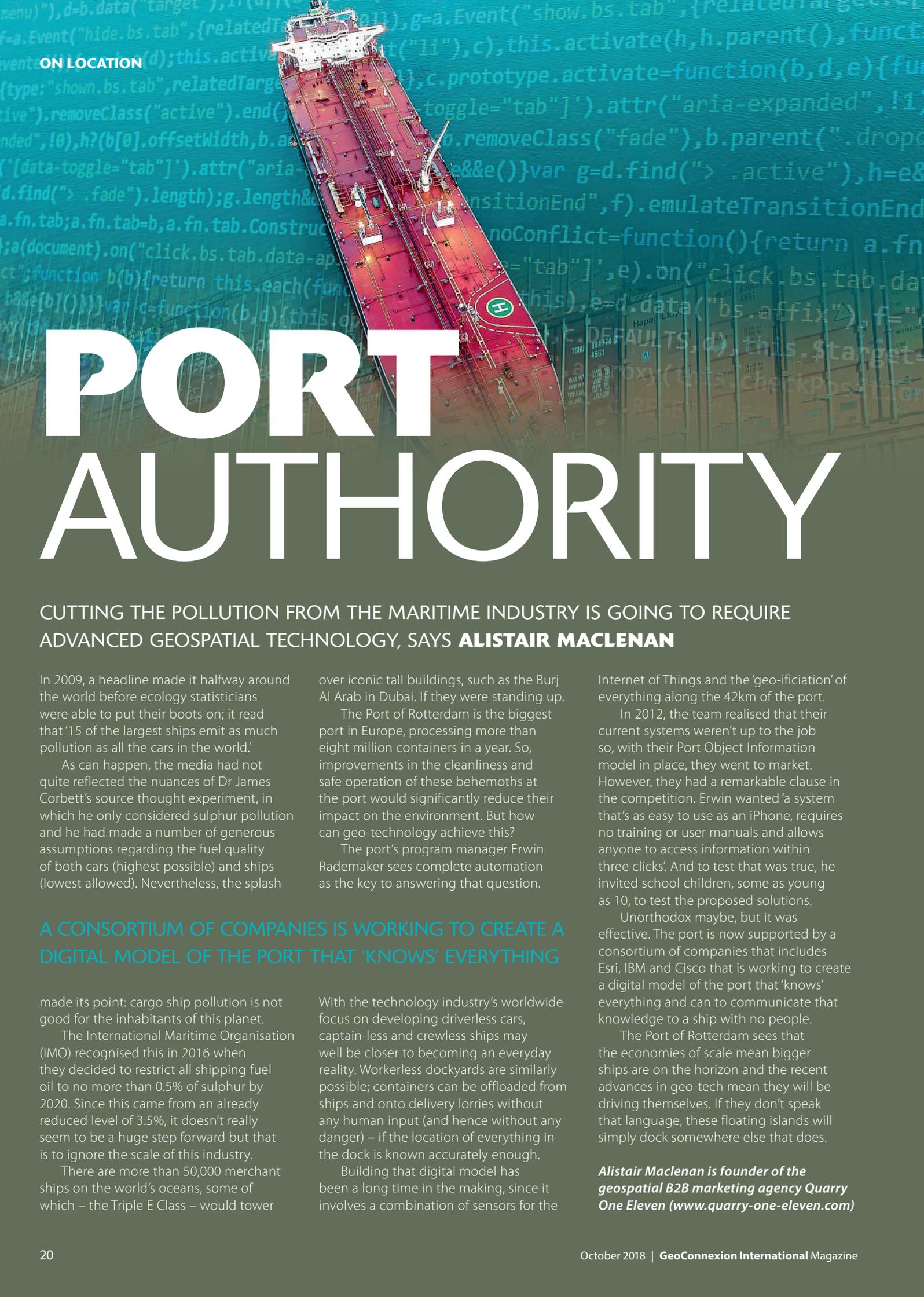


ON LOCATION



# PORT AUTHORITY

CUTTING THE POLLUTION FROM THE MARITIME INDUSTRY IS GOING TO REQUIRE ADVANCED GEOSPATIAL TECHNOLOGY, SAYS **ALISTAIR MACLENAN**

In 2009, a headline made it halfway around the world before ecology statisticians were able to put their boots on; it read that '15 of the largest ships emit as much pollution as all the cars in the world.'

As can happen, the media had not quite reflected the nuances of Dr James Corbett's source thought experiment, in which he only considered sulphur pollution and he had made a number of generous assumptions regarding the fuel quality of both cars (highest possible) and ships (lowest allowed). Nevertheless, the splash

over iconic tall buildings, such as the Burj Al Arab in Dubai. If they were standing up.

The Port of Rotterdam is the biggest port in Europe, processing more than eight million containers in a year. So, improvements in the cleanliness and safe operation of these behemoths at the port would significantly reduce their impact on the environment. But how can geo-technology achieve this?

The port's program manager Erwin Rademaker sees complete automation as the key to answering that question.

Internet of Things and the 'geo-ification' of everything along the 42km of the port.

In 2012, the team realised that their current systems weren't up to the job so, with their Port Object Information model in place, they went to market. However, they had a remarkable clause in the competition. Erwin wanted 'a system that's as easy to use as an iPhone, requires no training or user manuals and allows anyone to access information within three clicks'. And to test that was true, he invited school children, some as young as 10, to test the proposed solutions.

Unorthodox maybe, but it was effective. The port is now supported by a consortium of companies that includes Esri, IBM and Cisco that is working to create a digital model of the port that 'knows' everything and can communicate that knowledge to a ship with no people.

The Port of Rotterdam sees that the economies of scale mean bigger ships are on the horizon and the recent advances in geo-tech mean they will be driving themselves. If they don't speak that language, these floating islands will simply dock somewhere else that does.

A CONSORTIUM OF COMPANIES IS WORKING TO CREATE A DIGITAL MODEL OF THE PORT THAT 'KNOWS' EVERYTHING

made its point: cargo ship pollution is not good for the inhabitants of this planet.

The International Maritime Organisation (IMO) recognised this in 2016 when they decided to restrict all shipping fuel oil to no more than 0.5% of sulphur by 2020. Since this came from an already reduced level of 3.5%, it doesn't really seem to be a huge step forward but that is to ignore the scale of this industry.

There are more than 50,000 merchant ships on the world's oceans, some of which – the Triple E Class – would tower

With the technology industry's worldwide focus on developing driverless cars, captain-less and crewless ships may well be closer to becoming an everyday reality. Workerless dockyards are similarly possible; containers can be offloaded from ships and onto delivery lorries without any human input (and hence without any danger) – if the location of everything in the dock is known accurately enough.

Building that digital model has been a long time in the making, since it involves a combination of sensors for the

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