



What did we want to know?

- >Who is using Paper Charts
- >Where are they?
- >What are they using them for?
- How do we react to changing market conditions and requirements



Market Segments



SOLAS — (International Convention for the) Safety Of Life At Sea

SOLAS Vessels

ECDIS Mandated

ECDIS Not Mandated

Non SOLAS Vessels

e.g. fishing, leisure

Historically core market

Focus for digital products

Tracker survey

Future core paper market?

Size?

Makeup?

Requirements?

Targeted survey

Small Craft Offering

SNCs do sell to this market as well



Research

- Survey Oct/Nov 2020 SOLAS regulated but below ECDIS mandation vessels
- Survey Summer 2020 SOLAS regulated, typically ECDIS mandated vessels
- >Sales Research



What is paper used for now? Larger typically ECDIS vessels

Fleet Managers Mariners



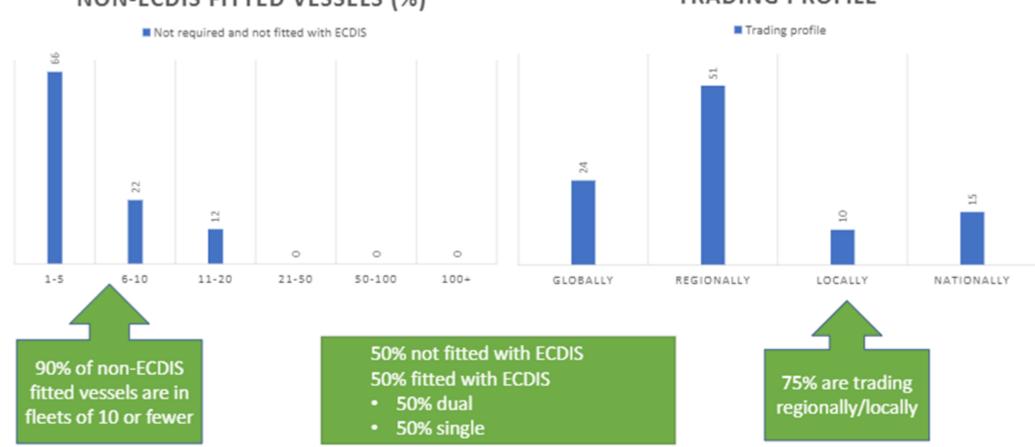




Fleet profile Non-ECDIS Mandated Vessels

NON-ECDIS FITTED VESSELS (%)

TRADING PROFILE

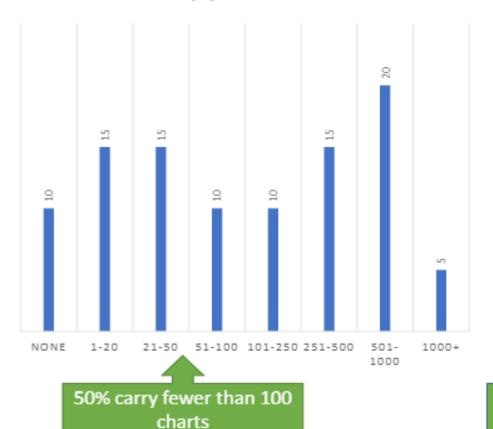


Half of this segment could be using digital already

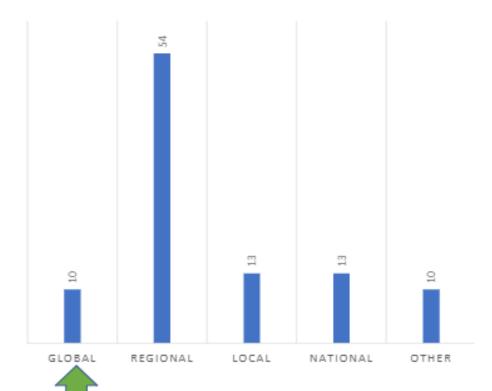


Paper Holdings Non-ECDIS Mandated Vessels

Roughly, how many paper charts are carried onboard (%)?



What is the coverage of your paper portfolio (%)?



Globally trading vessels have dual ECDIS?



In summary

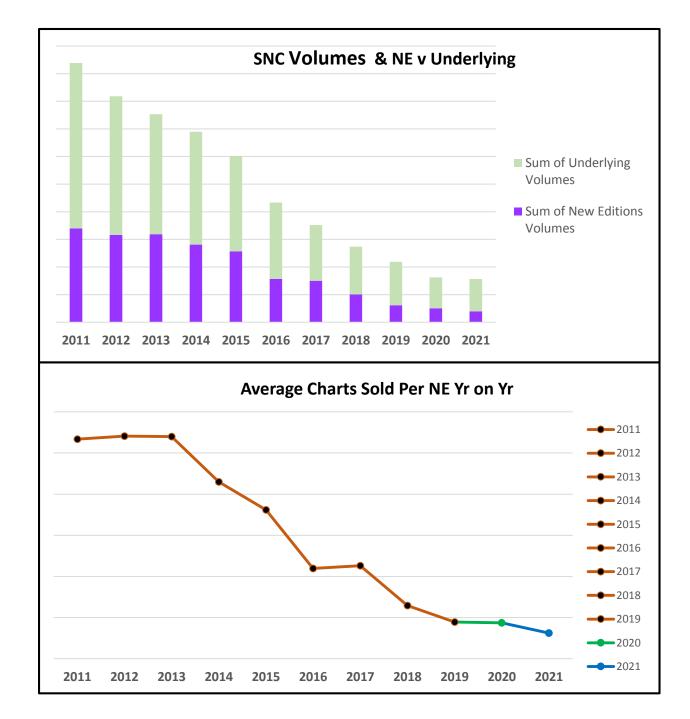
- Smaller commercial vessels are hard to reach for surveying
- Most owners run small fleets, trading regionally or more locally
- 50% of ECDIS fitted vessels carry paper as back up
- 50% of ships carry fewer than 100 charts, 25% carry 500+
- Only 10% of vessels carry a global portfolio
- 70% charts are purchased from Chart Agents but 95% purchase fewer than
 50 charts per year
- 0% will carry more paper, 37% will carry fewer charts
- 68% will fit ECDIS in the next 5 years
- Electronic charting is being used in all market sectors



Sales Research

Sales falling at around 20% per year

- Indications of regional differences
- Possible signs of decline flattening
- Continued use of paper even when dual ECDIS is present
- Change in proportion of New Edition sales vs Underlying
 - Use of POD and Print-to-Order





Customer Voice

Market is complex

- Some sub-segments are seeing an increase in paper usage
- > There are regional/segment differences
- > There is some continued use of paper even when dual ECDIS is present

Concerned over costs

- Declining coverage
- Print On Demand Investment

The customer values our products

