

## Brisbane International Cruise Terminal: a sustainable approach

Sustainability underpinned many aspects of the new AUD\$177 million Brisbane International Cruise Terminal (BICT), funded and delivered by Port of Brisbane Pty Ltd (PBPL) in mid-2020.



### **Building design**

The terminal building incorporated sustainable design principles (developed by project architect, Arkhefield) that embrace Brisbane's subtropical climate and lifestyle and improve sustainability.

- Site preparation and levels ensure resilience to sea level rise and flooding
- Building orientation, natural lighting and sun shading maximise natural light and improve user experience while reduce reliance on artificial energy sources and reduce pollution
- Building design supports potential future expansion, if required
- Natural ventilation opportunities considered and utilised where possible
- Outdoor spaces characterised by sub-tropical landscaping and water-sensitive design

- Living greenery provides shade, cools public spaces and reduce the 'heat island' effect of the terminal area
- Building materials minimised by optimising structural systems and consolidating serviceintensive spaces
- 'Long life / loose fit' ensures the building design maximises operational flexibility, ensuring it maintains its suitability well into the future
- Rainwater harvesting provides water for amenities and landscaping
- Future energy integration incorporated into the base design, such as photovoltaic panels and battery storage
- Solar harvesting integration in the future has been considered in the base design



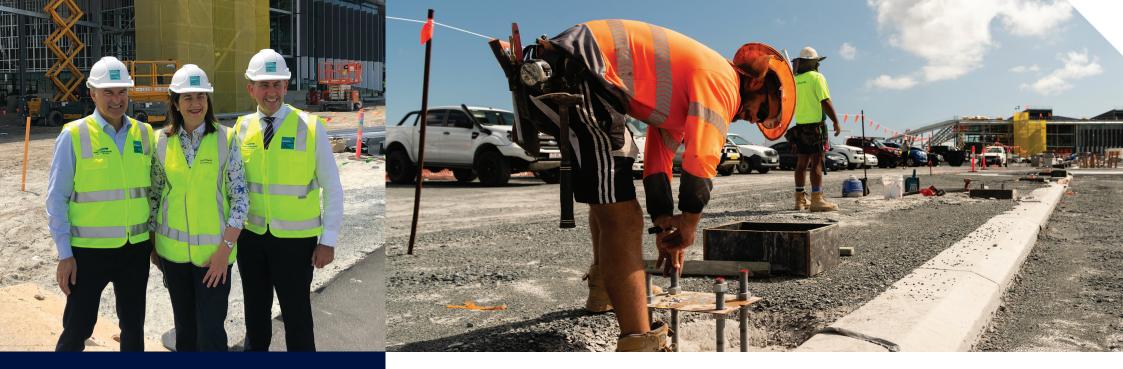
#### **Environment**

- Removed the need for capital dredging by choosing a location that could access existing marine infrastructure: naturally occurring deep water, swing basin and navigational channels
- Material re-use by PBPL's TSHD Brisbane, placing 300,000m³ of clean sand from existing channel maintenance dredging for BICT surcharging requirements. Surcharge was removed and re-used on other PBPL development projects
- Material re-use with dredge material used in pavement design and trench backfill
- Wharf design used precast concrete to reduce wet concrete construction over water
- No impact to nearby marine plants, protecting sensitive natural environment

- An 800kW rooftop solar system provides shaded carparking for passengers, while generating 1300MWh power annually and reducing the energy draw from the grid
- Electric Vehicle charging stations installed for public use
- New environmental partnership with Ocean Crusaders trialling a Solar Powered Automatic River Cleaner to remove litter that deposits along the BICT seawall

## **Technology**

- Technology infrastructure supports growth, flexibility, and cyber security
- The greenfield site enabled PBPL to consider digital trends including software defined networking, digital sensors, building information modelling and data automation
- Technology infrastructure considers current and future requirements of cruise lines' and border agencies' systems and processes



# Collaboration and engagement

- Close collaboration over 5+ years with cruise lines, state and local government, border and security agencies, and other key stakeholders – from project inception to delivery – to secure support, understand future industry demand, and ensure facility design met stakeholder needs
- Engaged with local residents to seek support and keep informed of progress, including resident information sessions and engagement with local resident's association
- Broader engagement with the general public through videos, website, media and social media updates (COVID restricted major events or tours)

#### **Economic contributions**

- PBPL fully funded the AUD\$177M project, at no cost to government
- Port of Brisbane and Brisbane City Council jointly invested AUD\$10 million to improve the safety of key local roads leading to the terminal
- Australian Principal Contractors completed construction works, supporting the local construction industry and encouraging local construction and engineering innovation
- On average, 245 jobs supported annually during construction
- The BICT supported local construction jobs and local sub-contractors, including during COVID lockdown

- Formal partnership with local government to promote regional tourism
- Opportunities to support Indigenous cultural tourism and regional economic and education initiatives aligned with the BICT to be explored through PBPL's Reconciliation Action Plan
- The BICT will play a vital role in supporting the cruise industry's recovery post-COVID
- Over 20 years post-COVID, the BICT has the potential to triple Brisbane's cruise industry to:
  - support 3,750 jobs
  - bring over 760,000 visitors annually
  - contribute \$1.3 billion in net expenditure into the Brisbane economy





Facility energy demand

Energy source and supply



Flooding and sea level rise

Natural disasters



Safe and secure facilities

Accessible transport facilities



**Environmental impacts of dredging** 

Downstream water quality issues



Material consumption

Waste Management



Greenfield development

Protection of flora and fauna



**More information** 

www.portbris.com.au info@portbris.com.au