Insurance for safer roads

November 28th 2017, Zurich

#RoadSafety

GLOBAL ROAD SAFETY PARTNERSHIP

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Insurance & Road Safety Workshop

Jean-Pierre Krause, Head of Risk Engineering
In Zurich, Switzerland
Nov 28, 2017

Zurich Commercial Insurance

Insurance & Road Safety Workshop

Agenda

8:30-9:00	**Registration and Welcome Coffee**	
9:00-9:10	**Welcome Address** • Objectives of the workshop • Zurich's ambition and strategy in Road safety	**Jean-Pierre Krause**, Head of Risk Engineering, Commercial Insurance, Zurich
9:10-9:25	**Keynote Address 1** Latest WHO data and trends in road crash death and injury	**Dave Cliff**, CEO GRSP
9:25-9:40	**Keynote Address 2** Updates from the FIA High Level Panel for Road Safety	**Miquel Nadal**, Secretary FIA High Level Panel
9:40-10:00	**Presentation 1 – Crash Investigation** • Data, trends and challenges	**Bettina Zahnd**, Head Accident Research, AXA Switzerland
10:00-10:45	**Discussion Panel – The Broader Perspective** An interactive discussion addressing issues including: distracted driving, data, sustainability, the SDGs and the broader perception of road safety and mobility *Facilitated by Michael Chippendale, GRSP*	**Andrew Bradley**, Nestle **Miquel Nadal**, FIA **Dave Cliff**, GRSP **Bettina Zahnd**, AXA **Karl Gray**, Zurich
10:45-11:00	**Coffee Break**	
11:00-11:15	**Presentation 2 – Road Safety and Health Enhancement** • Supporting road safety through a health enhancement approach	**Prof Massimo Colombo** and **Dr Jillian Mullen**, International Liver Foundation
11:15-11:25	**Presentation 3 – Case Study** • A review of Zurich Australia initiatives	**Louise Kerrigan**, Casualty and Motor Team Leader, Zurich
11:25-12:00	**Presentation 4.1 – Autonomous Vehicles** • A focus on Level 3 vehicles **Presentation 4.2 – Autonomous Driving** • Expected impact on crash rates	**Dave Baldwin**, Head of Insight, Thatcham Research **Karl Gray**, Zurich
12:00-12:45	**Discussion Panel – The Insurance Perspective** An interactive discussion addressing challenges faced by the insurance industry. *Facilitated by Nick List, Zurich*	**Karl Gray**, Zurich **Andrei Rubeli**, UNIQA **Dave Baldwin**, Thatcham **Louise Kerrigan**, Zurich
12:45-13:00	**Next steps** • Continued information sharing • Call to arms	**Jean-Pierre Krause**, Zurich **Dave Cliff**, GRSP **Andrew Bradley**, Nestle
13:00-14:00	**Lunch and networking**	

Please don't forget to switch on your Mobile Phone after lunch!

Courtesy Nick List, Zurich

ref: https://www.imore.com/do-not-disturb-while-driving-ios-11-can-change-your-habits-if-you-let-it

Insurance & Road Safety Workshop

Objectives for today

- **Expand the scope** of the working group.
- Promote and **update the 'living' report** document and knowledge base.
- Build the profile of the **role of the insurance industry** within the **road safety community**.
- Build the profile **of road safety within the insurance** industry.
- Develop and disseminate **good practice case studies** of insurers in road safety.

Food for thought through outsider's eyes

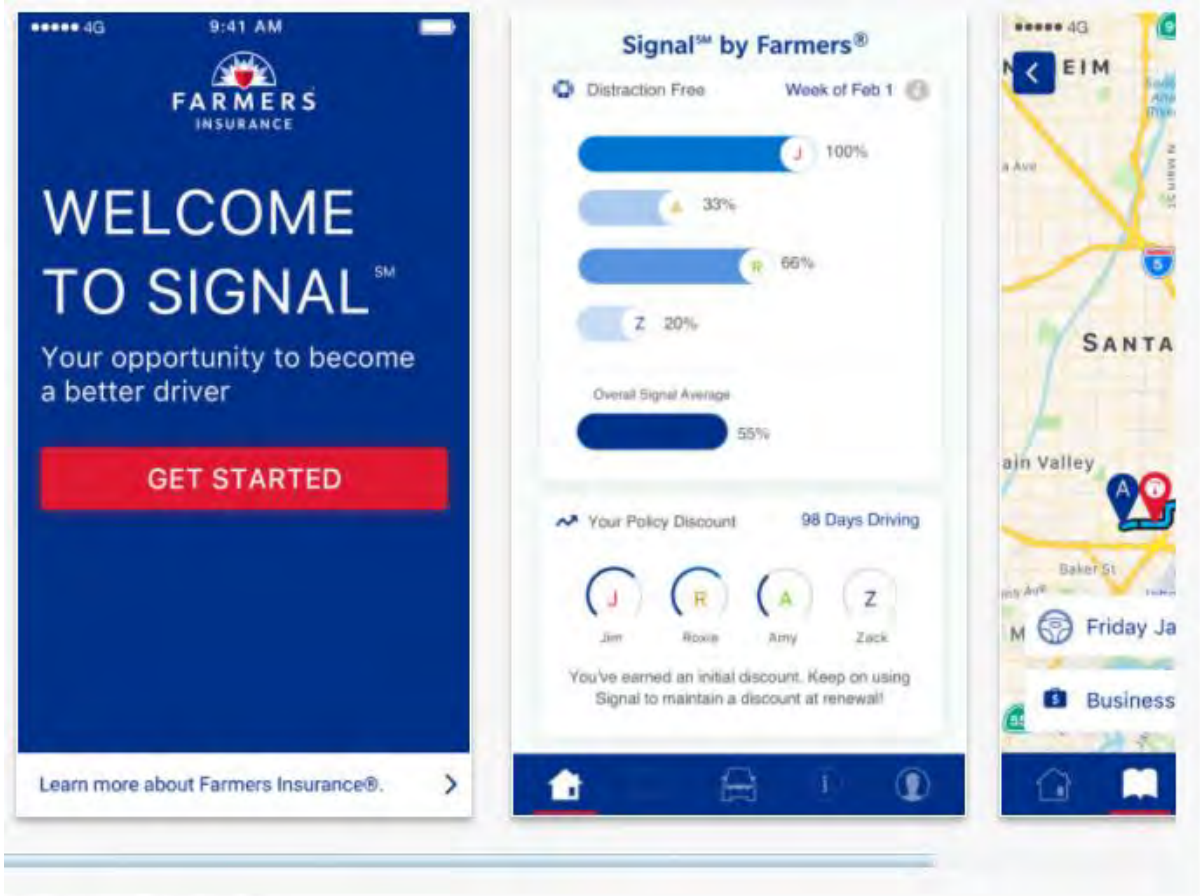
Learnings from Insurance Market and Others

- Lots of short-term independent activities in single countries, no global programs
- Only AXA has clearly defined road safety mission, but also not coherent in activities across countries
- Many content-generating short-term "show" programs instead of real life impact
- Most activities seem to be CR-related, not connected with a product
- Lack of long-term measurement and success measurement
- Lack of safety "branding" – no visual properties or slogans that bind a brand to road safety
- Many themes repeat themselves:
  - Connection with sponsorship programs (e.g. F1), often a bit forced
  - Educational activities targeted at children or young drivers abound
  - Partnerships with NGOs
    - Communication works with humour, shock and sometimes lecturing

KEY LEARNING: No lack of ideas, innovations, communication

Beyond Zurich

Farmers are leading the way…



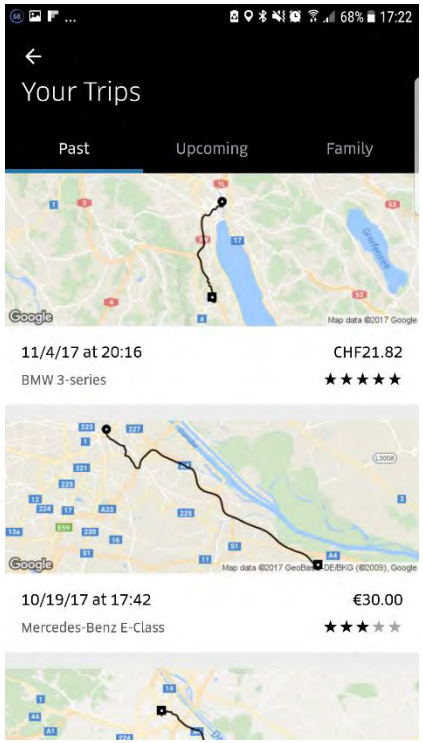
Customer Reviews

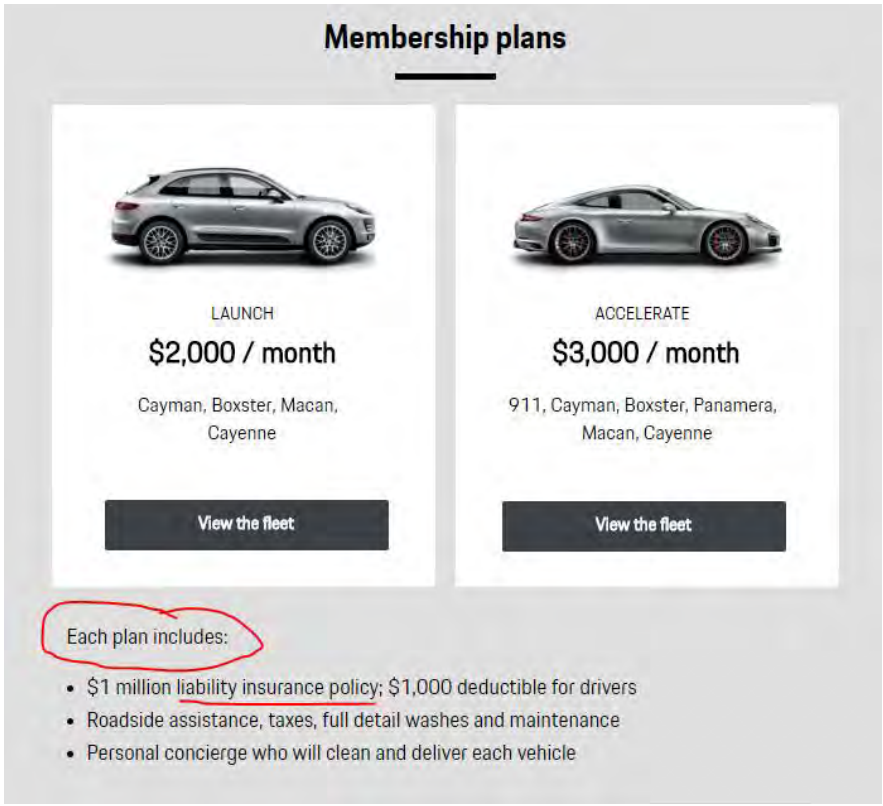
Insightful app ★★★★★
by Avs never

Source: https://itunes.apple.com/us/app/signal-by-farmers/id1198311909?mt=8

FROM Engineer…Educate….Enforce… TO…Embed….Entertain…

Food for thought about "future model of mobility insurance“





Insurance & Road Safety Workshop

Call to work

We'll look at latest data and discuss trends

The insurance perspective:

- What is our role?
- How we can make the world a better place by influencing behavior and a mind set change?

Let's take a look at the topic beyond insurance:

- What are new and different angles for an insurer to consider?
- What will the future bring?
- Where are our engagement points during the customers journey in this transition phase we are currently in?

What's Next for the Insurance for Safer Roads Initiative?

enjoyable workshop!

Zurich Insurance Company Ltd
www.zurich.com

Latest data and trends

Dave Cliff
CEO, Global Road Safety Partnership

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What is going on globally?

- It seems like a simple problem.
- Too many people, like us, are being killed and seriously injured in road crashes.
- We seem to know the rules of the road before we start to drive. When we obtain a driver license, we know all the rules.

INTERNATIONAL FEDERATION OF RED CROSS AND RED CRESECENT SOCIETIES

Presented By: Zarah Faraz

- *Even our children, <u>who are also our most vulnerable</u>, know what to do to prevent crashes…*

“What about if the whole family died and the kids had no one to look after them?”

Together we can save millions of lives.

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We have been talking about the problem for decades

- Moscow Declaration – ***First Global Ministerial Conference on Road Safety – 20 November 2009 - Convinced that without appropriate action the problem will worsen***
- UN Decade of Action 2011 to 2020 – **announced March 2010 by the General Assembly**
- Leading cause of death for children and young people aged 5 to 29 years
- Sustainable Development Goals – ***United Nations Resolution A/RES/70/1 of 25 September 2015***
- Further UN Resolutions
- Vision Zero – Safe System – National Reduction Targets…

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Global road fatalities are not decreasing

Most recent WHO global road fatality estimates

1.34 million road fatalities

Estimated global deaths have increased!

Up from 1.25 million road fatalities reported in the 2015 WHO Global Status Report

Source: World Health Organisation

Global Examples

United States –

- 35,398 fatalities in 2013
- 40,200 fatalities in 2016

Australia -

- 1,187 fatalities in 2013
- 1290 fatalities in 2016

Europe ***(Third Year of Poor Results)***

- 17 of 32 monitored European countries recorded increases in fatalities in 2016
- Largest increases Denmark (16%), Ireland (16%) and Norway (15%)
- Europe's progress in reducing fatalities has slowed markedly

What is causing the increases?

- **Not confirmed and reasons are complex, however…**
- **Increased crash reporting** ***(India)***
- **Increasing levels of distraction** ***(mobile phone use)***
- **Reductions in road policing effort in favour of counter terrorism**
- **Reductions in health budgets –** ***(slower post crash emergency response)***
- **Increasing motor cycle use amongst older males** ***(high income countries)***
- **Falling seat belt wearing rates** ***(related to lower levels of enforcement)***

Road Trauma is not evenly distributed!

Road traffic fatalities per 100,000 population by WHO Region

- Africa - 26.6
- Eastern Mediterranean 19.9
- ***World*** ***17.4***
- Western Pacific 17.3
- Southeast Asia 17
- The Americas 15.9
- Europe 9.3

Significant disparity, even in high income countries road fatality rates vary,
United Kingdom - 2.9 deaths per 100,000 population
United States - 10.6 death per 100,000 population

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Road Crashes –

single largest cause of death and disability for those aged 15 to 29

- 'the disease of the young'

Many productive years are lost!

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Sobering facts…

- Every four minutes, a child is prematurely lost on the roads of this world, many more are injured, often severely ***(360 children have died in the last 24 hours)***
- Many of the victims are poor
- Roads are often built without due consideration of the communities they pass through
- ***For children from 15 to 19 years, there is no greater risk to their lives than a road crash***

Who were they and why did they die?

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Sobering facts…

- The children most likely to die in a road crash live in the world's low- and middle-income countries where 95% of road traffic fatalities among children occur
- Even within countries, poor children are at much greater risk
- Boys account for nearly twice as many road traffic deaths as girls worldwide

Vulnerabilities of children

- Small stature makes seeing surrounding traffic more difficult
- Harder for drivers to see them
- Their softer heads makes them more susceptible to head injury

Vulnerabilities of children

- Younger children have less ability to interpret signs and sounds which impact their judgement on proximity, traffic speeds and direction of moving vehicles
- As they grow, adolescents are prone to risk taking

Younger children are impulsive and have short attention spans

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SPEED – The force of impact

Why do so many people die in crashes?

- *Struck at a speed too great to survive* ***(vulnerable road users – pedestrians and cyclists often children)***
- *Hit interior of the vehicle at a speed too great to survive* ***(vehicle occupants, some not wearing safety belts, in vehicles without air bags or travelling in unsafe Zero-star vehicles)***
- *Thrown out of the vehicle* ***(no safety belt worn)*** *or off the motorcycle* ***(particularly those not wearing helmets)*** *and hit the road, vehicle or roadside object at speed too great to survive*

HOW FAST WE TRAVEL DECIDES HOW HARD WE HIT!

The human body

What impact speeds can our bodies withstand?

How have our bodies changed over the last 100,000 years?

NOT MUCH

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PEDESTRIANS vs SPEED

Speed of Impact	Chance of survival
60kmh	*15%*
50kmh	*55%*
30kmh	*95%*

85% of pedestrians struck at 60kmh *WILL* be killed

Together we can save millions of lives.

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LOW LEVEL SPEEDING

Research perspective…

- small drop in speed = *large drop in trauma*
- 5kmh ↓ = *32% ↓ pedestrian deaths*
- 5kmh ↓ = *20% ↓ serious trauma*
- 10kmh over limit in 100k zone – *risk doubles*

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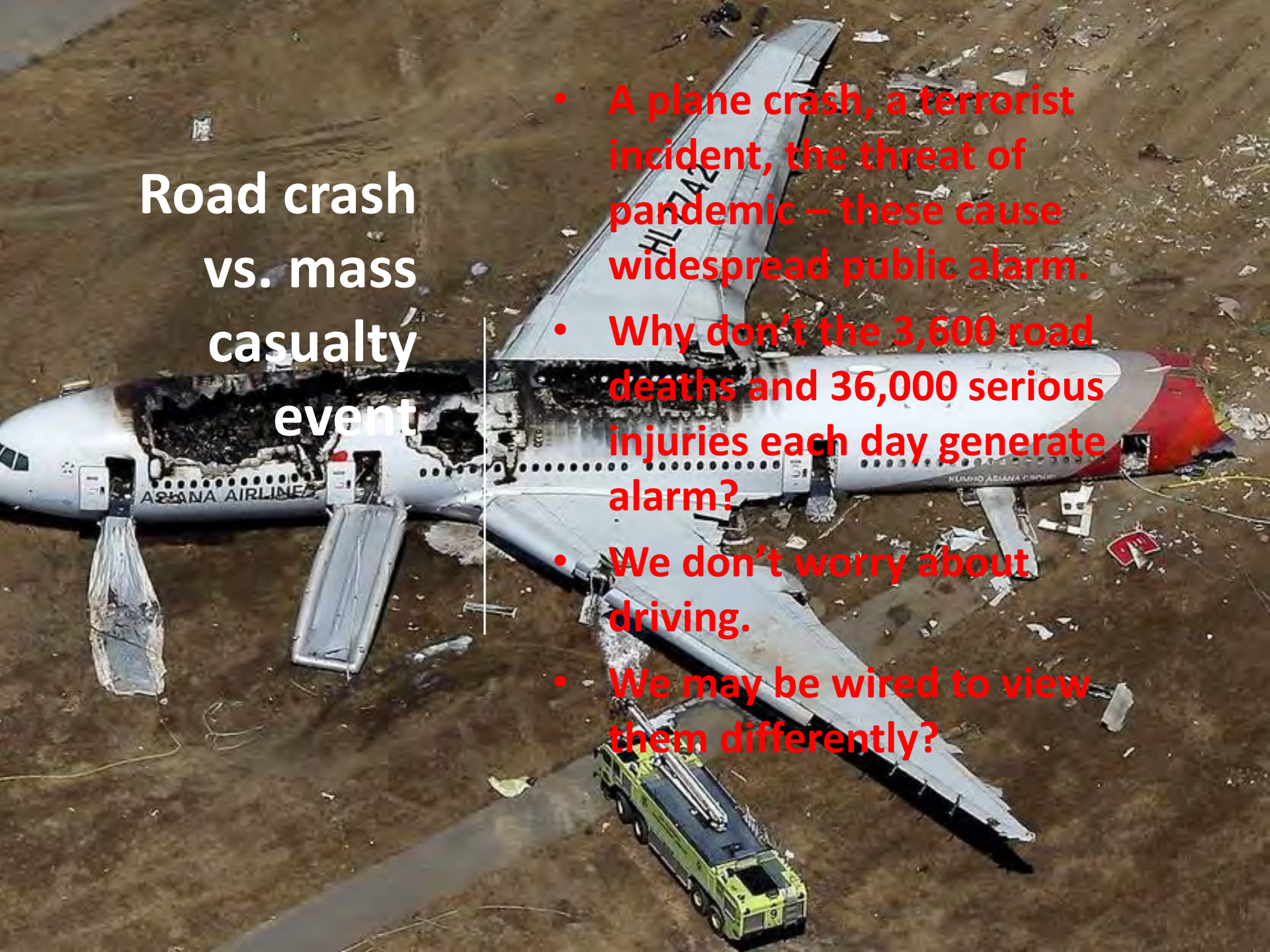
Speed and Safety – Real World Example

In 1987-1988, 40 US states raised the speed limit on interstate highways from 55mph to 65mph *(89kmh to 105kmh)*

Result:

- **Increased speeds *(3mph or 5km/h average)***
- **Increased deaths (20-25%)**
- **And further increases over the years, with similar results.**

SMALL INCREASES IN SPEED = LARGE INCREASE IN TRAUMA



Road crash vs. mass casualty event

- A plane crash, a terrorist incident, the threat of pandemic – these cause widespread public alarm.
- Why don't the 3,600 road deaths and 36,000 serious injuries each day generate alarm?
- We don't worry about driving.
- We may be wired to view them differently?

Road crash vs. mass casualty event

- We fear dying suddenly with lots of others.
- In human history, it was a rational response. For most of our evolution we lived in small hunter gatherer bands of 20 to 50 and rarely exceeding 100 people. Sudden loss of many lives would threaten the survival of the whole group.

Gerd Gigerenzer 2014

Updates from the HLP

Miquel Nadal
Secretary, FIA High Level Panel for Road Safety

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“Movernos seguros”: improving road safety through the development of car insurance markets in Latinamerica and the Caribbean

Insurance and road safety workshop
Zürich, November 28th, 2017

Miquel Nadal
HLP Secretary

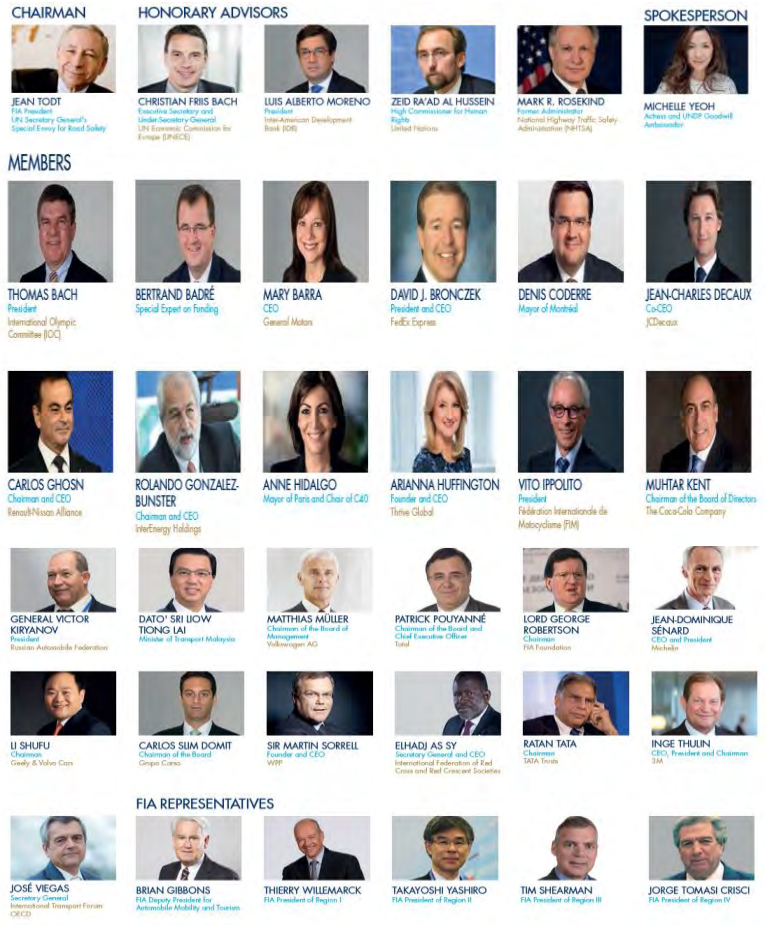
Introduction: the FIA High Level Panel for Road Safety

The High Level Panel is an initiative launched the President of the FIA with other **high level institutional and private sector leaders**. It was launched at the end of 2015 with the support of the UN Secretary General

- The goal of the Panel is to bring new momemtum to actions underway to tackle the global road safety epidemics.

- The initiative focuses on **raising new awareness** and **raising new funding for road safety.**

- It aims to work with all relevant stakeholders, especially with the private sector and concentrates its efforts in improving road safety in low and middle income countries.



Overview of the HLP Work Plan for 2017-18
The Big Picture

ROAD SAFETY 2030
HIGH LEVEL ACTION FOR ROAD SAFETY

Projects/Initiatives with HLP Involvement

Global level

- UN Fund and innovative funding mechanisms
- Automotive industry voluntary Commitment on Safety Standards
- FIA -JC Decaux Campaign

Regional level

- Regional Road Safety Observatories
- Movernos seguros Working with the insurance industry in LATAM

National level

- In Country Missions (Myanmar, Azerbaijan)

Movernos Seguros: background

The HLP-IDB initiative

After some failed contacts (Geneva Association) and after conducting some research, it was concluded that the car insurance industry is very segmented, so global initiatives seem to be difficult. It probably makes more sense to launch initiatives at a regional level.

Before embarking in this initiative, some basic research has been done:

- On the situation of car insurance markets in LATAM. The conclusion is that these markets have an important potential of development and that this could have a significant impact on road safety.

- On the willingness/interest of governments (road safety agencies) and industry to participate in the initiative; with very positive results on both fronts.

Movernos Seguros: main objectives

The joint initiative between the IDB and the HLP, aims mainly at the three following objectives:

•Bring together relevant stakeholders that can help exploit the synergies between car insurance and improving road safety:

- governments
- insurance companies (both domestic and international),
- local NGOs, especially victims' associations
- FIA clubs
- Other international organization and entities such as the OISEVI (Ibero American Road Safety Observatory) .

• Explore potential ways of collaboration to develop the synergies between car insurance and improved road safety, both at a regional and at a national level; and eventually, collaborate in the implementation of these synergies and shared programs.

Movernos Seguros: main objectives

ROAD SAFETY 2030
HIGH LEVEL ACTION FOR ROAD SAFETY

•Raise awareness at the highest level, both within governments and the private sector, about the road safety challenges that the countries of the region face in the coming years, and about the opportunities that the insurance industry could offer for the benefit of all.

Movernos seguros what we want to explore

The 3 way relationship between road safety and car insurance markets:

1. **Compensation:** So called "third party liability insurance" –often, but not always compulsory- provides health coverage and economic compensation to the victims of road crashes.

2. **Responsible behaviour**: the implementation of "bonus-malus systems" (where drivers with no claims enjoy reduced premiums and viceversa) is a powerful incentive for customers to improve their driving habits.

3. **Miscellaneous**:
   - The data gathered by insurance companies can be extremely useful to design and implement efficient road safety policies.
   - Insurance companies play often a leading role in raising awareness about road safety issues, and in informing and training drivers to improve their skills.
   - In some countries, levies on car insurance premiums are used to –partly- finance lead road safety agencies.

WIN-WIN

Taken together, all these links could generate a virtuous circle, whereby better driving reduces road crashes and road traffic injuries, thus benefitting society as a whole, while improving insurer's results and revenues at the same time.

Movernos seguros: the situation of car insurance markets in Latam

The car insurance market in LATAM is at a relatively low level of development. Relevant features of this market are:

•Car insurance is still conceived to a large extent to protect against theft and damages of the own vehicle, while the protection of traffic victims is not yet sufficiently developed.

•Third party liability insurance is not compulsory in all countries and its regulation is still weak (low enforcement where it exists).

•Bonus-malus schemes are increasingly being implemented, but there is large scope for further development

• Mopeds are a significant share of the fleet, with a high rate of crashes and low insurance coverage

•Fraudulent practices are quite widespread, especially when reporting claims.

•The car insurance market is growing relatively fast, with premiums amounting to almost 28 billion euro in 2013. Main markets are Brazil, México, Argentina and Venezuela.

Movernos seguros

Status:

- Online kick off meeting with insurance partners (April 28th). Excellent reception

- Official presentation of the project at the OISEVI Assembly (San José, June 22nd).Victims associations showed big interest in the project

- Workshop with road safety authorities, insurance companies and insurance regulators, with participation of FIA and IDB Presidents (Washington DC, October 12th)

Movernos seguros

Next steps

•A study has been commissioned to have a detailed analysis of the situation and prospects of car insurance markets in the region. Results expected by june-july 2018

•IDB has already allocated resources of its 2018 budget to fund 3 pilot projects (establishment of 3rd party liability insurance). Others could follow.

•Given the good reception of the project, we will start trying to scale it up to other regions (Southeast Asia with the ADB?)

ROAD SAFETY 2030
HIGH LEVEL ACTION FOR ROAD SAFETY

Many thanks !

Crash investigation

Bettina Zahnd
Head Accident Research, AXA Switzerland

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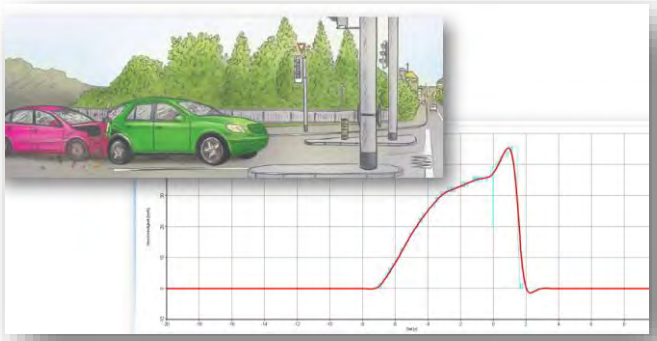
CRASH INVESTIGATION AND PREVENTION MEASURES

Bettina Zahnd, Head Accident Research & Prevention

Agenda

- Prevention and Road Safety
  @ AXA Switzerland

- Future mobility:
  automated vehicles and crash investigation

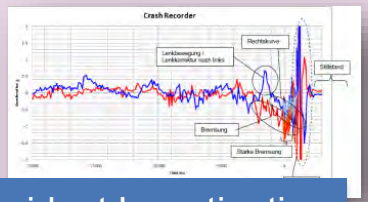


Road Safety: Accident Research & Prevention @ AXA

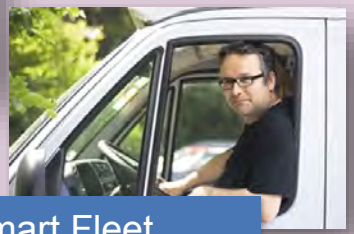
Customers

Crash Recorder

Unfallforschung & Prävention



Accident Investigation



Smart Fleet

Public

AXA Crashtests

Max the badger

AXA Stiftung Prävention

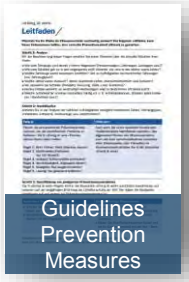
Foundation for Prevention

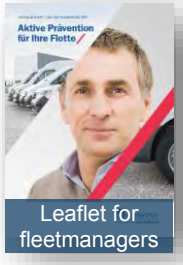
Smart Fleet with the new Fleet Box

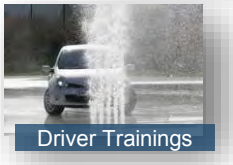
Smart Fleet – Fleet Report

- Three types of claims analyses
  - **Report „Claims analysis & prevention“ (Direct mailing to clients in Q1 or Q2)**
  - **Report „detailled analysis“**
  - **List of claims (Excel)**

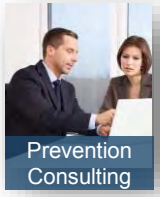
Fleet Safety overview







Prevention measures for our customers



Fleet Box – main functionalities

Efficiency

Proactive Maintenance

Electronic logbook

Mileage

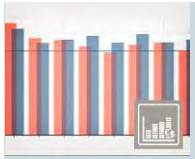
Fuel consumption

Safety

Crash Recorder

Driver Behaviour

Monitoring

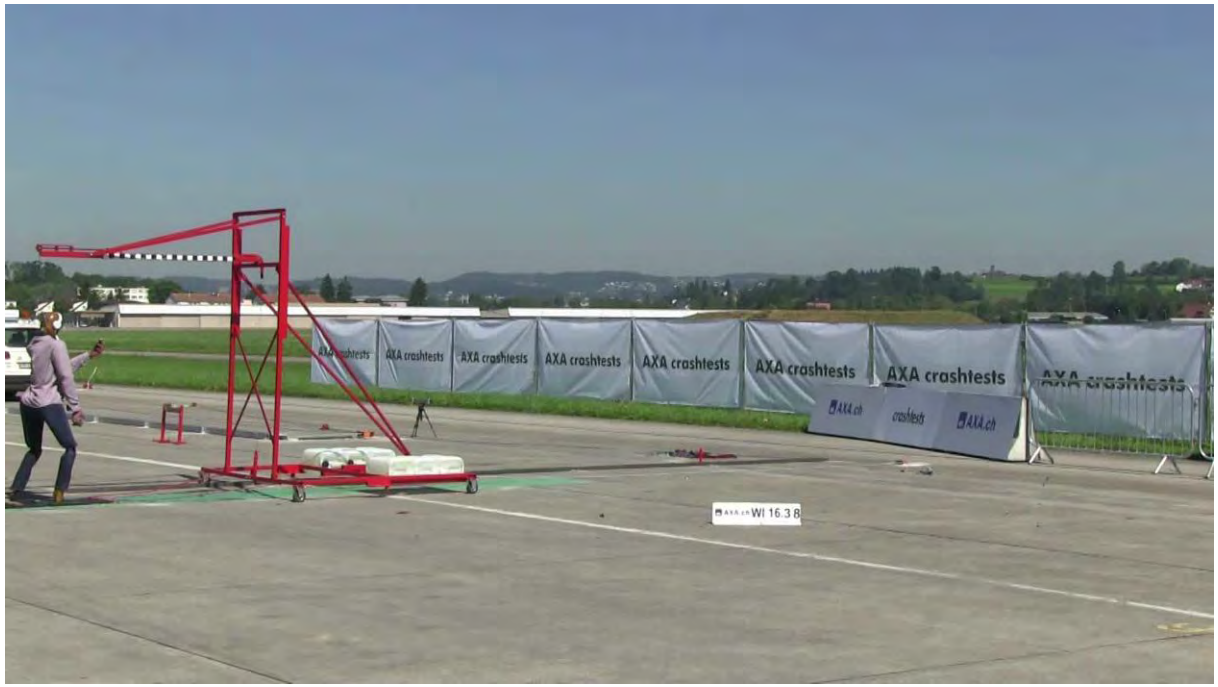


Online-Portal

Driver App

AXA Crashtests 2016

Be smart – don't phone! - Pedestrians



AXA study shows for pedestrians:

- 73% read short messages,
- 68% do phone
- 60% write short messages

Pedestrians are vulnerable:

- 6 out of 10 pedestrians would die in this collision (collision speed 50kph)

Be smart – don't phone! - Drivers

AXA Crashtests 2016

AXA study shows for drivers:

- 72% say that manipulating with the smart phone while driving is very dangerous
- 48% say that they use the smartphone while driving anyway.

Prevention:

- Raise awareness
- Police enforcement

Rear-end collisions

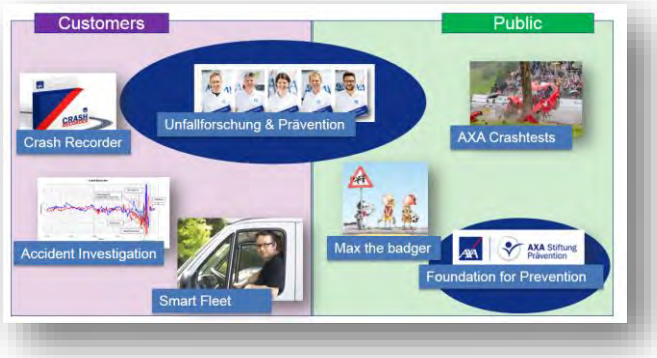
One second away – a 360° video inside a crashtest

360° Video
https://www.youtube.com/watch?v=MebdqBikGx4

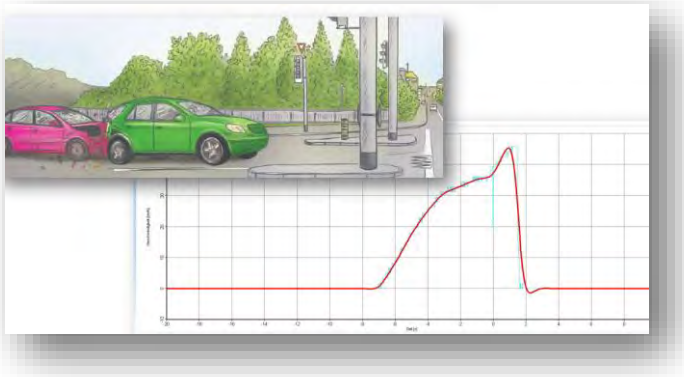
Highlights:
https://www.youtube.com/watch?v=GnQlGpzOx-Q

Agenda

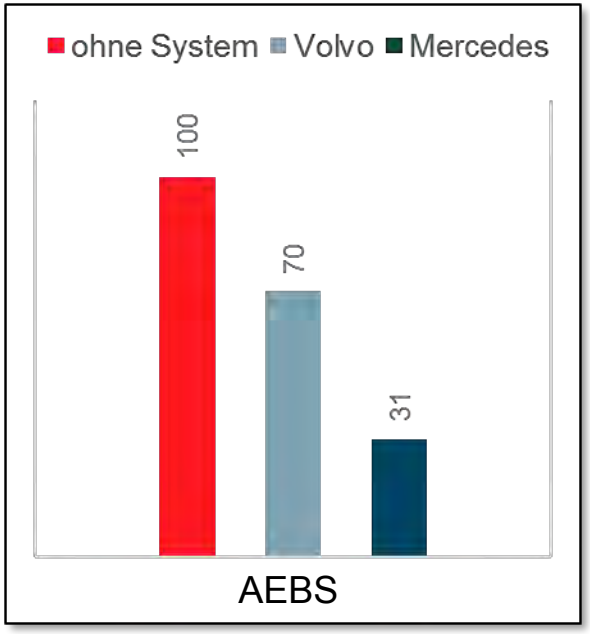
- Prevention and Road Safety
  @ AXA Switzerland

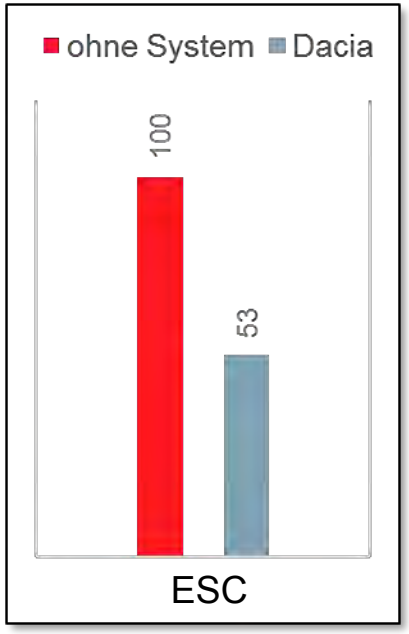


- Future mobility:
  automated vehicles and crash investigation



Advanced Driver Assistant Systems => less road accidents



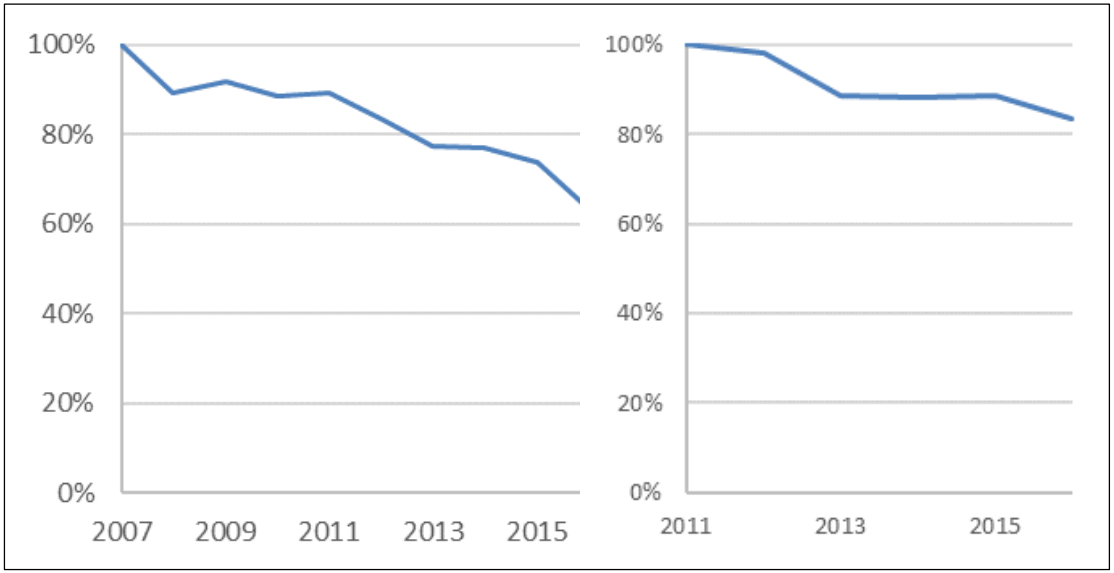


- Automated Emergency Braking System (AEBS)
  - **Drivers of Volvo XC60 (first car with AEBS as standard fitment) caused 30% less front-to-rear accidents than other comparable SUVs.**
  - **Drivers of Mercedes B-Klasse with AEBS caused 69% less front-to-rear accidents than the B-Class without AEBS.**
- Electronic Stability Control (ESC)
  - **Drivers of Dacia Sandero with ESC caused 47% less skidding accidents than drivers of Dacia Sandero without ESC.**

Source: AXA Switzerland, Accident Research

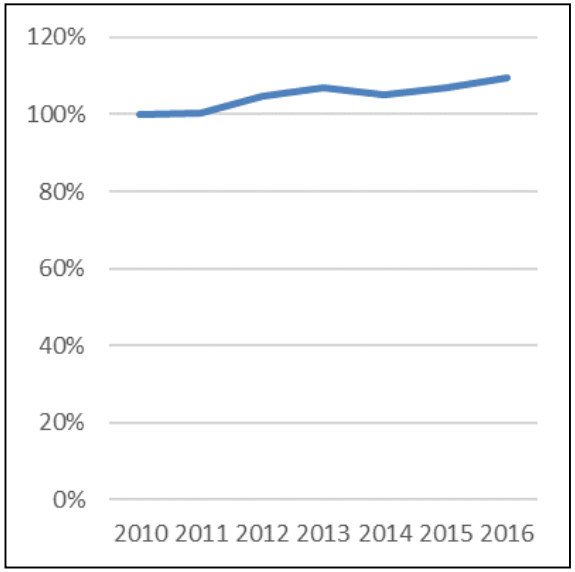
Less TPL claims – increasing repair costs

Decreasing frequency for bodily injury claims in general



Source: AXA Switzerland

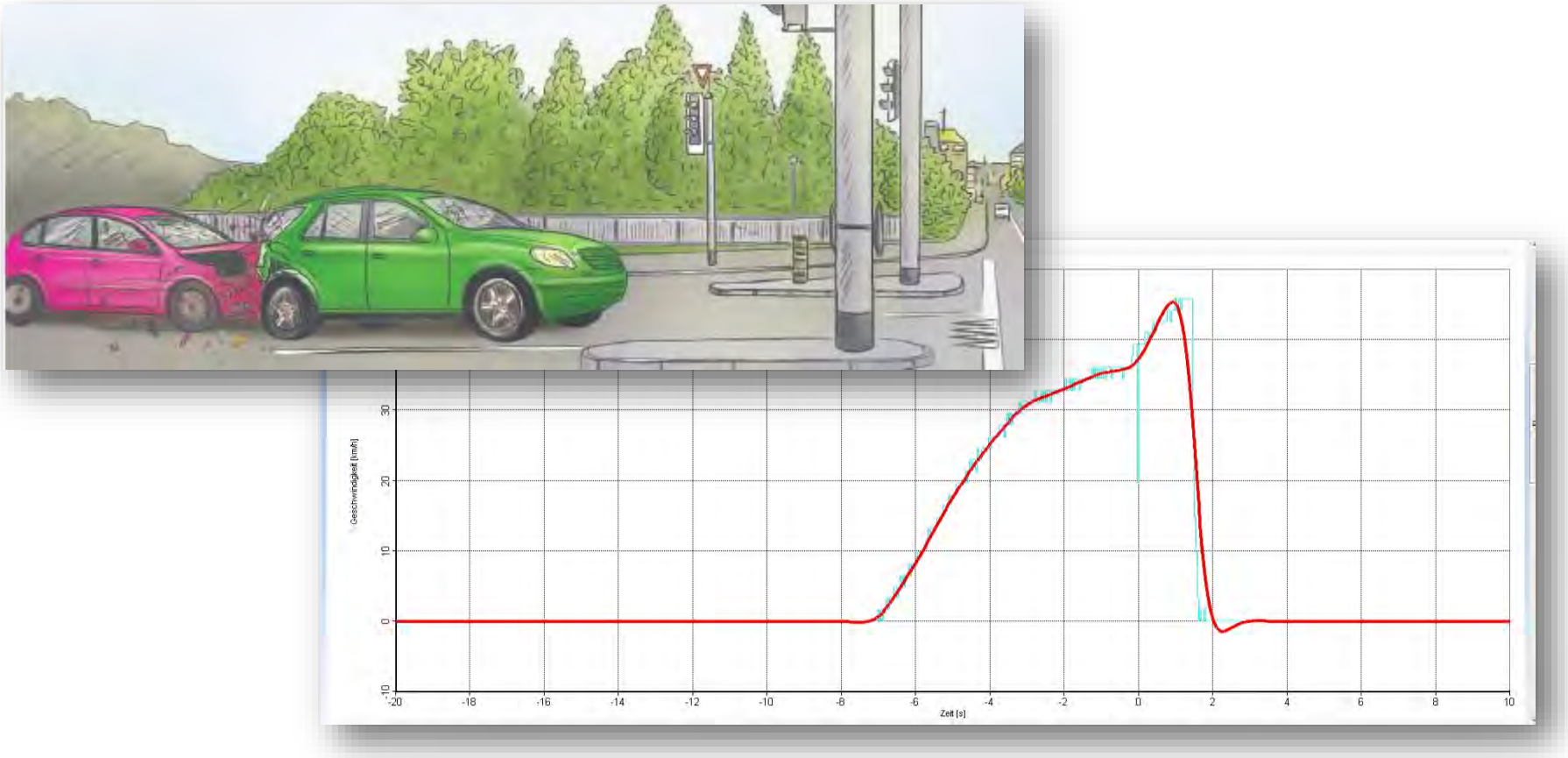
Increasing cost for own damage claims



Source: AXA Germany

Source: AXA Switzerland

Insurance will pay the claim (TPL) – but what is the accident cause



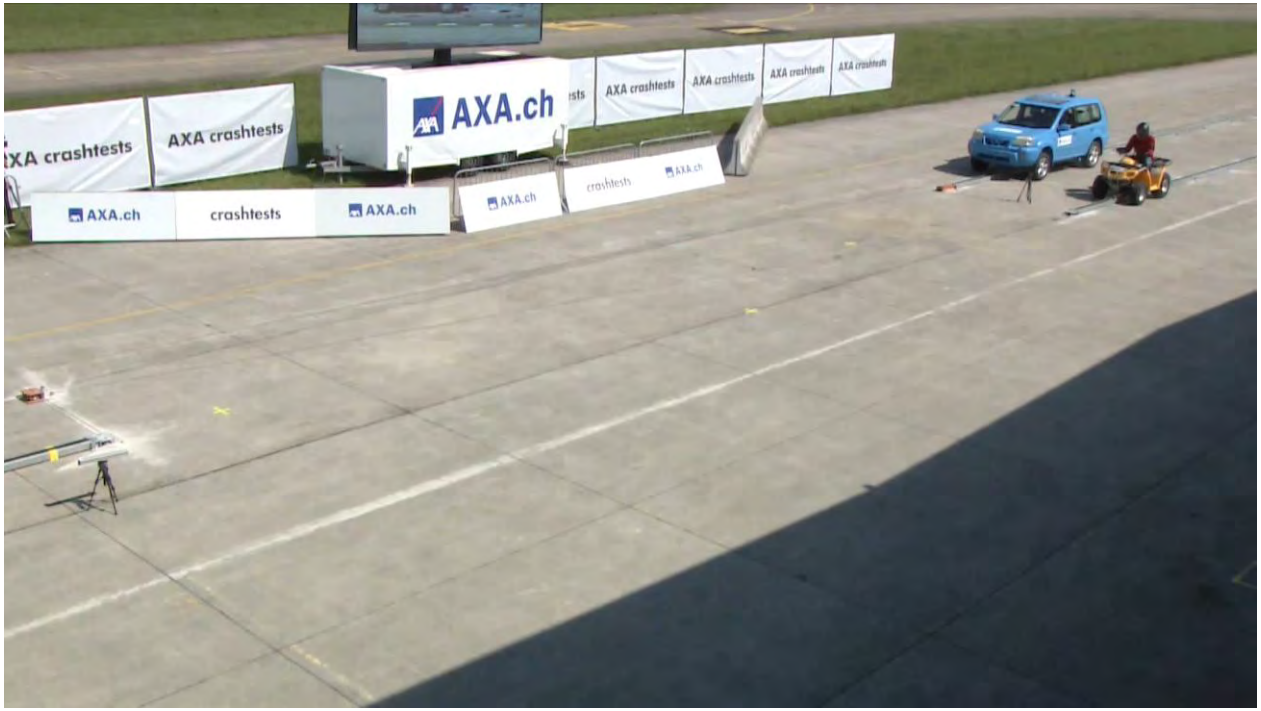
Crashtest: cyber risks

A passenger car is hacked and the vehicle's brakes are disabled. Instead of braking, the vehicle is accelerated at full engine power, causing a rear-end collision.

Key Messages:

- There are some risks that could be important in future.
- In case of an accident, **independent parties such as the police and the corresponding insurer must have access to the accident-related data** in order to be able to determine the cause of the accident unequivocally

Crashtest: a question of ethics? 2/2



Key Messages:

- People in Dübendorf would have chosen to hit the other car in order to protect the quad-driver.
- **There is no correct answer.**
- Property damage before injuries is a good basis, but what would that mean in this case?

Conclusions

Prevention and Road Safety @ AXA Switzerland

Long history of prevention measures for customers and the society.

- Crashtests, claims database and Crash Recorder data as sources for research.
- Results from crashtests and findings of our research as sources for prevention.
- Crashtests to raise awareness.
- Crash Recorder and Smart Fleet / Fleet Box to support customers in their prevention activities.

Automated vehicles and crash investigation Demands of the Accident Research & Prevention unit at AXA Winterthur

Transparency on the automatic transfer of vehicle data: The registered users of vehicles must be informed which data is being automatically recorded and transmitted for their vehicle.
Data sovereignty: Vehicle owners themselves must be able to determine the usage of their vehicle data
Accident analysis: In the event of an accident, independent parties such as the police and the corresponding insurer must have access to the accident-related data in order to be able to determine the cause of the accident unequivocally

Questions? – Comments?

AXA Switzerland
Accident Research & Prevention
Bettina Zahnd

bettina.zahnd@axa.ch
www.axa.ch
www.accidentresearch.ch
www.smartfleet.ch

Panel 1 – The broader perspective

- **Andrew Bradley,** Nestle
- **Miquel Nadal,** FIA
- **Dave Cliff,** GRSP
- **Bettina Zahnd,** AXA
- **Karl Gray,** Zurich

Facilitator: Michael Chippendale, GRSP

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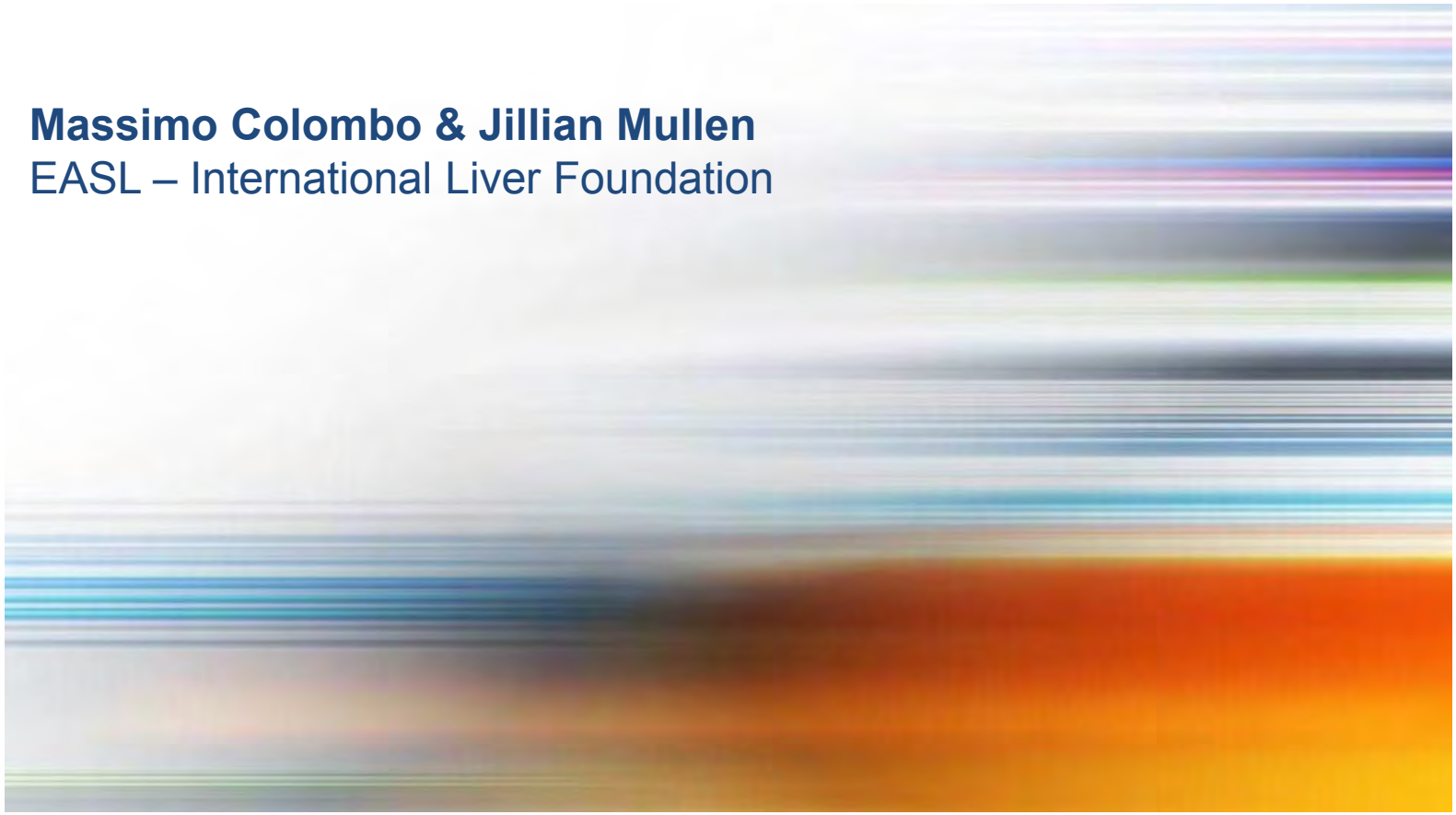
We recommence at 1110

Road safety and health enhancement

Massimo Colombo & Jillian Mullen
EASL – International Liver Foundation



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Supporting Road Safety Through a Health Enhancement Approach

Insurance for Safer Roads: 2nd Workshop

Date: **09:00 – 14:00, Tuesday, November 28, 2017**

Location: **Zurich Development Centre, Zurich, Switzerland**

Road Safety & Alcohol

- ~20% of fatally injured drivers have excess alcohol in their blood (i.e. above the legal limit)
- Low-income countries have shown alcohol to be present in between 33% and 69% of fatally injured drivers.
- **A world free of road crash death and injury cannot be achieved without effective alcohol control measures.**

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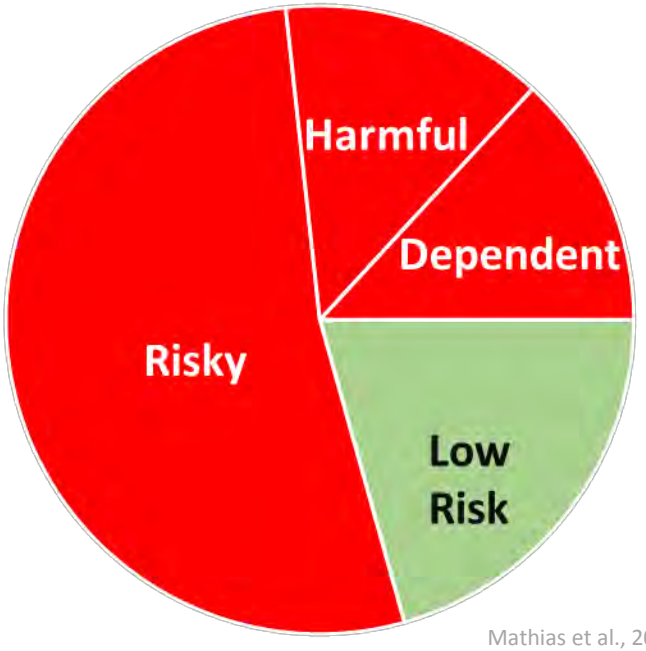
It's not just when driving

Problematic patterns of alcohol consumption are highly prevalent among individuals who drink and drive:

- Higher frequency of alcohol use
- Heavier alcohol use

Odds of recidivism increases as a function of the pattern of alcohol use. The more problematic the use, the more likely recidivism

81.3% reported alcohol use patterns beyond recommended guidelines



Mathias et al., 2017

The global burden of alcohol

- Worldwide, 3.3 million deaths every year result from harmful use of alcohol, this represents 5.9 % of all deaths.
- Overall 5.1 % of the global burden of disease and injury is attributable to alcohol, as measured in disability- adjusted life years (DALYs).
- Alcohol consumption causes death and disability relatively early in life. In the age group 20 – 39 years approximately 25 % of the total deaths are alcohol-attributable.
- There is a causal relationship between harmful use of alcohol and more than 200 health conditions, including mental and behavioural disorders, other noncommunicable conditions as well as injuries.
- Beyond health consequences, the harmful use of alcohol brings significant social and economic losses to individuals and society at large.

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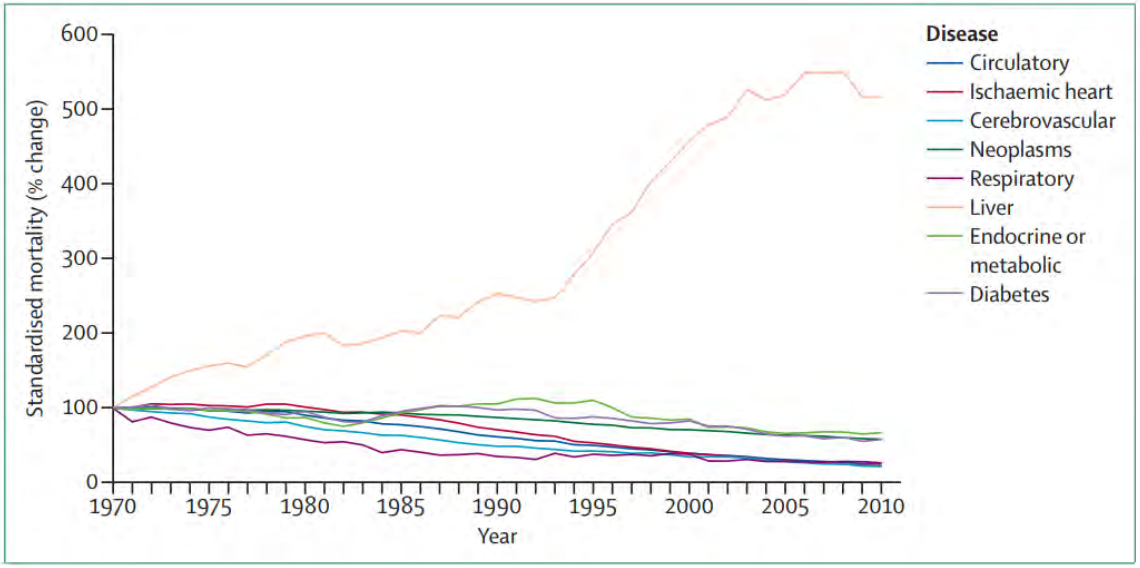
Liver disease is the only major cause of death still increasing year on year

Standardised UK mortality rate data



In the UK, More than 1 million admissions to hospital per year are the result of alcohol-related disorders.

Standardised UK mortality rate data Data were normalised to 100% in 1970, and subsequent trends plotted using the software Statistical Package for the Social Sciences. Data are from the WHO-HFA database.4 Analysed by Nick Sheron (September, 2013). Exhibit reproduced from R. William et al, the Lancet 2014)

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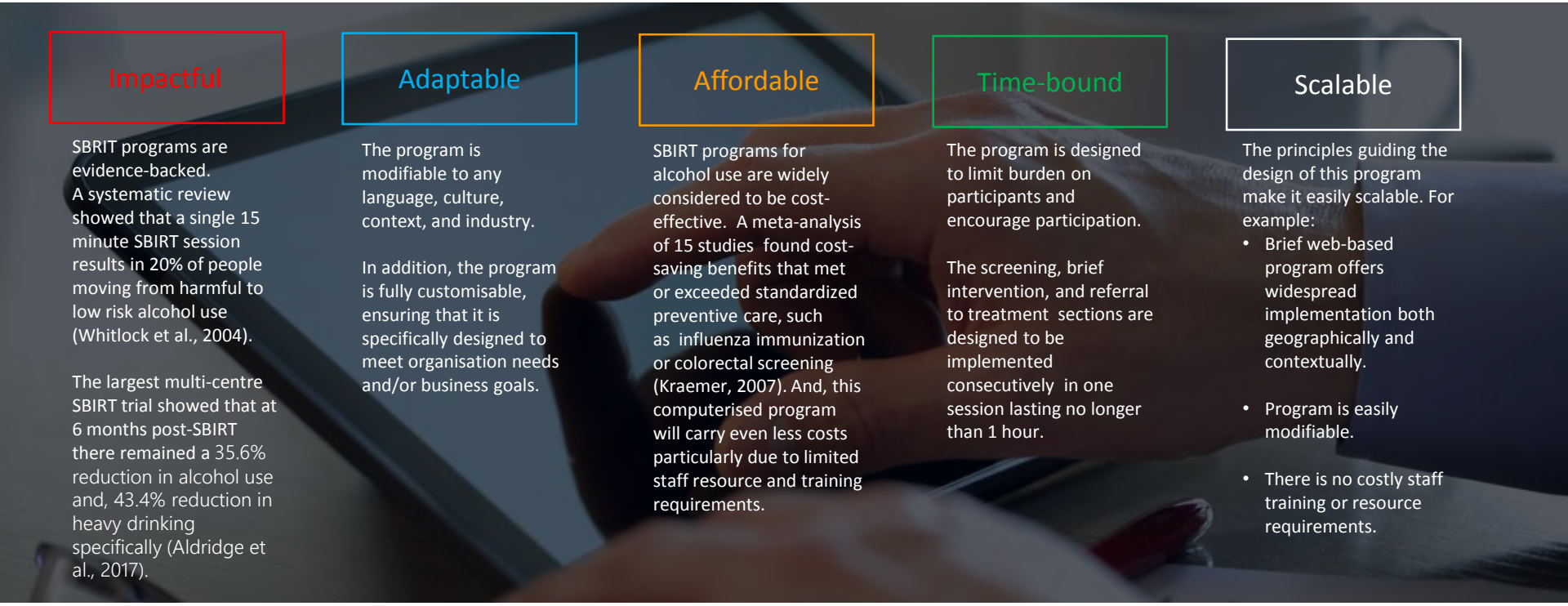

Impactful

SBRIT programs are evidence-backed.
A systematic review showed that a single 15 minute SBIRT session results in 20% of people moving from harmful to low risk alcohol use (Whitlock et al., 2004).

The largest multi-centre SBIRT trial showed that at 6 months post-SBIRT there remained a 35.6% reduction in alcohol use and, 43.4% reduction in heavy drinking specifically (Aldridge et al., 2017).

Adaptable

The program is modifiable to any language, culture, context, and industry.

In addition, the program is fully customisable, ensuring that it is specifically designed to meet organisation needs and/or business goals.

Affordable

SBIRT programs for alcohol use are widely considered to be cost-effective. A meta-analysis of 15 studies found cost-saving benefits that met or exceeded standardized preventive care, such as influenza immunization or colorectal screening (Kraemer, 2007). And, this computerised program will carry even less costs particularly due to limited staff resource and training requirements.

Time-bound

The program is designed to limit burden on participants and encourage participation.

The screening, brief intervention, and referral to treatment sections are designed to be implemented consecutively in one session lasting no longer than 1 hour.

Scalable

The principles guiding the design of this program make it easily scalable. For example:

- Brief web-based program offers widespread implementation both geographically and contextually.
- Program is easily modifiable.
- There is no costly staff training or resource requirements.

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XSBIRT

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ACTIVITIES

Step 1

Screening: A smart screening procedure assessing: health status, health risks, tobacco use, alcohol use, diet, and exercise

Step 2

Brief-intervention: A personalised intervention based on motivational interviewing techniques incorporating theory based algorithms and a synthetic speech engine to deliver custom reflections, questions, feedback, and guidance.

Step 3

Referral to Treatment: Resources and direct (voluntary) referrals dependent on participants self-reported behaviours and risk levels.

OUTPUTS

Monitoring: On going web-based tracking and support for behavioural change regarding the 4 key risk factors and factors relating to chronic health conditions.

Improved healthcare outcomes: Prevents and mitigates the harm and consequences associated with the key behavioural risk factors for poor health and improves identification and linkages to healthcare for those in need.

Strategic insight: information will support the development of strategic planning highlighting areas for possible intervention.

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Designed for universal implementation
(i.e. irrespective of potential risk level or treatment seeking status)
Designed to address the four key risk factors for poor health, associated risky behaviours (i.e. drink driving), and workplace specific factors (when relevant)
Designed to deliver a personalised intervention to each participant appropriate to individual risks and needs; acting as a prevention, intervention, and identification tool
Designed to improve linkages to healthcare by providing direct referrals for further assessment and/or treatment
Designed to assist physicians to improve the health of their patients by providing a summary for the participant to share with their doctor
Designed to aid policy development by collecting detailed data on patterns of, and harms associated with, alcohol use, smoking, physical activity, and diet
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Massimo Colombo,
MD, Professor of Medicine, Head of Traslational Liver Research, IRCCS, Humanitas, Milan, Italy, Chairman, EASL International Liver Foundation, Geneva, Switzerland

Christian Bréchot,
MD Ph.D, is retired President, Institut Pasteur, Paris, France

Tom H. Karlsen,
MD, PhD, Full Professor of Internal Medicine, Oslo University Hospital Rikshospitalet, Norway. Secretary General of EASL, Geneva, Switzerland

Jordi Bruix
is Professor of Medicine at the University of Barcelona and Director of the Barcelona Clinic Liver Cancer (BCLC) Group within the Liver Unit at the Hospital Clinic of Barcelona, Spain

Andrea Sironi
is Professor of Banking and Finance at Bocconi University in Milan. He is Chairman of Borsa Italiana SpA and, member of the Board of Directors of the London Stock Exchange Group.

Benoit Merkt
Dr. iur., Attorney at Law, MJur has been a partner of the Swiss law firm Lenz & Staehelin since 2006. He is co-head of Lenz & Staehelin competition law and non-profit/philanthropy practices.

Mark Thursz
is Professor of Hepatology at Imperial College where he is head of the Digestive Diseases Division and lead clinician for hepatology at St Mary's Hospital, London.

Frank Tacke
Frank Tacke, Professor of Medicine, MD, PhD Dept. of Gastroenterology, Metabolic Diseases and Intensive Care Medicine, University Hospital Aachen, Germany

Stefan Wiktor
Professor of Medicine and Public Health at the University of Washington in Seattle, U.S. He was the Team Lead of the World Health Organization's Global Hepatitis Programme in Geneva, Switzerland.

Jeffrey V. Lazarus
Is an affiliated professor at the WHO Collaborating Centre on HIV and Viral Hepatitis at Rigshospitalet, the University of Copenhagen and as an associated researcher at the Barcelona Institute of Global Health (ISGlobal), Hospital Clínic, University of Barcelona.

Heiner Wedemeyer
a Professor at the Department of Gastroenterology, Hepatology and Endocrinology, Hannover Medical School, Germany. He leads a research group on cellular immunology and clinical virology of viral hepatitis.

The Liver of Piacenza, private collection, Massimo Colombo

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Zurich Australia case study

Louise Kerrigan
Casualty and Motor Team Leader, Zurich

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Zurich Australia

28th November 2017

Louise Kerrigan

Risk Engineering – Motor Fleet

Prince Michael International Road Safety Awards

Zurich Fleet Assessment

- Established globally consistent standards for Grading.
- Completed as Truck or Sedan/LCV
- Provides Benchmarking data
- If required, Risk Improvement Advice
- Graded as:
  - Poor
  - Fair
  - Good
  - Excellent
- Global Risk Engineering Technical Centre

GLOBAL ROAD SAFETY PARTNERSHIP

Truck Risk Categories

- There are 7 Risk Categories:
  - Driver Selection
  - Driver Development
  - Driver Supervision
  - Journey/Operations
  - Incident Management
  - Vehicle
  - Management

- Within each risk category there are risk features

- Each risk feature has it's own weighting that contributes to the overall score

Number	Weighting	Risk Factors	Page
		I Driver Selection	
1	M	Driver Profile	5
2	VH	Driver Selection & Qualification	6
		II Driver Development	
3	VH	Driver Assessment & Training	7
4	M	Driver Maturity & Health Management	8
		III Driver Supervision	
5	H	Driver Contact	9
6	M	Route Planning	10
7	H	Driver Work Conditions & Turnover	12
8	M	Mobile Phones / Distractions	13
		IV Journey / Operations	
9	M	Area of Operation	14
10	L	Road & Weather Conditions	15
11	M	Commodities / Loads	16
12	VH	Operational Fatigue Exposures	17
13	L	Concentration of Values	13
14	M	Vicarious Liability	19
15	H	Split Operations Adjustment	20
		V Incident Management	
16	H	Loss History	21
17	H	Incident Reporting & Investigation	22
18	H	Fleet Performance Management	23
		VI Vehicle	
19	M	Vehicle Maintenance & Inspections	24
20	L	Safety Features for Heavy Vehicles	26
21	M	Vehicle Security in Transit	27
22	L	Vehicle Age & Specification	29
		VII Management	
23	L	Site Risks – Fire & Security	30
24	H	Safety Management & Quality Assurance	31
25	H	Fleet Risk Management Policies & Procedures	33
26	H	Fatigue Risk Management	34
27	M	Drug & Alcohol Policy and Controls	36

- Mervyn Rea – Head of Risk Engineering, Australia &NZ
- Peter Johansson – Senior Risk Engineer
- Lori Mooren, PhD – University of NSW

"Comparison of experience-based and evidence-based safety risk management features for heavy vehicle transport operations"

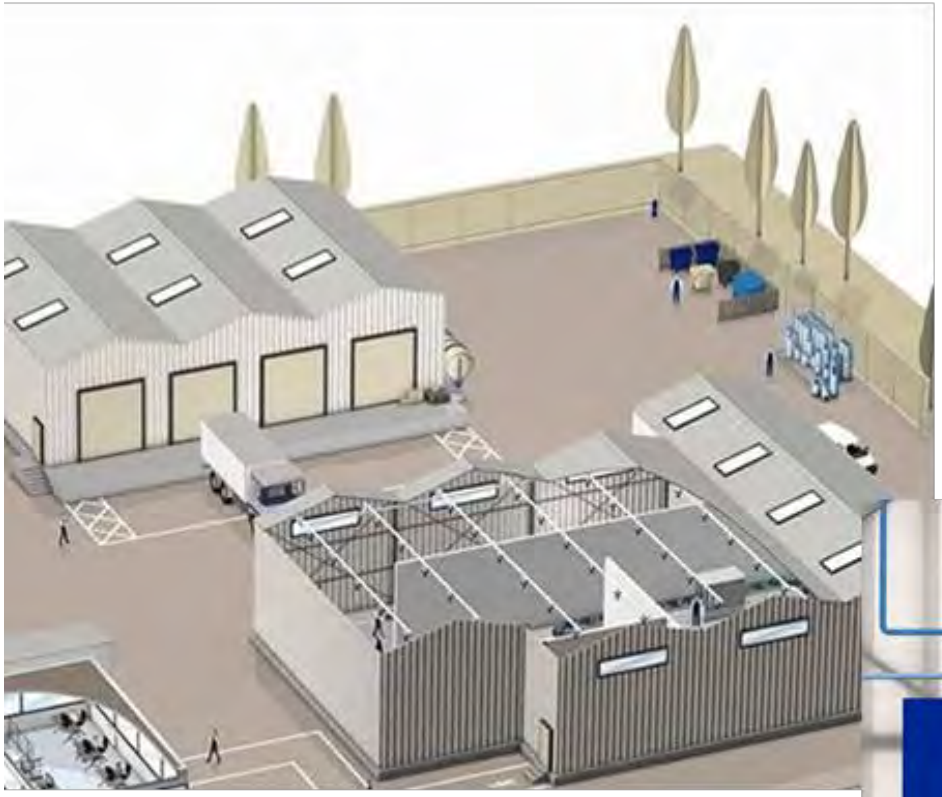
Topic	ZRE grading factors	Evidence-based management practices
Fleet	Safety features in vehicles have been determined through a risk assessment process.	All appropriate safety equipment, including safety features on trucks, is provided
	Maintenance program is proactive. A policy exists that requires all drivers to carry out regular (daily) vehicle inspection/check.	Maintenance and pre-trip vehicle checks ensure that trucks are in a safe condition for all trips
Journey risk assessment	Ensure that medium, long and infrequent trips are suitably planned. Regular route assessment.	Route risk assessments are done for all delivery journeys
Site risk assessment	Ensure that assigned parking areas are not in proximity to storage or manufacture of dangerous and/or combustible materials.	Site and job risk assessments are regularly carried out
Fatigue Monitoring	Fatigue monitoring systems are established and applied consistently across all operations of the organisation.	Monitor fatigue management practices
Response to safety concerns	The Fleet Risk Manager is 'actively' responsible for improving the loss performance of the fleet.	All managers respond quickly to safety concerns raised by drivers
Recruitment/ employment	No more than one (1) on-road crash in the past three years. Pre-employment aptitude/behavioural driver assessment	Recruitment criteria focus on safe driving records
	Frequent proactive measures such as medical checks, eye exams and training is essential to control losses from a maturing workforce.	Driver fitness is assessed to ensure drivers' abilities to safely carry out all job duties
Pay/conditions	Pay and benefits package are above regional/national averages to attract top performers.	Drivers are paid for all hours worked regardless of the task or activity
Training	Ensure all new drivers undergo mentoring / buddy system training, if not formal on-road training, for the first weeks of employment.	Training for drivers is based on individual tuition by experienced safe drivers
Discipline	Ensure that an incident investigation form is established to facilitate investigations.	Identified unsafe behaviours are formally investigated
Incentives	Pay and benefits package are above regional/national averages. (No additional safety incentives are included.)	Drivers are given incentives, including monetary incentives, clearly linked to work safety efforts
Communication	Procedures to incorporate driver in the management process including daily planning.	Managers encourage driver input to WHS decision-making
	Create measureable key performance indicators	Managers take responsibility and show leadership in making safety a clear priority

Award Winning

"Comparison of experience-based and evidence-based safety risk management features for heavy vehicle transport operations"

Zurich Risk Advisor - www.zurich.com/zra

Giving you powerful insights across your risk landscape



- Carry out on-site self-risk assessments, using Zurich's tried-and-tested risk grading methodology.
- Prioritize risk improvement actions by seeing their impact on your risk grading
- View your assessment results on the My Zurich customer portal

- Share your self risk assessment reports with key risk stakeholders by email
- Access recommended practices and risk insights and industry benchmarks

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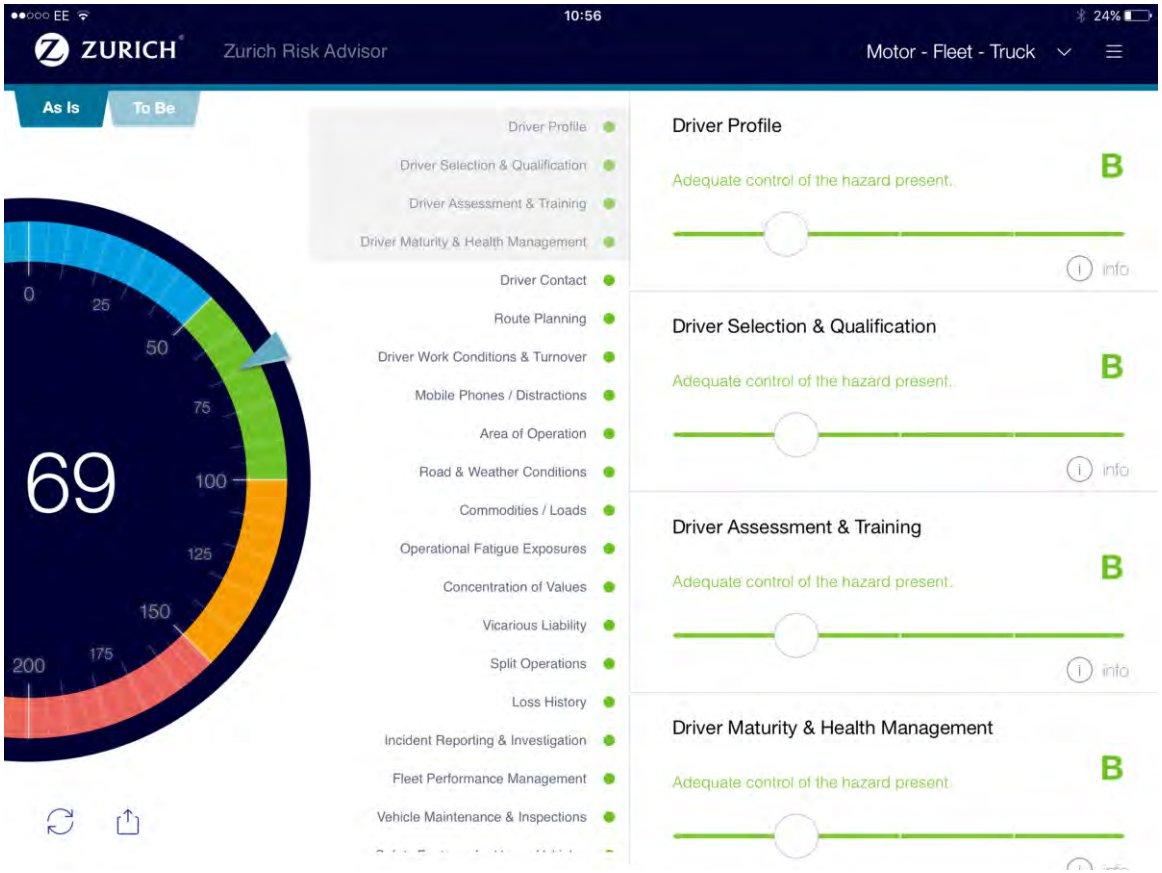
Motor Fleet Truck and Sedan

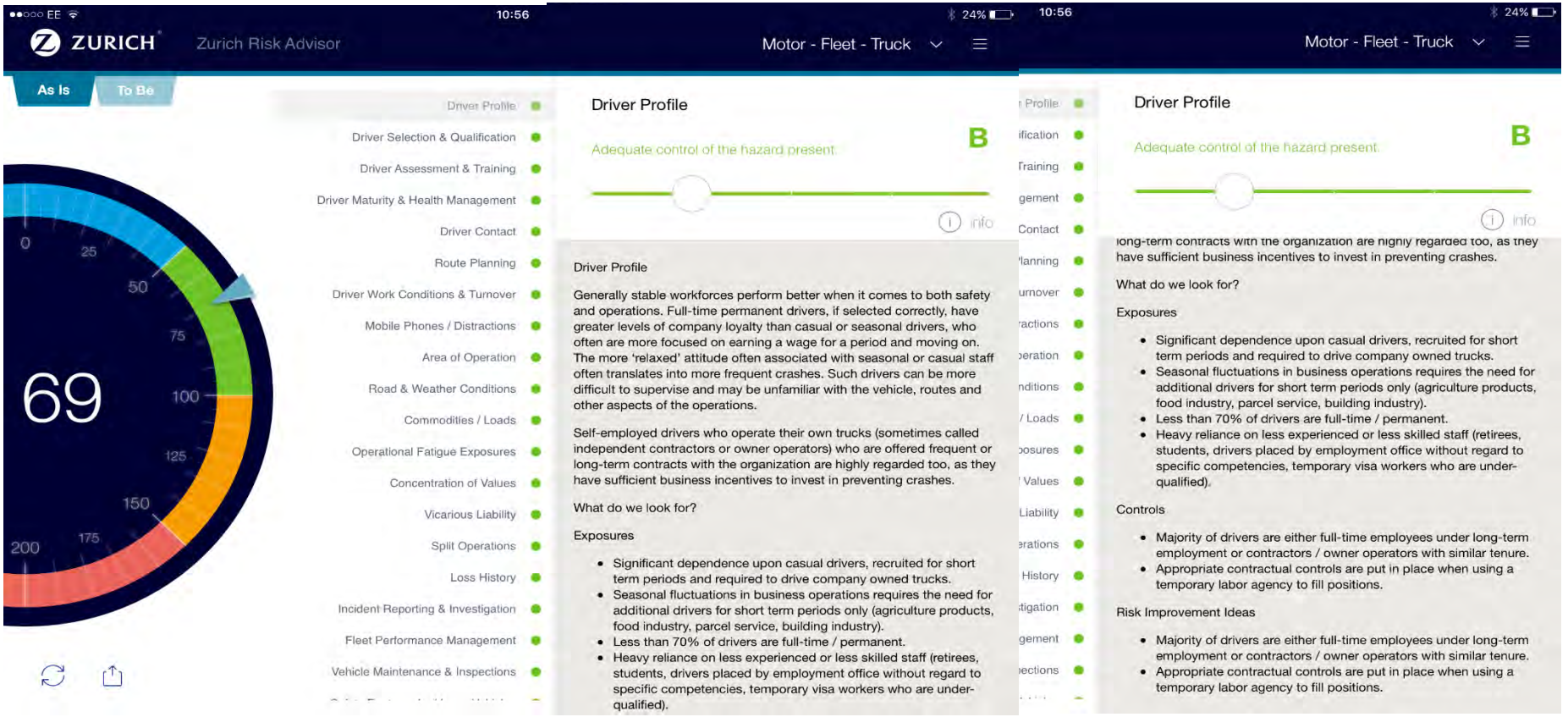


By signing into the application, the customer can:

- Set up locations
- Assess each location according to the appropriate Grading
- Assess what the Grading could be if lagging Risk Factors are addressed

Zurich Risk Advisor - www.zurich.com/zra

Motor Fleet Truck and Sedan



For Truck, customers can access Risk Features that tell them:

- Background, general information about each Risk Factor.
- By what criteria each Risk Factor should be assessed.
- What improvements are commonly associated with each Risk Factor

Clarity in defining autonomous vehicles

Dave Baldwin
Head of Insight, Thatcham Research

Thatcham Research
Safer cars, fewer crashes

Clarifying the Definition of Automated Vehicles

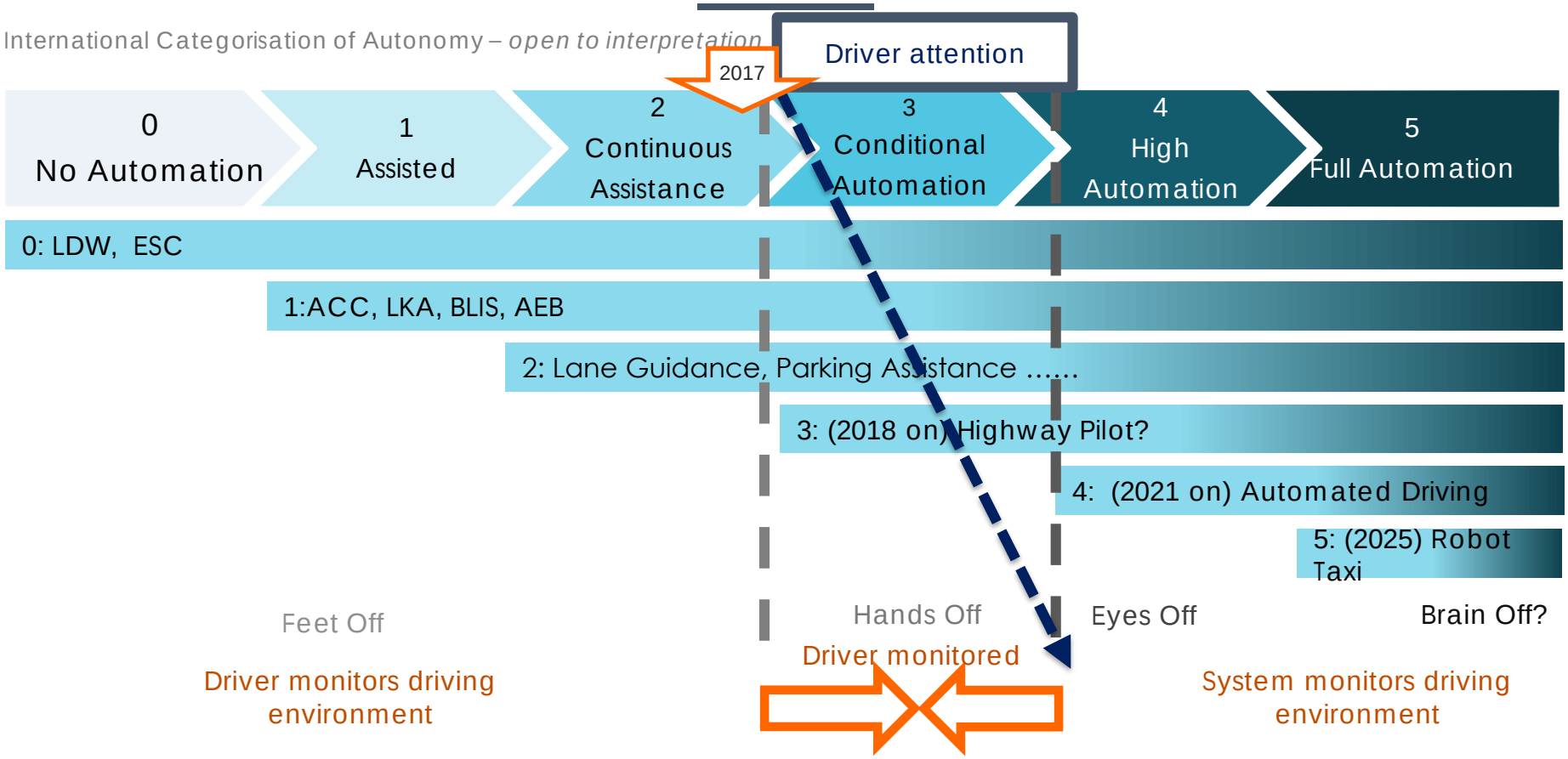
The Challenge of Level 3

Dave Baldwin
Head of Insight
Thatcham Research

Thatcham Research
Safer cars, fewer crashes

The Autonomous Car

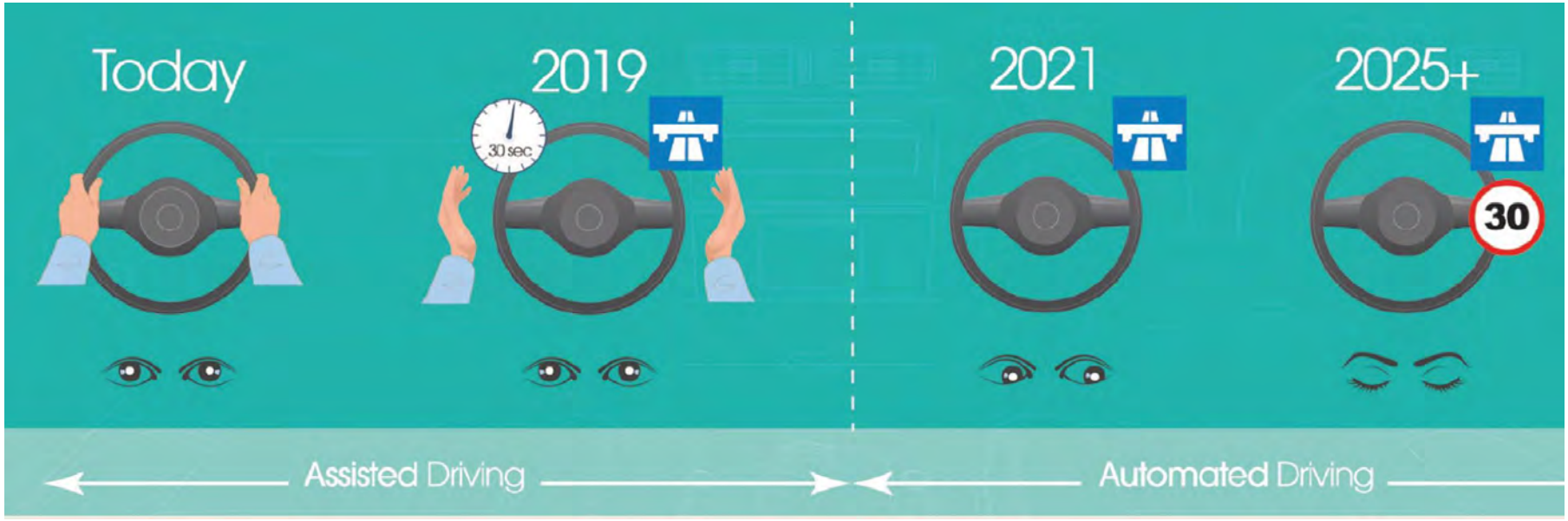
SAE Definitions and Timeline



Thatcham Research
Safer cars, fewer crashes

Our journey to automation

The UK Insurer View on Automation – Keep it Simple

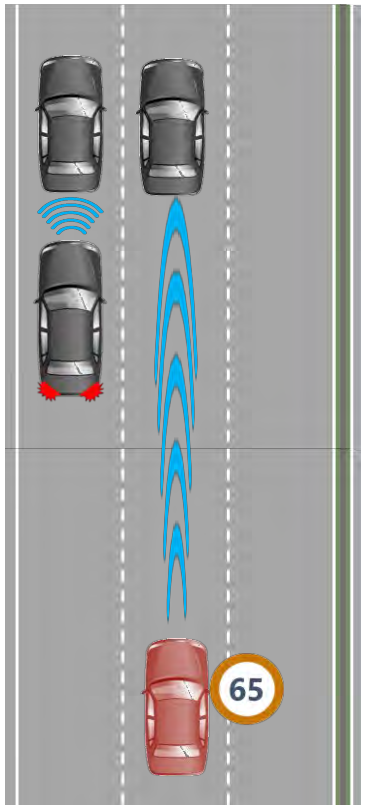


Thatcham Research
Safer cars, fewer crashes

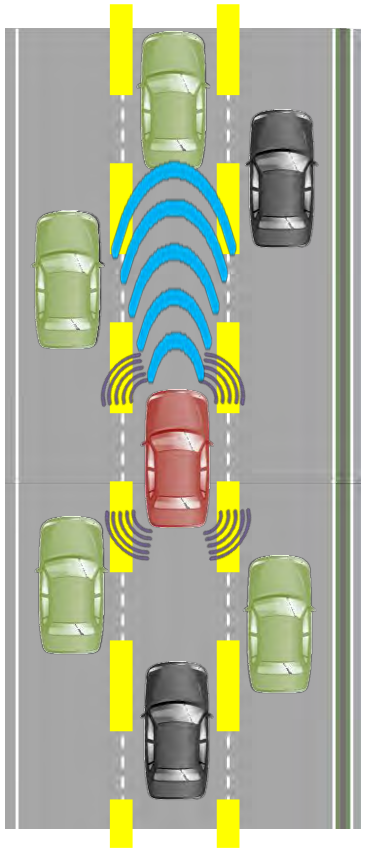
Continuous Assistance

AEB
Autonomous
Emergency
Braking

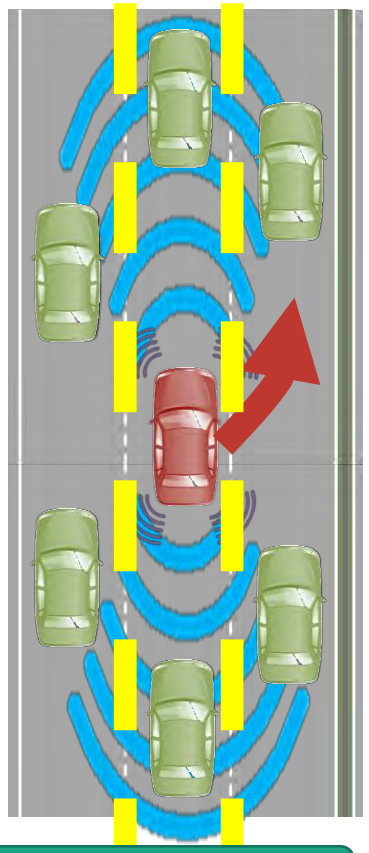
ACC
Adaptive
Cruise
Control



LDW,
Lane
Departure
Warning
LKA
Lane Keep
Assistance



LCA
Lane Change
Assist



Continuous Assistance = Adaptive Cruise Control + Lane Keeping + Lane Change

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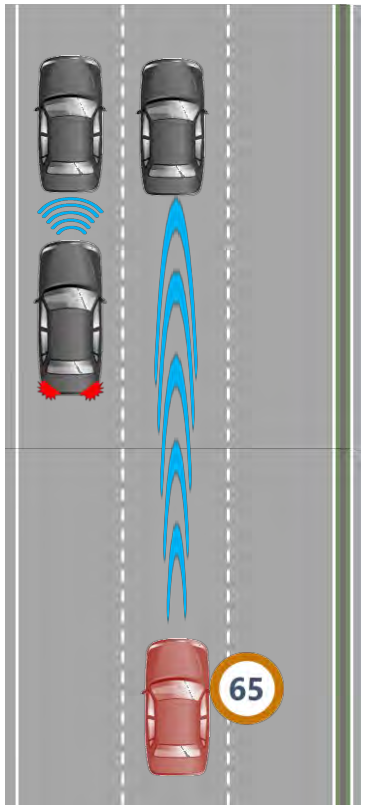
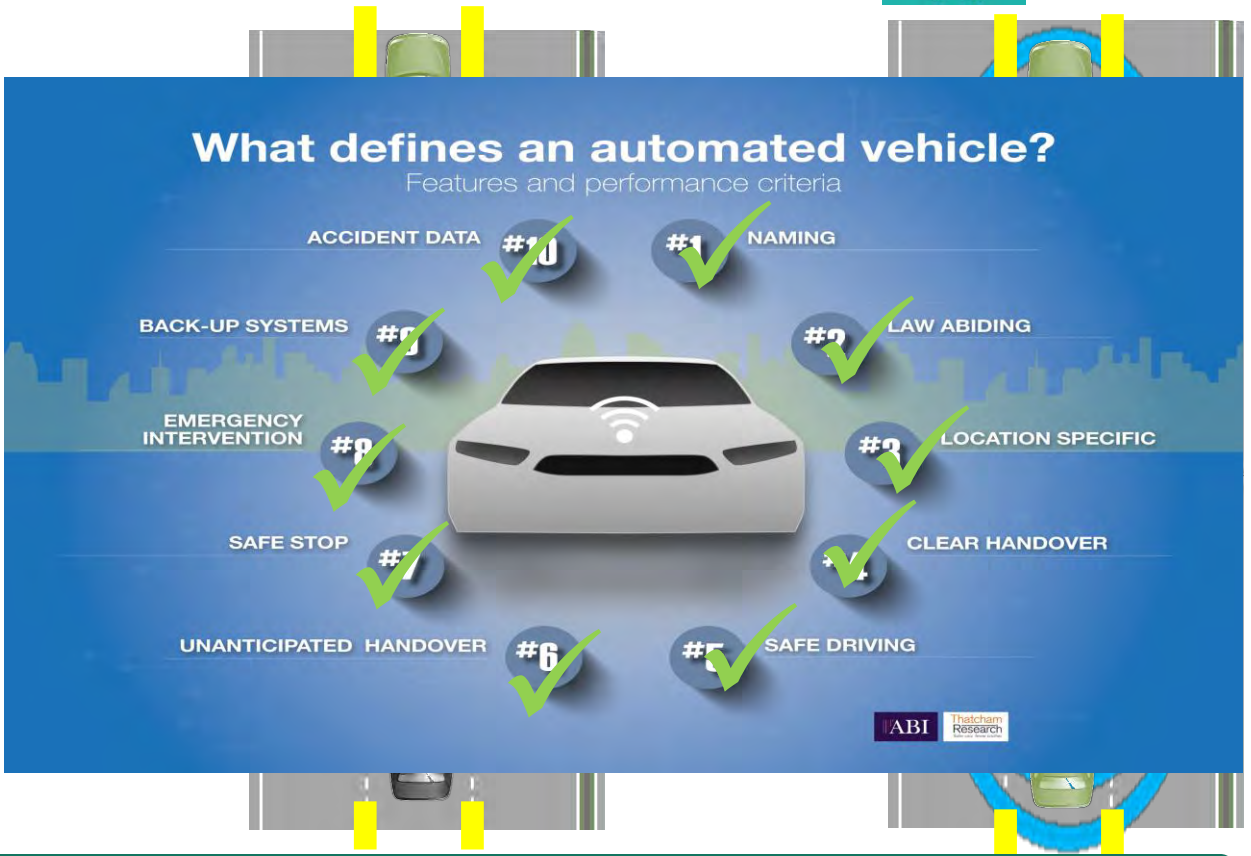
Safer cars, fewer crashes

Automated Driving

AEB
Autonomous
Emergency
Braking

ACC
Adaptive
Cruise
Control





Automation = Adaptive Cruise Control + Lane Keeping + Lane Change + Meets Criteria

Thatcham Research
Safer cars, fewer crashes

Automation Today

Vehicles with Continuous Assistance Today

"Drive Pilot"- Mercedes

"Pilot Assist" - Volvo

"ProPilot 1"- Nissan

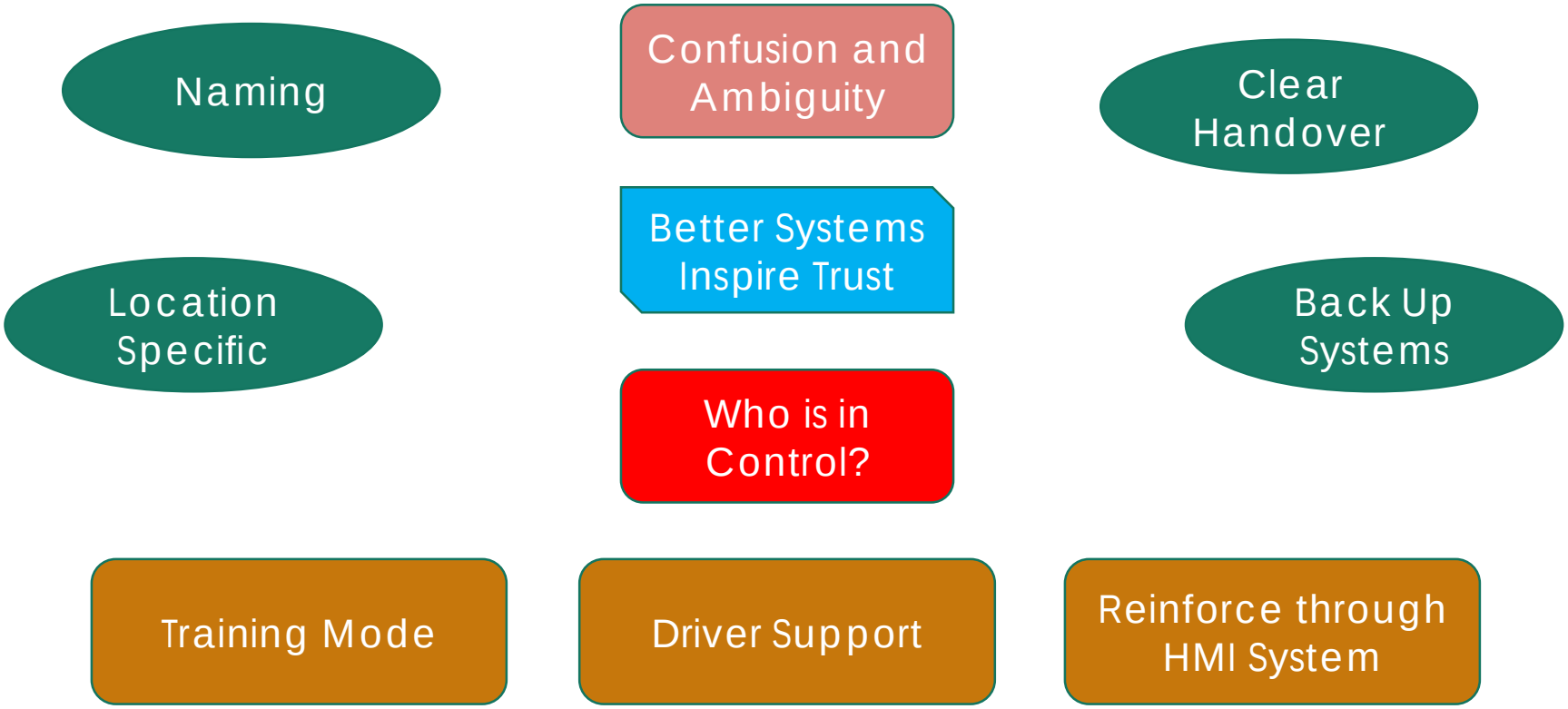
"Auto Pilot" - Tesla

Up to 30s hands free with automated lane change – driver initiated

- Continuous steering assistance not currently permitted under UN Type Approval – ECE R79
- Vehicle manufacturers currently obtaining *local* type approval through Article 20 ahead of regulation – (EC Commission)

Thatcham Research
Safer cars, fewer crashes

The Human Factor



Thatcham Research
Safer cars, fewer crashes

Automated Driving

Insurer Requirements

- Automated vehicles introduce new liabilities to insurers
  - liability when car is driving
  - driver is a passenger
- Emphasis on the safety of the automation – from design to operation
- Data imperatives :
  - Clear on what can be/is automated – dynamic list as capabilities change
  - Access to data to identify who was driving at the time of the accident – vehicle or driver

Thatcham Research
Safer cars, fewer crashes

Limited data to determine liability

To be built in to Regulations

- GPS-event time stamp
- GPS-event location
- Automated Status – on or off
- Automated Mode - Parking or Driving
- Automated Transition time stamp
- Record of Driver Intervention of steering or braking, throttle or indicator
- Time since last driver interaction
- Driver Seat Occupancy
- Driver Belt Latch

Thatcham Research
Safer cars, fewer crashes

What Next?

Action to Ensure Safe Automation and Assistance

Regulation

- Active engagement: UK, Geneva and Worldwide
- Regulating Automated Driving – The UK Insurer View – www.abi.org.uk
- Light touch approach internationally
  - **Don't stifle innovation**
  - Respond quickly

Consumer Education

- Know what you are driving
- Systems Information and Support
- Relevant to both Automated and Assisted
- Currently with Vehicle Manufacturers and Dealers
  - Needs to be supported by other bodies

Engagement

- Vehicle Manufacturers, Regulators and Insurers need to have common understanding and agreement on :
  - System capabilities and limitations
  - Safe Automation
  - Data
  - Liability

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Safer cars, fewer crashes

Take Aways

Vehicle automation will ultimately improve road safety

Humans interacting with new technology potentially introduces new risks

Common agreement on Automated Definition is needed

Common access to incident data necessary to establish who was driving

Consumer understanding is poor and needs attention

There will be a mixed fleet for decades after the first automated car

Insurers need to be confident that they know the risk they are accepting

Getting the right regulation in place will be key – but technology moves faster

Thatcham Research
Safer cars, fewer crashes

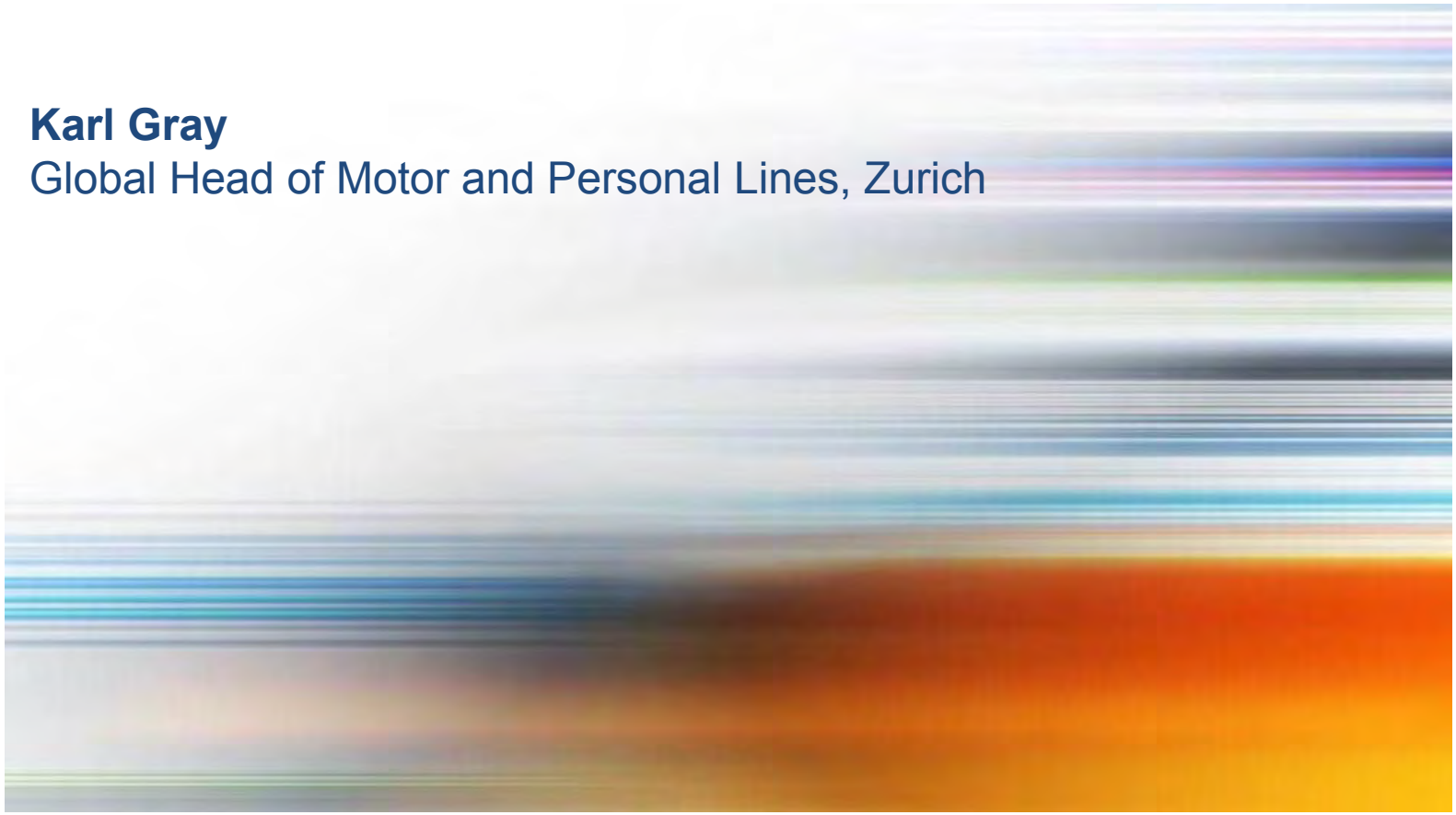
Clarifying the Definition of Automated Vehicles

The Challenge of Level 3

Dave Baldwin
Head of Insight
Thatcham Research

Autonomous vehicles – impact on crash rates

Karl Gray
Global Head of Motor and Personal Lines, Zurich



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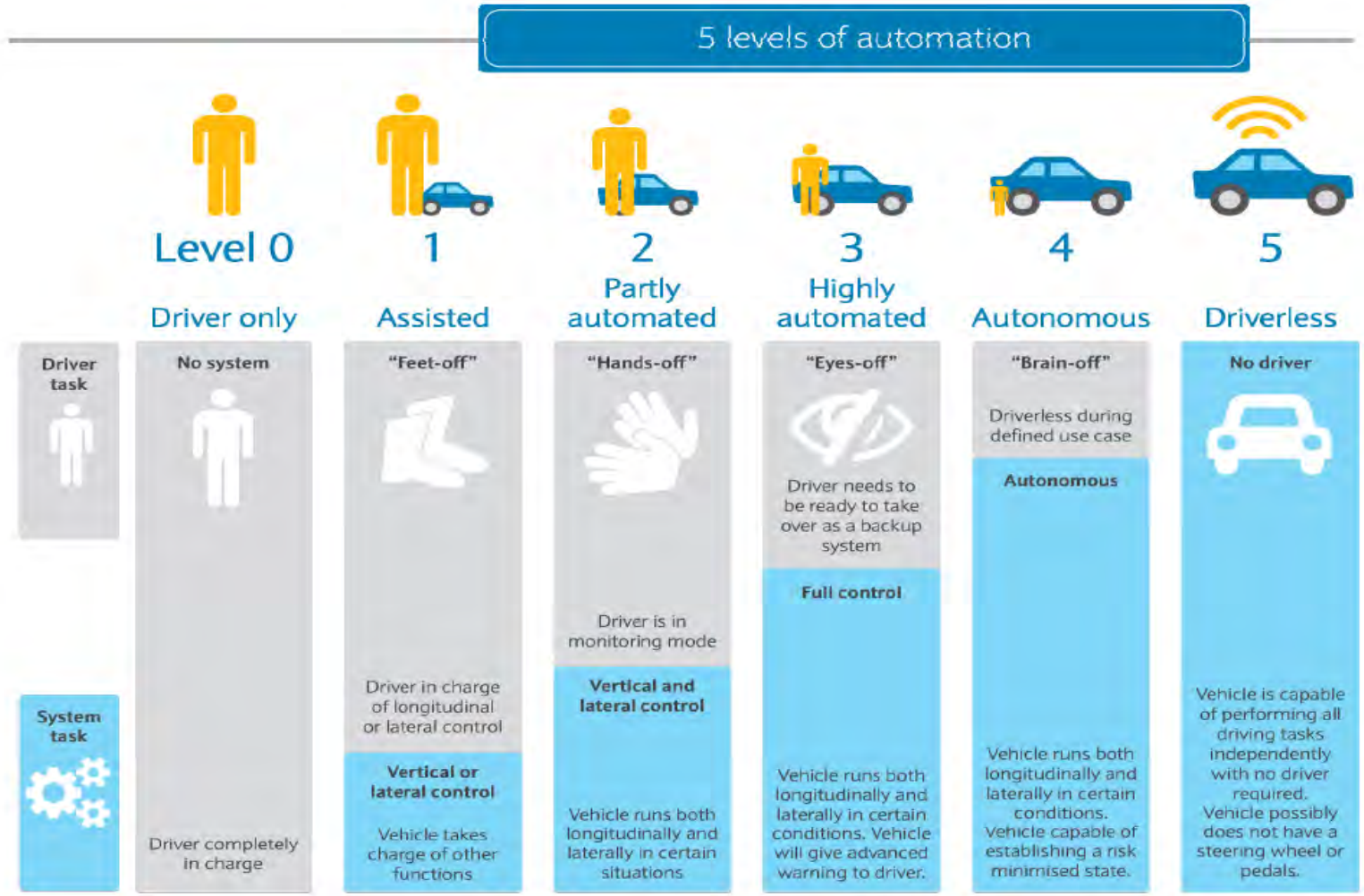
Understanding the Impact of Autonomous Driving on Insurance

21st September 2017

Karl Gray – Group Head of Motor

Group Underwriting

5 Levels of Automation



Source: Barclays Research

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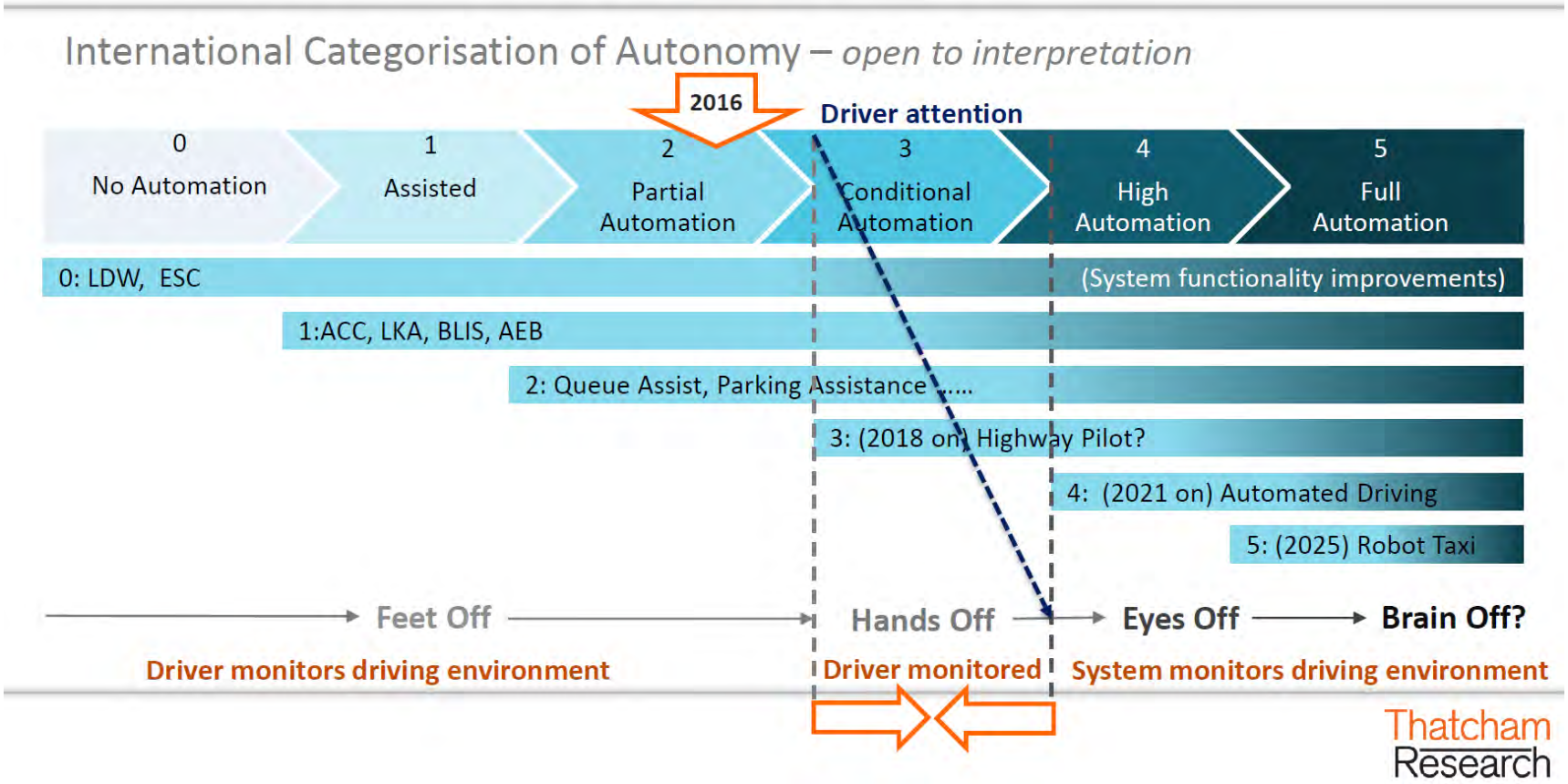
The Autonomous Car Time Line



Reduction of Vehicles Per Household

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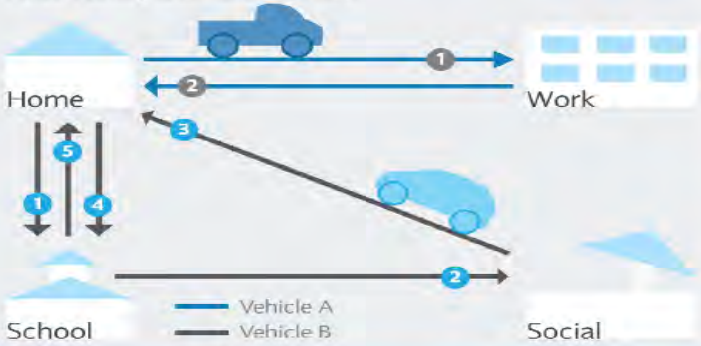
Traditional Vehicles

- limited self-driving capabilities
- work or personal use
  work: pickups, large SUVs, commercial vans
  personal: cars/CUVs, performance

Flow: Family with two vehicles

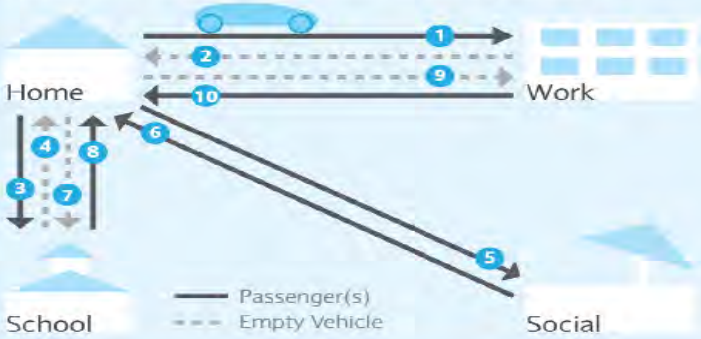


Family Autonomous Vehicles (FAVs)

Vehicles/household
2.1
0.7 vehicles

Annual miles/vehicle
10,000
23,529 miles

Flow: one vehicle shared by multiple family members



Shared Autonomous Vehicles (SAVs)

7:1
traditional vehicles displaced per SAV

12%
additional VMT due to empty trips

Annual miles/vehicle
10,000
64,000 miles

Sedan
€0.26
mile ride cost to consumers per SAV

Two seater
€0.17
mile ride cost to consumers per SAV

Pooled Shared Autonomous Vehicles (PSAVs)

17:1
traditional vehicles displaced per PSAV

50%+
reduced VMT due to shared rides

Annual miles/vehicle
10,000
64,000 miles

Sedan
€0.10
per mile ride cost to consumers per PSAV

Two seater
€0.08
per mile ride cost to consumers per PSAV

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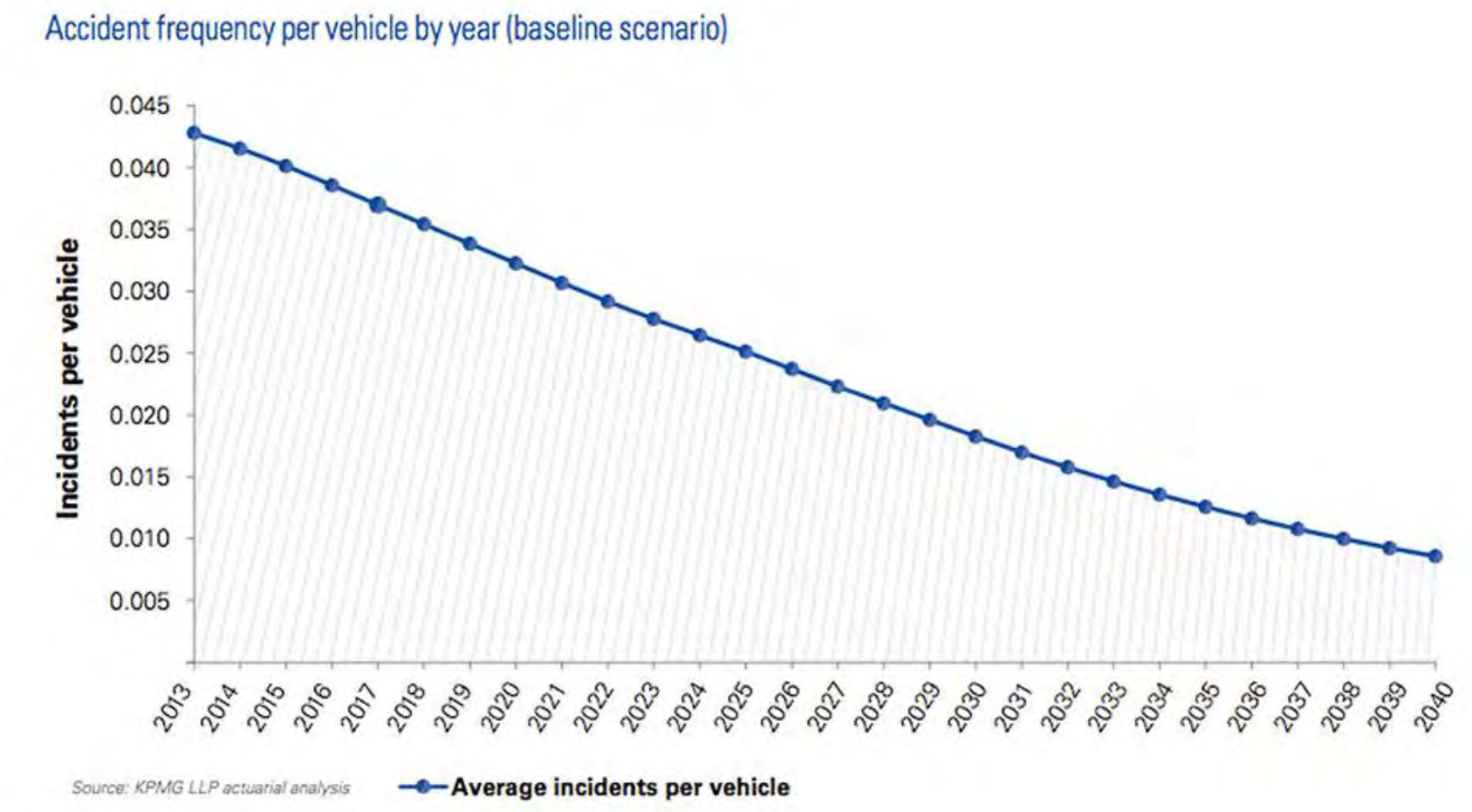
Automation - Impact on Frequency



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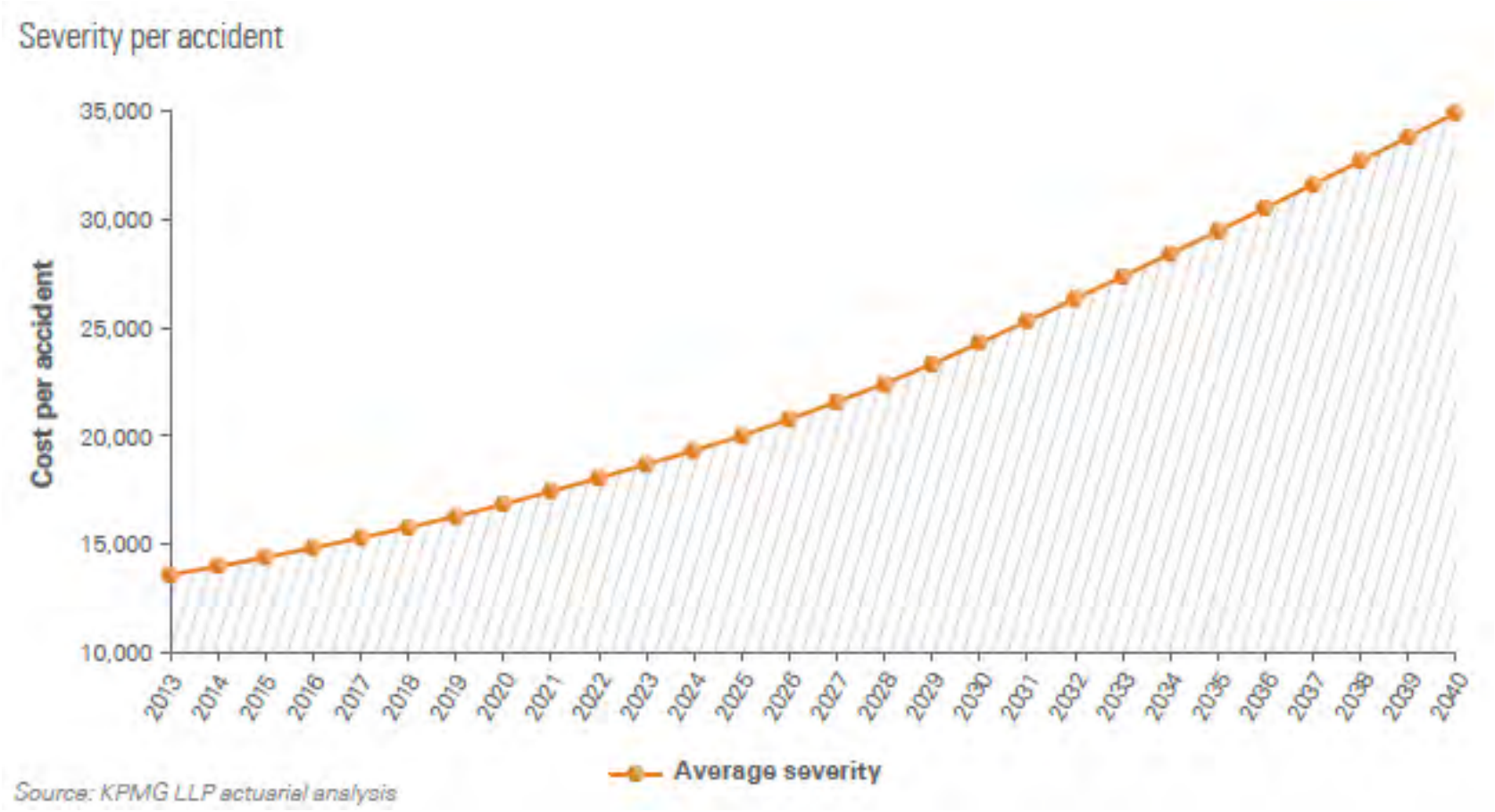
Automation - Impact on Severity



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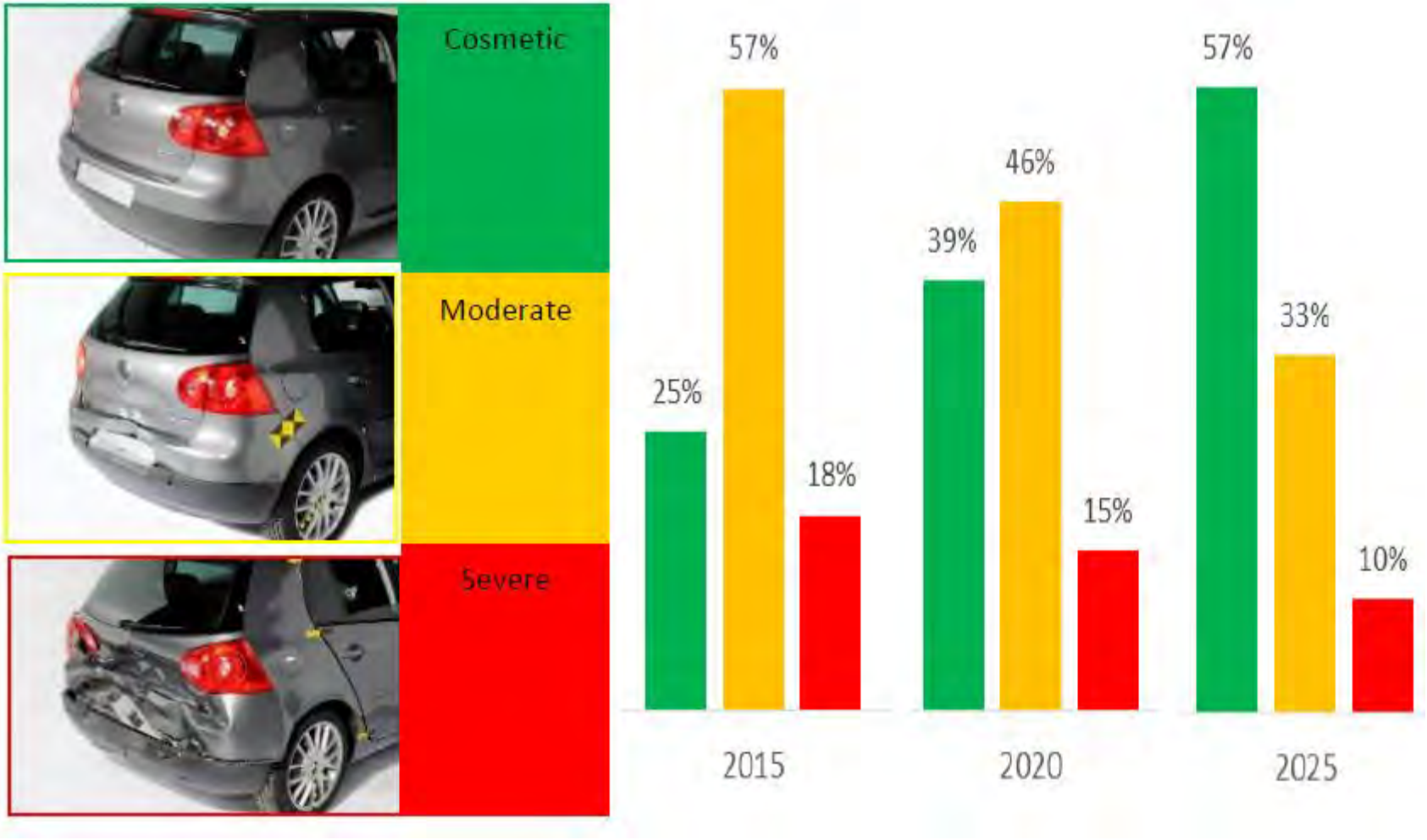
Automation - Impact on Type of Claim



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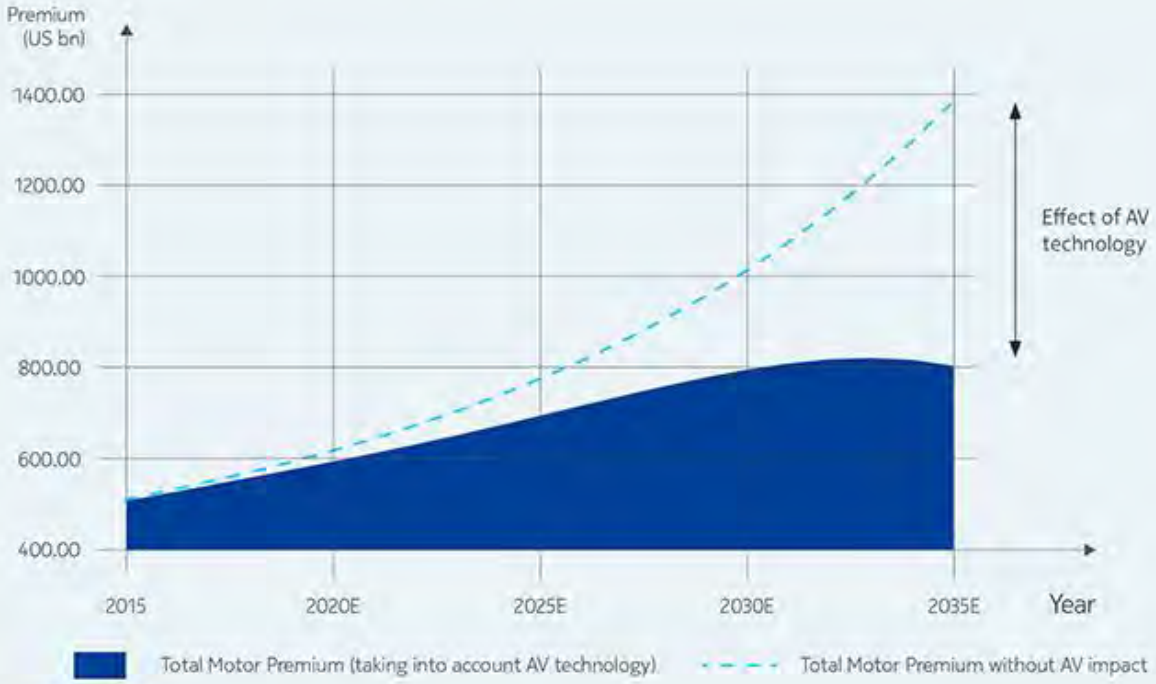
Automation - Impact on Motor Premiums

Figure 3
Forecast of motor insurance premium, taking into account impact of technology (not taking into account inflation and assuming 100% ADAS adoption rate)



14 largest motor markets: Brazil, Canada, China, Egypt, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, UK, US

Source: Swiss Re, 2015

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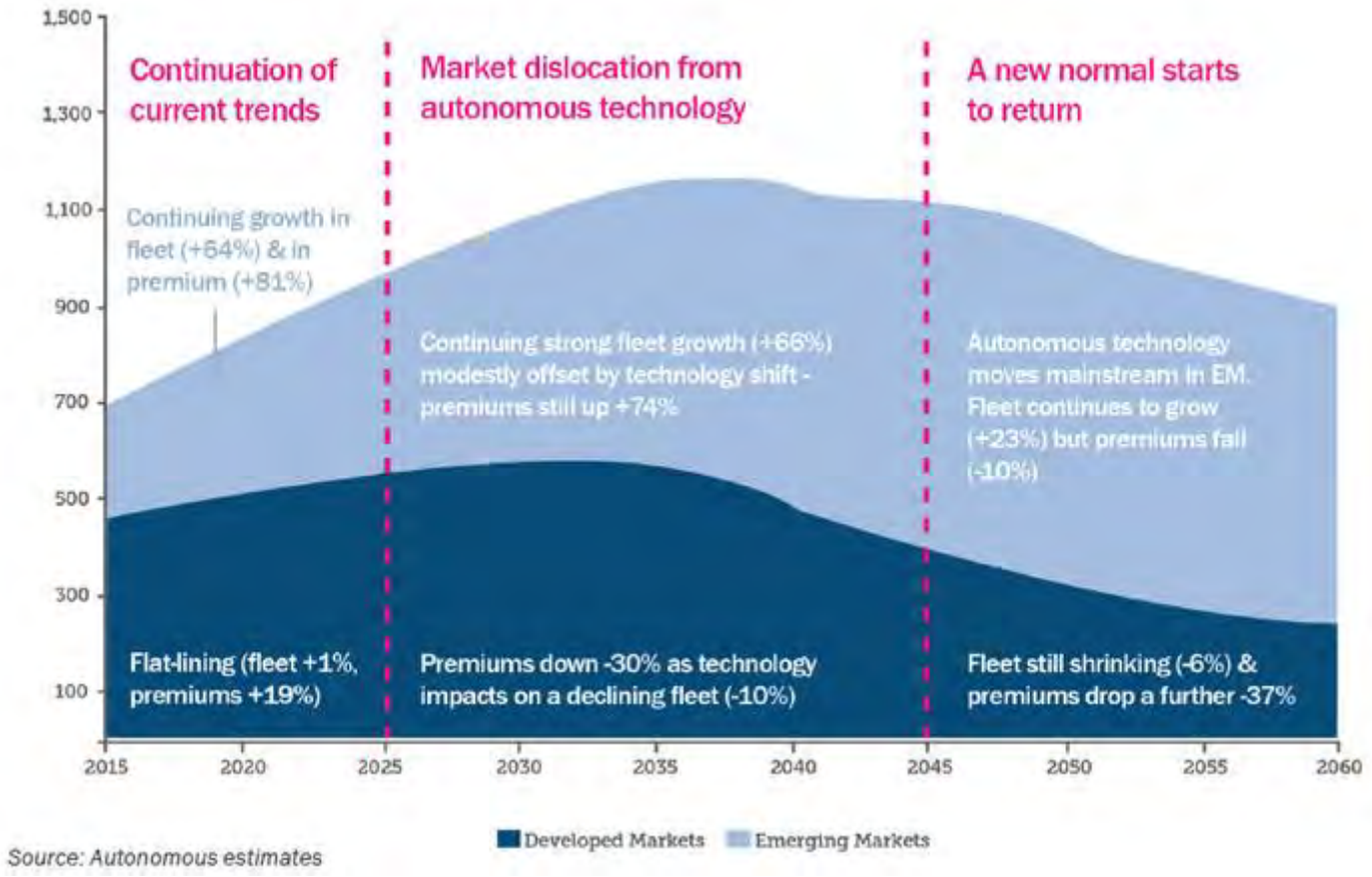
Impact on Premium – Emerging V Developed



Source: Autonomous estimates

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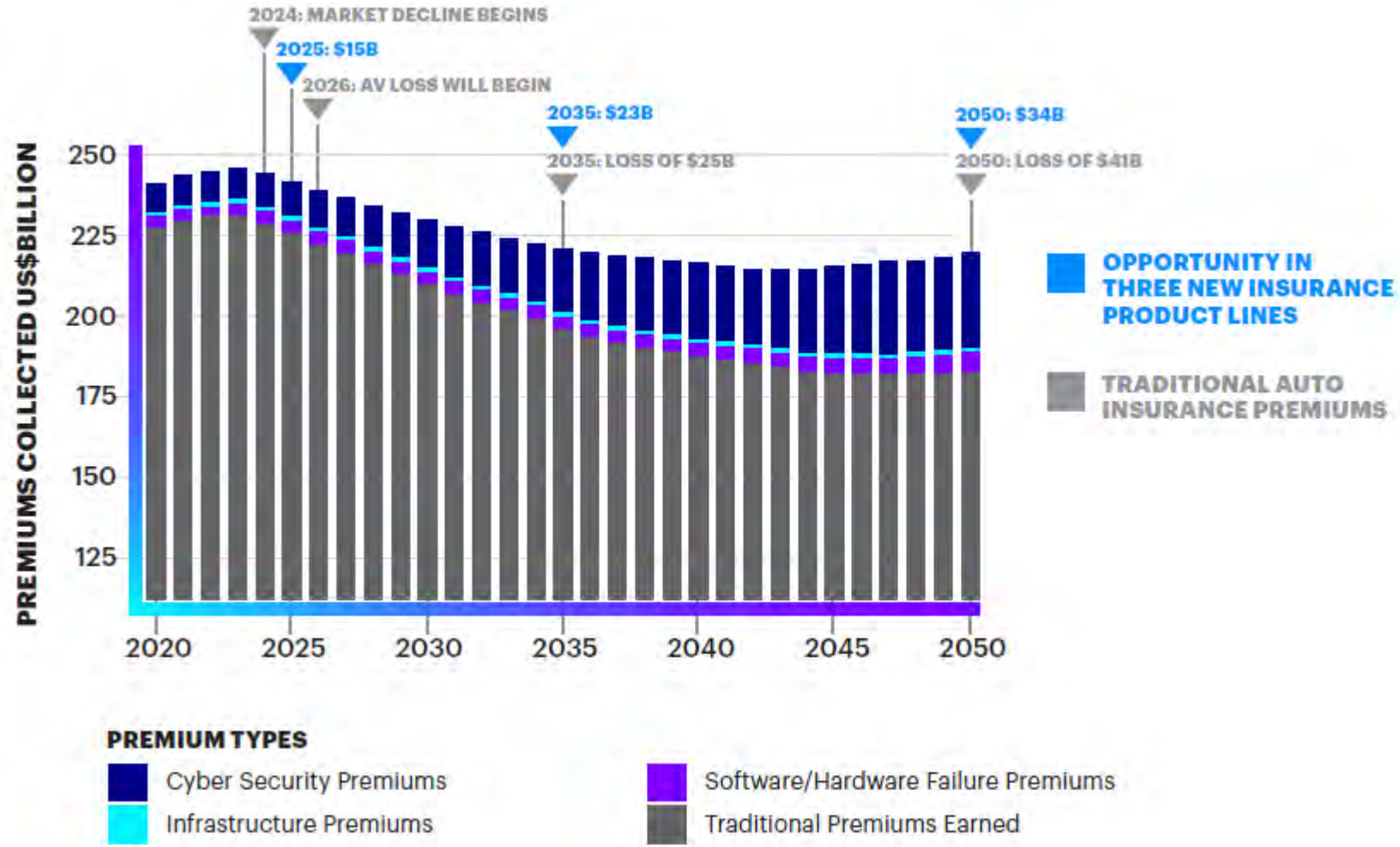
Automation – Chaos Creates Opportunity



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From Motor Liability to Product Liability?

The existing legal framework for statuary motor liability has the potential to deal with SDVs and ADAS. It is likely that the legal system and claims process will initially still hold the 'owner' of the vehicle responsible, as the law currently indicates.

When the owner of the vehicle is considered liable for damage or injury in the 'first instance', the injured party can be compensated promptly while the party ultimately responsible is pursued for the damage via subrogation.

Many national legal frameworks are taking a similar view. The UK government announced such an approach in the Vehicle Technology and Aviation Bill (HC Bill 143)

Understanding the Impact of Autonomous Driving on Insurance Summary

1. **significantly change the way we insure vehicles;** including underwriting, pricing, proposition development, distribution and claims
2. **claims frequency will fall. Severity will increase**. **Premiums will eventually fall**, but not for sometime. The impact in developed markets will be more pronounced
3. **car sharing will become much more prominent.**
4. **semi-autonomous technological impact is imminent**. Full Autonomy is sometime off and will initially be relevant in niche areas.
5. **new risks will** emerge with the development of SDVs and ADAS including cyber hacking, software and technology malfunctions, as well as connectivity and infrastructure failures.
6. **Zurich is embracing autonomous technology** and is involved in a number of pilots and partnerships across the world.

Panel 2 – The insurance perspective

- **Karl Gray,** Zurich
- **Andrei Rubeli,** Uniqa
- **Dave Baldwin,** Thatcham
- **Louise Kerrigan, Zurich**
- **Bettina Zahnd,** AXA

Facilitator: Nick List, Zurich

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