Submission on Safety Assurance for Automated Driving Systems: Consultation Regulation Impact Statement

July 2018

About QBE

QBE Insurance Group (***QBE Group***) is one of the few Australian-based financial institutions to be operating on a truly global landscape, with operations in and revenue flowing from 36 countries. Listed on the ASX and headquartered in Sydney, stable organic growth and strategic acquisitions have seen the QBE Group grow to become one of the world's top 20 general insurance and reinsurance companies, with a presence in all key global insurance markets.

As a global insurer, the QBE Group believes that Australia must continually look to refresh its financial and regulatory systems to ensure the nation remains competitive with global financial markets, and attractive to investment. As a member of the QBE Group, QBE Australia & New Zealand (***QBE***) operates primarily through an intermediated business model that provides all major lines of general insurance cover for personal and commercial risk throughout Australia.

As a major provider of motor vehicle, product liability and public liability insurance nationally, QBE has a keen interest in the trial and use of automated vehicles, as well as the regulatory challenges and opportunities posed by the changing technological landscape.

Background

At the request of Australian Transport Ministers, the National Transport Commission (***Commission***) is developing a nationally consistent regulatory and policy framework for automated vehicles. This work aims to embrace innovation while ensuring that partially and fully automated vehicles can operate safely and legally on Australian roads.

In November 2017, the Transport Ministers from the Commonwealth, States and Territories agreed to a mandatory self-certification approach to safety assurance for automated vehicles, as well as key design features for a safety assurance system.

The Commission is now consulting on the proposed safety criteria, as well as options for safety assurance, as outlined in the *Safety Assurance for Automated Driving Systems: Consultation Regulation Impact Statement* (***RIS***) of May 2018. The RIS sets out and analyses four options for a self-certification safety system,[1] and identifies Option 4, as the provisionally preferred option.

Option 4 is considered by the Commission to strike a reasonable balance between the need to:

- ensure that automated vehicles entering the Australian vehicle fleet are reasonably safe to avoid the potentially high social cost of poor road safety outcomes,
- provide users with reassurance that automated vehicles are reasonably safe to prevent a lack of confidence becoming a barrier to automated vehicle uptake, and
- create a regulatory environment that is flexible, responsive and does not impose unreasonable costs on the entity looking to bring the technology to the Australian market (the automated driving system entity, or ***ADSE***), and other stakeholders.

[1] The options set out in the paper follow:

- Option 1 leaves the status quo unchanged. There would be no legal provision for automated vehicles.
- Option 2 relies on the current regulatory system and would require ADSEs (likely importers and manufacturers), to self-certify and obtain approval before selling Automated Driving Systems (***ADS***s), but little beyond this.
- Options 3 and 4 create tighter regulations. Both include legislative changes reflecting the self-certification requirements, with offences, compliance and enforcement measures, a specific national regulatory agency overseeing ADS safety, and the separate regulation of ADSs from the vehicles into which they are fitted.
- Option 4 also imposes a 'primary safety duty' on ADSEs, which is ongoing and renders ADSEs liable for safety risks beyond those specifically set out in the legislation, both before and after they have sold the ADS.

We understand the Commission intends to issue a final decision RIS in the second half of 2018 based on stakeholder feedback on the consultation RIS.

Summary

Automated vehicles are expected to offer a much safer driving experience by reducing human error and therefore road-related injuries and deaths. QBE is very supportive of increased road safety and, in principle, supports progress on automated vehicle technology.

At this stage of the development of automated vehicles however, the safety benefits or risks of deploying ADSs are uncertain. Also, as explored in the RIS, there are new risks associated with introducing automated vehicles. Given the complexity of the transition to automated vehicles and the potential risks involved, QBE believes it is important that regulations, supporting systems and guidelines are developed with public safety as the top priority.

QBE considers the RIS to be a valuable starting point for consideration of an appropriate safety assurance system and welcomes the opportunity to provide this submission in response. In our view, we believe the final RIS and flow-on decisions would benefit from:

A greater focus on insurance considerations – the insurance industry should be explicitly recognised as a key stakeholder within the impact categories. It is anticipated that the cost and availability of insurance will be a major consideration for ADSEs and consumers, and the transition to automated vehicles is likely to require a fundamental rethink of traditional motor insurance products.

An emphasis on safety beyond the point of sale – safety assurance should continue throughout the life-cycle of the ADS. This includes considering the role of key stakeholders beyond the point of sale, such as the vehicle servicing and repair industry.

Recognition of the need for insurer access to data and information – the ability of insurers to provide appropriate insurance for ADSEs and consumers depends on insurers being a key stakeholder in the development of data and information sharing arrangements and having ongoing access.

Clarity about the scope of the safety criteria and duty – based on our initial assessment, we support the Commission's position that Option 4 is the preferable option. We suggest, however, that the final RIS decision process would benefit from a greater level of granularity and detail about the principles-based safety criteria and the primary safety duty. Finally, we have outlined some issues for future consideration regarding the proposed national body.

We have elaborated on each of these key points below, structuring our submission by theme, rather than by responding individually to the 21 questions posed.

A greater focus on insurance considerations

We agree with the RIS that insurance should be a pre-condition for approval to operate on Australian roads. However, we consider that the RIS would be improved by a more thorough analysis of the impact of the safety assurance options on the insurance industry, and the implications of insurance cover for other stakeholders.

Recognition of insurers within impact categories

The RIS sets out the individuals and groups most likely to be affected by the reform options. The list includes road users, the general public, ADSEs, manufacturers (where different from the ADSE), and governments as an affected group. Although insurance is noted as an affected group (secondary beneficiary), it is only a passing reference. We encourage the Commission to include consideration of the impact for insurers, as insurance will be a key financial requirement for ADSEs, and presumably a matter of interest for consumers.

Insurance premiums typically reflect the level of risk involved. Additional regulatory and compliance costs incurred by insurers add to the cost base of insurers and are also likely be reflected in relevant premiums. As the cost of insurance is likely to flow through to the overall costs incurred by the end consumer, we believe it is important for the final RIS to also consider the impact for the insurance industry, in a number of the given impact categories (including):

- *Road safety:* Insurers have a direct commercial, as well as social, interest in increased road safety. As insurance will generally respond to liability in relation to road-related injuries and property damage, there are financial and operational implications for insurers in road safety considerations.
- *Uptake of automated vehicles:* The introduction of automated vehicles will require a fundamental rethink of traditional motor insurance products, including consideration of the risk associated with the interactions between automated and traditional (non-automated) vehicles, as well as new risks, such as cyber security. The pace of this work will be influenced by, and may in turn influence, the uptake of automated vehicle technology.
- *Regulatory costs to industry:* As indicated, insurers anticipate the need to redesign products, assess the risk posed by different automated vehicle models, and negotiate new territory in relation to claims liability. It is also likely that insurers will incur significant costs adapting to new data sharing requirements and connecting to external systems. These considerations will be affected by the characteristics of the safety assurance model chosen.

An emphasis on safety beyond the point of sale

As currently framed, the safety assurance process is primarily focussed on assuring safety at the point of sale. We agree this is important, however, we consider there should be a greater focus on assuring safety throughout the life-cycle of the ADS. We recognise this is achieved in part through the inclusion of a primary safety duty in Option 4, however we wish to raise the following for consideration:

The potential lifespan of an ADS

Data from the Australian Bureau of Statistics reveals that the average age of vehicles in Australia is 10.1 years.[2] Assuming sales figures remain steady, this means that if autonomous vehicles were available for sale in 2020, it would take approximately a decade for the market to be saturated. While this indicates that it would take some time for automated vehicles to be widely used, it also illustrates the importance of planning for aftermarket care throughout the life-cycle of the ADS.

Vehicle servicing and repair businesses

The RIS focusses on the safety obligations of the ADSE. While this is imperative, other stakeholders are also likely to have a material influence over ADS safety. For example, it would be beneficial to consider the role of automotive businesses outside of ADSEs but connected to the supply chain, such as vehicle servicing and repair businesses. Currently, there is no consideration for repairers who are not part of an ADSE to have access to:

- training, technical repair information and data, and
- equipment and parts required for repairs and servicing.

Regulators are already grappling with this issue in relation to traditional (non-automated) vehicles. We suggest that a proactive stance could prevent similar issues arising in the automated vehicle industry. Equal access to information and parts would also support competition in the aftermarket industry, with positive outcomes for affordability and uptake.

Insurer access to data and information

We welcome the position outlined in the RIS – that ADSEs must provide relevant parties, including insurers, with data relevant to the enforcement of road traffic laws and the general safe operation of the ADS. Data sharing will be essential to ensuring the workability of specialist automated vehicle insurance products as well as traditional vehicle insurance products in the changing risk environment.

[2] Australian Bureau of Statistics, *Motor Vehicle Census, Australia,* 31 January 2017, http://www.abs.gov.au/ausstats/abs@.nsf/mf/9309.0.

Insurers, at a minimum, will need ongoing access to two primary forms of data:

- safety-related data, to understand risk, and
- incident-related data, to determine liability.

Understanding risk

As noted earlier, traditional motor insurance products will need to evolve to reflect the changing nature of the risk being insured. At present, information about the safety of automated vehicles – including risk assessments, engineering information and test results – is largely concentrated in the hands of automated vehicle manufacturers.

This information asymmetry can make it challenging for other stakeholders, including governments and insurers, to fully comprehend the nature of the risk. We suggest that at this point in the development of the safety assurance process, it would be beneficial for the Commission to seek further safety-related information directly from the automated vehicle industry. This would assist the Commission, and other stakeholders including insurers, to assess the options set out in the RIS. It would also allow insurers to gain a deeper understanding of the nature of the risk, so that the availability of commercial insurance products does not delay the uptake of automated vehicles.

Determining liability

From an insurance perspective, it will be critical that liability is able to be clearly defined and located for both conditional and fully automated vehicles. This will reduce the likelihood of protracted liability disputes and increased legal and investigation costs. A clear liability framework relies on the existence of both a clear legal regime (discussed further below), and access to incident-related data.

At present, the RIS provides for real time monitoring and data provision to law enforcement agencies. Insurers will also need to have comprehensive access to data, including information about incidents and crashes, and whether the human driver or the ADS was in control of the vehicle at the time of the incident.

We note that governments continue to consider consumer information rights, and that insurers may, in the future, need to create and maintain business systems to comply with policyholder rights of access and amendment. We welcome the Commonwealth Government's support of the House of Representatives Standing Committee on Industry, Innovation, Science and Resources' recent recommendation to further investigate the issue of data rights for third parties such as insurers, and look forward to the establishment of an industry working party.[3]

The scope of the safety criteria and duty

The RIS sets out the proposed safety criteria and primary safety duty in broad terms, and our initial assessment is that most of the key elements have been identified. We recognise that further, more detailed, consideration will be given to each of the safety criteria and the duty subject to a decision being made to proceed with Option 4. This additional level of detail will be important for stakeholders, including insurers, to more comprehensively determine the likely impact of the obligations, and we look forward to commenting on this at the appropriate time.

Based on our initial assessment, we make the following comments on the safety criteria statement of compliance, and the primary safety duty:

[3] Government response to the House of Representatives Standing Committee on Industry, Innovation, Science and Resources report: Social issues relating to land-based automated vehicles in Australia, June 2018 (**Government response**), 5.

Statement of compliance safety criteria

Operational design domain (ODD)

A level of consistency in the required information about the ODD across automated vehicle manufacturers would offer a number of benefits, including certainty for the public, law enforcement agencies, and infrastructure planning authorities. In this respect, we draw the Commission's attention to joint research by the Association of British Insurers and Thatcham Research, which we believe provides a well-considered and simple framework for indicative ODD safety information requirements.[4]

Consideration could be given to developing a similar framework for use in the Australian context. For example, the limits of the ODD can be enforced through geo-fencing, which could disengage the ADS in certain areas. This could limit the operation of the automated vehicle to certain pre-defined locations, such as motorways.

Cybersecurity

We suggest the gravity of the risk of cyber-attacks requires a more rigorous approach than the proposed optional reference to best practice guidance for vehicle cybersecurity. Attacks could occur on a number of different platforms – on an ADSE's own systems, networks connecting ADSEs to regulators (given the ADSE obligation to provide data to regulators and emergency services), regulator databases, and other connected systems, including insurers.

As with the ODD criterion, greater guidance would assist. For example, the inclusion of a requirement for penetration testing and instilling security throughout the ADS life-cycle, and potentially a mandatory manual override. The Commission could also adopt current standards for automotive manufacturer cybersecurity, such as the Society of Automotive Engineer's Cybersecurity Guidebook for Cyber-Physical Vehicle Systems.

Installation of system upgrades

We suggest the concept of a 'safety critical system upgrade' be expanded to incorporate the failure to install non-safety critical system upgrades in certain circumstances. For example, an individual upgrade may not pose a critical safety risk if it is not installed, but cumulative failures to install upgrades may generate risk. ADSEs could be required to conduct regular assessments of upgrade rates, and have policies stipulating when they will intervene by disabling the ADS. Supporting systems for implementing this measure could also be considered in the event of the failure of the primary disengagement system.

The primary safety duty

The existence of the primary safety duty is the key point of differentiation between Options 3 and 4. The benefits of the primary safety duty could include:

- the provision for risks that are not expressly addressed through the safety assurance process,
- an allowance for new risks that arise as a result of technological advancements, while retaining the flexibility needed to support innovation while minimising additional regulatory costs,
- encouraging vehicle design with a long-term focus, including by recognising that the ADS needs to be equipped to function in a variety of different environments,
- an obligation to ensure safety beyond the point of sale, and throughout the life-cycle of the ADS, and
- the certainty provided by a statutory duty.

The benefits offered by Option 4, however, will come at a cost. As the RIS notes, Option 4 carries the highest upfront compliance costs, higher administrative costs, and will require regulatory change. Despite this, given the relative safety and uptake benefits, at this stage we support the Commission's provisional preference for Option 4.

[4] Association of British Insurers and Thatcham Research, Regulating automated driving: the UK insurer view, June 2017.

The RIS likens the primary safety duty to the concept of a 'primary duty of care' under the model work, health and safety (***WHS***) law. We note the focus of the concept in a WHS context is on compliance, with sanctions imposed for breaches of the duty. We understand this is also the intended application of the primary safety duty in relation to automated vehicles.

In framing the duty, it will be important to ensure that it does not displace the safety obligations of other stakeholders, such as parts manufacturers and vehicle repairers. It would be helpful for the RIS to articulate how the safety obligations of various parties are expected to interrelate.

With respect to the application of any safety duty in a liability and compensation context, as noted above our primary focus is on the creation of a regime which clearly defines and locates responsibility. This is important so as to avoid the personal and financial costs associated with protracted liability disputes. We understand the Commission intends to release a discussion paper on reform of Compulsory Third Party (***CTP***) laws later in 2018. This is an area of significant interest to QBE, and we look forward to considering liability issues further throughout the consultation process.

Monitoring by a national body

The RIS notes the duty would be administered by a national body. We appreciate that this proposal will only be developed further if Option 3 or 4 are chosen. As such, at this stage we merely pose some questions for future consideration and look forward to exploring these in due course.

Regarding the structure of the body, we note the reference to the body as a government agency. While there are merits to this approach, consideration could also be given to a non-government entity performing the role. Such an entity would be accountable to government, potentially through the composition of its board, and could be jointly funded by all jurisdictions.

It would also be important to clarify the responsibilities and powers of the national body, including:

- the extent to which it is responsible for the approval of new vehicles being brought to market, as well as ongoing monitoring,
- how it would interact with other federal, state and territory authorities with relevant responsibilities, such as road safety agencies,
- whether it would play a proactive role in addressing unsafe behaviour, possibly through audits or risk assessments, and
- the existence of powers to obtain data from entities, including ADSEs.

Finally, consideration could be given to how the body would carry out its work, including:

- how the national body would detect incidents, near-misses and unsafe behaviour,
- what would constitute unsafe behaviour, and how would the national body would detect this behaviour, and
- how the body would monitor technological developments and stay abreast of new risks.

Further information

Once again, QBE appreciates the opportunity to respond to the RIS. Please do not hesitate to contact QBE's Head of Government Relations and Industry Affairs, Kate O'Loughlin, at kate.oloughlin@qbe.com or on (02) 8275 9089, if you would like to discuss any aspect of this submission.