

The Way Ahead?

Commercial shipping is slowly coming to terms with the realisation that a seafaring career is no longer attractive to young people of the quality required to manage the complex ships of today – and that those who are prepared to endure the rigours and deprivation of life at sea expect to be very adequately compensated in terms of salary and conditions. Add the escalating costs of fuel and the need for economies is clear.

In a recent address to the Royal Institute of Navigation, Transport Minister Dr Stephen Ladyman referred to the “ever-evolving shipboard equipment, systems and practices necessitating new training requirements”. His address centred on the theme of developing “e-navigation” (including innovations such as Automatic Identification and Electronic Chart Display systems) and he concluded by saying “I believe we are sitting on an historic opportunity, one that must be seized now or we will live to regret it” Dr. Ladyman did not, however, mention the “unmanned ship”.

Some 82 years ago one of the most famous nautical magazines published a poem entitled “A Forecast - The Crewless Wireless Craft”. Part of it reads:

Electric power invisible, compact, its force expended,
In recent years its generous help to floating homes extended,
But now, (we speak in time not yet, prophetic is our vision)
The crewless, wireless ship we view (waste not your swift derision).

It is doubtful if the anonymous author would have won many prizes for his or her poetic offering and, in 1924 the concept of the Unmanned Ship must have seemed too far-fetched for serious consideration, but it took a scant 60 years for the prophesy to be fulfilled. In the early 80's when domestic manning costs were soaring Japanese ship-owners commissioned a study into the unmanned ship and five years later a 20,000 ton bulk carrier entered service designed and equipped to undertake the first “remote control” voyage. The initial concept envisaged a fleet of unmanned cargo vessels under the remote control of a manned command ship. On departure and arrival the ships mooring lines would be handled by crew members –disembarked and embarked by launch or helicopter – but, for the long ocean passage, each ship would be unmanned.

The trial ship successfully completed a voyage across the Pacific Ocean – from Japan to the West Coast of the United States –monitored throughout by her command ship.

The latter controlled the speed, navigation and collision avoidance manoeuvres of the robot ship and, on arrival at the destination port the experiment was deemed to be extremely successful. The cost of the technology was high, and this coupled with an amelioration of the manning problem, saw the blueprints stored away for the future.

More recently, the advent of the internet and the reducing costs of technology sent the technicians back to the cupboard where their earlier plans were stored and, in early 2005, a major Japanese yard unveiled plans for its unmanned ship controlled through the internet.

The yard developed two interdependent systems – one an integrated navigation system and the other a ship control system. The first is intended to maximise operational safety and economic efficiency. A satellite sends routing (and weather) information to ensure safe passage to an onboard electronic chart and engine control system and monitors collision avoidance manoeuvres whilst the integrated Control System continuously monitors the operational condition of the complex systems throughout the vessel. Satellite communications allow the ship operator to control the progress of the voyage from within the comfort of the office and this means that the additional costs of the manned command ship – as envisaged in the earlier experiment – will no longer be incurred.

Advances in electronics, computers, satellite navigation systems and communication systems allow today's office-bound “master” even greater and more precise control of his seafaring command. Undoubtedly, the day is not far off when the unmanned freight carrying ship will become a reality but it is a certainty that vessels carrying passengers (seaborne hotels) will always be manned. Despite these advances, in a seafaring environment the human brain has the ability to predict and sense developing problems in a way that technology cannot. Piracy and terrorism are important considerations and, of course, the legal standing of the unmanned ship has yet to be clearly determined. Is the vessel a “derelict” and fair game to be taken as salvage by the first person audacious enough to put her standing to the test?

Despite these concerns there are reports that the designers have been granted “certification” by some of the major Ship Classification Societies so those august bodies must accept that the idea is practical, safe and marketable.

Our anonymous poet ended with the lines:

So here we have the future ship, unsinkable we deem her,
No longer need we navigate with paddle, sail or steamer.

In 1924 that was a very brave prediction and today it would be an equally brave person who says “It will never catch on”.