IfM Education and Consultancy Services worked with the Royal National Lifeboat Institution (RNLI) to help the charity develop a clear understanding of the current and emerging communications technologies that will impact on future search and rescue operations at sea.

**Sector**
Non profit

**Project scope**
Identify the potential impact of emerging technologies to maximise RNLI’s future search and rescue communications capability.

**About the organisation**
RNLI was established to save lives at sea and is the largest provider of ocean search and rescue services around the coasts of the UK and the Republic of Ireland. The charity provides an on-call 24-hour service covering 19,000 miles of coastline with a fleet of more than 350 lifeboats.

Volunteer lifesavers are highly trained in search and rescue operations and they rely on a suite of analogue and digital communications equipment to notify them of an incident, to locate the victim and to coordinate a rescue. In the critical search phase of an operation, the reliability and accuracy of communications and location technologies can be the difference between life and death.

The RNLI is committed to halving the number of deaths from drowning by 2024. A key step in getting to this goal is making the most effective use of the best search and rescue technology available and ensuring that the technology is integrated with the Global Maritime Distress and Safety System (GMDSS). RNLI must also be capable of receiving and responding to ‘calls for help’ from people who are using their own personal communications devices.

**The Challenge**
The are limitations to current maritime search and rescue communications technology capability. While very reliable, very high frequency (VHF) maritime radio does experience occasional blackspots, is affected by weather and relies on the human voice to communicate location. Although used infrequently, Medium Frequency (MF) radio is still used for emergency transmissions. Intensive repeated training is required to keep RNLI volunteers up-to-date on using maritime radio.

It is vital that RNLI stays abreast of existing and future search and rescue specific technologies and changes to the GMDSS.

Search and rescue technologies continue to rapidly advance with real-time innovations such as detecting when a person falls overboard and new tracking and navigation...
To address these needs the project team collated insights from industry, academia and research institutions through on-line sessions and face-to-face workshops. These insights were then synthesised into a series of top-level roadmaps depicting the vision of the topic areas, the trends and drivers affecting change, the barriers and enablers, and the technological stepping stones required for RNLI to leverage value from existing and future systems. Additionally, RNLI needed to understand the changing regulatory framework that may enable or hinder the use of potentially lifesaving technologies.

**The Outcomes**

Roadmapping proved to be a powerful tool for RNLI to collate insights and technical intelligence for the development of a single, coherent vision of the search and rescue communications landscapes.

The RNLI Innovation Team has a better understanding of the search and rescue technology landscape following the workshop. As a result, the charity is prepared for new technological advances as well as having a good appreciation of communications and training requirements for future lifesaving platforms.

The roadmapping workshop also identified where gaps exist now and potentially in the future, giving the RNLI information to engage with new technologies. RNLI needs to assess and realign its operations to make best use of these technologies while ensuring that they integrate with maritime search and rescue systems.

The roadmapping process allowed us to gather deep technical insight and connected our RNLI technical community with technology developers and researchers who are now aware of our technical challenges and lifesaving ambitions. We have a valuable and engaging way to communicate technical information and influence the future direction of innovation and investment both internally and externally.”

Dr Will Roberts,
Senior Innovation Manager,
Royal National Lifeboat Institution (RNLI)
RNLI https://rnli.org/