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Transport Market Reform and Technology Branch
Surface Transport Emissions and Policy Division
Department of Infrastructure, Transport, Regional Development, Communications and the Arts

Via email: C-ITSPrinciples@infrastructure.gov.au

Draft Principles for National Approach to Cooperative Intelligent Transport Systems

Amazon Web Services (AWS), provider of the world's most comprehensive and broadly adopted cloud computing platform, welcomes the opportunity to provide feedback on the Draft Principles (Principles) for National Approach to Cooperative Intelligent Transport Systems (C-ITS).

AWS's views on this consultation are informed by our activities in Australia, in particular as a partner of the Queensland Department for Transport and Main Roads' (DTMR) Connected and Automated Vehicle Initiative (CAVI), and as a global provider of Connected Mobility Solutions (CMS) to the world's leading original equipment manufacturers (OEMs) and suppliers.

Globally, AWS's auto customers include passenger, two-wheeled, and commercial vehicle manufacturers and emerging vehicle technology companies including: Audi, BMW, Continental, Denso, Elektrobit, Honda, Kia, Lyft, Mazda, Mobileye, Momenta, Panasonic, Renault, Scania, Tata, Toyota, TuSimple, Uber, Volvo Group, WeRide, VW, WirelessCar and many more.

AWS has developed services to support automakers who are looking for cost-effective ways to simplify the process of collecting data from vehicles that are connected to the cloud to power insights and improve vehicle performance.

Ranked number one in ABI Research's Connected Car Cloud Platform, AWS empowers automotive companies, ranging from the latest startup to leading global OEMs, to leverage data and drive value throughout their enterprise.

Questions for consultation

1) *Are principles for a national approach to C-ITS in Australia necessary? And if so, are the draft principles, as articulated, sufficient to inform investment by industry in C-ITS?*

AWS strongly supports a national approach to C-ITS in Australia, and believes agreed Principles are necessary to provide confidence and a framework enabling governments and industry to move forward with planning and investment.

To help provide certainty for such planning and investment decisions, AWS recommends strengthening the wording of the first principle to make it clear that there <u>will</u> be a nationally consistent C-ITS environment, which <u>will</u> support seamless transition for road users across states and

territories as a fundamental requirement. The strengthening of this principle will provide greater confidence to industry on the development that will be required to support C-ITS in Australia.

AWS supports Principles 2-6 as articulated as providing the right focus and direction to inform industry investment.
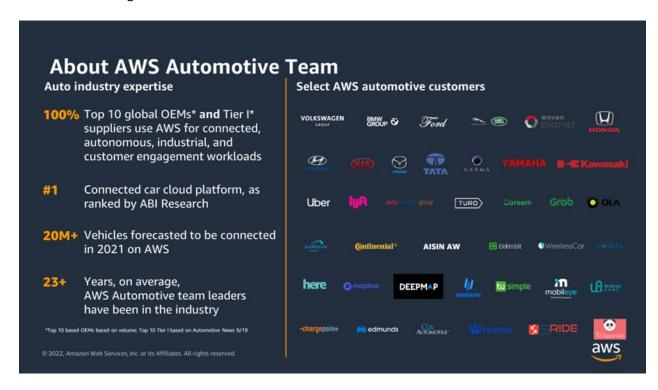
2) *Over the next 5 years, to what extent does your organisation anticipate moving into a C-ITS role or increasing its involvement in C-ITS?*

AWS is already significantly investing in C-ITS across a number of areas, including developing services and tools for OEMs to collect, transform, and transfer vehicle data to the cloud in near real time while optimising cost. As a result, data-driven analytics and machine learning help companies build innovative applications that improve vehicle quality, safety, and autonomy.

AWS's Connected Mobility Solution[1] (CMS) is a vetted reference architecture that aids automotive OEMs and suppliers in their journey to becoming mobility service providers. It contains building blocks to accelerate the development and global deployment of connected vehicles and services.

At AWS re:Invent 2022, we released AWS Clean Rooms[2] - a new service which has been established to help customers to more easily and securely collaborate on their collective datasets without sharing or revealing underlying data. We welcome the opportunity to explore how this service could be used by governments to facilitate data sharing with OEMs.

The AWS Automotive Team has significant experience and expertise, as highlighted below. Our General Manager of Automotive, Wendy Bauer, was awarded as an Industry leader by Motor Trend at CES 2023[3], for helping the industry unlock the power of data and use cloud technology to accelerate their digital transformation.

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[1] https://aws.amazon.com/automotive/solutions/connected-mobility/
[2] https://aws.amazon.com/clean-rooms/
[3] https://www.motortrend.com/news/winners-motortrend-software-defined-vehicle-innovator-sdvi-awards/

Our investment in C-ITS, in Australia and globally, will continue to evolve to support the growing needs of our customers. AWS would welcome the opportunity to work with the Commonwealth, State, and Territory Governments to inform and shape the future of C-ITS through pilot projects across Australia, including regional and remote locations, to improve road safety, drive increased freight productivity, and improve environmental outcomes.

3) *How might C-ITS impact other vehicle connectivity systems in Australia, including vehicle/original equipment manufacturer (OEM) connectivity, vehicle/cloud connectivity, heavy vehicle telematics systems, mapping systems, etc?*

C-ITS will support and enhance existing connectivity solutions and systems already operating in Australia. OEMs have been investing in connected vehicle technologies for over 20 years. These technologies have been focused on developing added features and services for their customers, including predictive maintenance services. Investment by Australia in a nationally consistent C-ITS system will allow OEMs and independent software companies to provide additional services to their customers which we expect will support continued investment in the Australian market.

C-ITS will provide the much-needed link to infrastructure, which subject to agreement on data sharing, will lead to enhanced offerings to customers from OEMs and independent software providers as well as allowing governments to realise the societal benefits (safety, sustainability) expected from C-ITS.

4) *The draft Principles include a focus on cooperation across industry, government, the research sector, and the community: what structures would be necessary to support the development of an Australian C-ITS system?*

AWS believes the key structures that would be required to support the development of an Australian C-ITS system are already well established in Australia, through existing mechanisms, such as CRCs, industry associations, government and industry working groups.

The benefits to be derived from C-ITS – including safety, reduced emissions and increased productivity – align well between government and industry. Underpinned by these common objectives, together with the collaborative approach that has been achieved in Australia from cross industry and government working groups and demonstration projects such as CAVI, CITI, and AIMES, will enable the accelerated development of a national C-ITS system.

AWS would be pleased to expand on the role that we can play to help translate existing projects, like CAVI, to other jurisdictions across Australia, building on the architecture that was created and sharing the lessons learnt from that project.

5) *After the Principles, what next steps do you think would be most productive?*

One key enabler to progress towards a nationally consistent C-ITS will be to identify and address any gaps in the availability of national data sets for road signage, speed limits, and other similar information.

AWS also recommends that a field operational test should be deployed across the Australian national highway network, focusing on a national route that traverses highly populated areas and regional and remote areas of Australia.

A project of this scale and complexity will support the development of local Australian industry and research capability in this sector.

AWS would be pleased to support the capability building of governments, researchers and industry to develop solutions to address the complexity of the Australian road network, which could then be translated to other similar use cases around the world.

Closing

Thank you for the opportunity to contribute to this important consultation. AWS would be happy to expand on our submission in a discussion, or to provide any further information.

Yours sincerely,

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