“Paradigm shift in insurance policies”
ADAPTIVE technical workshop

Athens, April 2016
Agenda

- Driverless cars & need for insurance
- Shift of Motor Insurance model
  - Motor liability
  - Product Liability
  - Data ownership & privacy
  - Cyber Liability
- CityMobil2
Eurapco trend analysis is pointing out that self-driving cars “will reduce need for insurance”
Shift of the business model is expected in the coming 25yrs as described in the analysis prepared for EMDP project

<table>
<thead>
<tr>
<th>Driver Assistance System Applications</th>
<th>Trend in a tweet:</th>
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<tbody>
<tr>
<td>Technology may make classic insurance unnecessary. As an example, Autonomous Vehicles (self-driving cars) will increase mobility, reduce pollution, create free time and improve traffic efficiency, but also dramatically decrease road accidents. Also, the car producer rather than the driver may be the liable party.</td>
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<thead>
<tr>
<th>Eurapco scores</th>
<th>Connected trends</th>
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<tr>
<td>Importance:</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Urgency:</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>30 Advanced Analytics and Big Data</td>
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<td></td>
<td>35 Low Power networks are transforming risk mgmt</td>
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<td></td>
<td>24 Technology enables new business models</td>
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<td></td>
<td>20 Connectivity over more ubiquitous</td>
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<td>11 Influence of supervisors keeps growing</td>
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<td>04 Changing demographics</td>
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**Opportunities for the Partners**
- New risks to insure
- New business models (e.g. sharing economy)
- Usage based insurance

**Challenges for the Partners**
- Disruption of core business lines, loss of position in service ecosystems (mobility, home, care, …)
- Less risks due to less accidents, unclearly about liability and responsibility
- Future IT infrastructure

**Relevant Eurapco and Partner activity**
- National governments work on fully automated vehicle regulations.
- Most of the key players develop and provide level 4 cars.
Driverless cars & insurance

New technology reduces need for insurance?

Opportunities
- New risks to insure
- New business models
- Usage based insurance

Challenges
- Less risks due to less accidents
- Liability & responsibility in case of an accident

Comics Source: Contingencies, American academy of actuaries, 03-2015
Motor Liability
Who is Liable?

The vehicle manufacturer is obliged to deliver a product that is fully tested in all situations and under all circumstances.

- More parties involved
- All with their own responsibilities
- “Combination of events”
- Society view

Liability stays with the driver under the current regulatory framework as far as the driver retains the control of the vehicle

Source: Definition of necessary vehicle and infrastructure systems for Automated Driving, SMART 2010/0064
Motor Liability

Accidents decreasing pattern is expected to further continue....

Figure 2: Development of fatalities per million inhabitants between 2001 and 2014 for Greece and the EU average

<table>
<thead>
<tr>
<th>Claims Reduction</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2040</th>
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<tbody>
<tr>
<td>Assisted driving</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collission prevention</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Driving Cars</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Overall Reduction</td>
<td>&gt;30?</td>
<td>&gt;50?</td>
<td>&gt;70?</td>
<td></td>
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</table>

Source: Eurostat

Premium reduction will follow the same trend?
Vehicle manufacturers already at risk

The assumption that “every accident of a high automated car is a case of product liability” is wrong
Product Liability
Cars manufacturers view?

- Musk (Tesla) makes it crystal-clear that his company will not bear responsibility when the autopilot car crashes.
- Volvo has a quite clear position. “if the car is in autonomous mode and causes a crash”, Eugensson said Volvo will take responsibility. It will be difficult to sell if the driver is still liable. It gives a false promise.”

Comics Source: Contingencies, American academy of actuaries, 03-2015
Product Liability
Part of liability is transferred to OEM suppliers?

- Need of adequate information on the appropriate use of any automated driving features
- “I accept” the use...
- “Warranty” liability

Source: Definition of necessary vehicle and infrastructure systems for Automated Driving, SMART 2010/0064
Data ownership & privacy are related issues

- Modern vehicles have already increasing levels of communications abilities built into them. Some have embedded SIM cards, whilst others have the ability to link up with the occupant’s mobile phone.

- Above described approaches can also enable connection with the Internet. This offers many opportunities for transmission of useful data to and from the vehicle.

- Numerous stakeholders commented on the high value of data that would be gathered by in-vehicle communications platforms about both the vehicle itself and its driver.

- For example, insurance companies would be interested in individual driving habits and retailers would be very interested in attracting drivers to their locations.
Volvo’s plan is to have two data sets, one for autonomous driving and one for manual driving.

Data sets for manual execution will be managed as today's cars.

Volvo's assessment and surveys show that the customer can accept a higher degree of data and monitoring when the vehicle is running itself than the vehicle is driven manually.
Increased Vulnerability to cyber attacks...

- Introduction of greater connectivity in to vehicles will arise numerous security threats
- Unauthorized parties, hackers, or even terrorists could capture data, alter records, attacks on systems, compromise driver privacy by tracking individual vehicles, or residences

*Is this possible?*

*Published Research proves that this is possible...*
If an attacker can send Controller Area Network (CAN) packets, these might affect the safety of the vehicle,

“This paper has shown, for two different automobiles, some physical changes to the function of the automobile, including safety implications”
Cyber Risk
Report by Senator Ed Markey in US stress the risks related to security & privacy...

- Nearly 100% of cars on the market include wireless technologies
- Most manufacturers were unaware of or unable to report on past hacking incidents
- Security measures are inconsistent and haphazard
- Automakers offer technologies that collect and wirelessly transmit driving history data
- Customers are often not explicitly made aware of data collection

Is Insurance the solution?
Trikala is one of the city candidates participated in CityMobil2 project

2014 Greek Parliament accepted regulation for research purposes under pilot allowing bus urban releases circulating on road without presence of a driver on board

60% of the route in central urban roads at city center and 8 stops in place

Anytime, direct brand of Interamerican, insured buses for MTPL & Road Assistance
The insured vehicle is an urban bus of “special use” with predetermined route on the road, in the city of Trikala, operating without the physical presence of a driver, for research purposes, pursuant to L.4313/14.

The officer responsible for monitoring Bus driving movement from the Control Center is considered as the vehicle operator and must be holder of a valid driving license of equivalent class and shall be held liable under the provisions of L.2696/1999, as the vehicle driver, for immobilizing the vehicle, if required by traffic or emergency conditions.
Thank you!

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