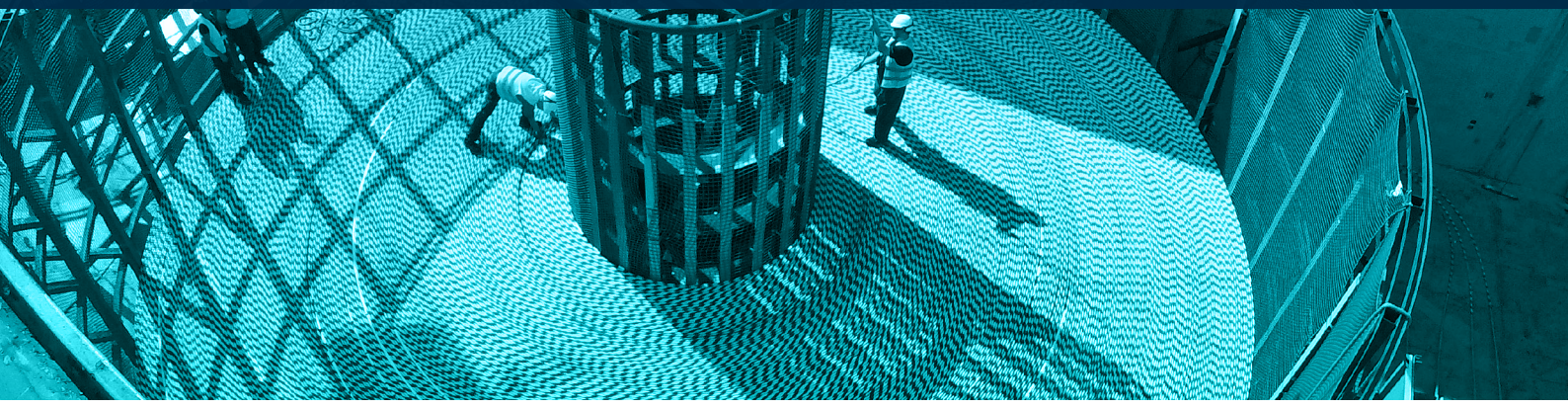
UNDERSEA CONSTRUCTION

August 2024



MARINUS LINK

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

Marinus Link is a proposed undersea and underground electricity and data interconnector between North West Tasmania and the Latrobe Valley in Victoria.

The project includes high voltage direct current (HVDC) cables, fibre optic cables, a communications station, and converter stations at each end. The converter stations will connect Marinus Link directly into the transmission networks in both Tasmania and Victoria.

The project's cables span 345 kilometres (km). This includes 255 km of undersea cables across Bass Strait and 90 km of underground cables in Gippsland, Victoria.

Marinus Link is currently in planning and development, known as the project's 'Design and Approvals' phase.

Marinus Link will be delivered in two stages. Initially as a 750 megawatt (MW) project (Stage I) with a second 750 MW link to follow at a later date (Stage 2).

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.

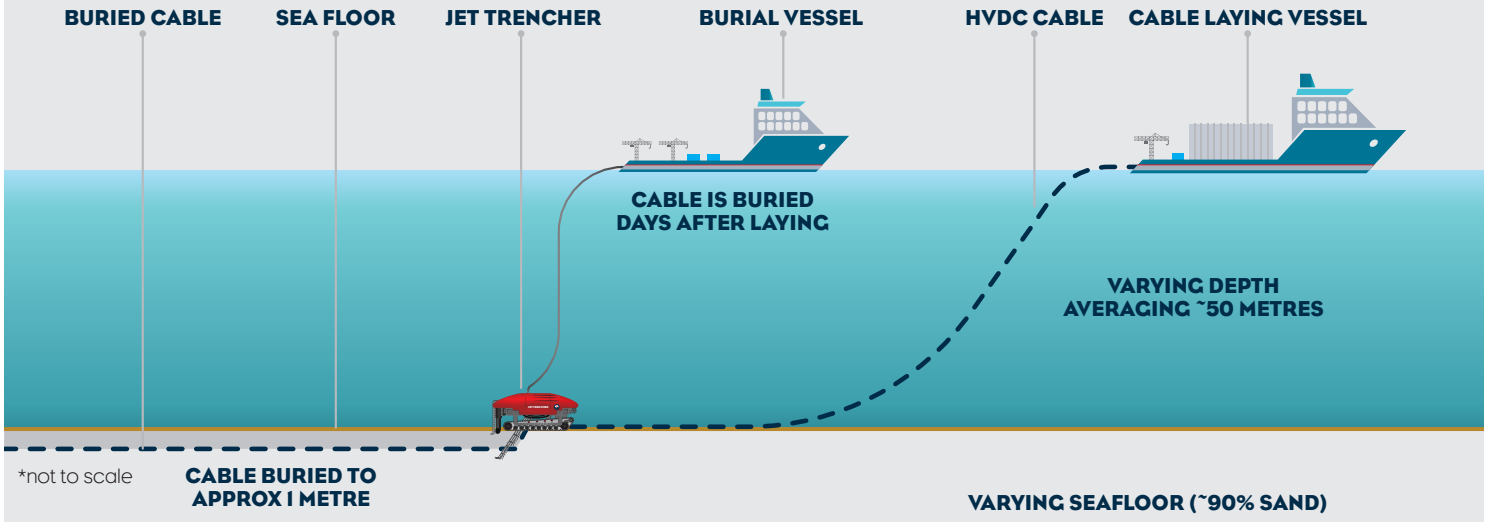
The marine surveys included scanning the seabed, taking samples of the seafloor, and identifying any debris that will need to be removed prior to the laying of the cable.

Laying and burying of the cables

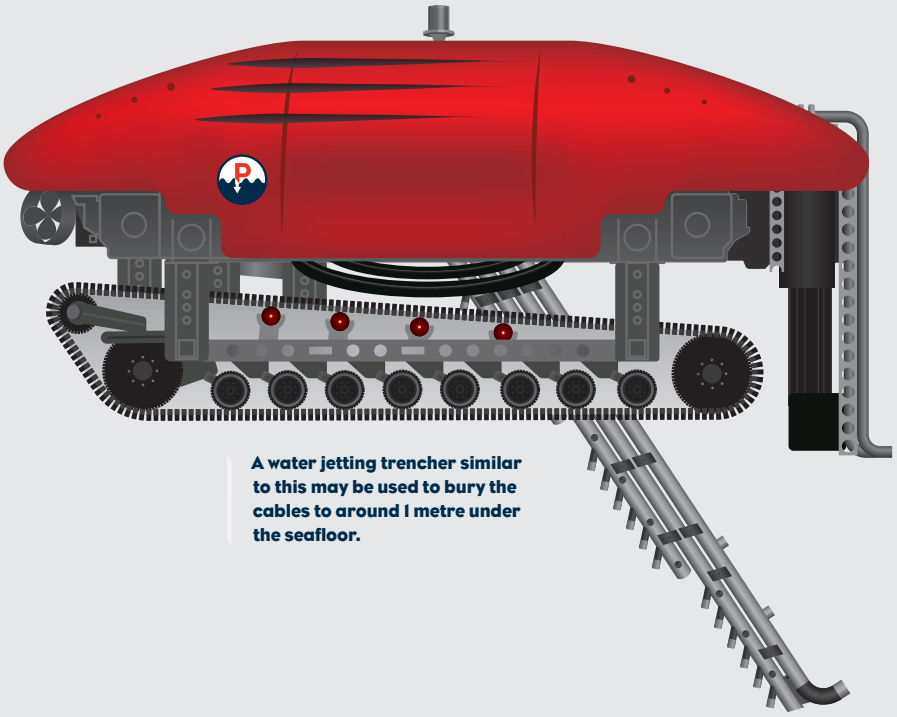
The cables will be manufactured in long continuous lengths.. After being transported to Bass Strait, the cable laying vessel will travel along the cable route while gently lowering the cable onto the seafloor.

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 undersea 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 water jetting trencher similar to this may be used to bury the cables to around 1 metre under the seafloor.

Where the seabed is hard, or there's existing infrastructure (such as existing cables), the cables will be laid on the seafloor and then protected using materials such as rock bags or concrete mattresses.

Example of concrete mattresses being laid over undersea cables on the seafloor.

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 the proposed undersea cable route is generally sparsely populated with marine plants and animals along the proposed route.

Studies from similar undersea 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 cable trench. Long-term impacts on marine life and habitat are very unlikely.

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.

The undersea cables in each circuit will be bundled together as this reduces the amount of EMF produced and reduces the distance EMF can be detected from the source.

The undersea cables may have some impact on the behaviour of species that live on the seafloor at the two shore crossings, but impacts will be comparable with that of the existing Basslink cables. This is because the waters near the shore host more marine life and a weak EMF exists around the cable when power is flowing. The 2016 operational impact assessment of Basslink identified no negative impacts on species that live on or near the seafloor.

For fisheries in Bass Strait, the key impact during the operations of the project are potential disruptions to the accuracy of magnetic compass within 10 metres of the undersea cables. To minimise and avoid potential disruptions, Marinus Link will notify marine and fishery stakeholders of the location of the cables.

MORE INFORMATION

For further information on the project:

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