

Summary of Achievements – Professor Heui-Jae Park

Professor Heui-Jae Park

Professor, College of Engineering, Seoul National University

1. Overview

Professor Heui Jae Pahk earned his Ph.D. in Engineering from the University of Manchester Institute of Science and Technology (UMIST), United Kingdom, as a government-sponsored scholar. Since joining POSTECH in 1991 and later Seoul National University, he has devoted over 30 years to academic excellence and technological innovation in engineering.

He has published over 200 research papers, filed and registered around 170 domestic and international patents, and supervised approximately 100 master's and doctoral students. Through these accomplishments, he has demonstrated outstanding leadership in the advancement of engineering and technology both in Korea and abroad.

2. Pioneer of University-Origin Technology Commercialization

Based on a firm belief in the role of engineering in national economic growth, Professor Park has been a leading figure in industry-academia collaboration and technology commercialization.

In 1998, in the aftermath of the Asian financial crisis, he founded SNU Precision Co., Ltd., one of the Korea's first university laboratory-based ventures, together with his graduate students, to commercialize core engineering technologies developed at the university. Serving as CEO, he successfully bridged academic research and industrial application, creating a new model for university-industry technology transfer in Korea.

3. Development of World-Class Technology

Professor Park led the development of the world's first ultra-precision, real-time 3D measurement technology for semiconductor and display manufacturing—an innovation that overcame fundamental limits of previous systems and enabled nanometer-level precision in real-time production environments.

This technology, officially certified by the Korean government as a World-Class Product, significantly strengthened the global competitiveness of Korea's display manufacturing industry.

4. Global Commercial Success and National Contribution

Through SNU Precision, Professor Pahk successfully commercialized advanced measurement and inspection systems, achieving global market leadership, including entry into and dominance of the Japanese market—a first for Korean semiconductor and display equipment.

Under his leadership, the company grew into a global small giant, exceeding KRW 100 billion in annual sales, maintaining over 50% export ratio, and earning the 70 Million USD Export Tower Award in 2014.

His company's innovations have contributed greatly to improving national trade balance and advancing Korea's high-tech industries.

5. Public Service and National Policy Leadership

Professor Pahk's entrepreneurial experiences inspired major regulatory reforms that enabled university professors to serve as CEOs of venture start-ups—forming the legal foundation for academic entrepreneurship in Korea.

As President of the office of Strategy R&D Planning (2013–2017) under the Ministry of Trade, Industry and Energy, he led the planning of 13 national strategic industrial engine projects, including self-driving vehicles, wearable devices, unmanned aerial vehicles, and advanced material systems.

He also initiated the Industry–Academia–Research Innovation Forum, promoting R&D reform and policy shifts toward commercialization-driven evaluation.

As President of the Korea Association for Industrial Technology Security (2017–2023), he established practical strategies to protect national core technologies and strengthen industrial technology security for SMEs.

6. Philanthropy and Contributions to Academia

As a successful engineer and entrepreneur, Professor Park has demonstrated deep commitment to giving back to academia and society. Upon the public listing of SNU Precision, he donated approximately KRW 6.8 billion (USD 5 million) in personal shares to the Seoul National University College of Engineering to support research and scholarships.

He also endowed scholarships at other universities and established the **“Heui Jae Pahk Creative Space”** in 2021 to foster innovation, entrepreneurship, and national service among young engineers.

7. Conclusion

Professor Heui Jae Pahk is a visionary engineer, educator, and entrepreneur who has pioneered the successful commercialization of university-origin technologies, contributed to Korea's technological independence and export growth, and demonstrated exemplary service to the nation through innovation, policy leadership, and philanthropy.

His career embodies the highest standards of scientific excellence, industrial contribution, and national dedication, making him highly deserving of this distinguished award.