

Dr Terry O'Brien receives Queen's Birthday Honours

MELBOURNE engineer who owns a property near Penshurst has been awarded a Medal of the Order of Australia (OAM) in yesterday's Queen's Birthday Honours List.



DR TERRY O'BRIEN

Dr Terry O'Brien, whose world-leading software navigation technology reduces the risk of ship groundings and saves billions of dollars for the world's shipping industry, said he was delighted to be awarded an OAM.

Dr O'Brien is a recognised world expert on accurately calculating (to the cm) how close to the seabed a vessel can sail without touching the bottom, which is the critical Under Keel Clearance (UKC) factor. His Dynamic Under Keel Clearance (DUKC) software navigation technology is the only system that operates just prior to or during the actual ship transit through shallow channels. It is the only proven system worldwide that has the capacity to accurately determine the critical vertical component of navigation (what you can't see under the water), where one centimetre of extra under keel clearance could mean 130 tonnes of extra cargo or, if you get it wrong, a touch-bottom incident!

"This system allows large ships to bring more cargo in and out of ports and to do so safely because it mathematically predicts how much under keel clearance they have as they come down the channels," Dr O'Brien said. "It is so accurate that, under extreme weather conditions, a 250,000 tonne carrier could negotiate a channel

within a metre's clearance to the seabed." This technology is already on its way to becoming a standard safety implementation at Australian ports and is also in Europe and NZ. Almost all of the iron ore and most of the coal exported from Australia are shipped out under DUKC advice. From the early stages of his research, Dr O'Brien has been intrigued by waves, currents, ship motions and the challenges of creating a numerical method of modelling them. While lecturing at Melbourne University, he was contacted by the then British Phosphate Commissioners to work on solutions for mooring the large phosphate ships in Nauru's particularly deep port (in the Pacific Ocean north of the Solomon Islands) and also for Christmas Island (2600km north west of Perth). Realising there was a niche business market, he left academia after a distinguished 22-year career (which included sabbaticals at overseas institutions such as MIT) to establish OMC International (OMC) in 1987 to solve practical

problems in the maritime industry. More research led to his innovative DUKC system, which was first installed in Queensland's Hay Point coal terminal in 1993. This Australian technology continues to be further developed entirely in-house by a team of more than 30 staff, led by Dr O'Brien and his son Peter, a maritime engineer and OMC's Chief Executive Officer. This team develops and installs new systems, as well as supporting existing systems 24/7, from its Melbourne head office. OMC also has offices in Perth, the UK and South America. This is an exciting time for Dr O'Brien, whose family-owned firm has also just recently signed a contract with the Federal Government's Australian Maritime Safety Authority (AMSA) for its DUKC system to be installed in the international waters of Torres Strait to enhance shipping safety. Dr O'Brien said OMC clients had become increasingly interested in installing DUKC systems for safety reasons. For example, the Port of Melbourne

Corporation (PoMC) chose to install a DUKC system last year to help ensure the safety of large vessels entering Port Phillip Heads, one of the most challenging waters for ship navigation to be found anywhere on earth. Recently attracting huge media attention, the Chinese vessel Xin Yan Tai (the biggest container ship to berth in Australia) safely entered Port Phillip Bay under DUKC advice to dock in Melbourne to load and unload some 3000 containers.

Interestingly, back in 2004, New Zealand's Marsden Point installed DUKC purely on safety grounds after two super tankers were grounded within three months of each other, in the previous year, in the channel leading to New Zealand's only oil refinery. It was later shown that a DUKC system would have prevented both these near environmental disasters because the system would have advised that these sailings not take place on those days due to inadequate under keel clearance.

Dr O'Brien will spend today at home celebrating his OAM with his extended family. And conversation around the O'Brien family table is always guaranteed to be interesting - Terry and his wife Pauline, who has a Masters in Educational Psychology, are parents to three medical specialists, a barrister, an engineer and a neuropsychologist.

Eldest son Terence O'Brien (Professor of Medicine, Department of Medicine, RMH, is a Neurologist and Head of Medicine at Melbourne University; Daniel is an Infectious Diseases Specialist and has devoted many years to Médecins Sans Frontières (Doctors Without Borders) particularly focusing on HIV programs in Middle Africa; David is a Barrister; Peter is an Engineer and OMC International's Chief Executive Officer; daughter Dr Catherine Meade is a Neuropsychologist and Matthew is a Paediatric Registrar.

Family celebrations and the occasional game of golf keep Dr O'Brien grounded but literally never for long!

He will soon be in the air, pursuing his current role as a world expert advising international bodies in the area of creating new world standards in ship navigation. His hobby is being in the air long enough to maintain his Frequent Flyer Platinum Status. With an OAM, life is still indeed looking up!



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