

## The Narrows Marine Crossing

One of Queensland's biggest gas industry projects has been connected to the world, with a complex under water tunnel. It's one of the longest trenchless marine pipelines ever constructed

The Narrows Crossing Tunnel has been constructed under Gladstone Harbour, off the central Queensland Coast. It's a vital link in a 420km underground pipeline route transporting coal seam natural gas from near Roma to the Santos GLNG facility on Curtis Island, where the gas is converted into liquefied natural form for export.

Contract miner Thiess required a technical solution to optimise productivity, while protecting the marine mangrove environment and causing minimal impact to the surrounding coastal areas. Thiess completed the works for Saipem Australia, the principal contractor on the multi-billion dollar Santos GLNG Gas Transmission Pipeline Project.

### High performance precast the clear solution

National Precast member Precast Concrete Products, based in Carole Park in Brisbane's west, was contracted to supply the precast concrete for the project. The 4.3 km long tunnel, with a 3.4m internal diameter, was constructed with high performance precast segmental lining.

**Precast manufacturer**  
Precast Concrete Products

**Architect**  
Thiess

**Builder**  
Saipem Australia

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Director Ian Coulter says precast concrete was chosen to ensure reliable delivery, easy segment installation and a high quality finish. “We had to specially manufacture a huge 22,000 concrete segments for the tunnelling,” he said.

The timeline of the project was challenging. According to Mr Coulter, high precision moulds were cast twice a day, 6 days a week using advanced concrete technology and curing methods. “That ensured we met the tight delivery schedule and meant the tunnel-boring machine could run uninterrupted around the clock.”

The precast segments were installed as the tunnel was bored and a cement-based grout was injected behind the segment lining to permanently seal the tunnel.

### **Award winning**

The Narrows Crossing Tunnel has been recognised for its innovation, with Theiss, Saipem Australia and Santos GLNG winning the prestigious 2014 Premier’s Sustainability Award in Australia, under the category “Innovation in Sustainable Technologies”.