

MICHAEL GREY

Shipping – a world of bright ideas

Why does it have such a reputation for arch-conservatism, when it has so often led the way, asks **Michael Grey**

Stuart Ballantyne is a naval architect who likes to think outside the box. He probably doesn't make too many friends among his fellow professionals when he criticises the appearance of modern ships. He speaks of grim functional accommodation that makes a seafarer feel about as cherished as a battery hen. How can seafarers ever be proud, he asks, of a ship which looks so unutterably awful?

He looks despairingly at a modern cargo ship, with the accommodation block housing no more than three to a deck, about six decks high, with all the misery of tower-block living. He has calculated the wasted fuel that will come from the windage of this tower block over the life of the ship, and finds a seven figure sum. Move it further forward, make it lower, and there is a benefit for everyone.

Stuart Ballantyne is one of the industry's innovators, who thinks about the contribution of the crew of a ship, perhaps because he served for years as a ship's officer before changing course and taking a naval architecture degree. He is one of a number of contemporary designers who remind us of what an innovative industry we work in.

Innovative? Surely, you might say, the shipping industry has a

reputation for arch-conservatism?

celebrating the 600th anniversary

ballast, balanced rudders and



A model of Admiral Zheng He's gigantic flagship, built 600 years ago. Ships of a similar size were not seen again until the 20th century. (Photo: Reuters)

An industry where nobody ever wants to be first with a development, lest it all go pear-shaped. It is time the industry moved to try to scotch this unfortunate reputation, because, curiously enough, innovation has been part of its history.

In China this year, they are

of the great voyages of Admiral Zheng He who, equipped with a fleet of gigantic ships, set off to explore the world and project Chinese maritime power. We would not see ships of such a size until the 20th century, designed with such features as watertight doors, double bottoms, water

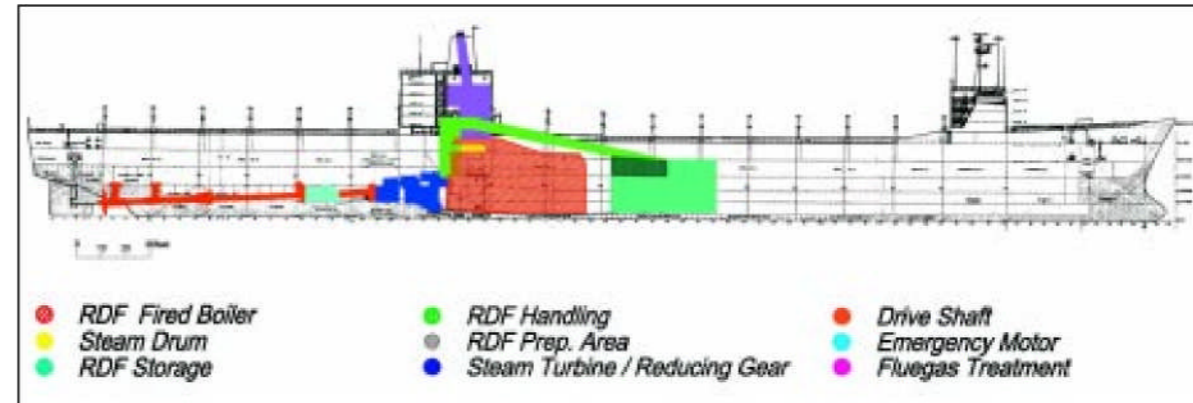
stayless masts, and sailed by navigators who understood celestial navigation and the making of charts.

Scroll forward to the New England and Aberdonian clipper builders, the shipwrights who produced the ultimate in commercial sail, to wring extraordinary

speeds out of the wind and speed

"super" tankers were about

the time. They are designing



With the price oil soaring, engineer Michael Cabibbo's rubbish-burning containership could prove a timely idea (Picture: Bimco Bulletin/SEA, Rome)

high-value cargoes to market. We should remember that amazing Victorian innovator, Isambard Kingdom Brunel, who, when he wasn't busy constructing railway bridges and tunnels, built iron steamships on modern engineering principles. Just imagine the faces on the board of the steamship line, at a time when the debate was whether ships should be built of oak or pine, when Brunel announced that he was going to build his ships of iron! Iron: it doesn't even float! There was innovation with knobs on.

I went to sea in the mid-1950s, but the amount of innovation that has happened during my career in the industry is quite extraordinary. Somebody persuaded a shipowner, at a time when

30,000 tons, that they could carry liquefied methane at -165 degrees C, and somebody else persuaded owners to put up the money for half million tonne tankers, ships that would carry hot asphalt, or ferocious acids. They have invented containerships and stretched them to 8,000 teu of containers. Naval architects have designed, and shipowners bought, passenger ships that would carry 2,500 paying passengers, and giant ro-ro ships, shuttle tankers and dynamically positioned vessels. The list is endless, and it is something that the industry needs to speak about more boldly. We can be proud of our innovative spirit.

There is still plenty of scope for innovation. Clever innovators are cooking up brilliant ideas all

icebreakers with outriggers, so that channels can be broken for wide tankers in the Baltic. The UK firm of Intelligent Engineering invented Sandwich Plate Technology, that will enable ships to be built far more strongly, but with fewer stiffeners. On the drawing board there are 45-knot cargo ships to carry perishable cargoes across the Mediterranean to market without refrigeration. There is no shortage of ideas in our innovative industry.

A brilliant idea which surfaced as a paper in BIMCO's Bulletin recently is for a large containership which is fuelled by refuse. It might seem crazy, but with the price of crude oil soaring above \$60 per tonne, it deserves serious consideration.

It comes from Michael Cabibbo, an Italian engineer who designs refuse-burning power generation plants as his day job. He has looked at the sort of power plant needed to propel a large container ship, considered the amount of fuel needed and calculated that a viable vessel could be designed to be fuelled by containerised refuse, which otherwise would have to be stuffed into landfill sites, which are environmentally undesirable and becoming scarce.

So he has designed a 4,800 teu containership which would eat up 176,000 tons of refuse in 275 sea days. Build a hundred of these ships and he will make a useful hole in all of Europe's waste, with emissions properly treated and only ash to be disposed of. And while it might seem wasteful to be devoting such a lot of the container carrying space to what is "bunkers", it is no more unproductive than carrying the average load of "empties".

Innovators rise to challenges, and we can be sure that the soaring price of bunkers will bring out the best of them. Who knows, we could yet see a return to the sort of giant wind-powered vessel which so amazed them on the coasts of China 600 years ago. Innovators draw from the past, as they consider the future.