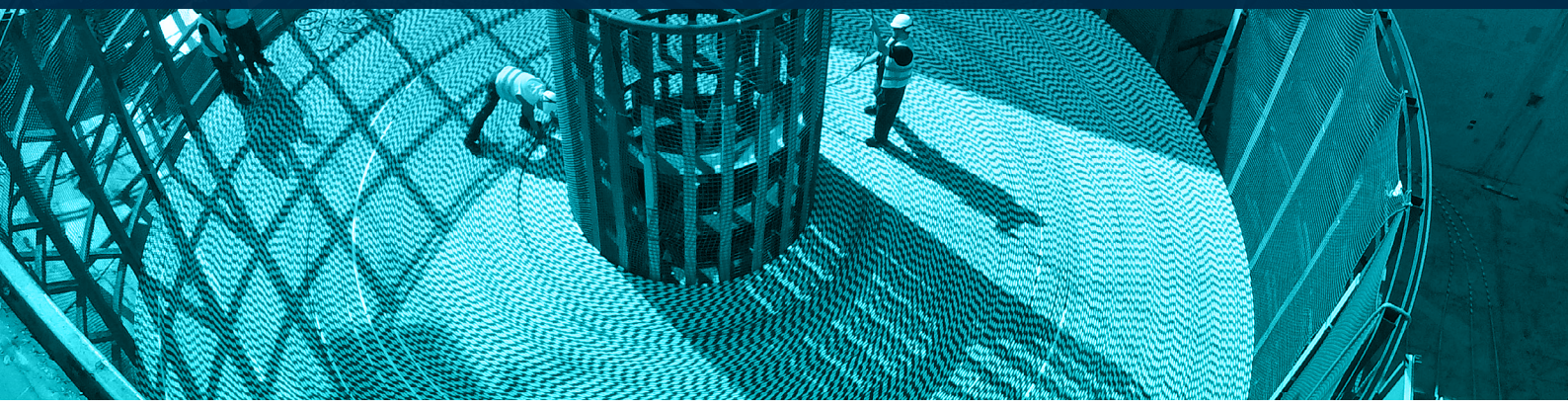
SUBSEA CONSTRUCTION

January 2023



MARINUS LINK

Planning is underway to identify the best construction method for Marinus Link

Marinus Link is a proposed undersea and underground electricity and telecommunications interconnector between Tasmania and Victoria.

It will further connect Tasmania to the National Electricity Market, comprising Queensland, New South Wales, ACT, Victoria, Tasmania and South Australia.

Marinus Link will comprise high voltage direct current (HVDC) cables, fibre-optic cables and converter stations in both Tasmania and Victoria.

Marinus Link will be about 345 kilometres long – 255 kilometres of undersea cables and 90 kilometres of underground cables.

It will have a 1500 megawatt capacity, equal to the power supply for 1.5 million Australian homes.

Preparing the cable route

Before the construction phase of the project, 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.

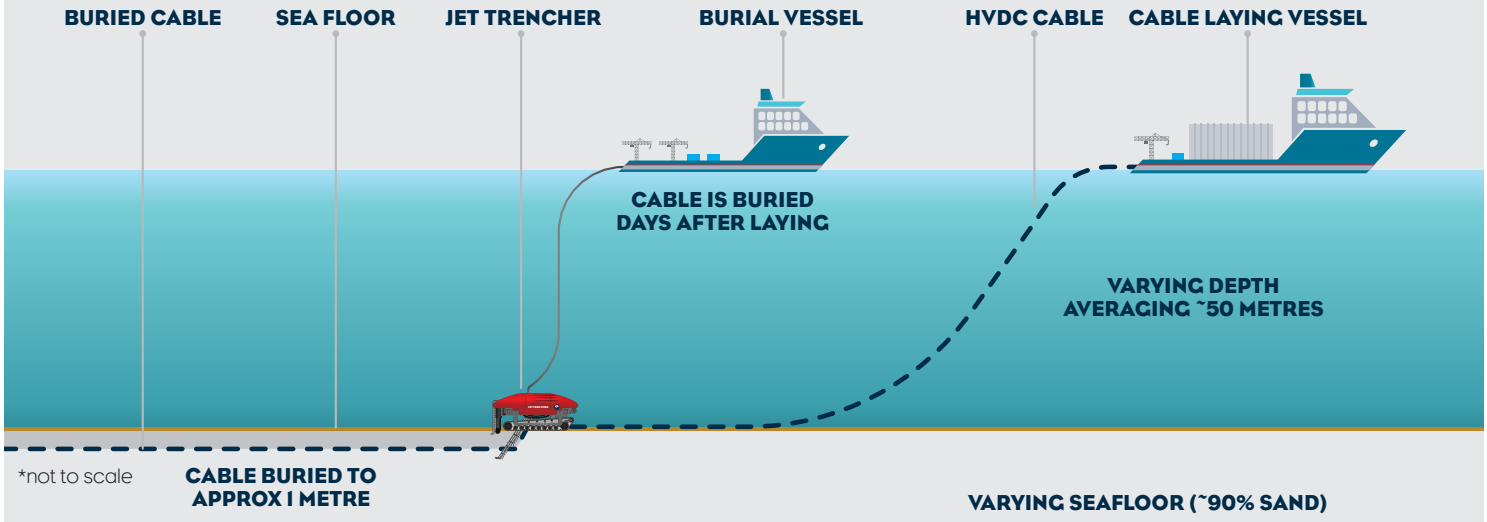
The marine surveys included scanning the seabed, taking samples of the seafloor, and identifying any debris that will need to be removed prior to the laying of the cable.

Laying and burying of the cables

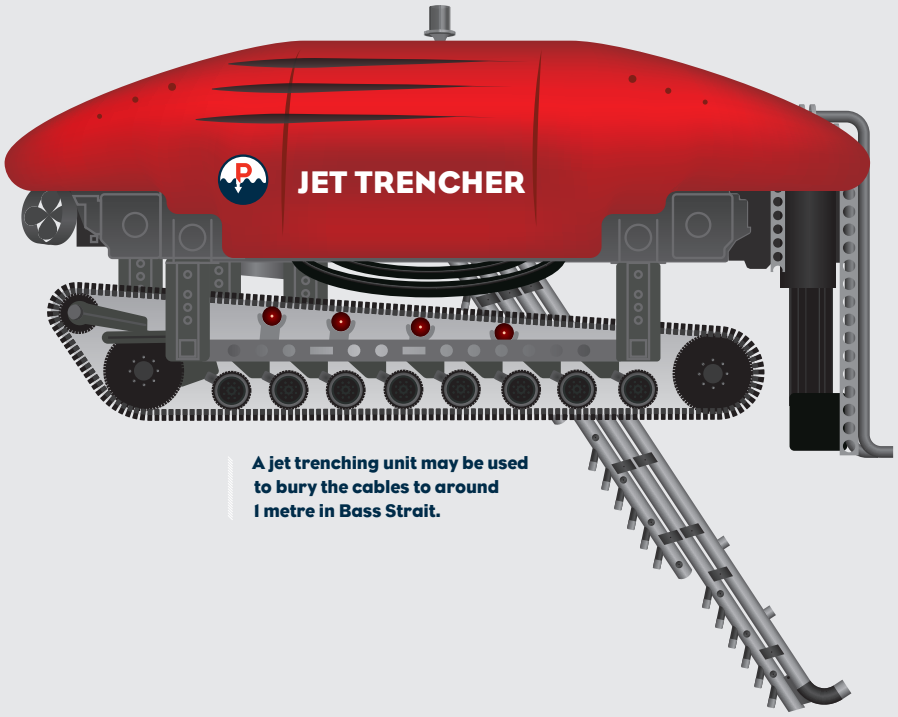
The cables will be manufactured in long continuous lengths. After being transported to Bass Strait, the cable laying vessel will travel along the cable route while gently lowering the cable onto the seafloor.

Once the cables are on the seafloor, they will need to be protected from anchors and fishing activities that may damage the cables. To protect the cables, they are buried in 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 similar (sand) along the project route, meaning 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.



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



A jet trenching unit may be used to bury the cables to around 1 metre in Bass Strait.

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

Minimising construction impacts

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

The cable installation process will cause disturbance of the seabed, but it 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 have been constructed they act as 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 undersea cables.

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 the design Marinus Link has chosen reduces EMF and does not interfere with the navigation ability of sensitive species.

These findings will be verified during the impact assessment process.

MORE INFORMATION

For further information on the project:

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