International Broadband Submarine Cable

Frequently asked questions

What is an international submarine cable?

A submarine cable uses fibre-optic technology to carry telecommunications signals and data across the world. When you use your mobile phone, your signal is carried to the local mobile/cell tower but from there it is carried via terrestrial and submarine (subsea) fibre-optic cables. In fact, 99% of the world's data criss-crosses the globe via submarine cables.

What is a data centre?

A data centre is a facility that centralises an organisation's IT operations and equipment, as well as where it stores, manages, and disseminates its data. Data centres house a network's most critical systems and are vital to the continuity of daily operations. Consequentially, the security and reliability of data centres and their information is a top priority for organisations.

How do cables work?

Modern submarine cables use fibre-optic technology. Lasers on one end fire at extremely rapid rates down thin glass fibres to receptors at the other end of the cable. These glass fibres are wrapped in layers of plastic (and sometimes steel wire) for protection.

How thick are undersea cables?

For most of its journey across the ocean, a cable is typically as wide as a garden hose. The filaments that carry light signals are extremely thin — roughly the diameter of a human hair. These fibres are sheathed in a few layers of insulation and protection. Cables laid nearer to shore use extra layers of armouring for enhanced protection.

Does it lie on the ocean floor?

Yes, as it approaches the shore line it gets buried three to five metres under the ocean floor by a special plough.

How long is our cable?

The project includes a 550km undersea fibre optic cable that will connect the Sunshine Coast to the 9600km Japan-Guam-Australia South (JGA-S) submarine cable that is currently being delivered by a consortium involving RTI-C.

How does it get built?

There are specially-modified ships that carry the submarine cable in a large, coil-like structure. Depending on the depth of the ocean, there are a number techniques that can be used to lay the submarine cables.

Will the Sunshine Coast have faster internet because of this cable?

Internet speeds when accessing websites or servers within Australia will not increase. However, what will increase is our ability to connect to sites and data in Asia and the USA more efficiently. Our new international submarine cable will be the fastest telecommunications connection to Asia and second fastest to the United States because we are 1000km closer to Asia than other cables on the east coast of Australia. The Sunshine Coast submarine cable will have the capacity to receive up to 18 terabits/second.

When will construction commence?

Terrestrial parts of the network will begin construction in the first quarter of 2019 and be completed by the end of 2019. The cable

is scheduled to be Ready for Service (RFS) by the first quarter of 2020.

Who will benefit from the cable landing on the Sunshine Coast?

The whole region is a major beneficiary. The cable project will stimulate new investment of up to $927 million into Queensland with a big chunk of this investment coming directly to the Sunshine Coast as well as creating and supporting up to 864 new jobs in the local economy.

Local business and businesses across South East Queenslandd will also benefit as they will now have more bandwidth, faster connection and diversity as data/telecommunications can travel via the submarine cable straight to the Sunshine Coast instead of travelling to Sydney and up/down via land connection to Sydney. It is expected that Sunshine Coast businesses in particular will see price efficiencies from the new service.

As this is a revenue producing asset, Sunshine Coast ratepayers will benefit because council will receive revenue generated from customers accessing the cable network through the Sunshine Coast.

Who will be paying for the cable project?

Council will be paying for the Sunshine Coast cable connected to the Japan-Australia-Guam-South (JGA-S) project, which RTI with consortium partners Google and AARNet (Australian Academic Research Network) are constructing. The Queensland Government is providing funding support with a $15 million grant.

How is the cable different to NBN?

The NBN network is Australia's broadband network. It is a wholesaler of data packages to Australian telecommunications and internet providers. Australia receives its fixed line broadband internet from domestic and international sources. The submarine cables are the infrastructure. They carry 99% of the world's international telecommunications and data needs and link Australia and our data needs to the world.

Essentially:

- The submarine cables are the multi-lane highways that connect the world.
- The Sunshine Coast international submarine cable will be the right-hand fast lane out of Australia.
- The NBN and other telecommunications companies buy access on the submarine cables to get data to/from Australia and into the hands of consumers.

Having a new cable on the Sunshine Coast provides diversity and increased latency (speed). This means if other cables go down, traffic can be re-routed via the Sunshine Coast. This will lift service standards in Australia.

Why can't companies use satellites instead?

Cables can carry far more data at far less cost than satellites. Satellites are great for certain applications. Satellites do a wonderful job of reaching areas that aren't yet wired with fibre. They are also useful for distributing content from one source to multiple locations. However, on a bit-for-bit basis, there's just no beating fibre-optic cables. Global telecommunications carried on fibre optic submarine cable systems represent as much as 99% of all telecommunications traffic today, whereas satellites carry less than 1% of global traffic.

OK, but what about my mobile device. Isn't that wireless?

When using your mobile phone, the signal is only carried wirelessly from your phone to the nearest cell tower. From there, the data will be carried over terrestrial and subsea fibre-optic cables.

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