National Supercomputing Centre
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Singapore's national supercomputer to be used in student education and upskilling of professionals to support future jobs

- *NSCC, Republic Polytechnic, Singapore Polytechnic, Institute of Technical Education, Singapore Institute of Technology, AI Singapore and the Institution of Engineers, Singapore, sign MOUs to explore new training methods, courses and curricula which will leverage the power of a supercomputer.*
- *Singapore's newest national supercomputer, the ASPIRE 2A, is also now ready to support this initiative as well as meet the advanced research needs of Singapore's scientific community across a wide array of fields.*
- *Back as a fully in-person conference, the international SCA23 conference drew over 1000 attendees from 35 countries and some 290 different organisations.*

Singapore, 28 February 2023 – Educational institutions, like polytechnics and ITE, and professional associations will have access to supercomputing resources to advance teaching and education, especially in areas like AI and machine learning. The high-performance computing (HPC) resources provided by the supercomputer will also be used to upskill professionals in the related advanced research and IT fields.

The collaborations are part of a series of Memorandums of Understanding (MOUs) that were signed today at the annual international SupercomputingAsia 2023 (SCA23) conference under the umbrella of "AI & HPC-enabled Education and Talent Development for Singapore". The National Supercomputing Centre (NSCC) Singapore, Institute of Technical Education (ITE), Republic Polytechnic (RP), AI Singapore (AISG), Singapore Polytechnic (SP), Singapore Institute of Technology (SIT) and the Institution of Engineers, Singapore Incubator & Accelerator (IES-INCA) are partnering to jointly develop talent in HPC by developing new curricula, training courses, workshops and student competitions in areas such as HPC, AI, data science and analytics, and advanced simulation and modelling. The training and nurturing of talent will better equip a future workforce to support these areas and their relevant industry sectors.

"In today's digital world, HPC has become key to powering advanced technologies and innovations across various industries. The partnership with NSCC provides valuable opportunities for our students to learn about the applications of HPC and gain first-hand experience in using a supercomputer. This helps to equip them with in-demand skills in HPC and prepare them for the jobs of the future economy," said Ms Low Khah Gek, Chief Executive Officer of ITE.

"SP is committed to partnering NSCC to create greater awareness and appreciation of HPC resources among our staff and students. We also want to highlight the possibilities that HPC can bring via our learning journey, which will showcase use cases on how HPC can be adopted to solve large and complex problems efficiently. We hope that by leveraging HPC, we can pave the way for more game-changing scientific, technological, industrial, and societal innovations in the future," said Mr Soh Wai Wah, Principal and Chief Executive Officer of Singapore Polytechnic.

"With the proliferation of digital twins, and AI/ML models, demand for HPC in both academic and industrial settings is on the rise. As Singapore's University of Applied Learning, we would need to equip our graduates and learners with the relevant capabilities and skills so that they are able to contribute directly to the evolving needs of industry. This partnership with NSCC will develop these capabilities in advanced data science and analytics, and in modelling and simulation tools," said Mr Bernard Nee, Vice

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President (Industry & Community) of SIT.

In support of the new partnerships, NSCC Singapore also announced that the nation's next generation national supercomputer, the Advanced Supercomputer for Petascale Innovation Research and Enterprise 2A, or ASPIRE 2A, has been commissioned and will be made available to the Singapore research community. A green, warm water-cooled system - one of the first known deployments in a tropical environment - the ASPIRE 2A will provide an aggregate of up to 10 PFLOPS of raw compute power and is almost seven times more powerful than the current ASPIRE 1 supercomputer. The first generation ASPIRE 1 supercomputer, which was commissioned in 2016, has been running at nearly full capacity in support of local advanced research that requires high-end computing resources. The first official Call for Projects to the ASPIRE 2A, which invites Singapore researchers to request for supercomputing resources on the new machine, is slated to be launched in the second quarter of 2023. The ASPIRE 2A will strengthen and support local research at universities, research institutes, government agencies and companies in areas like climate change, biomedical science and smart nation activities as well as across a wide array of scientific fields.

"The ASPIRE 2A system is part of Singapore's long-term investment and strategy to ensure that Singapore researchers are ably equipped with the requisite HPC resources to advance research further and faster," said Mr Quek Gim Pew, Chairman of NSCC's Steering Committee. "We envision that the new supercomputing resources will help our scientists push the envelope in research areas like weather and climate change research, genomics and healthcare, AI and machine learning, and advanced manufacturing, among many others."

"The new ASPIRE 2A, which was developed in response to growing demands for HPC resources from the Singapore community, is a timely addition to the national research infrastructure," said Associate Professor Tan Tin Wee, Chief Executive of NSCC. "The collaborations today also demonstrate a need for HPC resource beyond these traditional research activities to contribute towards talent development in important areas of innovation like AI and data science."

Co-organised with partners from Japan, Australia, Thailand and Singapore, the SCA23 Conference is an annual international event that gathers HPC practitioners and companies to showcase the latest HPC technologies and research. With the theme "*Sustainable Supercomputing for a Greener Future",* the conference covers a wide array of topics such as green supercomputing, HPC-enabled research, data centre technologies and collaborations in areas of HPC and quantum computing. The SCA23 was officially opened by Permanent Secretary (National Research and Development) of the National Research Foundation (NRF), Ms Chan Lai Fung.

The next edition of the SCA conference is scheduled to be held in Sydney, Australia in February 2024.

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Chinese Translations

- National Supercomputing Centre (NSCC) Singapore - **新加坡国立超级电脑中心**

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About the SupercomputingAsia 2023 (SCA23) Conference

Co-organised by HPC centres from Australia, Japan, Singapore and Thailand, SupercomputingAsia 2023 (SCA23) is an annual conference that encompasses an umbrella of notable supercomputing and allied events in Asia. SCA23 will be held as a physical conference from 27 February to 2 March 2023. The key objective of the SupercomputingAsia conference is to promote a vibrant and relevant HPC ecosystem in Asia. Delegates will be able to gain access to visionary insights from thought leaders in academia and industry, optimum networking opportunities and the supercomputing community in Asia. The conference co-organisers include the National Supercomputing Centre (NSCC) Singapore, RIKEN Center for Computational Science (R-CCS), Research Organization for Information Science and Technology (RIST), Pawsey Supercomputing Centre, National Computational Infrastructure (NCI) Australia and NSTDA Supercomputer Center (ThaiSC). Since 2018, the SCA conference series has quickly grown to become a key meeting and networking platform for the HPC and supercomputing value chain for Asia and internationally. Partners share new insights, discuss trends and present the latest advances in the development of HPC. The conference attracts international delegates including mid- and C-level executives, principal researchers and HPC professionals from academia, industry and the public sector.

About the National Supercomputing Centre (NSCC) Singapore

The National Supercomputing Centre (NSCC) Singapore was established in 2015 to manage Singapore's national petascale facilities and high-performance computing (HPC) resources. As a National Research Infrastructure funded by the National Research Foundation (NRF), the HPC resources that we provide helps support the research needs of the public and private sectors, including research institutes, institutes of higher learning, government agencies and companies. With the support of our stakeholders, for example, the Agency for Science Technology and Research (A*STAR), Nanyang Technological University (NTU), National University of Singapore (NUS), Singapore University of Technology and Design (SUTD), National Environment Agency (NEA) and Technology Centre for Offshore and Marine, Singapore (TCOMS), NSCC catalyses national research and development initiatives, attracts industrial research collaborations and enhances Singapore's research capabilities. For more information, please visit https://www.nscc.sg/