

National Robotics Programme's New Initiatives Aim to Step Up Translation of Robotics Capabilities in Singapore

The global robotics market is projected to see substantial growth in revenue, reaching an estimated value of US\$38.24 billion (S\$51.37 billion) in 2024 and US\$45.09 billion (S\$60.58 billion) by 2028⁽¹⁾.

To seize this opportunity, the National Robotics Programme (NRP) will receive a new tranche of about \$60 million in funding, with a focus on stepping up the translation of Singapore's robotics capabilities in sectors such as manufacturing and logistics, facilities management and healthcare.

NRP, as the national platform for robotics, will build on successful ecosystem research outcomes and embark on new initiatives to develop solutions for industry. The aim is to support business transformation through robotics and strengthen Singapore's position as a global hub for businesses, innovation, investors and talent.

A key part of this effort is the new RoboCluster initiative.

What is the RoboCluster initiative?

RoboClusters are robotics innovation clusters aligned with prioritised R&D focus areas and industry sectors – namely manufacturing, logistics, facilities management and healthcare. Through the RoboClusters, NRP will bring together public research and development (R&D) institutions such as A*STAR and Institutes of Higher Learning (IHLs), end-users, robotics & automation companies, trade associations and agency stakeholders to align and synergise robotics R&D capability-building with industry needs, foster collaborations as well as catalyse greater translation within the clusters.

New initiatives and events will be rolled out to bring together key players in the local robotics ecosystem, to identify new use cases for collaborative R&D projects, translate, and commercialise novel robotics solutions. These include accelerating adoption roadmaps, design thinking workshops, curated R&D projects and deployment opportunities, for more successful business matching and fruitful collaborations within the ecosystem on robotics R&D projects.

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<https://www.statista.com/outlook/tmo/robotics/worldwide#:~:text=The%20Robotics%20market%2C%20worldwide%2C%20is,bn%20in%20the%20same%20year>

How does NRP help drive industry-focused robotics solutions?

NRP was established in 2016 to identify and develop differentiating technologies and research capabilities, applying them to address Singapore's national challenges and to transform its industries.

The first phase of NRP focused on the end-to-end development of robotics technology, and piloting robotics technology applications across various industries.

Over the years, NRP has focused on the development of standardised and scalable robotics solutions, driving adoption of robotics across sectors to raise productivity and address manpower challenges.

For example, adoption of the Robotics Middleware Framework (RMF)⁽²⁾ strengthened the Robots Networking and Work Management System (SMART+) solution of local robotics company KABAM. With interoperability capabilities, SMART+ can now work with many robots, offering capabilities including remote/offsite access features, elevator integration, immersive observability and vision AI. SMART+ also reduces the need for security officers to conduct extensive foot patrols and enhances the accuracy of detections and improves overall security⁽³⁾. Through adopting NRP developed solutions, KABAM has positioned itself as a key player in robot deployment for security businesses in Singapore, and has expanded to Hong Kong and Australia⁴.

How can companies tap on it?

In this new phase, NRP will dive deeper into addressing industry problem statements and expanding collaborative R&D projects for commercialisation. This will catalyse greater translation of robotics intellectual property into commercialisation outcomes, and is in line with Singapore's focus on growth areas to support business transformation and develop local enterprises that are innovative and future-oriented.

Local companies involved in developing robotics solutions in the manufacturing, logistics, facilities management and healthcare sectors are welcome to be a part of the RoboCluster initiative.

Reach out to NRP at ask_nrp@hq.a-star.edu.sg for more information.

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² Catalysed by NRP and MOH, a consortium of partners including the Centre for Healthcare Assistive & Robotics Technology (CHART), Integrated Health Information Systems (iHIS - now known as Synapxe), and Tech players such as Hope Technik and Open-Source Robotics Corporation (OSRC-SG - now acquired by Intrinsic), came together to develop the Robotics Middleware Framework.

³ <https://www.mha.gov.sg/mediaroom/speeches/singapore-security-industry-awards-2023/>

⁴ <https://roboticsandautomationnews.com/2022/04/23/cognicept-systems-merges-with-kabam-robotics/50507/>

About the National Robotics Programme (NRP)

The National Robotics Programme (NRP) is a multi-agency national platform hosted by the Agency for Science, Technology and Research (A*STAR), that oversees the research, development and translation of robotics enablers and solutions in Singapore. Established in 2016 as part of the RIE (Research, Innovation and Enterprise) initiative, NRP aims to catalyse differentiated robotics capabilities in Singapore through the funding of use-inspired research and use-driven development. NRP also leverages the projects it funds to grow our robotics talent pool and nurture a vibrant local ecosystem.

About the Agency for Science, Technology and Research (A*STAR)

The Agency for Science, Technology and Research (A*STAR) is Singapore's lead public sector R&D agency. Through open innovation, we collaborate with our partners in both the public and private sectors to benefit the economy and society. As a Science and Technology Organisation, A*STAR bridges the gap between academia and industry. Our research creates economic growth and jobs for Singapore, and enhances lives by improving societal outcomes in healthcare, urban living, and sustainability. A*STAR plays a key role in nurturing scientific talent and leaders for the wider research community and industry. A*STAR's R&D activities span biomedical sciences to physical sciences and engineering, with research entities primarily located in Biopolis and Fusionopolis. For ongoing news, visit www.a-star.edu.sg.

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