



# INVESTOR DAY

## Munich Re driving digital transformation

Munich, 21 November 2017

## A Framework and infrastructure



## B Business transformation



## C Business extension



# Munich Re (Group)

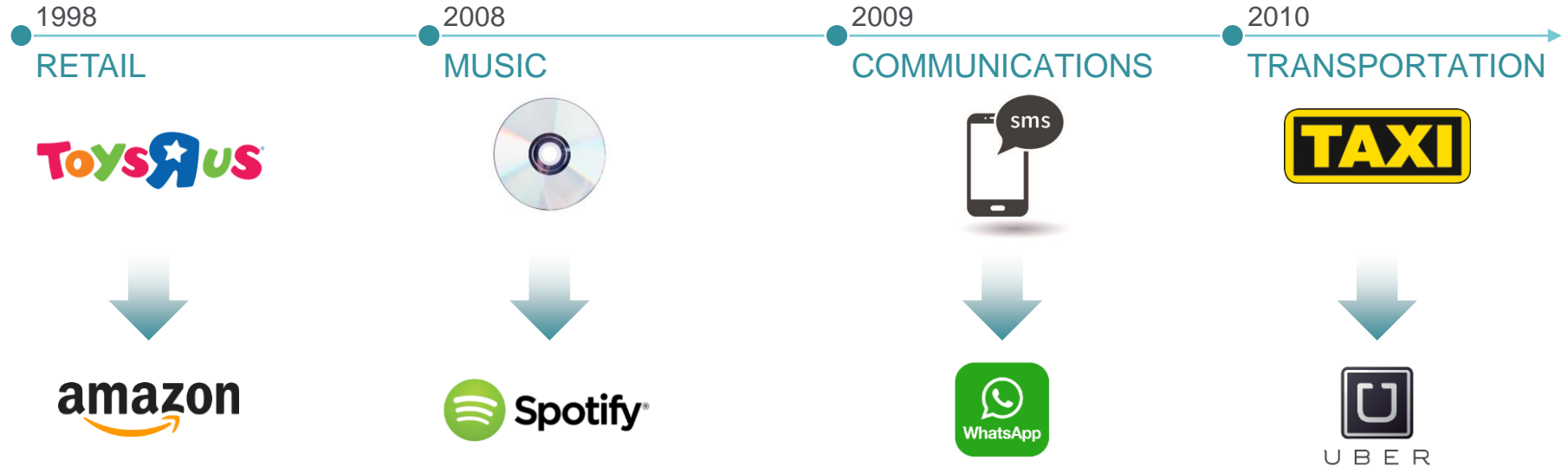
Joachim Wenning



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# Digital business models have been penetrating all industries since almost 20 years

## Product launch



▶ Insurance industry in the midst of digital transformation

# Insurance industry perspective – Future winners will leverage “digital ingredients”

## Traditional insurance value drivers will remain



### REINSURANCE

- Risk assessment
- Products

### PRIMARY INSURANCE

- Sales
- Operations

### ASSET MANAGEMENT

## Additional value-creation lever: Data analytics and technology



- New risks, extended insurability, and risk mitigation/prevention
- New products, solutions, and extended services
- Effectively serve the (hybrid) customer across all channels
- Efficiency increases and automation

## Opening the gates to new businesses



- Changing front ends
- Changing needs of transforming industries (from standard products to system solutions)

▶ This will sophisticate/extend “traditional” and create “solution” business for transforming industries

# To remain a winner in the future, “digital ingredients” are embedded in our business strategy

## STRATEGIC FOCUS

Improve and grow the Group portfolio  
Business first

Invest and divest according to  
strategic fit and performance

Digital transformation  
Build new businesses

## RESULT FOCUS

Strict bottom-line focus

ERGO Strategy Programme

Create new business opportunities

Leverage underwriting and  
innovation

Strong asset management

## DIGITAL FOCUS

Invest in technology, data, and agile IT

Partner with start-ups and InsurTechs

Create new market access and  
new business models

Co-create new businesses with clients

## LEADERSHIP FOCUS

Rigorous execution

Powerful leadership

Reduce complexity and drive  
business

Push to win

## BASIS

Reliable results

Attractive returns to shareholders

Transparency

Client and business focus

Leading functional competencies

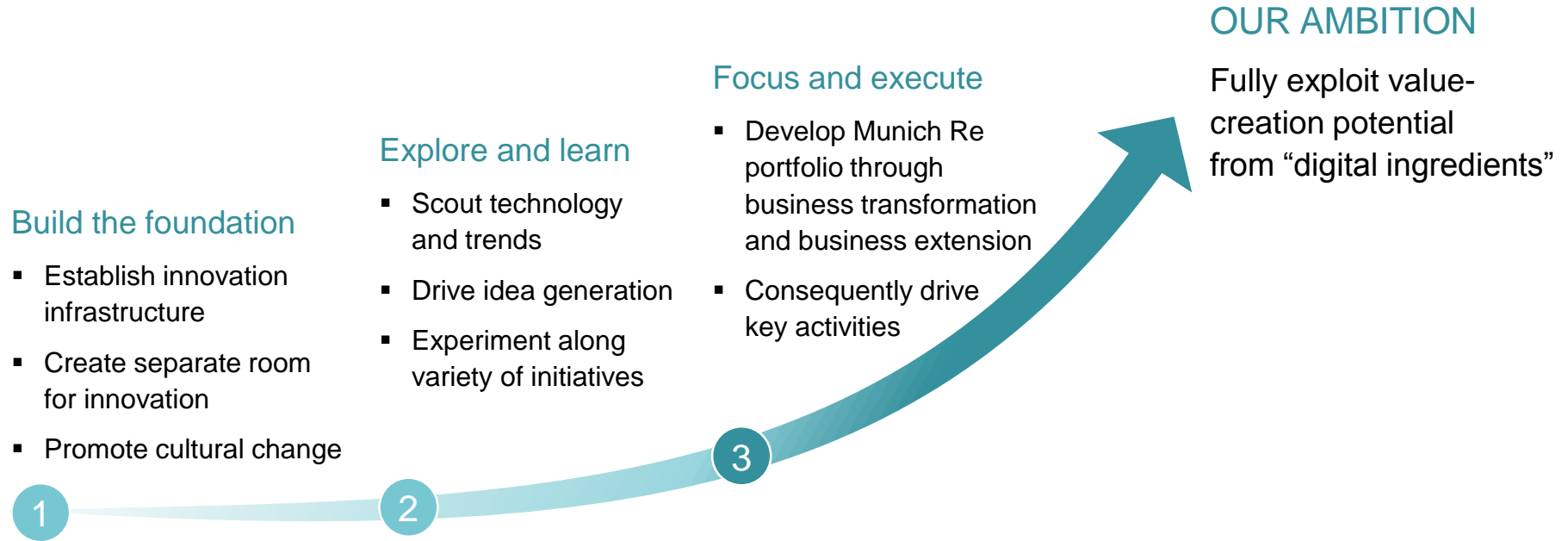
Strong capital position

Leading brand

Attractive place to work

Driving change

# To achieve concrete results from innovation and digitalisation, we systematically follow three steps



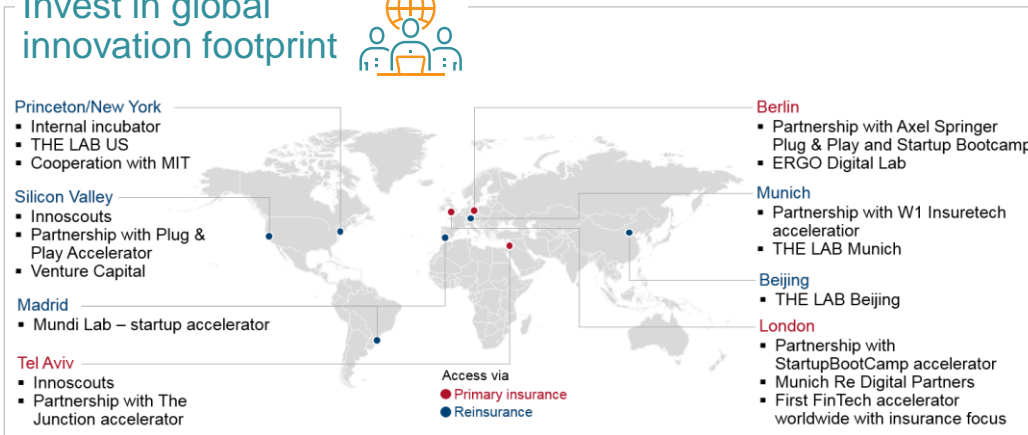
# 1 We have invested in building a global foundation for innovation across the Group

## Invest in people



Global network of >300 FTE dedicated to innovation activities and >200 FTE with a data science background

## Invest in global innovation footprint



## Invest in projects



>€160m invested beyond FTE assignment since 2015

## Invest in data analytics and technology infrastructure



Bi-modal IT, smart data analytics, data storage (“data lake”), cooperation with technology analytics providers

## Invest in acquisitions



>€60m invested in more than 10 corporate venture capital (CVC) projects and start-ups with primary focus on InsurTech, IoT and data specialists – further M&A activities based on strategic fit and performance/scalability



## 2 We turn ideas into business potential based on a managed process from idea generation to implementation



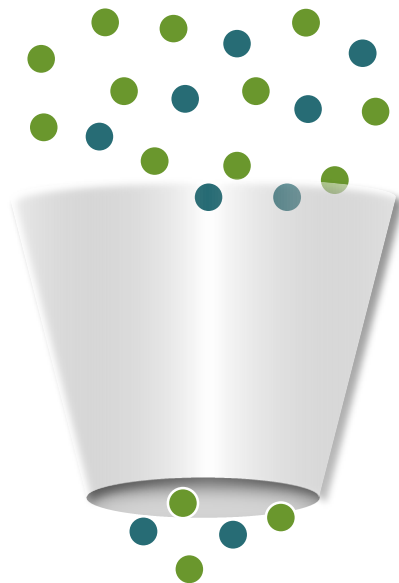
Encourage idea generation



Testing and learning (from success and failures)



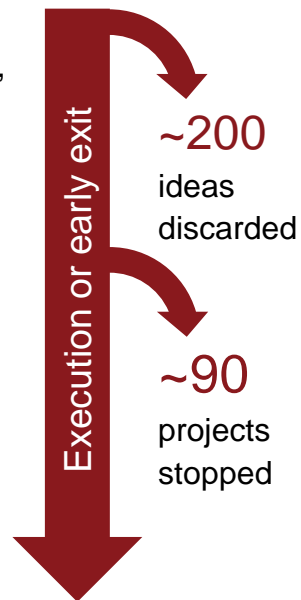
Market launch and scaling



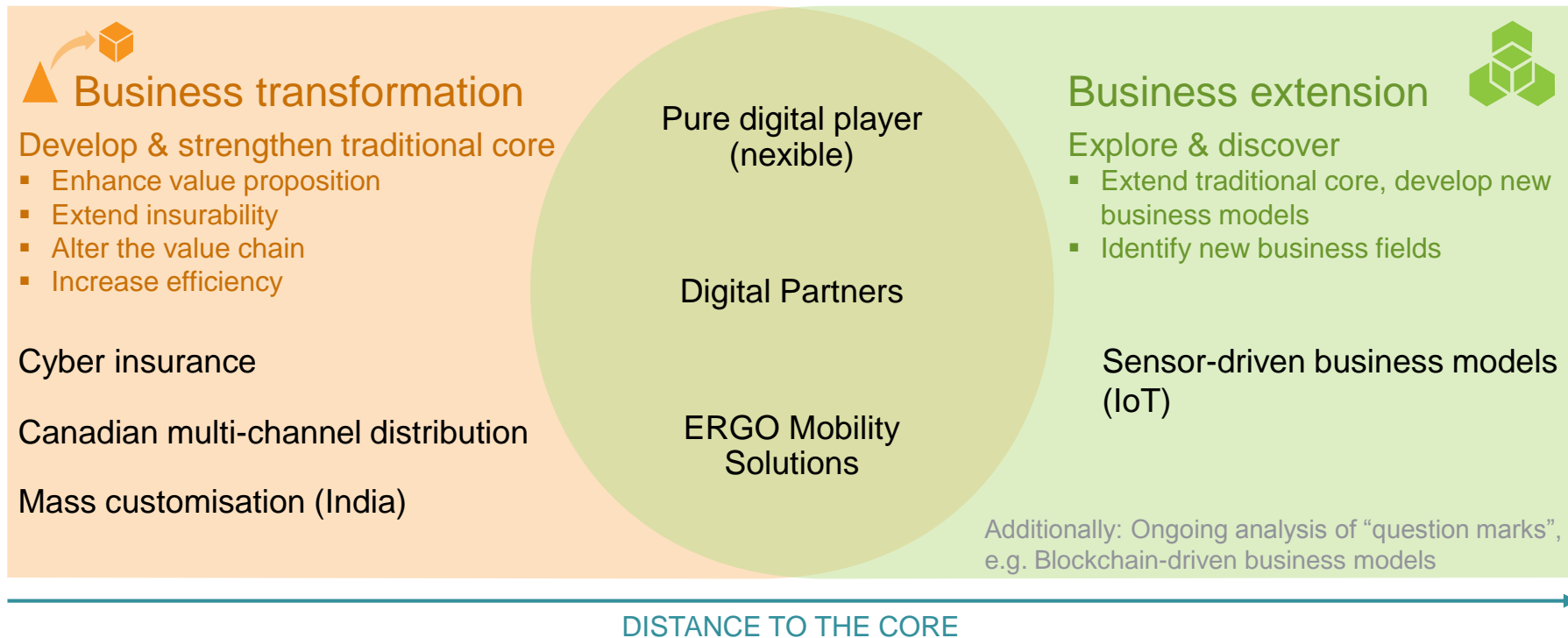
**>420** innovation ideas assessed, based on >1,000 proposals

**>220** innovation projects and pilots (thereof ~130 ongoing)

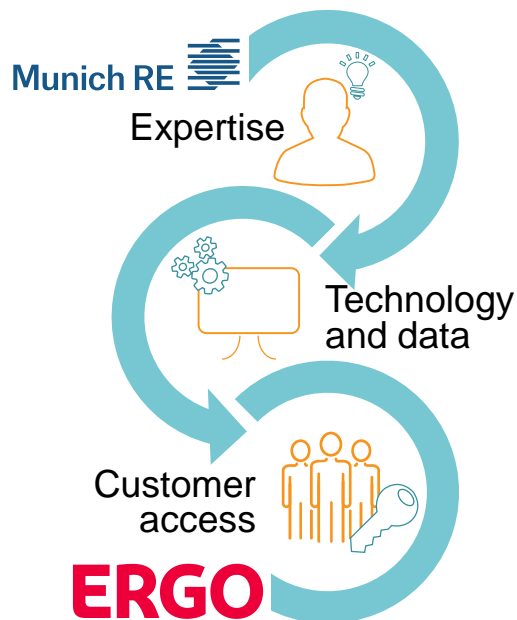
**>20** implementations



### 3 We take an active role to continuously transform and extend our business – Selected projects to be discussed today



### 3 We realise innovation synergies from our set-up as RI and PI through our project on Interlocked Business Models



#### Key areas for innovation synergies

- Joint innovation activities and building of business models, e.g. IoT, digital platforms, and ecosystems
- Joint use of resources
  - Product development competencies, e.g. cyber
  - Innovation infrastructure, e.g. innovation scouting
  - Technology know-how and infrastructure, e.g. data analytics, artificial intelligence
- Leverage global presence of RI, e.g. for ERGO Mobility Solutions in China
- Corporate venture capital (CVC) infrastructure and competencies

▶ Create a strategic advantage from primary insurance and reinsurance set-up

# ERGO Digital Ventures

Mark Klein



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## We live in a time of technological change

### Devices and sensors



**30** billion  
connected devices  
by 2020<sup>1</sup>

### Data



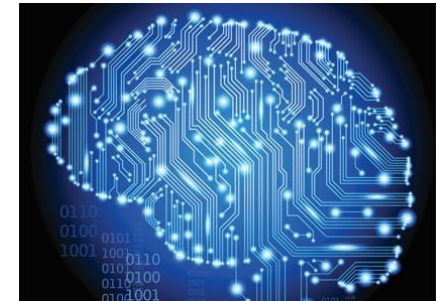
**90%** of data  
was gathered  
in the last 2 years

### Computing power



It took Google  
**1,202** CPUs  
and **176** GPUs to beat the  
world champion at the game Go

### Artificial intelligence

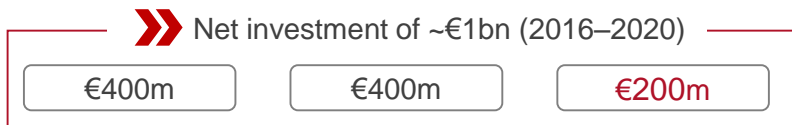


A **new world**  
chatbots, robots,  
autonomous cars ...

▶ Changing behaviour is driving digital opportunities for primary insurance business

# Our origin and mission: Turn ERGO into the leading provider for digital solutions

## ERGO Strategy Programme



- 8 Fundamental optimisation of product portfolio
- 9 Integrated offerings for hybrid customers
- 10 Solutions for pure online customers
- 11 Strengthening internat. comm./indust. business
- 12 International B2B2C partnerships
- 13 International growth

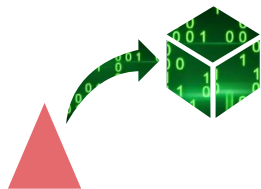
## Founding of

ERGO Deutschland

ERGO Digital Ventures

ERGO International

## Our mission



Ensure successful execution of ERGO's digital transformation



- P&L responsible for >€1bn GWP online and direct sales in Germany<sup>1</sup>
- Driver of growth initiatives

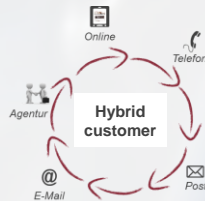
# Framework for digitalisation at ERGO



Enabling technology  
and digital innovation

Improving  
existing  
business  
models

Starting with



Disrupting  
existing  
business  
models

Starting with  
pure digital

*nexible*

Establishing  
new business  
models

Starting with  
automotive



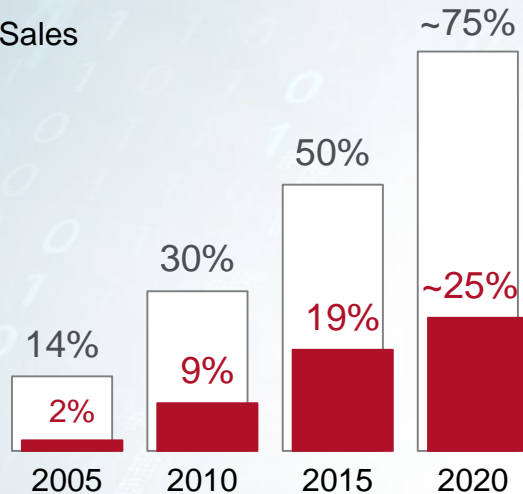
Digital culture – a new way of working and global exchange

Image: Stockphoto

## The online market for insurances is growing strongly

### Insurances – Online share

- Information
- Sales



GfK, Bain "Global Digital Insurance Benchmarking Report 2015"

Significant potential  
in online/offline link

Further growth potential  
in online sales



## We aim at the modern customer and adapt in sales, retention and service

### 360-degree customer view

- We aim to further **harmonise products** (car, home, liability) **and operations** to meet our customers' needs and expectations on all channels
- Usage of **customer relationship management** started in October, serving our first individualised **cross-channel campaigns**



### Service

- We aim to provide Germany's **leading insurance customer self-service portal** (measured in absolute number of logins)
- More than **620,000 registered users**, **annual growth rate 35%**

### The new agency

- **50%** of ERGO.de's **web traffic** induced from our **agencies' web sites**
- We strive to become the **leading website for tied agents** in Germany

### Empowering ERGO in online business

- We aim to make **all main retail products** attractive and available for sales on **all channels** (online, telephone, print, ...)
- **Conversion rates increased** in health products by **22%**

## We empower ERGO to deliver best-in-class user experience by means of our new digital factory

### ERGO Digital IT as part of ERGO's global IT



Source: Shutterstock

BERLIN

~50 experts

WARSAW

Source: Shutterstock

WARSAW

~250 experts

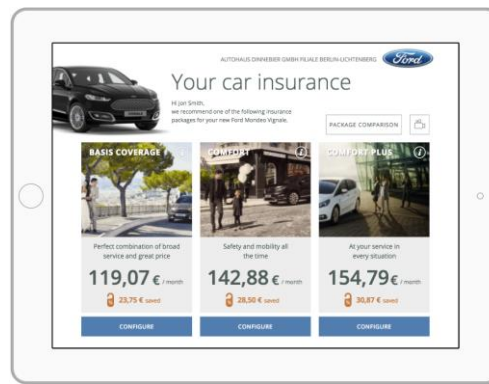
~€140m (gross)

planned investment 2017–2020  
in customer-facing IT solutions  
for unrivaled costs per product

We live a new way of working

- Use **greenfield** approach where possible
- **Agile** projects – developed Multitool Life end-to-end in only three **months**

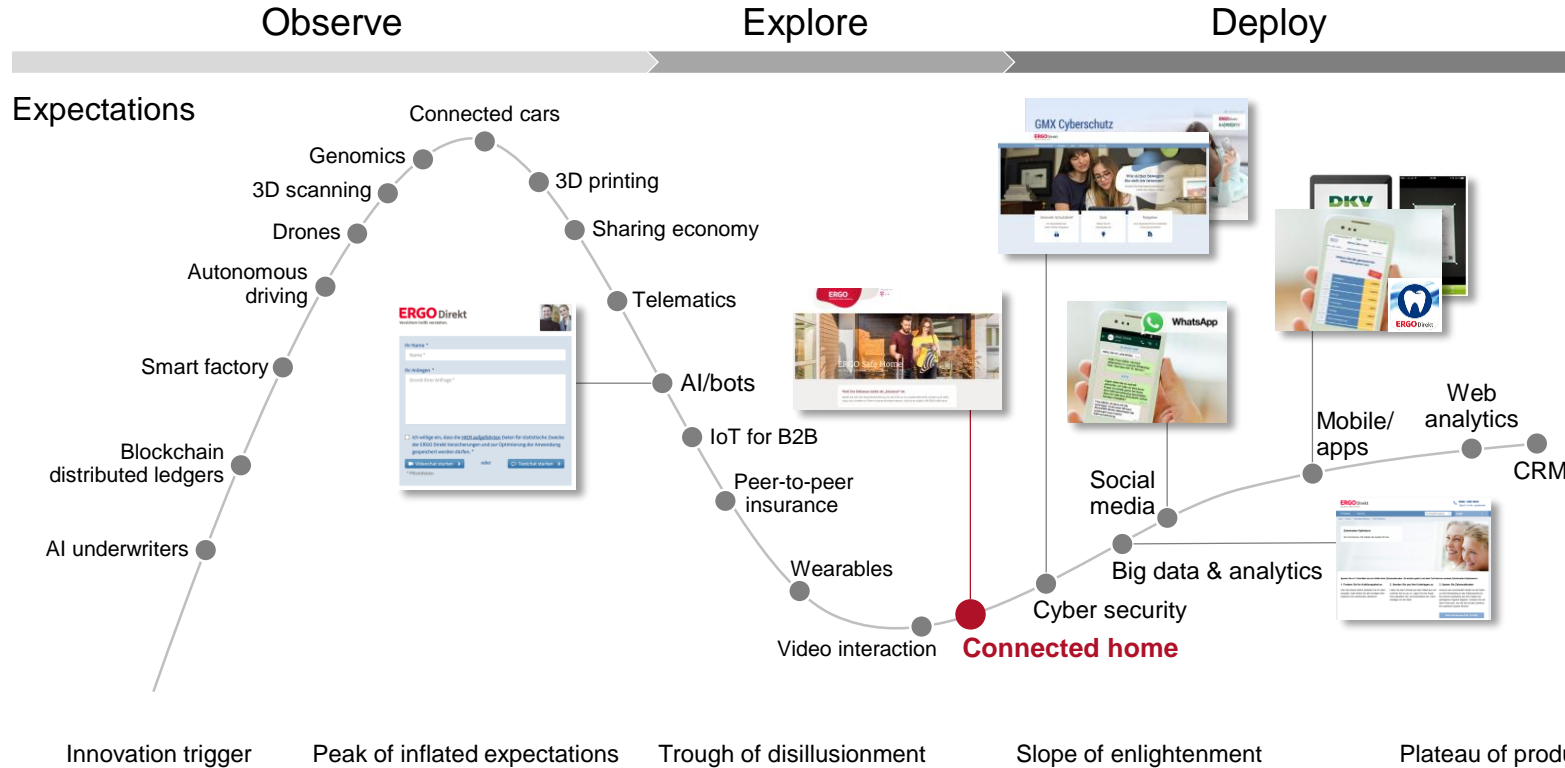
### ERGO Mobility Solutions



### Success case

- **Increase volume** – Increase overall sales volume and number of policies concluded in car business by establishing new sales channel through OEMs
- **Market penetration** – Conclude cooperation with OEMs and strengthen market penetration for ERGO
- **Sustained profitability** – Aim to achieve sustained profitability of the ERGO brand

# We focus and account for different maturities of innovation topics by using a hype-cycle logic



International knowledge exchange on mutual business

## Connected Home – ERGO Safe Home minimises and prevents damage for smart-home customers

### Overview: ERGO Safe Home



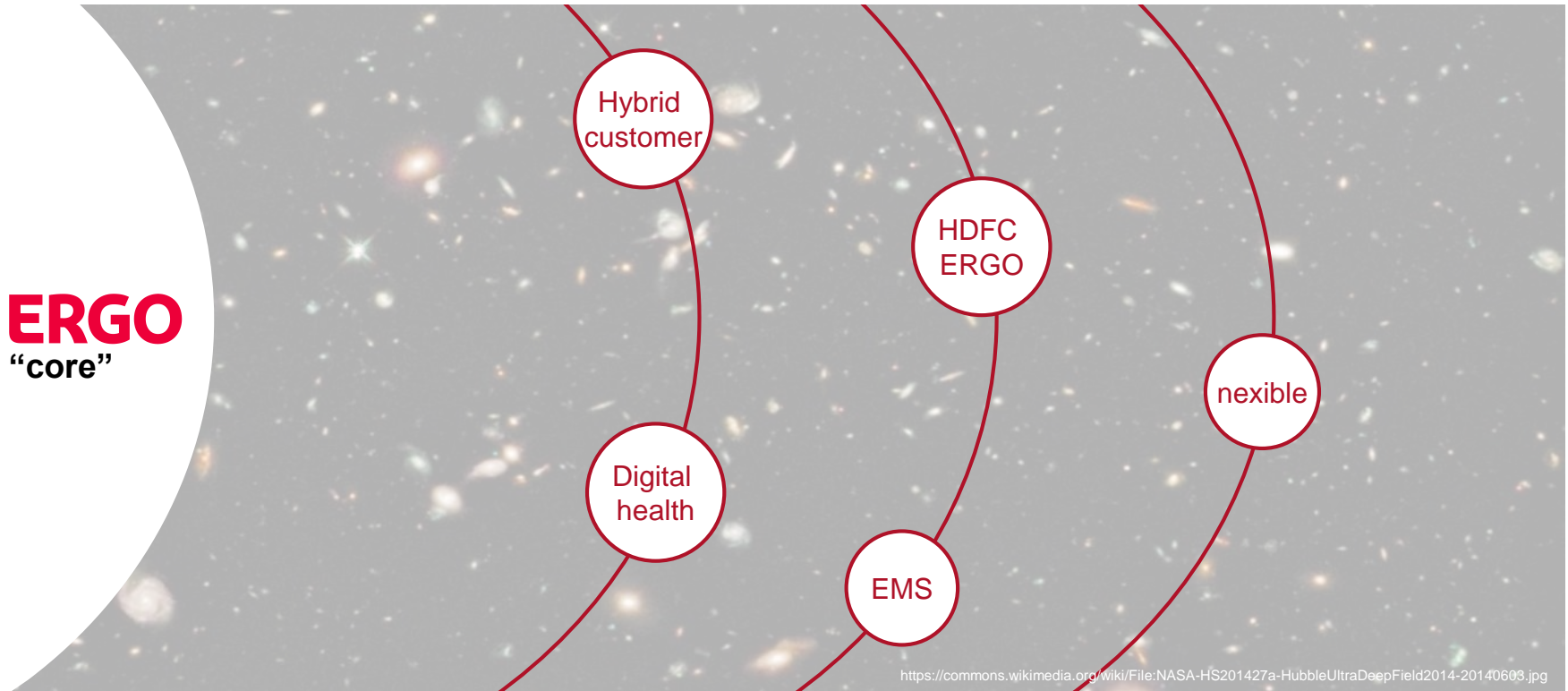
### Deutsche Telekom cooperation



- **Product bundle of insurance, technology and service**  
Sensor-based alarm system combined with household insurance and assistance service. Sensors detect incident and notify customer and assistance service partner for immediate relief.
- **Joint sales with Deutsche Telekom**  
Sale of smart-home bundle via ERGO's tied agents and sale of stand-alone assistance service via Telekom shops

Automated alert chain triggered by sensors with 24/7 emergency assistance

## We have established units and programmes to drive digitalisation from the edge



# Reinsurance

Marcus Winter



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# Our innovation activities capitalise on major external trends

## TECHNOLOGICAL SHIFTS – “INDUSTRY 4.0”

Sensors

Digitalisation  
and automation

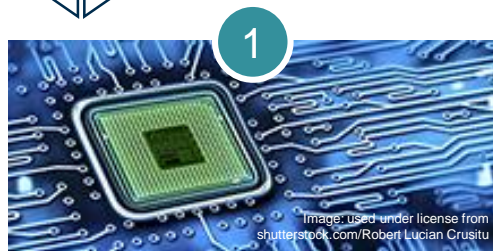
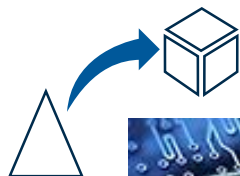


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## DIGITAL ECOSYSTEM

Digital Partners

Canadian  
multi-channel  
distribution



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## NEW TYPES OF RISKS

Cyber



“Hyperloop”

## DATA & ANALYTICS

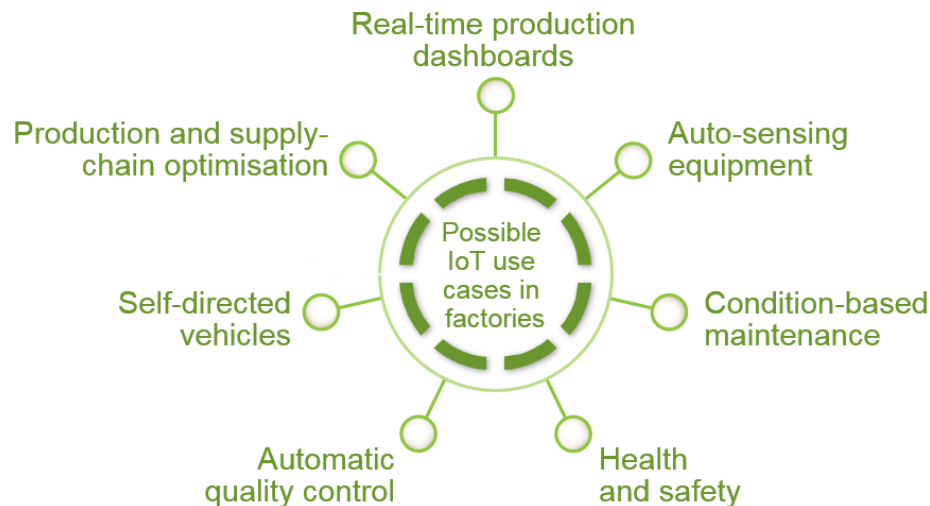
Data lake

1 0  
1 1 0 0 1 1  
0 1 0 0 1  
0 1 1 0

Digitally  
augmented  
underwriting/  
claims



# 1 “Industry 4.0” provides us with the opportunity to access a huge market with new business models

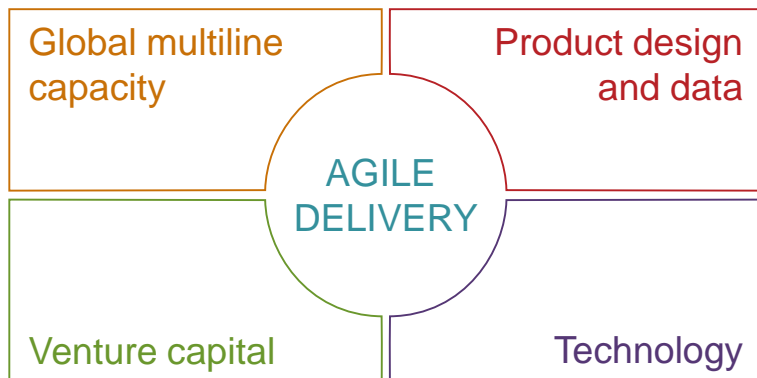


- “Industry 4.0” provides access to significant new revenue streams and a new customer base
- Change of value proposition
  - Claims prevention vs. claims coverage
  - Assurance of outcome vs. insurance of risk
  - Provision of hardware (sensors/assets) and performance guarantee

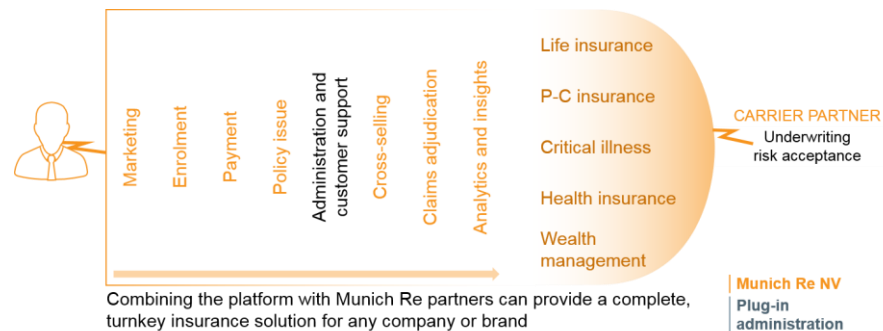


## 2 Digital Ecosystem – We provide an attractive value proposition for players rethinking insurance delivery

### Digital Partners



### Canadian Multi-channel Distribution



- Providing digital backend systems beyond traditional underwriting/pricing support
- Offering value to different players servicing consumers with risk coverage

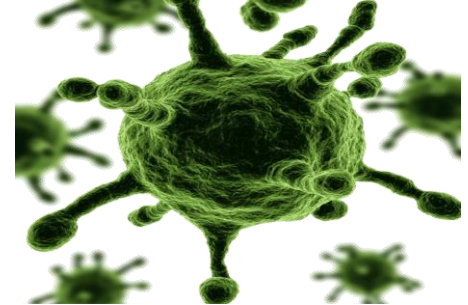
### 3 We have a longstanding tradition in insuring new types of risks



Pushing the boundaries of technology:  
“Hyperloop”



Extend value proposition into services:  
Cyber



Leverage data analytics:  
Pandemics cover

## 4 Strong investment into data analytics allows us to extract value from internal and (new) external data sources

### TECHNOLOGY

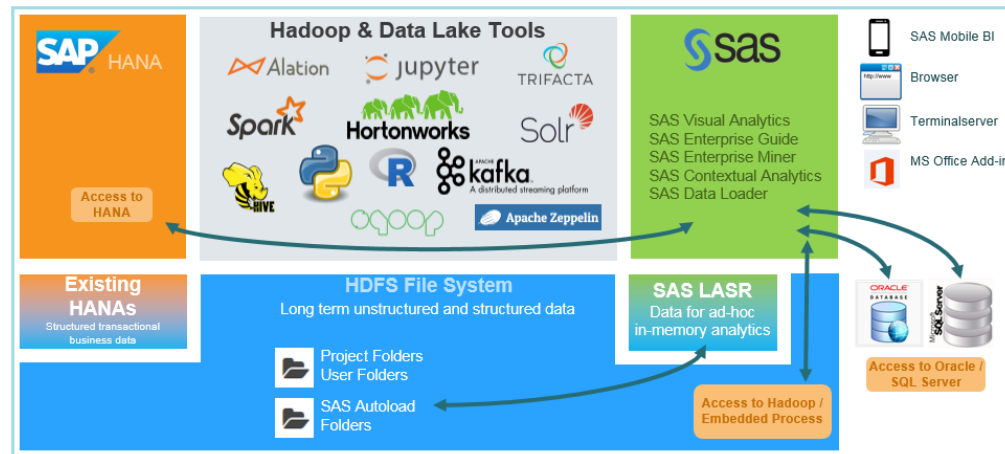
State-of-the-art data analytics infrastructure  
“Munich Re Data Lake” in place – no legacy systems

### PEOPLE

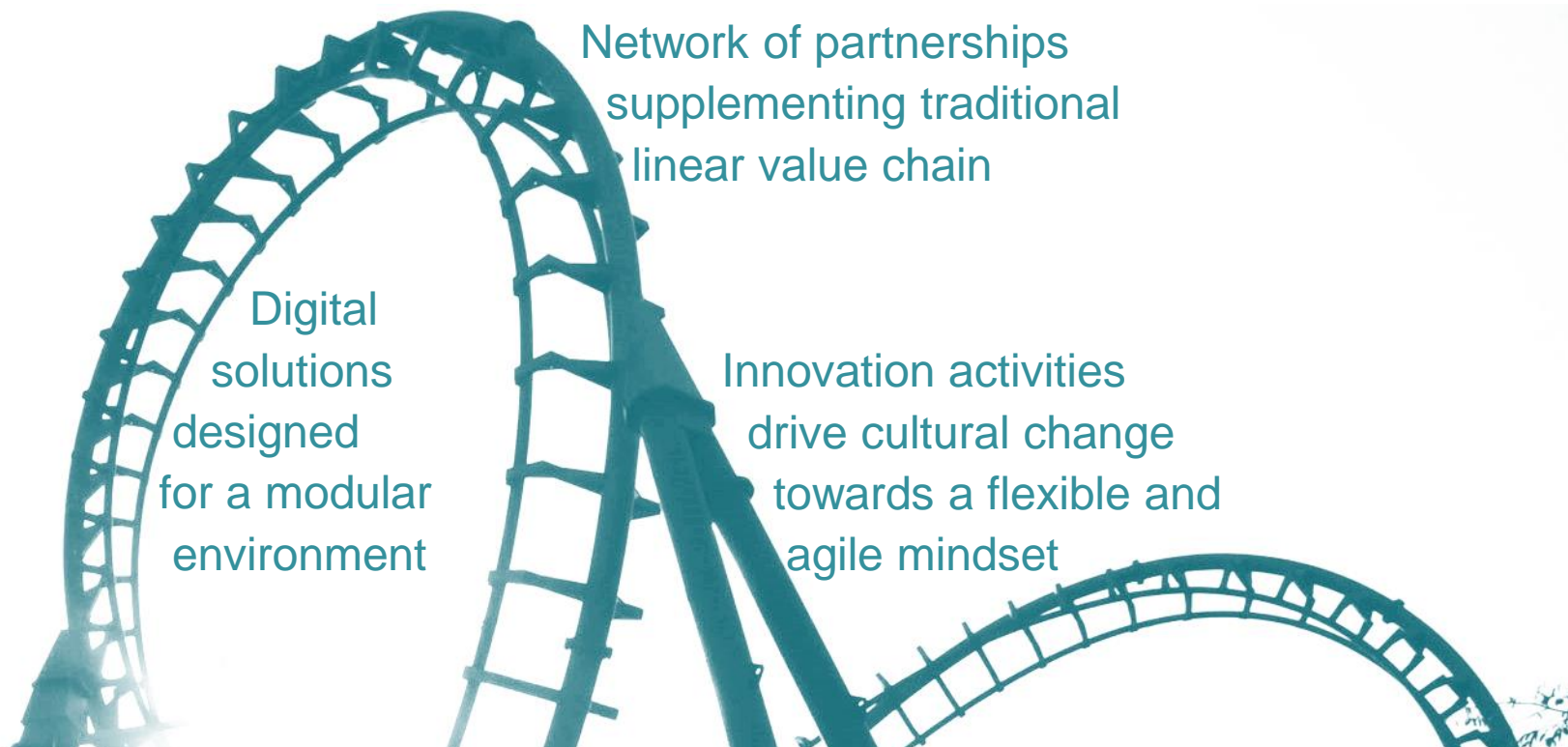
Investment into decentral data analytics capabilities, >150 FTE with data science background across global organisation

### VALUE

Data scientists and business function teams partner to deliver cognitive computing and artificial intelligence across the value chain



# Our transformation: Agile, flexible, modular



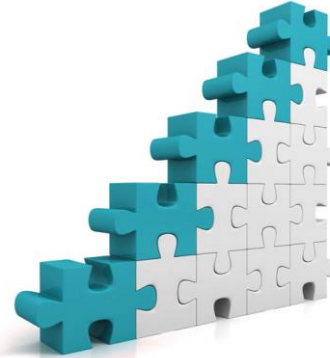
# We drive innovation in the industry

## Unique positioning



- Global presence
- Financial strength
- Full range of monetisation options
- No IT legacy
- No channel conflicts

## Unique mix of value propositions for our partners



- Domain expertise in underwriting, claims and risk management
- Efficient access to new solutions
- Strong brand and reputation
- Mutual trust
- Longevity of our offerings

# Strategic investments in selected partnerships to leverage joint value creation potential

## InsurTech



## IoT

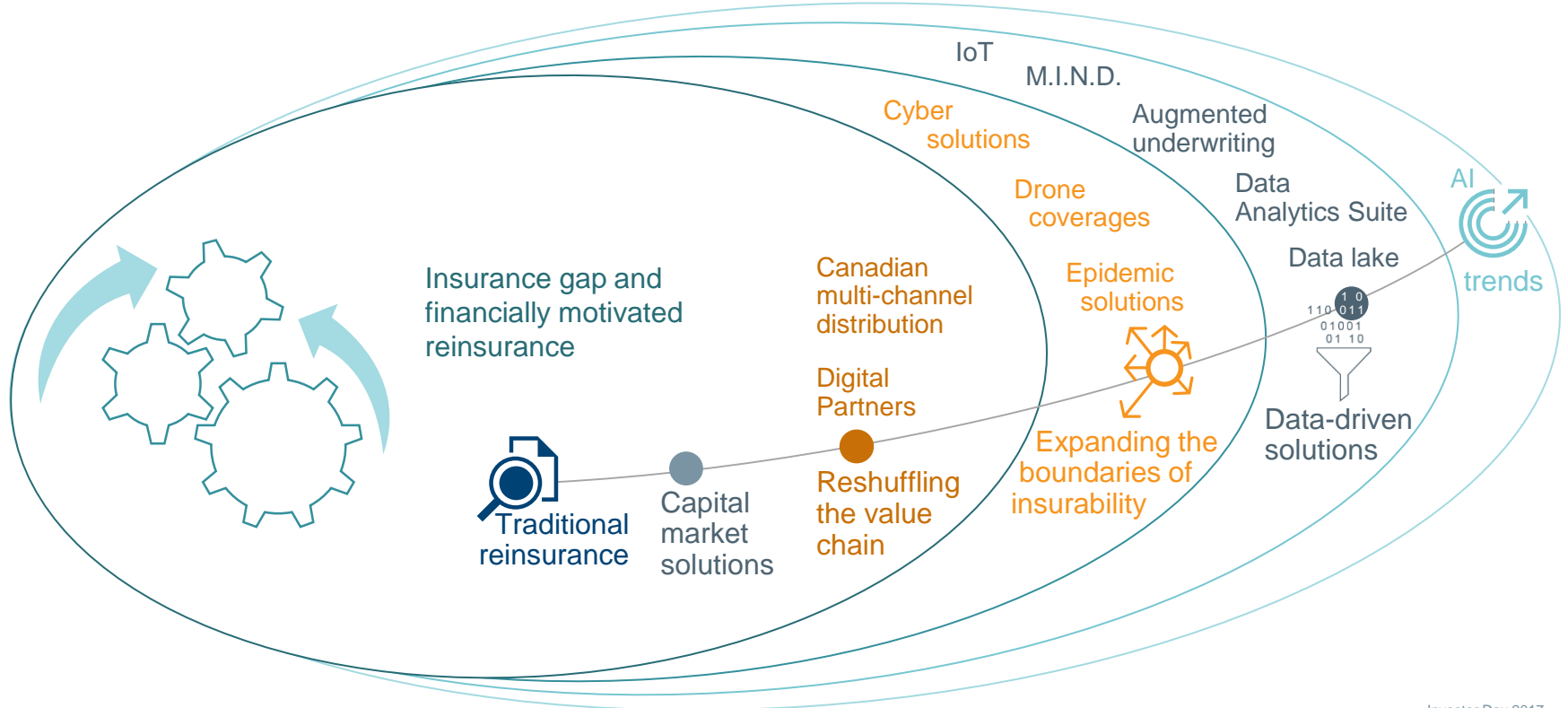


## Other



- >€60m invested into >10 assets focusing on InsurTech and IoT ecosystem
- Strategic intent is joint value creation and establishment of long-term partnerships
- We provide value – not only money: Start-ups seek access to domain expertise, clients and brand accreditation provided by Munich Re

# From incremental innovation to leading-edge technology – Tangible success cases



# Data and analytics

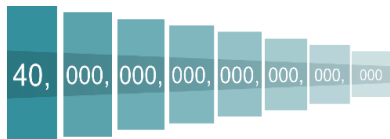
Wolfgang Hauner



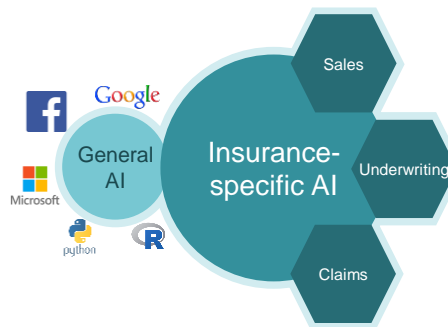
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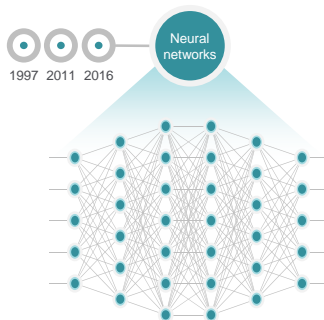
# Data and analytics – Why, why now, and how?



New developments help to use full power of technologies



We enable our employees and customers to use enriched data, advanced tools and state-of-the-art analytics



Data volume is growing exponentially

Munich Re is leading in insurance-specific artificial intelligence (AI)



Data scientists and business-function teams partner to deliver cognitive computing and artificial intelligence across the value chain

# Data and analytics supports Munich Re's core strategic areas, serving as business enabler for the whole Group

Mission: Generate business value through data analytics for internal and external clients

## Data analytics

Help to retain business by providing data analytics services

## Portfolio analysis

Generate more and better business, identify weak spots

## Fee business

Getting paid for services

## ERGO

- Tariff optimisation
- Customer satisfaction
- Automated underwriting
- Loss-driver analysis
- Telematics



Hartford Steam Boiler

- Churn
- Cross selling
- Loss-driver analysis
- IoT and telematics
- Supply chain monitoring



## DKV

- Daily sick allowance
- Medical coding assistant (MOCA)
- Predictive underwriting
- Dental billing check

## MEAG

- Predict interest rates
- Portfolio optimisation
- Sentiment analysis

# Data and analytics serves purposes along the (re)insurance value chain

## Insurance value chain



### DISTRIBUTION



### UNDERWRITING



### CLAIMS

## AI trends

### AUTOMATED ADVISORY

- Complement face-to-face interaction
- Enable innovative distribution (e.g. P2P)
- Serve low-volume, high-frequency segment
- E.g. mass business in India

### AUTOMATED UNDERWRITING

- Leverage all data and resources
- Improve workflow and customer experience
- E.g. “The Box“

### VISUAL CLAIMS SUPPORT

- Enable fast response
- Obtain more detailed information
- Handle low-volume, high-frequency claims
- E.g. M.I.N.D

# How it works in the reinsurance group

1

Collect data

Client/  
portfolio data

Munich Re  
data

External data  
sources



2

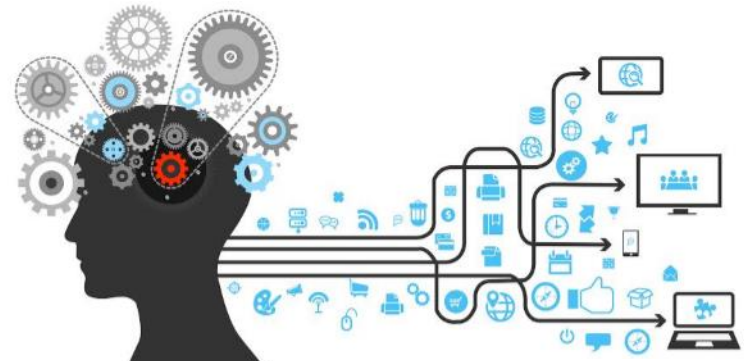
Store, cluster and  
structure data

Data lake



3

Analyse data



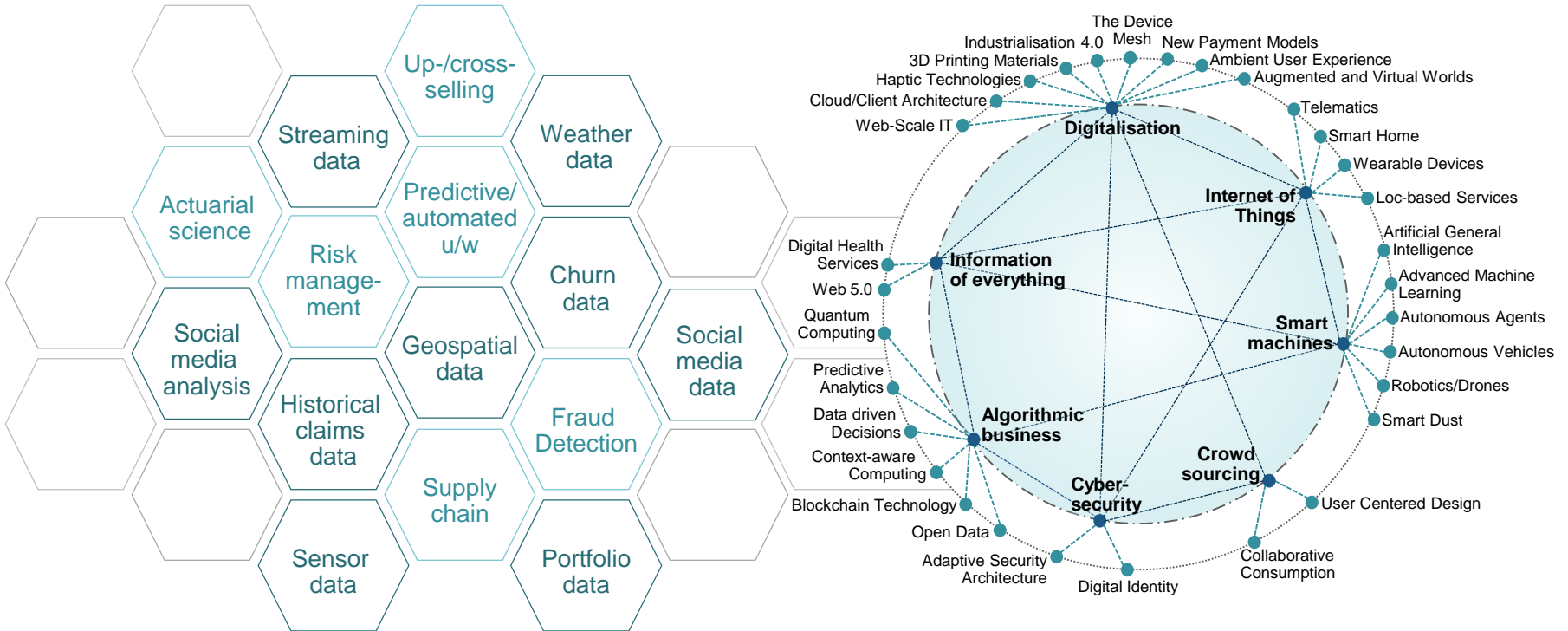
Machine learning,  
AI, statistics

4

Add value

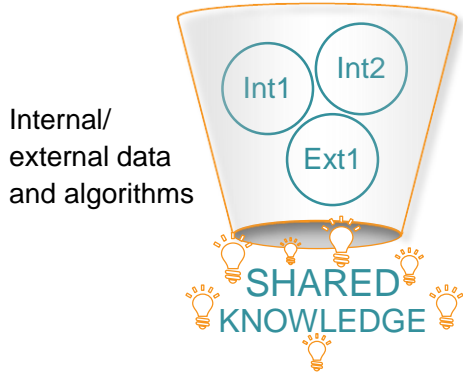
- Solution
- Improve efficiency
  - Improve portfolio quality
  - Business generation

# 1 Collect data: Combination of data with domain-specific expertise is key!



## 2 Munich Re Data Lake – The open enterprise approach for the reinsurance group globally

### Data innovation



Reach highest level of data innovation by community-driven digitalisation

- Share data, knowledge and algorithms
- Very fast prototyping and innovation
- Easy access and self service

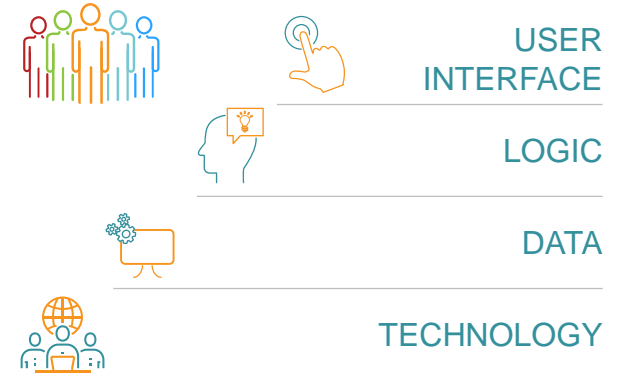
### Time to digital market



Shorten time to insight and product by centralising and cataloguing

- Find data fast using a catalogue
- Clean, prepare and merge centrally
- Lots of horsepower

### Service diversity

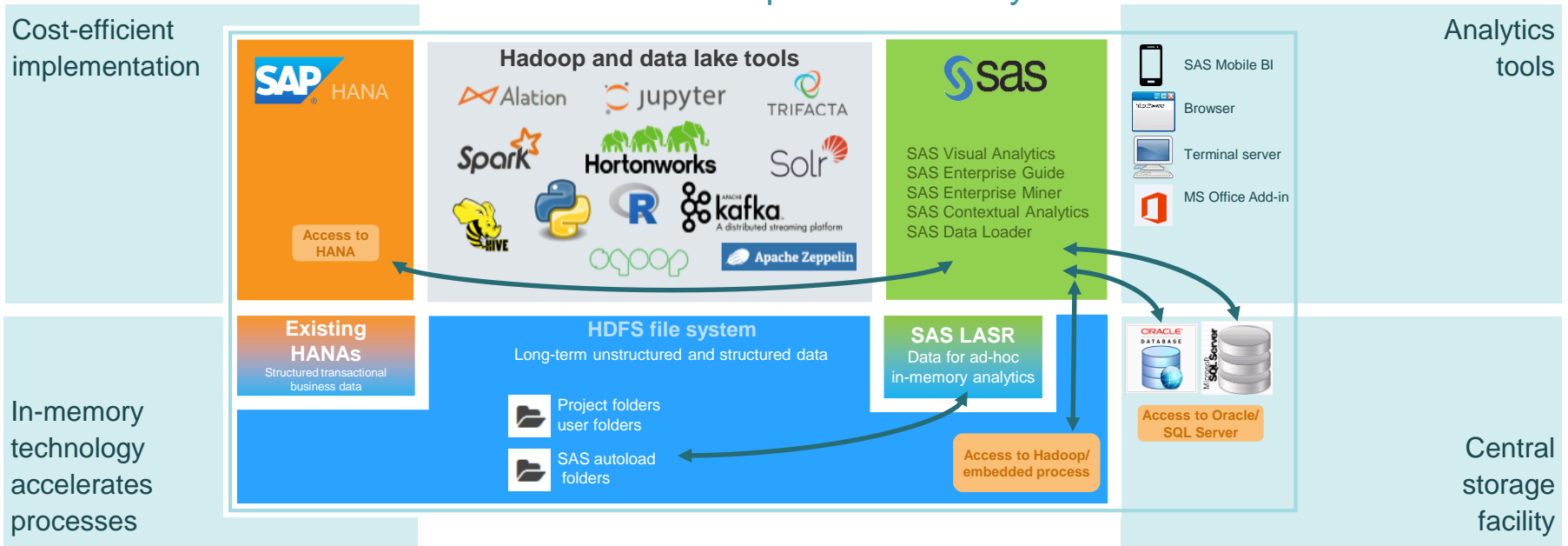


Layers of expertise, professionalism and enterprise readiness

- Service development in every layer of the value creation process
- Multi-dimensional customer base

## 2 Munich Re Data Lake – Leading-edge infrastructure

Intelligent shortcut using best-in-class solutions to build a superior overall system



### 3 Turning data into value

#### Platform open to every Munich Re employee

- Dynamically visualise data of any size
- Get a quick and easy overview of data by using heatmaps, correlation matrices, etc.
- Predict outcomes based on certain explanatory factors
- Predict claimed amount per individual based on age, gender, disease, etc.

Explorative analysis  
Advanced visualisation techniques

Predictive modelling  
Regression and machine learning models



Multivariate effect analysis  
Regression and machine learning models

AI,  
text mining,  
deep learning  
Singular-value decomposition, NLP, neural networks

#### Often initial focus on data extraction to be solved to enhance available data

- Figure out how certain factors influence a target variable
- Influence of age, gender, disease, etc. on claimed amount
- Analyse large amounts of unstructured text, pictures, speech, ...
- Extract key topics from claims reports, insurance-specific computer vision

Support new developments, e.g. text mining (NLP) and telematics

Facilitates quick and in-depth analysis of problems





## 4 Example: Risk assessment to improve efficiency – Digitally augmented underwriting: Tariffs using artificial intelligence

### Tariffs are key – But hard, slow, and costly

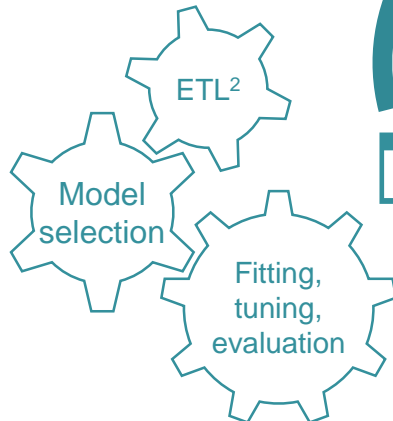
- Experts using portfolio-specific data
- GLMs<sup>1</sup> as state-of-the-art risk models
- Various individually estimated factors for tariff adjustment


### Munich Re


Additional external data 

Munich Re data and insights 

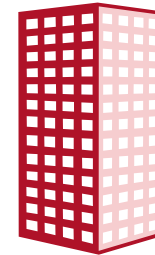
### AI methods



Automatic and individual AI-based tariffs 

Claims, tariff and contract data 

### Primary insurance

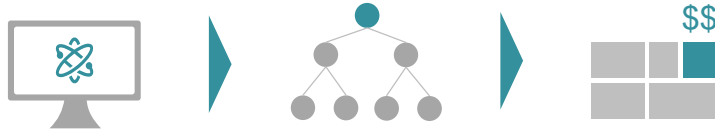


#### Benefits

- Speed/timeliness
  - Cost reduction
  - Improved risk selection
- Large repository of proprietary global risk data
  - Access to high-quality external data sources
  - Exceptional data science and domain expertise
  - Cutting-edge data and artificial intelligence technology

## 4 Example: Risk assessment to generate more business – Identify cross-selling potential for a client

### Identify pools with high cross-selling potential



Data collection  
and testing


Machine  
learning

Result clustering:  
Profit potential



### Geocoded result visualisation

- Forecast insured's policy type with 90% success ratio
- Identify customers with high potential to buy additional insurance by region

 High potential to buy additional insurance

### Improve sales efficiency and profitability

- Improve transparency on existing customers, e.g.:
  - Clusters with high buying potential
  - Geocoded distribution of customers per insurance policy
  - Potential analysis per distribution channel
- Efficient usage of sales force capabilities
- Better customer relationship management
- Swift deployment of service: complete analysis cycle can be done within 4–8 weeks
- No system integration needed

# Cyber insurance

Daljitt Barn



1

# Our approach

## History

We have been writing cyber for over 10 years



Hartford Steam Boiler

## Ambition

Munich Re would like 10% market share by the end of 2020

**ERGO**

## Growth

Organic through quota-share, plus white-label and primary markets

**Munich Re Syndicate Limited**

## Resonance

Our heritage of managing complex risk whilst being innovative in the cyber market

# Global trends

## Cyber penetration in the US: ~20%

- Strong growth in certain industries: Manufacturing, transportation, life sciences, power and utilities
- Ransomware attacks in 2016: Increase of 100%–400%, making it the “year of the ransomware”
- More IoT-leveraged attacks in 2017, like the “Dyn event”
- Attacks on cloud services will be more prevalent, e.g. business interruption. We will therefore see more primary cyber policies being written

## Cyber penetration in rest of world: <5%

- Lloyds have circa 60 syndicates writing cyber
- Strong growth predicted in EU for SME and growing markets in Asia, especially Japan
- Cedants wanting support from Munich Re (quota-share or facultative) to understand the gaps between writing SME and moving to industry
- Automated underwriting and MGA models key for distribution

# Cyber incident – WannaCry

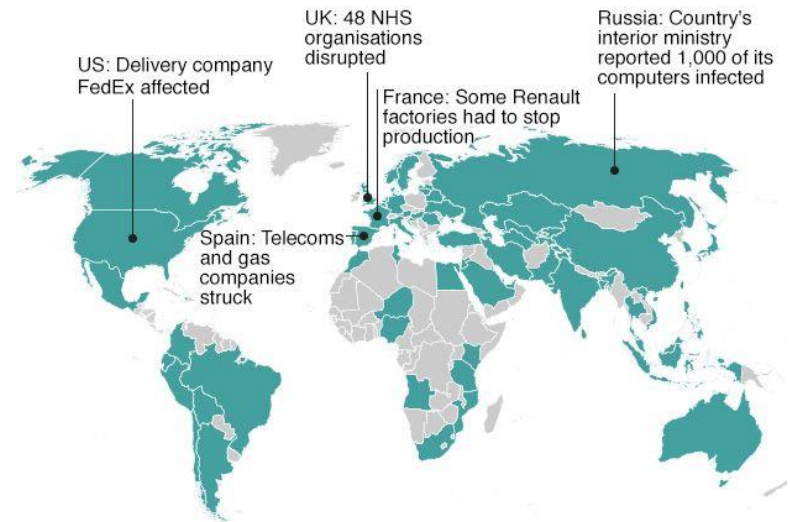
## Executive summary

- Example of a ransomware worm that encrypts files on the compromised computer and demands a ransom payment for decryption (~US\$ 300–600 paid in bitcoins)
- Attack has hit over 200,000 systems in 150 countries since 12 May 2017
- All Windows versions before Windows 10 are vulnerable to WannaCry if not patched for MS-17-010
- Finally WannaCry scans for other vulnerable Windows computers to spread very quickly

### A turning point for cyber insurance?

- Raised awareness globally of this type of peril, i.e. it impacted people's lives
- Did not impact cyber policies because of waiting periods, and with this and Petya, the ransom is below retention limits
- Business interruption is the more prevalent impact

### Countries hit in initial hours of cyber-attack



\*Map shows countries affected in first few hours of cyber-attack, according to Kaspersky Lab research, as well as Australia, Sweden and Norway, where incidents have been reported since

Source: Kaspersky Lab's Global Research & Analysis Team

BBC

# Cyber insurance landscape – What do we think?

Current market size

~US\$ 3.6bn

At the end  
of 2016

Global distribution of cyber

85%

US market by  
end 2016

Munich Re GWP in 2016

US\$ 263m

38% growth  
(versus 26% market)

Size of the opportunity

US\$ 8–10bn

By the end  
of 2020

EU growth

GDPR<sup>1</sup>

Mandatory breach  
reporting for cyber

Munich Re low loss ratios

Profitable

For the class  
of business

# Cyber risk in the insurance industry – Cyber as a peril

Rapidly evolving  
landscape

Inhomogeneous

Cyber crime is  
big business

Risk  
quantification?

Cyber past does  
not predict cyber  
future





# Implementing cyber security – Cyber as a control

Budget and teams often aligned with IT

Risk mitigation focused

Security controls must work at all times

How much security is enough?

What is the RoI?



# Cyber risk in the insurance industry – Cyber as a product

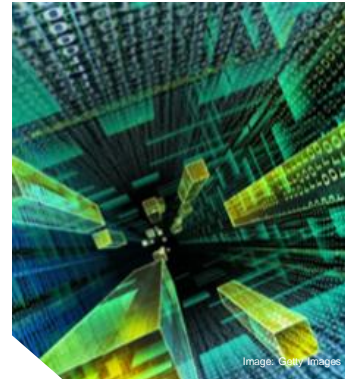
Coverage versus  
pace of change  
in technology

Managing the  
risk, and pricing  
accordingly

We're in the risk  
management  
business

No quantum of  
cyber claims  
data

Accumulation



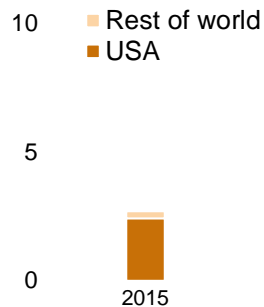
# Cyber risk in the insurance industry – Commonalities between the two worlds

	PERIL	PRODUCT
People	Lack of skilled cyber resources	Lack of cyber skills in cyber underwriting
Regulation	No mandatory breach notification outside US	85% of global market is US focused, but EU to follow
Technology	Digitisation – connecting the old with the new	Distribution opportunities

▶ Confidence is increasing within our industry, but more work needs to be done on both sides

# Cyber (re)insurance market – Strong and long-term growth to be expected

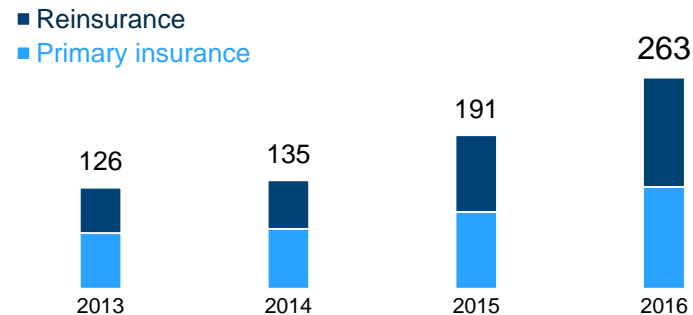
GWP global cyber insurance market<sup>1</sup> US\$ bn



## Reinsurance: First-mover and global market leader

- Dynamic growth through joint projects with cedants
- Steady growth in the US
- Strong accumulation models

GWP Munich Re cyber portfolio US\$ m

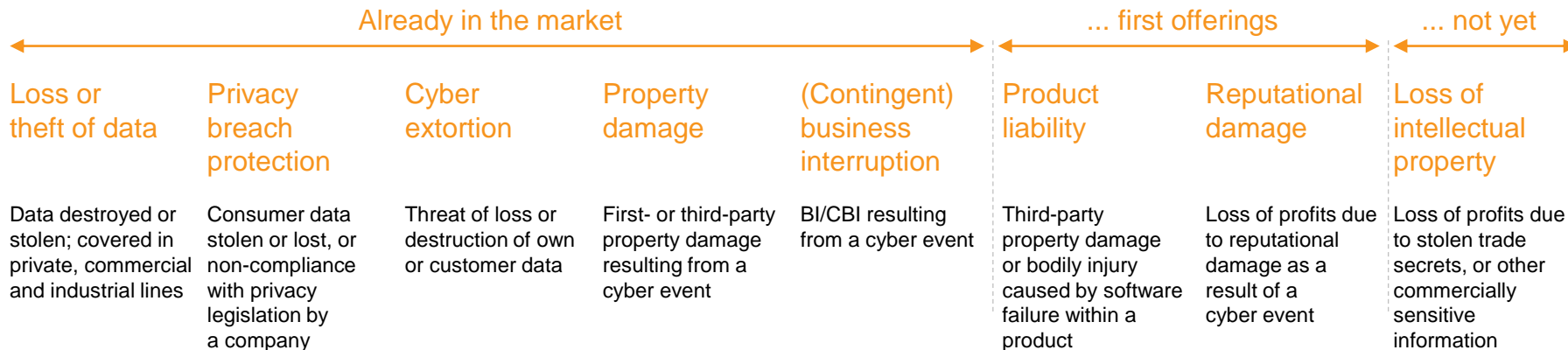


## Primary insurance: Specialised single-risk taker

- Hartford Steam Boiler: Established player in the US for SMEs and individuals
- Corporate Insurance Partner: Focus on large corporate clients – Cooperation with IT providers, and Beazley

With our leading-edge expertise and strong global market presence, we will cautiously participate in the growth of this market segment

# Cyber (re)insurance outlook – Significant expansion of coverage types possible



Increasing exposure and complexity of coverages

▶ Cautious evolution of market offerings

# Munich Re cyber accumulation scenarios – Overview

Accumulation scenario	Self-reproducing IT viruses	Data breach	Corrupted software in core module	Failure of external networks
<b>Description</b>	<ul style="list-style-type: none"> <li>▪ Untargeted cyber attack on multiple computer systems</li> <li>▪ Large number of systems infected by one event</li> <li>▪ First-party business interruption and data losses</li> </ul>	<ul style="list-style-type: none"> <li>▪ Many insureds affected (exploit of common vulnerability by hackers)</li> <li>▪ Top-down PML estimate for breach of cloud service provider in 2014</li> <li>▪ Privacy breach and cyber liability, cyber extortion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Randomly falsified data over a longer period of time</li> <li>▪ Data compromise across multiple clients and industries</li> <li>▪ Business interruption and data losses</li> </ul>	<ul style="list-style-type: none"> <li>▪ Includes power outage and internet outage</li> <li>▪ Property damage, BI/CBI and liability losses</li> </ul>
<b>Munich Re risk management</b>	<ul style="list-style-type: none"> <li>▪ PML calculation model and guideline in place since 2012</li> <li>▪ Regular revision of model parameters (2015, 2016)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Monitoring of limits of exposed (cyber) participations</li> <li>▪ Probabilistic PML model under development and to be implemented in 2017</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lower top-down PML assessment as compared to other scenarios</li> <li>▪ No bottom-up PML methodology required</li> </ul>	<ul style="list-style-type: none"> <li>▪ High loss potential</li> <li>▪ Mandatory exclusion for cyber/IT coverages</li> <li>▪ Internet outage scenarios are currently investigated</li> <li>▪ Monitoring of full limits in case of dispensations</li> </ul>


# Cyber insurance underwriting guidelines covered systems and networks



Covered

Insured's computer system:

- Internal computer systems under the operation or direct control of the insured



Can be  
covered as  
IT outsourcing  
provider

Cloud computing

(SaaS, PaaS, IaaS)

- E-mail service provider
- Web-hosting provider
- Cloud provider



To be  
excluded

Failure of:

1. Electricity supply networks,
2. Telecommunication networks, including the internet

Internet services:

- Internet service provider (ISP)
- DNS service provider
- Internet exchange provider

## Munich Re's value-add – Where can we offer support?



### Experience and expertise

We bring well-established experience to the table with experts who can operate in all industries and organisations, from large corporates to SMEs and personal lines



### Continuous improvement

We continuously monitor changes to the cyber environment, seek to improve our understanding of the risk, and then adapt our cyber products to ensure we remain relevant to our customers



### Innovation

We are actively identifying and developing cyber initiatives to improve our customers' experience and enhance underwriting



# Canadian multi-channel distribution

Mary Forrest



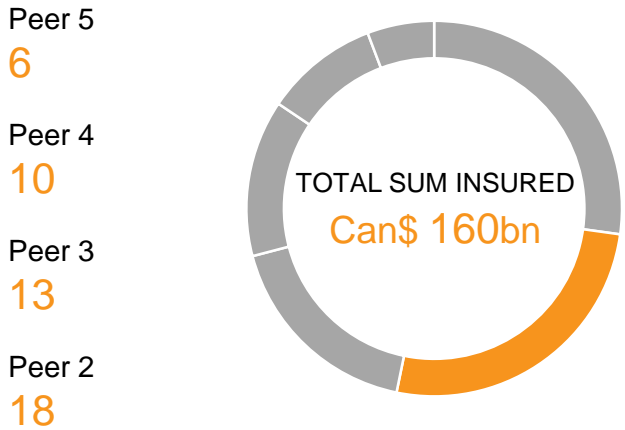
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# Munich Re Canada Life at a glance

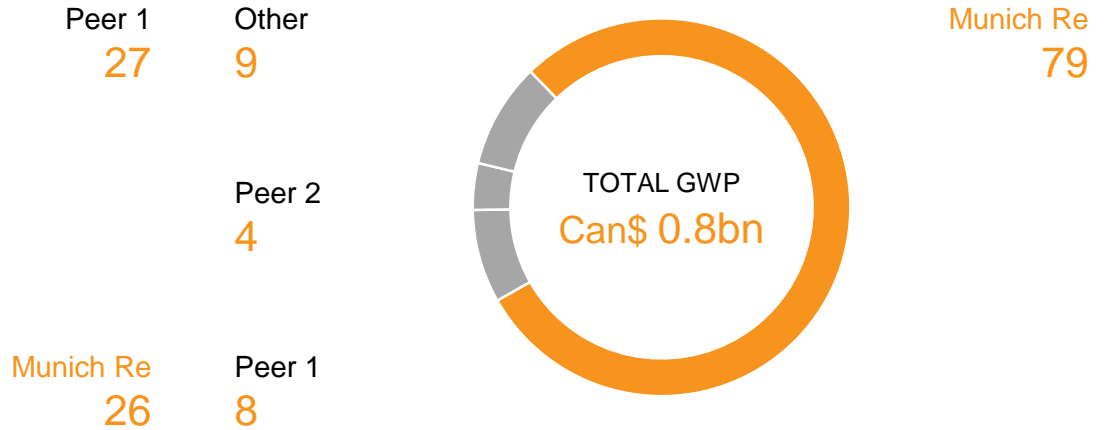


Munich Re is a premium reinsurer in the Canadian life market and the biggest mortality risk carrier %

## Individual life reinsurance market<sup>1</sup>



## Group reinsurance market<sup>2</sup>



Market becoming more competitive

Based on our strong market position, we are exploring new opportunities to grow a currently saturated market

<sup>1</sup> Share by volume in 2016. Source: SOA Reinsurance Survey. <sup>2</sup> Share by premium in 2016, based on traditional group only. Source: OSFI.

## What will we achieve?



Open an  
untapped market



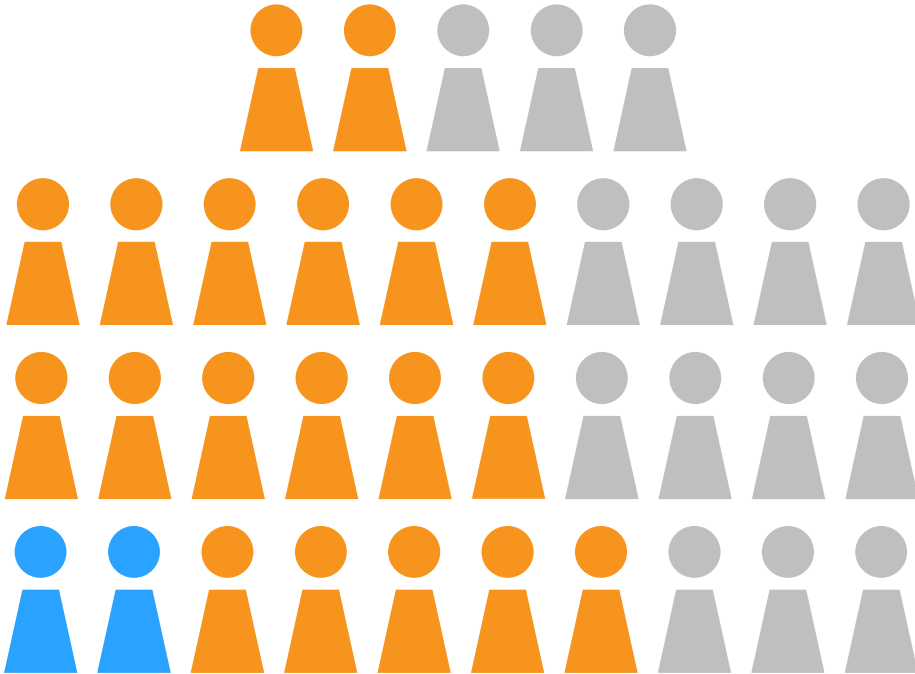
Enlarge product  
offering for clients



Develop a new  
revenue stream



# Canadian group benefits market



**\$40 billion**  
Market

**35 million**  
Canadians

**20 million**  
Mandatory insureds

**2–3%**  
Voluntary insureds

# What is our innovation strategy?

## MANDATE

Solve problems that are plaguing our industry by developing turnkey solutions we can bring to our partners to drive reinsurance reach and growth

### PROBLEM

Lengthy policy underwriting timelines

### PROBLEM

Policy behaviour and meeting customer product needs

### PROBLEM

Claims adjudication complexity

### PROBLEM

Wellness and living a healthy life

### PROBLEM

Overall poor customer experience

## GUIDING PRINCIPLES

### SPEED TO MARKET

Iterative development to prove concept

### COST EFFECTIVE

Deliver a MVP cost effectively

### MODULAR

Ability to integrate with multiple partners

### OWN THE IDEA

Proactively take ideas to partners

## STRATEGIC OBJECTIVES

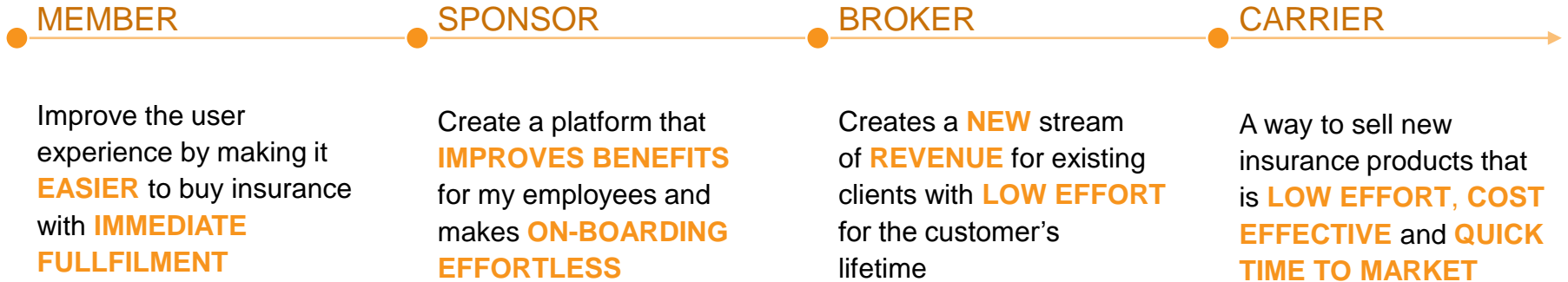
Become one of Canada's largest group insurance consolidators

Develop an end-to-end technology platform

Create a multi-channel distribution network

Establish a preferred partner network

 Our innovation strategy is creating value for all “players” in the insurance sales chain



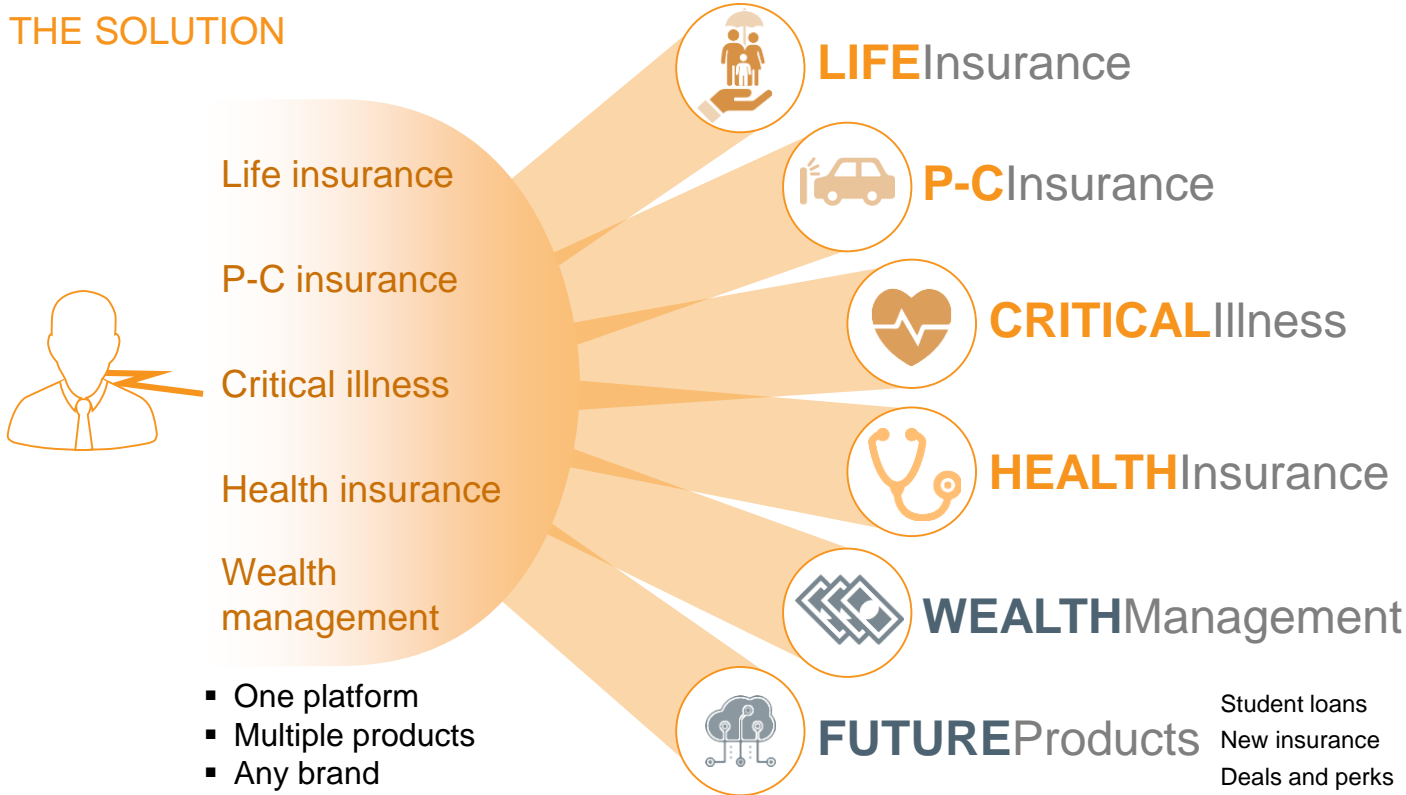


Video



A customer-centric platform that allows the customer to research, **Munich RE**  buy and manage their insurance products and investments

## THE SOLUTION



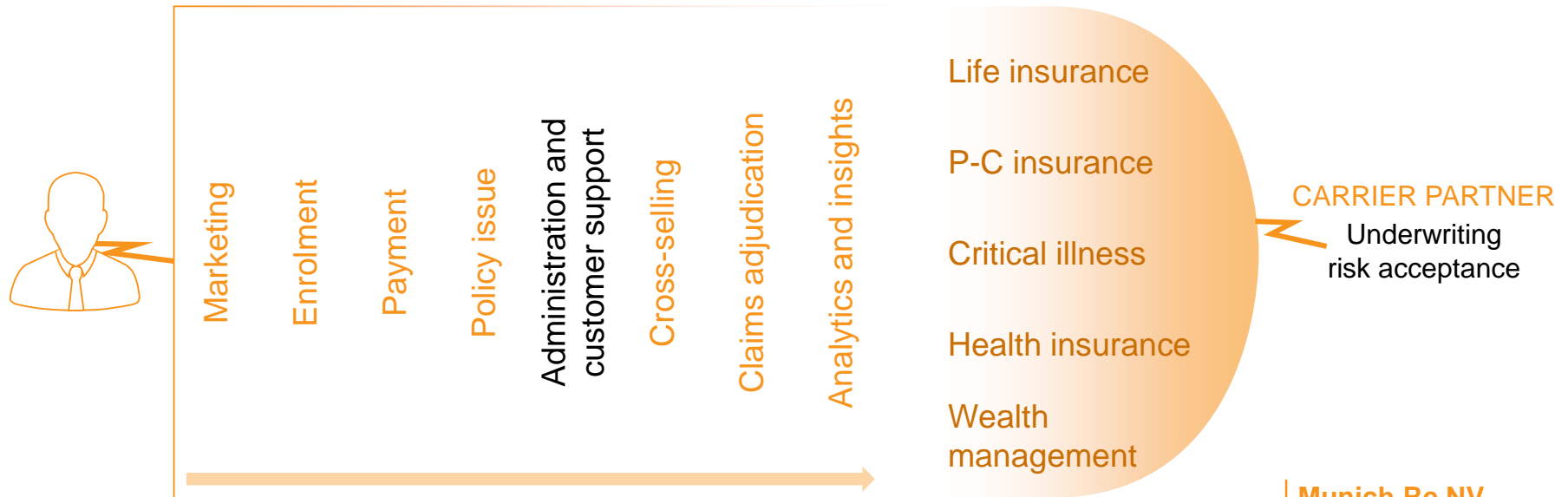
Munich Re  
core expertise

External  
partnerships



# The platform handles all aspects of the insurance sales cycle creating a “Virtual Insurance Company” ...

## THE SOLUTION



Combining the platform with Munich Re partners can provide a complete, turnkey insurance solution for any company or brand

**Munich Re NV**  
**Plug-in**  
**administration**



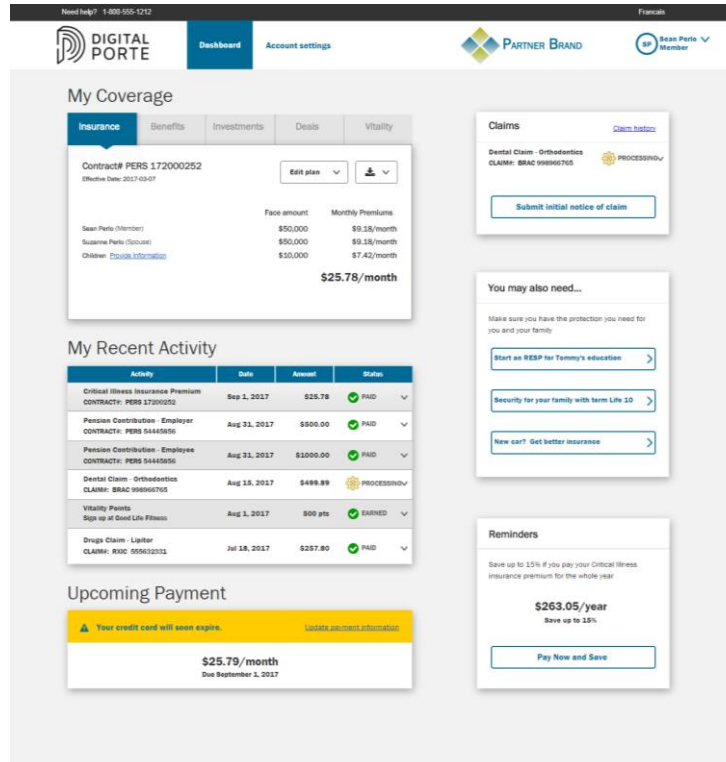
# ... while improving customer experience and convenience

## THE SOLUTION

Quick access to all products and services  
*Insurance | Investment | Vitality*

A live feed of all activity around products including ALERTS, PAYMENT, PURCHASES and CLAIM STATUS

Payment and renewal reminders to encourage accounts in good standing



Need help? 1-800-555-1212 Dashboard Account settings FRANCOIS Partner Brand Sean Porto Member

### My Coverage

Insurance Benefits Investments Deals Vitality

Contract# PERS 172000252 Edit plan +  
Effective Date: 2017-03-07

	Face amount	Monthly Premiums
Sean Porto (Member)	\$50,000	\$9.15/month
Suzanne Porto (Spouse)	\$50,000	\$9.18/month
Children <a href="#">View Information</a>	\$10,000	\$7.42/month
		<b>\$25.75/month</b>

### My Recent Activity

Activity	Date	Amount	Status
Critical Illness Insurance Premium CONTRACT#: PERS 172000252	Sep 1, 2017	\$25.75	PAID
Personal Contribution - Employer CONTRACT#: PERS 5448956	Aug 31, 2017	\$500.00	PAID
Personal Contribution - Employee CONTRACT#: PERS 5448956	Aug 31, 2017	\$1000.00	PAID
Dental Claim - Orthodontics CLAIM#: BRAC 98666705	Aug 15, 2017	\$499.89	PROCESSING
Vitality Points Sign up at Good Life Fitness	Aug 1, 2017	800 pts	EARNED
Drugs Claim - Lipitor CLAIM#: RAC 555612332	Jul 18, 2017	\$257.80	PAID

### Upcoming Payment

**\$25.79/month**  
Due September 1, 2017

**Claims** [Claim history](#)

Dental Claim - Orthodontics  
CLAIM#: BRAC 98666705 PROCESSING

[Submit initial notice of claim](#)

**You may also need...**

Make sure you have the protection you need for you and your family

[Start an RESP for Tommy's education](#)

[Security for your family with term Life 10](#)

[New car? Get better insurance](#)

**Reminders**

Save up to 15% if you pay your Critical Illness Insurance premium for the whole year

**\$263.05/year**  
Save up to 15%

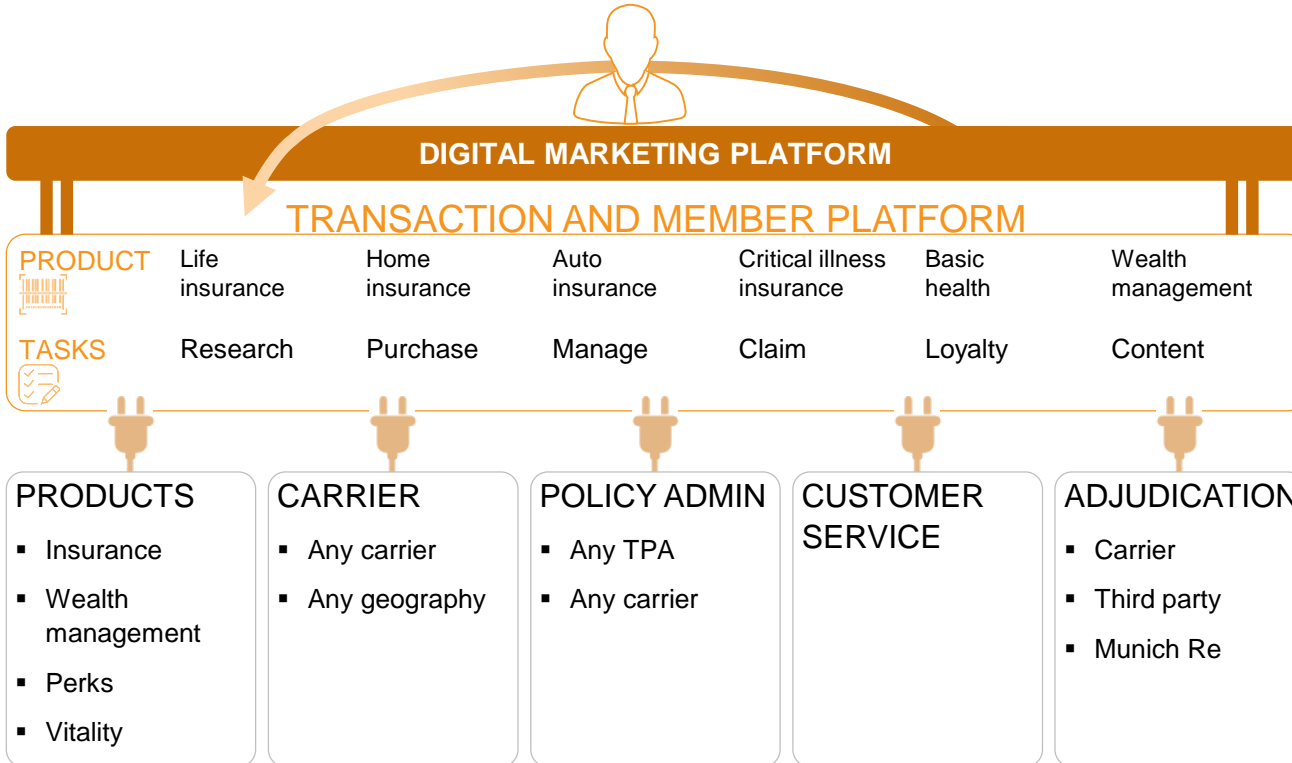
[Pay Now and Save](#)

Claim status and submission

Upsell and cross-sell product suggestions based on customer behaviour and life stage

Bundling and discounting to drive loyalty and engagement

 We are creating a modular platform that allows any brand to participate, leveraging the Munich Re partner network



**DIGITAL MARKETING PLATFORM (WHITE LABEL)**  
Acquire and engage customers

**INSURANCE PORTAL (WHITE LABEL)**  
Customer can purchase a policy with a credit card and get **immediate coverage**

**INTEROPERABILITY**  
Ability to “plug in” any aspect of the insurance sales cycle or use existing Munich Re partners for a turnkey solution



# With our platform and DIGITAL AGENCY we can work with ANY CARRIER, ANY BROKER and ANY BRAND



The screenshot shows a web interface for a 'Quote & Premium Calculator'. At the top, there are navigation links for 'Back to homepage' and 'Français', along with the 'DIGITAL PORTE' logo and a 'PARTNER BRAND' badge. The main heading is 'Quote & Premium Calculator'. Below this, there are input fields for 'Desired critical illness coverage:' (set to 'Member, Spouse & Child') and 'Member work email'. A 'Your Monthly Premium' summary box shows a total of '\$18.38/month' and includes a 'Buy Now' button. Below the summary, there are three sections for configuring coverage: 'You (Member)', 'Spouse', and 'Children'. Each section includes dropdowns for gender, smoking status, and age, and a slider for the amount of critical illness coverage, ranging from \$0 to \$100,000. A 'Broker Logo' placeholder is also visible.

Munich Re has created a DIGITAL INSURANCE agency

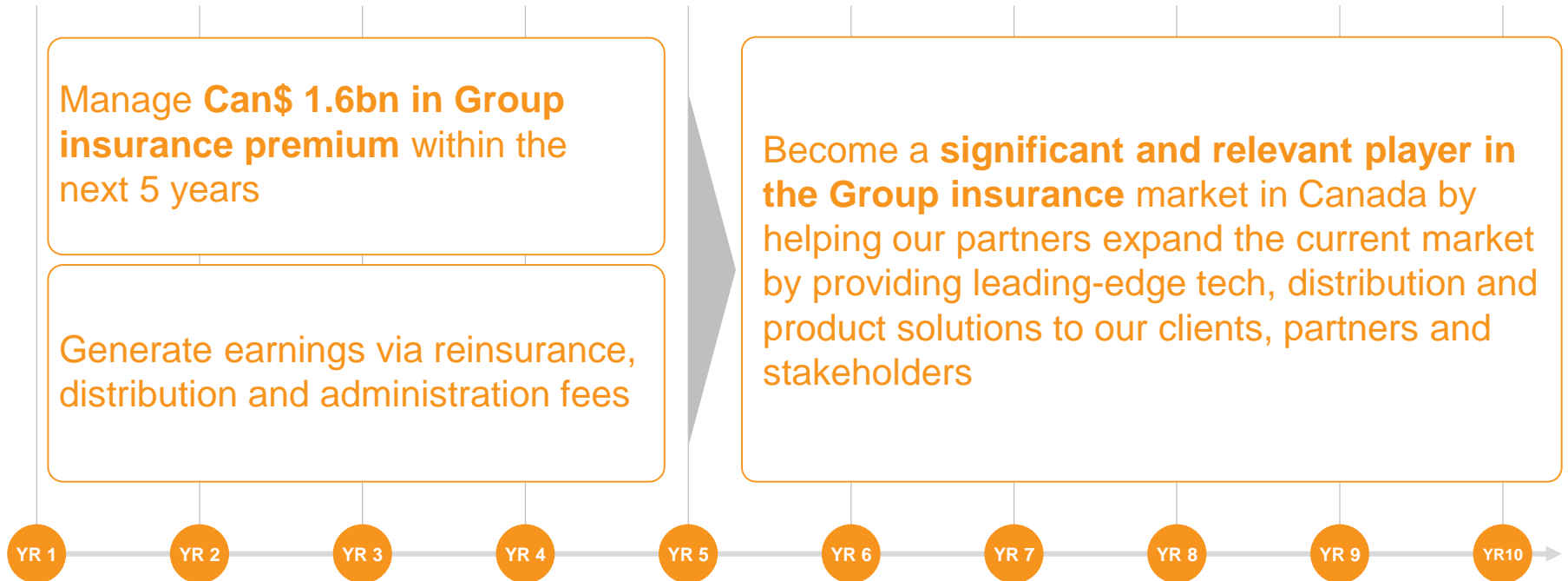
We can work with ANY CARRIER, ANY BROKER or ANY BRAND to create a branded end-to-end experience

We provide and manage all aspects of the insurance process including:

- Marketing
- Administration
- Customer service
- Payment and billing
- Adjudication
- Policy issue

\$\$\$ Our platform and innovation strategy will help us become an even larger player in the Canadian insurance space

Objectives



**\$\$\$** We have seen early success in our controlled critical illness pilot, running since January 2017

FORECAST

ACTUAL RESULTS

DIFFERENCE

CONVERSION RATE

**3%**

Canadians purchase voluntary benefits

**35%**

TPA new customers purchased a CI product

**+1,100%**

ANNUAL PREMIUM

**Can\$ 150**

Munich Re forecast for average annual premium

**Can\$ 250**

Average annual premium among TPA new customers

**+66%**

ENROLMENT

**30 days**

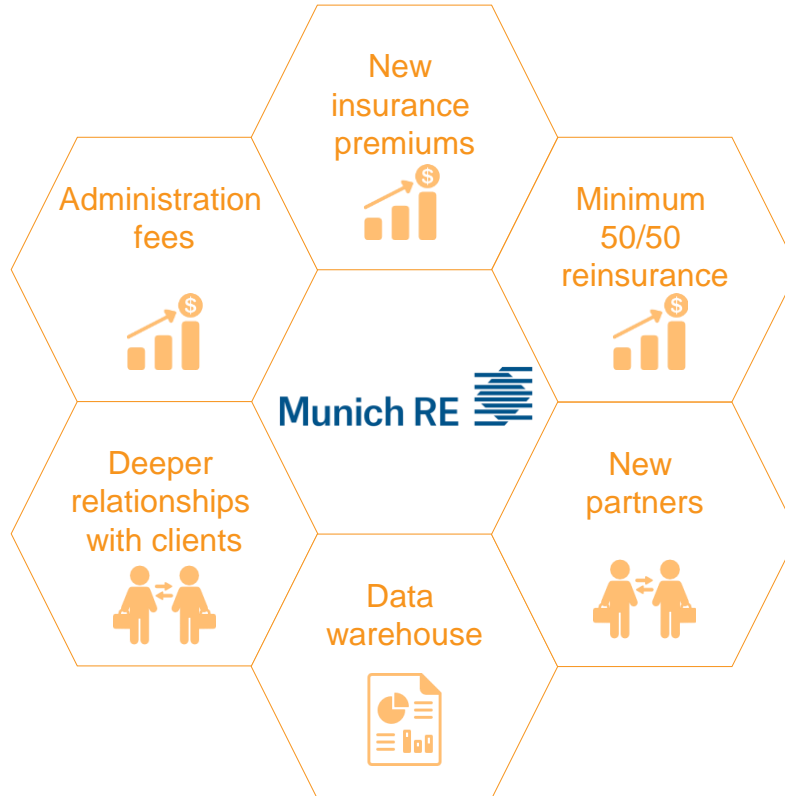
Average enrolment time

**2 days**

Average enrolment time

**-28 days**

 Our strategy provides significant benefits for Munich Re



# ERGO Mobility Solutions

Mobilising growth as strategic partner  
of the automotive/mobility industry

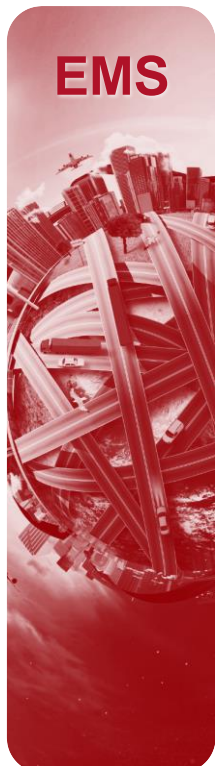
Karsten Crede



3



## ERGO Mobility Solutions (EMS) entering the B2B2C automotive segment



### History

- **Founded in January 2017** as strategic response to future automotive and insurance mobility opportunities
- Originated from **ERGO Strategy Programme (ESP)**
- **Strong mandate regarding governance, infrastructure and investments**



### Team

- **Dedicated team** with automotive and insurance experience
- Integrated teams between **ERGO** and **Munich Re**
- Leveraging diverse assets and expertise of Munich Re/ERGO Group

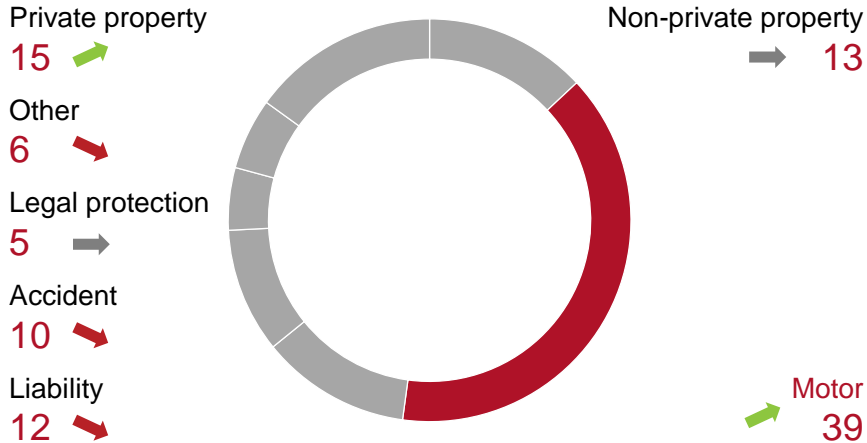


### Strategy

- Positioned as **strategic/international partner** of the **automotive industry**
- **Collaboration** as core value in a **B2B2C business model**
- **Expertise** along automotive and insurance value chain
- EMS with comprehensive **key account function** to the **automotive industry**

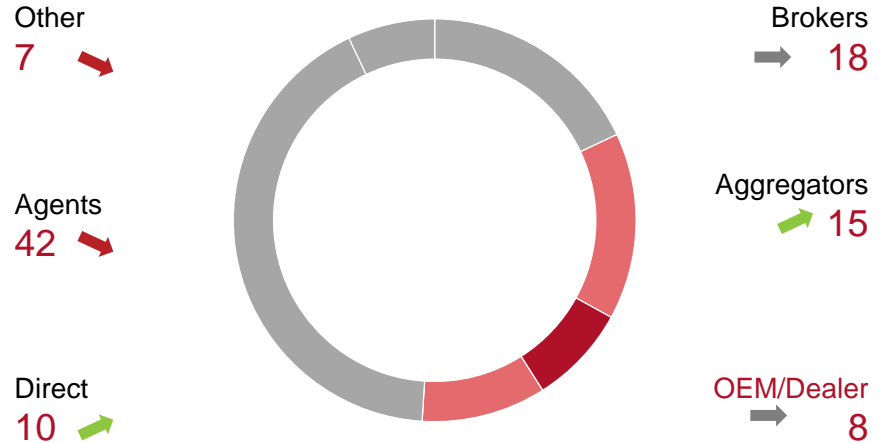
# Motor insurance with its majority market share also remains the strongest growth driver

German P-C market share per line of business  
% 2016; 5-year growth trend



Motor dominating segment with total GWP of ~€25.9bn in 2016

German motor insurance market per sales channel  
% 2015; 5-year growth trend



- Automotive channel stagnates, but strong replacement potential of non-strategic players – “second source approach”
- Online and direct providers are winning market shares

▶ Motor is the combustion engine of the insurance industry

# Challenging environment for both industries – Automotive and insurance

## Automotive industry trends



- Connected cars
  - Autonomous driving
  - Sharing economy
  - Electric vehicles
- 
- “Using”, not “owning”
  - Peace-of-mind offerings
  - (Intermodal) mobility solutions
- 
- Massive investment efforts needed
  - Challenging political social conditions
  - Environmental issues (NOX)
  - Dependency on few growth markets

### Technological evolution

### Customer demand

### Market environment

## Insurance industry trends

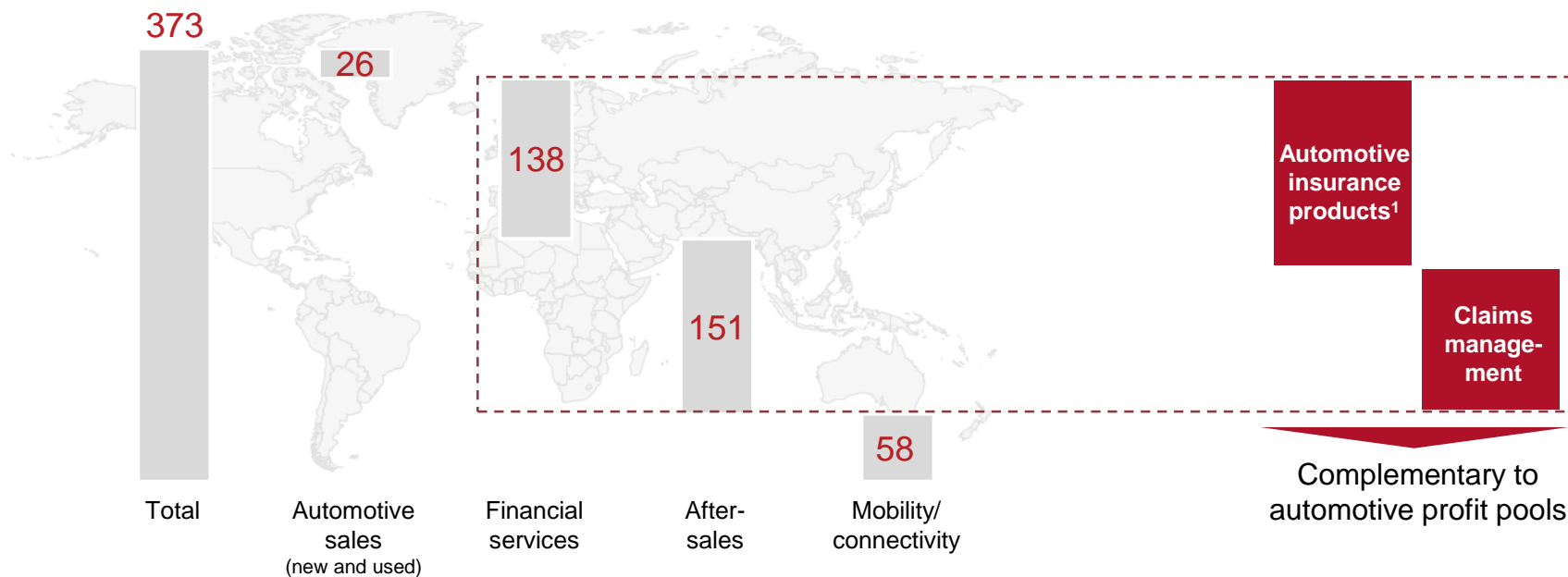


- Internet of Things
  - Artificial intelligence
  - Legacy IT
  - Data analytics
- 
- Low-cost products
  - Seamless processes
  - Omnichannel
  - Flexible and easy coverage
- 
- Stressed profit pools
  - Low interest rates
  - Low growth in mature markets
  - Weak infrastructure in growth markets

# However, significant interdependency between insurance and automotive core profit pools

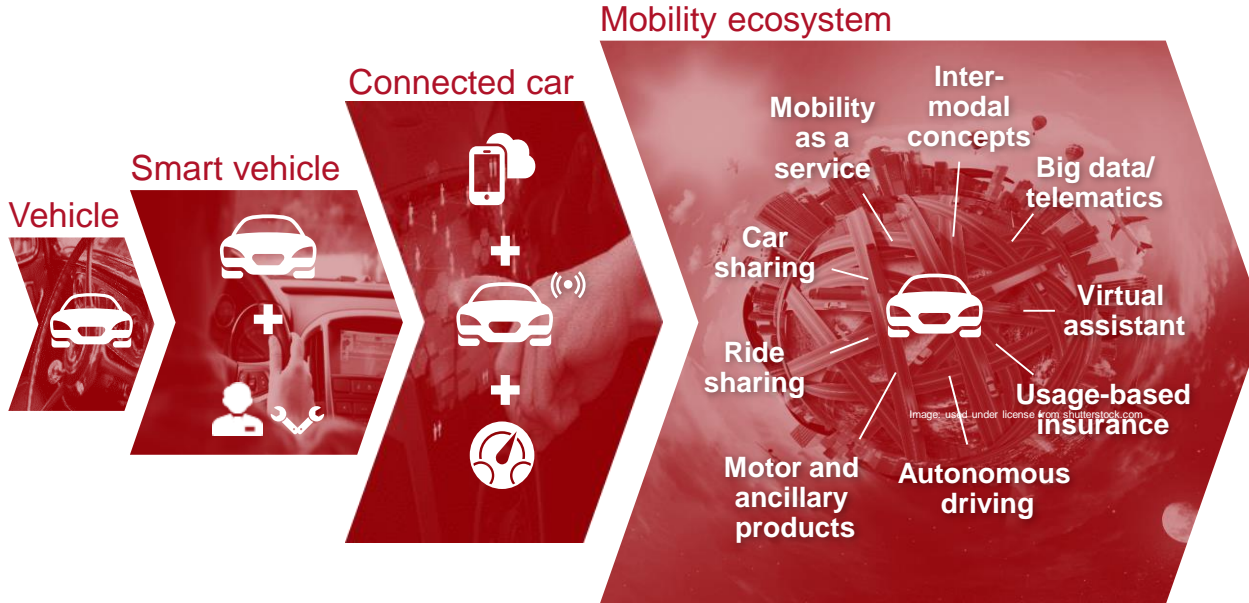
Expected profit pools 2025 – Automotive, global, without inflation

€bn



<sup>1</sup> Motor, payment protection/GAP/warranty, Source: Oliver Wyman, Ritzenhoefer & Company research

# Becoming an integrated player in the mobility ecosystem



## ERGO value contribution to OEMs/mobility providers

- Reduce total cost of mobility (TCM)
- Support penetration of new mobility concepts
- Optimise aftersales revenue
- Increase customer retention
- Increase financial products penetration
- Stem investments as strategic co-investor

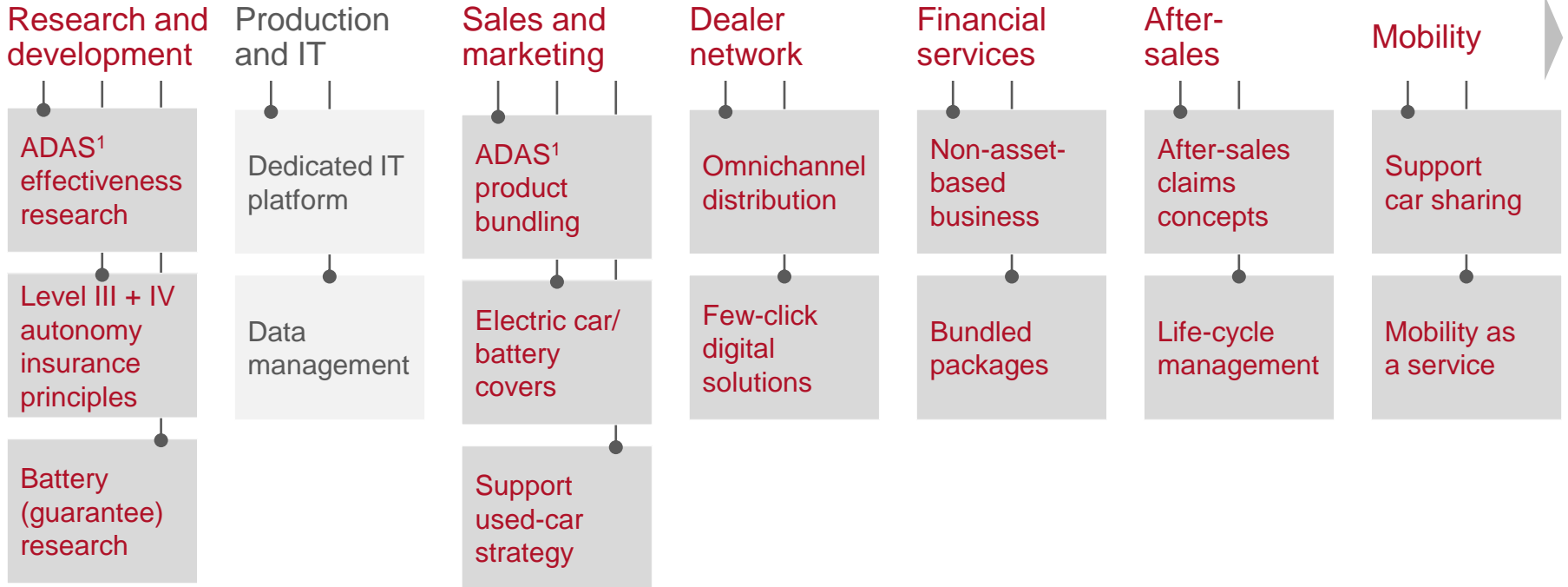
Evolving from traditional motor insurance provider ...

... to become an integrated player in mobility ecosystem(s)

# EMS to add value along the entire mobility value chain



## Selective measures along automotive value chain



<sup>1</sup> ADAS = Advanced Driver Assistance Systems. Source: ERGO Mobility Solutions

## Using R&D partnerships to develop innovative product offerings

EXAMPLE 1

E-MOBILITY



ERGO FLEET



CYBER SECURITY PROTECTION



R&D partnership with ...



AFTER-SALES



ADAS EFFECTIVENESS



CONNECTIVITY SERVICES

# After-sales/claims management concepts help all parties to stabilise profit pools and increase customer satisfaction

EXAMPLE 2

**ERGO**

- + Reduced claims costs:  
Hourly rates and parts
- + Defined cost frame
- + Customer satisfaction and loyalty



- OEM**
- + Increase parts turnover and contribution margin
  - + Stabilisation of own repair shop network
  - + Secure customer contact/customer satisfaction



**AFTER-SALES STEERING**



**Customer**

- + Higher repair quality
- + Higher residual value
- + Increased satisfaction



**Repair Shop**

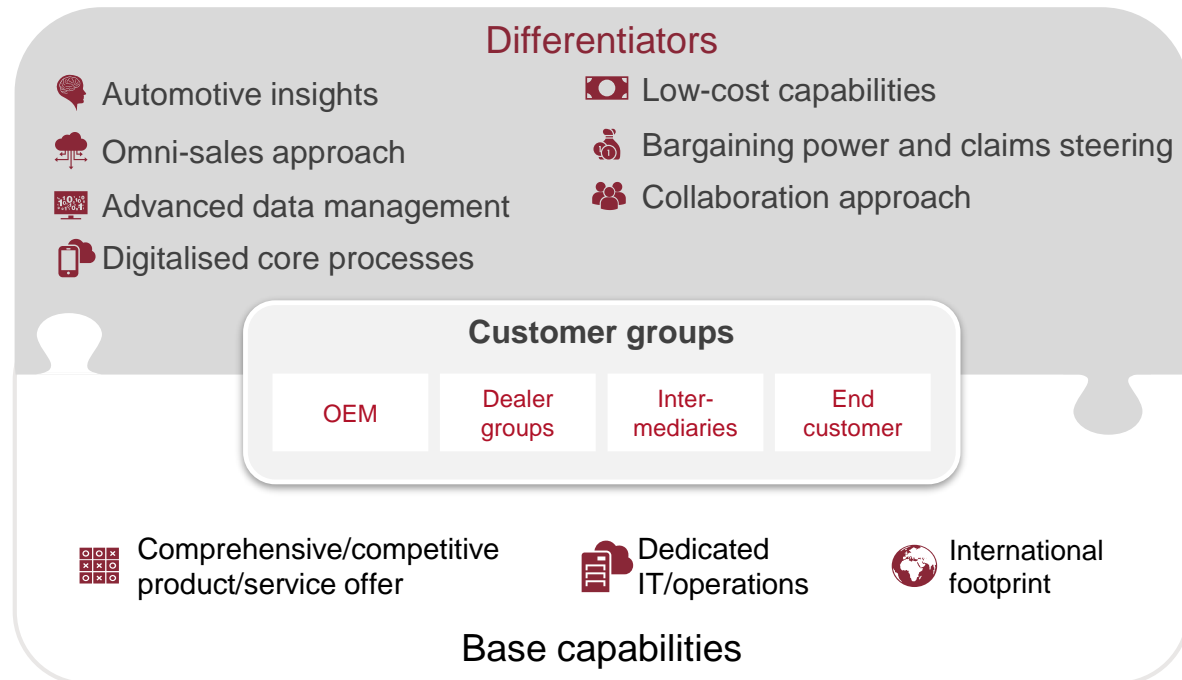
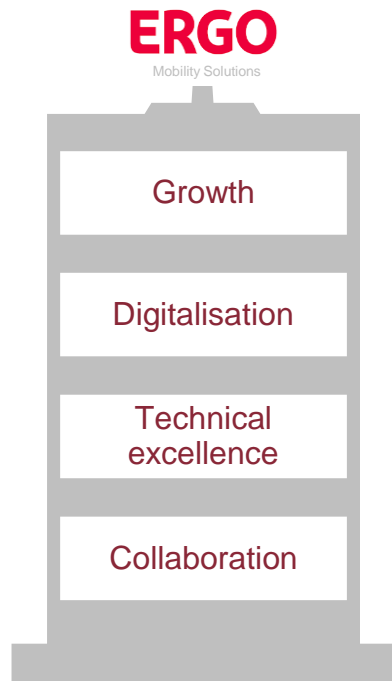
- + Additional service utilisation
- + Improved contribution margin
- + Customer acquisition/upselling potential



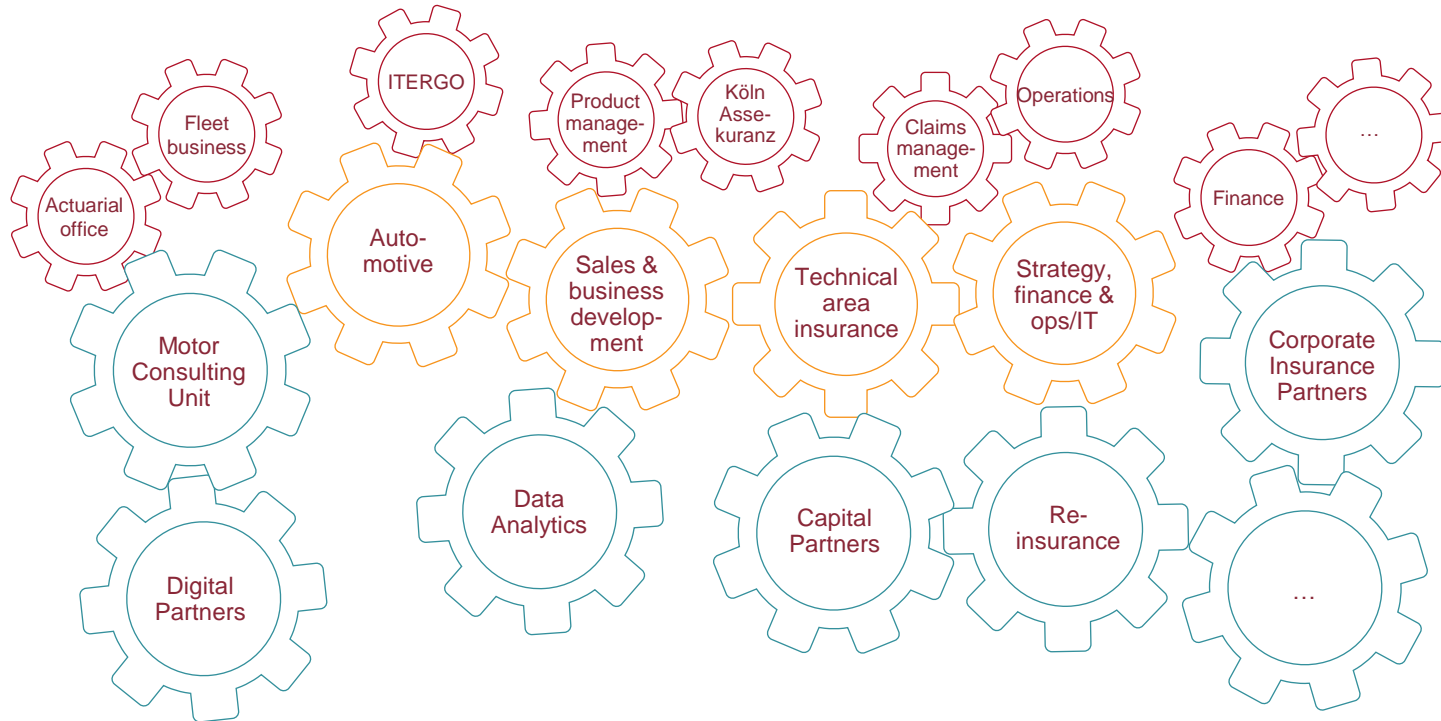
# Building strong base capabilities and competitive edge



## Strategic pillars of ERGO Mobility Solutions

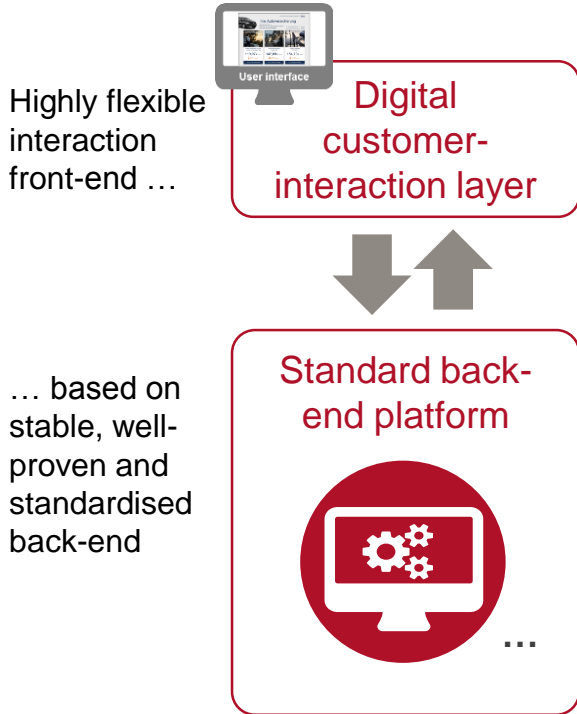


# Joining forces internally between Munich Re and ERGO to create unique expertise



- Interlocked business model mobilises the diverse assets and entire expertise of Munich Re/ERGO Group
- International reach and market knowledge of particular importance for successful expansion
- Open up all sustainable business opportunities and optimise business mix

# Dedicated IT platform as differentiator with flexible customer front-ends



## Key characteristics

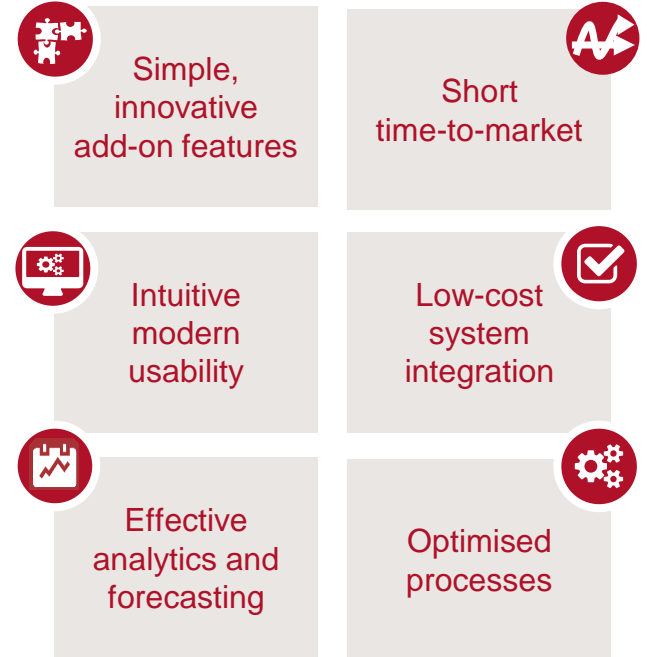
### Customer and dealer interaction

- Appealing user interfaces
- “Agile development” approach

### System of record (single truth)

- High-quality delivery of standard business processes, incl.
  - Pricing
  - Contractual changes
  - Printing
  - Billing
- “Stick to standard” approach

## Main benefits

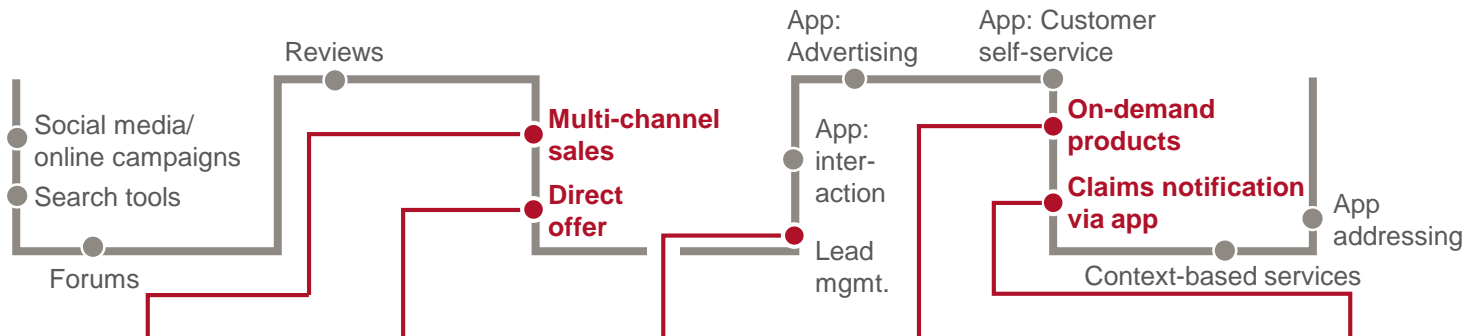


# Exploiting digitalisation potential and improving the customer experience

Customer journey



Digital touchpoints



Digital/digitalised services (exemplary)

**Digitalised multi-channel sales**

**Big data for fast offer creation**

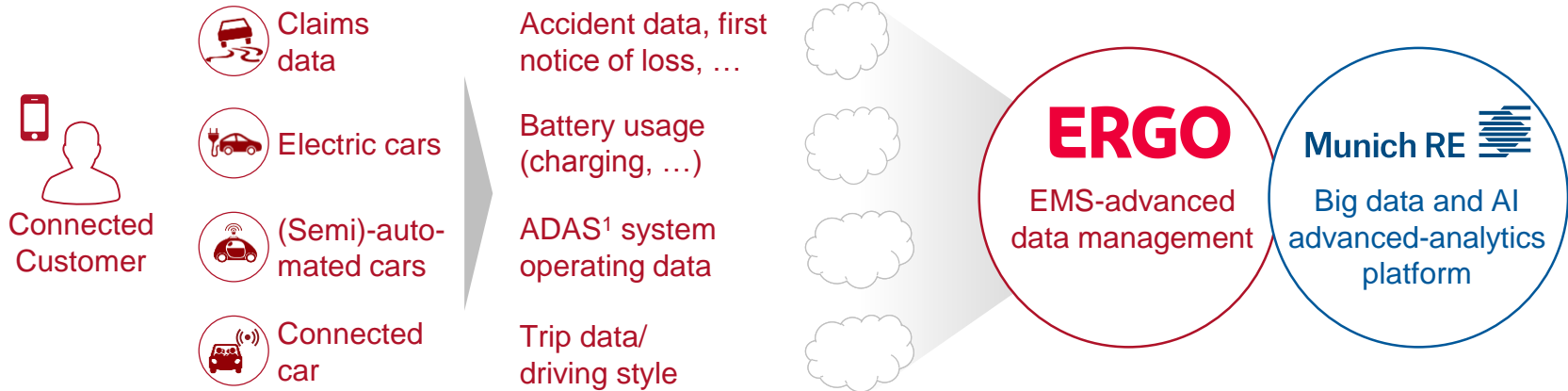
**Lifecycle marketing automation**

**Integrated mobility services**

**Digital claims management/ fraud prevention**

## Leveraging advanced data management to provide essential customer value via new services and products

### Advanced Data Management integration [exemplary]



### EXAMPLES

Contextual enrichment of driving style  
 Targeted product/modules via customer insights

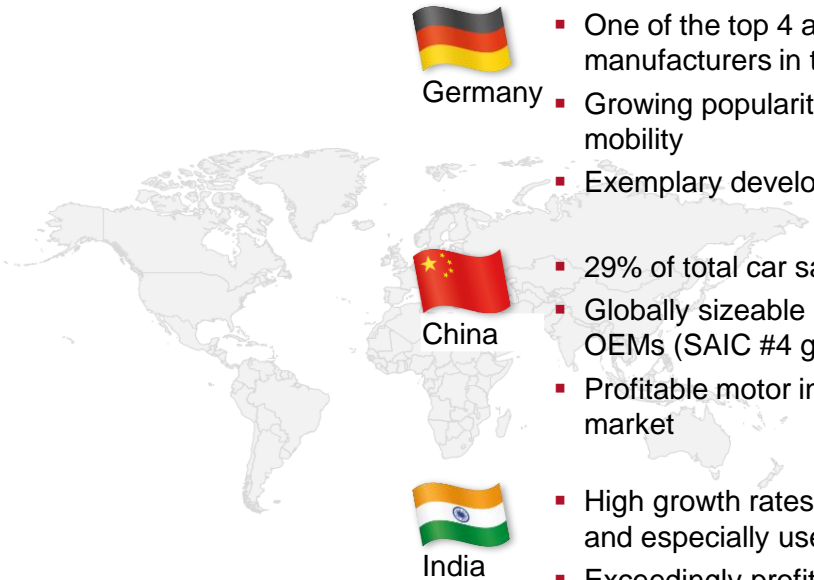
Machine learning regarding ADAS<sup>1</sup> effectiveness  
 Intelligent product offering based on geodata

## Intelligent business models to optimise strategic fit with automotive industry



# Germany, China and India as anchor markets and innovation hubs will be pursued first

## EMS wave I markets<sup>1</sup>



Germany

- One of the top 4 automobile manufacturers in the world
- Growing popularity of shared mobility
- Exemplary developed market



China

- 29% of total car sales worldwide
- Globally sizeable Chinese OEMs (SAIC #4 globally)
- Profitable motor insurance market

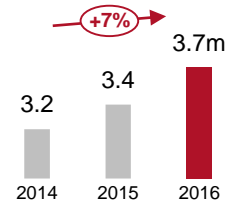
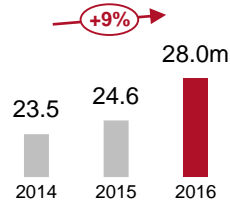
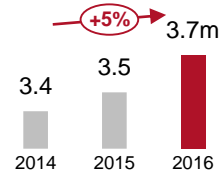


India

- High growth rates in both new and especially used car sales
- Exceedingly profitable motor insurance business

## Key characteristics

## Car sales<sup>2</sup>



## Market potential

- Main market for new mobility
- Demand for new corporate mobility solutions
- Testing ground for innovations
- E-mobility lead market
- Future global innovation hub
- Growing shared mobility market
- ~10% sales growth until 2020
- Growing online sales channel
- Large number of uninsured cars

<sup>1</sup> Other key markets to be covered by partners. <sup>2</sup> Sales of new vehicles; source: Organisation Internationale des Constructeurs d'Automobiles (OICA).

# Strategic milestones to achieving ambitious growth targets



**Winning strategic partnerships to mobilise growth**



# Digitalisation as a “must-do” to master high-volume, low-value policies in India

Ritesh Kumar

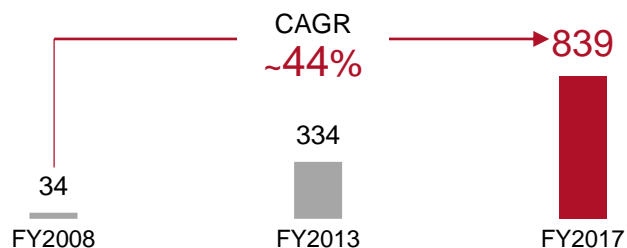


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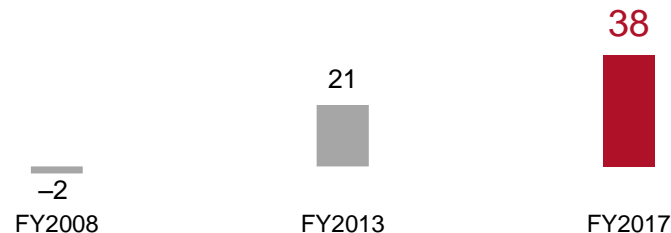


# Introduction to HDFC ERGO (India) – Joint venture of HDFC (51%) and ERGO (49%)

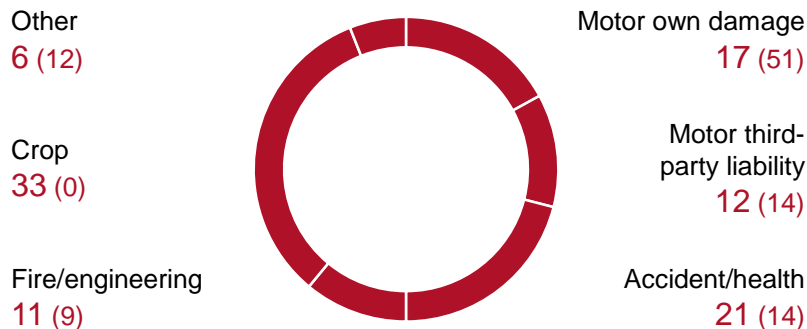
Gross written premium<sup>1,2,3</sup> €m



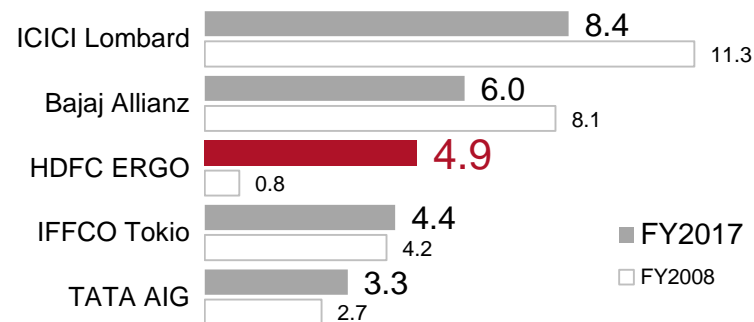
Net income<sup>1,2,3</sup> €m



Product mix, FY2017 (FY2008)<sup>1,2,4</sup> %



Market share of leading private-sector insurers<sup>1,2,4</sup>%

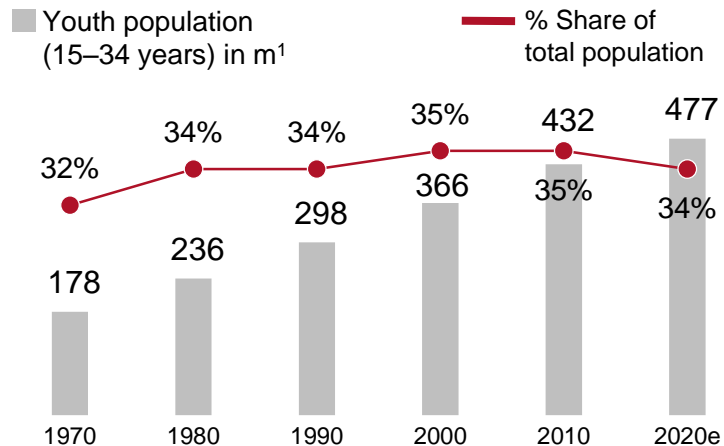


1 FY2017 stands for period from April 1, 2016 to March 31, 2017 and likewise for other financial years. 2 Figures for HDFC ERGO for FY2017 include HDFC General.  
3 €1 = INR 75. 4 Source: General Insurance Council.



# India – Favourable demographics and increasing internet access through smartphone

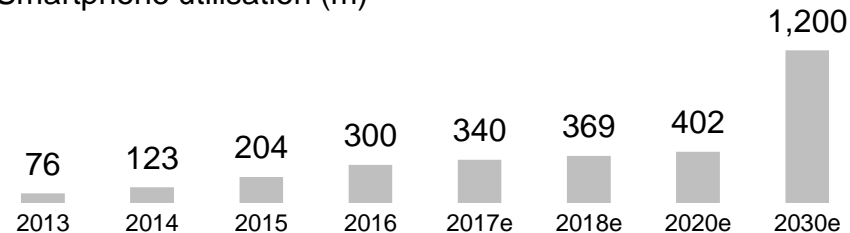
## Growing young population<sup>1,2</sup> ...



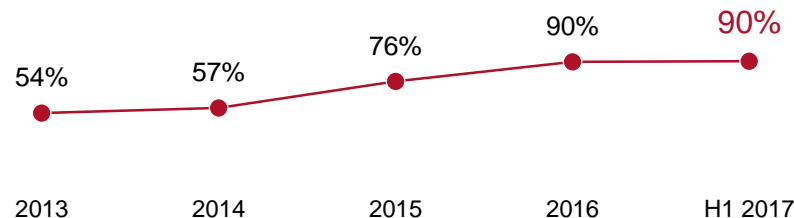
By 2020, the average age of Indians is expected to be 29 years vs. 37 for China, 38 for USA and 47 for Germany<sup>3</sup>

## ... with high internet connectivity, esp. smartphones

### Smartphone utilisation (m)<sup>4</sup>



### % of internet accessed via mobile<sup>5</sup>



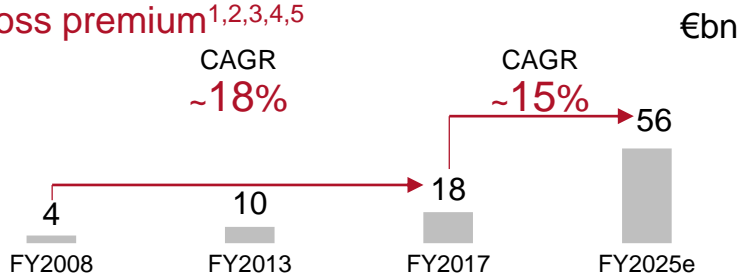
India has the second-biggest smartphone user base after China and ahead of US<sup>4</sup>

1 Source: The World Bank DataBank, population estimates and projections. 2 Source: World Population Prospects: The 2015 Revision, Population Database, United Nations Population Division. 3 Source: United Nations Data Retrieval Systems. 4 Source: <https://www.statista.com/statistics/467163/forecast-of-smartphone-users-in-india/>, 2030: India Brand Equity Foundation, Wikipedia, <http://businessworld.in> 5 Internet and Mobile Association of India, IMRB Research

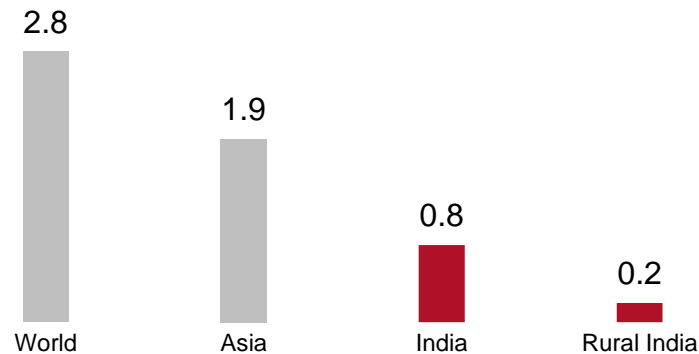


# Non-life market in India – Strong need for digitalisation for cost-efficient delivery of products and services

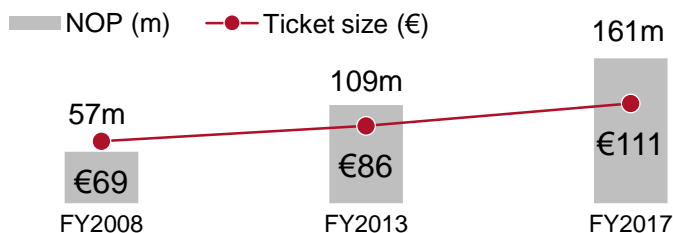
Gross premium<sup>1,2,3,4,5</sup>



Non-life penetration, 2017 (% of GDP)<sup>6</sup>



No. of policies (m) and average ticket size (€)<sup>1,2,3,4</sup>

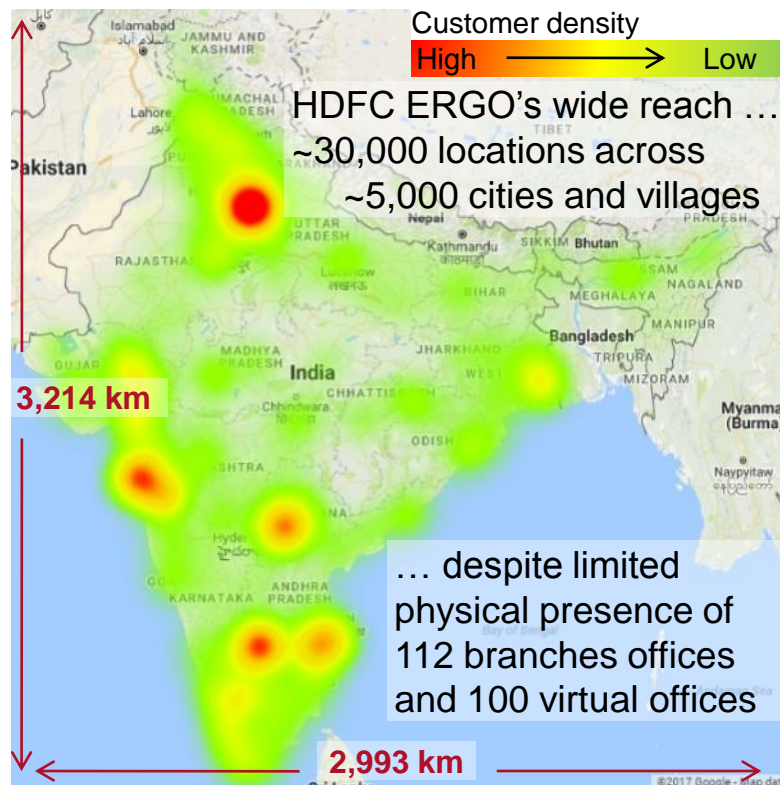


- High-volume, low-value business with significant growth potential
- Overall low penetration, much lower in rural India and low-value segments

Given higher cost of policy issuance via manual mode, digital mode is critical to improve viability of small-ticket business

1 FY2017 stands for period from 1 April 2016 to 31 March 2017 and likewise for other financial years. 2 Figures for HDFC ERGO for FY2017 include HDFC General. 3 €1 = INR 75. 4 Source: General Insurance Council. 5 Source: McKinsey. 6 Source: Munich Re Economic Research, FICCI – India General Insurance “Improving penetration and driving market creation”.

# HDFC ERGO has achieved multifold increase in scale of operations and pan-India reach by embracing digitalisation



## Scale of operation

- Issuing ~12 policies per min
- Servicing ~1 claim per min
- Handling ~2 incoming calls per minute, across 10 languages

## Delivering excellence by focusing on

- Quality of offering
- Speed of response
- Better engagement

# Using digital technologies to drive efficiencies

## Key operating levers

1



### Automation

Maximising  
Straight-through  
processing

2



### Mobile-first architecture

Increasing  
convenience for  
customers and  
sales forces

3



### Self-service

Consistency  
across channels

4



### Predictive analytics

Improving  
portfolio quality  
and identifying  
growth potential

5



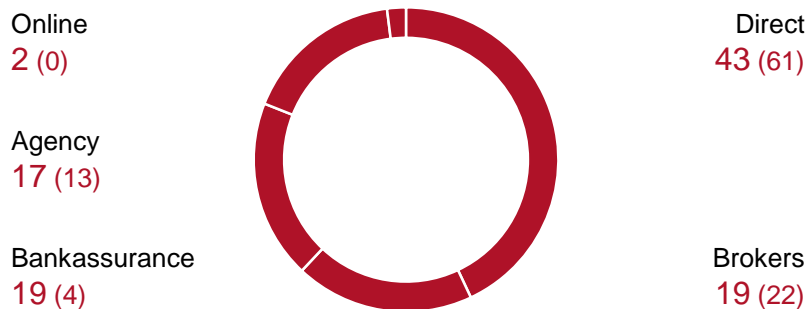
### Digital innovations

Exploring  
emerging  
technologies  
(RPA<sup>1</sup>, chatbots,  
voice)

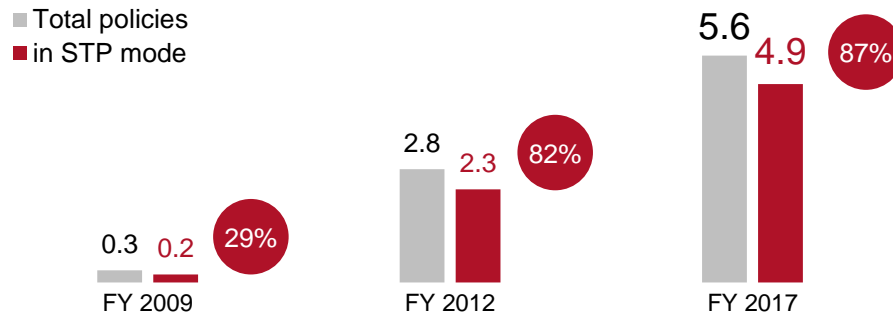
1 RPA: Robotic process automation.

# 1 Automation – Plug and play architecture facilitating straight-through processing (STP) to drive efficiencies

Distribution mix, FY2017 (FY 2008)<sup>1,2</sup>



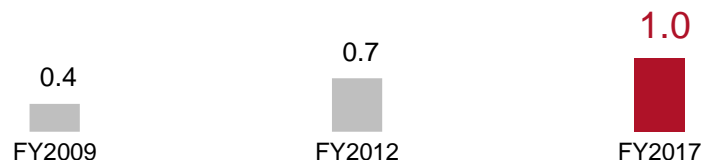
87% of policies issued in straight-through process ...



Agile digital platform cater to all customer segments with different buying behaviour across

- banks and financial institutions,
- agents and brokers,
- OEMs,
- online and web aggregators.

... incl. **1m digital policies** (online sales and renewals)



▶ Having no legacy issues positions us well for hybrid customers

## 2 Mobile-first architecture – A host of feature-rich mobile apps digitally enable distribution, customer service and claims

### Sales force



- Sales portal
- Point of sale on mobile
- Micro insurance
  - Office in a bag (crop, cattle)

### Partners



- Agency management system

### Customers



- Insurance Portfolio Organiser (IPO)
- IPO on Apple Watch

### Claims field force



- Motor claims survey
- Motor pre-inspection
- Microinsurance
  - Crop survey

### Community



- Customer discussion forum

Insurance Portfolio  
Organiser app

Motor claims  
survey app



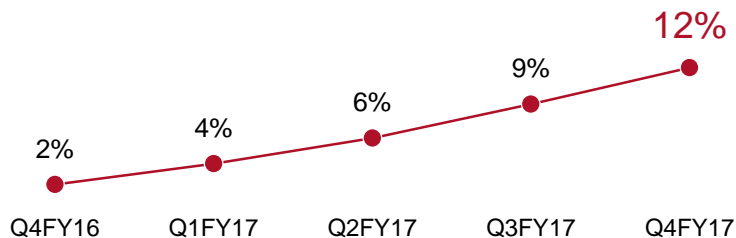


Video

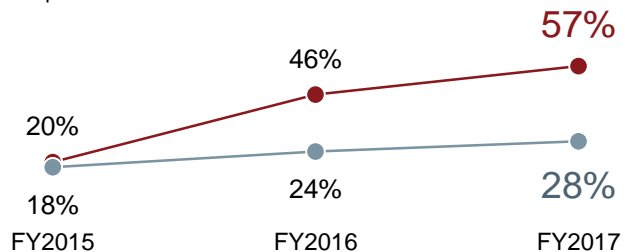


### 3 Self-service – Digital service model for new-age customers

12% of requests serviced in self-service mode<sup>1</sup>



—●— % Private car own-damage claims intimated via garage portal/mobile app  
—●— % of private car renewed online



Example of self-service features on our website

**Customer Support**

Take it easy! **hdfcergo.com**  
Experience the convenience

[Career My Policy](#) | 
 [Customer Delight Network Garages](#) | 
 [Health Claims Network Hospitals](#) | 
 [Motor & Other Claims Our Branches](#)

[Car Insurance](#) | 
 [Bike Insurance](#) | 
 [Health Insurance](#) | 
 [Travel Insurance](#) | 
 [Personal Accident](#) | 
 [Home Insurance](#) | 
 [Other Insurance](#) | 
 [Claims](#)

**Self Help**

- E-Mail Policy
- Tax Certificate for Health Insurance
- Update Contact Details
- Make Changes
- Transfer of Insurance – Motor
- Create Service Request
- Upload Document
- Cancellation of Policy
- Track Interaction Status
- Claim Status

<sup>1</sup> In % of total requests. Interactive Voice Response (IVR) and mobile, website using one-time password mechanism, no need to login



## 4 Predictive analytics helping in portfolio steering, optimising sales campaigns and fraud control

### Portfolio steering to drive profitability

- Predictive models to estimate the impact of various decisions on performance
- Scenario-analysis-based portfolio steering

### Customer analytics for renewal and cross-selling

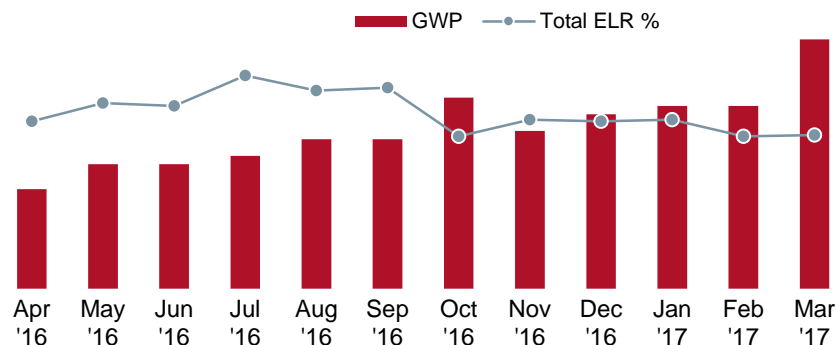
- Predictive model to improve motor renewal performance
- Up-sell/cross-sell targeted campaigns

### Analytics-based fraud control engines

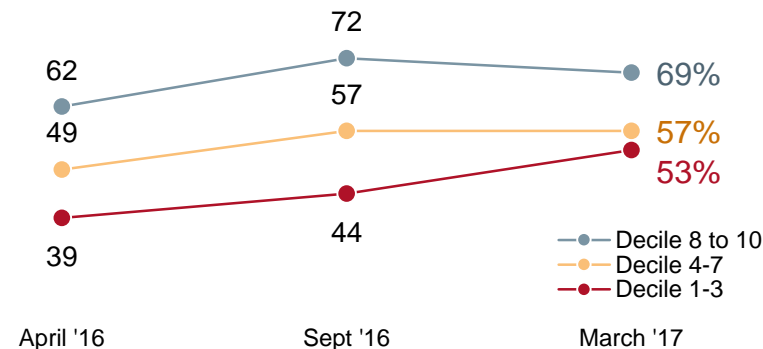
Comprehensive measures supported by

- Predictive analytics engine for health and motor
- Integrated workflow
- Social analytics tool

### Estimated loss ratios (ELR) for motor



### Target intervention on bottom 3 deciles for renewal



## 5 Digital innovation – Continuously striving to improve customer engagement and drive growth



### Chatbot “Aby”

- Helping call-centre agents address customer calls effectively
- Initial results on select scenarios
  - ~8,500 requests assisted by **Aby** in two and a half months
  - **18% reduction** seen in average call time
  - Better consistency in customer response across floor



### Robotics

- RPA <sup>1</sup> **Rambo** implemented to automate manual processes and achieve operational efficiencies
- Initial results on select scenarios
  - ~260,000 transactions processed in two months
  - **87% reduction** in transaction processing time



### Voice analytics

- Voice analytics of calls to generate insights on call-centre performance
  - Customer insights, business issues and improve contact centre performance
  - Targeted coaching for agents by analysing their performance

Continuously exploring and piloting emerging technologies like robotics, chatbots, voice analytics

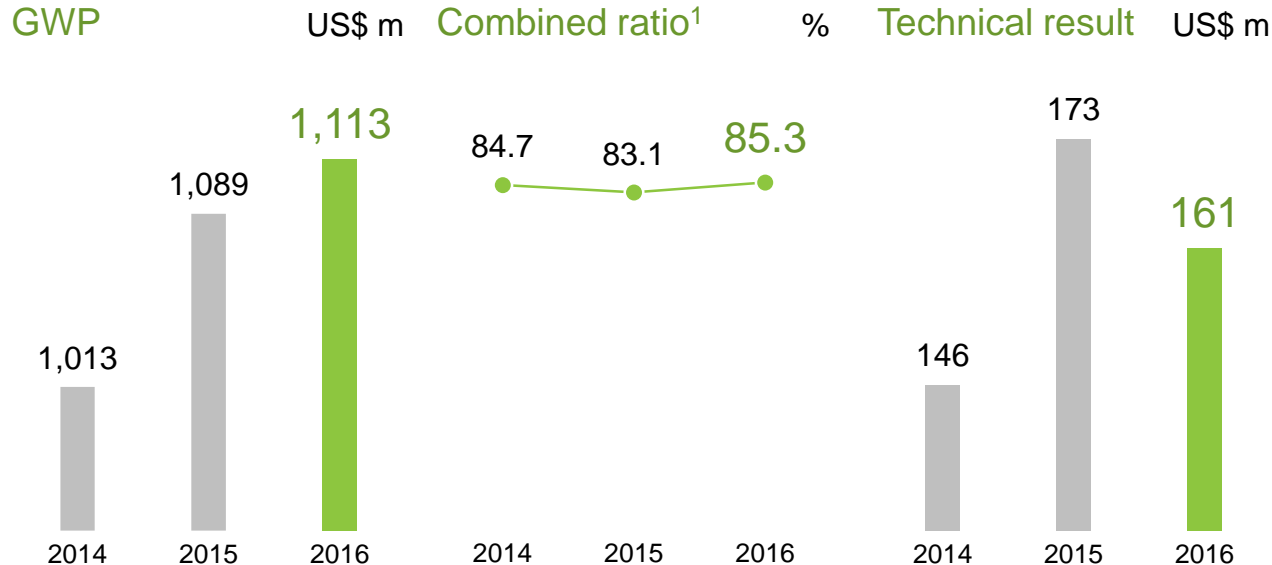
# Internet of Things

Greg Barats



1

# Introduction to Hartford Steam Boiler (HSB) – Market leader for equipment breakdown in North America



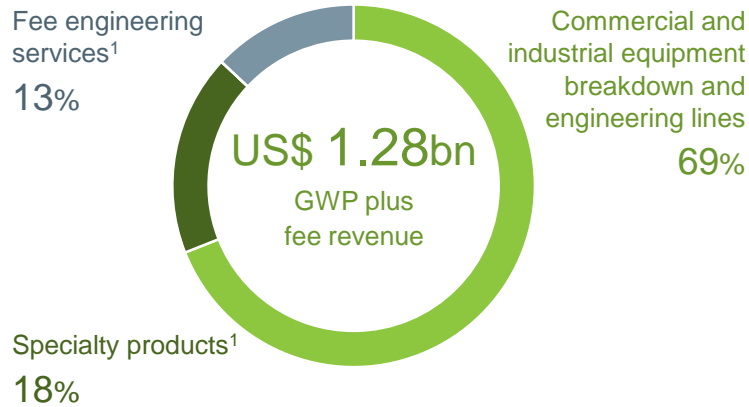
## HSB – Key facts

- Founded in 1866: “the first company in America devoted primarily to industrial safety”
- Global fee engineering presence and the largest authorised inspection agency for its niche
- More than half of 2,500 employees are engineers, inspectors and technicians
- Established HSB Strategic Corporate Ventures in 2014, funded with \$50m to invest in emerging technologies

Engineering services, both packaged with insurance and directly for a fee, are significant differentiators for HSB

# Specialty solutions for emerging risks globally – With 20% GWP from innovative specialty products in 2016

## Gross revenues

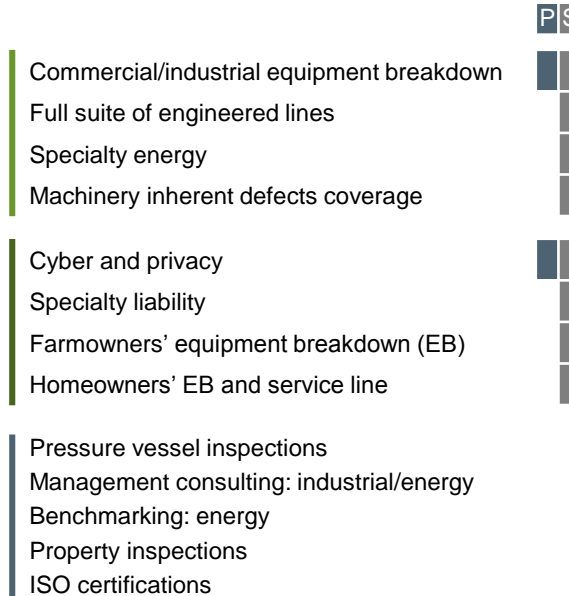


## CAGR 2012 to 2016



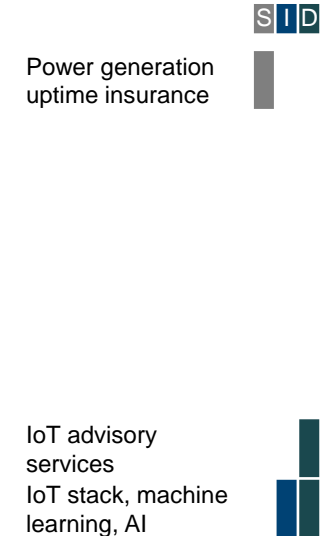
<sup>1</sup> Indicates anticipated growth areas.

## Product and services inventory



Product key **P** Portfolio products typically distributed via other insurance companies  
**S** Single-risk products typically distributed via agents and brokers

## Recent highlights



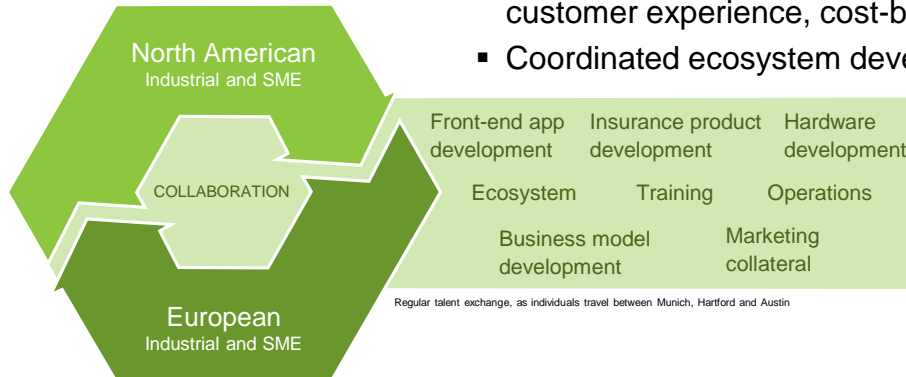
**I** Investment **D** Developing

# HSB leads the Munich Re IoT strategy

## MUNICH RE IoT Steering Committee

GLOBAL IOT LEAD  
Greg Barats, HSB

North America  
Europe



## Global team driving IoT for Munich Re

- 70 FTEs (60% of these resources came from outside HSB/Munich Re for technical expertise and/or software development skills)
- Commercial/industrial focus (from SME to Industry 4.0)
- Pursuing both retrofit and integrated IoT solutions
- Testing technologies, platforms, business models and partners, customer experience, cost-benefit outcomes and more
- Coordinated ecosystem development

▶ Globate mandate to drive IoT strategy for Munich Re (Group)



# IoT: The interconnection (via the internet) of computing devices embedded in everyday objects, enabling them to send and receive data

## IoT creates massive opportunity ...

Estimates of global IoT economic impact

- US\$11.1tn by 2025 (McKinsey)
- US\$14.2tn by 2030 (Accenture)

## ... and new revenue sources

Estimates of IoT revenue from hardware, software, services

- US\$470bn by 2020 (Bain)
- US\$344bn by 2020 (AT Kearney)
- €250bn by 2020 (BCG)

## Manufacturing and industrial applications offer the biggest early opportunity

- US\$151bn Industrial IoT market by 2020



- US\$124bn total Industrial IoT market by 2021



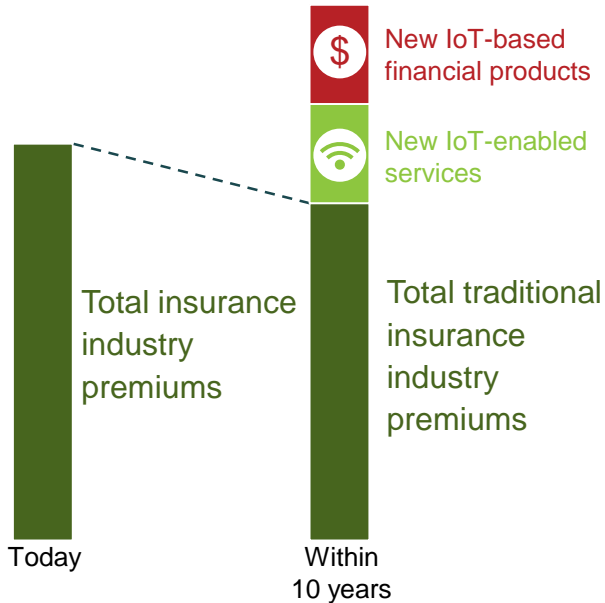
Industrial IoT technologies enable and enhance the delivery of key **business outcomes** ...

- Reduced downtime
- Increased productivity
- Improved quality
- Lower costs
- Higher flexibility

... and the insurable risk landscape will be modified by IoT activities

Customer transformations will provide opportunities for increased efficiencies, production and new revenue streams

# Insurance will transform by expanding beyond traditional coverages



## New IoT-based financial products \$

### Assuring business outcomes from IoT investments

- Providing warranties and other vehicles to assure that positive business outcomes from IoT implementations are achieved

### New or enhanced cyber for IoT

- IoT installations create new risks of “smart” devices being accessed, attacked or exploited
- New insurance products designed to manage unique IoT-based exposures

## New IoT-enabled services 📶

- IoT monitoring
- Uptime management
- Efficiency and optimisation
- Performance insights and anomaly detection
- Risk management
- Repairs optimisation

▶ Traditional insurance premiums will shrink as increased customer-data access and risk understanding drive expectations of better (lower) pricing and/or demand to buy insurance only for specific risks or a limited duration

# SME example: IoT drives strategic and bottom-line results for insurer

## Problem

- **Large claims** due to burst pipes in houses of worship they insured; venues often unoccupied during periods of the week
- **Need to differentiate** and increase value proposition

## Goals

- **Lower frequency**  
Using temperature sensors on key water pipes, remotely monitoring water temperature; sends alerts and instructions to locations of at-risk areas
- **Lower severity**  
Water sensors were placed in potential exposure areas of a building; limiting leaks quickly means that there is less water damage and cleanup, and smaller losses
- **Reverse trend**  
toward commodity pricing

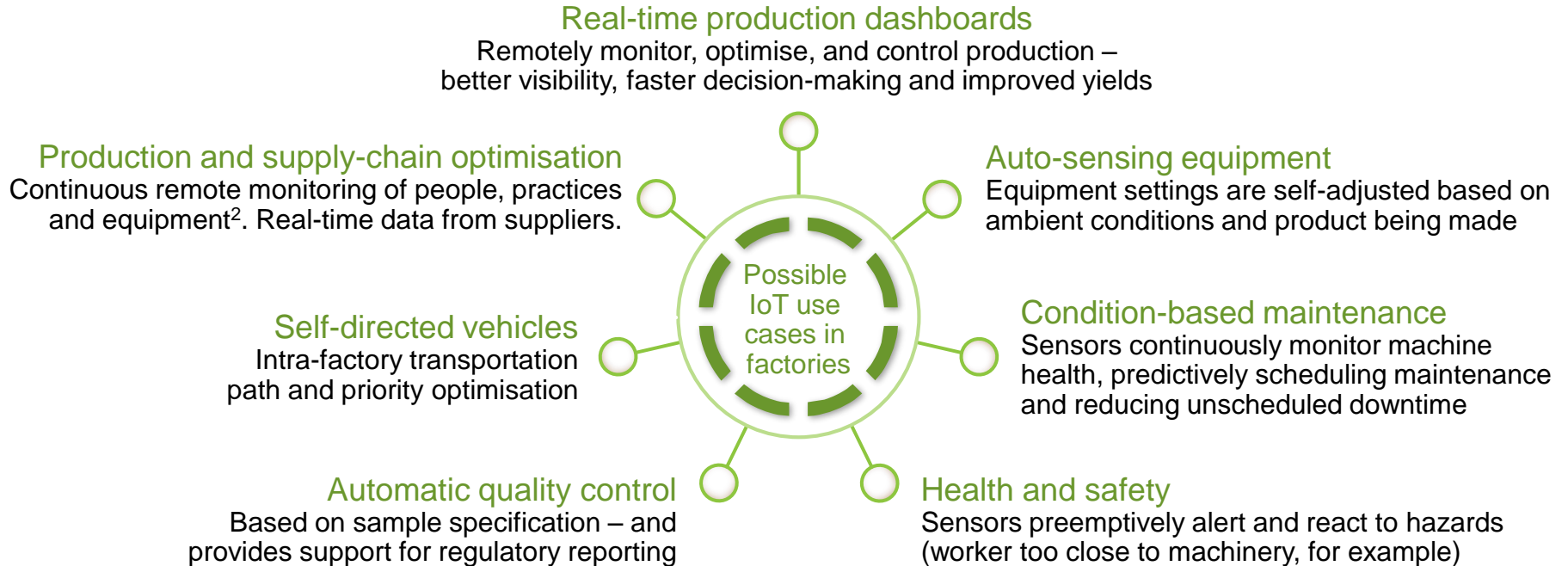
## Approach

- **Proof of concept**  
20 churches – In a single winter, it helped avert 100% of probable freeze losses
- **Pilot**  
Expanded to 250 churches the following winter, averted numerous losses
- **Production**  
10,000 churches scheduled over three years (to date, 4,000 churches enrolled)
- **Developed algorithms**  
specific to exposures

## Results

- Phased approach allowed client insurer to understand the programme and implications for roll-out
- Mobile platform provides opportunity to have different conversation with customer
- Client insurer pays cost of equipment and monthly monitoring fee
- HSB provides warranty on exposures, where appropriate
- To date, the programme has averted losses exceeding its cost

# Example: Projected IoT technology impact on manufacturing<sup>1</sup>



<sup>1</sup> SOURCE: McKinsey Global Institute analysis. <sup>2</sup> Inventory, tool status, machine utilisation, and repairs.

# HSB/Munich Re has significant market opportunity

## HSB/Munich Re competitive advantage for IoT

Complex **financial and insurance** capabilities

Sophisticated **data analytics**

**Occupancy** knowledge and failure **data**

**Services** are a core capability

**Engineering**-based technical insights

**Equipment** is a competitive advantage

**Ecosystem** integration into solutions

## Importance of pursuing IoT strategy

- Software and technology will play an increasingly larger role in our everyday lives and our customers' businesses
- Technology will change the behaviour of our customers and associated risk exposures
- Our business solutions need to have an expanding technology component to position ourselves for success in the future, HSB/Munich Re are leveraging technology partners
- Our strategy gives HSB/Munich Re and its clients the ability to add new diversified service-revenue streams and profit pools as well as a clear advantage on writing emerging exposures

▶ Greatest opportunities for companies that can combine **technology capabilities** and **domain knowledge** with risk management

# IoT presents a long-term strategy that began four years ago with practical experimentation and ecosystem development

**17,800** sensors deployed

**5,900** locations, **13,000** additional locations scheduled

**58** alerting algorithms from concept to production stage

**16** SME occupancies installed

**Numerous** SME applications available

**Multiple** Industry 4.0 market approaches being tested

**4** IoT investments   **relayr.** 

**1** pending (AI)

**1** IoT acquisition 

## IoT summary

- IoT is a threat as it will reduce risks currently insured
- IoT will significantly impact our current industrial/commercial book of business
- IoT presents a significant market opportunity to companies that can combine technology capabilities with risk management capabilities

# Digital Partners

Andy Rear



2

## Digital Partners at a glance



Founded May 2016



30 employees operating as a single global team from London, Palo Alto and Cincinnati



Experienced management team, with insurance, technology, consulting and programme management backgrounds



Working closely with our partners at Munich Re who offer us expertise and support services

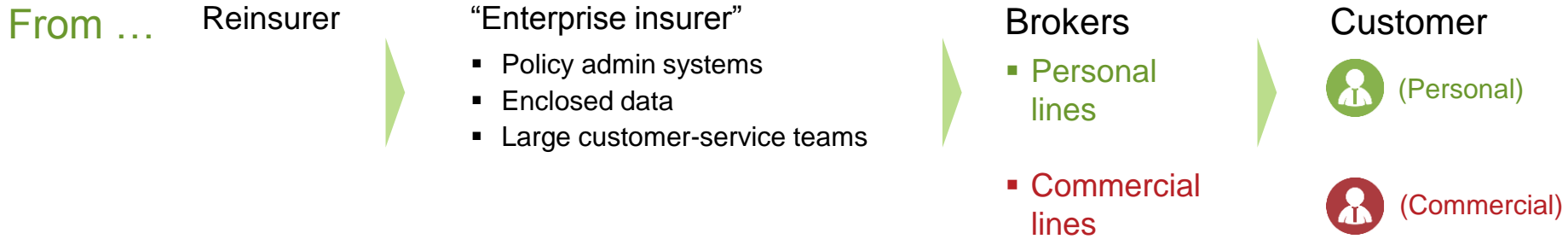


Global mandate across all retail and small-company business classes

Mission: To develop a new “digital wholesale” business field for Munich Re – accessing distribution that neither our primary or reinsurance business fields access currently



# Digital Partners seeks to exploit three disruptions



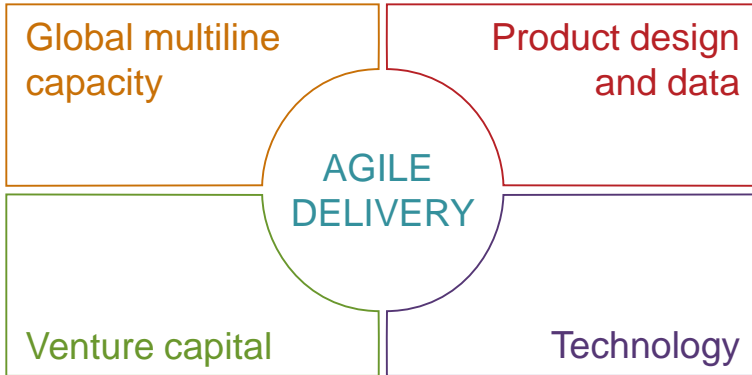
## MICRO-SERVICES PRODUCTION CHAIN

**1** Micro-services changing the cost of insurance technology

**2** Data in the cloud enabling a frictionless customer experience

**3** Sharing economy mixing personal and commercial

# Our proposition



## EXAMPLE PARTNERSHIPS



- USA, then Asia and Europe ex UK
- Trov technology
- Munich Re led Series D



- UK then overseas expansion
- Munich Re technology
- Munich Re invested in Series A



- UK
- Munich Re technology
- No investment



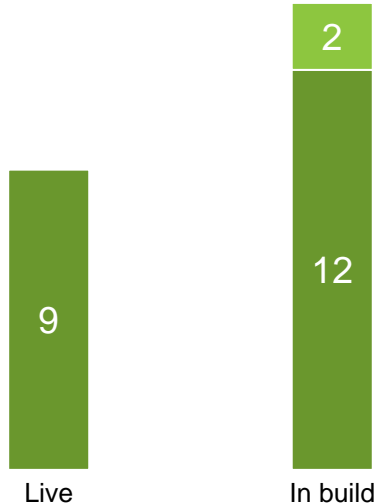
- Global, starting in US
- Slice technology
- Munich Re invested in Series A



# We partner with disruptors who are changing the way insurance is experienced by customers

Established company

Start-up



## What makes a good partnership

- Large **total addressable market** – big enough opportunity to reward success
- Credible **team** – capable of building a business to address the opportunity
- **Testable proposition** – learning comes at an acceptable price
- **Sustainable** partnership – with barriers to entry for cheaper capacity

Establish relationships with new potentially strong players in the market and learn/develop new capabilities that can be transferred to traditional clients later on

# Digital Partners – Strategic investment activities

## Investment thesis

- Participate in upside
- Accelerate growth
- Strengthen relationship
- Increase strategic value of partnership
- Fund ecosystem development for Munich Re and industry

## Investment approach

- Minority stakes of <20%
- Stage-agnostic
- Sweet spot US\$ 2–5m – will do seed investments and up to US\$ 20m
- Active investors: Lead or follow, board seat or observer required

## Current portfolio

- US\$ 35m invested in US and UK
- Technology companies with MGA business model
- Digital and data-driven customer experience
- Consumer and small business lines of business



trōv

Slice nextinsurance

Key element of Digital Partners' strategy is to invest in selected partners as strategic business owner for investments by Munich Re/HSB Ventures

# Trōv app enables people to easily insure things they love, for whatever duration, entirely from their smartphone

## How it works



1. Easily collect details about your things
2. Swipe to protect just what's important to you
3. Choose the price that's right for you
4. Swipe to claim for damage, loss or theft
5. Claims are as easy as sending a few text messages

## Major elements of the partnership

### How does Trōv benefit?

- Product, underwriting and pricing are experimental and needed to support the Trōv customer experience
- Munich Re's international footprint and venture capital funding facilitates quick global expansion

### How does Munich Re benefit?

- Investor and board member of innovation-leader
- Capacity provider in multiple countries
- Learning how to manage on-demand insurance

# Slice Labs – Insurance for the sharing economy

## How it works

*Slice*



1. Reach Slice directly or through white-label channel (e.g. Progressive.com and 1-800-Progressive)
2. Go through simple underwriting process in advance
3. Turn on insurance on the app or by text when you need it

## Major elements of the partnership

### How does Slice benefit?

- This product combines commercial and personal lines so required new underwriting thinking
- Munich Re's international footprint and venture capital funding facilitates quick global expansion
- Munich Re rating supports B2B2C channels

### How does Munich Re benefit?

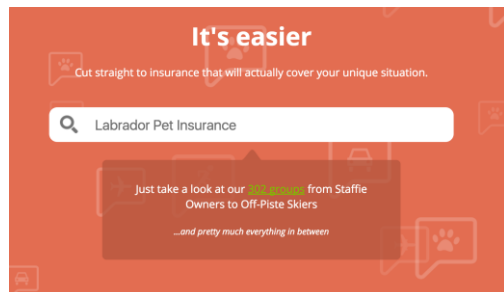
- Investor and board member of innovation-leader
- Access to channels not otherwise available
- Developing deeper understanding of sharing economy

# Bought by many – Insurance tailored to individuals with specific needs

## How it works



INSURANCE MADE SOCIAL



1. BBM uses Facebook to determine your interests and match these to relevant insurance products
2. Products are tailored to, and with, groups with a particular interest
3. BBM focus on groups for whom a specific matching product does not exist: “insurance for the long tail”
4. Initial evidence suggests lower acquisition costs, and higher retention than “untailored market”

## Major elements of the partnership

### How does BBM benefit?

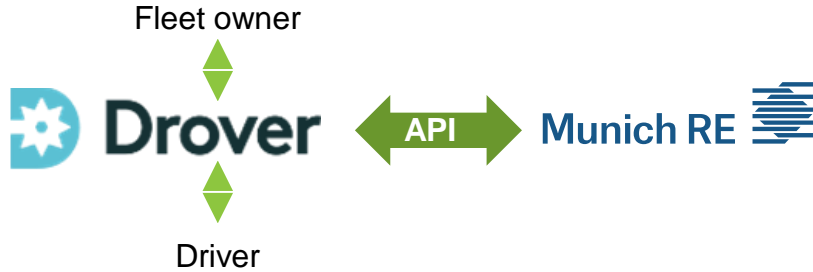
- Flexible mix of Munich Re and BBM technology
- Experimental product design and pricing
- Venture capital
- International scale

### How does Munich Re benefit?

- Detailed data on customer behaviour
- Investor in, and insurer to, platform with exceptionally high net promoter score
- Understanding of social media marketing

# Drover – Enabling Uber drivers and creating a new asset class for investors

## How it works



1. Fleet owner makes cars available on Drover platform
2. Driver rents on flexible terms
3. Both owner and driver are insured via Digital Partners API

## Major elements of the partnership

### How does Drover benefit?

- Insurance via API: fully automated digital customer experience
- Simple interface to Drover platform
- Rating to attract larger fleet owners

### How does Munich Re benefit?

- Profitable and growing business line
- Data on sharing-economy driver behaviour
- Ability to add further distribution to the platform



# Building sustainability – Digital Partners in 5 years

40 live partnerships

US\$ 250m VC investments

€70–100m operating investment

Global, multi-line proposition

Unique frictionless and automated underwriting and claims capabilities

Maintained technology advantage

Shareholdings and board seats in partners



## OUR AMBITION

To build a global digital-wholesale insurance platform with a largely fixed cost base and a substantial bottom-line contribution

nexible

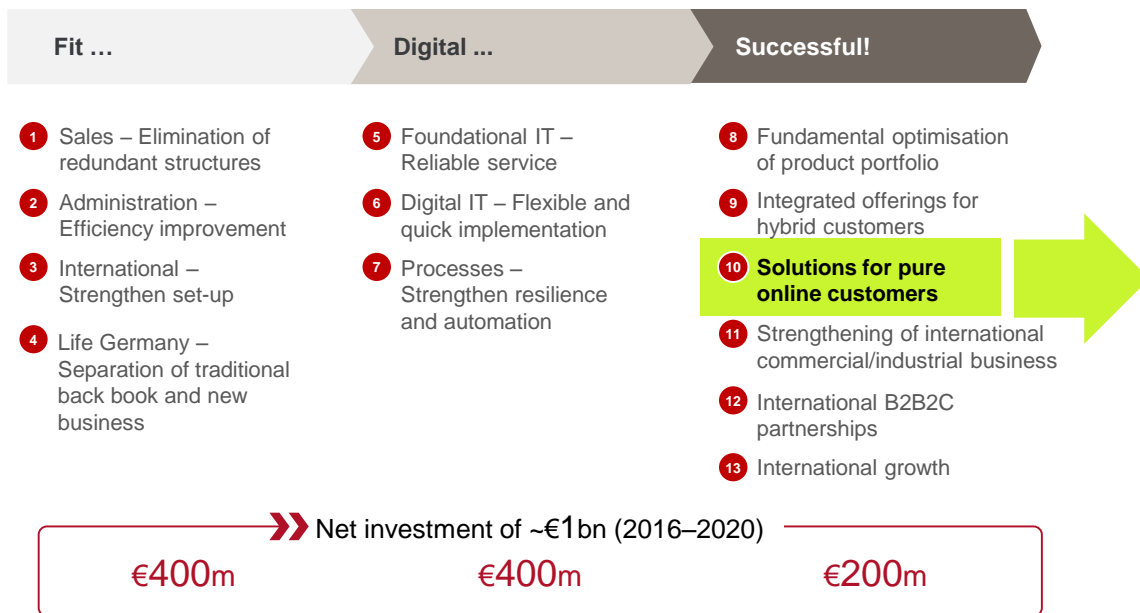
John Paul Pieper



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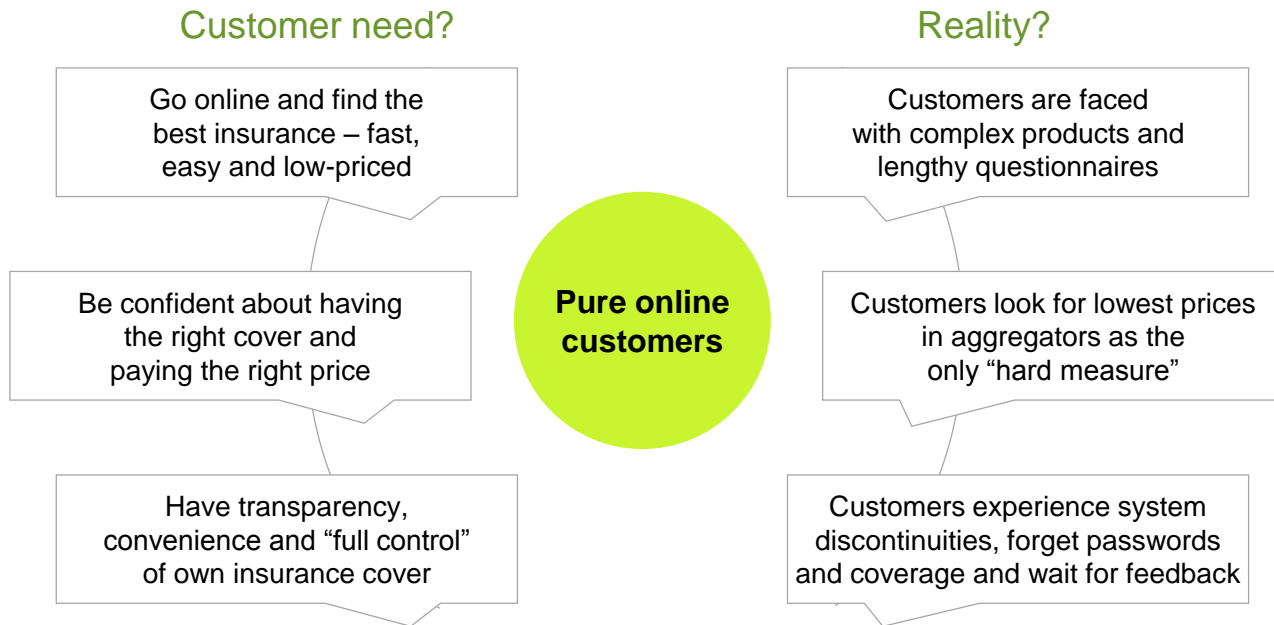
# The relative investment into nexible is low – But a clear commitment to target a niche and new way of working

## ERGO strategy programme



- Overall investment to build nexible in Germany and another market until 2020 <€50m (gross)
- Limited budgets for ramp-up and running will trigger creative solutions to solve problems
- Relatively low fixed costs do lead – with acceptable scale – to very competitive expense ratios in the market

# We see an untapped demand for pure online insurance

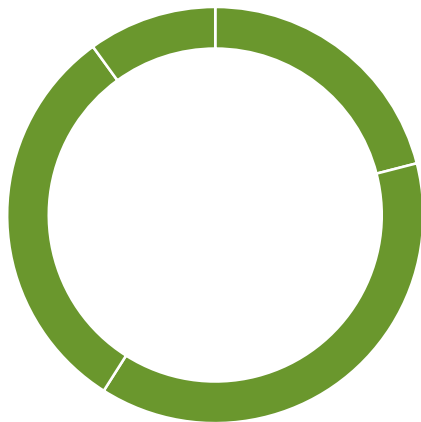


Yet, no player within the market has given full control over insurance cover to the customer

# Starting conditions for nexible have been validated

## Service quality of motor insurers in Germany?<sup>1</sup>

“Inadequate”  
10%



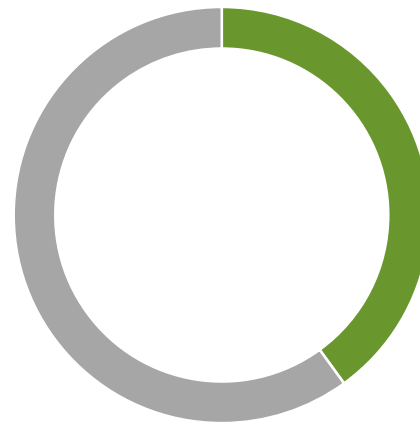
“Sufficient”  
31%

“Good”  
21%

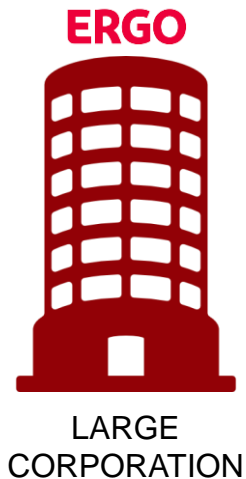
“OK”  
38%

## Acceptance for pure online sales, claims, service?<sup>2</sup>

“Yes, I consider it”  
40%



# The innovator's dilemma within large corporations



“Lead customers” determine resource allocation

Niche markets do not satisfy large corporations

Disruptive market changes can not be analysed

Existing processes and values are limiting success

Technology often confused with customer demand

# That's why nexible is well-positioned to innovate



# nexible is set up with a clear value proposition



We built nexible to focus and best serve  
pure online customers

We came to stay, being part of two huge insurance companies

We are expanding in products and countries

We're a spin-off

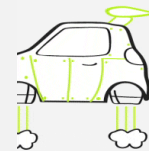


No paper, no phone queue, cancellable monthly

Competitive pricepoints for our customers because we have low costs

Get fast help by using the digital channels you prefer

All we do is digital



Get insured in less than 90 seconds

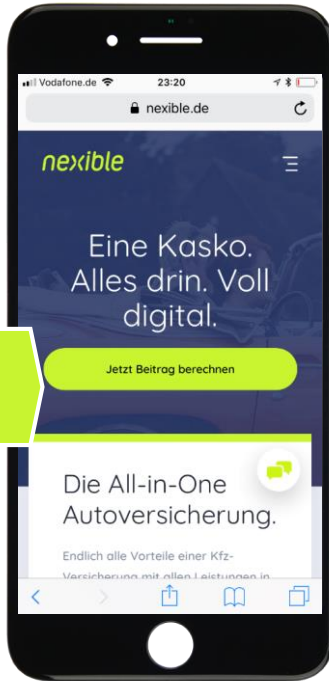
Get claims settled in hours and relax

Change your details and your policy whenever and wherever you want

We're fast and easy



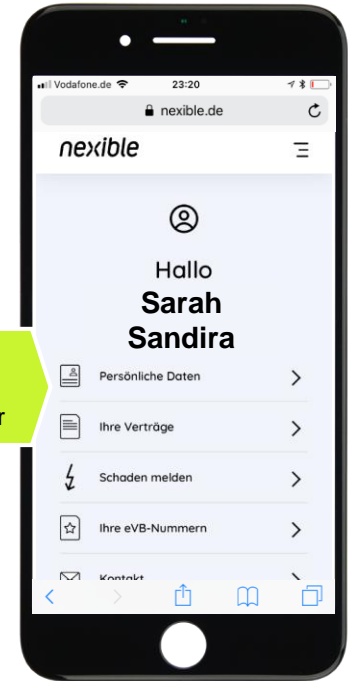
# The customer impact is tangible: It's simply made to fit



90 sec to price for one all-in package



Claim settled and paid in <2 hours



Change contract and coverage – where-/whenever

# Duty first: We start with what's most important, and work on excitement by experimenting

## From duty ...

We have a great product ...

- State-of-the-art pricing
- Worry-free coverage packages
- Reliable (with ERGO and Munich Re)

... that easily fits your changing life and ...

- Pay monthly, cancel monthly
- Customise your coverage, decide yourself
- Low-effort self-service saves you time

... it's digital, but feels personal

- We are mobile first
- We are a brand with edge, character, humour
- Trust through the team and testimonials

## ... to excitement

... be in control of a complex subject

Always-available service by the digital channels you prefer, full transparency

... enjoy a UX<sup>1</sup> that feels great

Intuitive design, slick and easy, with a twinkle in the eye that makes you smile

... have a bit of fun and get rewarded

e.g. provide incentive for desired behaviour or gamification elements

... feel unique by embracing passion

e.g. co-creation with existing communities to build the perfect product



**A purely digital insurance ...**



**... which is more than you think.**

 Focus in 2017

 Ongoing customer-affinity tests and user experience experiments

“Einfach online versichern” is our motto –  
 A low cost operation offering a great customer experience



**nexible**  
 Einfach  
 online  
 versichern

= Simply insured online



**Keep it simple**



**Do it online**



**Design to cost**





**Be edgy**


All-in-one tarif 

Cancellable every month


Pure online touchpoints, great user experience


Risk factors adjustable anytime (repricing) 

Lots of standard, avoid exceptions 

Continuous automation step by step 

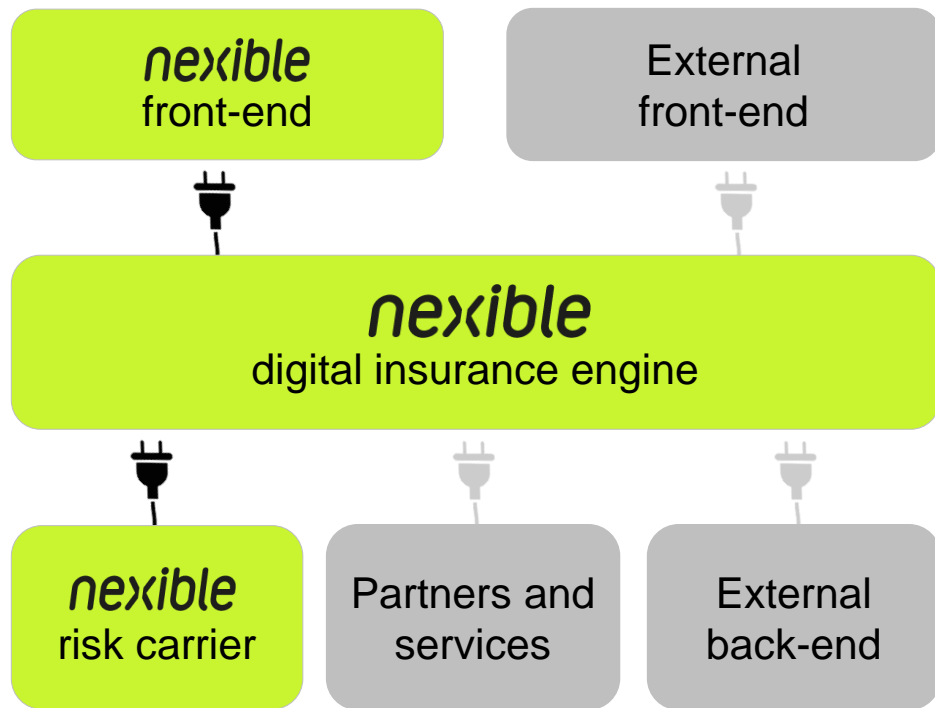
Gain momentum with existing online channels

Drive brand awareness by edgy experiments 

 Potentially challenging for competition

nexible DE has built an API-centric platform for more speed and flexibility

*nexible*

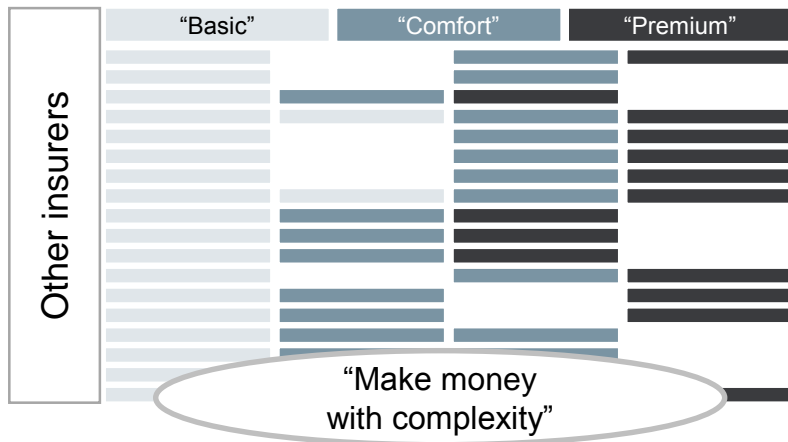


Risk carrier = nexible Versicherung AG  
MGA (e.g. platform, front-end) = nexible GmbH

## API-centric technology approach

- State-of-the art API-centric platform – efficient build-up of new business models using API to connect to third parties
- Efficient business model due to automation of core processes avoiding low-level manual tasks performed by humans
- Dynamic pricing capabilities for fast-paced product building and development
- Further efficiency and effectiveness realisable by integrating machine learning capabilities based on end-2-end insights gathered all the way through an integrated business model

# nexible is aiming to offer a simple product for an attractive price in selected segments



- Up to 20 criteria with 2–4 options, each differentiated in typical motor tariffs
- Hard for consumers to understand what’s in and what’s out, what’s needed and what’s not
- Pricing inflated by sales channel considerations and unclear discounts

VS.



- Best and relevant coverage picked to form one tariff that fits every typical need
- Pricing fully risk-adequate and very competitive in selected customer segments
- Customer can choose from options easily, but we only present options with “wallet-impact”

# We focus on motor first for volume and learning – And leverage experiences for services, products and markets

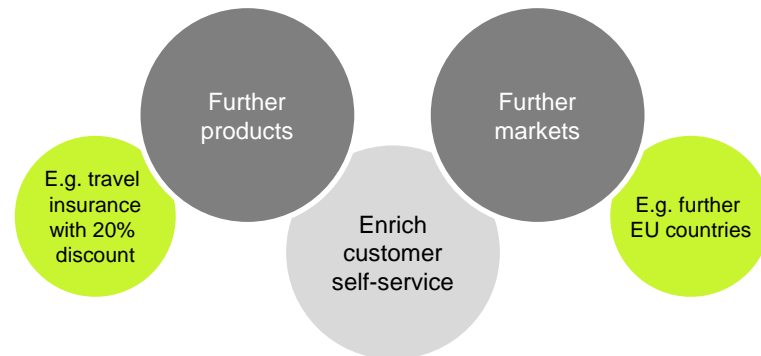
## Phase 1

## Phase 2

Roadmap to success



- Start with online motor insurance product (highly transactional, big volume market)
- Focus on aggregators for launch in busy season of 2017
- Build-up of customer base crucial to drive customer-centric cross-selling and value-added services along the journey



- Leverage experiences from motor MVP to enrich customer self-service
- Build further products based on feedback gathered and increase customer profitability through cross-/upsells
- Scale offerings to further markets

# nexible benefits from its position within Munich Re (Group)



## ERGO

Support from functions  
(e.g. HR, Legal)

Data science know-how  
and capabilities

Joint real-time advertising

Procurement power and  
operations scalability

International market  
know-how and access

Broad insurance customer  
base and know-how



DEFENCE VS.  
DISRUPTION



LOW-RISK  
TESTING ABILITY



ADAPT NEW  
PRACTICES



BUILD UP  
REAL DATA



GROW IN  
NEW MARKETS



Artificial intelligence services

Data science know-how  
and capabilities

Branding

Consultancy, e.g. Munich Re  
Motor Consulting Group

International market  
know-how and access

Broad expert network

# The nexible team brings in all required capabilities

## MANAGEMENT TEAM

CEO

CFO

COO (Interim)

## PROJECT TEAM (WITHIN ERGO)

Business development

Transformation back into ERGO

Public relations

Human resources

- Former ERGO employee
- Former different industry or company
- Part-time support ERGO

## MARKETING

Digital Branding

Performance Marketing and Analytics

Social Media Performance Marketing

## PRODUCTS AND SERVICES

Chief Actuary

Product Management and Underwriting

Product Owner Frontend and User Experience

Actuary (Interim)

## OPERATIONS

Operations and Business Intelligence

Operations Processes

Operations and Customer Service

Data Science

## CLAIMS AND SUPPORT

Claims Management

Claims Process and Customer Experience

Claims and Partner Management

## TECHNOLOGY

Chief Product Owner

Architecture and Technology

**SUM.CUMO**  
Technology-Partner



# We learned that a few things are key to being successful



1. We **trust in the brand** we create and fill it with life
2. We **stick to our beliefs**, but do not shy away from massive pivots
3. **Pure digital** means pure digital – as far as we can get
4. Unleashing **the power of two giants**, we benefit from being part of ERGO and Munich Re
5. We balance **leveraging corporate resources** and establishing **true autonomy**
6. **Speed beats perfectionism** – we fail fast and learn more
7. Development and learning cannot be a silo – we systematically **share back with ERGO**

# Financial calendar

## 2018

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6 February	Preliminary key figures 2017 and renewals
15 March	Balance sheet press conference for 2017 financial statements Analysts' conference in Munich with videocast
25 April	Annual General Meeting 2018, ICM – International Congress Centre Munich
8 May	Quarterly statement as at 31 March 2018
8 August	Half-year financial report as at 30 June 2018
7 November	Quarterly statement as at 30 September 2018

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