Assuring & Insuring Automotive Cyber Risk

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SANS Summit
May 2018
Why is Cyber Security Important to Car Insurers?

Great Heck, North Yorkshire
28th February 2001
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$57,000,000
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WHO ARE WE AND WHAT DO WE DO?

- REPAIR DATA
- TRAINING
- ADAS
- ESC
- WHIPLASH
- EURO NCAP
- NVSA
- ALARMS
- IMMOBILISERS
- MEMBERS
- OEMs
- GOVERNMENT

PAST & PRESENT

FUTURE FOCUS

- L/W STRUCTURES
- FUTURE BODYPATH
- ELECTRICIFICATION
- ASSISTED
- AUTOMATED
- CONNECTED
- CYBER
- DATA INSIGHT
- AD REGULATION
- AD LIABILITY
Physical Security

Members

Government

Industry

OEMs

Police
Physical Security

PASSENGER VEHICLE STATISTICS 2016*

<table>
<thead>
<tr>
<th></th>
<th>UK</th>
<th>US</th>
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</thead>
<tbody>
<tr>
<td>REGISTERED VEHICLES</td>
<td>31M</td>
<td>270M</td>
</tr>
<tr>
<td>STOLEN VEHICLES</td>
<td>90K</td>
<td>765K</td>
</tr>
<tr>
<td>THEFT RATE/1000</td>
<td>2.9</td>
<td>2.8</td>
</tr>
</tbody>
</table>

*Sources: UK: ONS, US: DoJ
New Vehicle Security Assessment (NVSA)
Group Rating

- List Price
- Performance
- Safety
- Damagability
- Security
- Parts Prices
- Repair Cost
Success in Physical Security

The results of increased levels of perimeter security introduced by motor manufacturers in recent years showed that between 1992 and 1997:

- Theft of tools from vehicles decreased by 80%
- Attempted thefts decreased by 27%

Thatcham Research Vehicle Security Milestones

- 1998: NISSA 2 introduced, highlighting the threat of tool theft.
- 2001: NISSA 3d introduced, emphasizing the role of programmable electronic components.
- 2003: NISSA 4 introduced, focusing on magnetic effects to prevent cloning and theft of alloy wheels.
- 2004: NISSA 4b introduced, emphasizing the role of electronic components and software.
- 2006: NISSA 5 introduced, focusing on keyless entry/starter systems and the prevention of theft.

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Age of Stolen Vehicles 2015
Statistically the majority of the cars stolen in 2015 were over 2 years old:

- Less than one year old: 14%
- Less than five years old: 34%
- Less than ten years old: 30%
- More than ten years old: 22%

In 1992 the number of vehicle-related thefts in England and Wales was approximately 620,000 per year. Today’s figure is up to 80% lower.

- Theft of vehicles 1992: 620
- Theft of vehicles 2015: 75
- Theft from vehicles 1992: 1000
- Theft from vehicles 2015: 200
Passive & Active Safety

- 40% reduction in road deaths for new cars
- 20% reduction in road deaths for existing cars
- 20% reduction in road deaths for pedestrians
- 20% reduction in road deaths for cyclists

94% NEW CARS

>50% REDUCTION IN EU28 ROAD DEATHS 2001-2016

EURO NCAP

3% ≤
16% ≤
75% ≤
Success in Safety
Cyber Security Objectives

ASSURANCE METHODOLOGY

RISK-BASED RATING FRAMEWORK

CONTINUAL IMPROVEMENT
5StarS Project

Automotive Cybersecurity through Assurance

RICOH

A HORIBA COMPANY

MIRA

Roke

Part of the
Chemring Group

Axillium
Innovation in Research

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Safer cars, fewer crashes
Challenges

- SCOPE
- DYNAMIC
- COMMS
- PERCEPTION
Steps to Adoption

1. CYBER CLAIM
2. INFLUENCING MECHANISMS
3. PRINCIPLES
4. ASSESSMENT

COMMUNICATION
Cyber Claim

- OWN DAMAGE
- THEFT OF/FROM
- 3RD PARTY DAMAGE
- FIRE
- 3RD PARTY INJURY
- GLASS
- BREAKDOWN
- DATA LOSS
- INSURER
- VM
- ?

Automotive Cybersecurity through Assurance
Influencing Mechanisms

- Financial
- Reputational
- Consumer Rating
- Group Rating
- Legislation

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Future of Automotive Cybersecurity through Assurance
Success

ASSESSMENT

RESEARCH

CONSULTING

STANDARDS

INSURANCE

VEHICLE MANUFACTURERS

INDUSTRY EXPERTS

TIER 1 SUPPLIERS
Summary

1. Why vehicle cyber security is important to insurers

2. Success in physical security

3. Success in passive & active safety

4. Steps to adoption of a cyber security assurance framework