

**TRANSCRIPT OF OPENING ADDRESS BY MR HENG SWEE KEAT, DEPUTY PRIME MINISTER AND COORDINATING MINISTER FOR ECONOMIC POLICIES FOR THE GLOBAL YOUNG SCIENTISTS SUMMIT 2022 ON 17 JANUARY 2022**

1. A warm welcome to the Global Young Scientists Summit 2022.
  - a. We commemorate the 10th edition of the Summit this year. Over the past decade, nearly 4,000 scientists and researchers from around 50 countries have taken part in the Summit. Many of them have gone on to become trailblazers in their fields, doing their part to create a better future for humanity.
  - b. I hope that this milestone edition will likewise provide you with new perspectives, novel insights and fresh inspiration. Do take this opportunity to expand your networks and explore new collaborations, for science knows no boundaries.
2. Global cooperation is ever more important, as we seek to emerge from the shadows of COVID-19.
  - a. COVID-19 has been a crisis of unprecedented proportions. Critical to the global fight against the pandemic is the role of science and technology, and the contributions by scientists from around the world, including in Singapore.
  - b. Early in the pandemic, scientists here developed the Fortitude test kits, which are now used in nearly 50 countries around the world.
  - c. Globally, the development and production of safe and effective vaccines in record time have helped to contain the spread of the virus. The recent approval of COVID-19 antiviral drugs provides an additional layer of defence against the virus as we enter the third year of the pandemic.
  - d. These breakthroughs were possible because scientists worked together – across institutions and borders; and in partnership with the private sector, government agencies, and international organisations such as the WHO.
  - e. While much focus has been on the biomedical sciences community, scientists from different fields have also weighed in, from the use of AI and big data for pandemic modelling to the use of digital solutions and apps for contact tracing.
  - f. Our work is far from over. New waves of infection arising from the Omicron variant serves as a stark reminder of the agility of the invisible enemy we are up against. But I am confident that the strong spirit of collaboration will see us through not just this pandemic, but also other global challenges.

3. One of these global challenges is climate change.
  - a. Eunice Foote discovered the greenhouse effect of carbon dioxide in 1856 and made a conjecture of how it could influence global temperatures. Since then, thousands of scientists have contributed to this field of knowledge. Three of them were awarded the Nobel Prize in Physics last year.
  - b. Today, with this body of knowledge, we are able to robustly model the effects of climate change. In other related fields, scientists have made clean energy sources more viable – from solar, to wind, and, increasingly, hydrogen. New discoveries and innovations have enabled sustainable human development at a reduced cost to the environment.
  - c. The path from research discovery to implementation at scale is often a multi-year, if not multi-decade journey. This requires not just working in global partnerships, but also deep commitment and sustained investment.
4. Let me cite you an example – NEWater – Singapore’s journey towards water sustainability. Where I am standing now is the NEWater Visitor Centre.
  - a. As demand for water increased in tandem with population and economic growth, Singapore had to secure new sources of water.
  - b. NEWater is one such source, where treated used water is purified using advanced membrane technologies and UV disinfection into clean reclaimed water that is safe for drinking.
  - c. Singapore explored the idea of water recycling in the 1970s. But it was only until much later that the technology became commercially viable, thanks to scientific discoveries in various parts of the world.
  - d. Today, membrane technologies are widely used for water reclamation in many cities, including in Singapore. We currently have five NEWater plants, which forms a key source of water for Singapore. Importantly, NEWater is a weather resilient source which is especially important as droughts occur more frequently with climate change.
  - e. Having benefitted from global scientific advancements, Singapore will continue contributing our tech expertise and operational knowledge to strengthen water sustainability in cities in the region and beyond.
5. Sustainability is one of several key research domains that Singapore is investing in as part of RIE 2025 – our R&D plans for the five years leading up to 2025. The

other domains include health and human potential, advanced manufacturing, and the digital economy.

- a. Under RIE 2025, Singapore is committed to investing US\$19billion over five years towards research, innovation, and enterprise. One-third of the overall funding is committed to basic research, to grow the base of scientific capabilities and intellectual property that we can draw on.
  - b. The research domains that I have highlighted are not unique to Singapore. These priorities are common to many other countries. Hence, to maximise the impact of our researchers, a key feature of RIE2025 is to work in partnership with the global scientific community.
  - c. As the world around us becomes more inter-connected, inter-dependent and uncertain, solutions to our challenges will also increasingly be more inter-disciplinary, inter-institutional and cross-border.
    - i. Albert Einstein once said: “To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science”.
  - d. CREATE – which stands for the “Campus for Research Excellence and Technological Enterprise” – is our international research collaboratory.
    - i. CREATE is home to research projects, set up with leading global universities and research institutions, to tackle these common priorities.
    - ii. Our partners at CREATE include ETH Zurich from Switzerland, Cambridge University from the UK, Shanghai Jiao Tong from China, and MIT from the US.
6. Another important initiative to foster global partnership is our gathering today – the Global Young Scientists Summit.
- a. COVID-19 has continued to put international travel on hold for many of us. By now, many of us have learnt to work effectively in virtual settings. With the event going virtual, we are able to reach out to a wider audience.
  - b. We are expecting more than 800 aspiring researchers and scientists this year, from 128 institutions across the globe, a record number for this Summit.
  - c. Professor Aaron Ciechanover, Professor Stefan Hell and Dr. Venki Ramakrishnan will be leading the opening panel. Their reflections on the

transformation of scientific research, and the renewed expectation of science on society and global challenges, will be a fitting start to the Summit.

- d. We also welcome 21 plenary speakers and panelists, who are distinguished leaders in their respective fields, including Professor Benjamin List, the most recent Nobel Laureate in Chemistry. A few of them have been with us since the inaugural Summit in 2013.
  - e. We hope that you will draw inspiration from the distinguished speakers and panelists that we have lined up. I also encourage you to join the young scientists' presentations, and the networking sessions to connect with fellow scientists and researchers.
  - f. When international travel normalises, I welcome you to visit Singapore. We look forward to working with you, and hope that you will spend time with us to further your research endeavours.
7. By working together, we can create a better and brighter future for the world. I wish you all a fruitful Summit.