Focus on R&D for operational efficiency, to save environment

Research and development (R&D) will be critical for the next wave of growth for the Singapore maritime industry and is also key to Singapore’s development as an international maritime centre.

This includes R&D in key research areas like energy, the environment and maritime telecommunications to find solutions to enhance operational efficiency and combat environmental challenges.

And the 8th Maritime Technology Conference, which starts today, is part of the move towards this. Germanischer Lloyd senior vice-president Volker Wiesemann will give the keynote address titled “Towards greener shipping: Save fuel, cut emissions.”

There will also be technical presentations like achieving fuel saving by using time-varying, low-frequency-wave treatment and an exhibition by 33 companies involved in developing innovative maritime safety and environment-friendly equipment.

Recent R&D collaborations, such as the Maritime Port Authority (MPA) has with industry include the Memorandum of Understanding (MOU) on maritime telecommunication technology research and innovation with Singapore Telecommunications.

The MOU leverages on SingTel’s global satellite infrastructure and expertise and MPA’s insights and ongoing efforts to further develop Singapore’s port and maritime industry.

One of the key projects explores the seamless integration of SingTel’s maritime satellite broadband solutions with MPA’s Wireless-broadband-access for SeaPort (WISEFORT) facility. This will allow vessels close to shore to switch their satellite broadband connections to higher bandwidth land-based broadband services such as the WISEFORT’s mobile WiMAX service and WiFi, resulting in cost savings for ships.

Other initiatives include developing low-cost maritime broadband solutions and establishing test-bed facilities to boost R&D in maritime telecommunications technology and services for the maritime community.

Just last month, a $3.4 million collaboration was also signed between MPA and A*Star’s Institute of High Performance Computing (IHPC). The three-year MPA-IHPC Maritime Research Programme will allow maritime companies to tap IHPC’s computational science and engineering capabilities.

Projects will be co-funded by MPA, IHPC and the respective industry partners with the institute mostly providing research facilities and staff. Broad research areas would be in the fields of computational fluid dynamics, coupled field analysis, computational mechanics and advanced computing.

Potential areas of cooperation with industry are in collaborative research projects where industry players partner the research institute on actual projects, and added access to R&D manpower.

Also paving the way for maritime R&D are the many exciting career opportunities available at the Centre for Offshore Research & Engineering (CORE) at the National University of Singapore (NUS) and the Maritime Research Centre (MRC) at Nanyang Technological University (NTU), as well as the maritime technology professorship programme at NUS.

“Strong government support has helped the maritime industry grow and maritime R&D to blossom,” said John Dempsey, the first incumbent under the programme. This programme, a collaboration between MPA and NUS, is intended to boost maritime R&D partnerships between NUS and the maritime industry.

To inject fresh ideas into this collaboration, globally-renowned experts in maritime technology are invited to share their know-how.

“These visiting professors, armed with their expertise and networks, will work with the university to identify key projects and embark on joint research – in the process taking maritime R&D to the next level,” said Goh Kwong Heng, MPA’s deputy director for research and technology and chief information officer.

In Singapore, Prof Dempsey will be working with both CORE and the offshore and maritime engineering sector. Together, they will initiate collaborative R&D programmes and projects and invite industry players, such as the classification societies and design consultancies, to participate in joint Arctic engineering projects with NUS.

“This is part of MPA’s efforts to promote maritime R&D between tertiary and research institutions and encourage the industry,” said Mr Goh.