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ECDIS: The Ship Owner's Considerations for Implementation **By Captain Ian Booker, Operations Manager, Euroship Services.** **Paper presented at** **"Communications and IT in Shipping", London, 21st March 2002**

The Ship Owner's perspective and considerations for:

- Fleet implementation
- Where is the value for Owners?
- Where does the Owner stand with type approval?

My qualifications to be here talking to you about these matters are that I have recently selected and installed an electronic chart system on the cross channel ferries that we manage on behalf of Cobelfret, the leading operators in the field.

What I am going to tell you today is partial, biased and totally unrepresentative of anyone's opinion other than my own. Anyone looking for balance and objectivity will be badly disappointed and should leave right now!

For all of you staying, let me tell you the EuroShip story.

As with most people in the profession of ship management, I have been away from the tools of the trade for quite a time. For many of us of a certain era GPS is considered an upstart system trampling on the tried, tested and much loved and respected sextant and chronometer. Now we have this further development, which threatens to do away with paper charts and relegate them to wall decorations in upmarket marina bars and bistros.

Accordingly the first consideration was to educate myself and recruit some up to date and expert assistance, and as cheaply as possible!

At EuroShip we decided to trial a number of systems to see what we liked the look of and to see what the benefits would be to us through free, without obligation trials.

Features of our business we turned to our advantage are: -

- Our ferries call on our doorstep every day at the Purfleet terminal, next to the Dartford Bridge.
- The ships were easily contactable by mobile phone and email 24 hours a day.
- They are regularly transiting the busiest stretch of water in the world - very suitable for some heavy-duty trials.
- The area was a relatively early beneficiary of vectorisation by the Hydrographic Office, giving the possibility of both raster and vector charts.
- Our ships Masters do their own pilotage and they and their fellow officers are generally extremely knowledgeable and interested in anything which will improve the application of their skills and make navigation of their ships easier and safer. Most of the Masters were enthusiastic at trialing products that were considered to be at the cutting edge of navigational technology.

Where did we get our trial packages? We just asked around, checked out adverts, particularly in the newer freebie magazines seeking to exploit the IT revolution and/or the safety culture and tried to check out the various claims with our favourite classification societies.

The fact is that once the trial was underway we discovered more out there than we first realised, so

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in some ways our trial was quite narrow. Our original idea was that we would trial on two ships for 3-4 months, make a decision and have it all done and dusted by Christmas. The main thing we got wrong was which Christmas!

Trialling this kind of kit takes time a lot of time, especially if you do it properly. Generally our trial Masters were keen and supportive and pleased to demonstrate and enhance their technical skills and abilities - that is navigational technical skills and abilities, not computer. It was interesting to note the different problems the two groups had. The ones with computer skills couldn't stop themselves playing with the program and thick finger faults were plentiful. The other group found it difficult to get started, leave alone make mistakes!

Our brief to our Masters was to select that which they thought was the best on the understanding that we would probably purchase on their recommendation. We did not tell them prices and when asked, avoided the subject on the basis that we were looking for their best recommendation and did not want them to be influenced by price.

Fortunately for our Owners and us, they blindly and unknowingly chose one of the less expensive - PC Maritime's Navmaster.

Why did they choose it?

Because it is a good product with all the functions they needed with a simple to use menu system. Also PC Maritime gave, and continues to give, excellent back-up, advice and trouble shooting over the phone or by email.

This back-up is absolutely essential as no ships masters or officers are immune to "fat finger" syndrome on any of the equipment we trialled.

Having the Masters make the choice put me in a win-win situation. If the selection is seen as good, I get the congratulations. If the selection is seen as bad, you can all imagine who gets the blame!

Do I think I made the right choice? Yes I do.

Why? Because involving the Masters motivated them and they brought skills to bear on this that are honed every day, whilst my own skills in this area are just a little rusty. They really raced and rallied all the various units on trial.

Another advantage is that everyone in the fleet knows the selection process that was gone through so when they experience a difficulty of some description they are unable to blame the office for imposing the particular piece of kit on them!

Do I think they made the right choice? Yes I do.

PC Maritime have done the business for us; and economically.

Would I or could I have made this choice or a better choice?

Well. I had a demo in my office of each unit we trialled. When a salesman gives a demo he knows how to show each and every feature - to its best advantage.

Above all he knows how to make it look simple - easy.

The fact is that it's only in everyday use and after the salesman is long gone that you discover the truth about ease and simplicity of use.

The Masters' biggest complaints about products they failed were generally:

- Overly complicated to use, often with unnecessary features.
- Suppliers' lack of appreciation of what a professional seaman really needed, as against what they thought he needed.
- Suppliers lack of appreciation and positive reaction to their constructive criticisms.

In contrast, PC Maritime used our Masters' constructive criticisms to improve their product. They

Issued by kind permission of Euroship Services. Copyright 2002 Euroship Services Ltd appreciated the input from true experts.

To finish the story, EuroShip equipped all 12 ferries with Navmaster.

We had the choice of buying just the software or a package of software and hardware. We chose the software only route, supplying our own hardware and having it installed by the local office of a well known national marine electronics company.

The software was economic. The hardware was cheap.

The hardware installation was not so cheap. We failed to properly survey each ship and its equipment that would interface with the PC and found problems of compatibility of outputs from ARPA radars, Gyros, GPS's. Even within classes of ships serially built and equipped we found we could not rely upon uniformity of model and output.

We ended up with quite a labour bill, a large proportion of which could have been avoided with a little forethought and if only we had known what I am telling you now. So check that the ships radar does have NMEA output with the required sentences, that the gyro has digital output or a digital slave that can be tapped, that the GPS has enough output points or a buffer can be fitted. Check where your power source is and where you will site the monitors. Do budget for training, as many ships Masters are like wives - they are unable to read instruction books, idiot guides or help screens, but still expect the equipment to work properly when they want it to! Get them up to speed quickly and avoid technophobia.

At the end of this saga I would now like to answer the questions we started off with:

- Implementation requires selection first. We did what suited our specific circumstances. Tailor your selection process to your company's strengths. Unless you are very confident of your abilities, do involve others. It is motivating and shares the load because this can be a very demanding project of your time.
- Installing. Get all hardware together at one time at one place. Be organised or it will cost you. Be aware this is not a 5-minute job. If you are fitting across a fleet, try and get the same tech to do all or as many ships as possible as he is on a learning curve as well.
- Software installation and training follows after successful hardware installation.
- With respect to the criteria for this retrofit project, you are clearly looking for ease and simplicity of use along with reliability. Your selection process should clarify your mind as to what is important to you. We started off with very unclear ideas as to what we expected or wanted beyond some thoughts about safety and being at the leading edge of technology. As our trials progressed it became very clear that there is no money to be saved by purchasing this equipment other than by improving the ships' safety. ie avoiding expensive claims. For some time we had felt strongly that we should be putting stem radars on our ships, but had been unable to find one we thought was any good for our needs. Happily we found that with Navmaster we could have a scale model of the ship shown on the chart relayed to bridge wing monitors that gave us many of the advantages we had sought to no avail in stern radars. You can have monitors sited anywhere you like: at the conning position, on the bridge wings, on the chart table (in my view one of the worst positions), even in the Master cabin. We used 23-inch monitors for primary units at the conning position and 19 inch at the bridge wings, all hi-res daylight-viewing units. We did not consider flat screen units purely because of the costs.
- For new builds, where whatever you have is probably going to be included in the finance package and you are looking at the entire life of the ship, say 25 years, there can hardly be a justification for not fitting electronic charts, particularly when you consider the ever-increasing pace of technology. Please make sure you get the package that suits you, and not just what the yard has on its shelf or written into the sale contract. An important consideration is that the system supplier is going to be able to supply a help line that suits

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you and the nationality crew you are going to use. At this point it may be worth considering flat screens as no doubt they are the future and will be more amenable to incorporation into the modern integrated bridge with potential for displaying what you select, whether it is charts, alarm panels or whatever on any screen you select.

I do not see any potential for crew reductions, but ships and their navigation should be safer. The value to the ship owner and operator is in safety. The savings will be in avoiding expensive claims by giving the ships officers' better tools to do the job.

No doubt everyone will have noticed that I have regularly mentioned electronic charts rather than ECDIS, the type approved system. This is because I do not believe that paper charts should be removed from ships. Electronics are not yet reliable enough for ship service. Even today modern ships with all the technology can and do still suffer power losses, blackouts and power spikes and in my recent experience these can still fool a UPS and cause a chart system to crash along with everything else.

We have the PC Maritime Navmaster software installed on our own "in house un-marinated" PC's. This system occasionally crashes for the reasons given. We still have on test a "Rolls Royce" system with software and hardware approvals, and supplied by a very well known manufacturer. This unit is not immune to crashing and has become affectionately known as "the toaster" and regarding reliability is, in my opinion, no better and no worse than Navmaster run on our own PC's. It is, however, considerably more expensive!

On this basis it is clear that it is not necessary to pay the remarkable prices demanded for marinated PCs and electronic equipment because electronic charts should only be used as an aid to navigation rather than for primary use.

So, if you have the time and the Inclination you too can go down the EuroShip road. It's a very satisfying road as you end up with an almost customised system at an attractive final cost, but it's not particularly easy. The alternative is to negotiate the best deal you can with a leading supplier of unitary systems, breathe deeply and sign the cheque.

We have now been through the EuroShip experience.

We have discussed the EuroShip fleet implementation. I have been clear about the benefits to owners and I hope nobody is unaware of where I stand on the arguments on type approvals.

I have avoided dragging in the questions of integration with AIS and VDR. No doubt this is nearly upon us. You trial it and take my place here with your experiences and thoughts at next year's CITIS.

Thank you for listening and good luck with your selection and implementation!

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Ian Booker is Operations Manager for leading ship managers EuroShip Services who have particular expertise in RoRo car and trailer ferries as well as panamax and cape size bulk carriers.

Ian started off his career at sea with Bank Line where he got his Masters licence. After coming ashore he became a Fellow of the Institute of Chartered Shipbrokers and has been involved in management of container ships, reefers and liner services before his present commitment

A self-confessed technical incompetent, he was entrusted with implementation of email across the EuroShip fleet prior to the implementation of electronic charts.

For further information about Navmaster ECDIS go to <http://www.pcmaritime.co.uk>