

**SPEECH BY DPM AND NRF CHAIRMAN HENG SWEE KEAT AT THE  
GLOBAL YOUNG SCIENTISTS SUMMIT (GYSS) 2025 OPENING  
CEREMONY 7 JANUARY 2025, 09:10 AM**

Her Royal Highness Princess Maha Chakri Sirindhorn,  
Professor Low Teck Seng, Chairman of the Global Young Scientists  
Summit,  
Professor Aaron Thean, Deputy President, National University of  
Singapore,

Ladies and gentlemen,

A very good morning! I warmly welcome everyone to the 13th edition of the Global Young Scientists Summit or GYSS. This year, we are delighted to welcome almost 350 young scientists from 49 countries and 129 institutions.

The National Research Foundation is honoured to have 18 very distinguished scientists, who have committed their time to engaging our young scientists this week. Many of them are long-time friends and supporters of the Global Young Scientists Summit, while four eminent speakers are joining us for the first time.

Let me also extend a very special warm welcome to Her Royal Highness Princess Sirindhorn, who has been a strong supporter of the GYSS since the beginning.

**Observations about the role of Science, Technology and Innovation**

Allow me to first share 3 observations about the role of Science, Technology and Innovation.

First, since the dawn of civilisation, humans across the world have harnessed technology and innovation to improve lives and create a better world.

The progress over the last few millennia, and especially in the last few centuries, has been breathtaking.

From basic inventions like the compass, plough and printing, we have progressed to breakthroughs from very minute basic particles, such as the structure and dynamics of sub-atomic particles, cells, DNAs and RNAs in living organisms, to macro-structures like the immense and expanding universe.

Humanity's ability to alter structures at the microscopic level, such as RNA and nanoparticles, to be able to use telescopes to peer across time to the origins of the Universe over billions of years, and to send spaceships across vast reaches to better understand the origin and complexity of the universe, is both exciting and promising.

We can, for example, improve the health and potential of humans and lives on earth, and make better use of limited resources to meet the needs of peoples around the world.

The recent breakthroughs in digitalisation, Artificial Intelligence and quantum computing will accelerate our progress.

In Singapore, the Government recognises the value of Science, Technology and Innovation, and have consistently invested in this.

In our Research, Innovation and Enterprise or RIE 2025 Plan, we set aside S\$28 billion from 2021 to 2025.

Apart from funding basic research in our universities, these funds cover the four domain areas of health and human potential, urban solutions and sustainability, smart nation and digital economy including AI and quantum computing, advanced manufacturing, trade, and connectivity.

We seek to contribute as a Global-Asia Node of technology, innovation and enterprise, by building trust and working with partners on challenges facing Singapore, our region, and countries around the world.

I am glad our efforts have yielded results. Our universities and public research institutes are well regarded globally for their excellence.

For instance, the National University of Singapore and Nanyang Technological University which some of you visited yesterday are ranked within the Top 10 in Asia.

We continuously strive to upgrade our infrastructure and capabilities to better support our researchers.

Last October, I launched the ASPIRE 2A and 2A+ Supercomputers at the National Supercomputing Centre (NSCC) Singapore.

This S\$270 million investment will support research in key fields such as AI, quantum technologies, climate modelling, and medical science.

The National Research Foundation has also recently launched the S\$120

million AI for Science programme to boost the application of AI to accelerate and advance research in public institutions.

My second observation is that Science, Technology and Innovation by themselves are neutral. But how we use them, and what we use them for, matters - it matters greatly!

We can use these well to uplift lives and livelihoods, or we can use these to impose pain, suffering and death.

Many technologies are of dual use and demand ethical choices.

Knowledge of genetics can be used to make designer babies, clone living things, over-exploit resources that destroy the planet's delicate ecosystem, and build powerful weapons for biological or nuclear wars that could wipe out humanity.

Rapidly advancing Artificial Intelligence technologies can be used for surveillance and control, or we can use them to advance scientific research, solve complex problems and optimise resources.

To harness the power of technology responsibly, we need proper ethical safeguards.

Third, the insights of individual scientist matter. But having them collaborate with others, to brainstorm and build on each other's insights, matters even more when the endeavours are novel and complex.

How we enable individual scientists to have the time and space to think of the impossible yet bring top minds together to draw synergy from each other from time-to-time is critical.

As Isaac Newton famously said, "if I have seen further [than others], it is by standing on the shoulders of giants."

### Hopes for GYSS 2025

Now with these three observations, let me briefly mention 3 ways that we hope young scientists gathered here at GYSS 2025 can benefit.

First, we hope the GYSS will stimulate and inspire our young scientists.

Each and every one of our 18 eminent scientists has made significant contributions in their chosen fields, and has been recognised with Nobel Prizes, Fields Medals, Turing Awards and other top scientific awards.

They each have fascinating stories of scientific pursuits, of trials and rigours, and of triumph and success.

They have also travelled long distances to be here with us, and to engage and challenge our young scientists. I met them at the welcome dinner last evening and was very fascinated by their stories.

And I am sure that you will find them all very inspiring!

Second, the GYSS aims to help our young scientists find potential collaborators.

You come from 49 countries across almost every continent.

I recall last year, Prof Aaron Ciechianover told the young scientists – “Science is Global”.

Indeed, many of the challenges humanity faces are global in nature – be it pandemics, climate change, energy and food security, or sustainability.

So, while we must enact safeguards against rogue actors, we must also harness the value of collaboration and partnership.

Big complex problems are by their very nature difficult to overcome.

By bringing together more of the best minds, sharing a common purpose of tackling these challenges, we better our chances of success and breakthroughs.

In a world torn by racial, religious and political conflicts, I hope our rational young scientists gathered here can make the best use of this Summit to get to know other young scientists, speakers and mentors from around the world.

For those of you based in Singapore, do make a special effort to welcome our friends from all over the world, and learn more about what they are doing.

For those of you from abroad, do take time to visit our research institutes, to interact with our researchers, our young scientists and to find opportunities to work together.

Singapore takes the same collaborative approach in our national R&D work. Some of you have visited the Campus for Research Excellence and Technological Enterprise or, in short, CREATE.

CREATE is a collaboration between 11 top universities in Singapore and around the world, on areas of shared interests.

We have recently expanded the collaboration, to bring together top scientists with a focus on Grand Challenges.

The first Grand Challenge we put out was on Decarbonisation.

Over the coming years, we will be issuing more of such grand challenges, to bring the best minds together, and to focus on challenges facing our peoples and planet.

Third, I hope that our young scientists at this year's Summit are inspired to make an impact.

Impact can come in various forms: from a better understanding of matter and of life, which advances curiosity-driven science, to solving healthcare challenges like pandemics and ageing, to finding solutions to difficult economic, social and environmental challenges, so as to improve lives for people and protect our fragile planet.

What we spend in Singapore - \$28 billion over 2021-25 is a substantial proportion of our annual budget. But it is a tiny fraction of what the whole world needs and spends.

So, we seek to make an impact and contribution by being a Global-Asia node of Science, Technology and Innovation.

This GYSS effort, bringing top eminent scientists who have achieved peaks of excellence, to inspire and mentor young aspiring scientists is part of our contribution.

Our six universities, 17 research institutes under the Agency for Science, Technology and Research, and our academic hospitals and companies undertake a wide range of research, from basic to applied and translational.

So, I hope that if our young scientists can get to know and find useful collaborators – these can be valuable to your pursuits, here and now, or later when you return to your countries, and establish your careers.

In this way, our young scientists can form a valuable network, to ensure that we embark on global efforts, to tackle global challenges.

So, make the best use of your time here to visit various institutes, and get

to know participants, and think of how you are seeking to make an impact. Another way to make an impact is to develop new products, services and solutions.

Our young scientists have access to R&D translational platforms to help them take forward their scientific breakthroughs in different domains.

These include the Nucleic Acid Therapeutic Initiative (NATi), National Semiconductor Translation and Innovation Centre (NSTIC), and National Robotics Programme (NRP).

Public-private partnerships between the research community and companies also help young scientists gain real-world experience while pursuing their research.

For example, there are more than 20 corporate labs, where public research institutes and industry co locate to develop solutions in fields such as low carbon energy, semiconductors, and advanced materials.

Our innovation ecosystem has grown steadily, which in turn helps our scientists develop their business models and scale up.

In 2023, Singapore was home to 500 venture capital (VC) companies and over 220 accelerators and saw more than S\$8 billion of VC transactions.

For those of you with good ideas, do explore how you can turn these into reality in Singapore!

### Closing

So let me conclude. Our young scientists today are the Nobel Prize, Fields Medal, and Turing Award winners and tech entrepreneurs of tomorrow. All of you hold the key to harness the power of science to build a better world and tackle global challenges like pandemics and climate change.

However, young scientists need a support system to succeed, and we must work together to build strong research ecosystems, vibrant innovation ecosystems, and global ecosystems to promote scientific cooperation.

At a time of increasing global contestation, Singapore aims to be a trusted and neutral node in the global technology landscape.

We welcome like-minded partners to join us, regardless of your scientific discipline, or whether your interests lie in scientific discovery, translation or commercialisation.

In the week ahead, I hope that all of you will make new friends and networks, learn from our speakers, be inspired, learn from each other, and broaden your horizons.

Let me once again thank Aaron and our 18 eminent scientists for devoting your time and energy to inspire and engage our young scientists.

I hope all young scientists find this 2025 Summit stimulating and inspiring and move on to do pathbreaking work.

Thank you very much!