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The Canadian Board of Marine Underwriters

AUTONOMOUS VEHICLES: DEVELOPMENT AND THE POTENTIAL IMPACT UPON REGULATION AND LICENSING

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Key Considerations

How could the introduction of autonomous vehicles impact regulations and insurance coverage?

This presentation will address the potential changes that autonomous vehicles will necessitate for current transportation liability regimes, principally focusing on automotive and marine transport.

We will discuss the legislative and insurance regimes various jurisdictions are implementing for autonomous vehicles, drawing parallels from other methods of risk allocation, and forecast potential changes that may accompany the increasing prevalence of this technology.



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About me

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Why Autonomous?





Autonomous Vehicles Recap

- New form of mobility
- Disruptive technology
- Falling accident frequency
- Personal and commercial auto policies account for roughly 43 percent of all written property and casualty premiums.



AV Advances

- In Insurance:
 - Cultural shift in notions of transportation
 - Migrating forms of insurance coverage
 - On demand insurance



Comments on AV

- Insurance industry executives:
 - “It could be a reinsurance arrangement, it could be a quota share arrangement or it could be a strict insurance arrangement like we have today and I think that’s going to depend on each company’s balance sheet needs and their efficient use of capital,” ... “I think on the personal lines side, you are going to see a whole slew of different areas. You are going to see regular personal lines policies like we see today, because there are still consumers who are going to want to drive their own vehicle.”
 - Karim Hirji, senior vice president of international and ventures at Intact Financial



Comments on AV

- Insurance industry executives:
 - “...we expect it to move away from insuring millions of individuals to potentially insuring a handful of technology providers or a handful of (original equipment manufacturer) providers and manufacturers, and so the entire landscape is changing.”
 - Jason Storah, executive vice president for broker distribution at Aviva Canada Inc.



Comments on AV

- Auto industry:
 - “Right now, we are in an area where we are not sure which way we are going to go, because the autonomous technology is created by us but there are also components supplied by other companies and then we are asking about shared liability with suppliers”
 - Alifya Curtin, general counsel for Car2go North America (which is owned by Daimler)
 - “The regulatory framework in every jurisdiction was never written as a vehicle driving down the road ... It’s always about the driver behaviour, so at this point we want the driver in the seat.”
 - Logan Purdy, manager of the road safety policy office for the Ministry of Transportation of Ontario



Considerations from AV

But not so fast

- consider the level of cultural shift necessary to relinquish what most North American's consider an absolute right.
- Consider too that it could take 2 decades or more to replace the existing fleet of vehicles on the road...

Uncertainty = impacts regulatory development



Regulating AV

- North American is involved
 - In the US Federally and at the State level
 - New bills suggesting spending increases
 - NHTSA policy statements & industry inquiries
 - In Canada, Federally and provincially
 - Are we keeping up?
 - Anecdotally, reports and criticism suggests not

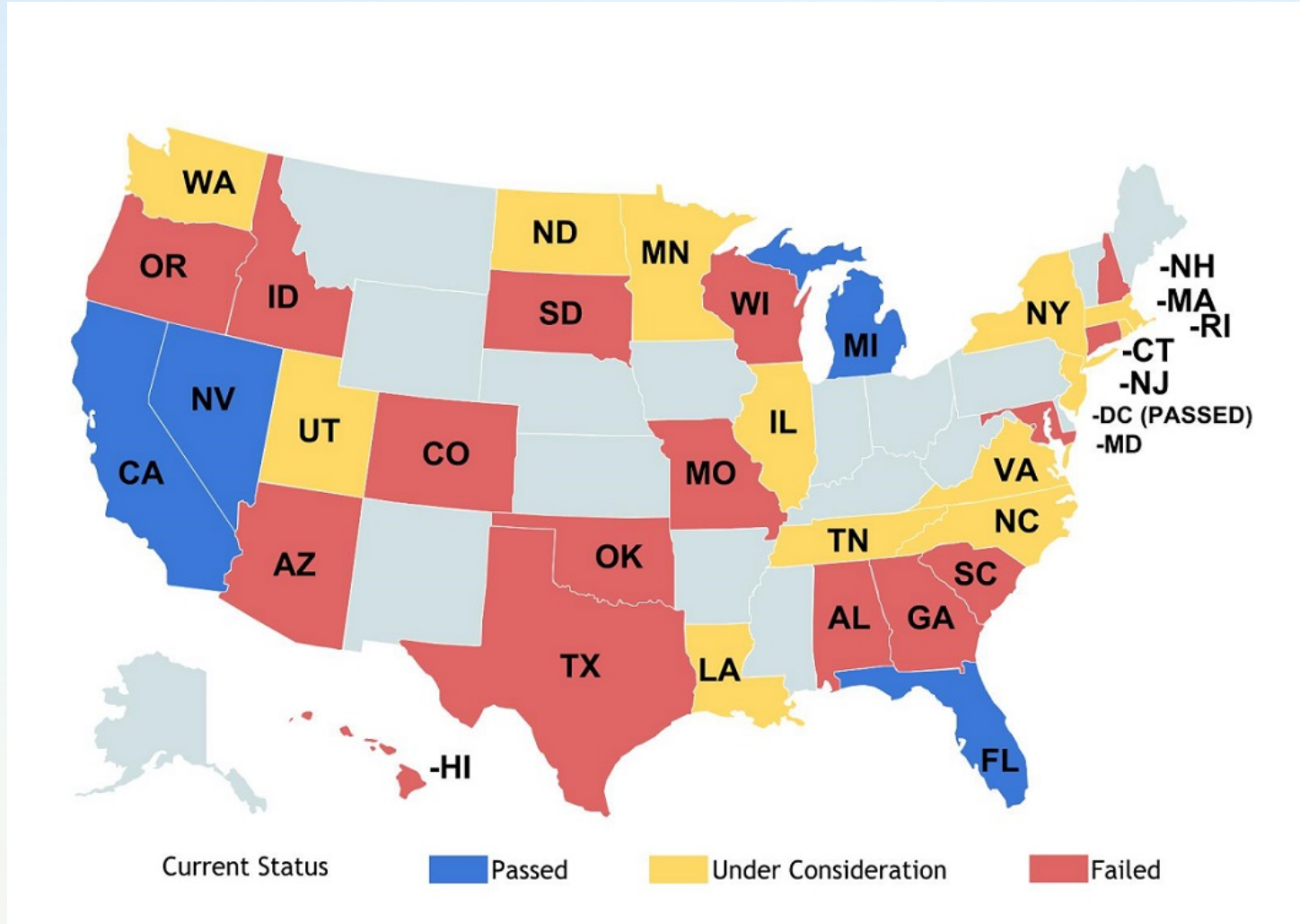


Regulating AV

- State by States
 - Various levels of adoption
 - Plans to study
 - Regulation of testing
 - Inclusion by Omission



Individual State Involvement





Regulating AV

- Themes
 - Level of Human participation
 - In Vehicle
 - Driver responsibility
 - Manufacturer / Supplier responsibility
 - Conversion responsibility
 - Privacy and Disclosure
 - Permitting testing to post testing deployment



Product Liability

- Present Regime
 - Modes of failure
 - Shift of driver responsibility to manufacturer / Supplier responsibility
 - Determining fault / causation
 - Privacy and Disclosure
 - Importance of BIG data...



Further comments on AV

- Insurance industry:
 - “We don’t see liability getting more complicated in a driverless future,...
Currently, we see no need for action on the side of insurance and liability law,”
 - Jacob Fuest, Head of the Automotive Innovation Center at Allianz
 - Existing laws in a majority of countries would well be able to handle liability even in complex crash scenarios.



Product Liability

- Present Regime
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 - Shift of driver responsibility to manufacturer / Supplier responsibility
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Further comments on AV

- What will not change is the certainty, that with an accident somebody will be accountable
 - Human driver in the tort / negligence scenario, manufacturer in the product liability context.
- Overarching doctrine of victim protection demand response



Marine Considerations

- Technological Underpinnings
- Present Automation Uses
- Future for commercial carriage of goods and passengers?



Marine Considerations

- Benefits of Autonomous Operation:
 - Decreased manpower
 - Less support infrastructure
 - Efficiency gains
 - Reduction in Error (80% is Human Error)
 - Scale (~\$400B industry, 90% of world trade)



Marine Considerations

- Present Advances:
 - Rolls Royce
 - European Union
 - UK
- Opposition
 - Scale (~\$400B industry, 90% of world trade)



Marine Considerations

- Opposition
 - Investment not justified by cost savings
 - Lack of international support or interest
 - Slower uptake
 - Regulatory hurdles



Marine Considerations

- Regulatory Hurdles
 - Historical development of marine law and convention
 - International harmonization developed in the age of sail
 - Regulation underpinned by individual



Marine Considerations

- Outstanding issues
 - Do present laws permit Autonomous Ships
 - Regulation underpinned by:
 - Individuals (Master and Crew roles)
 - Links to governance through flag states
 - The stowaway and pirate



Marine Considerations

- Outstanding issues
 - Necessary reconsideration of various conventions
 - the Law of the Sea Convention;
 - International Convention for the Safety of Life at Sea (SOLAS);
 - Port State Control programs;
 - International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW)



Marine Considerations

- Outstanding issues
 - Similarities with aircraft industry,
 - Need for international harmonization
 - Common concerns of:
 - Expensive transport means
 - Carrying valuable cargo
 - Risk of considerable harm to the environment and to third parties.



Cyber

- Dependence on connectivity
- Importance of BIG DATA



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Thank you

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