



Submarine cables – connecting Australia

24 September 2020
AusSeabed Webinar

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history and fun facts

1820s

1960s

2020

406 in-service cables

1.2 million kms

25x earth

>95% of phone and data transfer

17 cables in Australia

Oldest Basslink-1 1995

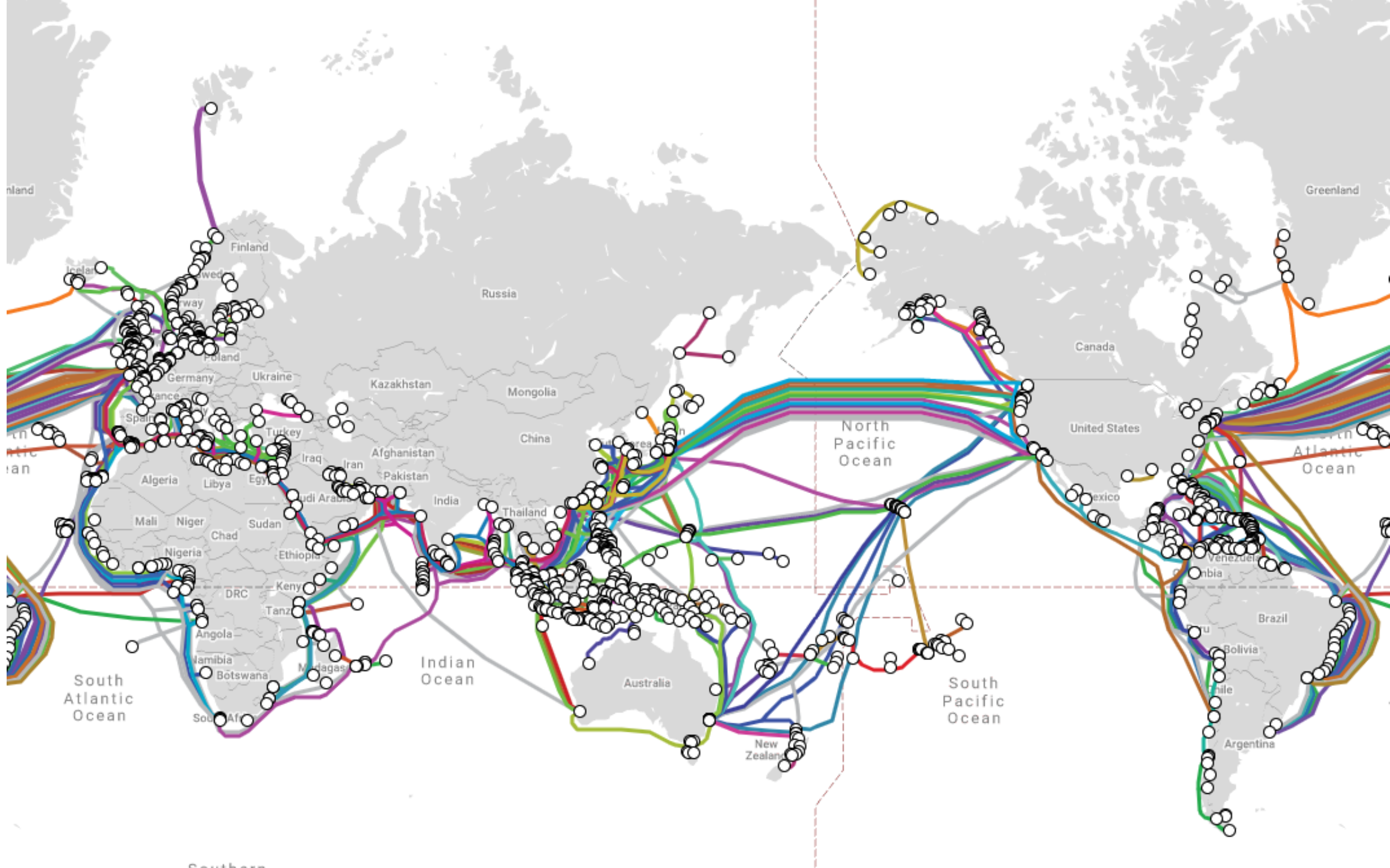
Newest JGA 2019

1 in manufacture

1 in planning

COVID-19 impacts

<https://www.submarinecablemap.com/#/>



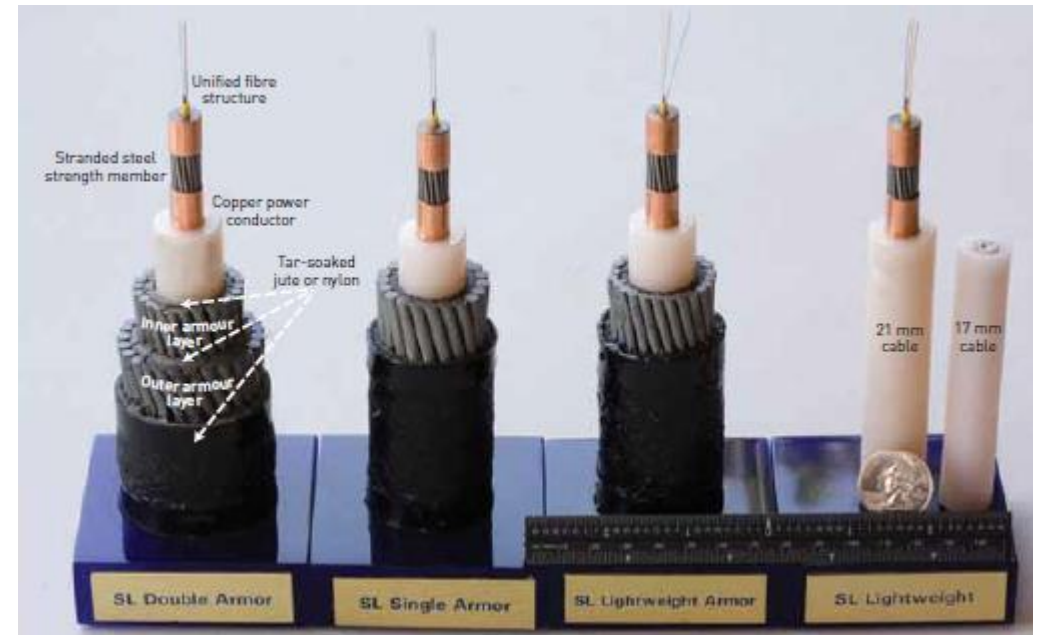
telecommunication cables

Optical fibres

Encased in metal and plastic sheaths

As big as a garden hose

More layers = more protection





desktop study

Fundamental study

Uses integrated platforms, softwares and tools

Identify and avoid conflict with other users

Cables/pipelines/mining

lease/fisheries/defence/dredging/anchoring/marine

parks/dumping grounds

Identify natural hazards

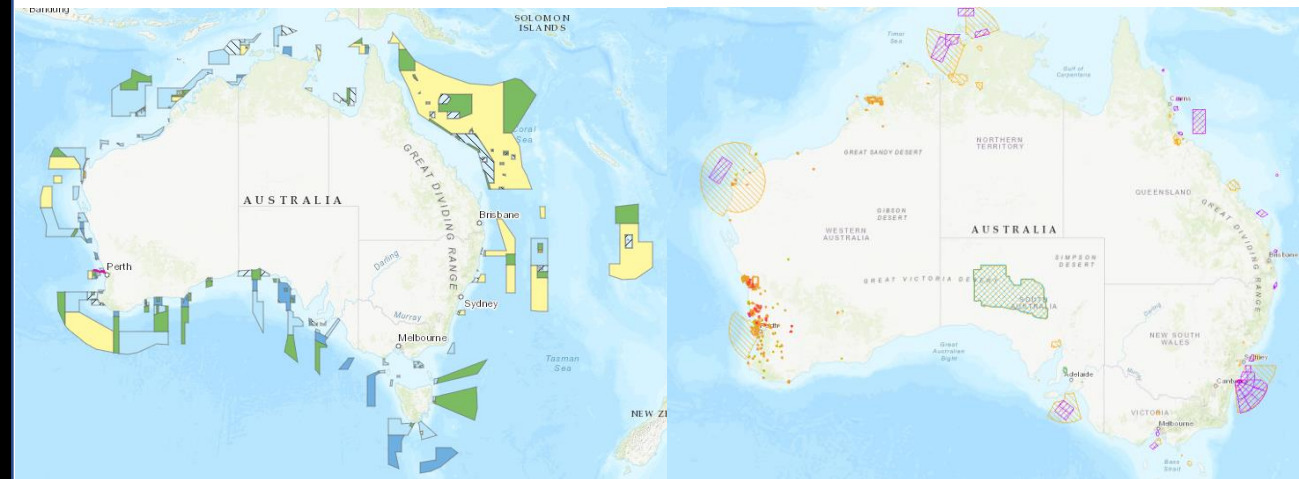
Identify permits

Recommends cable engineering and protection



permits in principle

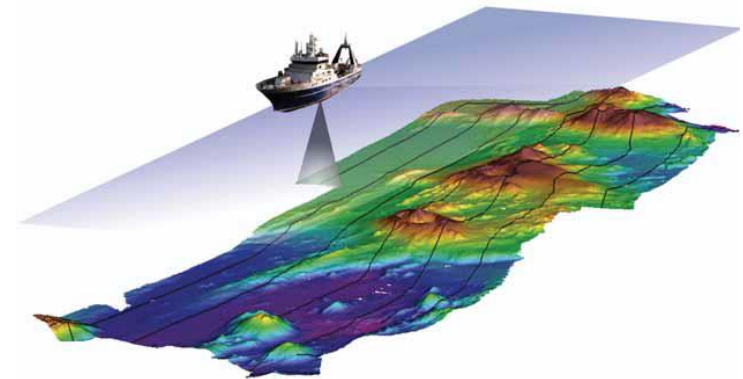
Permits in principle differ depending on phase
Early engagement with stakeholders is key
Local, state and commonwealth
Department of Agriculture, Water and Environment
Australian Communication and Media Authority
Fisheries
Defence
Traditional owners





marine route survey

Groundtruth outcomes of the DTS
Supports final cable engineering and installation methods
Collects data across 500m wide corridor
Bathymetric data
Sonar imagery data
Sub-bottom profiling
Geophysical sampling and testing
Magnetometer data





cable installation - onshore

Extends from onshore landing point subsurface to punchout
location on the seabed
Water based drilling fluids used with additives



cable installation - offshore

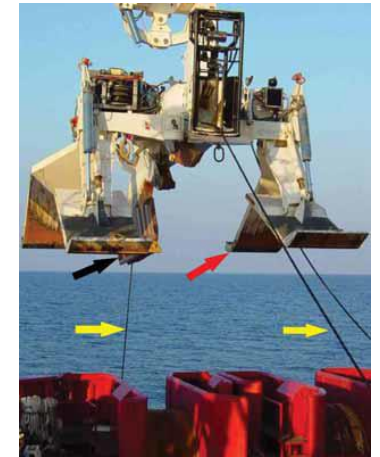
Pre-lay grapnel run

ROV

Plough

Post-lay inspection and burial

Lay on bed (>1000m depth)



ongoing maintenance

Cables become encrusted with marine life
On average 100 cable faults a year
Fishing vessels/ship anchor dragging
Earthquakes and tsunamis
Cable repair ships





decommissioning

Design life of cables - 25 years

Several options for decommissioning a cable

Retire in place

Remove

Salvage



closing remarks

Increased demand for telecom cables
Offshore renewables – submarine cables
Onshore renewables – offselling of power
Seabed congestion
Increased conflict with users
Need for more cable protection zones

Thank you

For any queries please do not hesitate to reach out:

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All imagery sourced from International Cable Protection Committee's UNEP report

Available at this link: [http://www.unep-wcmc.org/resources/publications/](http://www.unep-wcmc.org/resources/publications/UNEP_WCMC_bio_series/31.aspx)

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