

Australia is connected to the world by cables no thicker than a garden hose – and at risk from sharks, accidents and sabotage

## Level 3: Advanced

### 1 Warmer

a. Discuss these questions.

1. How are countries connected to the rest of the world?
2. How easy / difficult is it to break that connection?
3. What could happen if a country stopped being connected?

### 2 Key words

a. Read the definitions and use the correct words to complete the sentences. Then find and highlight them in the article to read them in context.

anchor	choke point	ferry	murky	resilience
backbone	dredge	geopolitical	ramifications	sabotage
bandwidth	engagement	immune	reinforce	statecraft
catastrophe	espionage	infrastructure	reliant	vulnerable

1. when something is easy to hurt physically or emotionally

She's more \_\_\_\_\_ now because of the accident.

2. to damage or destroy something so that your enemy can't use it

Enemy forces tried to \_\_\_\_\_ the roads and bridges to stop us from entering the town.

3. not affected by a particular activity or type of behaviour

It doesn't matter how protected your computer is: no one is \_\_\_\_\_ from attack.

4. the important systems (e.g. transport and communication) of a country

With the population increasing, the government needs to invest in its \_\_\_\_\_.

5. the main or strongest part of something

Electronics is still the \_\_\_\_\_ of Silicon Valley.

6. the amount of information per second that can move along a wire between computers

Sorry, but if you want to watch videos, you need much better internet \_\_\_\_\_.

## Australia is connected to the world by cables no thicker than a garden hose – and at risk from sharks, accidents and sabotage

### Level 3: Advanced

7. an extremely bad event that causes a lot of destruction or suffering

*If the severe heat continues, farmers will face economic \_\_\_\_\_.*

8. dark and dirty or difficult to see through; complicated and unpleasant

*In the evenings, she was part of the \_\_\_\_\_ world of computer hacking.*

9. describes the political and economic relationships between countries based on each country's size and power

*Recent \_\_\_\_\_ tensions have caused concerns about the price of crude oil.*

10. to make an object stronger than it currently is

*The security expert told me to \_\_\_\_\_ my wooden door with a section of metal.*

11. to collect animals or objects from the bottom of a river, lake or sea

*People who fish for oysters and other seafood often \_\_\_\_\_ the bottom of the ocean.*

12. a heavy, metal object that a boat drops into the water to stop it from moving

*The captain ordered us to drop the \_\_\_\_\_, so we had time to repair the boat.*

13. the skill of running a country and working with other countries

*The president showed some amazing \_\_\_\_\_ when she negotiated that deal with China.*

14. the strength needed to get better quickly after damage or illness

*The government is confident about the \_\_\_\_\_ of the economy despite recent problems.*

15. being involved with a thing or group and feeling connected to it

*These business ideas will only work with real \_\_\_\_\_ from the community.*

**Australia is connected to the world by cables no thicker than a garden hose – and at risk from sharks, accidents and sabotage**

**Level 3: Advanced**

16. part of a path that can easily get blocked

*It is dangerous for ships to pass through that \_\_\_\_\_ because there is no alternative route.*

17. the discovery of secrets, especially political or military information of another country

*Three people were also accused of taking part in \_\_\_\_\_ against another company.*

18. the possible results of an action

*Have you thought about all the \_\_\_\_\_ of if you do this?*

19. needing a particular thing or person in order to succeed

*This charity is \_\_\_\_\_ on its volunteers.*

20. to transport people or objects especially regularly and often

*He has to \_\_\_\_\_ his family to school, back home and out to football practice.*

## Australia is connected to the world by cables no thicker than a garden hose – and at risk from sharks, accidents and sabotage

### Level 3: Advanced

*Last month two Baltic Sea cables were damaged, and experts say Australia's cables are not immune from threats. How worried should we be?*

**Tory Shepherd**  
**1 December, 2024**

- 1 More than 1 million kilometres of cables snake along the world's ocean floor, ferrying data between distant lands. Fibre-optic filaments whisk emails, Netflix and military secrets through deep water, where the cord – about as thick as a garden hose – gathers barnacles and seaweed. Australia is connected to 15 of them (that we know of), with the main landing stations in Sydney and Perth. And they're vulnerable to sabotage and accidents, to hacking and (very occasionally) sharks.
- 2 Last month, two cables in the Baltic Sea – one connecting Finland and Germany, the other connecting Sweden and Lithuania – were damaged in a suspected sabotage attack. They were damaged at about the same time a Chinese-registered ship passed over them. On Thursday, the Swedish prime minister, Ulf Kristersson, said the Baltic Sea was now a "high-risk" zone. And experts say Australia's own cables are not immune from threats.
- 3 Despite the blustering promises of satellite technology, and despite the difficulty of building infrastructure thousands of metres beneath the surface, these cables still carry 99 per cent of Australia's data. They can carry up to 300 terabits of data a second, making their capacity "virtually limitless".
- 4 The maritime security expert Sam Bashfield is a research fellow at the University of Melbourne's Australia India Institute. He says satellites are critical for remote areas, war zones and some backup, but the "backbone" of the internet are cables. "We see this huge increase in demand for bandwidth ... even though we see satellite technology improving," he says. "The global demand for data is also increasing at this crazy rate, so it still requires these submarine cables." If Australia was cut off entirely from those cables, essential services would be disrupted and there would be political, military and economic ramifications – digital technology contributes 167 billion US dollars to the economy each year.
- 5 "Without them, the internet as we know it would cease to exist," Cynthia Mehboob, who is doing her PhD on the politics of undersea cables, says. Mehboob, who is in the Australian National University's international relations department, says Australia's reliance on the cables will only grow. "They're vital for defence, for sharing intelligence," she says. "Our Five Eyes arrangement is reliant on subsea cables. "Disrupting these cables would have a very serious geopolitical impact on Australian security."
- 6 In 2014, Google announced it was reinforcing cables with a Kevlar-like substance after a series of shark bites. A widely shared video showed a shark wrapping its teeth around a cable briefly before swimming off. But that's not the biggest threat. Bashfield says fish bites are only responsible for 0.1 per cent of damage. It's fishing incidents that are far more common. Dredging, nets and trawlers can do damage, and anchors dragged over the cables can destroy them. Then there are geological events, such as underwater landslides or volcanoes.
- 7 "That's the unintentional damage," he says. "Then you get into statecraft ... the intentional stuff, this cutting of cables, they're intentionally sabotaged as an act of war or in a grey zone conflict ." There are "choke points", Bashfield says, where the cables hit the landing stations and all that data is flooding through. They are the potential sites for espionage and siphoning data for intelligence, he says.
- 8 Mehboob says a "black swan" event, such as all the cables being cut at once, was "incredibly unlikely" but not impossible. "If it happened, it would be a catastrophe," she says, adding that repairs could take weeks. There are between 100 and 200 breaks a year but only a limited number of ships that can fix them.
- 9 When two of the three cables connecting Tasmania to the mainland were accidentally cut on the same day in March 2022, it gave an idea of the disruption that can occur. Tonga, which has only one cable connecting it to the rest of the world, spent weeks without the internet this year.
- 10 Last week, Google Cloud revealed its Australia Connect project. The communications minister, Michelle Rowland, said the new systems would "expand and strengthen the resilience of Australia's own digital connectivity" and "support secure, resilient and reliable connectivity across the Pacific".

## Australia is connected to the world by cables no thicker than a garden hose – and at risk from sharks, accidents and sabotage

### Level 3: Advanced

- 11 Australia has also announced it will spend 18 million US dollars over four years on a cable connectivity and resilience centre to strengthen engagement in the region. But it doesn't own the cables – they're owned by telecommunications companies and increasingly the "hyperscalers", including Amazon, Meta and Google.
- 12 Mehboob says while Australia has cable protection zones, even flagging them makes it clear to potential bad actors exactly where the cables are. And there's no easy way to work out if damage has been done intentionally. "It's a tricky attribution space," she says. "Identifying intentional sabotage on the sea bed has always been a challenge. "It makes things a lot more murky."

© Guardian News and Media 2024  
First published in The Guardian, 01/12/2024

## Australia is connected to the world by cables no thicker than a garden hose – and at risk from sharks, accidents and sabotage

Level 3: Advanced

### 3 Comprehension check

a. Answer the questions using information from the article.

1. Roughly how many cables connect Australia to the internet?
2. How thick is each cable?
3. What are the different threats for the cables?
4. How much of Australia's data travels through these cables?
5. In what way are cables the 'backbone' of the internet?
6. Why are choke points potential sites for espionage?
7. According to the article, which places had their cables damaged?
8. Who will the new 18-million-dollar cables belong to?
9. Why is it difficult to know if cables are deliberately damaged?
10. In the opinion of the author, will these cables have a safe future?

### 4 Key language

a. Match these metaphoric phrases from the article to the ideas they describe.

- |  |  |
|--|--|
| 1. Cables snake along the floor.             | a. hard to see through like dirty water          |
| 2. It's ferrying data between distant lands. | b. the main connection in the centre of a system |
| 3. They're the 'backbone' of the internet.   | c. travelling with snake-like movements          |
| 4. The data is flooding through.             | d. moving information like people on boats       |
| 5. It makes things a lot more murky.         | e. entering a space in large amounts             |

## Australia is connected to the world by cables no thicker than a garden hose – and at risk from sharks, accidents and sabotage

### Level 3: Advanced

b. Classify the metaphors in bold into those about water (W) or not about water (NW).

1. He grabbed his laptop because ideas were **pouring out** of him. W / NW
2. She was **drowning in work** and knew she needed help. W / NW
3. They're the '**backbone**' of the internet. W / NW
4. He hoped that his problems would just **wash away** while on holiday. W / NW
5. It makes things a lot more **murky**. W / NW
6. The data is **flooding through**. W / NW
7. It's **ferrying** data between distant lands. W / NW
8. Cables **snake along** the floor. W / NW

c. Write three personalised sentences using three of the metaphors from the previous activity.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## 5 Discussion

a. Discuss these statements.

- 'No country can completely protect itself from attack'.
- 'All technologies, even the most impressive, are physically vulnerable'.
- 'Countries should avoid having physical connections to the internet'.

## 6 In your own words

a. List the advantages and disadvantages of underwater cabling. Consider how dependent modern life is on the internet. Use these questions to guide your ideas.

- Is your house connected to the internet via a cable or via satellite?
- Why is bandwidth important for using the internet?
- What type of information is dependent on a high-speed internet connection?
- Why do you think the military and other big industries need high-speed internet connections?
- How much of what society does every day uses the internet?

## Australia is connected to the world by cables no thicker than a garden hose – and at risk from sharks, accidents and sabotage

### Level 3: Advanced

- How long could you survive without using the internet?
- How long could our society survive without using the internet?
- What do you imagine protects underwater cabling?
- How much of the ocean can a country expect to be able to protect?

- b. Below is a recent post from a member of the government of an island country (e.g. the UK, Japan, etc.). Read the post and write a response that convinces them of the importance of protecting underwater cables. Write in a dramatic style that persuades people to pay attention to the dangers that exist and the consequences of not protecting the cables. Under the post are some phrases to help you.

As more people start new lives in our major cities, we must increase investment in city life and stop wasting money on protecting a life we no longer have.

We have evolved; we have moved out of the water and walked into a brighter technological future.

- *has failed to consider ...*
- *has not taken into account ...*
- *has not realised ...*
- *has not appreciated ...*
- *It must be pointed out that ...*
- *It is important to remember that ...*
- *The effect of this is ...*
- *The consequence of this is ...*