



## Calls for Government to increase shipping industry R&D funding

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As the Founder of an Australian maritime engineering company that, at its core, relies on innovation, and as a recipient of Federal Government support for R&D that has directly contributed to my company's successful growth and ability to remain at the forefront of the global stage, I feel well positioned to champion the benefits of an appropriate framework for a regeneration of such support, to better ensure Australia continues to address issues faced by the shipping industry.

OMC International (OMC) is a Melbourne-based specialist company providing consulting services and operational systems to the international maritime industry. It is the world's only provider of independently validated and widely operational real-time under keel clearance (UKC) technology, through our flagship product, the proprietary Dynamic Under Keel Clearance System (DUKC®) which is recognised as the leading UKC management system. OMC has both conceived and developed this technology, including all of the products which are based on it.

The successful commercialisation of our UKC navigation technology is a compelling reason why Federal Government should continue to support scientific research in this field, ensuring Australia remains internationally recognised as a centre of UKC risk mitigation and efficiency management.

The robustness of our software, and dedication to our clients, is reflected in their ongoing usage of our systems. No operational DUKC® system has been removed from service by one of our clients.

**For more than two decades, it has notched up an unblemished safety record over 110,000 deep draft sailings world-wide without incident.**

Since the first instalment in 1993, the development of the DUKC® system has been driven by the need to make better use of rapidly changing technology and to respond to client needs. This has led to the progressive transition of the DUKC® from a stand-alone application running on a single personal computer, to a complete server-based web-enabled system able to interface with other port information and VTS systems, and to be accessed by users at desktop computers, on mobile devices, and even overlaid on the navigational charts on pilot PPU units, while in use on ships' bridges.

To achieve this, OMC has a dedicated R&D team and a very significant portion of OMC's annual profits are reinvested in R&D. However, there is no doubt that the development of our pioneering navigation products has been greatly facilitated by the strong backing of the Federal Government through three separate R&D Start Grants, which were awarded over a decade from 1998, in open competition across all sectors of industry.

For example, the most recent three-year grant allowed the extension of the DUKC® passage planning system to provide VTS with the functionality to automatically monitor and display the progress of one or more vessels against their active transit plans and minimum UKC requirements. This In-Transit functionality has been successfully commercialised and is in operation at a number of locations including Port Hedland, Torres Straits, the Port of Melbourne and for the St Lawrence River in Canada.

Whilst ensuring safety is always OMC's prime focus, its business model aims to deliver maximum port efficiency to our users. Two most recent innovations in applied UKC technology, and fully funded by OMC, are aimed at making more use of existing infrastructure and facilities rather than building new ports or harbours. At Port Hedland, the Dynamic Port Capacity Model (DPCM), an optional extra to DUKC® Series 5, has been developed for

more than two years by our highly qualified research staff, and funded by OMC. It will assist the port and its users, including BHP, to maximise throughput from the Inner Harbour, for a fraction of the cost (< 10%) that would have been required from a \$20 billion Outer Harbour development.

A related innovation in add-on technology, the DUKC® Optimiser, has been developed at OMC by a doctoral student, to alleviate the workload of ship schedulers by automating what had been a challenging manual process. Other innovative enhancements already delivered to the Pilbara Port Authority, as part of the most recent DUKC® Series 5 upgrade, played a major role in June this year when Port Hedland Port Authority sailed seven capesize ships on a single tide, creating a new iron ore tonnage record of 1,270,721 tonnes.

While R&D Start Grants are no longer offered, a new Government initiative was announced in a Media Release from the Federal Minister for Industry on October 31 this year, in the form of a matching grant to help innovative Australian businesses bring new ideas to market. "Accelerating Commercialisation" could not only stimulate productivity growth in the shipping industry but will also help ensure that our eminent human resources are not lost to other shores.

So what happens next? Let's hope we can generate more public interest in port innovation and best practice. If we can raise the profile of how financial assistance can bolster scientific research to the benefit of the Australian maritime industry, then we might see more news stories about innovation successes, with such headlines as 'Learning from the Australians'. (Maritime Journal August 2009)

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