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## Interview: How Singapore's NTU became a leading global young university in just 30 years

Ho Teck Hua, President of Nanyang Technological University (NTU), Singapore



Ho Teck Hua, the fifth president of NTU, Singapore, who took office in 2023./Nanyang Technological University

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The Hive, a mixed-use teaching and learning building at Nanyang Technological University in Singapore. Designed by world-renowned British architect Thomas Heatherwick./Nanyang Technological University

The Times Higher Education (THE), a UK-based university ranking organization, revealed in July of the previous year that Nanyang Technological University (NTU) in Singapore led the Young University Rankings, highlighting the world's top universities founded in the past 50 years. South Korean universities, the Ulsan National Institute of Science and Technology (UNIST) and the Pohang University of Science and Technology (POSTECH), secured the 10th and 14th, respectively.

Founded in 1991, NTU was modeled after the Korea Advanced Institute of Science and Technology (KAIST) and has been a beacon in science and technology. In 2021, during KAIST's final year in the Young University category—20 years after its inception—KAIST was ranked fourth, with NTU leading the way.

Beyond its regional counterparts in Korea, NTU has emerged as a formidable competitor on the global stage. QS, another British university ranking entity, placed NTU 14th worldwide in its engineering schools rankings last year. Within Asia, it ranked second, just behind Tsinghua University in China, which was 9th globally. Additionally, NTU secured the second spot in Nature's Young Universities Index, first introduced in 2019. The top-ranked University of the Chinese Academy of Sciences (UCAS) comprises a network of universities across six cities, so NTU stands out as the most prominent global university in this category.

This monumental achievement is particularly noteworthy for a university from a relatively small country, which, with a population just a fraction of Korea's, has risen to prominence alongside academic giants within a mere 30-year span.

NTU President Ho Teck Hua, aged 63, offered his insights during an exclusive interview with ChosunBiz on Jan. 24 in Singapore, marking his first interaction with the Korean media since becoming NTU's president in February last year, following his tenure as senior vice-chancellor at the National University of Singapore (NUS).

Ho attributed NTU's success to "establishing a superior research facility and culture that attracts world-class professors. This is precisely why there have been attempts from China to poach our professors, though unsuccessfully." He emphasized that the exceptional research environment at NTU is unmatched by financial incentives alone.



NTU President Ho Teck Hua speaks to Shipbuilding Business at the NTU President's Office in Singapore on Jan. 24, 2024./Lee Young Wan Science Editor

☐ **"Collaborate culture key to recruiting leading academics"**

## **How does NTU retain its top professors amid global competition?**

“NTU ensures retention by offering competitive salaries, top-tier research facilities, and fostering a collaborative culture. Despite Hong Kong’s political turmoil, our comprehensive support system has kept our professors from being lured away by mere financial incentives.”

## **What aspects of NTU’s research culture make it resilient to financial lures?**

“We support incoming professors with grant applications to the National Research Foundation of Singapore, fostering early collaboration and attracting international talent, including from Korea. This proactive approach strengthens our research community.”

## **Have any NTU professors recently moved to other institutions?**

“Only two professors have moved to Hong Kong in the last two years, and they weren’t among our top researchers. We prioritize nurturing young, value-driven talent over those seeking higher salaries.”

## **☐ “Comprehensive support and autonomy for PhD researchers”**

### **What role do postdocs play at NTU?**

“Postdocs are crucial for maintaining a vibrant research ecosystem. Through our ‘presidential postdoc fellowship’ launched in 2018, we offer substantial stipends and grants, with an S\$80,000 (79.75 million won) annual stipend and S\$100,000 (99 million won) research grant in the first year, enhancing our research output.”

### **Is financial support the only way to attract top PhD researchers?**

“While financial incentives are important, attracting top-tier postdocs and graduate students also depends on our strong publication record in prestigious journals like Nature and Science.”

### **How does NTU’s postdoc program differ from others?**

“NTU stands out by allowing postdocs to choose their supervisors, showcasing our professors’ excellence, and aligning with our academic cultivation goals.”





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### ☐ **"The future of universities lies in lifelong learning"**

#### **With demographic shifts also affecting student enrollment in Korea, how is NTU adapting?**

"With career spans extending to 45 years and the likelihood of multiple job transitions, NTU recognizes the need for more than the traditional four-year degree. We're adapting to include more continuous education to meet technological and career advancements."

#### **Does the education system need to adapt to these longer careers and diverse paths?**

"Yes, the shift to longer careers necessitates a move towards a six-year educational model. We're planning a 6:4 ratio of traditional to adult learners, ensuring our curriculum remains relevant and responsive."

#### **How is NTU addressing rapid technological changes in education?**

"Our curriculum is designed to be adaptable, allowing students to transition across various professions seamlessly. It emphasizes foundational knowledge, specialized skills, and interests to successfully navigate the fast-evolving job market."

### ☐ **NTU: a global hub for corporate innovation**

#### **How does NTU drive university tech into the corporate world?**

"NTU partners with over 200 companies like Rolls-Royce, HP, Alibaba, and Hyundai Motor, solving their long-term challenges and attracting elite academics, which benefits Singapore and these companies. We've filed over 2,000 IP applications in five years, licensing them to firms and encouraging professors and students to launch startups, with NTU sometimes investing."

NTU has effectively become a global technological proving ground, highlighted by its partnership with Rolls-Royce, the largest among the 29 universities they collaborate with worldwide. Clarivate, an analytics company, places NTU seventh globally for technology transfers among the top 100 innovators.

### **What's the reward system for professors when their IPs are commercialized?**

"Profits from IP commercialization are split between the government, NTU, and inventors, prioritizing national economic growth over individual gain."

### **How does NTU maintain its edge in engineering amid fast tech evolution?**

"NTU excels in sustainability, materials science, intelligent mobility with Hyundai Motor, and AI/data science, recently attracting a top AI scientist. These strengths keep us competitive globally."

### **How does NTU innovate despite Singapore's manufacturing constraints?**

"By adapting tech for Asian markets and leveraging partnerships in China, NTU overcomes local production hurdles, ensuring innovation reaches from development to market."



Hyundai Motor Company President Chang Jae-hoon delivers a speech during the inauguration ceremony of the Hyundai Motor Group Singapore Global Innovation Center (HMGICS) at the Jurong Innovation District in western Singapore on Nov. 21, 2023. The innovation center is a joint research institute with NTU./Hyundai Motor Group

### **☐ "Financial self-sufficiency: a goal for universities"**

### **How has NTU surpassed KAIST in global recognition?**

"NTU's allure goes beyond competition with global elites like MIT, focusing on creating a compelling vision for Asia's premier university, emphasizing impactful work over financial rewards, and offering English-taught courses."

### **How important is financial support to NTU?**

"With S\$700 million (69.78 million won) in government funds and an additional S\$200 million (19.93 million won) from a retraining program, NTU aims to reduce its reliance on external funds from 85% to 60%, enhancing self-sufficiency."

KAIST's president, Lee Kwang-hyung, previously noted that NTU's rise was facilitated by substantial government funding and autonomy. NTU's expansion into continuing education for revenue is a testament to this autonomy.

### **With Korea's R&D budget cuts, is NTU at risk of reduced support?**

"NTU leverages Singapore's matching fund scheme, turning S\$50 million (49.8 billion won) in donations into substantial government contributions. Our goal is to increase donations to S\$100 million (99.6 billion won), aiming for S\$250 million (249.2 billion won) in matches, mirroring the fundraising success of top universities like MIT."



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