

**2017
EDITION**

THE AUTONOMOUS VEHICLE GLOBAL STUDY

Interview with

David Williams,
Technical Director,
AXA Insurance UK



The most
thorough report
on driverless
vehicles

A perfect storm ready to wipe out risk

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from Ptolemy, the Egyptian savant who built the 1st map of the world

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David Williams
Technical Director
AXA Insurance UK



Last year Allianz France came up with a 25% discount on premiums for cars equipped with at least two ADAS functions. Do you think that the insurance sector has a responsibility to promote ADAS adoption by offering discounts?

I think we need to use the various sources of information to enable us to be much more precise, rather than offering discounts.

We know that Automated Emergency Braking (AEB) reduces road accidents by an estimated 15% and injuries by 18%, and we reflect that in our pricing.

But some studies indicate a variable performance in sensors and braking systems at different speeds. It might be that the Bosch system fitted on the VW Golf

works better than the Volvo system in high speed situations, but the Volvo AEB works better in low speed situations.

So, as insurers, in order to build our pricing models, we need to understand precisely what ADAS components are fitted and take into account what we know about people's driving behaviour.

A lot of manufacturers make ADAS components available as add-ons, and **we're already speaking to the government about the need for some sort of database that we can tap into** - possibly with the vehicle registration number linked to the vehicle identification number (VIN) which in turn looks at what kit is



fitted so we can reflect that in our pricing.

So yes, **we absolutely need to be encouraging the adoption of ADAS, and the**

best way to do that is to reflect it in reduced premiums.

Do you think that premiums will first go up in line with the increased cost of the vehicles fitted with these features, or down because of their impact on claims?

We are already seeing a substantial impact in the cost of damage claims. **Over the last 3 years, I think the UK market figure is a 25% increase**, which is well ahead of inflation.

The claims that have increased are due more to own damage than third party damage claims.

Most of the expensive kit tends to be fitted to the front of these vehicles, which is where the damage is more likely to occur if you crash into something.

So, yes, there will be an inflationary impact on claims. But you've got to remember that while the increase has been 25% in terms of damage claims costs over the past 3 years, the technology will be

reducing costs going forward.

AEB is already showing a 15% reduction in accidents and an 18% reduction in injury claims.

But the premiums are also based on the value of the vehicle. At level 4, will that value increase dramatically?

Most claims are small claims, so unless you're talking about an exceptional vehicle, the overall value isn't as important in terms of our pricing as the cost of repairing the individual model type.

Since we are unable to establish which vehicles are fitted with expensive kit if they were supplied as options, maybe some people are getting away with it.

But the most costly claims are for injuries. We would much rather smash up a driver assistance sensor than a pedestrian. So we are very much of the opinion that the overall outcome will be lower insurance premiums, even just with ADAS.

When automated cars outnumber "ordinary" cars, how will this affect the premiums on vehicles that are not ADAS-equipped?

I think there is a lot of paranoia around that. You have to consider the dynamics of road accidents.

If your car was the last manual vehicle on the road, statistically you would still

Driving Insurance Group (ADIG), of which I am the Chairman.

When we started discussing these issues, we were of the opinion that there would be fewer motor insurance



13 companies are involved in the ADIG

be less likely to have an accident than you would now, because all the other cars would be autonomous with safety features to avoid a collision with you.

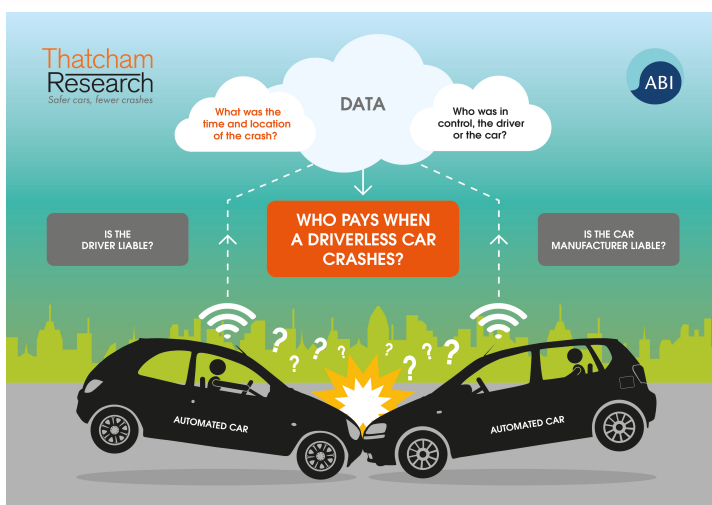
So, while you wouldn't benefit from the discount, overall you'd end up with a lower premium.

How do you expect the insurance rules to evolve in order to protect drivers and riders of autonomous vehicles?

Within the Association of British Insurers (ABI), we formed the **Autonomous**

policies and a huge increase in product liability premiums, which would be with the manufacturers. Then we got into the practicalities of who's going to be responsible.

In the UK, the **Road Traffic Act (RTA)** is not there to help motor manufacturers or to sell insurance premiums; it is there to protect road users. So if you then start with the mindset of protecting road users and making things simple for them, you end up thinking about a slightly different model.



Determining liability will be a challenge for insurers

I genuinely expect this to be reflected in the **Modern Transport Bill** when it comes out at the beginning of the year - that the government will extend the existing RTA regulations to make sure that other road users have that same protection. They don't want a situation where somebody involved in a road accident has to establish which insurance regime applies or maybe spend 3 years arguing against the OEM's most expensive lawyers!

Instead, **every vehicle on the road** - whether conventional, manual with a driver, autonomous with an optional driver or autonomous and driverless - **will be required to be covered by an insurance policy, and there will be a liability imposed on the insurer in respect to any accident involving the**

vehicle when in autonomous mode.

Now, the benefit of that is that anyone involved in a road accident will simply go to his insurer who will do the usual investigations and pay the claim, whether it's for vehicle damage or personal injury.

This does not leave the motor manufacturers completely off the hook. In fact there is a strong argument that we should be encouraging them to make their vehicles safer.

The last thing the insurance sector wants to suggest is that manufacturers can reduce deaths on the road by 90%, but that they will be sued to the fullest extent of the law for the remaining 10%!

So would a taxi company need to have an extra policy?

The ABI has not focused on taxis, but there will be a requirement for a motor insurance policy, whether the vehicle belongs to a taxi company or a car sharing group of individuals.

Will that extra policy be an additional cost for the driverless taxi owner?

Technically yes, but with fewer accidents happening, motor insurance premiums are going to be cheaper anyway, and even lower for driverless vehicles.

The other aspect is: everything costs money! Nobody absorbs costs; they are passed onto the customer. **So the issue is where best to place them.**

When we are talking about specific elements of risk in terms of accident and repair and injury costs, then insurance is a good place to put it.

The government will agree, because we have a highly competitive market and therefore those costs are kept to an absolute minimum. If we introduce other elements into the mix, they might get talked up and cost the end-customer even more.

Across Europe we also have a variety of insurance regulations and rules. Do you think we're better placed to create something a bit more uniform?

I think so. I have some Brexit-related concerns, although most of the vehicle regulations are through the UNECE rather than Europe per se. But when you look at the people put in charge of the various committees, I worry that we might get less say in the matter.

I also think that, if you look at UNECE, most of the regulations that currently apply to driver assistance are being looked at to apply to autonomous vehicles. Regulation 79 refers to steering, which is ridiculously inappropriate for automation but **it's the best we can find**, and it takes years to change.

We've already had meetings with an insurance organisation in Germany and we're setting up meetings with one in France, in **an effort to get UNECE - whether it's regulation 79 or something else - to do things more quickly**.

The UK will publish the Modern Transport Bill in early 2017, which will be something people can either critique or ignore,

and it would be useful if something similar could be enacted across Europe.



Why do you think regulation 79 is inappropriate, and what do you think they should do instead?

I think **we need to start with a whole new regulation**.

In an autonomous vehicle, it is so much more than just steering; it's acceleration, it's braking. I think they are doing their best within an existing framework, but it was not designed for true driver assistance or autonomous vehicles.

That's why there is this obsession with the period of time you can take your hands off the wheel.

I think they need to come up with something more all-encompassing. But, since it takes ages to get something changed, maybe they're being pragmatic in using an existing regulation.

In cases where you are able to recover costs from the manufacturer, not only will you need information about the vehicle and its

equipment, but also information about the accident.

In that context, what type of data is needed and how do you think insurers will access it?

Playing the devil's advocate, we don't have that information now and we're still able to deal with claims, so it's not the end of the world. However, the absence of that information raises a number of issues.

Ignoring the improvements in customer service that you could provide if you had that data, you'd be able to deal with the claim instantly; you would know everything, because these vehicles are computers on wheels.

Consider a situation where a vehicle has autonomous functionality that may or may not have been switched on. There will likely be some dispute, with motor manufacturers saying it's the driver's fault and the driver saying the car was in full autonomous mode and it did something weird.

It's just wrong that the only entity with access to that information is one of the defendants.

But the Modern Transport Bill will reflect the need for some information. We've had discussions with motor

manufacturers, and **the large German motor manufacturers have very strict data privacy rules, regulations and standards, and therefore they don't want to share any information at all.**

However, I think they're going to have to. I think the Modern Transport Bill will start talking about the **need for some form of event data recorder**, and then we can start discussions about how granular the information needs to be and how we will get it.



Meanwhile, my understanding is that there's a bit of a compromise on the part of the German OEMs, saying that in terms of a specific event when something goes wrong, they're happy to share *certain* information - not everything.

However, they would prefer that some form of independent third party receives this information on everybody's behalf, due to concerns about data security. Imagine the potential risk if 60 insurers in the UK all asked

Mercedes for data to be transmitted online.

I also think the **granularity of the data is going to be up for debate.** We had a meeting about that with the German Insurance Association (GDV), and ended up with a list of the absolute minimum things that we need, such as whether the vehicle was in autonomous mode or not. So I think we would at least get that, but we don't know if it will be direct from the OEM or via a third party. If it's a third party, who's going to set it up and how much is that going to cost?

Another thing we're discussing is the **potential to provide a better claims service by obtaining more data following an accident.**

Now, that might be a bit of a lifeline for telematics providers. Effectively, you don't need aftermarket telematics anymore because the vehicles themselves are computers on wheels, but if motor manufacturers say they're not going to release information, then maybe there's an alternative industry where telematics providers link into the vehicle's telemetry or just record things independently and then send the information to the insurer.

If that business model stacks up, then it could work, particularly as the cost of technology falls.

I believe that the **driving data belongs to the customer, and therefore should be made available to us with the customer's permission.**



How important is the re-engagement issue for the insurance sector, where a vehicle asks the driver to take back control and the driver does not do so?

In the UK, we are looking into the accelerating development of driverless cars or autonomous vehicles.

The **Venturer consortium** is currently conducting tests specifically regarding the handover.

The reason they're looking at it is because we have asked them to.

We - the insurer, partner of the Venturer consortium - are particularly concerned about it, as is the government.



So you and I can have an opinion now, but in a 12-month time, we'll have an informed opinion. Discussions with UNECE on Regulation 79 raised the issue of hands off the wheel for a maximum of 30 seconds; then it changed to 3 minutes, now it is back to 30 seconds, so it's all over the shop!

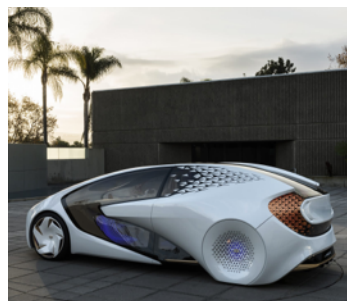
What we are describing, though, is not Level 4 or 5. If a vehicle ever requires you to take control, it is not autonomous; it is driver assistance. And yes, I do think this will be clarified in the Highway Code. **Some of the adverts you see on the television present a Level 2 system as almost a Level 4. It's shocking, and I think there will be prosecutions in the future** with regard to the marketing of driver assistance functionalities.

If something goes wrong in an autonomous vehicle it will tell you and it will deal with it. It will be able to turn off a motorway, come to a stop, park itself safely, etc.

If it doesn't, if it ever requires you to take control, then it is driver assistance

only, and therefore I think the Highway Code in the UK will require the driver to be paying attention, and if there is an accident, it will be the driver's fault.

Look at the Tesla marketing - wonderful technology - but very, very clear regarding their accountability, as in, "If there is an accident, we do not expect to be held responsible. It is driver assistance; we're making your journey safer, we're helping you, but you have to constantly and effectively be able to take control if required."



So there is no re-engagement issue?

No, not with autonomous vehicles. **Anybody talking about re-engagement is talking about driver assistance.** And it's really important for us to understand. Because the worst situation would be if people were able to sell vehicles described as autonomous, but if something goes wrong you've got 10 seconds to

take control. That's like putting an offensive weapon on the road; that's not safe, that's terrible.



While we expect automation and ADAS to result in fewer accidents, will the complexity in pricing and claims management actually increase the costs in the insurance market? What about the IT, data science involved in dealing with new data, could that actually increase the cost of motor insurance?

If this technology reduces accidents by 80%, we don't think there'll be an 80% reduction in premiums. It is like the cost of repairs; there will be elements that have a sort of near-negative counter-effect that will drive premiums up. But overall, we still think it will be substantially cheaper.

You have to remember the way that we're proposing this - that the conventional motor insurance market deals with claims in the first instance - continues to drive the highly competitive nature of the market. You

have to find a way to deal with higher IT costs effectively, because your competitors will and they will be able to offer cheaper premiums.

So yes, there will be additional costs, but they will be on substantially lower - and less costly from an injury perspective - claims, and therefore **overall, premiums will still be massively lower.**

Is it fair to suggest that insurers will have to invest a lot more in IT, data science, actuarial and other costs separate from claims costs?

Yes, but we're doing that already. Getting decent data scientists in the London insurance market at the current time is incredibly difficult, because everybody wants one.

So while there will be more data, I think technology will move along - machine learning, for instance, artificial intelligence.

We've already discussed this with IBM Watson, and, just using machine learning, you can do the work of 10 or 20 actuaries much quicker.

So initially we will need to invest more, but, as with any new development, the costs will come down over a period of time.



What would you say are the biggest dangers and what should we do to avoid AVs becoming the new GM food?

First of all we need to make sure that, when they are on the road, the insurance regime and mechanism is simple and familiar. So again, our proposal that insurers deal with claims rather than people having to sue a motor company themselves will help in terms of public acceptance and confidence.

We also need to ensure that these vehicles and features are tested properly and that they are absolutely safe before they are allowed on the road.

We will be able to talk about the number of hours and miles that have been clocked up in these test environments, using simulation technology as well.

A lot of people are concerned about the Tesla

approach, which is beta testing really innovative software on public roads.

I think we will also see connected autonomous vehicles suddenly appearing in the commercial vehicle space, where there is a massive business benefit.

Initially, when people see 38-ton articulated vehicles hurtling down motorways without drivers, they will be worried, but they will get used to them.

However, we can't pretend that there won't be any accidents. But we will need to be honest and open about the cause of those accidents and what's going to be done to ensure it doesn't happen again.

And again, if we could have some of that data that is being captured, that will be very useful.

*Interview conducted by
Thomas Hallauer in
November 2016*