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Highlights of the connected and autonomous vehicles report by ICTC and CAVCOE

The first quarter of 2020 saw the release of a number of important reports by Canadian stakeholders in the connected and autonomous vehicles (CAVs) space. One of these recent publications entitled "Advances in Connected and Autonomous Vehicles: Current State and Future Trends" (the Report) was jointly published by the Information and Communications Technology Council (ICTC) and the Canadian Automated Vehicles Centre of Excellence (CAVCOE). The Report provides a helpful summary of advances in CAV technology in recent years and discusses CAVs' broader impact on our lives, cities, society and infrastructure.

While the Report focuses primarily on passenger vehicles, it does remind the readers that CAV refers to a broader ecosystem than just self-driving cars. The scope of use cases around CAVs not only include passenger vehicles, but automated shuttles, off-road heavy equipment (for mining, agriculture, forestry and construction), vehicles used for parcel delivery, garbage pick-up, and snowplows, as well as drones. These applications generally use a common set of technologies that are developed to meet different engineering specifications. Below are highlights from the Report's key insights to enable deployment of CAVs in Canada:

- Given the multidimensional societal impact of CAVs, the Report recommends more concerted and accelerated policy planning around CAVs deployment by the federal, provincial, and municipal governments. Specifically, the Report recommends that cities factor in the role of CAVs over the next 10-20 years in the planning for current transportation and transit infrastructure projects. Interestingly, at a federal level, the Report recommends setting out a clear roadmap for the deployment of CAVs, with clear temporal targets (e.g. similar to the UK roadmap with a targeted timeline of 2030).

- The Report considers features of fifth generation cellular networks (5G) and dedicated short-range communications (DSRC) for supporting the deployment of high autonomy CAVs. The Report notes that industry stakeholders are evaluating 5G C-V2X in test environments to verify the performance of 5G C-V2X as an alternative to DSRC. Notably, earlier this year the Toronto Region Board of Trade commented on this in Getting Ready for Autonomy, a report capturing industry stakeholder consultations as to readiness of CAVs in the Toronto region. The Toronto Region Board of Trade recommended that all levels of government agree to an industry-shared directive to enable 5G networks for CAVs. Although it is not clear if governments will concur with this recommendation, it appears that in the Report's conclusion the authors view 5G as the key to the successful implementation and adoptions of CAVs.

- The Report identifies regulatory frameworks as another key enabler of the successful deployment of CAVs in Canada. In this regard, the Report highlights gaps in the adoption of standards for autonomous features of CAVs at a federal level and encourages all provinces to be more involved in CAV innovation and preparedness to increase development and deployment of CAVs.

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