NSW GOVERNMENT

NSW Telco Authority

Operational Communications Strategy 2020

Our Aspiration

To lead the strategy, development and implementation of resilient public safety telecommunications services to ensure a safer NSW

Acknowledgments

Disclaimer

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Minister's foreword

Within the technologically-rich domain of operational communications, agility is vital in terms of both strategy and service delivery. In this latest iteration, the NSW Government's Operational Communications Strategy 2020 (OCS) reflects this dynamic and the need to continuously adapt to deliver the services customers need.

While customer service is a key government priority, its significance sharpens when customers comprise the very public safety agencies who work around the clock to keep us safe – as evident during the 2019–20 bushfires. In response, customers are front and centre of the OCS and have an increasing role in the evolution of the Public Safety Network.

To deliver this strategy, NSW Telco Authority will evolve into a highly customer-focused agency with multiple roles over and above service delivery that offer significant touchpoints with other government priority areas including digital leadership and innovation, and competitive, fair and secure markets.

As the agency responsible for operational communications, NSW Telco Authority will provide digital leadership in the public safety sphere. It will also provide linkages to the whole-of-government digital strategy through its role in national and state programs designed to enhance digital connectivity, including Public Safety Mobile Broadband, the Mobile Black Spot Program and Regional Digital Connectivity.

With delivery of an integrated Public Safety Network underway, the strategy looks to the future, proposing a technology roadmap for the transition from voice and narrowband P25 Land Mobile Radio technology to a Public Safety Mobile Broadband network capable of providing mission critical data services to those in the frontline at NSW Police Force, Fire and Rescue NSW, NSW Ambulance, NSW Rural Fire Service and the NSW State Emergency Service.

Fast, reliable public safety data will enhance the technology mix, creating opportunities for innovation and collaboration across government and industry. Emergency services will gain access to new products and services to support real-time decision making, enhance connectivity and information sharing, and improve safety for frontline responders and the communities they protect.

Through the rollout of the technology roadmap, the strategy supports the government's priority to shape competitive and fair markets. It builds contestability into the supply of equipment and services, looks to industry to offer value-for-money solutions and seeks to engage the private sector – particularly small and medium enterprises. This approach will trigger economic growth and jobs – perhaps more important now against the backdrop of COVID-19 than ever before.

By delivering the OCS on behalf of the NSW Government, the NSW Telco Authority will realise its aspiration to lead the strategy, development and implementation of resilient public safety telecommunications services and make NSW a safer place for us all.

The Hon. Victor Dominello MP
Minister for Customer Service

Chairperson's foreword

In the five years since the NSW Government released the Operational Communications Strategy 2015, emerging digital technologies offer the potential for new and more effective ways to meet the coordination and connectivity challenges faced by those in frontline emergency services.

Recent experiences have given us insight into some of these challenges. Close to home with the NSW bushfire crisis and the ongoing global COVID-19 pandemic, we need the best possible operational communications network to support first responders in their mission to keep people and places safe.

The urgency of this challenge drives NSW Telco Authority. Through the Critical Communications Enhancement Program, we are building a single, interoperable Public Safety Network to provide mission-critical standard voice and narrowband data services to achieve 96 per cent population coverage by 2022.

We are looking to the future to enhance our product and service offerings by harnessing proven, reliable and resilient new technology to meet customers' evolving needs. Following consultation with customers, industry and government, the NSW Telco Authority has developed a technology roadmap to chart a course for a phased, statewide rollout of Public Safety Mobile Broadband.

This technology will enable customers to access data and video applications, unlocking the benefits of greater connectivity to improve coordination, decision-making and responses in emergencies, when every second counts.

To deliver the strategy on behalf of the NSW Government, the NSW Telco Authority will lead an integrated portfolio of public safety communications, evolve the state's critical communications capacity, look to the market for delivery and innovation opportunities and build a customer-centric culture.

By listening to our customers, collaborating across industry and government, the NSW Telco Authority will make a significant contribution to public safety for the people of NSW.

Beth Jackson
Chairperson, NSW Telco Authority

Executive summary

The NSW Government Operational Communications Strategy (OCS) 2020 outlines the enhanced coordination of public safety telecommunications programs and the provision of data enabled products and services to a broader set of customers across the state, over the next ten years.

This strategy builds on OCS 2015 to equip emergency service frontline responders with connectivity solutions which help them to better protect people, places and their colleagues in the field. In the context of recent catastrophic events such as the bushfires and the COVID-19 pandemic, the breadth and resilience of connectivity solutions have become more critical than ever.

An amplified requirement for better informed on-the-ground decision making, the advancement of digital technologies and an increasing need for collaboration during crisis times have driven the requirement for a change in how government supports emergency services organisations and agencies.

In response to these needs and evolved capabilities, at NSW Telco Authority we have engaged broadly with our customer, industry and government stakeholders to develop a technology roadmap which specifies the statewide deployment of a government owned land radio network and phased roll-out of a Public Safety Long-Term Evolution network from 2020 to 2030, at the best value for money. This roadmap underpins the strategic choices considered in the development of the OCS 2020 and are expressed in this document.

This strategy enables frontline responders to be equipped with highly reliable and resilient mission critical voice services and mobile broadband data capability.

This strategy also outlines the future state priority for government to drive greater coordination of connectivity services in the state, maximising benefits from greater use of shared infrastructure, services and platforms. Cross-program synergies between the Critical Communications Enhancements Program, Regional Digital Connectivity Program and Mobile Black Spots Program in particular, will be a key focus area.

As the government agency responsible for delivering on these ambitions, we will reposition ourself as a truly customer centric organisation. We will act as advisor, service provider or aggregator to our customers and will leverage industry expertise, execution capability and our capacity to innovate and solve problems collaboratively.

Through the delivery of the OCS, we will drive clarity around the value we add and the impacts on our customers as we contribute to a safer NSW.

Five strategic priorities underpin this strategy:
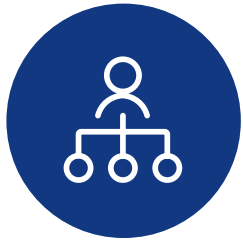
1. Lead with one integrated portfolio

Remove duplication and fragmentation by coordinating public safety telecommunications assets, resources, programs and services as a single, integrated, efficient portfolio.

2. Evolve critical communications

Develop a resilient and secure communications capability to support mission-critical voice and data enabled services for emergency services organisations, agencies and others.

3. Leverage the market for implementation and innovation

Leverage industry expertise to achieve value for money and market contestability, and engage with industry partners to collaborate, innovate and solve problems.

4. Embed customer centricity

Build the consideration of the needs of our customers and stakeholders into our strategic decision making processes.

5. Empower our people

Drive an inclusive workplace culture with a shared purpose and build our capabilities to meet and exceed customer expectations.

The results of a successful strategy:

- A coordinated portfolio of public safety telecommunications capabilities that is more reliable, provides coverage in more areas, allows communication across agencies and is less expensive to operate.

- Improved safety for the people of NSW, frontline responders and community volunteers, as well as infrastructure, by equipping teams in the field with a robust mobile communications network and real-time information.

- Reduced government reliance on asset ownership and a focus on strategic commissioning to support contestability and market testing of existing services.

- Better value for money through more efficient coordination and deployment of capital investments and operational expenditure. · Highly resilient and reliable voice communication capability and enhanced mobile broadband capability and data services which create a platform for greater digital transformation of the emergency services sector.

- More opportunities for industry to engage with government for supply and operation of public safety telecommunications, providing innovation, jobs and economic growth to NSW.

- Enhanced customer experience through greater collaboration of information sharing with emergency services organisations and agencies.

- Reduced risk and improved decision-making for government through greater visibility of operational results.

- Creation of a foundation and platform for further innovation that all emergency services organisations and agencies can use to improve services to the public.

- Transformed organisational culture, with a focus on inclusivity, diversity, collaboration and leadership empowering employees to perform their best.

- Improved employee experience by building capability through a feedback based culture, prioritising safety and focusing on employee wellness.

The strategy aligns with key Premier's Priorities:

- Through the provision of a public safety telecommunications network and mission critical communications services, emergency services organisations are enabled to **protect our most vulnerable community members.**

- By providing mobile health service professionals with mission critical voice and data in the field, **outpatient and community care** is extended to **improve healthcare service levels.**

- By enabling the police force with mission critical communications, they are better able to serve and p**rotect our most vulnerable citizens,** breaking the cycle of violence in our community.

- By improving digital connectivity in regional and rural communities, **young people in regional and rural schools are supported to reach their learning potential** and distance learning is more accessible, contributing to **lifted educational results.**

- The extension of digital connectivity into regional NSW will also enable NSW businesses and workers to work and serve customers remotely, with a reduced carbon footprint contributing to **greener communities.**

- By implementing best practice productivity and digital capability in the NSW public sector, **better customer service** can be provided to the people of NSW.

Current state of operations

Our primary service – offering emergency services organisations (ESOs) and agencies mission critical voice and narrowband data – is being upgraded and enhanced through the Critical Communications Enhancement Program (CCEP).

The program aims to provide coverage across 85% of the geographical area and 99.7% of the population of NSW, underpinned by the P25 Land Mobile Radio technology. The current funded program is expected to provide mission critical voice services across 47% of the geographical expanse and 96% of the population by June 2022. Approval for additional budget will consider if there are more efficient and effective solutions to achieve the targeted coverage**.**

We are also delivering or supporting several other programs that are relevant to the strategy:

• National Public Safety Mobile Broadband (PSMB) is a significant modernisation of public safety communication and the next evolution from P25 Land Mobile Radio technologies, supporting access to video, images, location tracking and other data. Since 2013, we have been actively engaging with public safety agencies across Australia to define what a nationwide PSMB should look like, with the objectives and high-level requirements for a national PSMB having since been defined. In late 2018, on behalf of all jurisdictions, NSW Telco Authority, led a request for proposal from the telecommunications industry, resulting in a proof of concept for trial of a national PSMB capability. We will continue to lead the implementation and finalisation of the proof of concept. We will continue to provide support and expertise to the Commonwealth Government as the Strategic Roadmap is implemented to deliver a national PSMB capability.

• The Mobile Black Spots Program is a Federal Government initiative to improve and extend mobile phone coverage in regional and remote Australia. The Federal Government has committed $380 million to this program, which has been co-invested by state governments, local governments, businesses, community organisations and telecommunications providers. NSW Telco Authority continues to work with the Federal Government and industry to identify opportunities to increase mobile coverage in regional parts of NSW through the program.

• The Regional Digital Connectivity program is designed to provide individuals and businesses across regional NSW with better access to mobile, internet and digital services. Our role is to support the program delivery and will evolve over time.

We are also trialling the effectiveness of various other technologies, including Vehicle as a Node and geostationary satellite (GEO), to further extend coverage and resilience to ESOs and agencies in the field.

Trigger for change

The current Land Mobile Radio technology used to deliver mission critical voice services through the CCEP is expected to reach end of life around 2035[1]. The use of mobile broadband by agencies and ESOs to support frontline operations is extensive and will continue to grow. A mix of business grade and enhanced mobile broadband services (e.g. Telstra LANES) is currently being used by ESOs, however a long-term strategic and whole of government solution is required.

Public Safety Long-Term Evolution (PS-LTE) technology is identified globally as a potential replacement for Land Mobile Radio, and is being deployed in the United Kingdom, United States of America, Finland and South Korea. There are also promising developments in Low Earth Orbit Satellite (LEO) and High Altitude Pseudo Satellite (HAPS), including Alphabet's Loon, which will provide new options for enhancing coverage.

Data and video applications and services are becoming increasingly important for public safety.

The development of the Internet of Things and the parallel development of smart cities will introduce millions of connected objects. With the support of reliable networks, this development brings new applications, data services and devices for public safety – to further enhance the safety of citizens and emergency service workers. It also enables true collaboration, shared infrastructure and seamless services between government agencies.

In a recent report[2], Gartner has identified two keys factors significantly impacting the trends in public safety and law enforcement evolution:

- Digital leadership, embracing new technologies to enable a culture of collaboration and common mission;
- Maximising data usage within and across agencies to improve operational effectiveness

The needs of ESOs and agencies in NSW echo this trend towards increased data use, with multiple local use cases already identified to enhance decision-making quality and speed for frontline responders and support teams.

The availability of telecommunication services is now more important than ever for ESOs, agencies and the communities they serve. During emergencies these services are critical to provide assistance, warnings and information. In these situations there is a need for leadership and coordination of information and intelligence between all the ESOs and broader emergency management system. The recent bushfires showed that it is imperative to shift from a reactive response to building comprehensive capabilities across the four key phases of emergency management: prevention, preparation, response and recovery. This forms part of the NSW State Emergency Management Plan maintained by the Office of Emergency Management.

Significant changes expected in the technology and policy landscape and in customer requirements over the next five to 10 years mean we need to adopt new technology, market developments and opportunities – enabled by a customer centric operating model and an implementation plan which reflects these shifts.

⌄ **The OCS needs to be refreshed as a result of several triggers**

ALL HAZARDS
reinforced the need for resilient and reliable public safety communications

GOVERNMENT FOCUS ON CITIZEN AND CUSTOMER-FIRST APPROACH
in new Premier's Priorities and creation of new clusters

NEW TECHNOLOGY OPTIONS
are emerging with enhanced functionality and the ability to extend coverage

TRIGGERS FOR CHANGE

MULTIPLE INVESTMENTS IN CONNECTIVITY
and mobile broadband solutions require whole-of-government coordination

CITIZEN EXPECTATIONS FOR DATA AND VIDEO
applications and services are becoming increasingly important for public safety

[1] In March 2018, Gartner reported the full retirement of P25 is expected to take up to twenty years. Source: Market Insight, Gartner, March 2018
[2] Gartner "Top Trends in Public Safety and Law Enforcement" Published: 10 January 2020

Progress against OCS 2015

Over the past five years of the strategy, we have seen significant progress with respect to the four original strategic pillars. These pillars have now been repositioned as strategic priorities in the OCS 2020.

One Integrated Portfolio

Initiatives to rationalise assets and set up sector wide change management frameworks are making progress. These have all been incorporated into the 2020 OCS Implementation Plan.

Shape a Competitive Market

Initiatives to enhance strategic commissioning for infrastructure deployment have been incorporated into the 2020 plan.

Evolved Critical Communications Capability

We have seen good progress with initiatives that provide greater coverage and new services to frontline responders. This will continue with further partnering with customers and industry, reinforced with expanded initiatives in the 2020 plan.

Information Enabled

A number of these initiatives have been descoped following Treasury review and new options are being considered to develop information management and intelligence capabilities in the 2020 plan.

Please refer to **Appendix 2: Progress Against OCS 2015 Implementation Plan** on the status of OCS 2015 elements and key activities.

The future of public safety telecommunications – 2020 to 2030

NSW Telco Authority has crafted a new aspiration to drive clarity around our value add and impact to key stakeholders:

To lead the strategy, development and implementation of resilient public safety telecommunications services to ensure a safer NSW.

This aspiration is informed by three principles to meet our customers' needs:

- **The evolution of NSW Telco Authority's role to drive statewide consolidation and coordination of public safety connectivity programs.**

- **The provision of new products and services to ESOs, agencies and others beyond mission critical voice, including mobile broadband data connectivity and related value-adding services.**

- **The establishment of industry and government partnerships to drive market contestability, better value from government investments and innovation.**

The execution of these strategic choices will be influenced by technology evolution, stakeholder engagement and partnership eco-system and will be developed across three time horizons, to align with the roll-out phases of our technology roadmap:

1	HORIZON 1: 2020–2022	2	HORIZON 2: 2022–2025	3	HORIZON 3: 2025–2030

The evolution of our role in government

Further opportunities exist for statewide consolidation and coordination of connectivity programs in NSW. These opportunities will continue to grow while all levels of government prioritise the need for better and more equitable access to digital technologies. This is particularly relevant for regional businesses, students, welfare recipients, emergency services, utilities service provision and public service delivery.

This increased focus and budget toward digital has created challenges associated with the breadth of evolving digital services (referred to as 'vertical' challenges), as well as duplication of digital program delivery within government (referred to as 'horizontal' challenges). We will leverage our specialised skillset, infrastructure base and organisational motivation to take more of a leadership role in the coordination and delivery of connectivity programs across government.

To prepare for these opportunities, we will define our role across existing government programs to determine when we will act in a delivery or advisory capacity. This will drive:
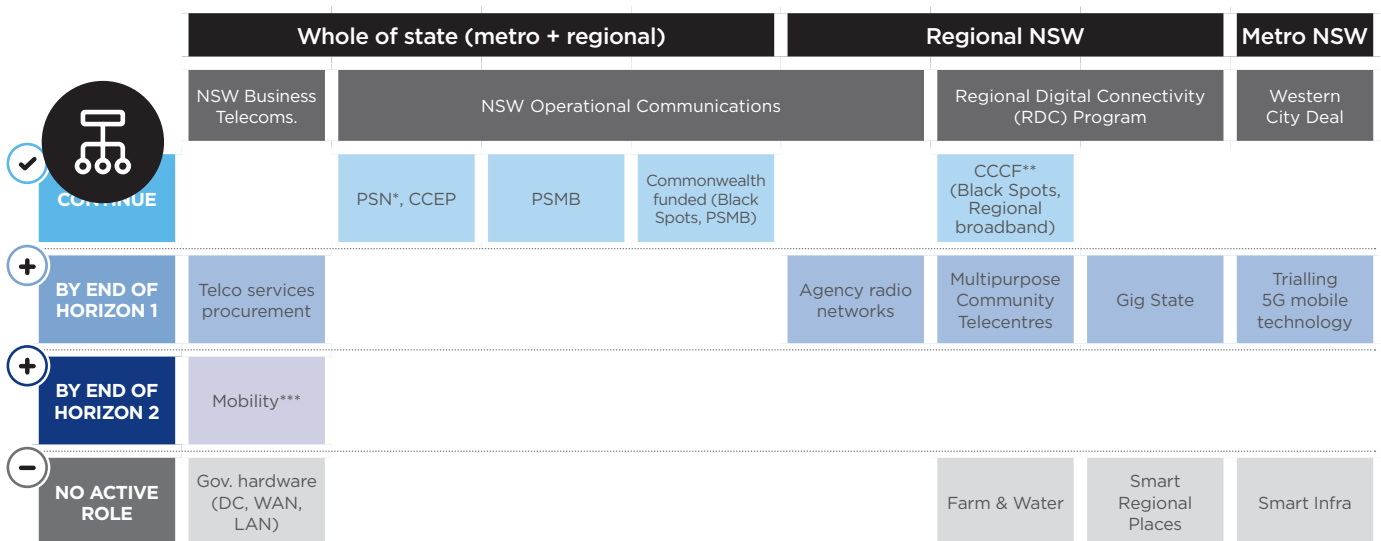
- accountability for service level requirement gathering and monitoring
- value for money
- clarity in governance, including in intergovernmental matters
- market engagement for service delivery

NSW Telco Authority does not consider itself the owner or driver of policy development (except for spectrum), rather a nodal delivery agency driving quality technical and commercial delivery decisions. We will identify internal gaps in capability and capacity that need to be addressed in order to meet this evolving role.

In the short-term, we will act as a centre of expertise within the NSW Government on all matters affecting "public-safety connectivity" – a term that will be clearly defined and agreed prior to the initiation of the role. Our role across government will align to strategy, program management and governance on connectivity programs that intersect whole of government connectivity and public safety connectivity. We will deliver this role with effective collaboration and contracting with the private sector, ensuring that the optimum impact is delivered with connectivity budgets, including those targeted at delivering citizen and business outcomes.

NSW Telco Authority has the capability to play a role across a broad range of telecommunications programs and initiatives currently underway across the state. An assessment of this role has considered the three OCS time horizons. These include NSW Business Telecommunications, NSW Operational Communications, the Regional Digital Connectivity Program and the Western Sydney City Deal.

⌄ **Whole of government telecommunication landscape:**

	Whole of state (metro + regional)				Regional NSW		Metro NSW
	NSW Business Telecoms.	NSW Operational Communications			Regional Digital Connectivity (RDC) Program		Western City Deal
CONTINUE		PSN*, CCEP	PSMB	Commonwealth funded (Black Spots, PSMB)	CCCF** (Black Spots, Regional broadband)		
BY END OF HORIZON 1	Telco services procurement			Agency radio networks	Multipurpose Community Telecentres	Gig State	Trialling 5G mobile technology
BY END OF HORIZON 2	Mobility***						
NO ACTIVE ROLE	Gov. hardware (DC, WAN, LAN)				Farm & Water	Smart Regional Places	Smart Infra

*PSN: Public Safety Network **CCCF: Connecting Country Communities Fund
***NSW TA's role in Mobility mainly refers to platform provision, as opposed to owning the Mobility agenda

New products and services

The advancement of digital technologies and feedback from ESOs and agencies around connectivity use cases are the core driving forces for our new products and services catalogue. Our revised technology roadmap includes the roll-out of a Public Safety Network to enable these products and services, incorporating various core telecommunications technologies:

- A statewide Land Mobile Radio network, to enable the provision of mission critical voice services (currently being delivered via the Critical Communications Enhancement Program).

- A broadband network, to enable the provision of providing business critical voice and data services, and eventually, mission critical voice and data services.

- Supplementary technologies to fill coverage gaps especially in rural areas, for example satellite and Vehicle as a Node.

This technology mix provides us with increased access to a range of infrastructure and capabilities. Combined with an enhanced role in coordinating public safety telecommunications across the state, broadband enables us to provide data enabled products and services to a broader set of customers. As we evolve, we will assume various roles to provide a range of products and services to our customers across the telecommunications technology stack:

As NSW Telco Authority evolves, it will assume various roles to provide a range of products and service to its customers across the telecommunications technology stack:

- Advisor – NSW Telco Authority provides advice and expertise.

- Product/service provider – NSW Telco Authority to provide products/services, on our own or in partnership with a vendor.

- Aggregator – NSW Telco Authority aggregates demand to leverage economies of scale

NSW Telco Authority's products & services, rolled out by...

Communications tech stack and NSW Telco Authority's role		END OF HORIZON 1 (2022)	END OF HORIZON 2 (2025)	END OF HORIZON 3 (2030)
	Devices *Aggregator & standardisation entity*	–	(+) PS-LTE devices & terminals	(+) PS-LTE devices & terminals
	Connectivity *Provider & aggregator*	(+) Carriage services sharing	(P) BC-Voice and Data on PS-LTE	(P) MC-Voice and Data on PS-LTE
			(P) Non-terrestrial access	(P) Non-terrestrial access
			(+) IoT enablement	(+) IoT enablement
			(+) Carriage services sharing	(+) Carriage services sharing
	Platforms and Applications *Data provider*	(P) API aggregation	(P) Service portal	(P) Service portal
		(P) Network Operations automation and analytics		
	Services *Advisory & management services*	(A) State connectivity strategy & roadmap	(A) State connectivity strategy & roadmap	(A) State connectivity strategy & roadmap
		(A) Funding, procurement & contract management	(A) Funding, procurement & contract management	(A) Funding, procurement & contract management
		(A) Communications regulation, standards and industry interface (incl. spectrum)	(A) Communications regulation, standards and industry interface	(A) Communications regulation, standards and industry interface
		(A) Communications infrastructure delivery program management	(A) Communications infrastructure delivery program management	(A) Communications infrastructure delivery program management
			(A) Governance for Comms Infrastructure Investments	(A) Governance for Comms Infrastructure Investments
			(P) Innovation incubator for PS Apps, leveraging PS LTE n/w	(P) Innovation incubator for PS Apps, leveraging PS LTE n/w
	Customers	ESOs, agencies, smaller non-gov. entities linked to public safety: oper. connectivity	ESOs, agencies, smaller non-gov. entities	ESOs, agencies, smaller non-gov. entities
			Telcos & Energy players: data platform	Telcos & Energy players: data platform

Key: (A) Advisor   (P) Product/service provider   (+) Aggregator   ••• Planned products & services

We will continue to focus on ESOs and other government agencies as primary customers in Horizon 1 and will leverage data platforms to share information on public safety telecommunications infrastructure with Telco and Energy industry players in Horizon 2 and 3.

Industry and government partnerships

The future state of public safety communications in NSW is defined by an operating model which requires close interaction between NSW Telco Authority, industry, universities and other NSW Government agencies. We will focus on the planning and governance of an integrated portfolio of assets and services on behalf of government. Stakeholder agencies will be supported in their progressive transition to being consumers of services, enabled by a contestable market for connectivity services and innovation.

Industry and the research and development sector will play an important role in the provision of connectivity services to government. We plan to leverage existing infrastructure and the capabilities of these industry and sector stakeholders wherever it's the most cost-effective solution for the delivery of connectivity services. We will foster an ecosystem to share information, develop a shared perspective on technology evolution, security, standards and regulation for public safety communications and innovate around future data services.

Critical success factors to forge the future

Three key critical success factors have been identified to deliver our strategic initiatives that will provide an enhanced service and better value for stakeholders and citizens.

CRITICAL SUCCESS FACTORS	STRATEGIC PRIORITIES	OUTCOMES
Sustainable funding	1. Lead with one integrated portfolio	
	2. Evolve critical communications	Enhanced service
Strategic commissioning	3. Leverage the market for implementation and innovation	
	4. Embed customer centricity	Better value
Supporting mandate	5. Empower our people	

Sustainable funding

Seeking measured multi-year investments in strategic infrastructure and technology with an integrated approach between NSW Telco Authority and agencies to requesting funding. This will consider what capital investments should be made to deliver the best social outcomes for NSW and how investments can be deployed most efficiently over each phase of the strategy by working with industry partners.

Strategic commissioning

Ensuring that NSW Telco Authority has the capabilities required to design, procure and deliver new connectivity products and services to agencies. Actively shaping the industry to encourage contestability and innovations, and fostering our ability to pursue open, contestable and diverse delivery models and systems so that the best use of available resources is made both now and in the long-term. We will source services from markets where there is benefit to doing so, while retaining the capability to intervene where the market fails to deliver a robust, economical solution.

Supporting mandate

Our mandate must reflect the strategic direction envisaged by the NSW Government and address our evolving roles and responsibilities. This should include a review of current legislation and other policy mechanisms relevant to NSW Telco Authority. This will be complemented by ongoing consultation with all stakeholders to gather feedback and align with their needs.. This will be critical to support successful delivery of the strategy.

Strategic priorities and initiatives - 2020 to 2030

The NSW Government will obtain better value from its investments and provide enhanced responsive services to the community through four strategic priorities:

CRITICAL SUCCESS FACTORS	STRATEGIC PRIORITIES	OUTCOMES
Sustainable funding	1. Lead with one integrated portfolio	Enhanced service
	2. Evolve critical communications	
Strategic commissioning	3. Leverage the market for implementation and innovation	
	4. Embed customer centricity	Better value
Supporting mandate	5. Empower our people	

NSW Telco Authority will evolve into a highly customer-focused agency with multiple roles over and above service delivery that offer significant touchpoints with other government priority areas

1. Lead with one integrated portfolio

We will remove duplication and fragmentation by coordinating public safety telecommunications assets, resources, programs and services as a single, integrated, efficient portfolio.

This priority includes four key initiatives:

	KEY INITIATIVE	KEY OUTCOMES	TIMELINE
1.1	Ensure an efficient integrated public safety communications asset portfolio across the state	• ESO radio assets transferred and consolidated • ESOs and agencies fully migrated to the Public Safety Network	2020–2026
1.2	Embed NSW Telco Authority's state-wide role in providing public safety connectivity services	• NSW Telco Authority embedded as the key government operational communications implementation agency • Continued role in National Public Safety Mobile Broadband development • Whole of government telecommunications governance mechanisms established • Relevant government telecommunications policies updated	2020–2030
1.3	Lead seamless delivery of communications across the state	• Critical Communications Enhancement Program, Mobile Black Spots and the Regional Digital Connectivity programs coordinated successfully • Mobile Blackspot Program and Regional Digital Connectivity Program are delivered successfully	2020–2030
1.4	Coordinate the telecommunications aspects of emergencies in NSW and act as the conduit between the telecommunications industry and NSW Government	• Enhanced emergency incident planning and response capabilities across the state	2020–2030

RESULTS:

- Improved coverage, capacity and reliability of shared and interoperable radio services.
- Agencies are equipped to focus on their core business: protecting the public from crime or disaster and delivering essential services.
- Reduced liability and risk associated with ageing asset portfolio.
- Decreased total asset holdings as radio communications assets are streamlined.
- Unnecessary capital expenditure is avoided and operating costs are reduced.
- We are viewed as a centre of expertise within government with the skills and resources needed to commission effective and efficient operational communications services.
- Emergencies and incidents are effectively managed through statewide coordination and enhanced situational information.

2. Evolve critical communications

We will develop a resilient and secure communications capability that delivers and enhances mission critical voice and data enabled services for ESOs, agencies and others

This priority includes five key initiatives:

	KEY INITIATIVE	KEY OUTCOMES	TIMELINE
2.1	Deliver on statewide mission critical voice requirements, including the operational Public Safety Network	• Mission critical voice delivered to customers via radio network • Efficient and effective management of government assets to customer Service Level Agreements	2020–2030
2.2	Roll out mobile broadband service	• Mobile broadband network constructed • Business and mission critical data services deployed to customers	2024–2030
2.3	Develop supplementary data services	• A messaging solution delivered • Data analytics, location services and real time reporting supported • ESO and agency data applications defined and launched	2021–2030
2.4	Provide additional services to other departments and agencies	• Additional services such as Vehicle as a Node and satellite implemented • Standards and test specifications for devices and terminals published	2020–2030
2.5	Enhance Cyber Security capabilities	• Implementation of an Information Security Management System • Implementation of security automation and controls for cloud systems and applications	2020–2030

RESULTS:

- Enhanced voice communication capability provided to ESO and agency frontline responders.
- Highly reliable and resilient mobile broadband capability and data services are available to ESOs and agencies to enhance decision making in the field.
- Reduced risk to public safety and essential service personnel.
- More efficient coordination and deployment of resources, including devices.
- Enhanced cyber security capability to protect network and systems.

3. Leverage the market for implementation and innovation

We plan to work closely with the research and development sector to help solve connectivity challenges that government and the community may be facing. We will engage industry participants to partner with on the rollout of mobile broadband data and related value-adding services for public safety communications, ensuring we deliver value for money and increase market contestability.

This priority includes three key initiatives:

	KEY INITIATIVE	KEY OUTCOMES	TIMELINE
3.1	Enhance strategic commissioning approach for infrastructure deployment and service delivery	• Managed Network Partner selected • Market sounding process completed to advance timelines for enhanced data services	2020–2021
3.2	Initiate strategy and commercial framework to roll out public safety mobile broadband	• Business case for public safety mobile broadband network completed and assurance processes introduced • Commercial engagement process completed	2021–2024
3.3	Ensure future technology readiness	• Greater collaboration and partnerships between government, industry and the research community to solve connectivity challenges in NSW	2020–2028

RESULTS:

- Better value for money.
- Reduced cost of equipment and services offered to government by the private sector.
- Enhanced private sector participation and engagement in providing services to government, particularly from small and medium enterprise.
- Reduced lead times for government agencies to access services and new technologies.
- Improved quality and timeliness of services provided to government.
- Enhanced responsiveness from the market to provide innovative solutions to government.
- Greater contestability achieved in the provision of equipment and services.
- Greater collaboration between government, industry and the research and development sector to ensure the NSW Government is continually innovating and adapting to connectivity challenges and changing customer need.
- More opportunities for industry to engage with government for the supply and operation of critical communications, providing jobs and economic growth in NSW.

4. Embed customer centricity

We will build the consideration of the needs of our customers and stakeholders into our strategic decision making processes.

This priority includes three key initiatives:

	KEY INITIATIVE	KEY OUTCOMES	TIMELINE
4.1	Review and enhance NSW Telco Authority operating model	• Enhanced teams and systems required to support product/ service rollout • Legislative provisions updated to reflect NSW Telco Authority's mandate as the government operational communications implementation agency	2020–2029
4.2	Review our customer, engagement model and performance	• Embedded customer onboarding process and customer experience metrics • Enhanced customer interaction and engagement model including customer council for ESOs to share IT roadmaps • Data analytics platform developed to capture and share information	2020–2030
4.3	Develop and commission a multi-agency funding and pricing agreement for critical communications	• Completed costings and pricing scenario modelling • Executed a funding and pricing agreement for operational communications	2020–2023

RESULTS:

- Effective implementation and management of the OCS.
- Better informed decision making based on key metrics.
- Customer needs, insights and pain points used to drive strategic priorities.
- Greater transparency with customers.
- Enhanced customer experience through greater collaboration and information sharing with ESOs.
- Easier on-boarding of customers.

5. Empower our people

Drive an inclusive workplace culture with a shared purpose and build our capabilities to meet and exceed customer expectations.

This priority includes three key initiatives:

	KEY INITIATIVE	KEY OUTCOMES	TIMELINE
5.1	Customer and community at the centre of everything we do	• Implemented a culture refresh program for all staff, centred on STAIRS values, customer centricity and the safety of our communities.	2020–2030
5.2	People and inclusion at the heart of everything we do	• An inclusive and diverse workforce, fostering an agile working culture, driving efficient outcomes, with increased employee engagement and wellness. • Empowered staff to act and make a positive impact. • Streamlined recruiting process, with talent pipeline to support future career opportunities.	2020–2030
5.3	Partner and collaboration at its best	• Enhanced employee lifecycle experience, aligned with the DCS People Strategy. • Developed and nurtured synergies with customers and stakeholders through consistent delivery and integration of new technologies.	2020–2030

RESULTS:

- Customer-centric approach to everything we do.
- NSW Telco Authority workplace culture & climate transformation.
- Organisational adoption of "Kaizen" continuous improvement mindset.
- Improved recruitment processes.
- Increased collaboration between NSW Telco Authority, DCS and our internal and external stakeholders.
- Empowered, engaged and accountable staff at all levels.

Operating model

In order to fulfil the 2020–30 strategic objectives we will take the leadership role in creating greater collaboration and partnering with all stakeholders to deliver the Public Safety Network capabilities in NSW. This will require increased coordination of industry, universities, essential utility providers and government agencies at both the state and federal level.

The operating model for NSW Telco Authority will be revised based on five guiding principles:

1 Embed customer centricity – pivot the organisation to focus on delivering better customer outcomes across the portfolio and user groups (such as agency communications team, first responders and incident command personnel).

2 Increased connectivity with customers, industry and research experts – to leverage innovation and deliver increased reliability, resilience and usability of the Public Safety Network.

3 Design the framework and capabilities to shape a competitive market with increased private sector involvement and contestability to deliver better value for money – we will complement private sector delivery where there is weak commercial viability.

4 Implement a whole of government approach to public safety communications – coordinate the delivery of connectivity services and provide an advisory role on how to plan statewide connectivity programs.

5 Operating model will be data-driven.

The role each stakeholder takes in delivering the Public Safety Network has evolved from pure commercial arrangements towards a mutual ecosystem of public safety connectivity services. This will continue to evolve in the partnership model we adopt.

Stakeholder eco-partnership model

Customers

NSW Telco Authority

Industry and Industry Bodies	Universities/Research and Development

Connectivity Innovation Network	Commonwealth Government and Regulation	State & Territory Government and Regulation
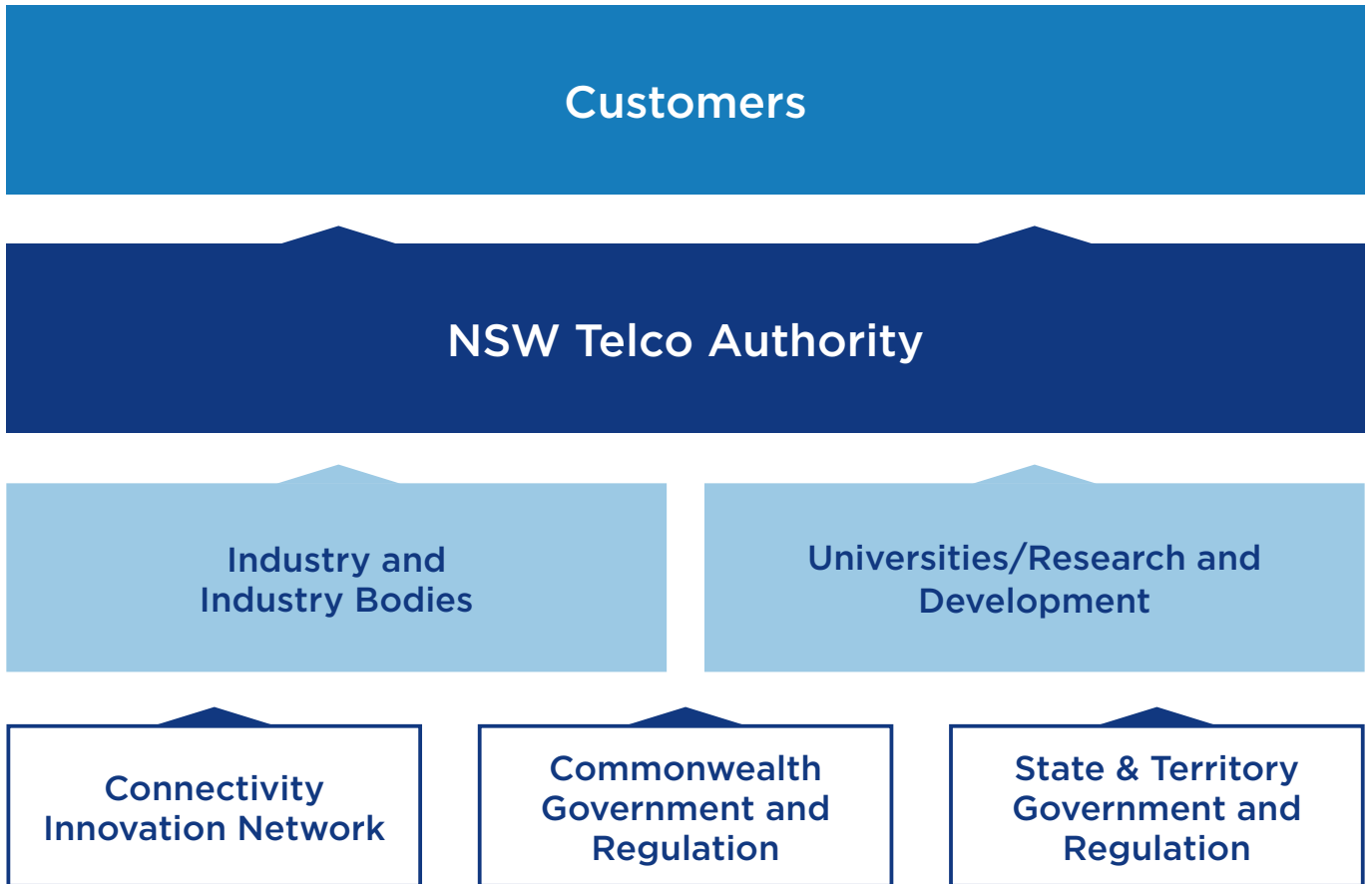
Customers

The customer is at the heart of the 2020 strategy and this operating model has been designed to create greater customer centricity and improve customer outcomes. The role customers take in the development and delivery of the Public Safety Network capabilities will increase as we share information and learnings in partnership with industry and other stakeholders. This will elevate the capabilities provided by the Public Safety Network and NSW Telco Authority.

Each customer group will have its own service strategy and the partnering approach will ensure synergies are captured across these groups. The partnering model will align the needs of essential users, such as energy operators, as both a supplier and customer of the network.

Federal and state government and regulators

A specific requirement for the Public Safety Network is to deliver functional interoperability of the network across states and territories so that first responders and other customers maintain continuous communication coverage across border regions. The Public Safety Network needs to meet the standards of regulatory bodies, for example, the ETSI/3GPP provides the framework and technical standards required to provide services to the Public Safety Network.

The operating model includes development of a cross state working group (VIC/QLD/ACT/SA) with the objective of delivering seamless transition for first responders across border regions. An equivalent working group will be established with Commonwealth, States and Territories in relation to designating the appropriate spectrum and advancing PSMB delivery across Australia.

Regulation

Telecommunications are subject to Commonwealth legislation, including the *Telecommunications Act 1997* (Cth), *Competition and Consumer Act 2010* (Cth), *Radiocommunications Act 1992* (Cth) and *Telecommunications (Interception and Access) Act 1979* (Cth). This framework establishes powers, obligations and exemptions relating to carriers and carriage service providers for the operation of telecommunications networks.

The *Government Telecommunications Act 2018 (NSW)* established the government telecommunications network for the operational communications of government sector agencies and provides the mandate for the NSW Government Telecommunications Authority (NSW Telco Authority) to manage and operate that network.

Industry partners and industry bodies

Industry participation in delivering public safety communications covers a number of integrated roles. This will increase within the scope of the OCS to increase contestability and innovation and to deliver better value for money for government. Examples include but are not limited to:

- **Telecommunications carriers: provide Long-Term Evolution networks and access to site and capacity for Long-Term Evolution traffic.**

- **Satellite operators: interoperability of geostationary satellite/Low Earth Orbit satellite coverage.**

- **Public safety solution providers, such as managed services, hardware, licence and terminals.**

- **Energy providers: provision of power, isolated microgrids, diesel generators and battery back-ups.**

- **Infrastructure design and build organisations: infrastructure delivery for the Critical Communications Enhancement Program, the Regional Digital Connectivity program, Public Safety Mobile Broadband, Mobile Black Spots Program.**

- **Industry bodies, for example, Energy Network Australia and the Australian Communications and Media Authority.**

University/academic research and development

There are a number of specialist departments across Australian universities that carry out research and analysis to provide insights for enhanced network capability and emergency management (for example the Centre for Disaster Management and Public Safety, University of Melbourne). These teams also look at global best practice and innovation. Bringing this thinking together with local carrier capabilities in the design and development of new products will provide proactive innovation and improve customer outcomes.

Connectivity Innovation Network

An additional element in the revised operating model will be the establishment of a Connectivity Innovation Network. The Connectivity Innovation Network will bring together industry, customers and research organisations to develop, test and implement innovative solutions to statewide public safety challenges. This network will facilitate collaboration with stakeholders engaged in connectivity and supplementary data services, and provide them with governance, infrastructure, engagement with customers and a path to commercialisation of services. Proposed members would include NSW universities, telecommunication service providers, telecommunication vendors, the Office of the NSW Chief Scientist & Engineer and relevant NSW Government agencies.

This network will be complemented by regular Technology Innovation Forums that will connect customers, agencies, stakeholders and industry on opportunities for future connectivity and innovations that impact public safety operating models.

Our role and capabilities

NSW Telco Authority is responsible for the provision of reliable, resilient and easy to use critical communications in NSW and its borders. Delivering the Critical Communications Enhancement Program is a major infrastructure investment. As the network becomes operational there is an increased focus on how delivery standards are maintained and improved while maintaining infrastructure build capabilities for our key programs – the Public Safety Mobile Broadband program, the Regional Digital Connectivity program, the Mobile Black Spots Program – and other programs in development. Our operating model is built around four distinct but interconnected business processes across the value chain:

1. **Strategy, Policy and Governance**

2. **Design and Build**

3. **Operate and Maintain**

4. **Improve**

Our capability uplift

As the operating model focuses on the customer with increased partnering and collaboration, additional skills and capabilities will be developed.

Strategy, Policy and Governance	Design and Build	Operate and Maintain	Improve

1. The evolution of NSW Telco Authority's role
- Customer experience improvement capability
- Voice of customer and customer journey optimisation
- Expansion of telecommunications emergency management capability

2. The provision of new products and services
- Capture synergies of data usage across agencies
- Best in class solutions for customers
- Real time performance reporting and analytics
- Improved data for on the ground decision making

3. Establishment of industry and government partnerships
- Data sharing platform approach and governance
- Connectivity Innovation Network
- Commercial partnerships management

Strategy, Policy and Governance

We are responsible for developing the strategy for public safety communications in NSW and providing appropriate guidance for public policy on behalf of our customers and the wider stakeholder group. This informs investment decisions, funding, technological innovation, new product and capability development and the approach to risk and governance of the network.

As part of delivering the initiatives in this strategy we will be developing the approach, governance and methodology for a data sharing platform across agencies and other stakeholders. This will provide data such as agency location to assist decision making.

Design and Build

The CCEP program will continue to be the most significant infrastructure build in the first half of the 2020–30 strategy. Learnings from this program will be shared across other government connectivity programs and additional improvements and capabilities will be required as new technology becomes available. NSW Telco Authority will be informed by the Connectivity Innovation Network with cross industry and customer involvement.

Operate and Maintain

Our ongoing performance of the Public Safety Network with industry partners will be the primary focus for cross functional working and inter-agency collaboration.

We are increasing functionality of the network to allow access to performance data in real time. User groups – be they first responders, communication commanders or team coordinators – will have access to accurate up-to-date information to make informed decisions.

Improve

Implementing this strategy requires an operating model which enables a close partnership between ESOs and agencies (as customers and collaborators for new solutions), NSW Telco Authority (as coordinator of the public safety telecommunications portfolio), and private industry (as capable and cost-effective delivery and innovation partners).

We will develop an improved customer experience framework to understand customer journeys across the portfolio, capture feedback, fix pain points and prioritise high impact point solutions.

The customer engagement model is being redeveloped so ongoing requirements are delivered faster and with the voice of the customer highlighted as the primary focus.
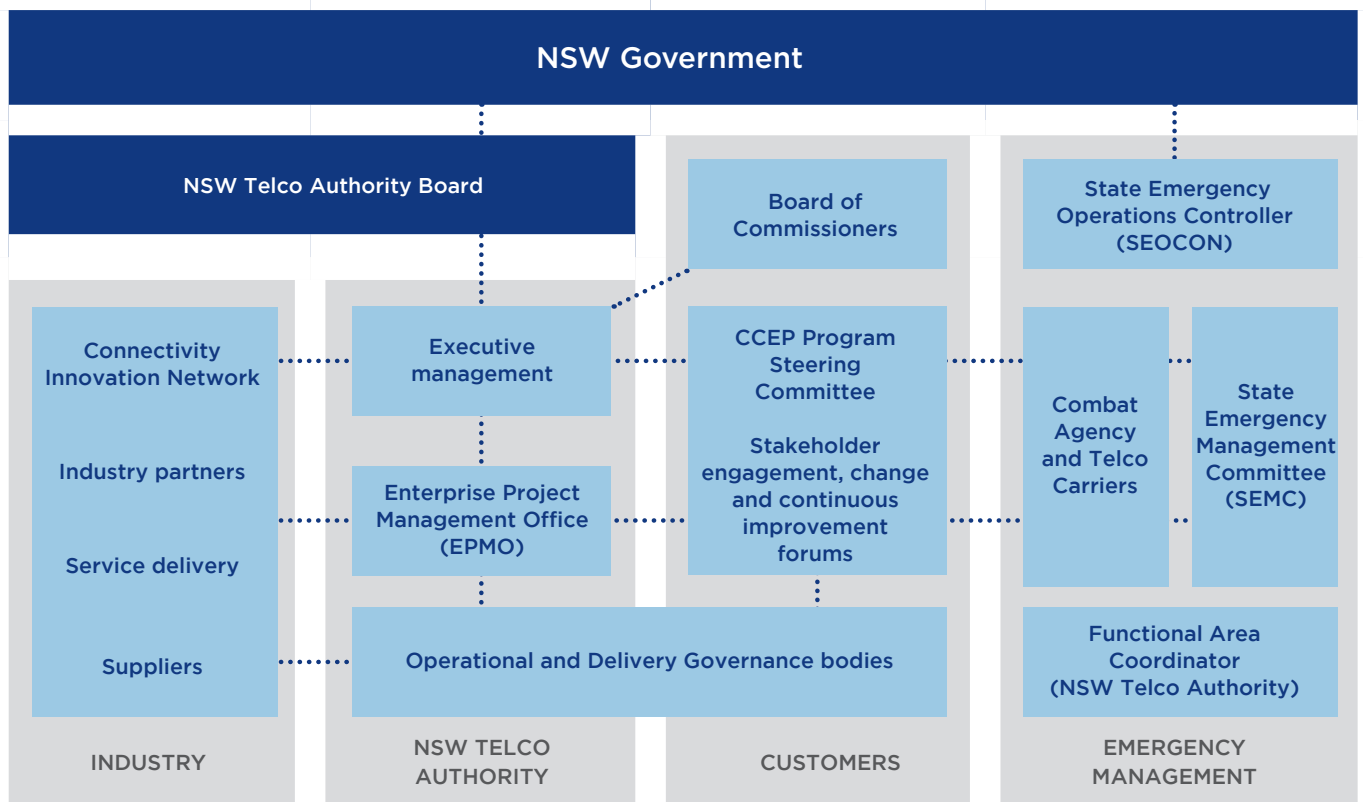
Proposed governance model

The governance framework is designed to provide internal and external stakeholders with oversight of our activities in two areas:

- The ongoing performance and operational capability of the Public Safety Network.
- The delivery of specific telecommunications infrastructure programs (Critical Communications Enhancement Program, Public Sector Mobile Broadband, Mobile Black Spots Program and Regional Digital Connectivity). The governance framework will ensure that we deliver on the strategic objectives outlined in this strategy. The framework will help decision makers and key stakeholders have confidence in knowing that the needs of customers, first responders, other essential agencies and the community are being met.

Governance for the whole of the portfolio has been simplified and alternative governance forums have been established with increased rates of review for faster decision making, transparent reporting of portfolio and program health and removal of delivery blockers. Customer forums have been enhanced to ensure the portfolio is delivering to customer needs and applying best practice emergency management.

Governance forums have been designed to provide:

- **Advice to decision makers and planners on the direction of the sector, technology, procurement and service improvement.**

- **Assistance to key stakeholders to implement the strategy and deliver the infrastructure build programs, as well as broader investment and commissioning activities.**

- **Assurance to the NSW Telco Authority Board, NSW Telco Authority customers and the operational communications sector that the strategy is being implemented correctly, that service levels are being maintained and that value for money is being achieved.**

Key decision-making bodies to support the governance model include:

NSW Government

The NSW Government sets the overall policy and strategic direction for NSW. The Minister for Customer Service is the lead Minister for NSW Telco Authority activities. Through the Expenditure Review Committee, Cabinet and Delivery and Performance Committee the NSW Government considers new proposals with financial implications and monitors the overall financial performance of agencies. NSW Treasury manages the Gateway Review System which seeks to improve discipline and achieve better service results for major projects and proposals.

NSW Telco Advisory Board

The Telco Advisory Board reports to the Minister for Customer Service and is responsible for the strategic direction of public safety telecommunications services in NSW. This includes driving reform across the sector to deliver mission-critical communication capabilities and day-to-day operational communications for emergency services and other client agencies. The NSW Telco Authority and its Board are focused on connecting people across NSW so they can work together and keep people and places safe. Together we support emergency services, essential services and telecommunications carriers to protect communications assets relied on by frontline services and communities.

The Board has three key areas of focus:

1   **Strategic leadership and innovation**

- Advise on the strategic direction and objectives for the NSW Telco Authority and government mobile telecommunications infrastructure and services across the state, working collaboratively and innovatively with agencies and industry to support continuous development of new service delivery approaches and technologies.

- Contribute to the development and annual review of the corporate plan for delivery to the Minister for Customer Service.

2   **Performance**

- Advise upon the effectiveness of the NSW Telco Authority in implementing the corporate plan and supporting the Managing Director in staff and structure evaluation.

- Review the general performance of the NSW Telco Authority and advise on the implementation of major projects, bringing financial, business and subject matter expertise to the review process.

3   **Accountability, financial and risk management and workplace safety**

- Contribute to and approve the annual report for submission to the Minister for Customer Service.

- Advise on risk management and the safety and security of both the Public Safety Network and the people involved in its delivery.

Board of Commissioners

This forum is chaired by the Head of Resilience NSW. Each of the Commissioners for the five core emergency services are members together with the Executive of Department of Justice. The Managing Director of NSW Telco Authority is a standing attendee by invitation.

The Board of Commissioners forum is an advisory group with the following purposes:

• To identify best practice nationally and internationally regarding emergency management.

• To identify opportunities for enhanced collaboration and the realisation of improved effectiveness and efficiency across the emergency service organisation.

• As a priority, work together to develop an outcome-based reform strategy, drawing on emergency management best practice and identified opportunities for improvements.

Emergency Management

Our Managing Director has a responsibility as the Telecommunications Functional Area Coordinator (TELCOFAC) for coordinating the provision of telecommunications support and resources for emergency prevention, preparedness, response and recovery operations.

The TELCOFAC is a member of the NSW State Emergency Management Committee with responsibility for managing the legislative, strategic and policy aspects of telecommunications emergency management. This committee coordinates the efforts of the ESO's, telecommunications carriers and other functional areas in government to address the full life cycle of emergency management (prevention, preparation, response and recovery).

In an emergency, the State Emergency Operations Controller (SEOCON) has overall responsibility for leading and coordinating the response of combat agencies and members of the State Emergency Management Committee. This role has been designated as the Deputy Commissioner of NSW Police. TELCOFAC reports to them during multi-agency operations and to the Combat Agency Controller if it is a single agency response. NSW Telco Authority has a dedicated function to perform the TELCOFAC responsibilities.

NSW Telco Authority

The NSW Telco Authority is responsible for advising on the development and evolution of the NSW Government's connectivity strategy and leading its delivery. The NSW Telco Authority reports directly to the Board and the Minister for Customer Service on the delivery of key milestones, decision points and the government actions required to support delivery of the strategy. NSW Telco Authority has the following responsibilities:

• Act as the custodian of the NSW Government's portfolio of operational communication assets, resources, services and service provider arrangements.

• Engage with Industry to commission services and govern commercial agreements to ensure contracted standards are met.

• Govern the collective programs of work through respective program steering committees reporting to an enterprise program management office. This will ensure the delivery of all major projects on time, within budget, with all projected benefits and scope intact.

• Monitor and report on the performance of the portfolio against targets and benchmarks, including those set out in this strategy.

Enterprise Project Management Office

The Enterprise Project Management Office has been established to provide enterprise wide governance across all infrastructure delivery programs and operational management of the Public Safety Network. This function specifically provides oversight and coordination of the program steering committee (the Critical Communications Enhancement Program, Public Safety Mobile Broadband program, Mobile Black Spots Program and the Regional Digital Connectivity program). The focus of the Enterprise Project Management Office is to provide:

- Recommendations on which projects should be undertaken during the annual planning cycle.
- Items for recommendation for decision by the Senior Leadership Team regarding investment mix and policy, matching investments to objectives and balancing risk against performance.
- Impartial and credible analysis and decision making support to the Project Steering Committee.
- Assurance oversight of all delivery governance forums, ensuring they're operating at the right level, focussing on the right outcomes.

CCEP Program Steering Committee

The CCEP Program Steering Committee is the highest decision-making body for the CCEP and Operate and Maintain Transformation Program. The Program Steering Committee promotes the program's vision, ensures the program's alignment with business and customer objectives, and advises on actions required to resolve escalations impacting the program and its ability to deliver to the agreed scope, schedule and benefits. The Program Steering Committee is chaired by the Department of Customer Service Deputy Secretary and members include representatives from the ESOs, NSW Telco Authority and Treasury.

APPENDIX 1:
Implementation Plan: 2020-30

1: LEAD WITH ONE INTEGRATED PORTFOLIO

INITIATIVES		KEY ACTIVITIES	HORIZON 1								HORIZON 2		HORIZON 3		
			2020 H2	2021 H1	2021 H2	2022 H1	2022 H2	2023	2024	2025	2026	2027	2028	2029	2030
1.1	Ensure an efficient and coordinated public safety communications asset portfolio across the State	1. Develop future state public safety telecommunications asset portfolio on behalf of the government and KPIs on single ownership, migration, decommissioning		▓											
		2. Deliver spectrum compliance (or extension) for NSW govt in the restack of the 850/900MHz band	▓	X											
		3. Agency migration to PSN	▓	▓	▓	▓	▓	▓	▓	▓	X				
1.2	Embed NSW Telco Authority's role in providing public safety connectivity services across the State and within the national agenda	1. Lead implementation of government operational communications, including identifying and advocating for legislative, policy and regulatory change opportunities	▓	▓	X										
		2. Lead the implementation of PSMB, continue supporting the national PSMB agenda and align with TA's PS-broadband investment	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓
		3. Shape govt. policy on mobile communications by being point of contact for industry and govt. departments on spectrum, commercial models and delivery management	▓	▓											
		4. Shape govt. policy on the incorporation of critical communications requirements and design standards for all future govt. assets e.g. infra, buildings	▓	▓											
		5. Develop centralised public safety data collection by ESOs/agencies, analysis and governance framework (underwrites PS LTE business case)	▓	▓	▓										

Key: **X** - project/initiative close-out & hand-over to BAU (if relevant)

1: LEAD WITH ONE INTEGRATED PORTFOLIO

INITIATIVES		KEY ACTIVITIES	HORIZON 1					HORIZON 2			HORIZON 3				
			2020 H2	2021 H1	2021 H2	2022 H1	2022 H2	2023	2024	2025	2026	2027	2028	2029	2030
1.3	Lead seamless delivery of communications across the State	1. Establish whole of government telecommunications strategy with NSW TA as lead agency to co-ordinate across government, TA customers, telecommunications procurement and contracting, roadmap sharing, efficient and timely delivery and alignment of infrastructure programs and regional connectivity spend	▓	▓	X										
		2. Lead and deliver Mobile Black Spot Program (MBSP) including the creation and application of evaluation criteria for the identification of new sites, liaison with mobile carriers and coordination of delivery and governance across three tiers of government.	▓	▓	▓										
		3. Lead and deliver Regional Digital Connectivity program (RDC) including liaison with vendors, strategic communications around the program, assistance with procurement and management of project.	▓	▓	▓	▓	▓	▓	▓	▓					
		4. Advise on viability and feasibility of state wide infrastructure programs development and delivery including participation in evaluation panels	▓	▓	▓	▓	▓				▓	▓	▓	▓	▓
		5. Lead execution and delivery of minor works portfolio and the sponsorship of projects.	▓	▓	▓	▓	▓				▓	▓	▓	▓	▓
		6. Lead delivery of Snowy Hydro Legacy Fund RDC mobile coverage				▓	▓	▓	▓	▓					
		7. Lead and Chair the Program Delivery Steering Committee, that acts as the highest decision-making body for the Portfolio and ensures projects and programs align to strategic outcomes and cross-portfolio contention points are mitigated and controlled.	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓
		8. Lead delivery of PSMB POC	▓	▓											
1.4	Coordinate the telecommunications aspects of emergencies in NSW and act as the conduit between the telecommunications industry and NSW Government	1. Provide effective incident management of telecommunications incidents and emergencies at a State, Regional and Local level.	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓
		2. Coordinate development of emergency management capabilities within NSW Telco Authority to support the prevention, preparedness, response and recovery to emergencies in NSW.				▓	▓	▓	▓	▓					
		3. Lead the development and implementation of technology to support the collection of information to support our understanding of risk and situational awareness.				▓	▓	▓	▓	▓	▓	▓	▓	▓	▓

Key: **X** - project/initiative close-out & hand-over to BAU (if relevant)

2: EVOLVE CRITICAL COMMUNICATIONS

INITIATIVES		KEY ACTIVITIES	HORIZON 1					HORIZON 2			HORIZON 3				
			2020 H2	2021 H1	2021 H2	2022 H1	2022 H2	2023	2024	2025	2026	2027	2028	2029	2030
2.1	Deliver on State-wide MC-voice requirements, including the operational PSN	1. Deliver final business case and gain funding for capital program													
		2. Deliver P25 government radio network (PSN)							X						
		3. Manage PSN to customer SLAs													
		4. Develop database of assets and develop options for strategic utilisation of government assets													
		5. Establish framework for monitoring and improving network performance by region, customer and device type										X			
		6. Deliver enhanced resilience on PSN.													
2.2	Roll-out mobile broadband service	1. Deployment of PS-LTE Business Critical Service								X					
		2. Deployment of PS-LTE Mission Critical Service													
		3. Secure services of supplementary coverage for back-up and coverage expansion of terrestrial network													
2.3	Develop supplementary data services	1. Co-ordinate Statewide messaging solution					X								
		2. Define application ecosystem with associated customer use cases and deliver new solutions related to the communications infrastructure and terminals								X					
		3. Provide high availability supporting IT infrastructure for network data analytics and real time reporting													
		4. Develop digital capabilities for improved network rollout and new services, including PMO, Process management, enterprise dashboards													
		5. Develop and implement additional services (VaaN, GEO/LEO satellite, etc.)													
2.4	Provide additional services to other departments and agencies	1. Establish COE in analytics for network usage, charging model, contracting terms and supplier performance management													
		2. Define and publish standards and test specifications for devices and terminals on PS network													
		3. Identify and develop new connectivity and data advisory services for customers according to evolving needs													
2.5	Enhance Cyber Security capabilities	1. Implement Information Security Management System, continuous improvement and updated statement of applicability for new technologies													
		2. Uplift NSWTA's cybersecurity to meet NSW and Federal Government recommendations based on risk profile for NSWTA													
		3. Develop Security Automation, IA, Software Defined Secure Networks.													

Key: **X** - project/initiative close-out & hand-over to BAU (if relevant)

INITIATIVES	KEY ACTIVITIES	HORIZON 1					HORIZON 2			HORIZON 3				
		2020 H2	2021 H1	2021 H2	2022 H1	2022 H2	2023	2024	2025	2026	2027	2028	2029	2030
3.1 Enhance strategic commissioning approach for infrastructure deployment and service delivery	1. Selection of a Managed Network Partner (MNP) for radio	■	■											
	2. Engage ('roadshow') industry on OCS findings and technology roadmap, including areas of optionality and innovation	■	■											
	3. Gain funding and re-commission dedicated PS-LTE team to advance PS-LTE services	■	■											
	4. Develop market engagement strategy (for carriers, vendors)			X										
3.2 Initiate strategy and commercial framework to roll out public safety mobile broadband	1. Develop business case for PS-LTE network services and undertake assurance processes		■	■	■									
	2. Deliver a detailed round of government and customer consultation on market engagement and an interactive Expression of Interest process			■	■	■								
	3. Run government forums, refine RFT and undertake negotiations, contract and commission contract					■	■	■	■					
3.3 Ensure future technology readiness	1. Implement and participate in Government and industry forums to shape the technological development of public safety communications technologies	■	■											
	2. Facilitate greater collaboration and partnerships between Government, industry and the research community to solve connectivity challenges facing the State.			■	■	■	■	■	■	■				
	3. Develop and run an 'incubator' for rapid solution development in collaboration with universities and the private sector and create a 'sandpit' for ESOs and agencies to trial devices, applications and environmental impact solutions			X	■	■	■	■	■	■				
	4. Revisit the Technology Roadmap in light of program evolution (e.g. incubators, sandpits, CCEP rollout, market sounding, technology evolution)						■						■	

Key: **X** - project/initiative close-out & hand-over to BAU (if relevant)

4: EMBED CUSTOMER CENTRICITY

INITIATIVES		KEY ACTIVITIES	HORIZON 1					HORIZON 2			HORIZON 3				
			2020 H2	2021 H1	2021 H2	2022 H1	2022 H2	2023	2024	2025	2026	2027	2028	2029	2030
4.1	Review and align operating model	1. Agree operating model principles based on strategic choices, adjust organisation design, service delivery model and governance accordingly	X												
		2. Review organisational capabilities	X												
		3. Recruit and/or upskill teams according to product/service roll-out plan		█	█	█	█	█	█	█	█	█			
		4. Review and enhance systems and catalog required to support product/service roll-out	X	█	█	█	█	X	█	█	X	█	█	█	
		5. Enhance EPMO with capabilities and tools to effectively track execution of the OCS	█												
4.2	Review customer engagement model and performance	1. Develop current and future-state customer journey maps and identify opportunities to optimise customer experience						█			█				
		2. Enhance customer engagement model, incl. establishment of customer forums for ESOs to share IT roadmaps and to gain consensus on TA network products and services roadmap		X											
		3. Establish and track customer experience metrics and feedback loops		X	█	█	█	█	█	█	█	█	█	█	█
		4. Enhance customer onboarding strategy and process		X											
		5. Develop data analytics platform and develop skills and capabilities in the sector to harvest and share information			█	█									
4.3	Develop and commission a multi-agency funding and pricing agreement for critical communications	1. Develop pricing principles and cost recovery framework		X											
		2. Undertake costing and pricing scenario modelling		█	█	█	X								
		3. Execute funding and pricing agreement for operational communications						█							

Key: **X** - project/initiative close-out & hand-over to BAU (if relevant)

INITIATIVES	KEY ACTIVITIES	HORIZON 1					HORIZON 2			HORIZON 3				
		2020 H2	2021 H1	2021 H2	2022 H1	2022 H2	2023	2024	2025	2026	2027	2028	2029	2030
5.1 Customer and community at the centre of everything we do	1. Identify and understand current NSWTA culture and climate	■	■											
	2. Develop a culture transformation strategy tailoring deliverables to specific customer outcomes. Reinforce and explore the application of values (STAIRS) across NSWTA		■	■										
	3. Deliver NSWTA culture program, involving training/workshops specific to building NSWTA customer centric culture.				■	X								
5.2 People and inclusion at the heart of everything we do	1. Great Place to Work - implement a strategic recruitment plan to drive an uplift in our diversity and inclusion outcomes to meet or exceed the NSW Public Service Commission targets and Premier's Priorities	■	■	■	■	■	■	■	■	■	■	■	■	■
	2. Continue to drive agile "ways of working" that are fit for purpose in the TA context and drives efficient and effective outcomes for TA, including best practice flexible work practices.	■	■	■	■	■	■	■	■	■	■	■	■	■
	3. Develop a talent pipeline to support career progression		■	■	■	■	■	■	■	■	■	■	■	■
	4. Continue to embrace Kaizen methodology promoting continous improvement and utilize internal support network groups (champions) to drive people focused activities.	■	■	■	■	■	■	■	■	■	■	■	■	■
5.3 Partner and collaboration at its best.	1. Collaborate with People & Culture (DCS) to enhance onboarding and employee experience, as well as the delivery of TA wide leadership, development and wellness programs (i.e. 7 Habits).	■	■	■	■	■	■	■	■	■	■	■	■	■
	2. Build stronger partnerships across government to deliver the OCS, Whole of Government Connectivity Strategy, NSW Bushfire Inquiry and Royal Commission Recommendations	■	■	■	■	■	■	■	■	■	■	■	■	■
	3. Continue to leverage new technologies to streamline our processes internally and increase efficiencies for our customers.	■	■	■	■	■	■	■	■	■	■	■	■	■

Key: **X** - project/initiative close-out & hand-over to BAU (if relevant)

APPENDIX 2:
Progress Against OCS 2015 Implementation Plan

Establish Foundation

ELEMENT	ACTIVITIES	STATUS	COMMENTS
Enhance the supportive legislative and policy framework	Conduct a review of the NSW Government Telecommunications Act 1991 to support implementation of the strategy	Complete	
	Promote the needs of NSW in advocating for changes to national spectrum governance arrangements	On-going	Included in OCS 2020 implementation plan (1.2.4)
	Identify and publish policy instruments to support implementation of the strategy	Complete	Included in OCS 2020 implementation plan (1.2.1)
Establish a sustainable funding and service pricing model	Develop a sustainable funding model to support delivery of the strategy and the new sector operating model	Complete	
Enhance sector-wide governance	Establish an enhanced stakeholder governance framework that provides for strong participation from agencies	Complete	
	Establish a dedicated industry advisory forum	Not completed	Included in OCS 2020 implementation plan (3.3.1)
Establish a strategy planning and delivery framework and capability	Establish a strategic planning and reporting framework to provide assurance regarding the delivery of strategy activities	Not completed	
	Establish an integrated program management office involving agency and industry participation to drive the delivery of sector-wide projects and programs	Complete	
Create and implement Service Planning Framework	Establish and implement a process for identifying, prioritising and communicating emerging services required by NSW Government agencies	On-going	Included in OCS 2020 implementation plan (4.2.2)

One Integrated Portfolio

ELEMENT	ACTIVITIES	STATUS	COMMENTS
Establish and optimise an integrated portfolio	Commission a sector-wide portfolio management capability and supporting framework	Ongoing	Considerable progress made. Included in OCS 2020 implementation plan (1.1)
	Implement the Greater Metropolitan Area rationalisation program	Ongoing	Underway – 9 sites have completed construction and 115 targeted sites are forecast to be completed by 2022.
	Implement the Regional rationalisation program	Ongoing	Priority regional areas have been addressed under CCEP. Included in OCS 2020 implementation plan (1.1.3)
	Establish and implement a program to divest surplus assets identified through the rationalisation programs	Ongoing	Property and Infrastructure Management Strategy developed, MOU established between NSWTA and key agencies Included in OCS 2020 implementation plan (2.1.4)
	Establish a framework to market excess capacity achieved as a result of the rationalisation programs	Ongoing	Outline to market strategy has been achieved with Property NSW
Plan and manage spectrum	Introduce enhanced management arrangements for all NSW Government spectrum assets	Complete; continuous improvement	Transition to Harmonised Government Spectrum Area licence for band 4 completed in May 2018; agencies migratin
	Seek access to the spectrum required to realise the benefits of an evolved critical communications network	Ongoing	Cost savings initiatives being realised and continued under CCEP
Support sector-wide transformation	Establish a sector-wide change management framework to support the change associated with implementation of the strategy	Ongoing	Framework targeted for business as usual by December 2020 Included in OCS 2020 implementation plan (1.2.3)
	Define and develop strategy for ICT convergence with OT	Ongoing	NSW Telco Authority Technology Roadmap Developed
	Introduce a program to develop sector-wide skills and capabilities to support strategy implementation and the sector operating model	Ongoing	Incorporated in OCS 2020 implementation plan (4.2.5)

Shape A Competitive Market

ELEMENT	ACTIVITIES	STATUS	COMMENTS
Lead engagement with the market	Promote a coordinated approach to category planning	Complete	
	Manage commissioning and procurement on behalf of sector	Ongoing	The primary objective is closed, but subject to ongoing minor continuous improvements
Adopt strategic commissioning approach	Enhance the ITS2573 pre-qualification procurement scheme to support future requirements	Ongoing	Vendors added progressively since 2016; Legislation compliance performed in late 2019 (currently under implementation planning); WHS compliance performed in late 2019
	Publish and adopt a strategic commissioning model	Ongoing	Panel contracts are established to support operational telecoms technology. ESOs are members of the ITS 2573 Scheme Committee. Large scale projects are delivered using the private sector. Included in OCS 2020 implementation plan (3.1)
	Promote opportunities for increasing market contestability	Ongoing	Included in OCS 2020 implementation plan (3.1.4)
	Define, publish standards-driven approach for technology, interfaces, equipment and platforms	Ongoing	Technical standards and guidelines are provided to vendors as part of tendering processes. Included in OCS 2020 implementation plan (1.2.4)
Retain strategic capability to ensure long-term competition and contestability	Identify key strategic resources, knowledge, expertise and assets to be retained to promote contestability	Phase 1 complete	Included in OCS 2020 implementation plan (3.1.4)
Adopt an industry engagement framework	Create a structured plan that sets out goals, principles and criteria for selecting and working with strategic partners as well as developing small to medium enterprises	Ongoing	Included in OCS 2020 implementation plan (3.1.4)
	Establish Industry Advisory Group to focus industry participation in operating model	Not complete	Included into Technology Industry Forum in OCS 2020 implementation plan (3.3)

Evolved Critical Communications Capability

ELEMENT	ACTIVITIES	STATUS	COMMENTS
Ensure that front-line responders continue to have access to mission critical services	Maintain and enhance existing land mobile radio voice and data capabilities	Complete	
	Enhance the monitoring and visibility of performance of existing mobile radio voice and data capabilities	Complete	
Improve existing communications services	Improve the catalogue of existing services by increasing coverage, availability and choice of user devices for stakeholder agencies	Complete	
	Enhance interoperability between agencies, across borders and with different networks	Ongoing	Included in OCS 2020 implementation plan (1.2.4)
Promote and facilitate arrangements to improve the resilience of carrier services	Partner with telecommunications carriers to improve the resilience of commercial networks	Planned	Carriers have recognised the significant role that the Telecoms Emergency Management Unit played in saving mobile carrier assets and are receptive to further engagement on this issue. Included in OCS 2020 implementation plan (3.1.4)
Introduce mission critical broadband capability		Complete	Technology Roadmap revised in 2020, with additional reviews earmarked in the OCS 2020 implementation plan (3.3)
	Develop the capacity for agencies to access and utilise effective video and data services via existing business-grade services	Complete	Investigation of alternative technology scenarios to be undertaken. Included in OCS 2020 implementation plan (2.2 & 3.2)
	Commission a broadband service capability for mission critical applications	Ongoing	Investigation of alternative technology scenarios to be undertaken. Included in OCS 2020 implementation plan (2.2 & 3.2)
	Identify and transition appropriate services from separate voice radio networks to mission critical broadband networks	Planned	Included in OCS 2020 implementation plan (2.2)
Decommission legacy services	Decommission duplicate network infrastructure and legacy services	Not completed	Included in OCS 2020 implementation plan (1.1.5)

Information Enabled

ELEMENT	ACTIVITIES	STATUS	COMMENTS
Develop information/ application capability roadmap for the sector	Identify information sources used by agencies to improve services for the community	Phase 2 complete	Included in OCS 2020 implementation plan (2.3)
	Establish a prioritised roadmap of information and application capabilities	Phase 2 complete	Included in OCS 2020 implementation plan (2.3)
Coordinate sharing of information	Establish a framework for the secure sharing of appropriate information with public safety agencies	Descoped; formal handover planned	A number of these initiatives were developed under the banner of the Shared Mobility strategy and business case. After submitting a number of phased business cases for the Treasury gateway review process, the secretary of DFSI and Police withdrew their support for the program.

However, new options are being considered by NSW Telco Authority. |
	Commission platforms and systems for sharing information and applications	Descoped; formal handover planned	
Coordinate the establishment and use of applications	Develop a prioritised suite of applications for informing front-line staff	Descoped; formal handover planned	
Develop skills and capabilities in the sector to harvest information	Develop a plan to equip agencies with modelling, business intelligence and information management capabilities	Phase 2 complete	

APPENDIX 3:
OCS Stakeholder Consultation

Stakeholders

STAKEHOLDER GROUP	STAKEHOLDERS CONSULTED: MAY–JUNE 2020
ESOs and agencies	NSW Police Force
	NSW Ambulance
	Fire and Rescue NSW
	NSW Rural Fire Service
	NSW State Emergency Service
NSW Government departments	Department of Customer Service
	Department of Planning, Industry and Environment
	Department of Premier and Cabinet
	Regional NSW
	Resilience NSW, including Office of Emergency Management
	Transport for NSW
	NSW Treasury, including Infrastructure and Structured Finance Unit, Commissioning NSW and Policy and Budget Group
Carriers and vendors	Telstra
	Optus
	Vodafone
	Motorola
	Nokia
	BAI Communications
NSW Telco Authority	NSW Telco Authority Board
	NSW Telco Authority Senior Leadership Team

Glossary

TERM	DEFINITION
BC-data	Business critical data services provided over a Long-Term Evolution network
CCEP	Critical Communications Enhancement Program
ESO	Emergency Services Organisation
GEO	Geosynchronous Equatorial Orbit – GEO satellites are located around 35,000km above the Earth and appear fixed as they move at a similar angular velocity as the Earth and orbit along a path parallel to the Earth's rotation
HAPS	High Altitude Pseudo Satellite
LEO	Low Earth Orbit – LEO satellites are located around 160–2000km above the Earth
LMR	Land Mobile Radio – a person-to-person voice communication system
MC-data	Mission critical data services provided over a Long-Term Evolution network
MC-voice	Mission critical voice services provided over a P25 network
OCS	Operational Communications Strategy
P25	Project 25 – a suite of digital mobile radio communications standards developed to provide voice and data radio communications services for public safety practitioners and first responders
PoC	Proof of Concept
PS-LTE	Public Safety Long-Term Evolution – a standard for wireless broadband communication applied for public safety communications services
PSMB	Public Safety Mobile Broadband
PSN	Public Safety Network
RDC	Regional Digital Connectivity
VaaN	Vehicle as a Node – vehicles equipped to serve as a point of connectivity for devices