



**Actuaries
Institute**

Back to the Future

Thriving in a World of Digital Disruption

Agenda

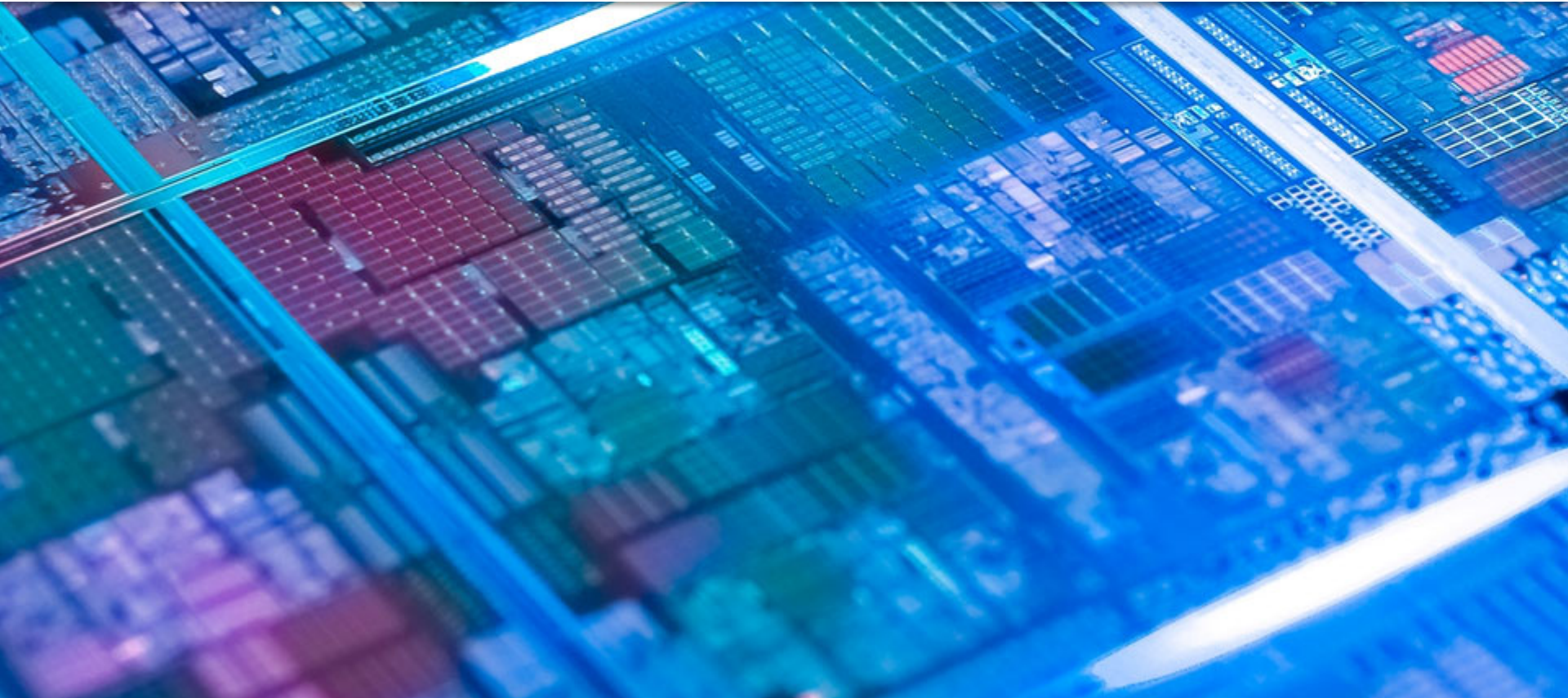
1) Industry snapshot

2) The changing role of the insurer

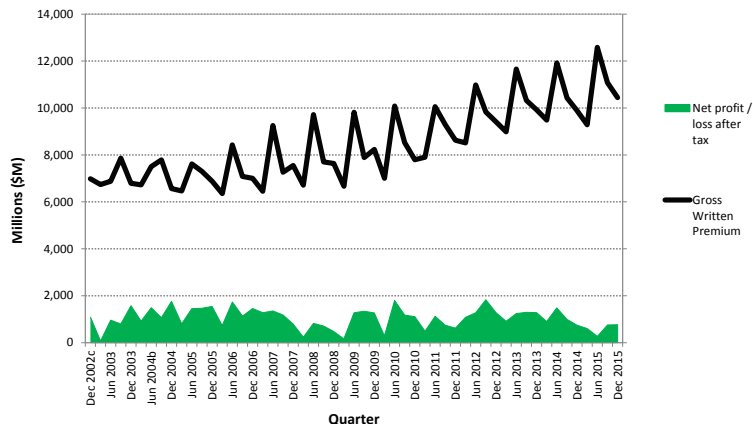
3) Three technological developments

4) Thriving / surviving in the new world

1) Industry Snapshot

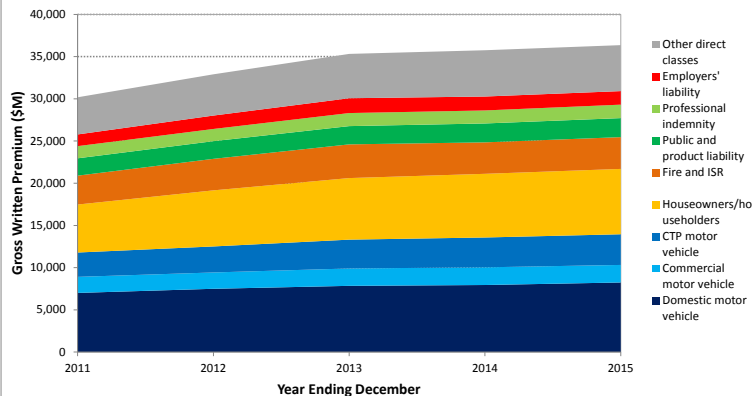


Gross Written Premium and Profit

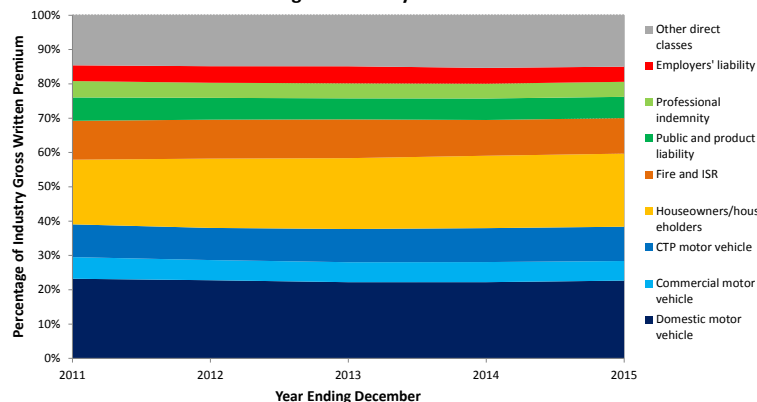


- Gross written premium:
 - For direct insurers **GWP has increase by approximately 5% p.a. since 2006**
 - No growth since 2003 for reinsurers
- Profit:
 - **Zero growth** over the period analysed
 - 2014 profit \$4.1Bn, 2015 profit \$2.4Bn.

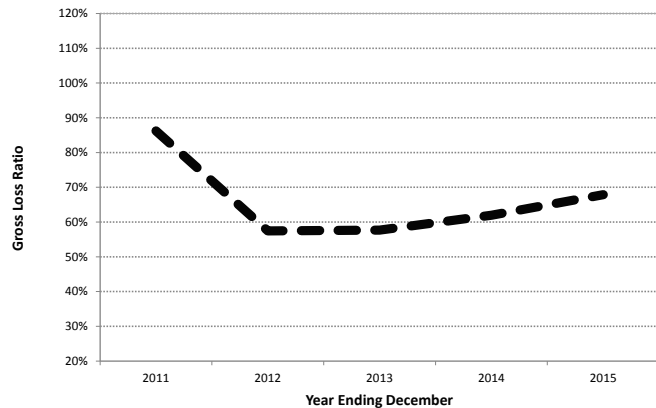
Direct Insurer - Gross Written Premium (\$M)



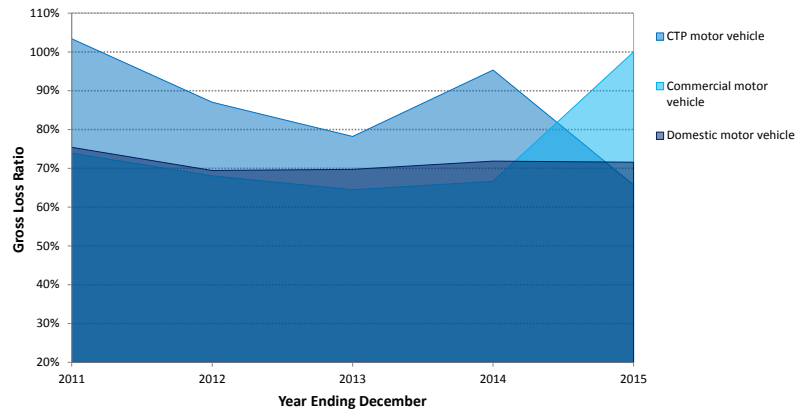
Direct Insurer - Percentage of Industry Gross Written Premium



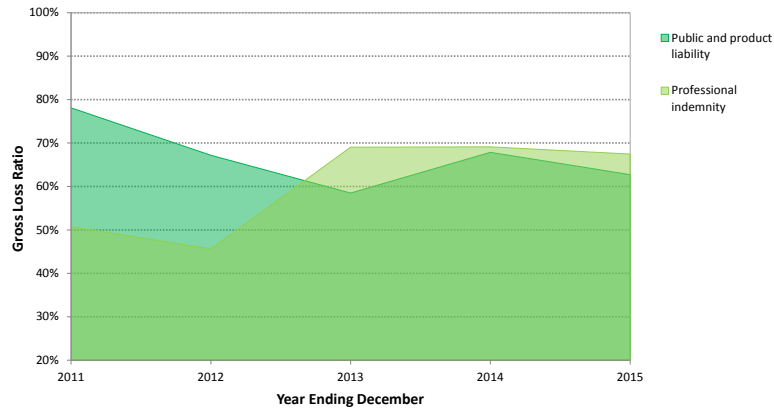
Direct Business - Gross Loss Ratio



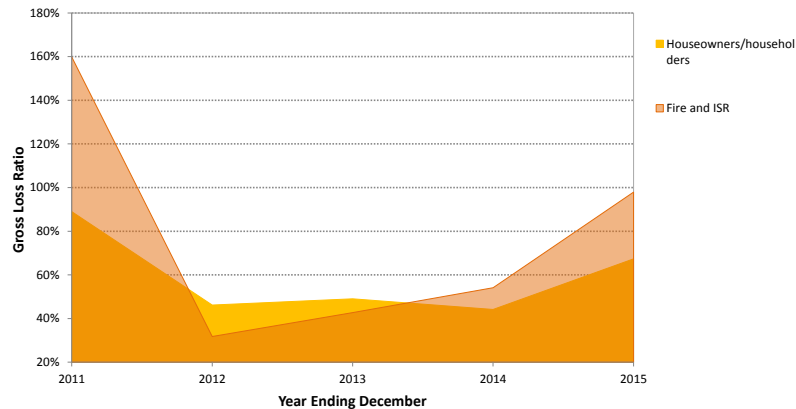
Gross Loss Ratio



Gross Loss Ratio



Gross Loss Ratio



2) The Changing Role of the Insurer



The Changing Role of the Insurer

Historically:




Typically only responds in the event of a loss



Product design is fairly rigid



Limited contact with the customer



Risks stemming from global activity are not a key focus

3) Three Technological Developments

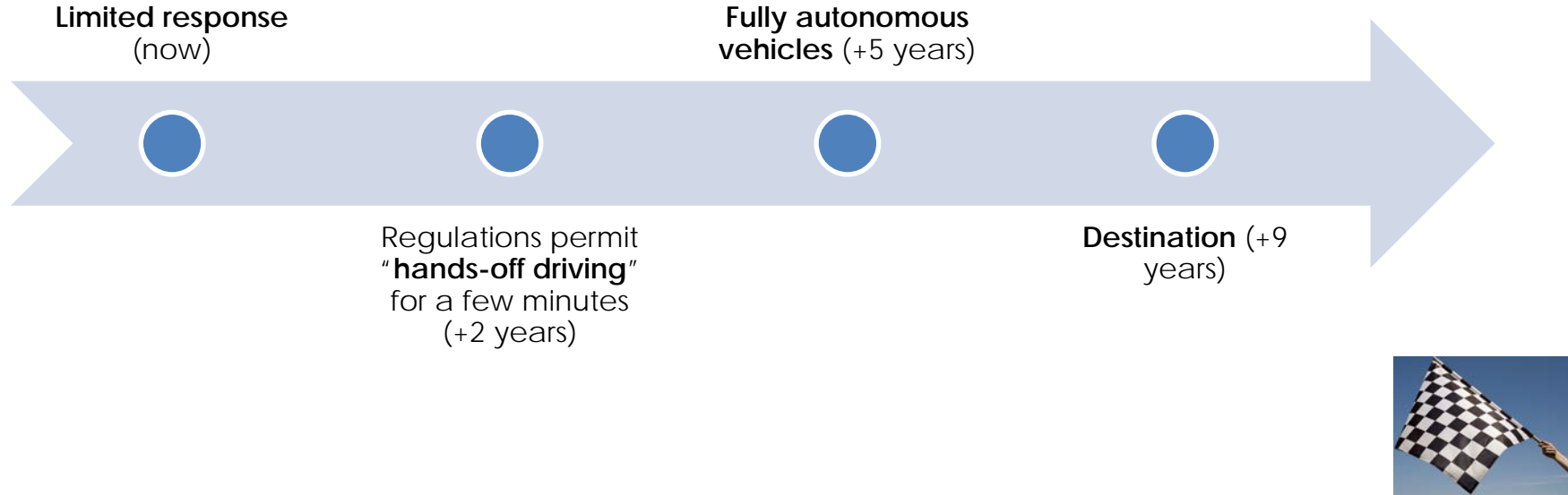
- 1) Driverless cars
- 2) Cyber Insurance
- 3) The Internet of Things



Driverless Cars



Are we there yet?



Current challenges

Include:

- Improvements in software and hardware
- More detailed maps
- Better sensors
- Security
- Legislative environment
- Ethical decision making



Current challenges – ethical decision making



You are driving down a two lane road at 90km/h.

A car is coming head-on towards you.

There are only two possible actions you can take:

- 1) Drive straight and hit the oncoming car potentially sacrificing your own life.
- 2) Swerve and hit a group of pedestrians on the footpath.

Which option would you choose?

The key players



TESLA MOTORS



U B E R

Apple cars, not iPhones, could be tech giant's next big money-maker

May 26, 2016 - 8:16AM

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Julie Verhage

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Buffett bets \$1 billion on Apple

Warren Buffett's Berkshire Hathaway disclosed it has invested more than a billion dollars in Apple.

Don't expect Apple's [\\$US1 billion \(\\$1.39 billion\) investment](#) in Chinese ride-hailing startup Didi to be its last.

Morgan Stanley analysts led by Katy Huberty and Adam Jonas recently took a look at Apple's spending on incremental research and development, and found something shocking.

Not only is the creator of the iPhone forking out more now than it did when it launched its most successful product. It's also burning more cash than the top 14 car makers combined, and that's an industry deep in transformation.

Investing in innovation

- Apple spent \$5 billion USD on additional research and development from 2013 to 2015
- Apple recently invested \$1 billion USD in Chinese ride – hailing start-up “Didi”
- Morgan Stanley (MS) analysts are quoted as saying the investment signals an **interest in shared rather than owned vehicles**
- Apple’s revenue is forecast to be **\$400 billion from shared vehicles in 2030**

Implications for society



Car sharing

Infrastructure
use

Reduced
accident
frequency

Logistics

Implications for Insurers

Fault

- Who is responsible?

Systemic
events

- What is the impact on claim frequency and claim severity?

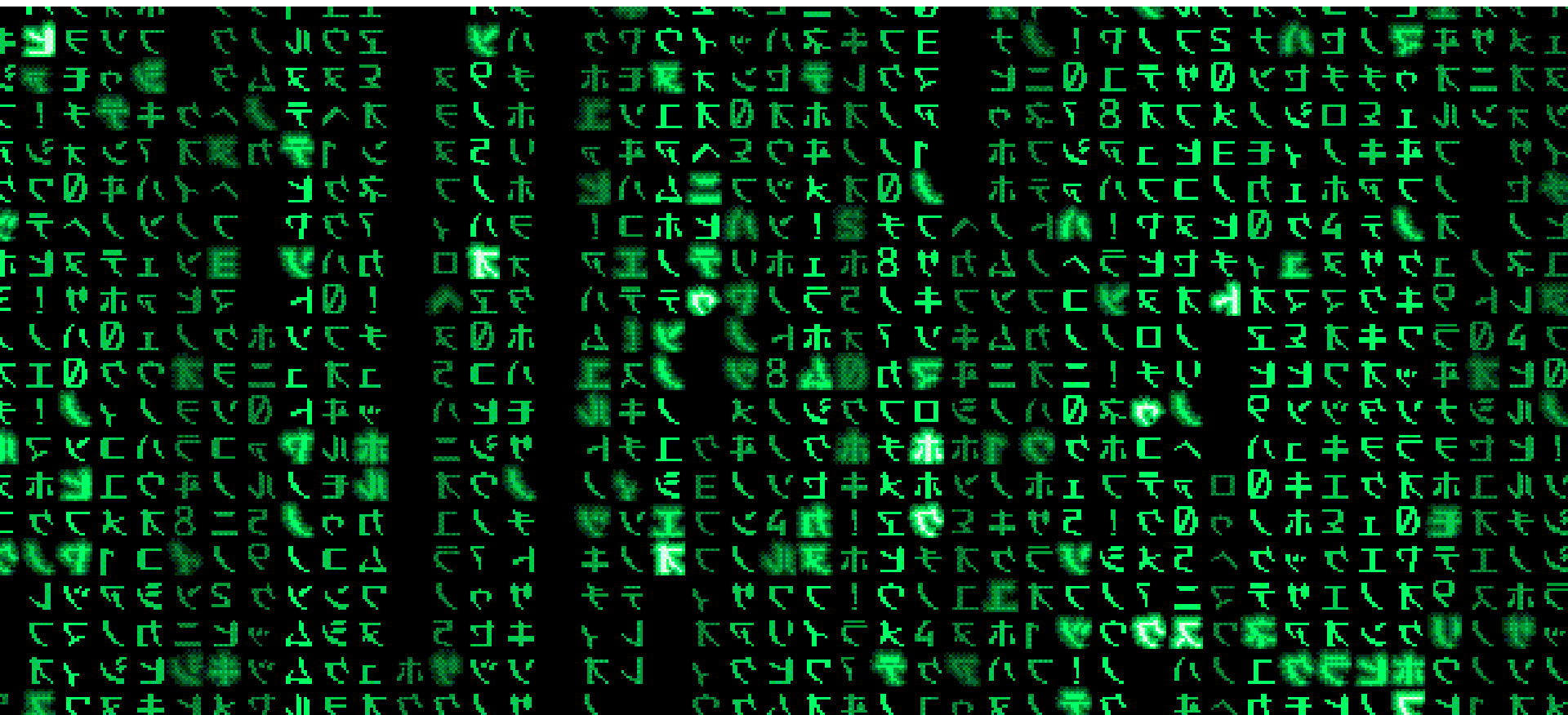
Data

- How will this be used?

Premiums

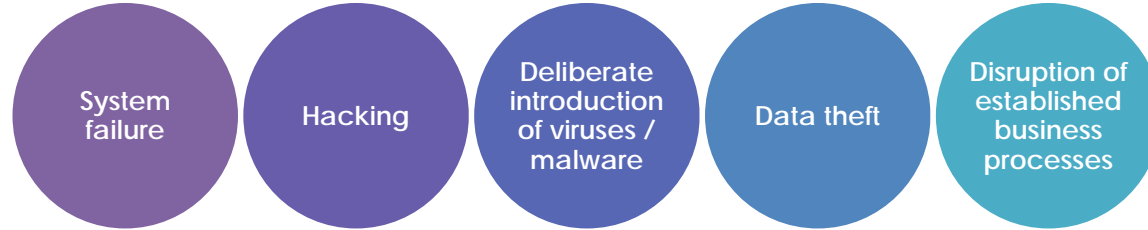
- Are driverless cars a threat to the industry?

Cyber Insurance

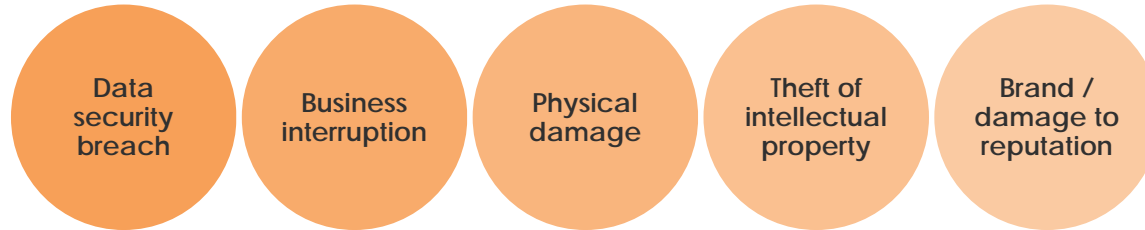


Wider Information Technology Risks

Risks



Losses



In the News

Data theft!

Blackmail!

Leak!





LinkedIn **HACKED!**

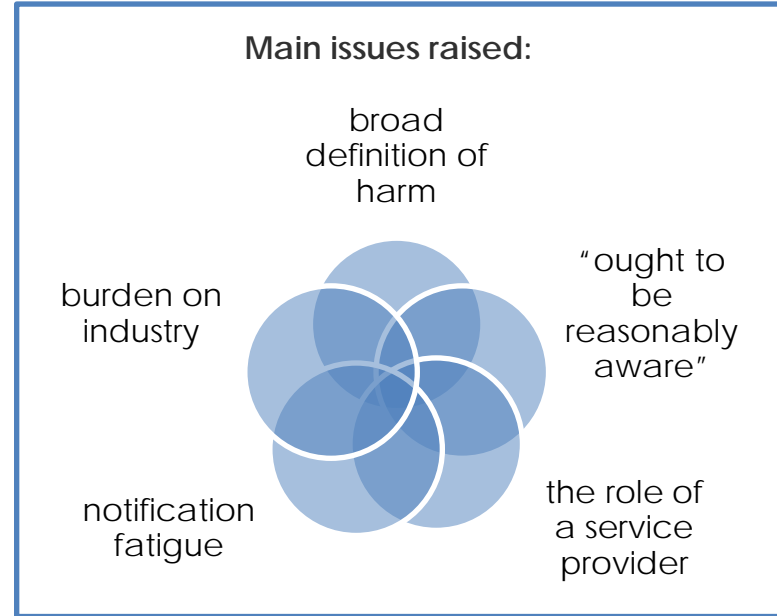
6.5 million encrypted passwords originally thought to be hacked

May 2016 - LinkedIn now thinks the true number of account details obtained was more than **117 million**

Moral: Keep your security measures up to date!

In the News – Mandatory data breach notification scheme

- An organisation must notify customers, the Privacy Commissioner and potentially the media where they suspect a breach to have occurred



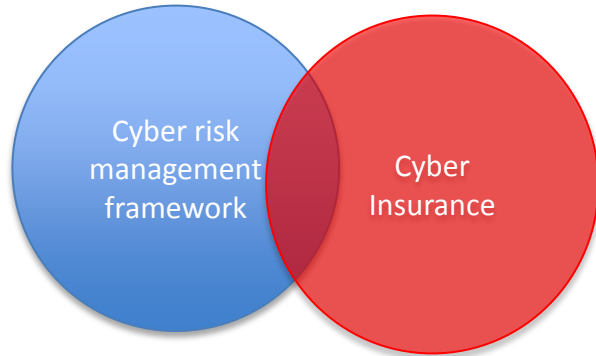
- A **serious breach** is defined as unauthorised access to, disclosure or loss of customer information which generates real risk of serious harm to individuals.

Cyber Insurance

Allianz Cyber Protect (base product)

Cover includes:

- ✓ Data breach liability – personal and corporate data
- ✓ Data breach costs - including notification and forensic IT costs
- ✓ Network security liability – for compromised systems including denial of service attacks
- ✓ Business interruption
- ✓ Hacker theft cover – based upon theft of funds
- ✓ Restorations costs for data and programs
- ✓ Crisis communication – to mitigate reputational damage



Potential rating factors:

Industry

- Impacts type of data held
- Reliance on technology

Company Specific

- Turnover
- Number of transactions / customers
- Staff training
- Approach to risk management

IT Specific

- Virtual and physical security
- Level of data encryption
- Data retention
- Outsourcing
- Number of connected devices that may have lax controls

Implications for Insurers

Opportunities



Implications for Insurers

Challenges

Limited
historical
data

Global,
continuously
evolving
threat

Every
company is
different

Building up
adequate
skills /
working with
other
industries

Enhanced
systemic
event
potential

The Internet of Things (IoT)



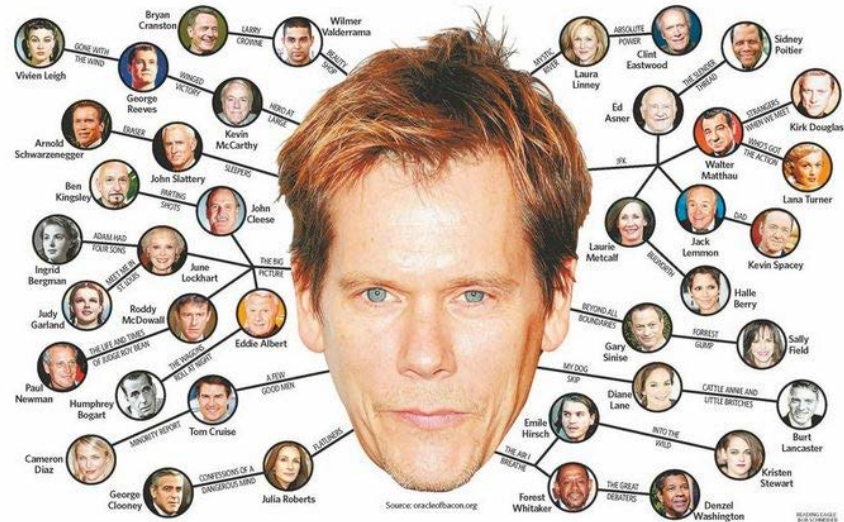
What is the IoT?



15 billion items are connected to the Internet today

“The Internet of insecure things” – it only takes one weak link

- Security is key
- Need for new insurance covers
- Heightened contagion risk
- Richer and more accessible data



Implications for Insurers



Implications for Insurers

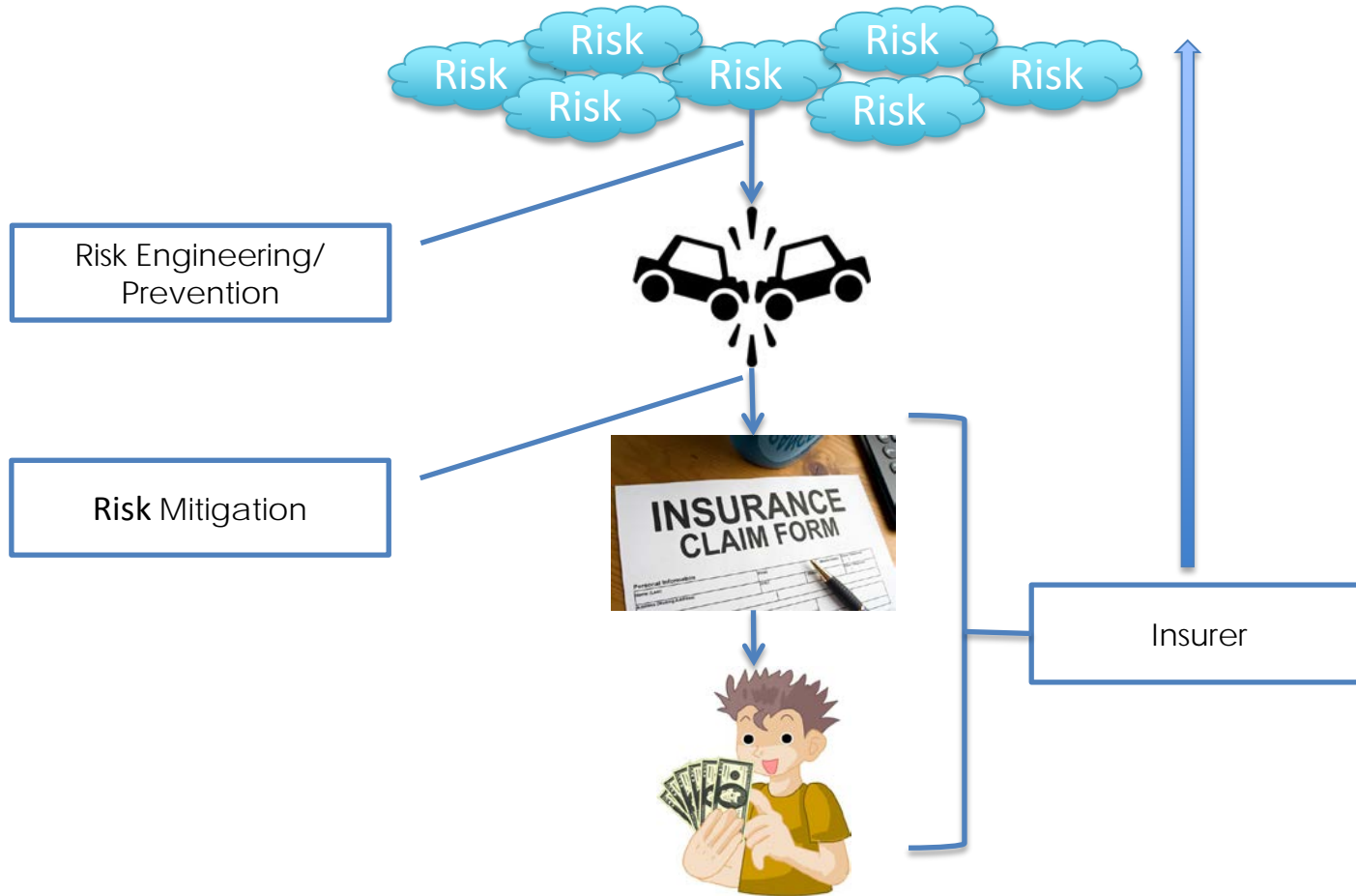


- ☒ Anticipate
- ☒ Innovate
- ☒ Invest
- ☒ Partner
- ☒ Connect

4) Thriving / surviving in the new world



1) Move up the Value Chain



2) Focus on Customer Service and Innovate



- **Re-examine the needs** of individuals and businesses in a **heavily technology reliant** and **interconnected world**.
- Increased **focus on customer service**
 - People love to rate experiences and voice their concerns
 - Increase trust - how?

3) Consider risks at a global level

Future
direction of
the industry

Risks arise at
a global level

Judicial
interpretation

Correlation
between
risks

