

Technology and infrastructure

Australian Infrastructure Audit

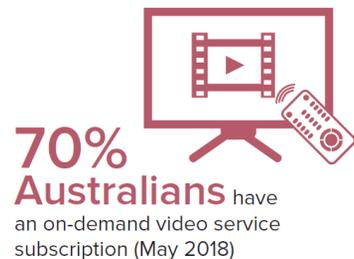
Technology is changing the way infrastructure services are delivered and consumed

- Technological advancements are creating opportunities challenges around control and privacy, and how to ensure the benefits are available to all.
- There is uncertainty about the timing and impacts of new technologies.
- There are increased expectations for personalised and transparent services.
- Governments and infrastructure operators must be on the front foot to ensure new technologies benefit users and work towards a vision of the Australia we want to create.
- Changing skills and resource requirements will change how we live and work.
- Communities with poor connectivity and individuals with low digital literacy, are struggling to engage with new products and services.



Key technologies in the near term:

5G, artificial intelligence, drones, automated vehicles, genomics, virtual and augmented reality, and the Internet of Things



Airtasker
1.6m
users



Uber
3.8m
users



Australian Millennials would consider joining the gig economy to supplement full-time employment.

Technology's role in infrastructure sectors

 **Passenger transport:** Technology is disrupting the private vehicle market, allowing cheaper and safer travel. Electric and automated cars will soon be readily available, and on-demand and sharing already exist.

 **Freight transport:** Autonomous trucks, drones, electric vehicles and telematics will change the way goods move through our communities.

 **Social infrastructure:** Technology is driving digitally equipped and flexible spaces, cheaper healthcare outcomes, increased access to arts and culture, improved data collection and a more efficient justice system.

 **Energy:** Home solar, smart meters and storage can save costs. However, there are challenges to integrating new technology into the grid.

 **Telecommunications:** The National Broadband Network can increase productivity by focusing on users and access.

 **Water:** Technology can help to overcome climate change, population growth and ageing asset challenges, however it will require changes in laws and regulations to unlock benefits.

Principle challenges and opportunities

Opportunity: Technologies can help to overcome barriers to service access as a result of distance or location. Better access to services through improved technology can bring economic and social opportunities for users outside of fast-growing city centres.

Opportunity: Developments in technology and the digital economy can unlock more user-focused services, but there are barriers to access to digital services and concerns about the privacy and security of data.

Opportunity: Some users have limited information or understanding of the costs associated with their use of infrastructure, however new technologies will increase information and control for those that can afford them. New technology will increase transparency of infrastructure costs for users and provide the opportunity for consumers to invest in alternatives to substitute or replace traditional services.

Challenge: Cybersecurity risks, such as data privacy and system resilience, are growing as more Australians use more interconnected digital services. Failure to manage these risks could affect user engagement with new services, and reduce the potential benefits of these services. Network efficiency could also suffer.