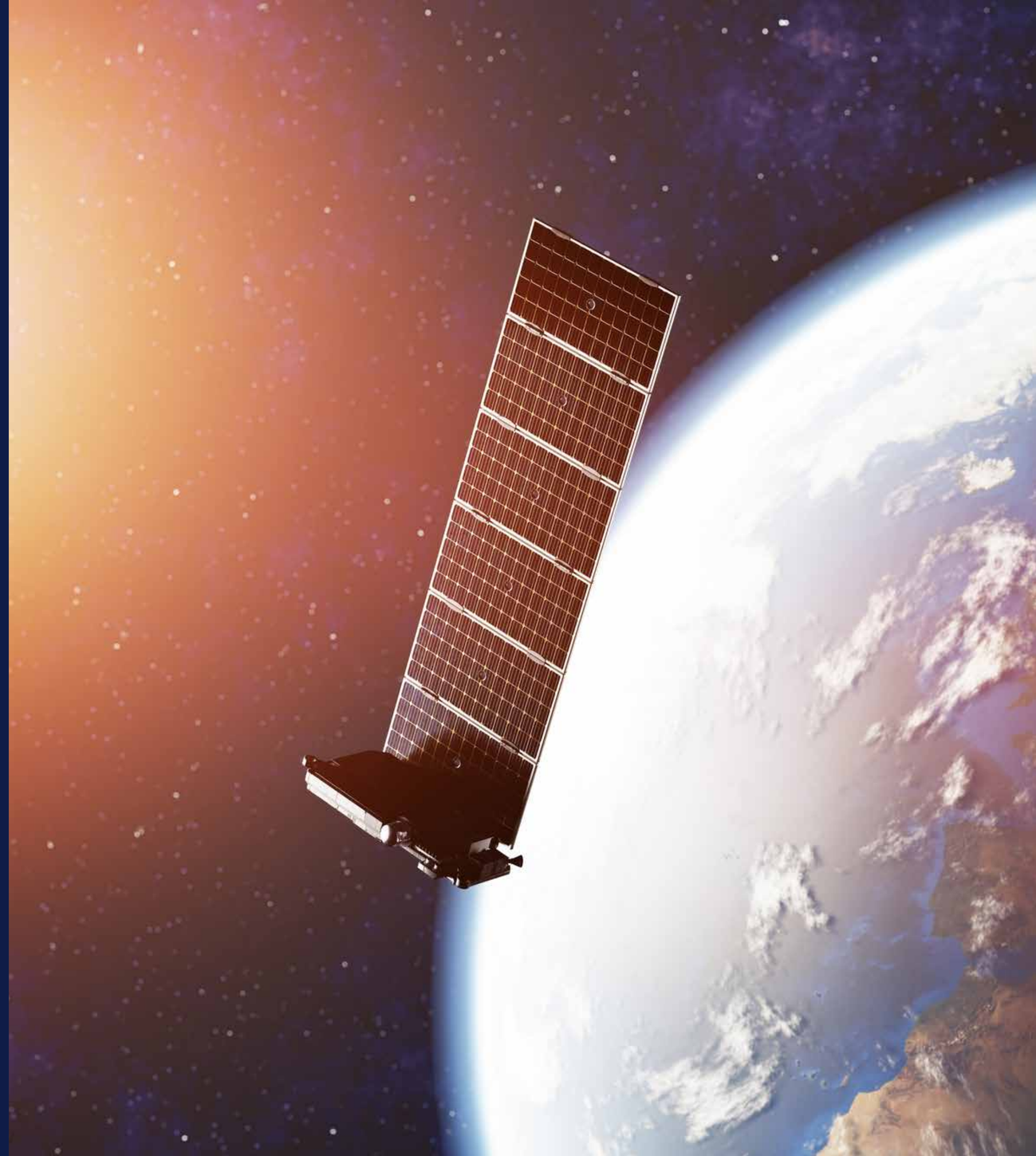
Next generation communications

How Vocus Satellite – Starlink is enabling game changing transformation for business and government

VOCUS

In this book:

Watch Video: How Vocus adds value to your satellite service



Unlocking digital innovation, Australia wide

Technology is changing the world at a pace we've never seen before. Organisations are under ever-increasing pressure to adapt—to find intelligent, innovative digital solutions to an ever-growing list of priorities. This is particularly so in sectors which perform crucial functions, like agriculture, mining, emergency services, utilities, and community services.

As digital innovation expands at scale, so do the challenges faced by many of the organisations in these sectors: the persistent skills shortage; ever-evolving employee expectations; an unstable global economy and the need to cater for flexible new ways of working.

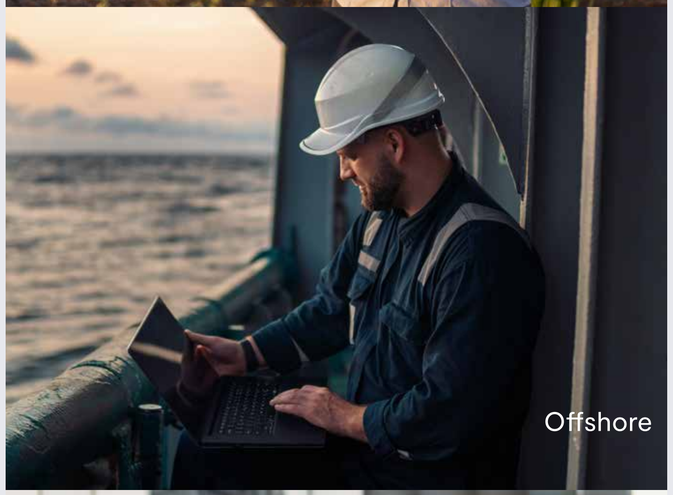
Customers and communities also have higher expectations than ever, and organisations are under pressure to deliver—or they risk failing on their obligations, or losing market share.

There's also the continual threat of cyberattack— and the very real and significant risk of failing to meet security or compliance objectives.

In the face of these challenges, having reliable, secure internet connectivity is imperative. To innovate, and truly stay ahead of the curve, organisations need a partner that can provide robust connectivity plus vital integrated services and expert advice at every step. This is where the Vocus Satellite – Starlink solution comes in.

Early adopters of Vocus Satellite – Starlink are already reaping the rewards of our end-to-end, game-changing technology. It's helping generate employment opportunities in remote areas, and stimulating economic growth in regional communities. Businesses in sectors like mining, utilities and agriculture now have the connectivity they need to confidently fast-track essential digital transformation and unlock innovation. Vocus Satellite – Starlink is driving change in metro areas too - providing low-cost failover connectivity in times of crisis such as flood and fire. This enables local businesses, community and emergency services to stay connected 24/7.

In this eBook, we explore why organisations are turning to Vocus Satellite – Starlink to achieve innovation that was, until recently, only a pipedream. Vocus, together with our partner ecosystem, is building integrated solutions that are generating returns for organisations, driving economic growth, and levelling the playing field for previously underserved communities.

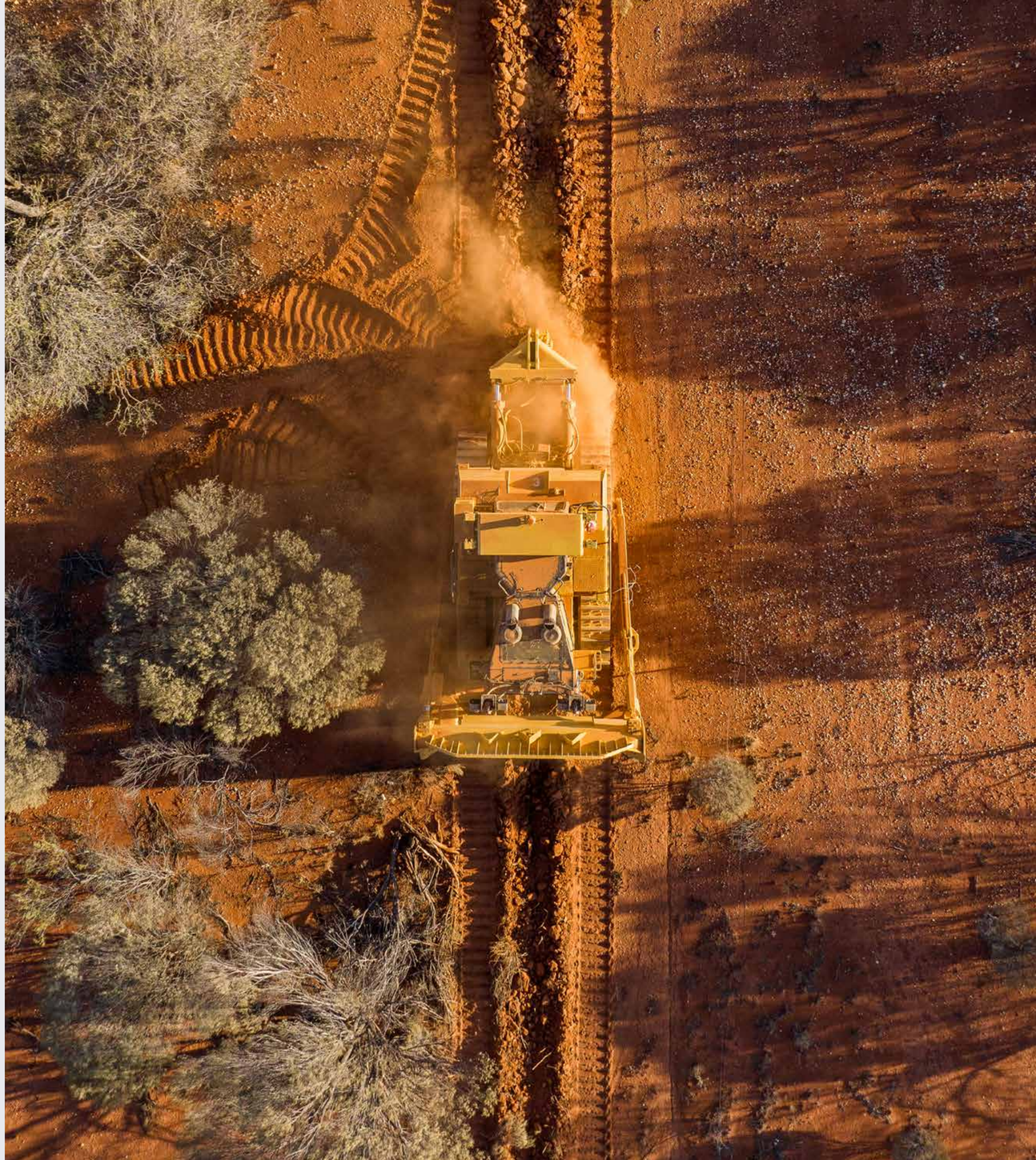


Improving health and wellbeing for remote workers

For workers on farms, power stations, mining sites or other remote locations, the ability to connect with friends and family is crucial.

When workers feel isolated, they can experience a decline in both their mental health and productivity. Research indicates that for remote mining workers, levels of psychological distress are three times higher than for the rest of the Australian population, with social isolation a key factor.[1]

Access to quality amenities while on-site, including reliable internet connectivity, has been proven to deliver enhanced mental health and wellbeing outcomes for remote workers.



1. MMHG, Depression and anxiety in mining and FIFO work, [online], https://www.mmhg.com.au/resources/depression-and-anxiety-in-mining-and-fifo-work-australia#:~:text=The%20Mates%2DIn%2DMining%20suicide,by%20suicide%20reported%20each%20year.

How Vocus Satellite – Starlink creates healthy, positive connections

With the reliable, fast internet connectivity enabled by Vocus Satellite – Starlink, workers in remote locations can:

- Connect digitally with friends, co-workers and family.
- Access online healthcare services, including telehealth consultations with GPs, specialists and psychologists.
- Stay engaged with news, current affairs and entertainment, including live sports.
- Access tools and applications to maintain productivity, connections and hobbies.

Robust internet connectivity can play a key role in driving improved safety on sites by enabling preventative, data-led maintenance, and issuing alerts of potential hazards.

Providing employees with quality internet connectivity can also play a key role in enabling organisations to attract and retain staff—a common challenge for organisations in remote locations.

> **“While telehealth has been an important lifeline for people in rural, regional and remote Australia… it is not used to its full potential because of digital connectivity issues. Telehealth has become as good as the bandwidth it occupies.”**
>
> **AMA:** The Need for Better Digital Connectivity to Improve Health Care of Rural Australians[2]

2. AMA, The need for better digital connectivity to improve healthcare of regional Australians, [online] https://www.ama.com.au/articles/need-better-digital-connectivity-improve-health-care-rural-australians

Mining: ensuring safe and resilient operations

The mining industry is one of Australia's most high-risk industries, with the third highest fatality rate of any sector.[3]

Ensuring safe and resilient operations has become critical for mining organisations which need to meet strict compliance requirements, and maintain their social license to operate.

According to a recent Deloitte report[4], safety in mining now has now expanded to cover four essential layers— referred to as 'Safety 4.0': physical, psychological, cultural, and cyber.

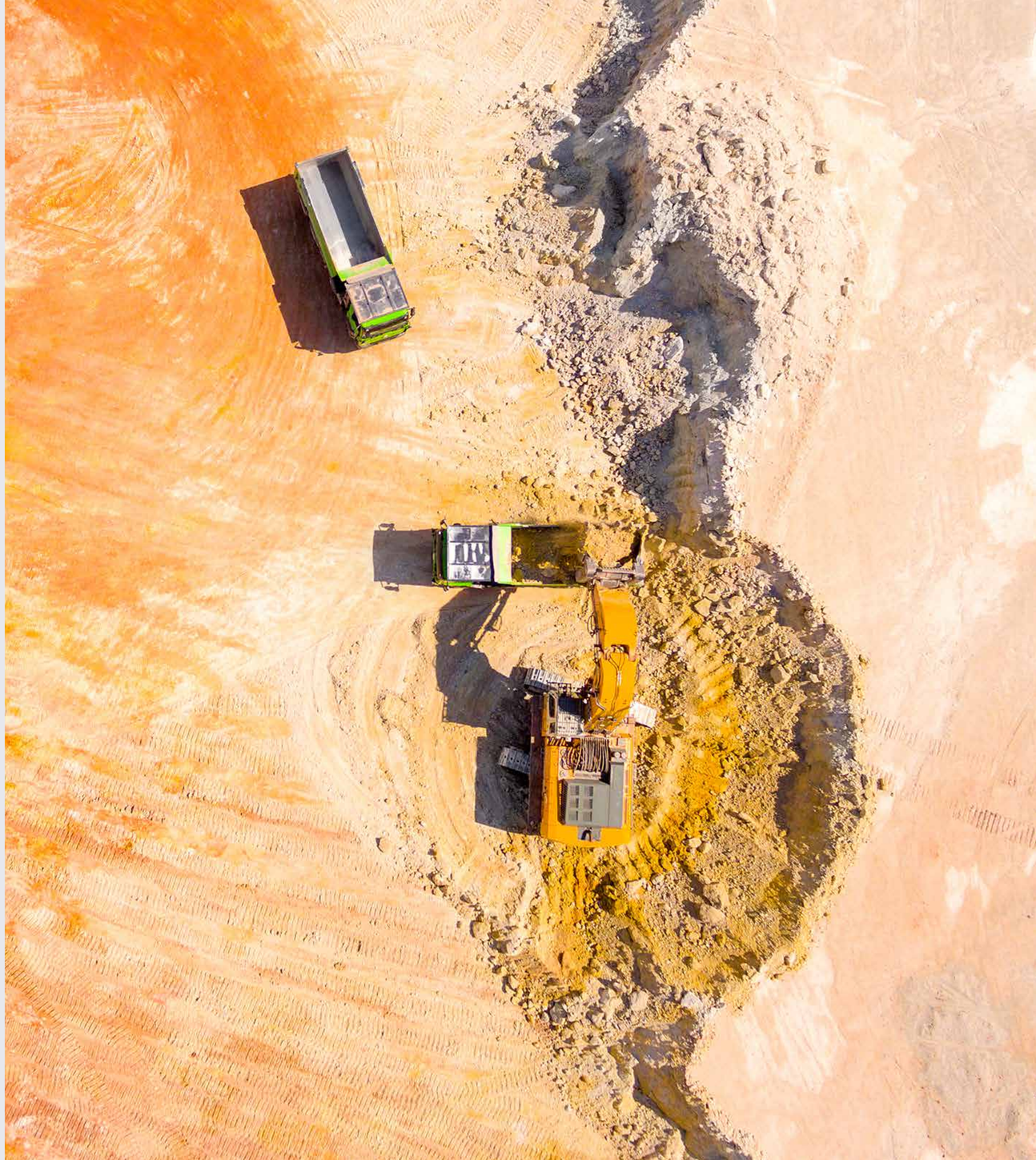
At the same time, mining organisations need to take active steps to attract the next generation of workers — or they risk a major talent shortage. Almost half of the mining sector's employees are currently aged 45 years or older. The mining, mining equipment, technology, and services sector has critically low student enrolments in related university courses.[5]

Mining companies have also traditionally relied on on-premise infrastructure and overly manual solutions like spreadsheets, to manage their operations. This has hampered their ability to monitoring site activity in real-time, and to take proactive steps to enhance safety and resilience.

To meet growing compliance requirements, it's also essential that mining organisations accurately measure — and proactively reduce — their carbon emissions.

Meeting these challenges relies heavily on having the right digital tools, and robust internet connectivity to support them.

3. Safe Work Australia, Mining, [online], https://www.safeworkaustralia.gov.au/safety-topic/industry-and-business/mining
4. Deloitte, Safety 4.0: A new horizon for mining safety, [online], https://www.deloitte.com/au/en/Industries/mining-metals/perspectives/safety-4-0-new-horizon-mining-safety.html
5. Youth Insight, Perception stats, https://youthinsight.com.au/employers/59-of-students-say-they-know-nothing-about-mining-careers-and-more-perception-stats/



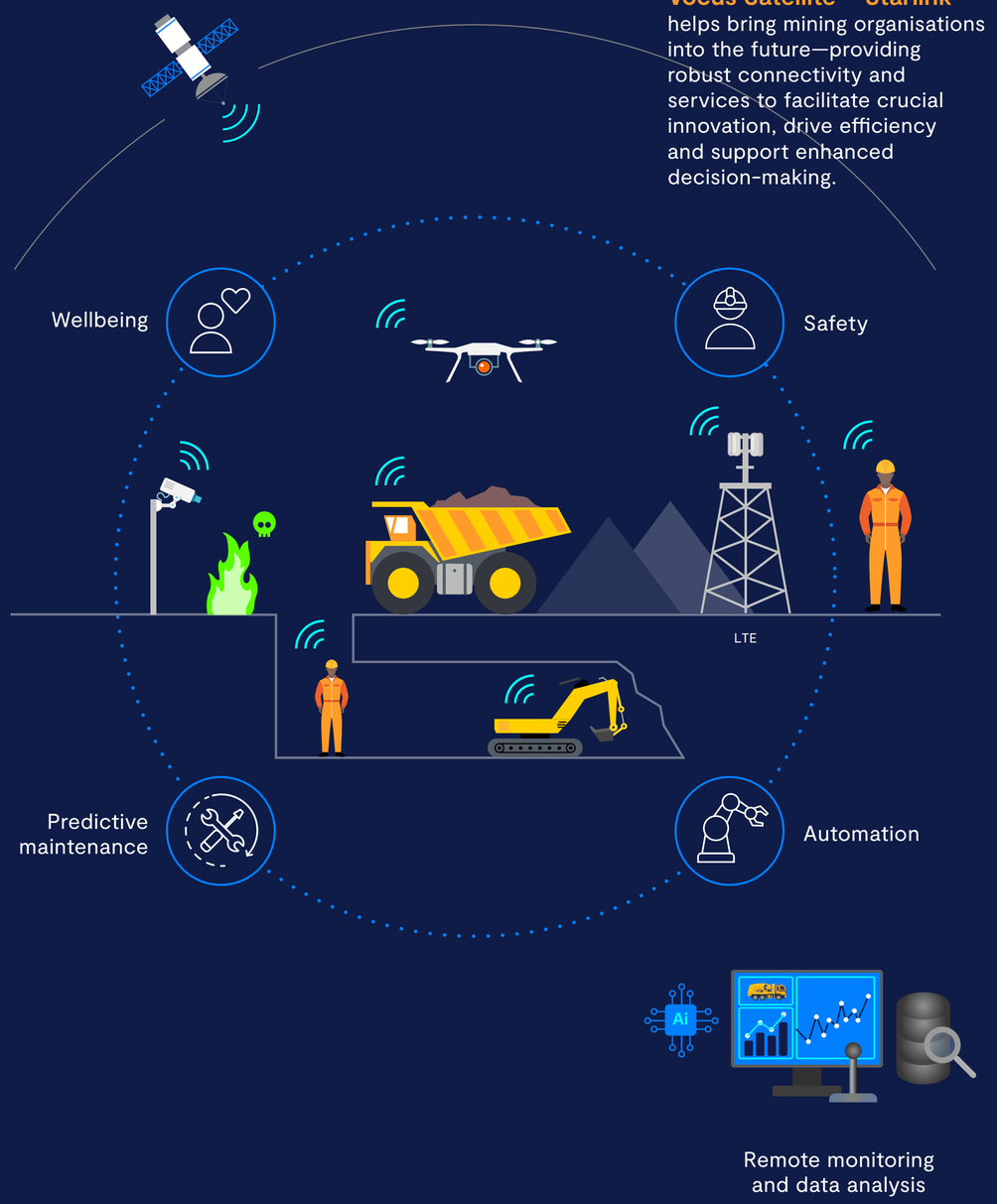
Vocus builds integrated solutions which leverage Vocus Satellite – Starlink, enabling mining companies to confidently:

- **Implement effective ‘digital twin’ solutions** which enable real-time monitoring and analysis of a mining site or processing plant—meaning issues can be detected before they escalate.
- Put solutions and systems in place that **issue automated alerts** when a potential safety hazard requires attention.
- **Install robust cybersecurity solutions** to protect the organisation’s data and mitigate the risk of a damaging cyberattack.
- **Monitor and track worker safety** while on site through intelligent sensors and wearables which observe location, heart rate and stress.
- **More effectively recruit and retain staff** by providing robust digital connectivity to workers in remote and regional locations.
- **Track, monitor and measure environmental, social and governance** (ESG) performance - quickly identifying opportunities for improvement, and demonstrating progress against compliance measures.

> **“Digital innovation in mining is continuing at pace. Miners across the world have embraced digitalisation, understanding that its principles and applications provide a wide array of opportunities to drive cost improvements and increase company-wide productivity.”**
>
> **Mining Technology:** Digitalisation and its impact on the mining industry[6]

6. Mining Technology, Digitalisation and its impact on the mining industry, [online], https://www.mining-technology.com/sponsored/digitalisation-and-its-impact-on-the-mining-industry/

Vocus Satellite – Starlink helps bring mining organisations into the future—providing robust connectivity and services to facilitate crucial innovation, drive efficiency and support enhanced decision-making.



Agriculture: supporting higher yields and better quality

Australia's agricultural sector is facing a raft of challenges. Global economic uncertainty, coupled with the extremely damaging weather conditions brought on by a third consecutive La Niña, has had a major impact on outputs – driving the need for cost control and greater efficiency.

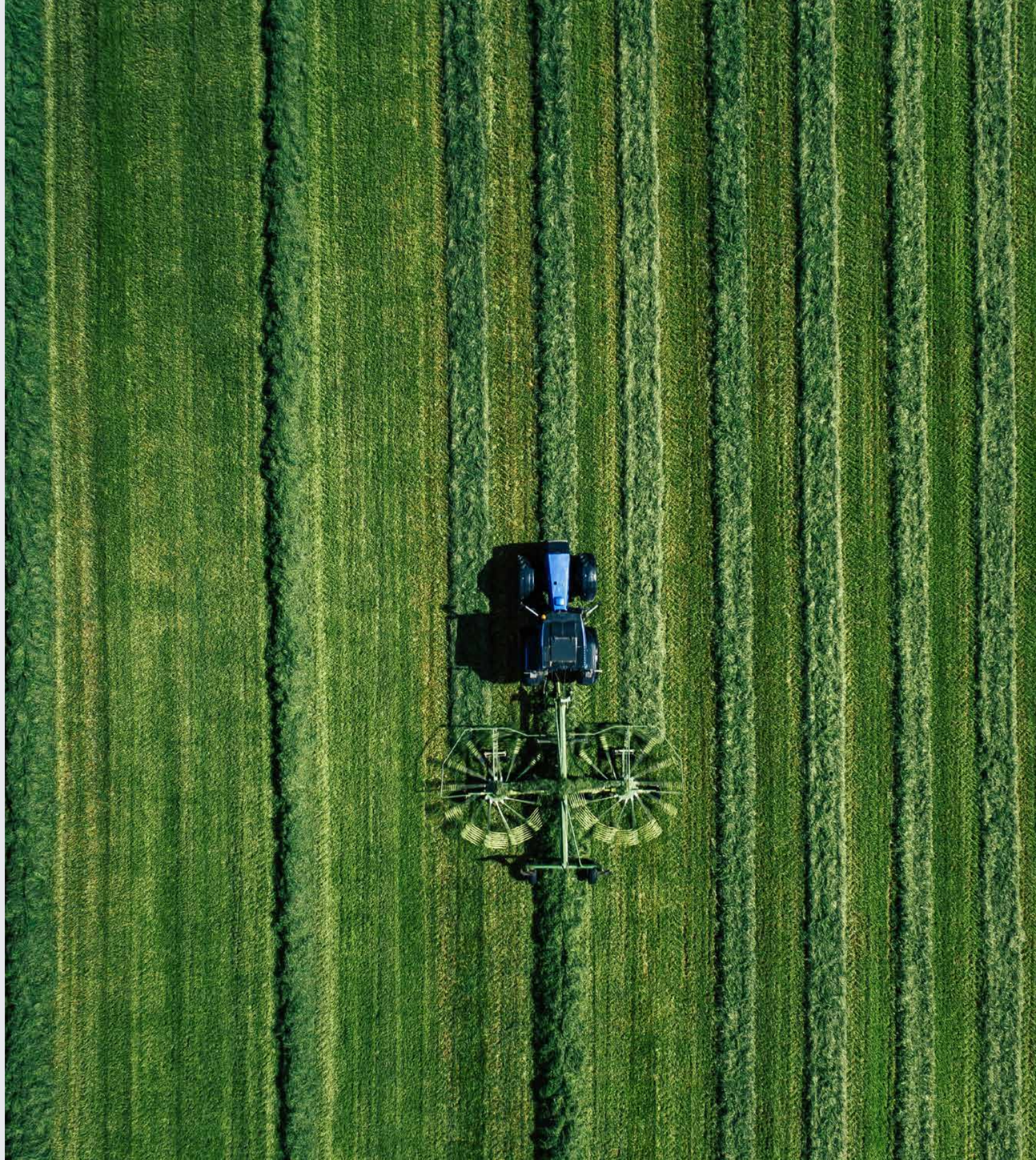
At the same time, the sector is struggling to find the workers it needs to restore its equilibrium. According to the Australian Government Department of Agriculture, Fisheries and Forestry, 'securing an appropriate workforce' is currently one of the industry's biggest challenges.[7]

There's also the major challenge of meeting consumer expectations. Increasingly, consumers are demanding greater visibility into the origin and production of what they're buying—putting producers and processes under pressure to both improve quality and ensure transparency across the supply chain.

The agriculture sector is also expected to play a key role in helping reduce carbon emissions—to help achieve Australia's collective goal of net zero emissions by 2050. For individual agribusinesses, this means finding ways to both measure and analyse emissions, and proactively reduce them.

Meeting these challenges relies on agricultural organisations having powerful digital tools, backed by reliable internet connectivity.

7. Australian Government, Agricultural Workforce, [online], https://www.agriculture.gov.au/agriculture-land/farm-food-drought/agricultural-workforce



How Vocus Satellite – Starlink helps improve outcomes in agriculture

The reliability and fully-managed connectivity provided by Vocus Satellite – Starlink enables the implementation of a wide range of advanced agricultural technologies:

- Robotics solutions which automate time-consuming and laborious farm work to overcome the problem of labour shortages - such as smart irrigation, weed control, and robotic planting and harvesting.
- Digital solutions which monitor supply chain activity in real-time and provide alerts of delays or potential problems before they escalate.
- Internet-of-Things (IoT)-based solutions that can monitor crops and output - providing insights to help increase yields and decrease costs.
- Automated marketing tools such as live streaming, which address consumer demand for more visibility into the origin of their produce.
- Digital accounting solutions to monitor and track ESG performance – helping meet growing targets and expectations.

> **Innovation will play a key role in driving future growth in helping agriculture continue its growth trajectory”**
>
> **Forbes: The trends shaping Australia’s $71 billion agriculture sector in 2023[8]**

8. Forbes, The trends shaping Australia's 71 billion dollar agriculture sector in 2023, [online], https://www.forbes.com.au/news/innovation/the-trends-shaping-australias-71-billion-agriculture-sector-in-2023/

Power and utilities: enabling greater profit and efficiency

Providing secure, reliable, and affordable electricity is becoming increasingly difficult for Australia's power and utilities companies.

According to Deloitte[9], the sector is challenged by inflation, high fuel costs and supply chain difficulties - all of which are keeping prices elevated.

At the same time, extreme weather, cybersecurity threats, and the growth of renewables and distributed energy resources all require innovative management to ensure the reliability of the grid.[10]

Electricity and utility providers are also highly sought-after targets for cyber criminals. According to a recent report by the Australian Signals Directorate, the energy sector is now one of the top 10 at risk of cyberattack, and the threat continues to rise.[11]

Digital innovation – backed by robust internet connectivity - is critical in resolving these challenges.

9. Deloitte, Power and utilities outlook, [online], https://www.deloitte.com/global/en/Industries/power-utilities-renewables/analysis/power-and-utilities-industry-outlook.html
10. Deloitte, Power and utilities outlook, [online], https://www.deloitte.com/global/en/Industries/power-utilities-renewables/analysis/power-and-utilities-industry-outlook.html
11. Renew Economy, Data breach: energy industry now a top target for cyber attack, [online], https://reneweconomy.com.au/data-breach-energy-industry-in-one-of-major-targets-for-cyber-attack/

How Vocus Satellite – Starlink helps optimise power and utilities

The secure, reliable connectivity and services provided by Vocus Satellite – Starlink gives power and utilities companies scope to future-proof their operations. This could include:

- Implementing solutions to enable the harvesting and sharing of real-time analytical data to drive operational efficiency and ensure smarter grids.
- Using real-time data to improve outputs –cleaner water, less water wastage, and the safer disposal of sewage.
- Installing solutions and processes to mitigate the potentially devastating impact of a cyberattack.
- Implementing and leveraging smart data-led solutions to control the use of distributed energy resources – potentially resulting in lower energy prices.
- Enabling more effective, detailed tracking and measurement of emissions, to meet rigorous sustainability requirements.

> **Today's energy and utility companies are facing unprecedented levels of disruption across the energy value chain as a result of the digital era."[12]**
>
> **IBM,** Digital transformation in energy and utility companies

12.IBM, Digital disruption in energy and utilities, [online], https://www.ibm.com/downloads/cas/WRK68YGB

Community services: building safer, connected communities

Community services providers are notoriously overworked and under-funded. Many community services providers are also understaffed, and find it difficult to attract committed, long-term employees – especially in remote and regional areas.

A recent report reveals 80% of service providers are struggling to meet requests for support.[13]

The availability of digital tools and more automated services is critical in helping community organisations deliver faster, better service to those in need. This relies on having reliable internet connectivity, Australia-wide.

13. CSI, Research reveals continued strain for charities and social services, [online], https://www.csi.edu.au/news/research-reveals-continued-strain-for-charities-and-social-services-after-profoundly-hard-year/

How Vocus Satellite – Starlink can help community services providers respond

Vocus can build and connect an entire ecosystem with Vocus Satellite – Starlink, helping community services organisations to:

- Implement IoT solutions to monitor environmental hazards, such as air or water pollution, to rapidly mitigate threats to public health and safety before they escalate.
- Use real-time data to monitor resource consumption, to ensure more sustainable use.
- Put digital solutions in place to monitor road safety and parking, limiting injuries and providing more usable public spaces.
- Create self-service tools for members of the public, reducing demand on community workers.
- Ensure reliable internet connectivity for organisations such as aged care centres, childcare centres, or surf life-saving organisations in regional areas – all of which require digital access to ensure people's safety and wellbeing.
- Ensure providers have an effective backup solution for digital connectivity, if located in a metro area.

Satellite connections complement our fixed line connections – we can have two live redundant internet connections and if one goes down, the other will keep working."

Northern Beaches City Council

Emergency services: achieving faster response times

Emergency services providers, like police, fire, and ambulance services, need secure, always-on connectivity, especially during natural disasters, power outages, flooding, and line outages. This ensures providers can better protect the community, ensure the safety of their employees, and even save lives.

Yet in many scenarios, a lack of reliable internet access isn’t always guaranteed, which can very quickly impact public health and safety.

How Vocus Satellite – Starlink can help emergency services

Seamlessly connecting vehicles, devices and services using Vocus Satellite – Starlink, is helping emergency services to:

- Ensure real-time, high-speed communication in the most remote or challenging environments.
- Equip first responders with audio and video sensors, streaming remote video verification of situations from a command centre while employees are on their way to a location.
- Use real-time footage from drones to find suspects or missing persons, or capture insights to enhance the effectiveness of a deployment or tactics plan.
- Implement automation and AI tools to more rapidly and effectively analyse data to solve crimes or maintain public safety.
- Issue digital alerts (such as SMS) to members of the public when an incident has occurred or is imminent.

> **“In recent years, digital and technological transformation has played a key role in improving collaboration and coordination across police, fire, ambulance and emergency services.”**
>
> **Public Sector Network[14]**

14. Public Sector Network, Emergency Management Technology, [online], https://publicsectornetwork.com/insight/emergency-management-technology-in-2021

Vocus Satellite – Starlink provides emergency services with the constant situational awareness needed to respond quickly – helping better protect communities and responders, and even save lives.

Success Story

How SA Power Networks rolled out Starlink satellite technology across its vehicle fleet in regional sites

SA Power Networks, the electricity distributor for South Australia, has partnered with Vocus and installation partner Advanced Mobile IT (AMIT) to roll out Starlink satellite technology across its vehicle fleet in regional sites.

The solution has transformed the way SA Power Networks works in remote areas by providing cellular coverage where it was previously unreliable or non-existent.

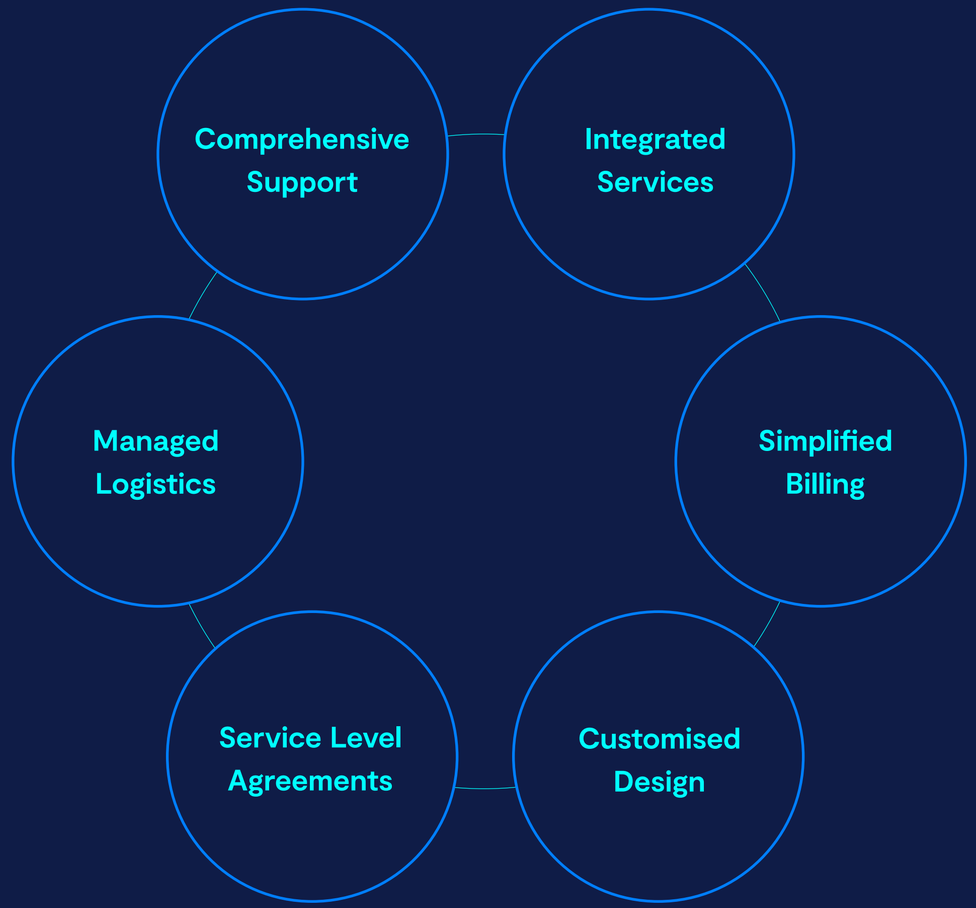
The deployment of 179 Starlink units on emergency vehicles and 21 in fixed locations, along with Advanced Mobile IT's custom mounting solutions, has revolutionised SA Power Networks' response capabilities.

This has led to improved efficiency through better response times and better communication with customers, along with safety benefits.

"We are setting a new standard in emergency response and community resilience, and it has been made possible by the seamless connectivity that low-earth orbit satellites can provide."

Mark Tate, Technology Operations Manager, SA Power Networks

How Vocus adds value



Comprehensive Support

You're in good hands with Vocus. We offer round-the-clock access to trained experts, and every Vocus Satellite – Starlink activation is supported by our 24x7 helpdesk. Both level 1 and 2 support are available, and our team can provide you with the service you need, within guaranteed response times. Vocus also follows industry best practice, based on the ITIL and eTOM frameworks.

Integrated Services

We add value to Vocus Satellite – Starlink connectivity by providing seamless connectivity from satellite onto the Vocus sovereign network, ensuring a consistent 'fibre-like' experience from any location. We also offer end-to-end security across all satellite and fibre connections.

How Vocus adds value

Managed Logistics

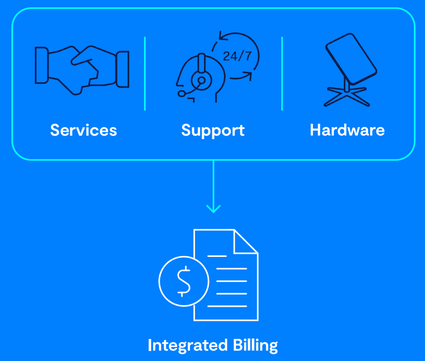
We can manage all warehousing of equipment near your sites, ready to install, to ensure fast delivery and provisioning of replacement equipment.

Service Level Agreements

You're covered with a comprehensive company-wide master service agreement that ensures we meet your expectations on time, every time.

Simplified Billing

With Vocus, you get a cost effective, all-in-one, simplified contract for all your services, hardware, maintenance and support – everything rolled into one integrated bill.



Customised Design

Through our partner innovation ecosystem, we transform challenges into brilliant outcomes. The Vocus ecosystem can deliver unique end-to-end solutions tailored to your specific requirements, integrating an array of technologies to achieve your business objectives.

Vocus' fibre network and satellite services allow our solutions to run anywhere. This ubiquitous connectivity enables the needed interoperability and technology integrations that solve industry problems, build credibility, and establish new revenue opportunities for our customers.

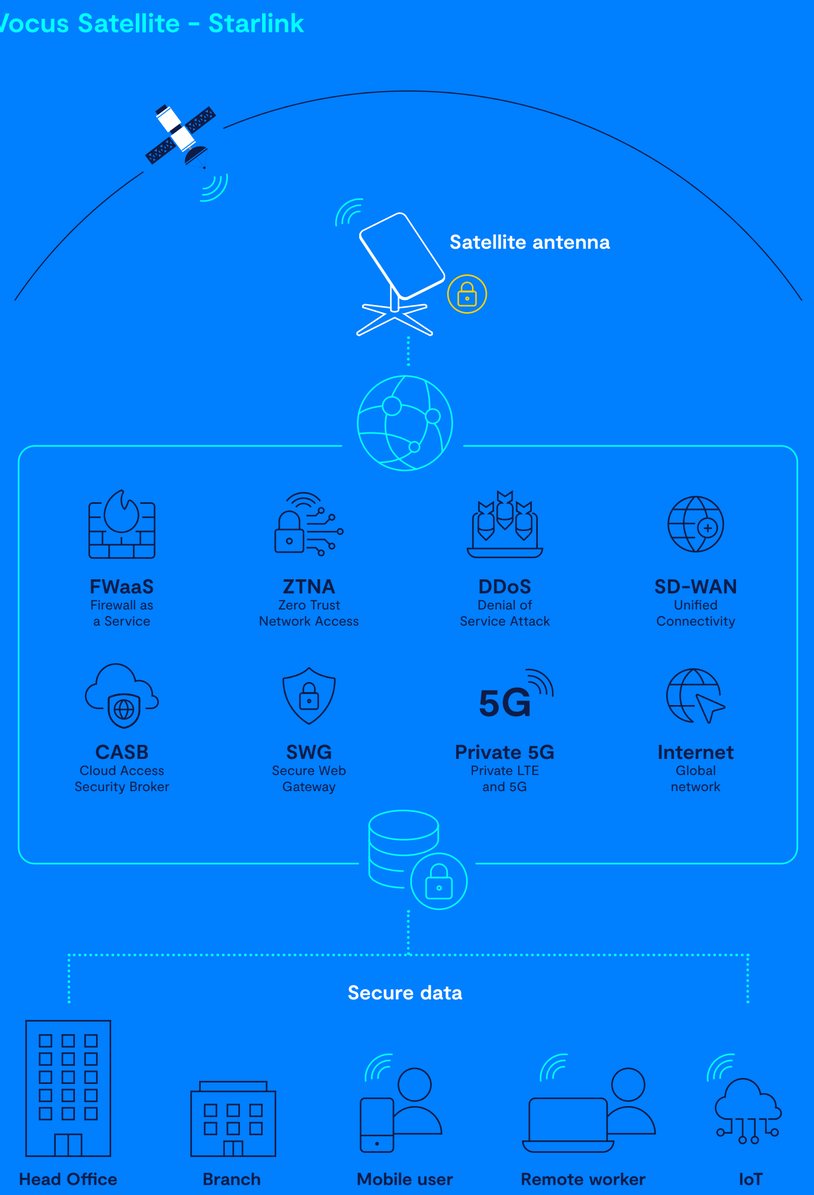
Vocus delivers powerful end-to-end solutions, customised to your business and enabled by a wide range of connectivity options.

Securing your satellite connection

Like all public network connections, satellite internet requires security controls to maintain data integrity and your customer's personal data.

Vocus can add a layer of resilience to your Vocus Satellite - Starlink service, with robust security and monitoring features. This cost effective and proven strategy provides a powerful defence against cyber threat and payment for this service can be integrated into your monthly billing.

Reach out to our security services team to get expert advice on how to secure your satellite service connections.



Plan Specifications

*Actual speeds may differ dependent on location, weather, time of day and other conditions.

^Unlimited Standard Data available for land use only.

DISCLAIMER: This guide has been prepared to our best knowledge but may include inadvertent inaccuracies or errors. Vocus makes no representations about the suitability of the information contained in this guide for your particular purpose and does not accept liability for any losses arising from relying on this specification guide.

	Fixed				Mobility		
	Business Starter	**Business Lite**	**Business Standard**	**Business Premium**	**Lite Mobility**	**Commercial Mobility**	**Premium Mobility**
Application	Fixed (not mobile)				Mobile (connection while in motion) Available where Starlink has land mobile or maritime services. Includes in-motion use.		
Latency	20–50 ms				< 99 ms		
Estimated speed*	↓ 120–270 Mbps ↑ 12–35 Mbps				↓ 75–240 Mbps ↑ 8–30 Mbps		
Estimated speed gn3*	↓ 120–270 Mbps ↑ 12–35 Mbps				↓ 40–150 Mbps ↑ 8–25 Mbps		
Included Priority Data Unlimited Standard Data^	40GB	1TB	2TB	6TB	50GB	1TB	5TB
IP address	Public DHCP IPv4 address				Public DHCP IPv4 address		

Hardware

Flat High-Performance Kit

Availablity	· Fixed and Mobility plans (Best for Mobility)
Size / Weight	· 575mm x 511mm x 41mm / 14.7kg
Power consumption	· 110–150 W
Hand-off	· Ethernet RJ45 connector, or · Starlink Gen 2 router (ordered seperately)
Environmental rating	· IP56 rated outdoor components · Temp, wind and vibration tested
Router	· Optional Starlink Gen 2 router

Gen 3 Standard Kit

· Fixed and Mobility plans (Best for Fixed)
· 594mm x 383mm x 40mm / 6.73kg
· 75–100 W
· 2 x Ethernet RJ45 ports, or · Starlink Gen 3 router
· IP67 rated outdoor components · Temp, wind and vibration tested
· Starlink Gen 3 router must be installed (bypass mode available for 3rd party routers)

Find out more

Reach out to your Vocus account manager, or book an online request, so we can learn more about your exact requirements and provide a secured satellite connectivity solution that’s right for you.