Nautilus Consultants

Can electronic trading systems be made to work for the nephrops industry?

....if so, how?

Report of the Industry Workshop held July 2nd 1999, Inverness

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Introduction

Overview

This short report presents the findings arising from a one-day participatory workshop examining the practical constraints surrounding the introduction of electronic trading systems to the UK nephrops industry. This was held in Inverness on July 2^{nd} 1999 and attended by 30 members of the nephrops industry, representing catchers, processors, traders and harbour managers / operators (a list of attendees is shown at Annex 1 to this report).

The primary focus of the workshop was to promote cross-industry debate of the subject, to exchange information on the subject, and to examine from a practical perspective the constraints to, and benefits arising from, the application of electronic marketing technology to the nephrops sector.

By general consensus the workshop was felt to have accomplished these tasks in a productive and stimulating environment, and to have clearly demonstrated the industry's continuing interest in this new technology, as well as demonstrating the commonality of its concerns.

On the one hand those attending the workshop felt that it was all but inevitable that this sort of technology would become an established part of the trading infrastructure of the fishery sector (including nephrops) in the near future. On the other hand, however, most viewed such a development as posing a threat to their business interests, and few felt that they had any stake in, or control over, its introduction to the sector.

In terms of the relaxed and informed debate achieved across different industry interests during the workshop, it was broadly felt that more meetings of this nature should be held in the future, focusing on this and other issues of topical interest. Specifically it was felt that such meetings were of benefit to the industry in demonstrating the extent of common interest, and the fact that there were far fewer areas of cross-industry disagreement than many had previously envisaged. In addition, this meeting showed the benefits of cross-fertilisation of ideas brought about by the free transfer of knowledge and experience facilitated under such a workshop structure.

Background

The idea for a workshop came out of an informal meeting between a number of producer representatives and processors attending the Brussels 98 Seafood Exposition. Agreement was reached to take this idea forward based, if possible, on a pan-industry grouping. Additionally, from a commercial and strategic perspective, it was also felt that it would be inappropriate to seek to introduce such new technology at one site only, or to place the management and organisation of such a venture in the hands of any one interested party. On the basis that it was unclear as to the extent of interest in such an idea, or the commercial form that any development should take, it

was proposed that this might be best addressed through the format of a facilitated workshop. Such a workshop would explore the extent and type of interest that each sub-sector of the industry might have in such systems, and identify how electronic trading systems might match such interest.

Since these initial meetings there has been further evolution in the use of electronic auctions in continental Europe and an increasing interest in their application in the UK.

The extent of this interest has been evident in:

	the regular	coverage of	electronic	auctions	in the	UK trade press,	
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- □ the strong attendance at seminars put on in association with trade exhibitions, and
- □ the interest that the trade has shown in the establishment of auction facilities at Milford Haven and Troon, and in planned installations at Plymouth, Grimsby, Lowestoft and Lochinver.

Despite this level of interest, however, a number of industry members have voiced their concerns that there seems to be a growing band-wagon that electronic auctions are considered "a good thing". This is particularly disturbing given that the industry has a relatively poor comprehension of what electronic auctioning entails, and is not convinced of the benefits offered by such technology.

Against this background, Nautilus Consultants prepared a background paper on the subject, and in April 1999 the Planning and Development Service and the Roads and Transport Service of Highland Council indicated their preparedness to fund a workshop.

Advance details of the workshop were circulated to a cross-section of the nephrops industry during June 1999, pointing out its practical orientation and focusing on the identification of what electronic trading systems could and could not do for the sector. Discussions were expected to focus on what consequences the introduction of electronic auctions might have on the need for changes in raw material handling, changes in sorting and grading, and the likelihood of such systems streamlining or otherwise the flow of product to processors. Discussions were also expected to address the consequences of increased access to supplies by remote buyers (continental buyers), the implications for the smaller landing places and the boats that land there, and the implications in respect of price stabilisation and contract selling. The text of the "flyer" promoting the workshop is shown in Annex 2.

The workshop was organised by Nautilus Consultants Ltd of Edinburgh. The meeting was chaired by George Hamilton of the Planning and Development Service, Highland Council, and facilitated by a team comprising Crick Carleton (Nautilus Consultants), Roger Edwards (EBES Marketing), John Tower (Seafish) and Derek Forrester (Highland Council).

Workshop format

The workshop was held over the best part of a day. At the outset of the meeting, attendees were asked to put on paper their views on a number of issues to be discussed during the course of the workshop. This was scheduled to both encourage the active participation of attendees in the events of the day, and to assess the views they brought to the meeting. The questions posed are shown in the tabulation below; the range and nature of the responses are discussed in the following chapter.

Following background presentations on electronic trading and on the structure and operation of the nephrops industry, attendees were divided into four sub-groups, each tasked with the deliberation of a particular element of industry practice, and

identification of what impact electronic auctioning might have on such practice. The findings of each sub-group were then reported back to the meeting, and formed the basis of further discussion.

The afternoon session commenced with an *in promptu* presentation by Alex MacLaren, the auction manager responsible for the recently opened electronic prawn auction at Troon. He was asked to speak in response to concerns amongst the attendees at the extent of rumour and mis-information circulating within the industry about the Troon operation. Following a short presentation attendees were given the opportunity to question the manager on a range of issues.

This was followed by a second breakout session, where sub-groups were asked to debate different strategic issues relating to the possible introduction of electronic auctioning. Once again, sub-group findings were reported back to the main meeting, and formed the basis of further discussion.

The afternoon session came to a close with short presentations on the day's events from Peter Hamling, processor, Robert Stevenson, fishermen's representative, and Captain Bob Reid, harbour operator, and a summary presentation by Crick Carleton.

The content and nature of these various sessions, debates and presentations are laid out in the following chapters.

Questions posed to the workshop attendees

Quick fire assessment of industry views

- Why is the prawn sector so volatile?
- What is the biggest threat to future profitability?
- Where is the future market for prawns in terms of product and location?
- How can electronic trading assist the sector?
- How can electronic trading hinder the sector?

Breakout session 1 - Practical aspects of moving to electronic trading

- How would you go about specifying product in such a way as to facilitate remote auctioning – grading, sorting, quality definition?
- What changes would be involved in organising the logistics of handling and transportation?
- How would you deal with financial settlement?
- What sanctions could be applied to regulate trade through electronic auctions?

Breakout session 2 - Strategic issues

- Does scale matter and if so, how would you achieve it?
- If you have an electronic auction system / systems, who would operate it / them?
- If one or two ports set up electronic auctions for prawns, how would if affect your own decision making?
- What would be the impact of allowing continental buyers to source product through a remote bidding system?

The view from the industry

At the outset of the workshop several questions were posed to delegates to determine their views of the nephrops sector, both from current and future perspectives. Delegates were asked to write their responses to the following questions. The exercise was carried out anonymously.

- Why is the prawn sector so volatile?
- What is the biggest threat to future profitability?
- Where is the future market for prawns in terms of product and location?

Question - Why is the prawn sector so volatile?

The most important factor identified as causing the volatility in the nephrops sector was problems associated with the supply of prawns – 41 per cent of delegates cited supply problems as the main cause of volatility within the sector. Several different factors contributed to the main problem of continuity of supply. The seasonality of the fishery itself was cited as a major problem, but the uncertainty caused by vessels switching to different fishing methods or deciding to sell to different buyers was also seen as exacerbating supply problems.

Seventeen per cent saw the lack of trust and information inherent in the industry as causes of volatility. Buyers do not know how much nephrops will be landed until the boats unload their catch. Buyers feel obliged to buy all the prawns that their regular suppliers land, even if it is much more than they actually need. This is for fear that if they turn product away, the owner of the vessel will refuse to sell to him/her in future, leaving the trader without a regular supply of product. Similarly, if a buyer's regular supplier does not land as many prawns as the buyer needs, he/she is forced to source product from elsewhere at very short notice. These problems could be reduced if forward information about landings were made available to buyers, so allowing them to be more prepared for peaks and troughs in supply.

Fluctuating exchange rates and an excess of buyers were also stated as contributory factors in the volatility of the sector. Other factors were identified as poor grading, fluctuating quality, and inefficiency. The freezing of prawns for release on the market during periods of high prices was identified as a factor in keeping prices artificially low during periods of low supply. One delegate did not consider the prawn sector to be particular volatile.

Question - What is the biggest threat to future profitability?

Over 30 per cent of responses indicated that a lack of supply posed the biggest threat to the future profitability of the industry. Several factors were identified as potentially causing future supply to decline. Stock depletion through over-fishing was highlighted as a possible cause of supplies decreasing, as was poor quota management, UK vessels selling nephrops quota to overseas vessels leading to a decrease in the number of UK vessels fishing for prawns or an overall decrease in the number of

vessels targeting nephrops. Conversely, oversupply of nephrops was identified by one delegate as threatening the profitability of the industry.

Other possible problems facing the industry in the future were the increase in popularity of other similar products to nephrops competing for the same market, continued instability in the supply of nephrops and increasing costs, such as increasing transport costs or an increase in the cost of fishing entitlements. Each of these problems was identified in 10 per cent of responses. Government intervention in the fishery either at a regional, national or international level was also perceived to be a threat to the industry in the future.

Various monetary factors, other than increasing costs were identified as threatening profitability – changing interest rates, the continued strength of the pound and bad debts within the industry. The problem of poor quality becoming the acceptable norm was also seen to threaten the industry as this could pave the way for higher quality substitute products infiltrating the traditional nephrops market. Opposition to electronic auctions was also cited as being a possible threat.

Question - Where is the future market for prawns - in terms of product and geography?

Product

The most popular response to this question was "no change". Fifty per cent of delegates see nephrops as continuing to be marketed in the forms it is currently marketed. Others see value added becoming more important and a move away from tails to the sale of whole prawns. Supermarkets were considered to have growing influence in the sector, with product packaged in a form and size specified by the large multiples. The horizontal integration of the industry was also seen as a possible future development.

Geography

Fifty per cent of the delegates' responses identified Europe as the future market for nephrops. The domestic market was also perceived as being an important future market being identified by 36 per cent of delegates. Other responses were the USA and the global market. This suggests that the industry sees the future market for nephrops as being located in areas that currently form an important part of the industry and that expansion into markets further afield is not an option considered by many in the sector.

Question - How can electronic trading assist or hinder the sector?

Delegates were asked to record their response to the following questions about their attitude towards electronic trading systems.

- How can electronic trading assist the sector?
- How can electronic trading hinder the sector?

As in the previous exercise, answers were recorded anonymously.

Of the responses to the first question, the two most frequent answers were "increased transparency" and "don't know". Both answers were given by 28 per cent of the

delegates. Increased speed of trading and an increase in access to product were also cited on a number of occasions. Eight per cent of respondents saw electronic trading as increasing quality and profit, while a further eight per cent saw electronic auctions as being a fairer way of trading than the current situation.

There was less of a consensus as to how electronic trading systems could adversely affect the sector. Twenty five per cent of delegates were unsure how electronic trading could hinder the industry while two delegates believed that electronic auctions could not hinder the industry in any way. Sixteen per cent of respondents thought that electronic auctions would increase competition and put local buyers out of business. Sixteen per cent also believed auctions would make it more difficult for processors to ensure a consistent supply of product.

Other ways in which electronic auctions would damage the industry were cited as being reduced quality, disruption to well-established relationships between vessels and processors, increased transparency, and the fear that electronic auctions would not be as fair and open as they profess to be.

Practicalities of electronic auctions

Introduction

Delegates were split into four groups and asked to discuss one of the practical problems, listed below, perceived to present a barrier to the introduction of electronic auctions for nephrops.

- How would you go about specifying product in such a way as to facilitate remote auctioning grading, sorting, quality definition?
- What changes would be involved in organising the logistics of handling and transportation?
- How would you deal with financial settlement?
- What sanctions could be applied to regulate trade through electronic auctions?

Delegates were assigned to groups so that each contained a representative from each sector of the industry - catchers, processors, traders and harbour managers / operators. The groups were asked to discuss a particular question and then present their thoughts to the rest of the workshop. The workgroups were not expected to reach a consensus but to highlight the different opinions held by the various sectors of the industry. Each group was assisted by a facilitator.

Question - How would you go about specifying product in such a way as to facilitate remote auctioning – grading, sorting, quality definition?

The presentation highlighted the difference between the current situation in which processors deal directly with the vessel owners and the situation in which an electronic auction would effectively be the intermediary between the vessel and the processor. Currently, processors know exactly which prawns have been landed by which vessel because they deal directly with the vessel owner / skipper. If prawns were to be sold through an electronic auction, the problem of traceability would have to be addressed. Each lot sold would have to be labelled with such information as day of catch, where caught, vessel. There is a fear that labelling could be incorrect, leading processors to buy product that is older than they believe. Mis-labelling could also lead to the wrong vessel being blamed for landing poor quality product.

The problems associated with grading were also emphasised. At present, there is no standard method of grading and processors often visit ports in order to understand the particular ports' definition of different grades. Standard quality grades would need to be introduced that everyone from catcher through to processor and their final customer would understand.

Currently, processors re-grade all prawns to suit their customers' specific requirements. This was seen as a practice that would continue, even if ports graded the catch before sale through an electronic auction. Re-grading has a detrimental effect on quality - leading to loss of claws, softening of flesh — which would have a negative effect on processors' profitability. This re-grading and possibly re-dipping of prawns would continue on the part of the processors because of a lack of confidence in the thoroughness of the grading and dipping process that would be carried out at the port.

Different grades for the different nephrops product channels – live, fresh, frozen – would have to be introduced, taking account of factors such as day of catch, green sac and colour. Would the prawns be graded by size and then quality or quality and then size?

The issue of cost was also raised. Who would pay for the grading and counting, who would carry out the process and who would profit – fishermen, the port, the auction, or the processor? As mentioned above, processors would be sceptical about the ability of anyone other than themselves to carry out the grading, counting and dipping of prawns effectively. The cost of mechanical graders, of the need for large numbers of well-trained graders and for a large, temperature controlled area in which to carry out the grading were problems identified. The seasonality of the industry and the remoteness of some of the prominent nephrops ports would affect the ability of the local area to supply a well-trained workforce.

Shifting the responsibility for grading from merchant / processor to fisherman / auction management would adversely impact on the potential for merchants / processors to profit from the value added achieved in this process. It is presumed that at least some of this added value would be passed back to the fishermen in higher prices at first hand sale, through tighter specification and a higher quality product, though this has yet to be proven. If merchants / processors still feel it necessary re-sort and grade, then the benefits of such a system must become marginal — though the Troon operation, small though it is, seems to be finding a ready market for its product.

The processors currently see it as their responsibility to place each prawn landed to them, covering a range of qualities and grades. They thus have the task for finding and maintaining links with the range of buyers necessary for the disposal of all the prawns landed. There is a fear that the introduction of electronic auctions would shift this responsibility away from them and onto the auction, undermining the current position of the (local) processor in the industry and substantially altering their role.

These problems were not seen to be insurmountable but were seen as posing serious obstacles to the introduction of electronic auctions. Overcoming these problems would mean a radical re-structuring of the industry, to which there is considerable opposition from all sides.

Question - What changes would be involved in organising the logistics of handling and transportation?

The first change needed would be the introduction of more co-ordinated landings by vessels to overcome the current situation of very few landings being made during the week and large quantities landed on Friday. Appropriate facilities to store landings – temperature or humidity controlled storerooms – would have to be in place. This may not be possible in small ports with limited space. Another problem facing small, remote ports is the lack of an appropriate transport infrastructure. The lack of a trained labour force willing to work in such a seasonal industry was again noted, once again

being a particular problem in remote areas such as the Highlands and Islands of Scotland.

A change to the way nephrops are packed would have to be addressed. Currently, processors pack the prawns depending on their customers' specifications. Electronic auctions would have to pack the prawns prior to sale in numbers and a packaging material that would suit all buyers.

A method of tracing the prawns all the way along the processing chain was also identified as a change that would have to be introduced were electronic auctions to be used. The current situation where processors have direct links with the boats would be removed if electronic auctions were introduced. A means of identifying the vessel the prawns were landed by would have to be introduced in order to maintain the level of traceability and responsibility that exists in the industry at present.

Question - How would you deal with financial settlement?

The group saw this question as being somewhat academic as the current system could work equally well in an industry that used electronic trading systems. Each processor would have to supply a bank guarantee before being permitted to bid on an electronic auction. The problem of traceability was, however, mentioned. If product were not labelled correctly, it would be difficult to go back to the buyer or seller if a problem either with the quality of the product or with payment arose.

It was felt that the introduction of electronic auctions would adversely affect the trust that has been built up between processors and their suppliers.

Question - What sanctions could be applied to regulate trade through electronic auctions?

The main issue identified by the group was the need to define who the buyers' contract was with so that if problems arose, they would know who to approach regarding the problem. It was the general consensus of the group that it should be the auctions' responsibility for ensuring that product was supplied as specified. The auction would, therefore, be liable for redressing the supply of prawns that did not meet the quality grades specified. The auction would also be responsible for ensuring that payment was made to vessels.

Possible sanctions were not suggested by the workgroup, but if it is to be the auction that is liable for any problems, it should also be their responsibility to impose sanctions on those individuals or organisations that fail to comply with the rules of the auction.

Strategic considerations

Delegates were split into four different groups to those of the first workgroup session, each one again containing a representative of the different sectors of the industry and a facilitator. Each group was asked to discuss an aspect relating to the strategic implications of electronic auction systems:

- Does scale matter and if so, how would you achieve it?
- If you have an electronic auction system / systems, who would operate it / them?
- If one or two ports set up electronic auctions for prawns, how would it affect your own decision-making?
- What would be the impact of allowing continental buyers to source product through a remote bidding system?

One member of each group presented the thoughts of the group to the workshop.

Question - Does scale matter and if so, how would you achieve it?

The group agreed that scale does matter but that it was difficult to define the "right" size for a vessel, landing, port, auction or processor. Several problems associated with electronic auctions and scale were identified.

Presently, processors arrange for the transport of prawns from the port to their premises. If electronic auctions were in place, who would collect and pay for the transport of prawns from the separate auctions and deliver them to the processor – the auction, the port or the processor? If many small ports were linked by electronic auction, each landing a few boxes of prawns, would the cost of collecting and delivering the prawns outweigh any benefits of auctioning all the prawns on one electronic auction?

Conversely, large vessels and large ports also pose problems for electronic auctions. How would the auction cope with the problem of sorting, grading, counting, dipping and storing large quantities of nephrops? Cost was again seen as a problem – who would pay for the infrastructure needed for sorting and grading and who would pay the workforce to carry out the grading? Forewarning of the size of landings was seen as a way to ease this problem, as was persuading vessels to land throughout the week, rather than for all vessels to land on Friday, as they do now.

Another problem identified was that of replication. Would a port that wanted to introduce an electronic auction replicate the infrastructure that ports that already had electronic auctions used, or would attempts be made to integrate operations with those already in place elsewhere?

Question - If you have an electronic auction system / systems, who would operate it / them?

The group identified several possible bodies that could operate an electronic auction

- Harbour authority / trust / commission
- Independent company
- Fish salesmen group together and nominate one / a few salesmen to operate the system.

Several factors were also identified as being important in deciding who would operate the system.

- Cost. The set-up costs, especially for grading and storage, were seen to be high if
 no such facilities existed in the port. The cost of employing a suitable workforce
 was also identified as a deciding factor, as was the availability of such a workforce.
- Risk. Electronic auctions could be seen as too great a risk. There would have to be convincing proof that the investment would be a profitable one.
- Long-term security. The investor would have to be certain that the electronic auction would continue to be used - that it would not become obsolete or unpopular.
- Benefit to fishermen. A clear benefit would have to be demonstrated to local
 fishermen in order to persuade them to land to the auction. Proof of financial
 benefit and some assurance that landings would be sold would have to be shown
 (although it is fair to suggest that a more transparent system might more easily
 penalise the landing of poor quality and grades of product).

The cost of setting up an electronic auction was identified as the main factor in determining who would operate the auction. The co-operation of local fishsalesmen was also perceived as a key factor and it was agreed that it would be almost impossible to introduce and operate an electronic auction if local fishsalemen were opposed to the venture.

The combination of cost and the need for local industry co-operation led the group to conclude that the most likely operator of a successful electronic auction would be one formed by a collaboration between the harbour and local fishsalesmen. The harbour is best placed to provide capital investment, while the fishsalemen can provide operational knowledge.

Question - If one or two ports set up electronic auctions for prawns, how would if affect your own decision making?

If electronic auctions were set up for nephrops, buyers would show a much greater interest in how electronic auctions operated than at present and would pay close attention to how profitable processors that used the auction were as opposed to those that did not. The profitability of other processors using the auction would have a large impact on whether a processor would buy through the auction or not.

Processors would no longer feel obliged to buy from their regular suppliers and would only buy as and when the price, quality and quantity were right for them. Electronic auctions would, therefore, affect the trust and loyalty built up between processors and vessels.

Another implication of the introduction of electronic auctions would be to persuade processors to look overseas for product e.g. Holland and France, rather than sourcing from within the UK.

Question - What would be the impact of allowing continental buyers to source product through a remote bidding system?

The group identified a number of negative impacts that allowing continental buyers to bid remotely for UK product would have on the UK nephrops industry.

- □ Supermarkets would become aware that they could by-pass local supplies and bid directly for product.
- □ Continental buyers would pick and choose the quality and size grades they wanted, leaving only those they did not want for UK processors.
- □ Local processors forced out of business due to inability to compete with continental buyers.

The group stated that the issue of electronic auctions could be presented as a Pandora's Box, that once opened, the scenario of having continental buyers bidding remotely on UK auctions was then an inevitability - and only a matter of time.

On the plus side, however, it can be argued that increased demand brought about through greater transparency and access to product will mean higher prices paid to fishermen. In addition, whilst it may be the case that continental processors might have the advantage over some local processors in the short term, only in a few instances is this likely to be so in the longer term.

Where continental processors have a systemic advantage over local processors - for example through advantageous access to a skilled workforce - this would suggest that local processors are un-competitive in this market place and will need to reposition themselves accordingly.

Troon auction

At the time of the workshop, the electronic auction at Troon had been operational for 4 weeks. The number of boats landing to the auction had increased from four to eleven and more vessels were expected to start landing to the auction. The smallest daily volume of prawns landed to auction had been 537Kg, landed on the first day of operation. The largest quantity had been 2.8 tonnes. Fishermen pay for the grading of the prawns at a rate of 4 per cent of the gross sale price.

The grading process adds value to the prawns, as the buyer can be more assured that the product on offer corresponds more precisely to its description. This reduces the work the buyer has to undertake to bring the product into compliance with the narrower specifications of particular processors, retailers and retail channels. He is not paying for product he does not want - soft or old prawns, and prawns of a different size or quality to those specified in the product description.

It was conjectured that the grading by the auction is being carried out at less than cost and is undercutting fresh processors by replicating the job they do in sorting the prawns for their customers. No specific evidence was put forward to support this case one way or another.

It was also suggested that the operation at Troon is not transparent or fair because not all landings are sold through the auction and that pre-auction bids are underpinning the auction prices. There is nothing untoward in this as such; what is probably more to the point is that access to the electronic auction is restricted. The Troon auction has raised interest throughout the industry, but many feel frustrated that they cannot "see" what is going on. In this environment, the rumour machine is in full flow and many, often conflicting, stories are in circulation within the industry.

The problem of coping with the seasonality of the fishery was raised, but it was not seen to be a problem in Troon because the amount of nephrops landed at any time is not prohibitively large. The issue of employing a differing number of graders at different times during the year was also not perceived as a problem – many other industries have overcome similar problems.

The question of public money being used to fund Troon or other electronic auctions was raised. It was asserted that no public funds had been used to subsidise either Troon or Lochinver auction, but that public funds are often used to assist local businesses and that electronic auctions should be no different to any other local enterprise.



Points of view

A representative from each of the sectors of the nephrops industry gave a brief overview of their sector's view of electronic auctions.

Processors

Processors see electronic auctions as a threat to their businesses because of the sorting and grading functions that are carried out prior to sale. These are traditionally roles fulfilled by the processor. The sector is also sceptical about the auctions' ability to grade and dip prawns to an acceptable standard. If this were true, processors would have to re-grade and re-dip. This would have a detrimental effect on the quality of the prawns.

Electronic auctions are also perceived as a threat to processors because they persuade vessels to land to the auction instead of directly to the processor. Electronic auctions also potentially allow more buyers access to the prawns. These factors would make it more difficult for processors to ensure a supply and also increase competition for product.

The introduction of electronic auctions would, processors believe, destroy the frozen processing sector because they would not be able to source enough product when supplies are scarce. If the frozen processor is to disappear, the catching sector would then have no one to sell to when there is a glut of supply as it is the frozen processing sector that usually buys excess product.

There is a feeling that electronic auctions are geared specifically towards continental buyers. They also feel that there is an air of secrecy surrounding the electronic auctions currently in operation – it is not possible to watch how an electronic auction progresses unless you are a registered buyer, which requires a bank guarantee to be provided.

There are also some technical problems facing processors in Scotland associated with the use of electronic auctions. Remote bidding uses ISDN telephone lines, which are not available in many areas of Scotland so excluding processors in these areas from using electronic auctions, should they wish to use them.

The processing sector believes electronic auctions are inevitable. They are not, in principle opposed to their introduction, but do not like the way in which the current system in Troon, for example, operates. They would like to see certain guarantees introduced so that vessels could not switch from landing to auction to contract selling depending on the price currently available through the auction – for example a contract between the vessel and the auction. Auctions would destroy the loyalty and trust between vessels and processors.

6.2 Harbour operators

Harbour operators have not seen anything to convince them to install electronic auctions in ports. If, however, there were a demand for them to be introduced from the catching sector and processors, the possibility would have to be re-examined. At this moment in time, the use of electronic auctions does not seem to be feasible in UK ports based on the existence of wide range of operational constraints. Not least of these constraints is the continuing problem posed by the catching and landing of black fish.

6.3 Catching sector

The system in place today for the sale of nephrops has evolved from the auction system and the introduction of electronic auctions could be viewed as a step backwards. Electronic auctions, as they exist today, appear to replicate the role of primary processors. As such, are they really needed?

Electronic auctions have the potential to place nephrops on a wider market, but it is unknown whether this will lead to increased returns for the fishermen in the long-run. There is a fear that costs will increase, that the cost of installing and operating electronic auctions will be passed onto the catching sector, but that these costs will not be compensated fully from improved prices.

The electronic auctioning systems in operation today will have to improve before a large number of fishermen start to use them. As electronic auctions become larger and are used by more fishermen and buyers, it is felt that small problems that exist today will be amplified. The issue of black fish will continue to be a problem as it affects the quality of fish placed on the auction for sale, as well as artificially altering prices. There is a "them and us" feeling between fishermen and processors and a great need for discussion between the two groups exists, especially if the problems raised by the introduction of electronic auctions are to be overcome satisfactorily.

Conclusions

Key outputs from the workshop

The workshop was designed as a forum for open discussion between all members of the sector as a means of improving understanding of electronic trading systems. As such, the workshop achieved its goal, with participants agreeing that it was both stimulating and productive.

Whilst it was not the purpose of the meeting to reach any formal output or conclusions from the workshop it is, nevertheless, appropriate to draw together the views expressed and to provide some commentary on their impact on the future development of the sector.

In the first instance, several broad conclusions can be drawn from the day's proceedings:

There is a general view that the use of electronic auction systems in the fishery industry is a development that is here to stay – even in the nephrops sector;

- □ the industry does not warm to this development, and indeed perceives it to present a serious threat to the business interests of those currently involved in the first-hand trade in prawns;
- □ the industry is also rather perplexed as to what to do about it, and feels it is powerless to control this development, which is in the hands of "outsiders".

There is a great deal of mistrust and scepticism surrounding the introduction of electronic auctions, and the operation of existing electronic auctions, from all sectors of the industry;

- few individuals or organisations in the industry have an open mind with respect to the introduction of electronic auctions, but for many such systems hold a compelling fascination;
- but these same individuals and organisations find it frustrating that they cannot more easily observe the processes of those electronic auctions already in operation in what is after all supposed to be a transparent and open system; it is considered that rather simpler access to what is going on would help to dispel the myths surrounding their operation; at the end of the day, however, this is a commercial matter, though the provision of some form of consolidated daily data might go some way to improving transparency without compromising commercial confidentiality;

There is a general view that the electronic auction systems currently being presented to the industry by the equipment and software developers, and in the form of the auction companies making up the PEFA network, do not adequately address the requirements of the sector;

- □ but no individual, organisation or group of organisations is currently working to identify what might constitute an improved or adequate system;
- u there is a sense of fatalism that further developments in electronic auctioning will be dictated by the actions of outside (continental) operators setting up in the UK and Ireland:

There is general consensus that industry practices will have to change significantly if any advantages are to be realised from electronic auctioning;

- at the very least, present practices are incompatible with electronic auctioning;
- the industry accepts that change is necessary, but does not accept that anything particularly needs to be done now.

Comment

The passive stance of the industry

It is understandable that various parts of the industry might feel alienated and threatened by the arrival of new technologies, but the general view that the introduction of this technology is in the hands of "outsiders", over whom the industry has little to no control, is worrying. It is particular so since it is largely untrue.

Firstly, distinction has to be drawn between those companies that design, install and service electronic auction and trading equipment and facilities and those that operate electronic auctions. There are several EU based companies that develop and install such equipment. The main companies at the moment, in what is a dynamic and rapidly evolving market place, are **Schelfhout Computer Systems**, **Pan European Fish Auctions** (PEFA), **Agro Marché International** (AMI), and **Nieaff Systems**. Other companies are thought to exist in Germany, Spain and Italy, but no details are currently available. Details of the main players, and associated software development companies, are shown in Annex 3.

With the exception of PEFA, none of the companies own or run electronic auctions. And with the exception of PEFA, none of these companies have the intention of owning or running electronic auctions.

Where PEFA differs is that the establishment of its own electronic auction software and equipment division forms part of a ground-breaking business development strategy based on the long-term development of the Zeebrugge fish auction and the land and property around it. These are owned by the same private company that owns PEFA.

It is perhaps easier to comprehend this strategy by separating its commercial elements into two – PEFA Software, that part of the company that develops and sells electronic auction software and systems, and Pan European Fish Auctions, that part of the business that manages and operates electronic fish auctions. The strategy employed by the latter element is to seek to substantially increase the flow of raw material to Zeebrugge by placing the Zeebrugge fish auction at the centre of a network of linked electronic markets. An increased flow of product through Zeebrugge will encourage the expansion of existing processing and distribution operations at the site, and encourage others to set up there. This should be good for the landlord, and good for the local economy.

What is particularly innovative in this strategy is that the development of the PEFA network is based explicitly on the use of remote bidding technology, a technology that has been around for some time, but for which take-up has been minimal. Though there are upwards of fifty electronic fish auctions in operation across western Europe today, in all but Iceland and Norway electronic auction operators have struggled to incorporate this technology into their operations. By placing it at the very heart of its operations, whilst also accommodating exclusively local sales, PEFA has irrevocably bound remote bidding into its standard mode of operation.

To overcome initial resistance to the use of remote bidding systems it has targeted the UK, where no electronic fish auctions were formerly in place. In the case of Milford Haven it set up the Milford Haven Fish Auction Company. This has the exclusive right to auction fish at Milford Haven, and has built new auction premises on land leased from the port operators, in much the same way as it owns and operates Zeebrugge Fish Auction. But unlike most continental fish auctions, where the owner of the auction premises also operates the auction, in the UK Milford Haven is the only example where this is so. In every other instance the functions are quite distinct, with one or more fish selling companies being licensed to auction fish using the port market premises. So in the cases of Troon, Lowestoft and Lochinver, PEFA has secured, from the owner of the auction premises, licenses to sell fish just the same as any other fish seller. In these instances, however, the fish selling company chooses to sell by electronic auction, incorporating the use of remote bidding facilities.

In the same vein, the company has also been successful in establishing linkage to existing electronic fish auctions in the Netherlands, France and Spain.

So what PEFA is seeking to achieve at Zeebrugge through this business strategy is exactly the same as any other infrastructure owner might seek, say at Fraserburgh or Mallaig or Scrabster – increased throughput and increased locally based processing, leading to improved profitability. This strategy will also lead to increased employment opportunities, and improved local economic activity – elements of considerable interest to the local communities and to local government and associated development agencies.

PEFA has done nothing more than develop and follow through on a business strategy. It has done this using its own resources and its own entrepreneurial flair. There is no doubt that it has permanently changed the fish-selling landscape in the UK, but it has done nothing that could not have been done by an adventurous UK local council or port manager, vessel agency or fishermen's association, processor or trader. Any one of these, or grouping of these players, could have, and still could, develop an appropriate business strategy, buy and modify the technology from one of the electronic software and equipment suppliers, and implement that strategy. Accordingly there is absolutely no justification for the perception that the development of electronic fish auctioning in the UK is in the hands of "outsiders". It is only so for the time being because the UK industry has allowed it to be so by waiting for others to make the moves rather than orchestrating the moves itself.

So saying, the UK industry is not far behind. Plymouth Trawler Agency, the sole fish selling company on the privately owned Plymouth Fish Market, is in the process of installing an electronic auction system, to be commissioned later this year. It will allow for the use of remote bidding, and Plymouth Trawler Agency has established a linkage with Ostende Fish Auction as part of its strategy to improve the marketing of, amongst others, the flat fish landed to the market. The system being installed here is supplied by Schelfhout Computer Systems.

Grimsby Fish Market is understood to have contracted for the installation of an electronic auction facility to operate alongside its traditional shout auction. This too will allow for remote bidding, and it too has established a linkage with another electronic

auction – in this case Urk Fish Auction - as a means of improving the marketing of its flat fish landings. This is a clearly two way linkage, with the requirements of Grimsby and Urk processors complementing each other to a large degree, such that product is expected to flow in both directions.

In Shetland, a cross-industry grouping has registered the Shetland Fish Auction Company as the vehicle it will use to develop, install and operate electronic auction facilities. This follows the sort of format used by most continental operators, where a single company is responsible for auction operation. Plymouth achieves much the same outcome, but on the basis that the Plymouth Trawler Agency has an existing monopoly in selling fish on the market.

Other UK and Irish fishing ports are exploring their options in this regard, but it has to be said that no-one has yet come up with a development strategy that is quite as all encompassing, ambitious and innovative as that currently being played out by PEFA. Has PEFA got it wrong, or is the UK industry thinking on too small a scale?

How electronic auctioning threatens current interests

Complacency!

Most people attending the workshop felt that the advent of electronic fish auctioning in the British Isles threatened their business interests. Indeed the level of interest in the Troon operation exemplified the concern and fascination with this development.

During the course of the workshop attendees came up with quite a wide range of rational and realistic ways in which such development threatened current business. This could lead to the presumption that electronic auctioning is indeed bad for business, but this would appear to be so only if the industry does not change. This would also be so if the industry did not respond adequately to the changing landscape that electronic auctioning heralds.

But the mood of the meeting seemed to be one of resignation to the fact that electronic auctioning in nephrops, as in other species, was here to stay, but that it did not require any particular response on the part of the industry - at least not now. If indeed people held this view, this is a risky position to take.

Of some reassurance, however, the industry is recognisably undergoing change, and the various sectors of the industry are making moves to meet and benefit from changing market and economic circumstances. Whether they are doing enough is less clear.

Protection

There was much discussion about the "close" nature of the nephrops sector in the UK and Ireland. "Closeness" in this context is a sociological term indicating the existence of close sociological linkage between elements of the sector. A "close" company, for example, is a term used to describe a family owned company.

Most nephrops fishing and processing activity takes place in the context of small and peripheral communities, and communities that are heavily dependent on fishing and fish processing. Within these socio-economic structures the processor / trader has been cast in the role of something of a protector. It is the processor / trader that is expected to absorb the heavy landings made during the peak season, and support the fleet during the lean season; that is expected to try to balance employment in processing plants across the year by holding over product; and that is expected to take

the whole catch instead of cherry picking only what is immediately required. The vessel owner / agent acts to support the skipper / owner's interests in these transactions.

Yet whilst not denying that the inter-relationships between the industry players, particularly at the local level, are "close", and that the socio-economic realities do sometimes temper the pure profit motive, this role is rather self-modelled and may no longer be tenable or realistic. The opening up of the markets for raw material to more direct access by continental traders, distributors and processors, combined with the added transparency that electronic auctions are expected to yield (where a market price is established on the basis of relatively short term availability), will automatically increase competitiveness. This will cut across any such additional costs that local processors might bear as a result of "closeness".

What seems to be being portrayed might be more accurately expressed as a requirement for protection from the open market as a means of maintaining traditional industry structure. Unfortunately most producers do not seem to see it this way, and seem relatively easy in themselves in selling to the higher bidder, regardless of local consequences. In addition, some of the larger processors are located at some remove from the coast, and consequently from any socio-economic linkage with the coastal communities.

What seems to be a more realistic assessment of the situation is that the extensive use of "price lists" across the sector artificially separates volume and the pricing signal. This has the unhealthy effect of cushioning producers from the full force of the market whilst at the same time complicating the balancing acts that traders and processors have to perform to accommodate such variable supply. The complexities that result are rather self-inflicted. Their value is that they both establish and feed this sense of closeness, offering advantage to those with local knowledge and connection, and in the process reducing, or at least containing, competition. The level of protection this strategy offers is considered worth it, even though this tends to support the maintenance of certain inefficiencies that could not be upheld in a more openly competitive structure.

The operations at Troon are starting to show this up, and this will be further affected as and when electronic auctioning at Lochinver commences. If one or two other nephrops ports were to make the move to electronic auctioning, facilitating remote purchase on these markets by outside traders, then in most geographical locations the arguments for some protection of "closeness" would be unsupportable. A direct consequence of this is that many traders and processors will have to restructure if they are to compete effectively in a market with fewer barriers. In some cases this may require relocation to areas with larger and more flexible workforces.

Changing landing patterns

Exposed to open market pricing, vessel operators are more likely to seek to even-out the volume and frequency of overall landings as a means of maximising revenues (particularly affects trippers – it has relatively less impact on day-boats). They are also more likely to improve on-board handling practices as part of this process. This process tends to place greater responsibility on the producer to catch what the market requires, rather than to continue with the current system where buyers are expected to take the good with the less good.

Dealing with the alternatives

An alternative scenario advocated by those who see little long-term merit in electronic auctions is that the underlying changes in the industry will favour ever greater

concentration of purchasing power in the hands of fewer and larger companies – even in France, Italy and Spain. In their pursuit of supply chain efficiencies these companies might argue that the establishment of electronic auctions only adds unnecessary links in the chain, adding little to no value, and indeed disrupting accountability.

A second view might be that the quest for improved and standardised grading will encourage the movement of ungraded prawns from the smaller ports to grading centres. This will undoubtedly have employment consequences for the smaller ports (and wherever the grading centres are located – assumed to be a larger population centre). But this development does not necessarily favour the establishment of electronic auctions, since it achieves no more than is currently achieved through vessel / processor agreements.

Making the changes now

On balance, then, there seems to be little doubt that electronic auctions do pose a threat to current practice. There also seems little doubt, however, that current practice will have to change – not just to meet the requirements of electronic auctions, but to stay competitive.

At the enterprise level, the longer the enterprise delays addressing this problem, the more difficult it is likely to find the job of maintaining market position. In all these changes there are opportunities to be taken – but the change-averse will not be reaping the benefits from these opportunities.

In addition, whilst a failure to undertake change at the larger nephrops ports (whether or not this involves the use of electronic auctioning) would verge on the suicidal, there may be much less flexibility in matters of change when it comes to the smaller harbours and coves. For these, small volumes and the need for pick-up services will continue to pose major logistical problems, and a greater focus on niche marketing might prove a more effective response to the changes underway within the sector.

At the port level, if the logic behind the move for change expressed in the preceding sections holds up, then at the very least the larger nephrops ports must re-evaluate the sorts of services they can offer the nephrops sector. If the advent of the electronic auctioning of nephrops at Troon can cause so much disruption, should not the main nephrops ports be considering the possible development of auction networks.

These ports together handle more nephrops than anywhere else in the world. The main value markets for nephrops remain in southern Europe, and the demand for good quality and sizes of nephrops is strengthening throughout Europe. If the industry in Scotland and Ireland will not make the moves, then PEFA and others like it will.

The next step

Processors, traders, vessel agents, commission agents and transporters need to urgently re-evaluate their response (or absence of response) to the advent of electronic auctioning of nephrops in the UK and Ireland. This is primarily on the basis that the response to date appears to be inadequate given the range of threats that the industry faces.

In the world of nephrops Troon is already proving a centre of interest, and Lochinver is already marked. Where will the next electronic auction system be installed – at Mallaig, Fraserburgh or Kilkeel? How will the rest of the industry respond if this were a serious possibility? The industry as a whole needs to map out scenarios that involve joining and extending the PEFA network, or setting up one or more other networks of

nephrops ports. What advantages and disadvantages do such strategies suggest for the future development of the sector?

To kick-start this process, the front runners of the industry need to consider setting up a share-holder company – say "The Prawn Auction Company" – much as the Shetland industry has done. This will signal the intention of at least part of the industry to explore networking opportunities for the first-hand sale of nephrops. So that the company represents the broader interests of the industry it should be owned by a range of share-holders including producers, vessel agents, port operators, processors and traders. The company should be under independent management, and in the first instance should simply form a vehicle for the exploration of development ideas. Should parts of the industry feel that their interests lie with other allegiances, then more than one such company should be set up.

For the smaller ports, greater consideration should be given to the development of networking and joint marketing strategies that lead with the quality strengths of small-scale operation, and seek to separate such production channels from those of the "big-boys". Greater emphasis should be placed on the use of Internet technology, and less on the use of electronic real-time auctioning.

Consideration should be given to scheduling a second one-day workshop as a means of advancing the debate on how exactly the industry must change if it is to retain control of its future and remain competitive in the light of interest from other parts of Europe.

Annex 1 - List of attendees

T		
Name	Organisation	Area
George Hamilton,	Highland Council	Inverness
Chair		
Crick Carleton,	Nautius Consultants	Edinburgh
Facilitator		
Roger Edwards,	EBES Marketing Ltd.	Inverness
Facilitator	ŭ	
John Tower,	Sea Fish Industry Authority	Edinburgh
Facilitator	, ,	ŭ
Gareth Russell	Associated British Ports	Troon
Peter Hamling	Fastnet Fish Ltd	Fort William
George Walker	Fishermen's Mutual Association	Evemouth
Goorge Wanter	(Eyemouth) Ltd.	Lyomodai
Brian McGann	Fraserburgh Harbour Commissioners	Fraserburgh
Capt. Robert Reid	Fraserburgh Harbour Commissioners	Fraserburgh
D. Boyle	Glenisla Foods	Spittal
I. Alsop	Glenisla Foods Glenisla Foods	Spittal
Fiona Matheson	Hebridean Seafare Ltd	Invergordon
lain Sutherland	Highlands & Islands Enterprise	Invergordon
John Beaton	•	
	Macduff Shelfish (Scotland) Ltd.	Macduff
Hugh Allen	Mallaig & North West Fishermen's	Mallaig
Managa Managa	Association	D alfaal
Karen Macrae	MBBS Export (Skye) Ltd	Broadford
Alan Coghill	Orkney Fishermen's Association	Kirkwall
John Patterson	Peterhead Harbour Trust	Peterhead
Dick Wailes	Sco-Fro (Lochaber) Ltd	Fort William
John Watt	Scottish White Fish Producer's	Fraserburgh
	Organisation	-
Richard Greene	West of Four Fishery Management Group	Gairloch
Fred Buchan	Scotprime Seafoods Ltd	Ayr
Robert Stevenson	West of Scotland FPO	Mallaig
Luc Schelfhout	Schelfhout	Belgium
Marie-Jeanne	PEFA	Zeebrugge
Becaus-Pieters		
Jan Buissert	PEFA	Zeebrugge
Tommy Rae	Jap Ltd	
Tom Brown	NIFPO	Portovogie
Alex McLaren	Troon Electronic Auction	Troon
Douglas Low	Dawnfresh	Lanarkshire
Grant Eckersley	Moray Seafoods	Buckie
Mr. MacMillan	Mallaig Harbour	Mallaig
Derek Forester	Highland Council	Inverness

Annex 2 - The workshop flyer

Can electronic trading systems be made to work for the nephrops industry?

....if so, how?

The World Wide Web, e-mail, virtual reality and Internet shopping are all on the increase. How does this growth in electronic communications affect the fishing industry?

Electronic trading is well established in some European ports and is gradually being adopted by UK ports. Should the nephrops industry jump on the electronic bandwagon?

What is electronic trading anyway and how does it work?

Nautilus Consultants is pleased to announce a one-day participatory workshop on electronic trading in the nephrops industry to be held at

Craigmonie Hotel, Inverness 2nd July 1999 10.30 to 4.00

The workshop is intended to improve people's understanding of the issues associated with electronic marketing and answer some of the questions posed above.

Interested parties – fishermen, fish selling agents, port operators, commission agents, traders and processors – are invited to attend and contribute their personal knowledge and experiences of electronic trading systems.

Some of the questions the workshop will address are:

- What are the practical constraints surrounding the introduction of electronic trading systems?
- How could these constraints be overcome?
- ❖ Why should electronic trading systems be introduced what are their benefits?
- ❖ What would be the ideal electronic trading system for the nephrops industry (if any)?
- What are the commercial implications of introducing / not introducing electronic trading systems?

It is hoped that the workshop will promote a better understanding of some of the practical issues associated with electronic trading, remote bidding and linked systems, allow open discussion of the possible benefits of this new technology and answer any questions related to the introduction and use of electronic trading systems.

The workshop is

not a sales pitch designed to sell the idea of electronic trading systems or promote systems currently available.

not designed to establish whether electronic trading is a good or bad idea.

not a decision making platform

Electronic communication and trading is evolving rapidly. We hope you will be able to attend and contribute to this discussion of the implications of this new technology for the nephrops industry. A brief workshop report will be prepared and circulated to all invited parties.

Workshop Agenda

10.00	Registration and coffee
10.30	Welcome
10.40	Introduction
11.00	Setting the scene – presentations and discussion:
	□ Overview of electronic trading systems
	□ Characteristics of the nephrops industry
12.00	Workgroup session 1 - identification of practical problems
1.00	Buffet lunch
2.00	Discussion – overcoming constraints
2.30	Workgroup session 2 - matters of strategic linkage
3.30	Coffee
3.45	Discussion - strategic and commercial considerations
4.30	Close

Annex 3 - Electronic auction software and equipment suppliers

The following summaries have been prepared on the basis of available promotional material, and our existing knowledge of these companies and their activities. These are thumb-nail sketches only, and whilst we have endeavoured to provide a balanced overview of each company, their accuracy cannot be guaranteed. More comprehensive and current information should be sought direct from the companies themselves.

The main players

Schelfhout Computer Systems

Address Zavelstraat 7 – 9190 Stekene, Belgium

E-mail info@schelfhout.com
Tel +323 779 99 86
Fax +323 779 99 89
Web site www.schelfhout.com

CEO Luc Schelfhout

Schelfhout Computer Systems has been in operation since the mid-eighties providing electronic clock auctions to flower, fruit and vegetable and fish auctions throughout western Europe. Over this period it has been at the forefront of developments in electronic auctioning and trading, covering fixed Dutch clock auction systems to multiple and mobile clock systems, on-market to auditorium bidding systems, and most recently the integration of more traditional electronic auction systems with remote bidding and Internet systems.

Since 1997 the company has been a consortium member in the development of the INFOMAR suite of products. This was an EU ESPRIT funded R&D project producing software products that allow for integrated data exchange, advance notification of landings, real time and catalogue Internet trading, and integration with electronic auction systems and remote bidding systems.

Its systems are in use in over twenty fish auctions in Holland, Belgium, France, Spain, Norway and the UK. It has most recently installed new systems at the ports of Plymouth, Ostende, Lorient, and Bermeo (a top tuna port in Spain). It has also just received an order from Grimsby.

Pan European Fish Auctions

Address Ierse Zeestaat 201, B-8380 Zeebrugge, Belgium

E-mail pefa@pefa.com
Tel +32 50 54 76 48
Fax +32 50 54 76 94
Web site www.pefa.com

CEO Marie Jeanne Becaus-Pieters

Pan European Fish Auctions (PEFA) was established in 1997 as the central vehicle for the development of a network of linked electronic fish auctions across western Europe. The company developed its own integrated electronic auction and trading software in association with the University of Ghent. This software is provided to members of the network, and allows for connection to the hub system based at Zeebrugge Fish Auction in Belgium.

The software facilitates access to a real time electronic auction network, but also allows for remote bidding by traders, and the provision of market information in real time. This software suite is available exclusively to PEFA network members who are electronic auction operating companies. These companies implement complementary systems of quality assessment, payment guarantee, credit referencing, and coordination and logistical aspects of the trade, so allowing smooth integration across the network. Registered buyers have password access to the system via high speed Internet connection.

To date the software has been installed at Zeebrugge Fish Auction, Milford Haven Fish Auction, Troon Electronic Fish Auction (TEFA) and Port Auction Services (PAS) Lowestoft – all companies in which PEFA has majority or significant ownership. The company has also recently signed up three additional continental fish auctions to the PEFA system at Scheveningen, Stellendan, and Columsplaat. The company intends to open a fifth majority owned operation at Lochinver in the autumn of 1999.

Agro Marchés International (AMI)

Address 11 rue du Havre, 75008 Paris, France

E-mail AGROMAR@iway.fr
Tel +33 (0) 1 44707979
Fax +33 (0) 1 42949388
Web site www.agromarches;fr

CEO Jean-Jacques Mennillo

AMI has been in operation, in one form or another, for the last fifteen years. AMI in its current form came into existence three years ago.

Its historical market base is in France, and systems installed by its predecessor, Service Agro, are in operation in 16 French fishing ports. The system is marketed as the IKTUS System.

AMI has upgraded its system range, and offers products that include ship to shore data exchange, electronic auctions, distance buying, credit control, internet sale by catalogue, and internet sale by tender.

The company has recently received additional development funding and has established a joint venture company in Germany to exploit the German market for such equipment, a UK registered company, ITEMS, to exploit the UK market, and has opened an office in Morocco. It is in the process of establishing a joint venture company in Spain with one of Spain's largest telecoms companies.

French anchovy and sardine Producer Organisations on the Mediterranean coast currently use an AMI Internet trading system to sell their produce to Spain using a sale by tender system operating on AMI's main server.

Nieaf-Systems-Navigs

Nieaf-Systems

Address Kanaalweg 22, 3526 KM Utrecht, The Netherlands

E-mail info@nieaf-systems.nl
Tel +31 (0)30 267 07 67
Fax +31 (0)30 267 07 68
Web site www.nieaf-systems.nl

Sales manager Pieter Kwantes

Navigs s.a.r.l.

Address Chemin de la Gardière, 31380 Montpitol, France

E-mail robgal@imaginet.fr
Tel +33 (0)561 84 12 70
Fax +33 (0)561 84 12 71

CEO Rob Gallagher

Neiaff Systems is the world's largest supplier of electronic trading systems for the flower, fruit and vegetable markets, and has been in operation since the turn of the century. In association with Navigs of France (a member of the Informar consortium) it is adapting its products to the future needs of the fishing industry. Product development is currently focused on the design of a modular, integrated product which brings together the traditional floor-auction with an internet-based electronic extension.

Nieaf-Systems-Navigs provides a comprehensive suite of products including automated auction rooms, fully integrated back office management systems, distributed electronic commerce networks that use the internet to bring distant buyers virtually onto you auction floor, and mobile communications systems that can make contact with and between vessels as easy as sending and receiving electronic mail.

The Neiaf-Systems-Navigs product range is intended to allow the auction operator to serve more customers, more efficiently and cost-effectively.

Other system and software companies

Seafish Technology

Address Seafish House, St Andrew's Dock, Hull HU3 4QE, UK

E-mail technology@seafish.co.uk
Tel +44 (0)1482 327837
Fax +44 (0)1482 223310
Web site www.seafish.co.uk

Tech. Director John Tumilty

Seafish is involved with two projects to trial software for the transmission of "catch-to-date" information from ship to shore by e-mail prior to landing.

The first is a collaboration with SHCS (see below) involving the further development and deployment of software developed as part of the Infomar project. This allows for secure transmission of data from vessel to shore in forms compatible with business standard business software and compatible with Internet use and formats.

The second project deals with the on-board grading and weighing of fish. This work is being undertaken in co-operation with an automated weighing machine manufacturer and the fishing management software developer Upstream Systems (see below). The project includes accurate weighing of fish into boxes at sea, the production of labels for box identification and the generation of an electronic catch log which is communicated electronically to shore. Work is also progressing to incorporate vessel position recording into the labelling associated with both systems.

Susan Holmes Computing Systems Ltd (SHCS)

Address 40 Castle Street, Berkhamstead, Herts HP4 2DW, UK

E-mail <u>susan@shcs.unet</u>
Tel +44 (0)1442 864 101
Fax +44 (0)1442 864 101
Web-site www.shcs.net

SHCS is a software systems development and installation company providing a range of services associated with electronic auctioning, Internet trading, data exchange systems and web-site development. Set up in 1999 to exploit and further develop the product suite arising from the Infomar project, the company is working with fishery and non-fishery interests in adapting Internet trading systems to their specific requirements.

SHCS is working with Seafish in the development of user-friendly data exchange systems that will facilitate improved transfer of catch and operational information between fishing vessel and shore agent. The company is also engaged in the further development of e-commerce (Internet trading) applications for all aspects of the product supply chain, for fish as well as a range of other perishable and non-perishable products.

Over the period 1996 to 1999 Susan Holmes headed up the Infomar project. During his period she was employed as a software development engineer and product manager with the Vega Group plc, an IT services company and offshoot of the British space programme. Towards the end of the Informar project she established SHCS as a joint venture company between Vega and Susan Holmes with the specific intention of exploiting the outputs of the Infomar project.

Upstream Systems Limited

Address Tunnoch Park, Dalrymple, Ayr KA6 6BA, United Kingdom

E-mail sales@upstream.co.uk
Tel +44 (0)1292 560333
Fax +44 (0)1292 561200
Web site www.upstream.co.uk

Upstream Systems Ltd is a recent start-up company developing integrated management software for a range of industry sectors, one of which is fisheries. It has developed three principal fishery related suites of software to date within its on-going product development programme.

One is an integrated vessel management programme which allows the skipper to monitor, and optimise, the performance of his vessel, combining data input from key items of on-board equipment with cost and target performance data.

A second programme monitors the position of the trawl net when fishing. This information is fed into an "expert system" which assesses the extent to which the trawl is operating effectively, and offers advice on the appropriate corrective measures to take to bring the trawl back into optimal operation. Thus if the trawl net sensors indicate that the trawl is lifting off the bottom, or the head-rope is falling, it makes suggestions as to how correct these changes.

A third piece of software has been developed for use by vessel managers and agents to facilitate the ordered recording of vessel catches, landings and sales. This system simplifies the task of monitoring fish sales transactions, as well as facilitating later data analysis. This system also offers the potential for linkage to in-house accounting and invoicing systems.