Baker McKenzie.

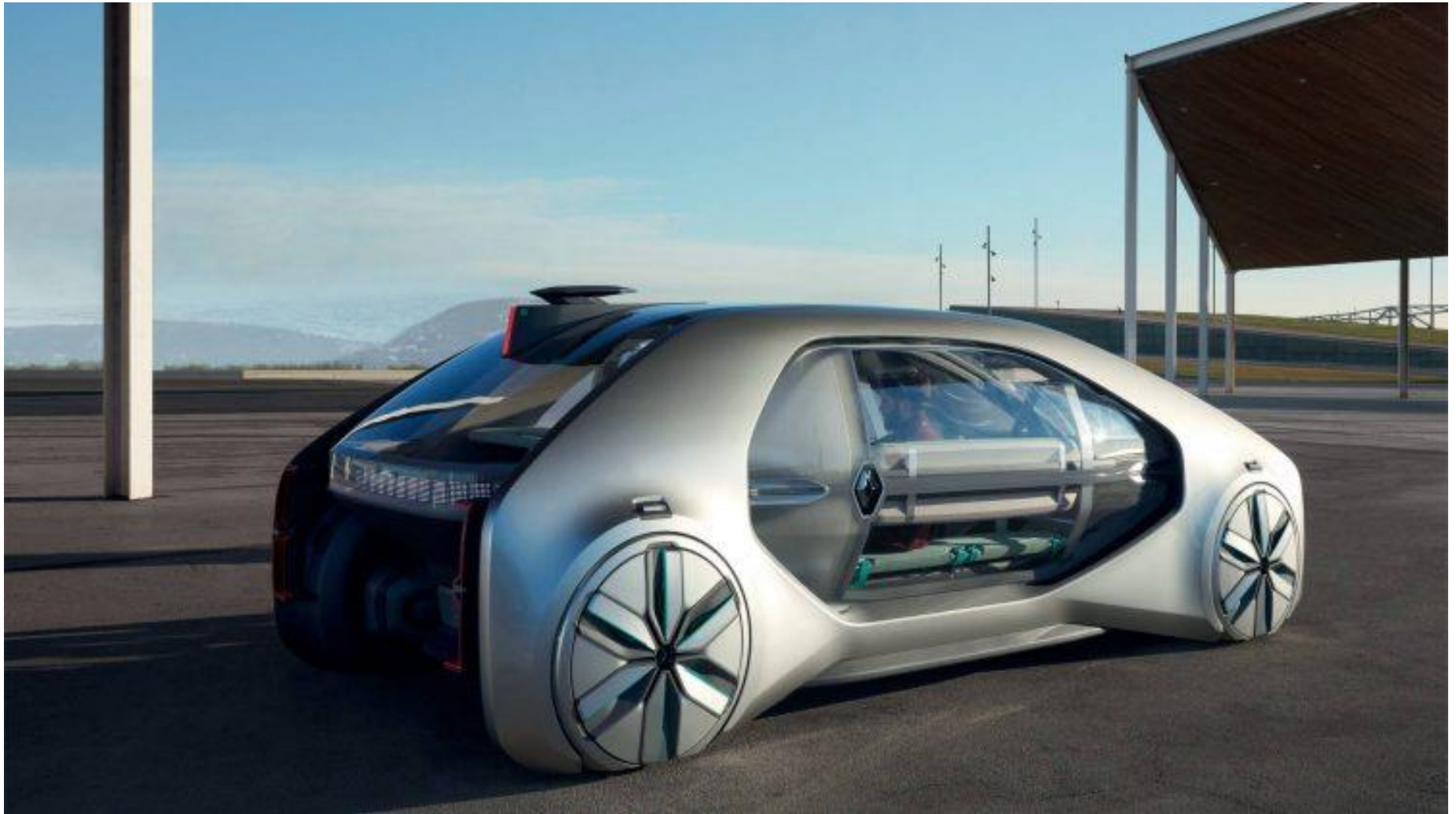# Silicon Valley meets Switzerland - Who shall be liable when autonomous cars crash?

Zurich, 21 March 2018
Prof. Dr. Joachim Frick, LL.M./J.S.D.

Source: https://www.wsj.com/articles/daimler-invests-in-beijing-based-self-driving-startup-momenta-1500930180

Source: https://insideevs.com/renault-ez-go-electric-autonomous-concept-is-funky-fresh/

Source: http://www.caricos.com/cars/v/vw/2018_volkswagen_id_vizzion_concept/images/3.html

Introduction

"Zero crashes, zero emissions, zero congestion"

Mary Barra, GM

"Cars crash, and so will self-driving cars – perhaps because they drive too well"

"The operation of a railway is per se illegal"

Appellationsgericht Munich, 1861

Why then do we introduce autonomous driving systems?

- Continuation of technological development, internet of things

- AI will be next step to optimizing our use of time

- Step-by-step coverage of greater and more complicated areas (e.g. Waymo of Google in Phoenix)

- Evolution (car industry) vs. revolution (Google)

- New jobs and economic growth for countries that embrace technology (e.g. three cities in the UK selected as test centers; three Toyota test centers in Ann Arbor, Palo Alto and Cambridge)

- Connected, Autonomous, Shared, Electrical Driving of Daimler

Positive effects of efficient transportation

- Alternative use of travel time
- Cars as a mobile living room
- Enhanced capacity/reduced travel time/reduced parking needs
- New group of users (elderly, disabled persons)
- Incentives set for users (*Verkehrssteuerung*)
- Efficient public transportation vs. inefficient increased mobility

Principles of liability

- Accidents caused by:
    - Manufacturing defects (car not as designed)
    - Informational defects (mishandling by driver)
    - Design defects (eg, never exceed speed limit, tragic choices, etc.)
- Liability of individual motorist may shift to manufacturer and operator of the technological system
- Strict liability of manufacturer may be prohibitive, or promoting (press release of 2015 of Volvo)

Legislation to be amended

- California
  - Special license for drivers of autonomous vehicles
  - Operator must be able to easily disengage technology
  - If technology fails, driver can take control or come to a complete stop
  - Vehicle required to record data 30 seconds before collision
- Switzerland
  - Vienna Convention revised per March 2016; UNECE regulations
  - Liability of holder under Art.58 SVG
  - No registration of self-driving cars except for tests
  - Cf. report of ASTRA: proposal to delegate to the Federal Council (*Bundesrat*)
  - IT issues: cybersecurity, data protection, insurance data

Effects on insurers

- Only six major accidents of Google's self-driving cars in six years

- In the medium term, erosion of car insurance premiums
  (Lloyds: 2/3 until 2060)

- Filing of claims as usual, then the insurer claims against manufacturer
  and/or software providers

- More than 40 mandatory liability insurances in Switzerland to cover
  (technological) developments

- 1914: Concordat created the obligation for car insurance

  1932: MFG ("Gefährdungshaftung", direct claims, limitation of
  objections)

  1958: SVG (full protection incl. default cover "*Ausfallschutz*")

Liability of holder under Art. 58 SVG

- Holder is liable for all injury and property damages caused by his/her car, regardless of who was driving

- New definition of holder required?

- Special legislation for operators of fully autonomous cars, incl. mandatory insurance?

- Examples of "*Gefährdungshaftungen*" for railways, ships, aircraft (with/without direct claims and limitation of objections)

- Central control of all motor vehicles of a digital transport infrastructure cannot (yet) replace driver responsibility

The MIT Moral Machine

What should a self-driving car do?

Source: http://moralmachine.mit.edu/
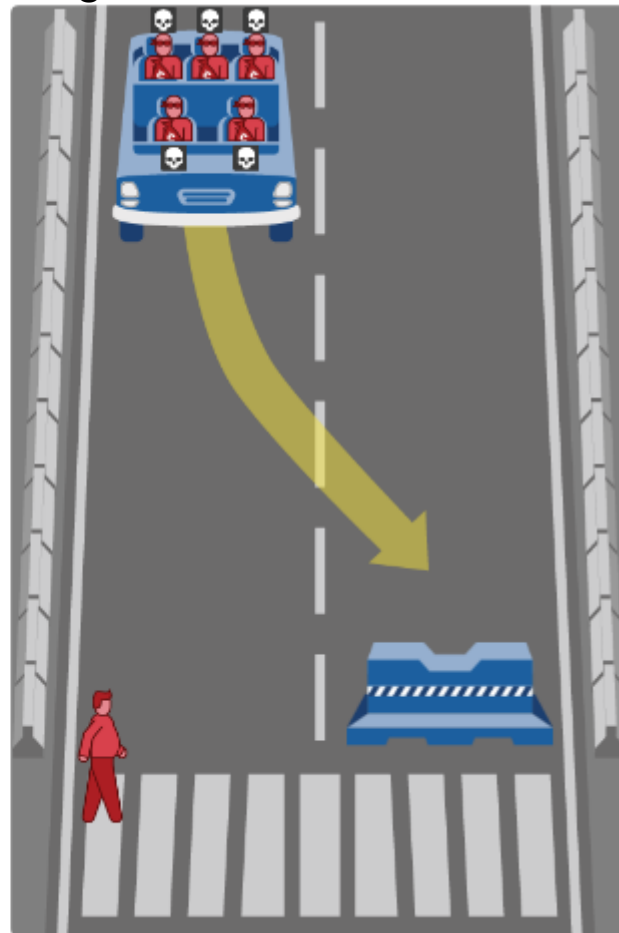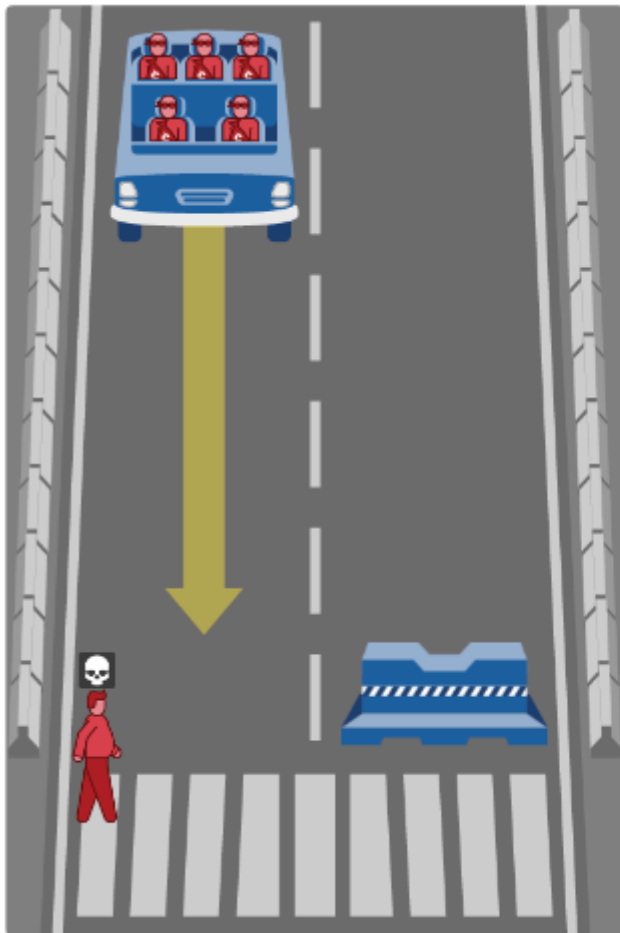
German Ethics Commission

- June 2017: Ethical rules for automated and connected vehicular traffic

    - Rule 5: "..the technology must be designed in such a way to avoid "dilemma situations" in which the vehicle has to "decide" between two evils.

    - Rule 7: "In hazardous situations that prove to be unavoidable, despite all technological precautions being taken, the protection of human life (vs. animals or property) enjoys top priority…"

    - Rule 8: "Genuine dilemmatic decisions, such as a decision between one human life and another" cannot be programmed ex ante such that they are ethically unquestionable.

    - Rule 9: "In the event of unavoidable accident situations, any distinction based on personal features (age, gender, physical or mental constitution) is strictly prohibited. It is also prohibited to offset victims against one another. General programming to reduce the number of personal injuries may be justifiable. Those parties involved in the generation of mobility risks must not sacrifice non-involved parties."

Human-centered artificial intelligence

(1) Designed to assist, not replace humanity
(2) Be transparent
(3) Maximize efficiencies without destroying human dignity
(4) Respect privacy
(5) Have algorithmic accountability so humans can undo unintended harm
(6) Guard against bias

Satya Nadella, CEO of Microsoft, October 2017

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Joachim regularly represents insurers, reinsurers and brokers in litigious and non-litigious insurance/reinsurance matters. He heads the Swiss insurance practice of Baker McKenzie and is a member of the Steering Committee of the European Insurance Practice of Baker McKenzie. He was named leading attorney in insurance and reinsurance matters by specialized publications.

In addition to being a practicing lawyer, Joachim regularly teaches as a professor of law (*Titularprofessor*) at the University of Zurich and is a lecturer in a number of graduate programs.