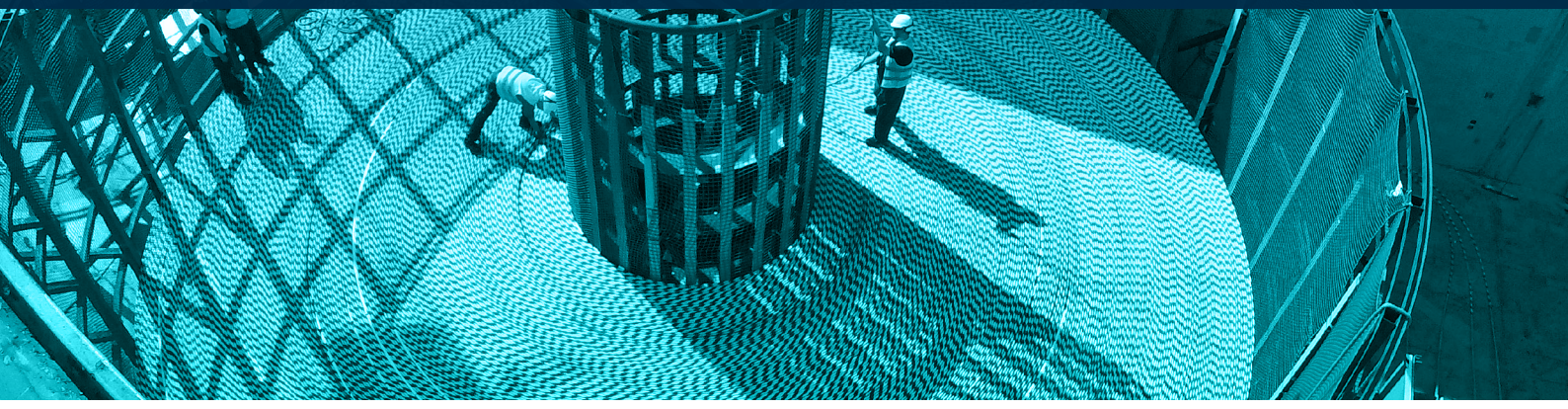
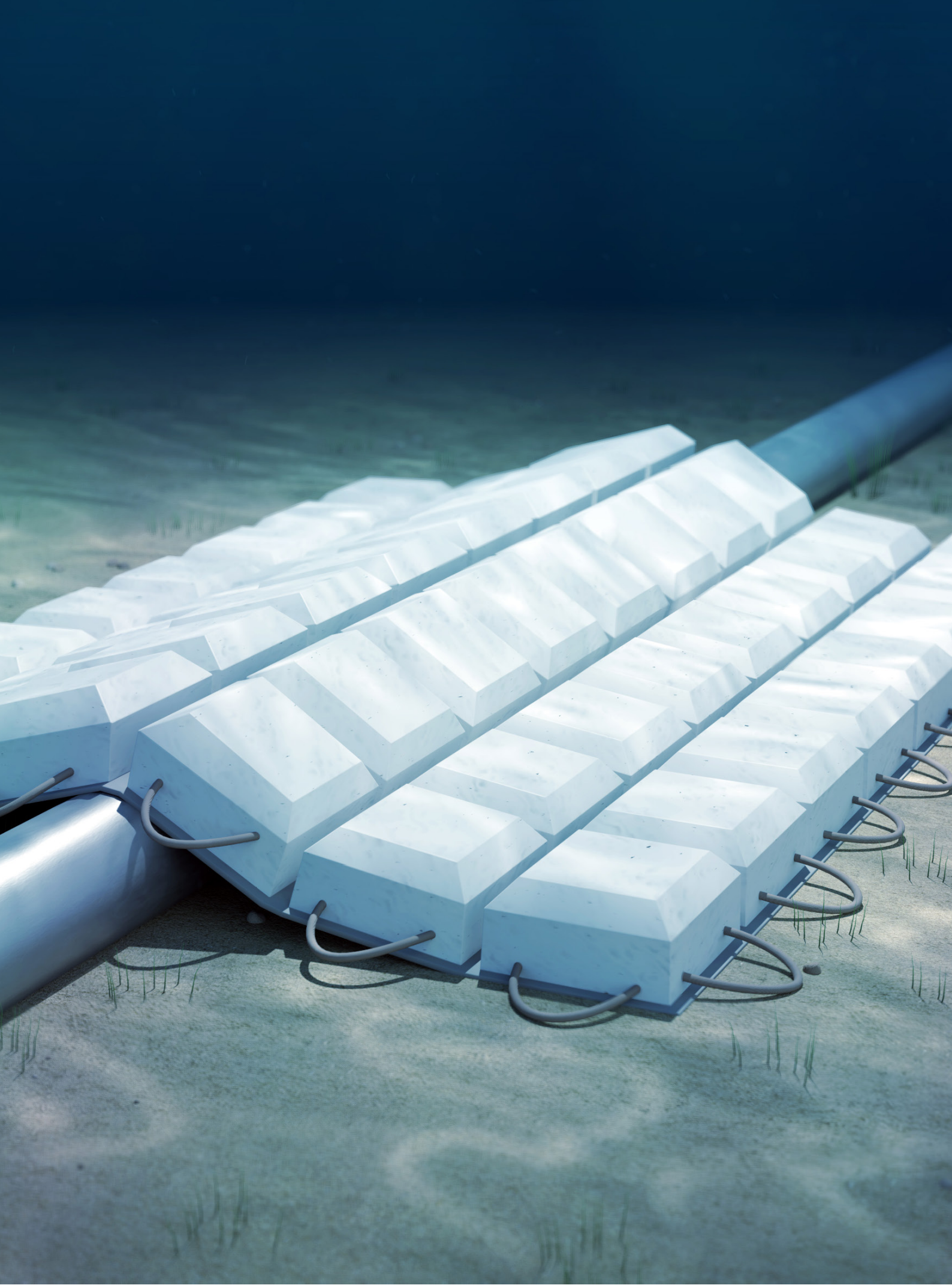
SUBSEA CONSTRUCTION

December 2021



MARINUS LINK



Studies are underway to identify the best construction method for Marinus Link

Marinus Link is a proposed 1500 megawatt (MW) electricity interconnector comprising two 750 MW cables and fibre-optic cables to be located between Tasmania and Victoria. The interconnector includes a 250-kilometre High Voltage Direct Current (HVDC) subsea cable across Bass Strait and a 90-kilomentre HVDC underground cable in Victoria. This brochure refers to the construction method for the subsea component.

Preparing the cable route

Before laying the subsea cables, a number of marine surveys and investigations were undertaken to determine the best route for the link, while minimising the environmental impacts to the seafloor.

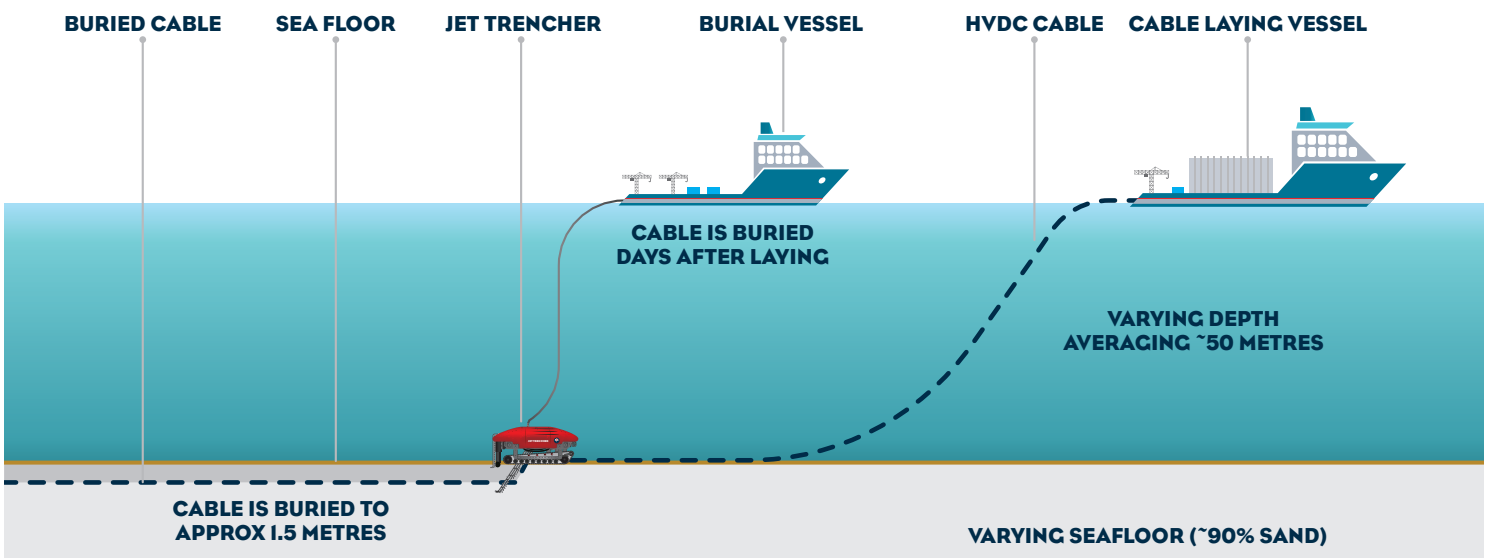
The marine surveys included scanning the seabed, taking samples of the seafloor, and identifying any debris that will need to be removed prior to the laying of the cable.

LAYING AND BURYING OF THE CABLES

The subsea cables will be manufactured in long continuous lengths. After being transported to Bass Strait, the cable laying vessel will gently lower the cable onto the seafloor as the vessel travels forward along the identified cable route.

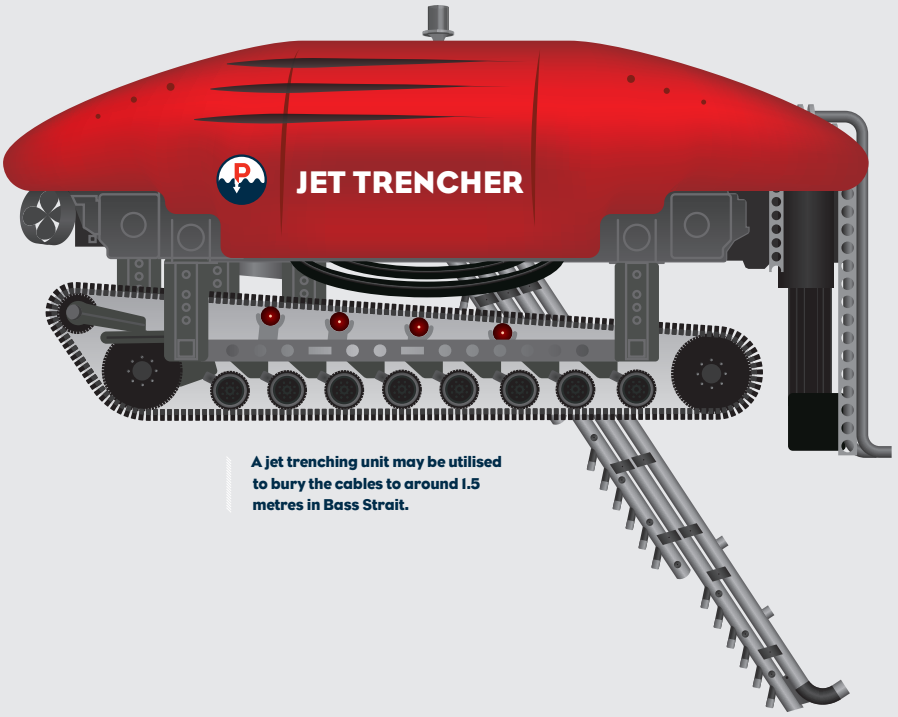
With the cables now lying on the seafloor, they need to be protected from anchors and fishing activities that may damage the cables. To protect the cables, they are buried in a sandy seabed using a water-jetting trenching machine. The water jetting trencher works by lowering two legs either side of the cable and pushing high-speed water into the seafloor. The cable then sinks into the seabed as material is softened and removed from below the cable.

Seabed conditions are mostly homogeneous (sand) along the project route, meaning that the water-jetting will be used for the majority of the route. Where the seabed is hard, the burial will be completed by using either a mechanical trencher or, concrete mattresses lowered above the cable.



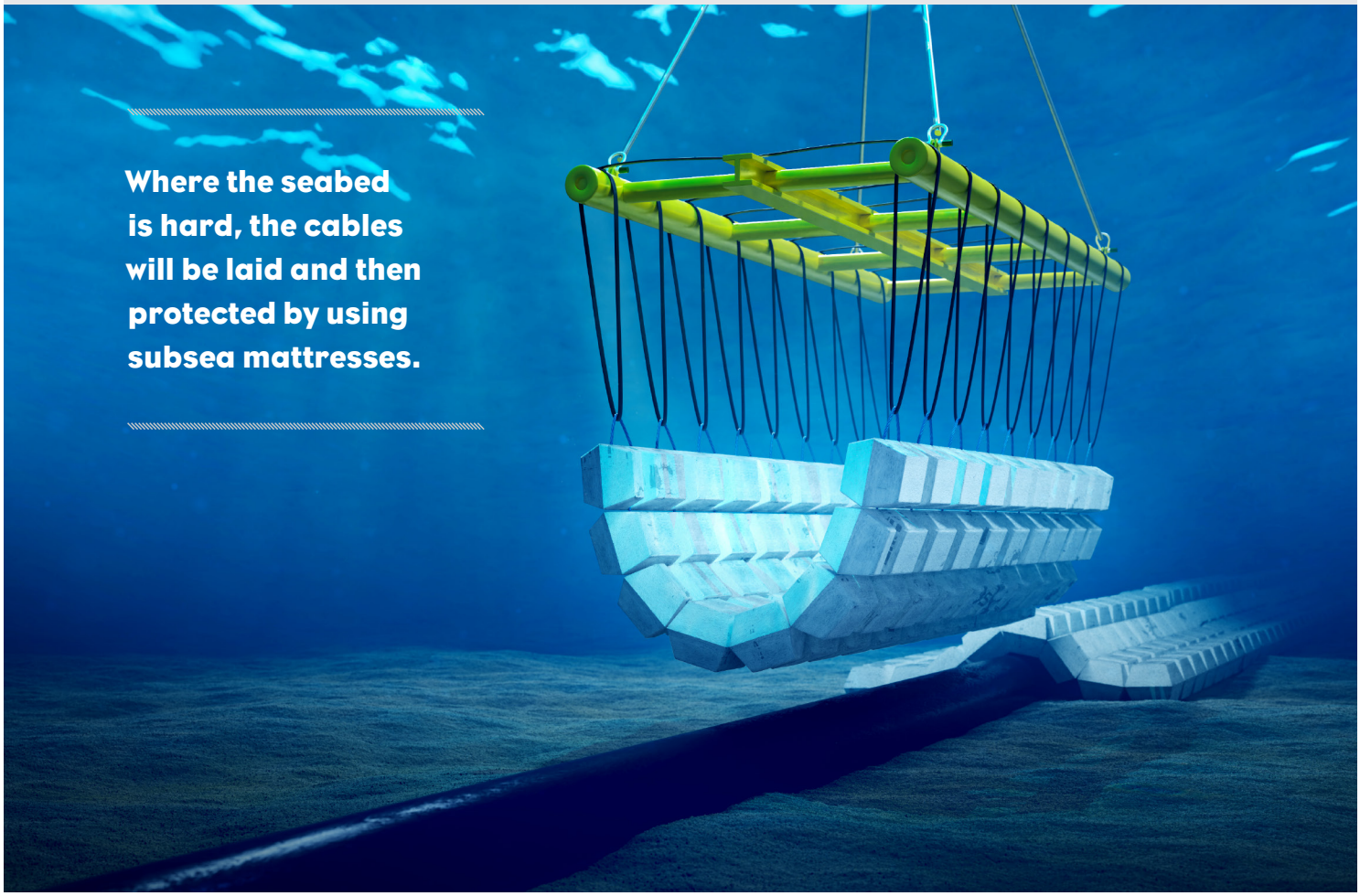
*not to scale

The majority of the subsea cable route has a soft, sandy seafloor, allowing for a water jetting trencher to be used to bury the cables safely and with a low impact to the surrounding environment



A jet trenching unit may be utilised to bury the cables to around 1.5 metres in Bass Strait.

Where the seabed is hard, the cables will be laid and then protected by using subsea mattresses.



CONSTRUCTION IMPACTS

The proposed route has been chosen to avoid seabed habitats of significance.

The cable installation process causes disturbance of the seabed, which is generally sparsely populated with marine plants and animals along the proposed route.

Studies from similar subsea cable projects indicate post-construction impacts to the seabed are minimal and unlikely to be visible after one year due to the natural backfill of sediment into the trench. Long-term impacts on marine life and habitat are very unlikely.

In some cases, after the cables and associated infrastructure (concrete mattresses) has been constructed they act like artificial reefs, providing a semi-protected area for some marine life.

IMPACT FROM ELECTROMAGNETIC FIELDS (EMF)

EMF occur naturally in the environment because of the earth's magnetic field. EMF are also created by everyday electrical equipment like mobile phones and power lines, as well as the undersea cables of Marinus Link.

Many marine species can detect electric fields and use the earth's geomagnetic field and electric fields for migration and hunting activities. Because of this some marine species may react to generated EMF.

Marinus Link has been designed to have two sets of two power cables bundled and buried together, as this reduces the amount of EMF produced and reduces the distance EMF can be detected from the source.

Research shows that EMF produced by subsea cables designed like Marinus Link does not create a barrier to sensitive species and they will be able to easily navigate past the cable.

These findings will be verified during the impact assessment process.

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FURTHER STUDIES

A preliminary marine benthic ecology assessment was completed for Marinus Link, including a desktop review and baseline field surveys. A preliminary assessment of maritime heritage and archaeology was also completed to inform route selection.

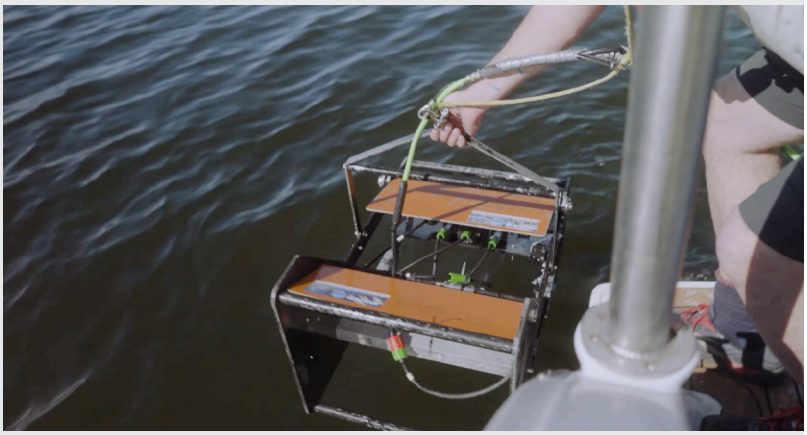
Further marine studies will be undertaken as part of a detailed assessment of Marinus Link. Their range and scope will be confirmed as the regulators determine the assessment and approval requirements for the project.

In 2022, Marinus Link will be undertaking a number of marine geotechnical site investigations to gather further information on the seafloor conditions, and to also access the landfall sites of the cable.

They may include:

- **Marine benthic ecology**
- **Marine ecology and resource use**
- **Maritime heritage and archaeology**

Photo: Crew members from Marine Solutions with specialised underwater camera during the survey. This camera can reach depths of up to 60 metres.



MORE INFORMATION

For further information on the project:

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