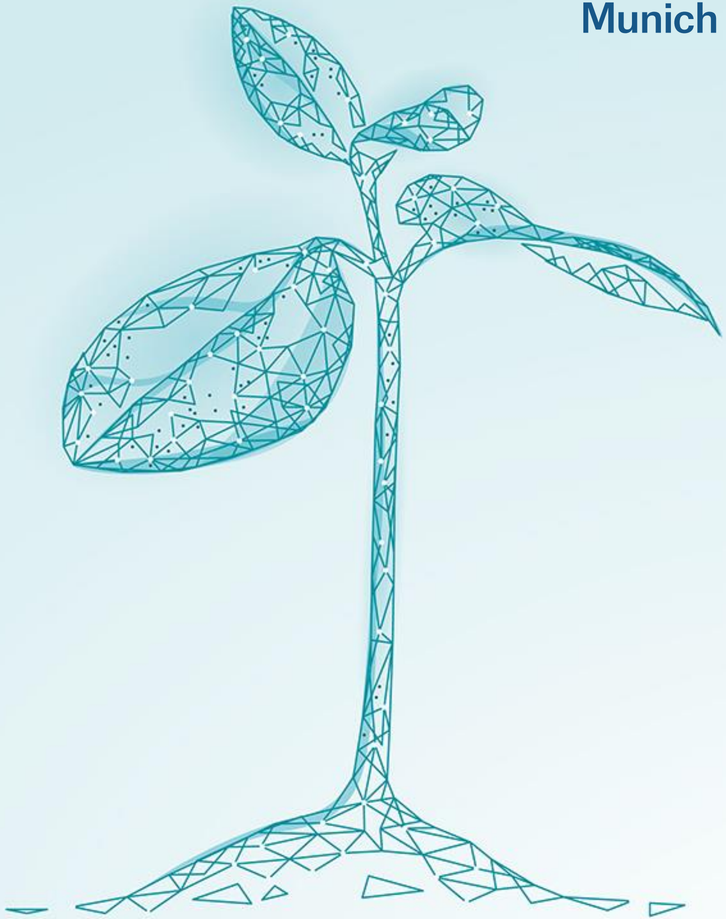

Meetings with Management

Munich, 27 June 2019

Image: AdobeStock/LuckyStep

Strategic priorities and rigorous execution pave the way for profitable growth

Munich RE

INCREASE EARNINGS

Focus on profitability in underwriting, investments and new business

REDUCE COMPLEXITY

Business focus, divest from sub-critical operations

DIGITAL TRANSFORMATION

Efficiency, excellence and new business models

Deliver on capital repatriation

Secure long-term earnings power

Create value added

Framework for digitalisation at ERGO – Progress towards digitally-enabled customer solutions

Munich RE

Enabling technology and innovation

Addressing industry trends

- Voice: Pioneer offering E2E insurance sale for travel insurance via Alexa
- AI and robotics: Accelerating process automation with first promising results

Modernise IT infrastructure

- Legacy systems: First results replacing heterogeneous landscape by single IT Management Suite
- ERGO T&SM: Foundation for global IT governance
- Digital IT: Growing hubs in Berlin and Warsaw (~200 experts)

Improving existing business models

- Start of business model for hybrid customer
- Integrated product offering for German risk carriers
- Unified customer database and CRM tool
- Unified customer self-service portal with further increase in users (900k users, +31% y-o-y)
- OneWebsite to be launched in Q2 2019

Today's focus

Disrupting existing business models

- Start of purely digital player nexible with motor product in 2017 (20k policies)
- Policies more than doubled in 2018 (50k policies)
- Soft market entry in Austria

Establishing new business models

ERGO Mobility Solutions as a partner of automotive and mobility industry

- Dedicated infrastructure
  - Highly qualified team
  - Automotive specific IT system
  - Automotive factory concept for operations and claims mgmt.
- Strategic investments in New Mobility ecosystem start-ups fair.com and Ridecell

Creating a digital culture and new way of working

Digital Factory: Agile working initiated implementing the hybrid customer (25 teams); roll-out started targeting E2E process digitization (4 teams)

Digital Morning: Regular dialogues to foster cultural transformation on major German ERGO sites (~200 participants/session)

Transformation@ergo: Supplement to existing training programmes aiming at the requirements of a digital working environment

Digitalisation in Reinsurance – Embracing innovation to actively drive the evolution of business models worldwide

Munich RE

MUNICH RE STRATEGIC ADVANTAGES

Domain expertise in underwriting, claims, risk management | Efficient access to new solutions

Global presence | Financial strength | Strong brand and reputation | No IT legacy

Today's focus

Reshuffling the value chain

- Digital cooperation models (e.g. Digital Partners, SaveUp)
- IoT applications and services (via HSB/relayr)

Today's focus

Expanding the boundaries of insurability

- Cyber (re)insurance: GWP 2018 US$ 473m, low loss ratios, stringent accumulation control
- Cyber embedded service solutions and growing cooperation network, e.g. DXC Technology
- Insurance of AI technology

Data-driven solutions

- Digitally augmented underwriting/ claims solutions for our cedants (e.g. Realytix, Improvex, Non-Life Analytics Platform)

Investments in technology and people

- Cutting-edge AI cooperations (e.g. DFKI[1] membership)
- Global analytics organisation and infrastructure in place
- Data science community >200 FTEs

Strategic investments in partnerships

- >€130m invested[2] in >20 companies (e.g. Team 8) focusing on InsurTech, IoT, data analytics and AI
- Focus on joint value creation

1 German Research Centre for Artificial Intelligence (DFKI). 2 Excluding acquisitions, e.g. relayr.

Agenda

Munich RE

Digital Partners

Andy Rear
CEO Digital Partners

Internet of Things

Leonard Forster
Head of Department Industrial IoT

Josef Brunner
CEO relayr

Cyber insurance

Ali Kumcu
Head of Cyber Services and Innovation

nexible

John Paul Pieper
CEO nexible

Digital Partners

1

Digital Partners acts as a conduit for Munich Re’s vast global network to our partners

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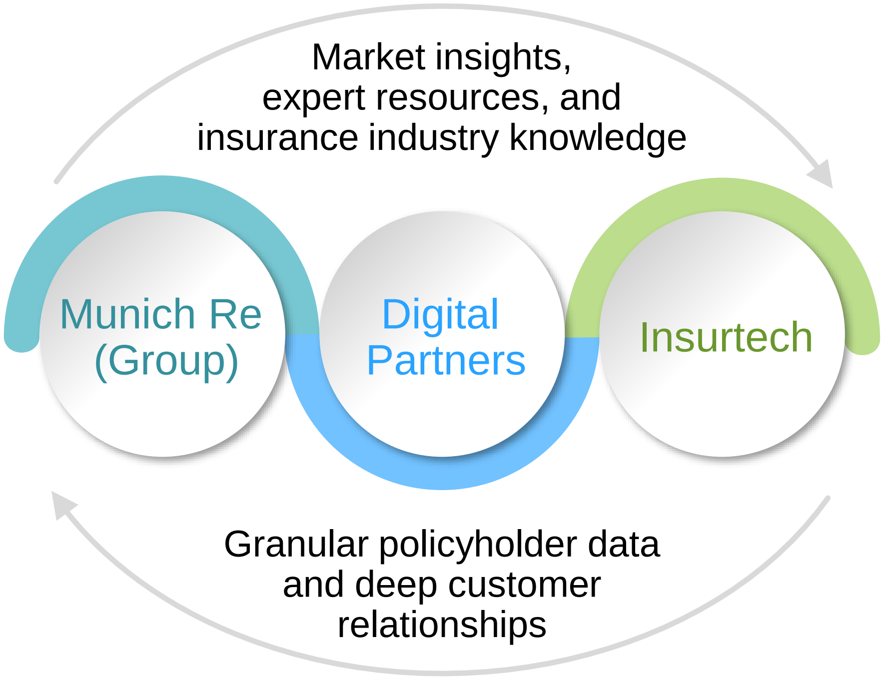

Digital Partners

Provides specific market and insurance industry knowledge as well as connections to expert resources, including data scientists, actuaries, and product specialists

Insurtech

Our partners provide new and innovative insights into their customer base, including telematics, web analytics, and Internet of Things data

Digital Partners synthesises these sources of information –

RESULT: A UNIQUE UNDERWRITING ADVANTAGE

Building digital insurance with partners

Munich RE

DIGITAL DISTRIBUTION

Making insurance like the rest of the internet

Examples
nextinsurance
BOUGHT BY MANY

DIGITAL ECONOMY

Insuring the sharing and gig economies

Examples
trōv
INSHUR

DIGITAL DATA

Using new sources of data to price risk better

Examples
WRISK
ticker

VALUE PROPOSITION

Global multi-line capacity

Product design and data

Agile delivery

Venture capital

Flexible technical architecture

ACHIEVEMENTS

- ✓ Growth above expectation
- ✓ Larger partnerships including BMW UK and Google Waymo
- ✓ Pleasing loss development
- ✓ Strong international expansion (US, Europe, Asia)

Growth above expectation

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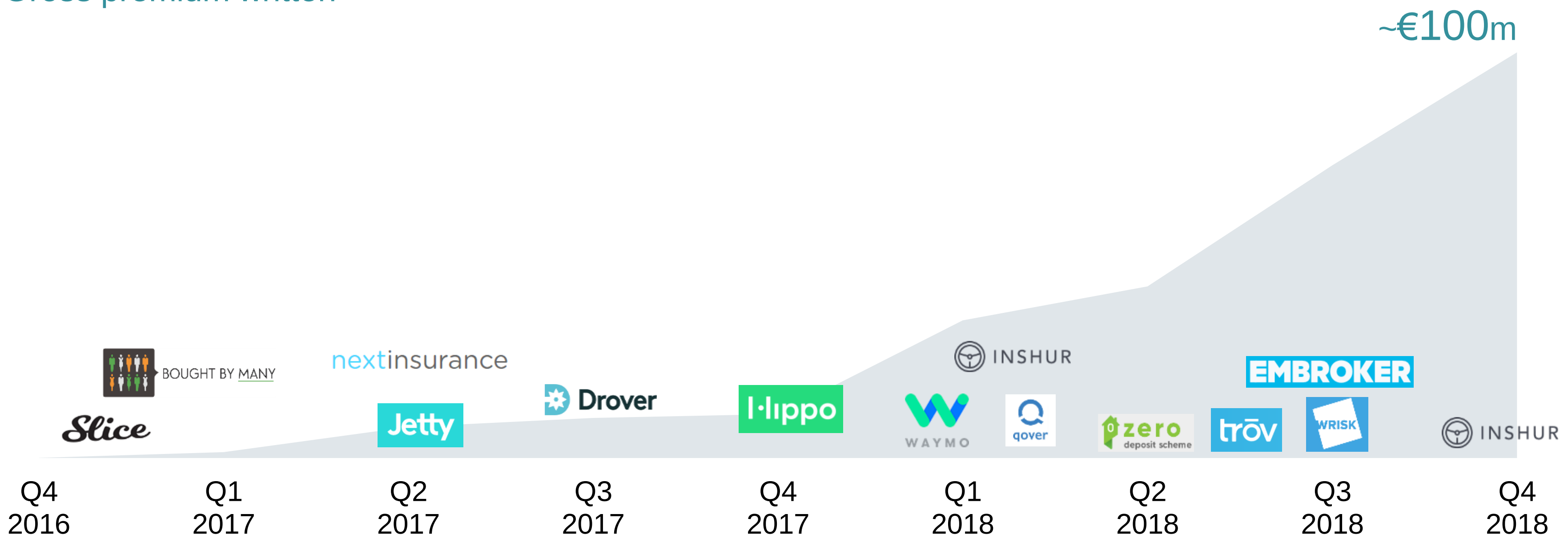
Gross premium written

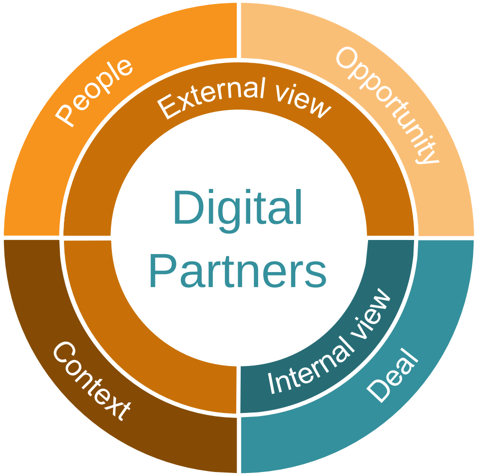


Icons indicate when product went live.

How we select our partners – Business opportunity evaluation framework

Munich RE

- Experience in insurance
- Reputation of entrepreneurs
- Attitude/cultural fit
- Commitment



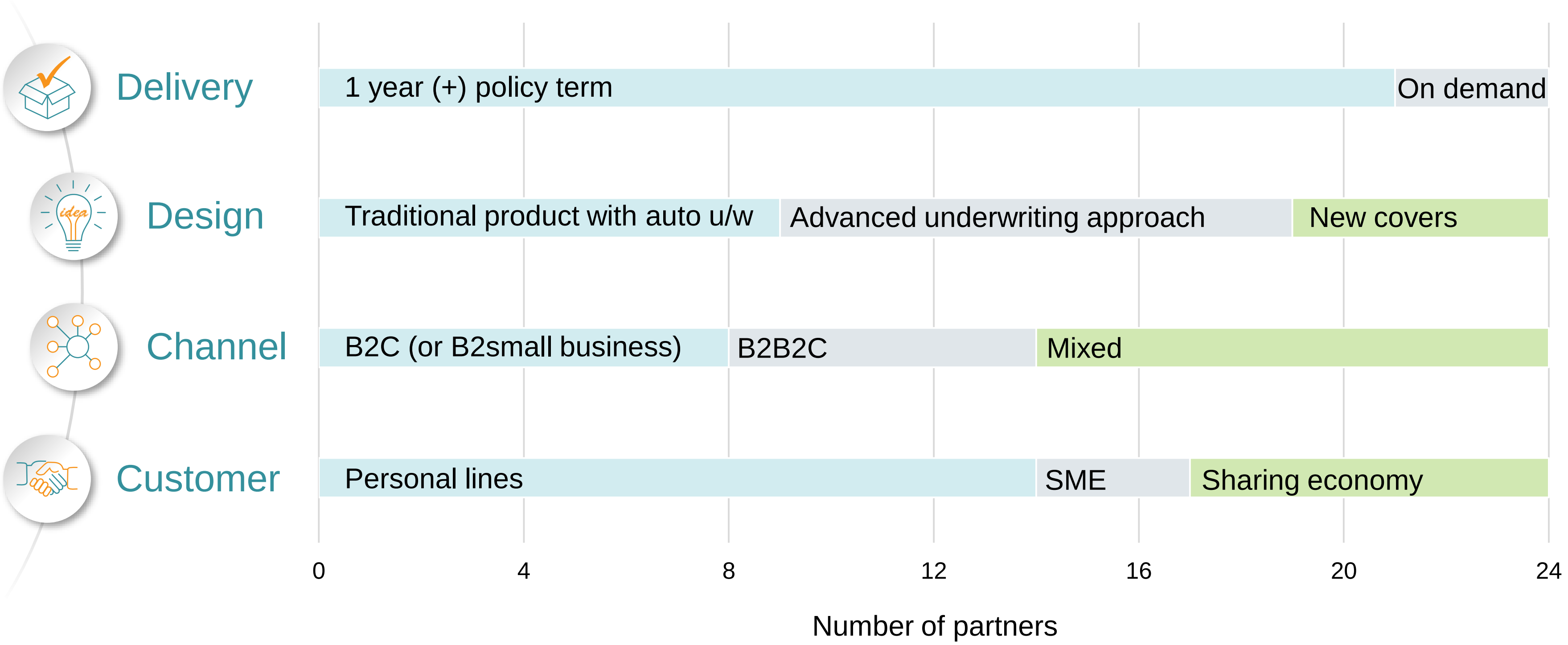
- Market size and growth potential
- Product/market fit
- Distribution strategy
- Product innovation (data)
- Technology advantage
- Competition

- Regulation
- Capital funding
- Investor quality

- Strategic value
- Business potential vs. effort
- Aligned incentives and fair margins
- Impact on overall business portfolio

Our partners – Wide variety of products with increasing experimentation in cover design, underwriting and delivery

Munich RE



Some lessons learned in 3 years

Munich RE

1 The opportunity in small business insurance is huge, especially in US

2 Distribution cost can kill "new economy" products

3 Established non-insurance brands see insurtech as an opportunity

4 We can't do everything

Significant efforts to grow existing and new partnerships

Focus on B2B2C where unit premium size is low

Careful expansion into white-label segment with "orchestrated" insurtech model

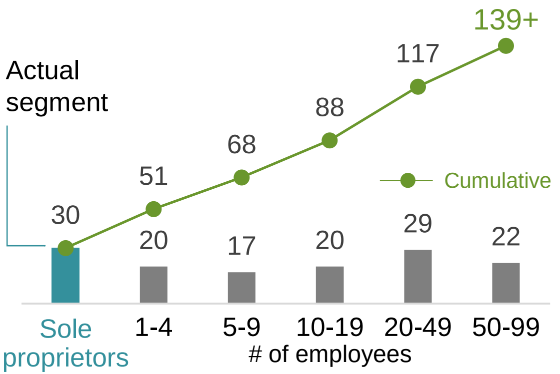
Focus on scalable partners, remove some failed experiments

The opportunity in small business insurance is huge, especially in US

Munich RE

US SME market

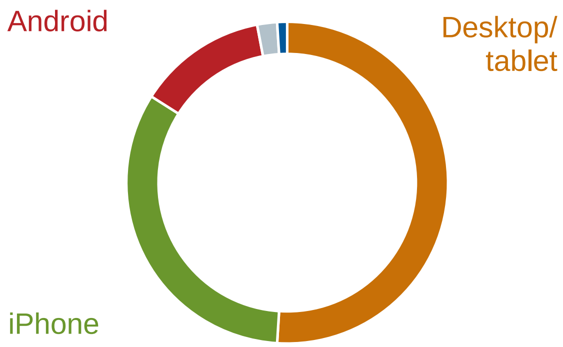
Premiums by employee band (US$ bn)



- Large and growing market
- Online share just 2.7% – Almost no automated underwriting/ straight-through processing
- 40% of sole proprietors are uninsured (CR 2018: 99%) …

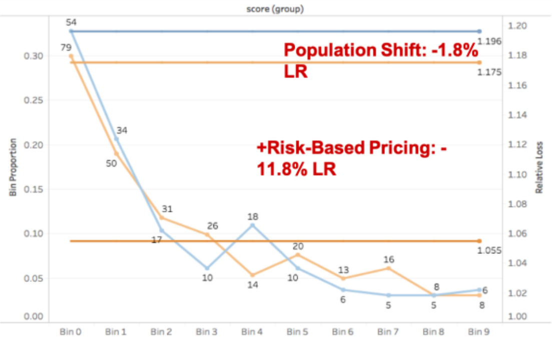
Customers want to go direct

Customer behaviour similar to personal lines



- … and those that do buy, do not distinguish business from personal insurance, e.g. same brands, same shopping behaviour
- 59% of US SMEs want to buy online
- 79% would at least get a quote

Online offers u/w advantage



- Online offers new data sources, e.g. Yelp reviews, credit, website scrapes
- Customer buying behaviour also a rating factor, e.g. device type, site behaviour
- Early indications already showing impact

Outlook: We are still on our early growth trajectory

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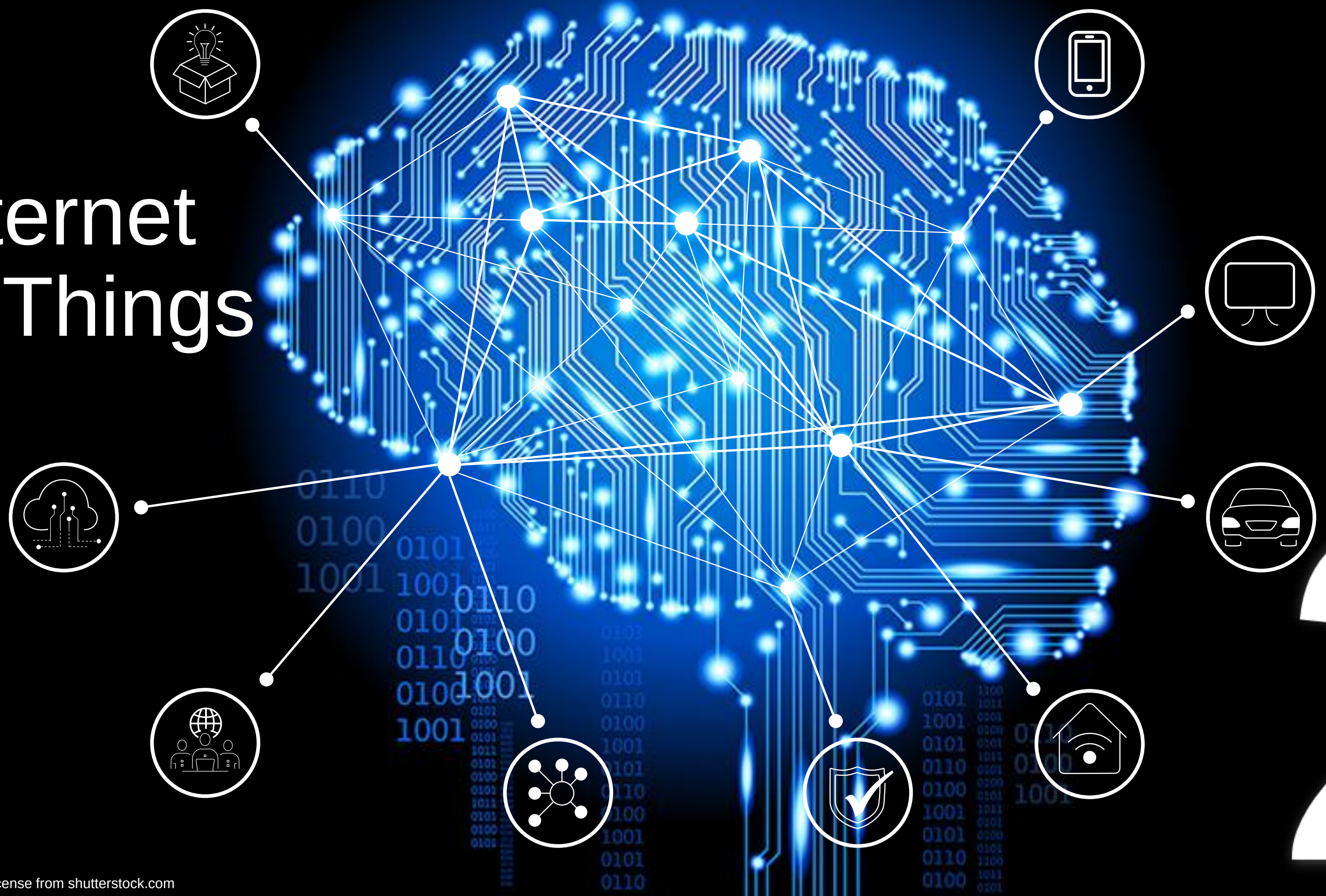
OUR AMBITION

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

- Grow our leading existing partnerships, each to US$ 100m+ scale
- Continue to develop new insurtech partnerships
- Selectively develop partnerships with fintech, retail and automotive partners that want to build digital insurance into their proposition
- Continue to make VC investments at early and later stages

Internet of Things



2

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Developing IoT insurance, finance and technology solutions

Munich RE

SME | MID to LARGE | LARGE INDUSTRIAL

Insurance and financial solutions

We bring the technology

Partners bring the technology

Examples

meshify acquired

relayr. acquired

Partnerships with leading IoT and industrials

BOSCH | MHP A PORSCHE COMPANY | KUKA

Turnkey IoT solutions in place, working with insurance carriers to solve their perils

IoT to enable business outcomes; equipment as a service business model

Testing new business models, e.g. Smart factory as a Service

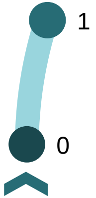
Transformation of the insurance industry

Munich RE

The paradigm is changing

Technology is reducing traditional risks and shifting knowledge – we need to create new value streams to stay relevant

INSURANCE INDUSTRY TRANSFORMATION



Focus on RISK MANAGEMENT and FINANCING

Munich RE

Leverage core risk and engineering expertise to proactively prevent losses

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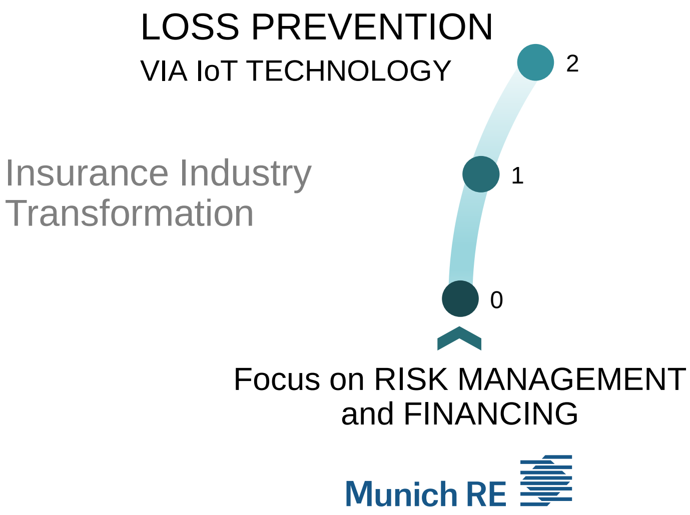
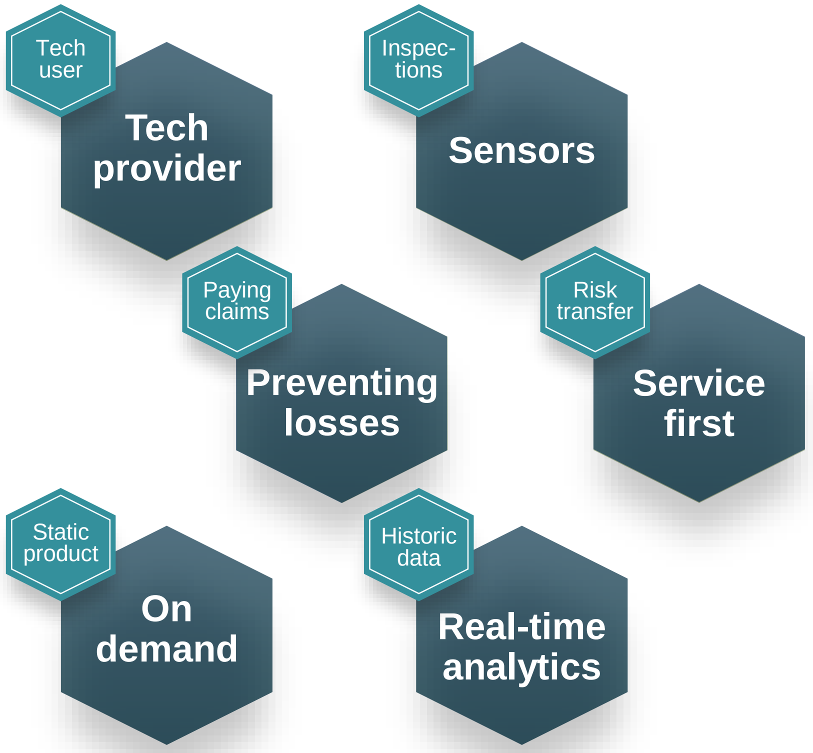
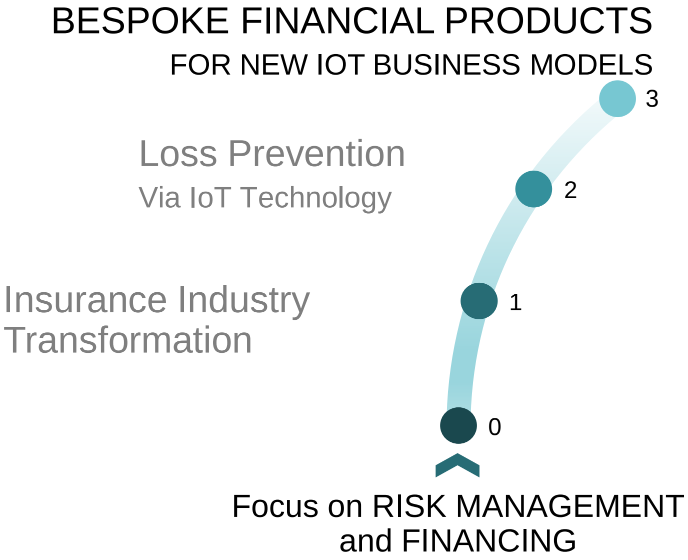
IoT opens up new opportunities

And challenges us to rethink our business model, evolve and adapt

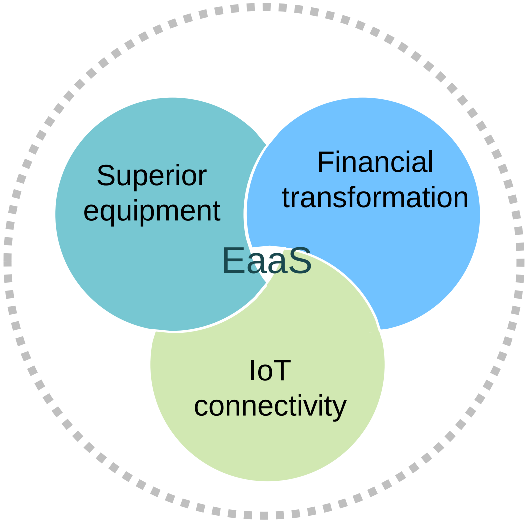




Moving beyond insurance



Munich Re – One piece of our clients' IoT puzzle



We are the holistic partner for our clients' digital journey and transformation to new business models

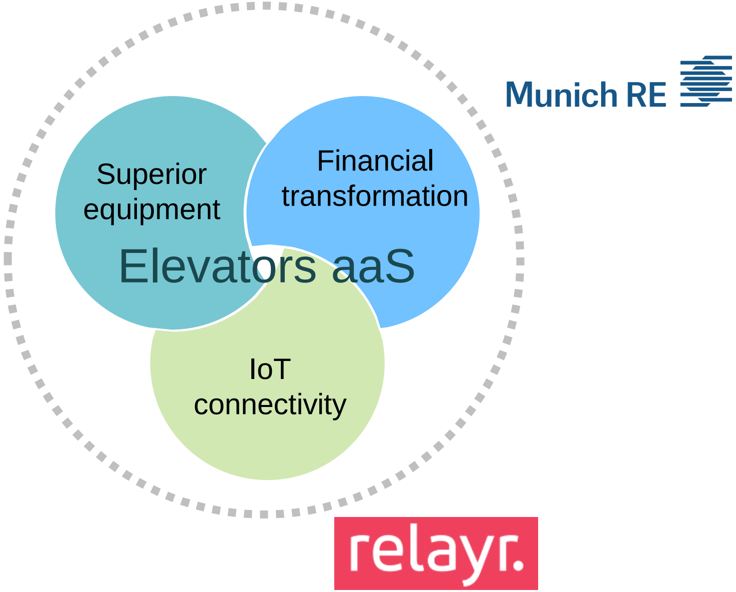
Spotlight: Elevators as a Service – relayr and Munich Re: 1 + 1 = 3

Munich RE

Elevators as a Service

Service, elevator and IoT box are provided in exchange for a fixed periodical fee

Partner ecosystem



Customer Landlord

- Capex to Opex
- Worry & hassle-free usage of elevators
- Cost savings and improved uptime
- Performance guarantee

relayr.

ELEVATOR SYSTEM COMPLIANCE MONITORING.

Predictive maintenance

Retrofitting

Scalable solution

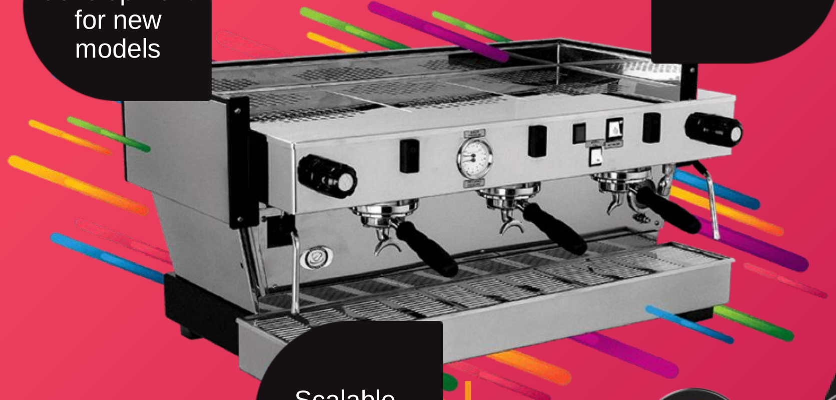
CONDITION MONITORING

- 10 – 12% INCREASE IN REVENUE
- $600+ NEW REVENUE PER ELEVATOR WITH DIGITAL COMPLIANCE
- UP TO $500 SAVINGS PER ELEVATOR PER YEAR

relayr.

INDUSTRIAL APPLIANCE MANUFACTURER.

COFFEE-AS-A-SERVICE



Co-development for new models

Retrofit kit for older models

Scalable solution

30% NEW REVENUE

NEW CUSTOMER SEGMENTS

MAINTAIN LEADING POSITION

IIOT-ENABLED TRANSPORTATION SOLUTIONS.

GE Transportation

"Together with ecosystem allies such as relayr, we've developed an innovative IIoT-enabled digital-rail ecosystem — from shipper to receiver — that is at the forefront of the rapidly changing industry,"

Garret Fitzgerald,
Vice President and General Manager, Transport Intelligence at GE Transportation.

relayr.

GROHE

WATER DAMAGE COST REDUCTION.

Integration with insurance companies' networking platforms

GROHE SenseGuard integration with other IT ecosystem

Intelligent water security system

SUPPORTING GROHE'S NEW GO-TO-MARKET APPROACH

RELAYR'S TECHNOLOGY FOR SCALABILITY AND IT ECOSYSTEM INTEGRATION

PARTNERSHIP WITH HSB / MUNICH RE

relayr.

LEONI

AUTOMOTIVE INDUSTRY'S EFFECIENCY GAIN.

Data insights from broad range of robotic devices

Real time monitoring for vendor-agnostic robotic lines

LEONIQ intelligent cable technology

- LINKING INTELLIGENT CABLE AND AUTOMATION SYSTEMS WITH INNOVATIVE IOT TECHNOLOGIES
- REDUCED ROBOT LINE DOWNTIME WITH PREDICTIVE MAINTENANCE
- IMPROVING OVERALL EQUIPMENT EFFECIENCY (OEE)

THE RELAYR EFFECT.

Our unique value stack combines pioneering IIoT technologies with skilled delivery, exclusive financing and risk-free insurance models to give you the necessary tools to achieve your ambitious goals

WATCH VIDEO (YOUTUBE)

ABOUT RELAYR.

We are enabling our industrial customers to provide OPEX-based products to their respective markets by providing a combination of

- IOT TECHNOLOGY
- DELIVERY
- INSURANCE
- FINANCING

from a single source.

More at: www.relayr.io

OPERATIONS IN GERMANY, USA, UK, FRANCE, ITALY AND POLAND

FOUNDED BY LEADING INVESTORS, NOW PART OF HSB / MUNICH RE (GROUP)

THE ONLY IoT COMPANY CAPABLE OF INSURING BUSINESS OUTCOMES

200+ EXPERTS FROM ACROSS THE GLOBE WORKING AS #ONETEAM

OUR PURPOSE IS TO ENABLE TRADITIONAL INDUSTRIAL BUSINESSES TO STAY RELEVANT.

THE RELAYR EFFECT.

Our unique value stack combines pioneering IIoT technologies with skilled delivery, exclusive financing and risk-free insurance models to give you the necessary tools to achieve your ambitious goals

NEW REVENUE STREAMS

BUSINESS MODEL TRANSFORMATION

COST AND EFFECTIVENESS IMPROVEMENTS

Cyber insurance

3

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WATCH VIDEO
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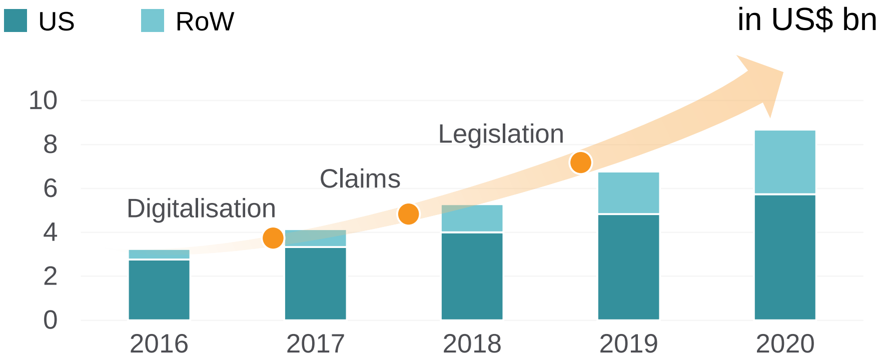
Cyber insurance market with strong expected growth

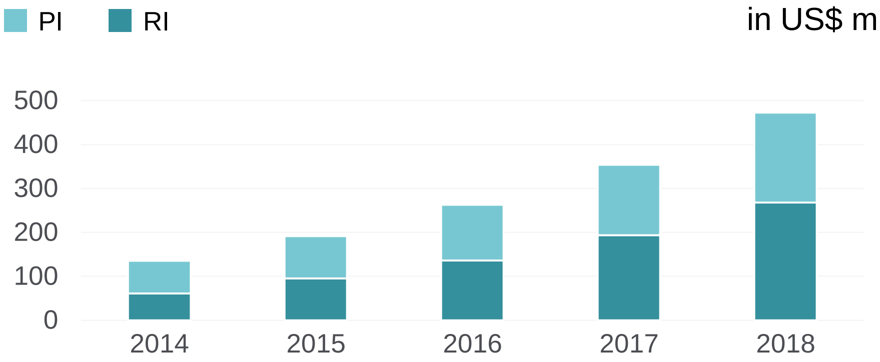
Munich Re – Cyber reinsurer of the year in 2017, 2018 and 2019[2]

GWP global cyber insurance market[1]



- Strong correlation with cyber security market
- Higher awareness of cyber risks/claims reporting will drive demand for insurance solutions
- GDPR implementation in Europe

GWP Munich Re cyber portfolio

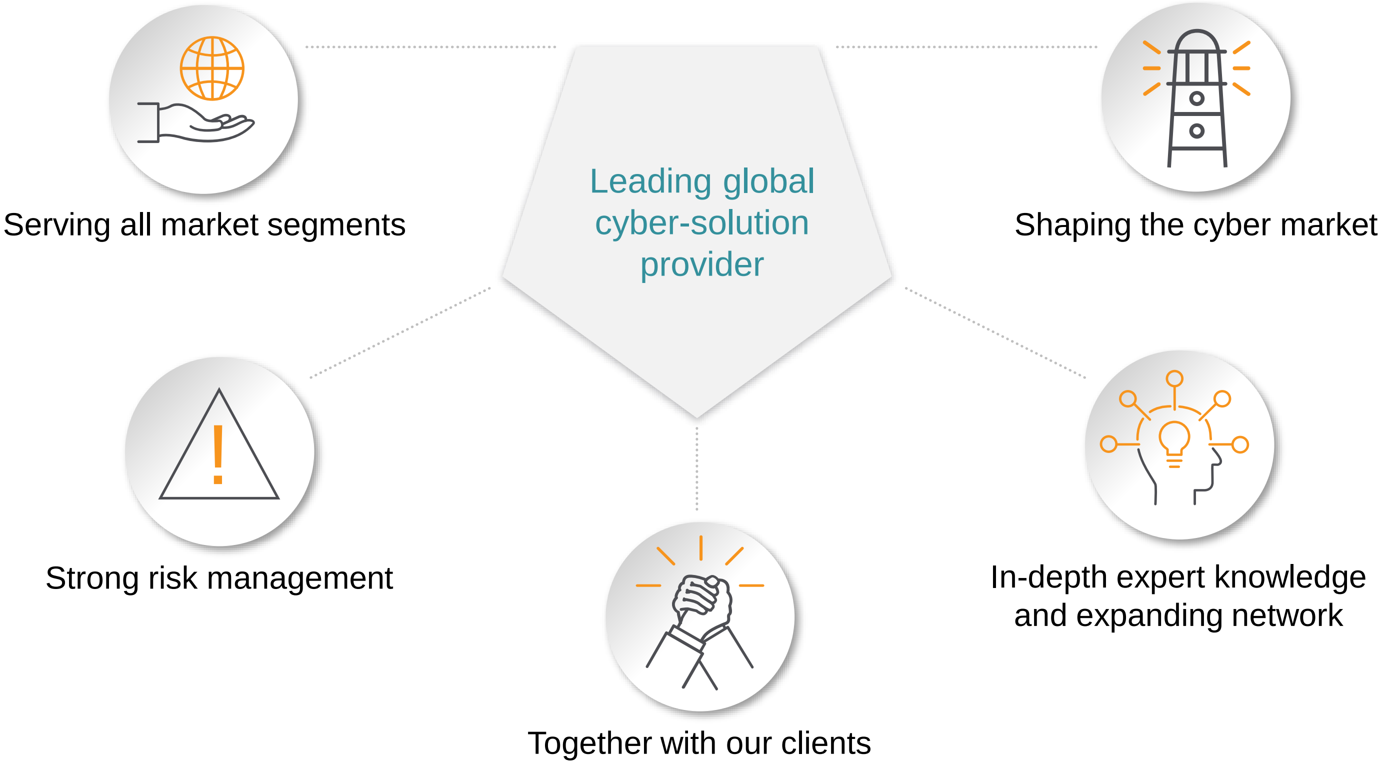


- Well-established player in US and rest of world
- Munich Re serves all client segments via reinsurance and primary insurance carriers, …
- … aiming to keep 10% market share in growing cyber market

Cyber is one of Munich Re's main strategic growth areas

1 Estimates by Munich Re. 2 Source: Advisen

Munich Re's cyber strategy



Recent market trends and developments – Underscore the necessity and potential of cyber insurance

Munich RE

5G

Growth of digital business models in many industries – IoT developments will further increase demand for cyber policies

The **new internet standard 5G** will enable completely new, networked and smarter products and services – but also offer new attack vectors

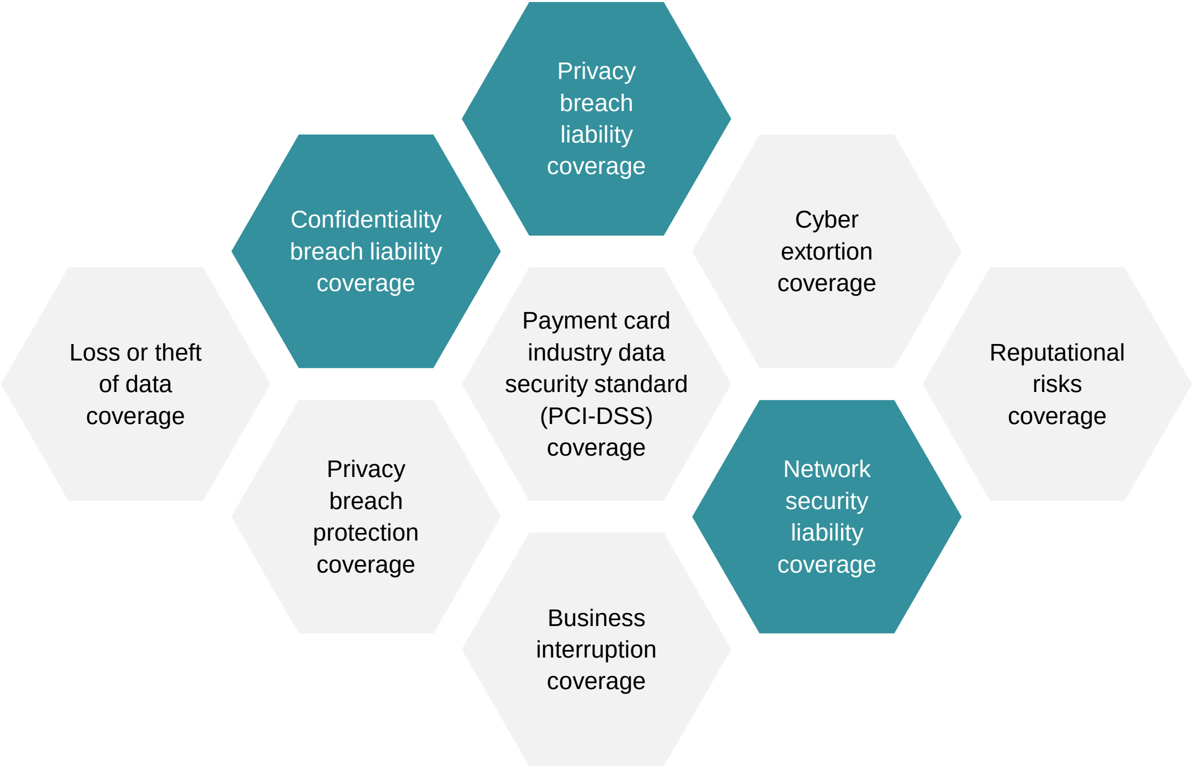
Increasing legislation and internal governance requirements

Global IT security investments will grow significantly to ~US$ 400bn in 2025[1] – Part of cyber security expenses will also flow in cyber insurance

- Most new buyers: SMEs (small sized: <€50m)
- Top buyers by industry: Healthcare, manufacturing, professional services and financial institutions
- Top cover elements: Business interruption (growing importance) and data breach (remaining important)

1 US$ 100bn in 2016.

Cyber coverages of Munich Re



1st party
3rd party

Munich Re offers a fully-fledged, market-proven product with solutions and initiatives for the entire value chain

Munich RE

Example offering for SMEs: Cyber solutions beyond risk transfer

Cyber solutions – Pre-breach
Straightforward service for insureds

Pre-breach

Insured MR cyber app

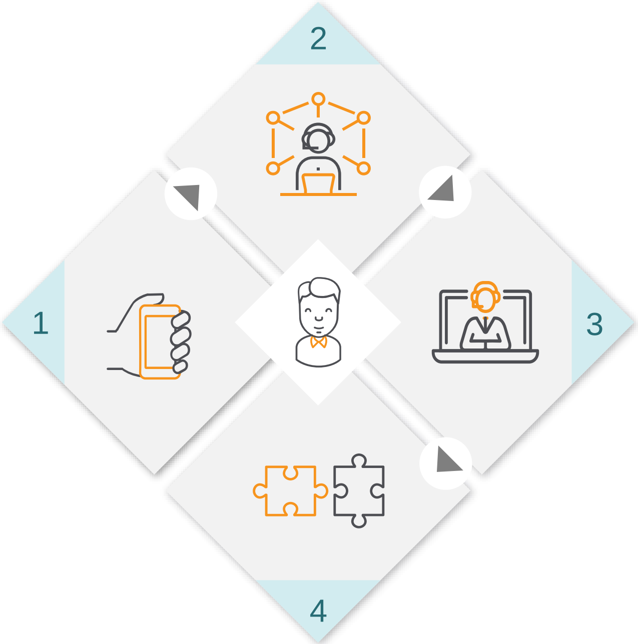
What happens before an incident

- Assessment/monitoring of own cyber exposure, even as "Guest"
- Information regarding own cyber policy or general aspects of cyber insurance
- Personalised notifications incl. assignment of important tasks
- Personalised task management to ensure own cyber security, including delegation
- Tips & tricks – easy to understand guidance on how to solve problems by themselves
- Direct access to 24/7 hotline in case of an incident

Cyber solutions – Post-breach

Straightforward service for insureds

Post-breach



What happens,
if something
happened?

For example

1 Insured checks app for solution

2 Calls technical hotline of cyber insurance carrier

3 Quick identification of problem by an expert with help from the app, e.g. video telephony or images

4 Hotline orders IT forensics specialist (on-site visit)

Insured MR cyber app Techn. hotline Video conference Service modules

Image: dpa Picture Alliance

Innovation – Team 8

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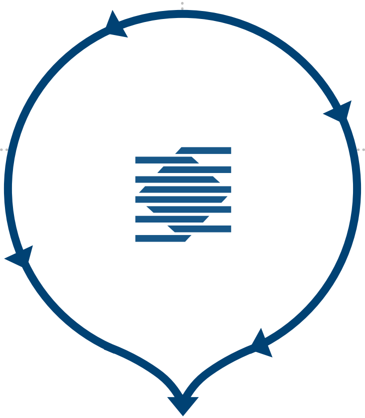
Investment

TEAM8
Rethinking Cyber

Activities

Knowledge transfer



Business enablement

Output

Operational excellence

Premium income

Investment performance

- Team8 is a company-creation platform focusing on cyber verticals
- The startup Curv has developed a cloud-based solution for the secure storage of cryptocurrencies
- Through Great Lakes Insurance SE, Munich Re is underwriting the performance of the Curv product, making it more attractive for customers

Cyber risks are insurable

Munich RE

Accumulation

Virus & malware	Data breach
IT service provider outage	Outage of external networks

- Writing cyber for over 10 years
- Investing in leading expertise – building and maintaining know-how
- Further establishing relevant and efficient partnerships
- Developing tools and ecosystems that constantly evolve
- Driving forward data pooling, standardisation and AI
- Offering accumulation management, risk assessment, wordings and pricing methodologies

State-of-the-art risk management as true business enabler

Solutions for cyber in a more data-driven and interconnected world

Munich RE

Experience and Expertise

- Global footprint and dedicated cyber teams dealing with cyber risks and working on a variety of cyber risk solutions
- Profound experience and expertise in all industries – from large corporates to SMEs, and personal lines
- Expanding the boundaries of insurability

Develop and Improve

- Continuous monitoring of the cyber environment & market developments
- Speed-to-market
- Solutions and initiatives across the entire value chain
- State-of-the-art accumulation management, risk assessment, legal advice and pricing methodologies

Innovate and Network

- Cyber embedded service solutions for cedants and insureds
- Growing cooperation network (e.g. DXC)
- Strategic investments in partnerships (e.g. Team 8)
- Data-driven solutions and IT offerings such as cyber app and underwriting platform

Cyber challenge accepted


nexible
4

Recap: We started as a spin-off experiment with potential

Munich RE

Greenfield build-up of a purely digital insurer as part of ERGO and Munich Re …

Dedicated team and experts

Full autonomy and own brand

Funding and ambition

No own offline advertising

No offline channels

No customer hotline

No forms and paper

nexible

"So wenig Versicherung wie möglich."[1]

… gaining traction within the first 21 months in business[2]

25 FTEs
>50k policies
>€20m premium

nexible

"So wenig Versicherung wie möglich."[1]

1 product – 2 markets already

1 "As little insurance as possible". 2 As at 31.12.2018.

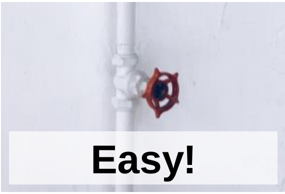
We believe that insurance is just another box to tick for the mobile generation, but the insurance industry is hard to crack

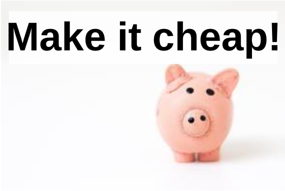
Munich RE

"Supposed-to-have"

- Bank account ☑
- Energy supply ☑
- Internet access ☑
- **Insurance cover** ☐
- Money saving ☐
- Home loan ☐
- Retirement cover ☐
- …

Customer





nexible

Automated **customer interaction** & **service fulfilment**

Learn from **established channels** & **explore others**

\\ Challenges

Country-level processes are dominating industry standards

Risk selection online is opportunity but demands great caution

Aggregators are curse and salvation for the insurance business model

nexible is a technology company insuring people, set up to swiftly adopt to customer feedback and cutting through complexity

Munich RE

Impact so far

Customer interface	Automated services	Effective and efficient pricing
All chats and **selected incidents via mail** handled via bot **Majority of claims** digitally reported	**All applications** policed automatically **Above-market cash settlement** ratio in comprehensive claims	**Few days** to launch new tariff generation **Few actuaries** capable of handling the business

Capa-bilities

nexible A.I. ("motoko")

In-house development based on open source, i.e. enabling bots

Dynamic pricing engine

State-of-the-art pricing software to closely steer risk selection since day 1

nexible customer-management platform

In-house development supported by technology partner, focusing on policy and claims handling, including bookkeeping and accounting

Lessons learned

1. **Customers deal rather well with "pure digital"** – even without hotlines
2. **Insurance process design across borders is complex** – but so is the reward for customers and insurers
3. **Risk selection online via aggregators helps initial learnings** – but there is more to explore

Major landmarks since start

	Fast and effective	Growth with caution	Lean and compliant
2019 (25 FTEs)			
2018 (25 FTEs)			
2017 (~10 FTEs)	**Oct |** **MVP[1]-launch** 🚗 in 🇩🇪 **July** | **Beta test within** ERGO and first policies sold	**Year end | 20,000 cars** insured incl. busy season 2017 **Multiple tariff generations** launched	**Operating model |** MGA setup combined with re-used risk carrier **Risk model |** creation of multiple models[2] together with partner

1 Minimum Viable Product 2 Multiple different damage models combined with external data sources

Major landmarks since start

Munich RE

	Fast and effective	Growth with caution	Lean and compliant
2019 (25 FTEs)			
2018 (25 FTEs)	**Dec** | **Soft launch** in first policies sold	**Year end** | **50,000 cars** insured incl. busy season 2018	**Internal and external audits** | Multiple audits conducted on-site as part of regular process
	Oct | Digital-only **brand campaign with 5,5m views**	**Multiple tariff generations** launched within the year	
	Jan | **Digital FNOL**[1] live incl. AI-based repair cost calculation	**30,000 customers renewed** for the first time	
2017 (~10 FTEs)			

1 First notice of loss 2 Minimum viable product 3 Multiple different damage models combined with external data sources

Major landmarks since start

	Fast and effective	Growth with caution	Lean and compliant
2019 (25 FTEs)	**April** | **MVP[1] launch** in	**New pricing engine** live and first churn-optimised tariff launched	**Risk-carrier board** governance migrated onto web-tool
2018 (25 FTEs)			
2017 (~10 FTEs)			

1 Minimum viable product

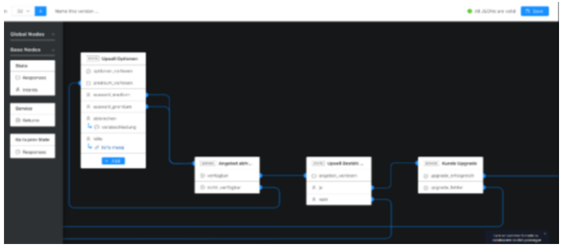
nexible is developing a fully integrated AI framework across the organisation to speed up learning – example: customer interaction

Algorithms

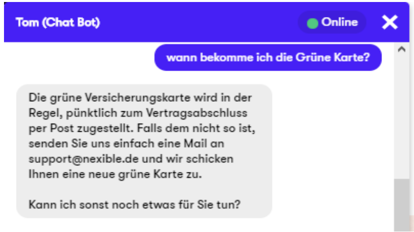
Training

Business Intelligence | **Customer interaction** | Software E2E Test-automation | Operational Robotics | Predictions & decisions

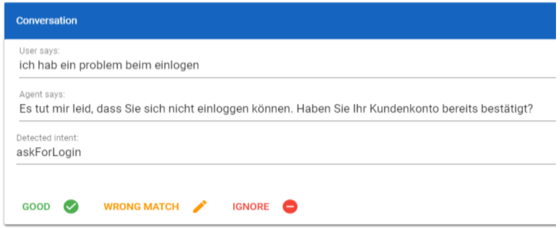
Visual design **interface to create chatbot conversations** for customers, optimised for non-technical staff



nexible chatbot “Tom“ is already offering **>35 intents** for prospects and customers



Visual **interface to speed up Chat-AI training**, driving intent-recognition and improved answers within conversations



2019 is about further automation and process scalability tests to learn more, evolving our operation and governance

Fast and effective

Automation of further services in operations and claims

Extend AI use cases to further reduce admin costs overall and increase scalability

Growth with caution

Expansion of DE motor customer base while keeping healthy loss ratio

Motor launch in AT to test multi-country scalability and adapt architecture

Lean and compliant

Organisational review to ensure a setup fit for next stage of evolution

Further drive digital-ready governance suitable for a low-cost operation

Additional information

5

Financial calendar

Munich RE

2019

7 AUGUST	Half-year financial report as at 30 June 2019
7 NOVEMBER	Quarterly statement as at 30 September 2019

2020

6 FEBRUARY	Preliminary key figures 2019 and renewals
18 MARCH	Balance sheet press conference for 2019 financial statements Analysts' call
29 APRIL	Annual General Meeting 2020
7 MAY	Quarterly statement as at 31 March 2020
6 AUGUST	Half-year financial report as at 30 June 2020
5 NOVEMBER	Quarterly statement as at 30 September 2020

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