAR and AISG will grow AI engineering capabilities – the talent, techniques, tools and infrastructure needed to build and deploy AI systems at speed and at scale, so that organisations have access to capabilities to translate R&D into real-world solutions.

SNDE will also collaborate with local enterprises and corporate laboratories who have leading R&D and engineering capabilities. This includes Microsoft Research Asia, Google Deepmind, AI Centres of Excellence (AI COE) and government agencies like the Home Team Science & Technology Agency (HTX), DSO National Laboratories (DSO), A*STAR, and Government Technology Agency of Singapore (GovTech), working on advanced use cases. Successful deployment of these technologies will help Singapore achieve sustained productivity improvements and long-term competitive advantages in key industry sectors like advanced manufacturing, transport and healthcare.

3. Cultivate strong talent pipelines and deepen global partnerships

Turning cutting-edge research into real-world solutions requires diverse expertise. SNDE will focus on nurturing talent across the entire innovation spectrum – from technical experts and engineers to product developers who can bridge the gap between laboratory breakthroughs and practical applications. SNDE will also be deepening international collaborations with like-minded partners in critical areas like digital security, AI and quantum innovation. A strong community of scientists and researchers, including through partnerships, contributes to a vibrant ecosystem in Singapore – they will further uplift the capabilities of our ecosystem, attract other top talent, facilitate access to frontier developments, and generate spin-offs and breakthroughs to difficult problems, including those in new domains of application.

Academic Research & Talent

Strengthening Singapore's Foundations for World-Class Science and Innovation

Why it Matters

A strong and diverse research talent base underpins Singapore's global competitiveness and ability to generate high-impact scientific breakthroughs. Sustained investment in academic research and talent development has built a vibrant, agile, and internationally connected ecosystem that attracts top researchers, develops local talent, and drives frontier science with long-term strategic and economic potential.

Through RIE2030, Singapore will deepen our foundational research capabilities, elevate our global peaks of excellence, strengthen the research talent pipeline, and build an environment that empowers talent to create, translate, and scale scientific discoveries that deliver societal and economic impact.

Driving Singapore's Next Phase of Scientific and Talent Leadership

Singapore's long-term competitiveness depends on a strong foundation of scientific excellence and a multidisciplinary, high-calibre research talent base. The Academic Research Horizontal promotes and sustains broad-based cutting-edge research capabilities and builds distinctive peaks of excellence within a vibrant and globally connected research ecosystem.

The Talent Horizontal grows and sustains a diverse pool of high-quality research, engineering, and translational talent. It nurtures local talent, and enhances Singapore's attractiveness to top and promising global researchers.

Key Achievements

Growing Global Recognition for Singapore's Research Institutions

Singapore's universities, AMCs, and the A*STAR continue to be recognised as being among the world's leading research institutions. NUS and NTU ranked 8th and 15th in the 2025 QS World University Rankings, while the National University Health System (NUHS) and Singapore General Hospital (SGH) placed 11th and 12th in the 2025 Most Reputable AMCs Rankings.

Expanding National Research Capacity and Impact

Singapore's researcher pool grew from 10.2 to 12.9 researchers per 1,000 labour force between 2012 and 2022, comparable to other small advanced economies. There were 87 Singapore-based researchers among the 7,131 researchers in the 2025 Highly Cited Researchers list. This is a more than five-fold increase from 15 in 2014, reflecting Singapore's rising global influence. The proportion of Singapore's publications in the top 10% most highly cited worldwide also increased to 20.4% in 2024 from 19.3% in 2022.





Developing the Next Generation of Research Talent

PhD students at the Autonomous Universities (AUs) form a key segment of Singapore's R&D talent base. To maintain the AUs' competitive edge in attracting top talent, they offer RIE-funded scholarships for outstanding students to pursue PhD studies locally. Many of these students conduct research in growth areas such as semiconductors, digital technologies and precision medicine. They provide an essential pipeline of future research leaders who will drive cutting-edge scientific work in Singapore.

At the same time, A*STAR continues to grow a steady stream of Singaporean PhD scholars by supporting their training at leading institutions worldwide. More than 80% of 1,900 scholars trained since 2001 have remained active in Singapore's RIE ecosystem—including universities, public research institutes, hospitals, and industry—reinforcing a deep and stable pool of scientific talent.

Attracting and Supporting Top Research Talent

The NRF Fellowship (NRFF) and NRF Investigatorship (NRFI) have attracted more than 250 world-class early- and mid-career researchers to Singapore since inception. Awardees demonstrated field-weighted citation impact (FWCI) two to three times higher than their institutional peers, and delivered breakthroughs in areas such as Artificial Intelligence (AI), robotics, materials, energy, and biomedical sciences.

This is exemplified by researchers such as:

- Associate Professor Benjamin Tee (NUS), NRF Fellow, who has developed electronic skin-like sensor systems which enable advanced robots and prosthetic limbs to have a sense of touch. He also developed novel self-healing materials that can increase the durability of electronics in aquatic environments. His research has led to multiple patents and catalysed technology disclosures and collaborations with local industry partners such as Clarins Private Limited, Singapore. He has also received international recognition, including being named World Economic Forum's (WEF) Young Scientist of the Year in 2019 and winning the James Dyson Foundation International Award in 2021.
- Professor Goto Atsushi (NTU), NRF Investigator, who has developed new catalysts that speed up chemical reactions without being depleted, advanced functional materials designed to perform specific tasks, and "stimuli-responsive" nano-carriers that can be manipulated through signals such as heat or light. Together, these innovations have considerably strengthened the capability of organocatalysed controlled radical polymerisation (OCRP), a precise method for making specialised polymers. This research yielded 10 industry collaborations, including a partnership with Dainichiseika Color & Chemicals in Japan which saw the commercial application of OCRP in industrial-scale manufacturing of printer inks.

Attracting Leading Overseas-Based Singaporean Researchers back to Singapore

The Returning Singaporean Scientists Scheme (RSSS) has attracted top-tier Singaporean scientists who were based overseas to return to Singapore. Notable awardees include Professor Ho Teck Hua, President of NTU, and Professor Aaron Thean, Provost of NUS.

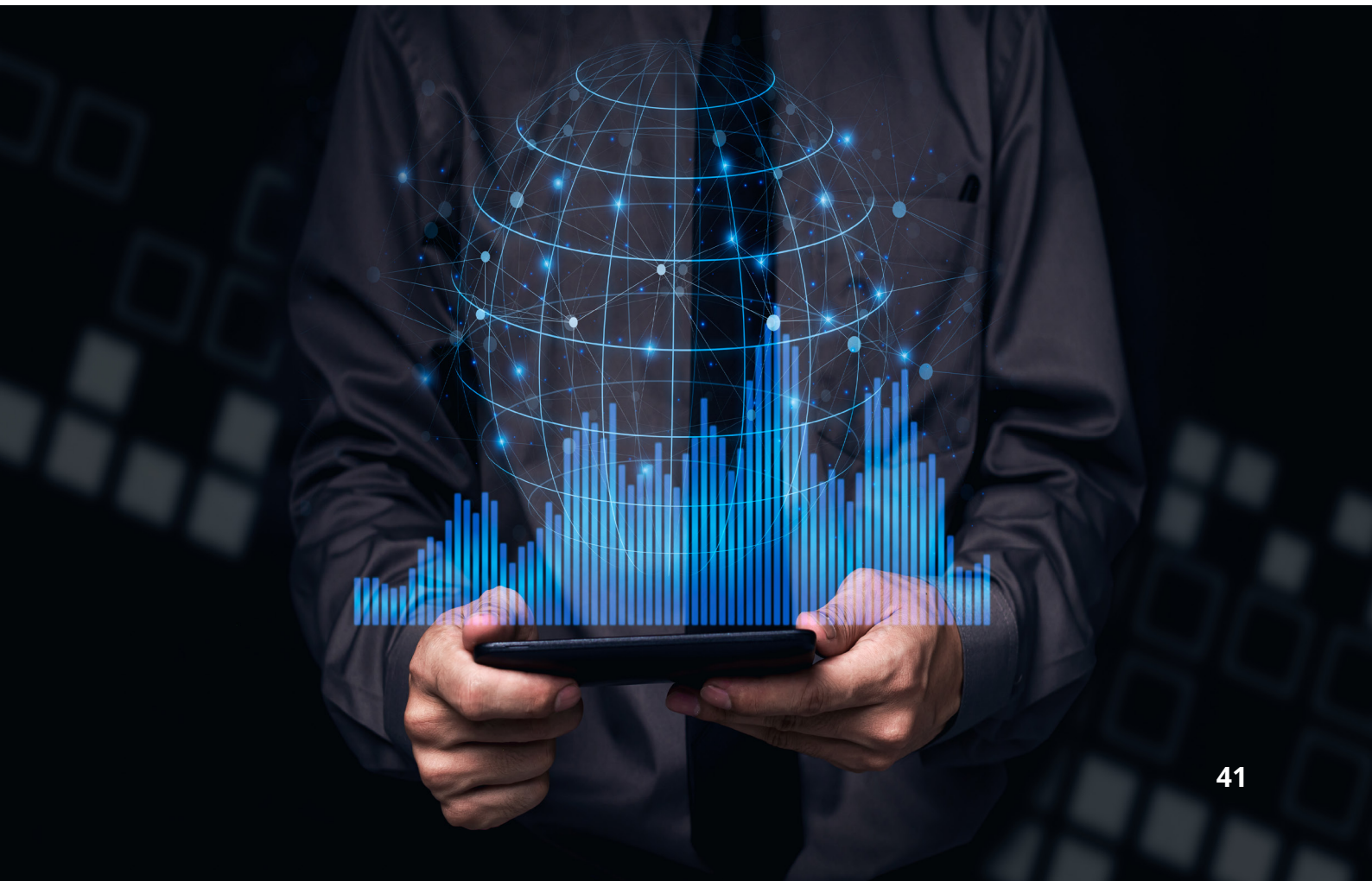
RSSS award recipients have also contributed to advancing nature-based carbon credit systems, clinical imaging biomarker programmes, and multinational research collaborations across healthcare and climate science.

For example, Professor Khong Pek-Lan (NUS), led the Programme for Quantitative Imaging Biomarkers and made substantial progress in building a comprehensive database for quantitative imaging biomarkers. Her efforts have facilitated the growth of the clinical imaging research ecosystem, which now includes 22 ongoing projects across various institutions. The programme has initiated five industry collaborations, including global clinical studies with Bristol Myers Squibb, Eisai and MSD on Alzheimer's disease, successfully completed Phase I trials with Yantai Lannacheng Biotechnology on the safety and biodistribution of a novel diagnostic radiotracer, and a separate novel therapeutic radioligand dose escalating trial, both in patients with solid tumours. There are also currently 12 investigator-initiated trials under the programme involving research and clinical institutions in Singapore.

Strengthening the Foundations of Academic Excellence and Talent

Academic Research Horizontal

In RIE2030, we will continue to support high quality research through the availability of funding opportunities at each stage of a researcher's career and across different types of research. This would include enhanced support for early-career faculty to help them establish good research foundations, continued funding for established researchers to deepen expertise, and targeted programmes to grow emerging scientific areas with long-term potential. Singapore will also invest in large-scale research centres to develop peaks of excellence.



In addition, particular focus will be placed on the following three areas to further strengthen and deepen Singapore's foundational research capabilities.

1. Harnessing data, AI and compute to accelerate and transform research

In RIE2030, Singapore will work on developing leading capabilities in data, AI and compute, and using these to accelerate and transform research and innovation. The AI-for-Science funding initiative aims to harness AI to substantially increase the speed, effectiveness and outputs of research and scientific discovery, and to develop a strong base of "bilingual" experts – domain research experts with the skills to use AI well, and AI experts who have deep understanding of research domains.

2. Research and technology scanning to guide future RIE investments

The NRF will focus its Foundational Research Capability (FRC) studies on identifying high-potential emerging scientific areas and technologies, as well as significant gaps in basic research capabilities in Singapore. These will inform future RIE funding investments, to keep our foundational research capabilities in Singapore at the cutting edge.

3. Deepening strategic international partnerships

CREATE¹, or Campus for Research Excellence and Technological Enterprise, is an international collaboratory of research centres set up by top universities in Singapore. Singapore will further deepen global research partnerships with leading global institutions through the CREATE initiative to pursue research aimed at addressing challenging global problems of strategic importance to Singapore and the world. We will also continue to pursue research collaborations with top researchers and institutions through other joint initiatives and engagements.

¹: <https://www.create.edu.sg>

Talent Horizontal

In RIE2030, there will be redoubled efforts to engage and recruit top and upcoming researchers while nurturing top local talent across research, engineering, and innovation domains.

1. Growing a more diverse and high-quality research, translational and innovation talent base

A key focus will be on growing a high quality and increasingly diverse research, translational and innovation talent base, and nurturing an environment where excellent researchers working in Singapore attract even more top talent. This requires a coordinated ecosystem of globally competitive institutions, ambitious research and translational programmes, and talent schemes to attract and recruit talent, with strong support for researchers at all stages. By developing a critical mass of leading scientists, engineers, and innovators, Singapore can elevate its peaks of excellence and build the pool of entrepreneurial researchers and research-savvy leaders needed to grow high-quality deep tech ventures.

The recently launched Singapore Research Attachment Programme (SRAP) will support the training of PhD talent through collaborations and exchanges with overseas research centres. Multi-year centre-to-centre agreements between our local research institutions and top international research centres will allow longer-term and larger-scale interactions and exchanges for greater impact, as compared to more common ad hoc researcher-to-researcher arrangements tied to individual projects and for a limited period. Under the scheme, international PhD students attached to a local research centre will benefit from exposure to the Singapore RIE ecosystem, and some might consider additional research stints here after graduation. PhD students from Singapore institutions who are attached to leading overseas centres will also benefit developmentally, and serve as a bridge to support current and future joint projects and knowledge exchanges.

Singapore's universities, A*STAR, and AMCs will work together on joint outreach efforts to attract international talent, including through exchange and partnership programmes with institutions in regions of the world which are historically less well covered such as Central Europe and Central Asia.



2. Nurturing the research and innovation leaders of tomorrow

Singapore will strengthen its emphasis on developing, recruiting and retaining promising young researchers.

NRF will introduce a new Postdoctoral Award, which will support high-potential postdoctoral talent with a S\$250,000 research grant and up to four years of salary support. This will give young talent an attractive opportunity to pursue independent research while allowing institutions to assess their suitability for faculty roles.

International postgraduate scholarships for Singaporeans will be enhanced to broaden global exposure and open new pathways for value creation. New programmes will support PhD-trained researchers in overseas research attachments at leading universities and provide entrepreneurial training in deep tech start-ups abroad. A new pathway will also allow A*STAR scholars to spin off deep tech ventures and complete the remainder of their bond in their start-up after two years of service. These moves will help to strengthen Singapore's deep tech talent and commercialisation pipeline.

In 2026, we will open applications for the Activate Global-Singapore Fellowship, to support Singapore-based scientists and engineers with early-stage deep tech innovations through funding as well as access to networks and resources. We will also look into other ways to encourage and support researchers across all career stages, to help bring more inventions from laboratory to market.

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