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New Nano Institute to Boost Local Economy

The Hong Kong University of Science and Technology (HKUST) will set up a \$100 million Institute of Nanomaterials and Nanotechnology (INMT) to pursue its mission of supporting local businesses and industries as it exploits the immense potential of nanotechnology and nanomaterials.

Supported by the Government and the industry, the INMT is being established with \$89.8 m from the Innovation and Technology Fund. Together with industrial support of \$11.8m, the Institute has a total 4-year budget of \$101.6m.

"Our primary goal with the INMT will be achieving critical mid-stream R&D and technology transfers that allow for the development of functional, multiple-application nanomaterials and technologies relevant to the economic growth of Hong Kong. This will be achieved by working with industries, and academic and research institutions," says Prof Ka Ming Ng, Head of Chemical Engineering and Project Coordinator of the INMT.

By developing novel applications and taking them to market, local businesses and industries will become key players in the nanotechnology and nanomaterials sector. Hong Kong's foundation industries in manufacturing, materials and electronics will be enhanced by producing higher value-added products and services, and entirely new industries could feasibly be created as a corollary of the Institute's work.

International collaborations, technology transfer and the grooming of entrepreneurs and researchers will also be an important responsibility for the INMT, as Hong Kong establishes itself as a global hub for nano-innovation and manufacturing. The INMT will initially conduct R&D in four core areas: eco-friendly micro-fuel cells, nano-electronic display units, integrated nanomaterial manufacturing, and environmental catalysts.

Nanotechnology is a comparatively new field, which seeks to create and develop materials and devices at the level of atom, molecule and supramolecular structure. One nanometer measures only one billionth of a meter, or around 80,000 times smaller than the width of the average human hair. Nanomaterials such as the world's smallest carbon nanotubes, synthesized by HKUST researchers in 2000, display a range of exciting and novel properties, for instance superconductivity. The potential of these materials, according to Prof Ng, will impact every level of 21st century life, from construction to electronics to textiles.

"HKUST's expertise in nanoscience and nanotechnology is constantly growing, with a wide range of areas of excellence developed in the School of Science and School of Engineering respectively. Hong Kong clearly has the strengths and the foundations to develop its own thriving nanotechnology sector. To maximize the opportunities, we also need to collaborate with regional and international research institutions, enterprises and industries to bring Hong Kong to the forefront of the nano revolution," says Prof Ng.