Seaways

The International Journal of The Nautical Institute

Improving offshore safety

Guidelines for the carriage of methanol **p32**

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➡ *Seaways* looks at books, films and articles offering advice, information and general interest to Nautical Institute members

Maritime Informatics

➜ This book, which the editors describe as first of its type, outlines the current and future impact of the new field of maritime informatics, which is set to transform the way in which the maritime sector operates.

Informatics is described as an applied science, developed by data scientists to meet the needs of practice, and applied by practitioners and data scientist cooperatively. Maritime informatics is defined as the application of information systems to increase the efficiency, safety, and ecological sustainability of the world's shipping industry.

A practical topic

Having been a ship driver in the past, and having spent the last few decades focused on the Human Element and effective decision making, I was curious how practical this book might be for someone like myself who hasn't even embraced social media. I am pleased however to recommend this book, which not only focuses on data exchange but ultimately on how such data can support good decisions for economic, social and environmental sustainability.

I'm pleased to see that a third of the book is given to chapters under the banner of 'Maritime informatics and decision making'. These include chapters on digital data sharing for enhanced decision-making; decision support for voyages; and decision making for port visits (to name a few). The other two sections are 'Maritime informatics: a better glue', which serves as an introduction to the field; explaining what maritime informatics does and why it matters, and 'Maritime informatics and technology'.

The fourth industrial revolution

Autonomous vessels often grab the headlines when writing about the future of shipping, but the 'fourth industrial revolution', as it is described by members of the UN Economics Commission (UNEC), has a much wider effect. Artificial intelligence, big data, automation, and the Internet of Things are set to have a profound impact on shipping – not just in terms of navigation but across the full spectrum of ship operations and the logistics chain. The UNEC goes on to suggest that in the next 10-20 years we will see as much change in shipping as has been experienced in the past 100 years. *Maritime Informatics* explores the extent and impact of these developments; looking both at what is possible, and what will need to change to make these possibilities reality.

The book features contributions from practice and academia around the world, with authors from 20 countries. Of these, 47 are from industry or government and 34 from universities or research institutes. Over 23 chapters, the book examines competition and collaboration between shipping companies, and also companies who serve shipping needs, such as ports and terminals. Practical examples from leading experts give the reader real world examples for better understanding. Each of these chapters can be purchased individually in case of specific interest, but it is hoped that the book as a whole will serve as a basis for the further development of maritime informatics as a separate discipline.

In discussing the roles that are likely to change and evolve under digitalisation, one author states that 'those who want to continue to participate profitably in the [shipping] ecosystem will need to reblend their social and organisational capital to match the digital connectivity and standardised digital data exchange that will dominate the execution of the future port call'. The challenge for current stakeholders is to adopt common, interoperable data standards or to risk losing control of the logistics chain.

Driving change

In discussing collaboration, the book states that an efficient, safe, and environmentally sustainable sector needs to be developed harmoniously. In order to transform the maritime sector to compete in a digital future, it must move:

- From fragmented situational awareness to common situational awareness.
- From low information quality to high and reliable information quality.
- From vague planning horizons to predictable operations.
- From unstructured information exchange to standardised data exchange.
- From sub-optimised operations to a mature collaboration culture.
- From unnecessary waiting times to just-in-time operations.
- From low information system maturity to enhanced information system maturity.

The authors conclude that these are exciting times for those willing to create the future of shipping.

It seems clear to me however that we in the shipping industry are in for quite a bit of change as the result of many drivers and that business as usual is not really an option. Developing a specific discipline for maritime informatics is important for our industry, and it will be crucial for that science and discipline to be rooted in good decision making by practitioners. Mikael Lind and his many co-authors are certainly off to a good start with this book. Their online community can be visited at http://maritimeinformatics.org

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