# Virtual Monte Carlo 2021
## Digital transformation – Buzzword? Game changer!

7 September 2021
Stefan Golling, Torsten Jeworrek, Fabian Winter

**Munich RE**

# Agenda

## 1
### Insurance market outlook

Torsten Jeworrek

## 2
### Digital transformation – Buzzword? Game changer!

Stefan Golling
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**1**

Insurance market
outlook

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**2**

Digital transformation –
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Image: [M] Munich Re · [P1] Braki [P2] gremlin / Getty Images

# Overall market environment remains positive

Munich Re is well prepared for the megatrend of digitalisation

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Market environment positive due to economic recovery and solid price levels

Munich Re can afford to grow as a strong, agile partner for clients

**+**

Megatrend digitalisation turns the industry upside down and offers enormous opportunities

Insurers need to be aware of future trends and to provide solutions

- Cyber as a major growth area – and the number one risk for the economy

- Better prevention needed to adapt to increasing ransomware attacks

- Munich Re makes use of data analytics and AI to optimise its core business today …

- … and simultaneously invests in partnerships on future technologies to identify new business models

# Primary insurance and reinsurance development
## Global premium development 2018–2020/2021e–2023e

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## P-C RI: Ceded premiums 2020

| | | |
|---|---|---|
| Europe | €94bn | 32% |
| North America | €98bn | 33% |
| Asia Pacific | €74bn | 25% |
| Latin America | €15bn | 5% |
| Africa/Middle East | €13bn | 5% |
| Total | ~€297bn | 100% |

## P-C RI and PI real growth rates (CAGR)

| | RI | | PI | |
|---|---|---|---|---|
| | 18–20 | 21–23 | 18–20 | 21–23 |
| Europe | 3% | 2% | 2% | 2% |
| North America | 8% | 3% | 3% | 3% |
| Asia Pacific | 9% | 4% | 3% | 4% |
| Latin America | 2% | 4% | 0% | 4% |
| Africa/Middle East | 1% | 3% | -1% | 2% |
| Total | 6% | 3% | 2% | 3% |

# Insurance capacity with steady increases
## Alternative capital re-evaluating investment case

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## Dedicated reinsurance capital

Traditional RI capital (US$ bn)

| Year | Value |
|------|-------|
| 2014 | 340 |
| 2015 | 332 |
| 2016 | 345 |
| 2017 | 345 |
| 2018 | 341 |
| 2019 | 394 |
| 2020 | 429 |
| 2021e | 441 |
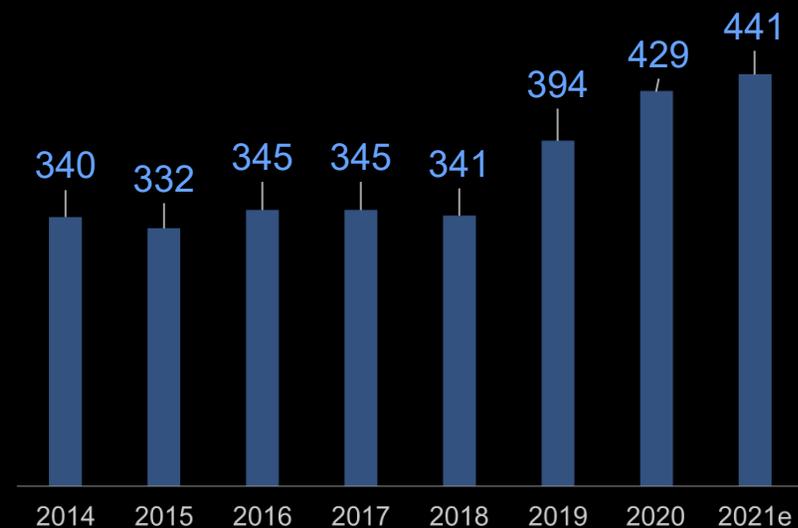
[1] Sum of reported top 50 fund NAV plus guess on non-reported capital
Source: AM Best, Guy Carpenter, Munich Re

# Trends

**Traditional market**

- Traditional reinsurance capital showing steady increases since 2019 despite recent COVID-19 impact
- Capital markets highly volatile, after a significant decrease in H1 2020 due to Covid-19, market with strong recovery in H2 2020
- Increase driven by improvements in underlying performance and positive development of investment markets
- Withdrawal of capacity in some lines of business

**Non-traditional capacity/Alternative Risk Transfer ("ART")**

- Capital invested in Alternative Risk Transfer (ART) stable at US$ 100bn+[1]
- Surge of interest in cat bonds due to liquidity of this sub-market
- Market impact of high inflows to Cat Bonds reducing pricing to levels last seen before 2017
- ESG standards increasingly important

# Global economic outlook

Overview



Global economy is (re)gaining

Recovery still uneven

Fiscal policy to remain highly

Monetary policy

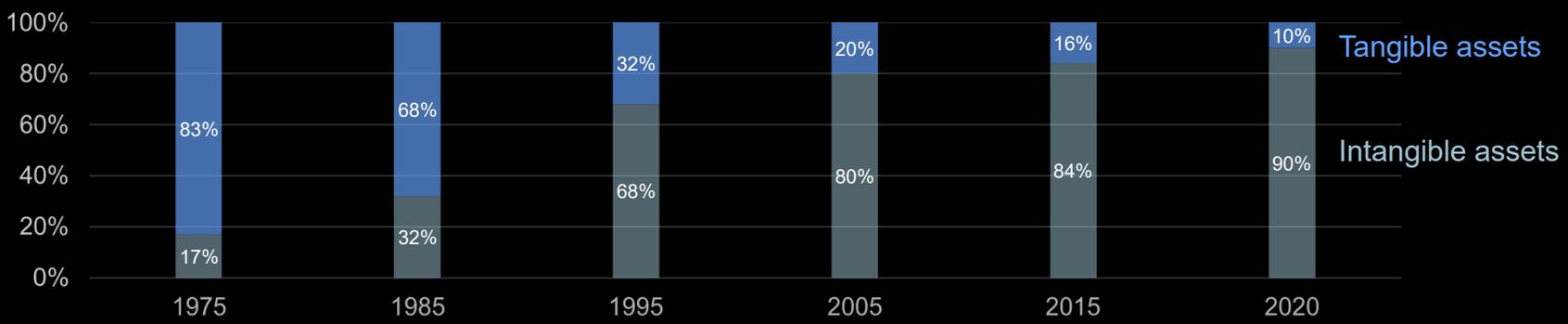Inflation "overshooting" in 2021

## Downside risks are dominating....

- Further course of pandemic
- Prolonged supply-chain distortions
- Risks of overheating and rising inflationary pressures

## … and there is only limited potential for "upside surprises"

- Faster-than-expected success of vaccination programmes leading to full unwinding of restrictions and sustained, optimism-driven recovery
- Larger-than-expected productivity gains from accelerated digitalisation of businesses during the crisis

Image: [M] Munich Re / [P1] Graiki [P2] gremlin / Getty Images

# Digital assets make insurance more complex

Development and composition of assets in the S&P 500



Tangible assets

Intangible assets

| Year | Tangible assets | Intangible assets |
|------|-----------------|-------------------|
| 1975 | 83% | 17% |
| 1985 | 68% | 32% |
| 1995 | 32% | 68% |
| 2005 | 20% | 80% |
| 2015 | 16% | 84% |
| 2020 | 10% | 90% |

Source: Ocean Tomo

Most valuable companies in the S&P 500 1975 …

IBM
ExxonMobil
P&G
GE
3M

… and in 2020 (market value)

Microsoft
amazon
Alphabet
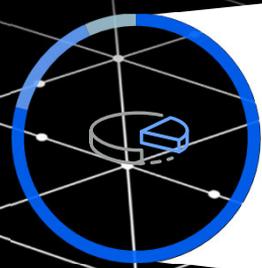
US$ 7.5tn
Market value

US$ 1.35tn
Tangible assets

US$ 0.64tn
Assets net of liabilities

# Dynamic momentum in digital transformation

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Digital
transformation

business
models

services

process
innovation

of the
customer
relationship

## Key drivers

Technological change

New economy

Big data

Globalisation

Reduction in transaction costs

Change in consumer and purchasing behaviour

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Image: [M] Munich Re – [P1] Braki [P2] gremlin / Getty Images

# Global economic cyber crime costs further on the rise

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2025

2021

US$ 10.5
trillion

US$ 6
trillion

2015

US$ 3
trillion

Image: [M] Munich Re, [P1] Braki [P2] gremlin /Getty Images
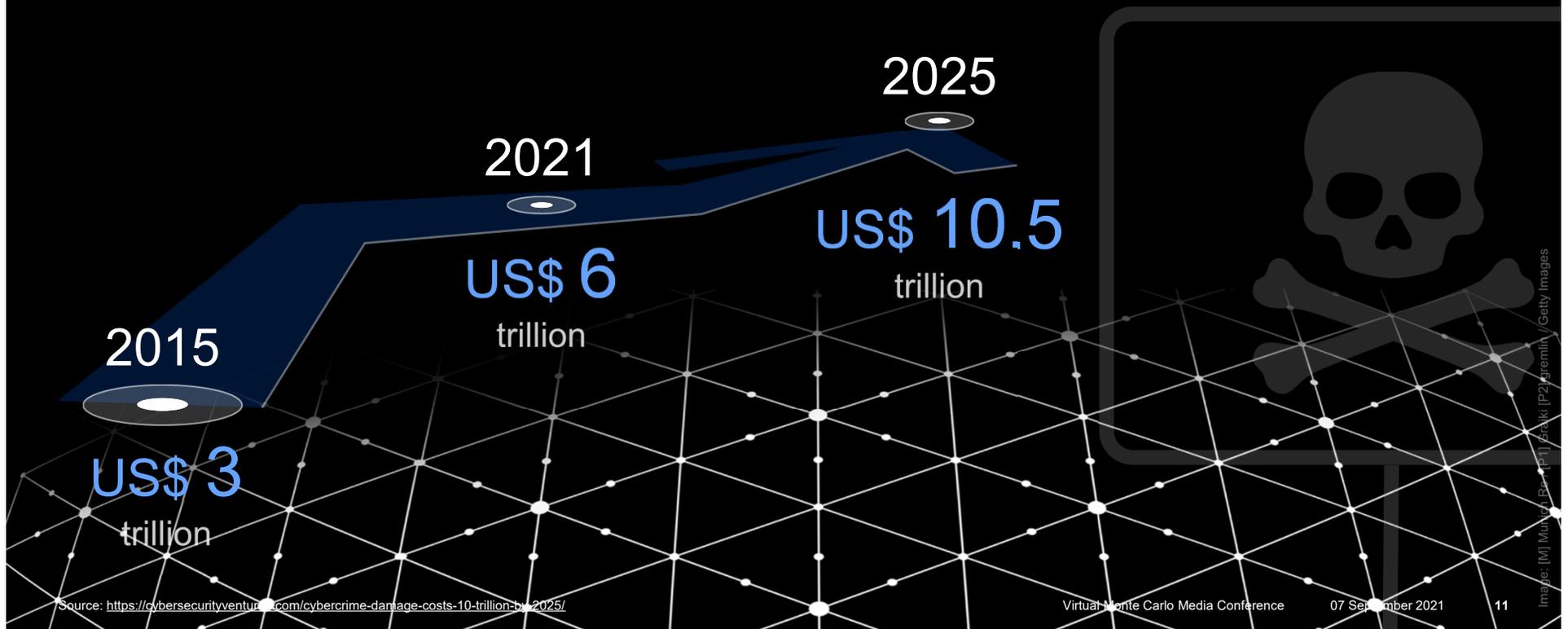
# Munich Re is actively tackling "hot topics" to develop the market
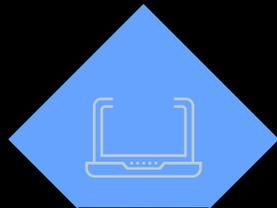
## Ransomware attacks

Ransomware losses reach unprecedented level.
Insurance can contribute to a reduction in losses by providing effective pre- and post-incident services – Selective underwriting is key.

## Cyber warfare

No standard or industry alignment so far.

Munich Re is engaged in finding solutions in a dialogue with all stakeholders.

Widely adopted solutions are required, state involvement is to be considered.

Clarity is key for the insured and the insurer.

Coverage topics

Technology and insurance

Market sustainability

Image: [M] Munich Re – [P1] Giraiki [P2] gremlin / Getty Images

# Mastering the rapidly changing cyber risk challenges
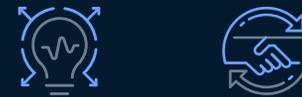
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| Strengthen prevention | Sharpen risk appetite | Strong claims services to support recovery |
|---|---|---|

**Get the basics right, set the obstacles for attackers high**

- Next generation firewalls, malware endpoint protection, backups, patch management, etc.
- Increased focus on human factor (phishing, social engineering and co.)
- Service provider network
- Collaboration of the cyber security community

**Execute on it**

- Execute on risk assessment and underwriting standards
- Strict accumulation control
- Design coverage features (deductibles, sub-limits, coinsurance, etc.)

**Indispensable to cope with attacks**

- Incident response services
- Partnerships with experts (e.g. IT forensics, crisis mgmt., legal experts, etc.)
- Professional claims handling

# We are profitably participating in a growing, but challenging cyber insurance market

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## Munich Re cyber portfolio

GWP (US$ m)



PI

RI
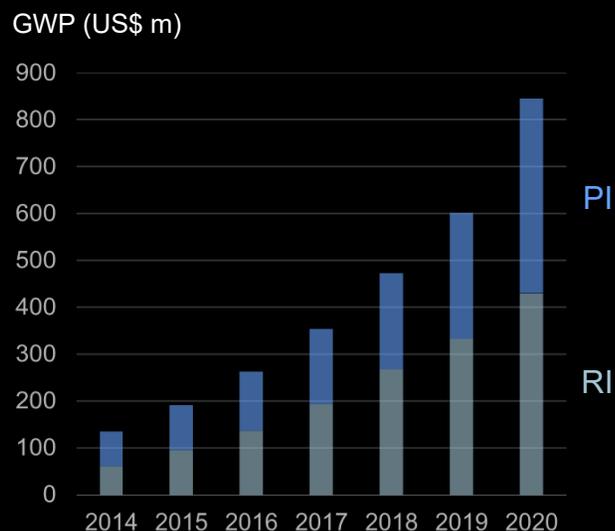
## Major market drivers

- Digitalisation and connectivity of devices/ Growth of digital business models
- New technologies like 5G, AI, big data, robotics
- Cyber incidents and losses
- C-level awareness and liability
- Sharp increase and further professionalism of cyber crime, i.e. ransomware attacks
- Stronger/Increasing regulation
- Requirements from third parties
- Digital bottlenecks coming from supply chain (e.g. cloud service)

## Outlook

Less capacity available in the market

Improvements regarding terms

Further increase transparency

Stricter risk selection

**Focus on stricter risk selection in a hardening market**

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# Data and analytics provide current and future value for Munich Re based on people, data and technology

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### Where we come from

- Analysing data has always been part of **Munich Re's DNA**
- The first dedicated data analytics teams were established **more than 10 years ago**
- Since then, **massive developments in technology and methodology** have created new opportunities
- Today, we use data, analytics and AI to **optimise the core business** of Munich Re and our clients, and to **create new strategic options**

### Business models

**Close-to-core business models**
e.g. Insurance Analytics Platform

**AI- and data-driven business models**
e.g. aiSure

### Enablers

People
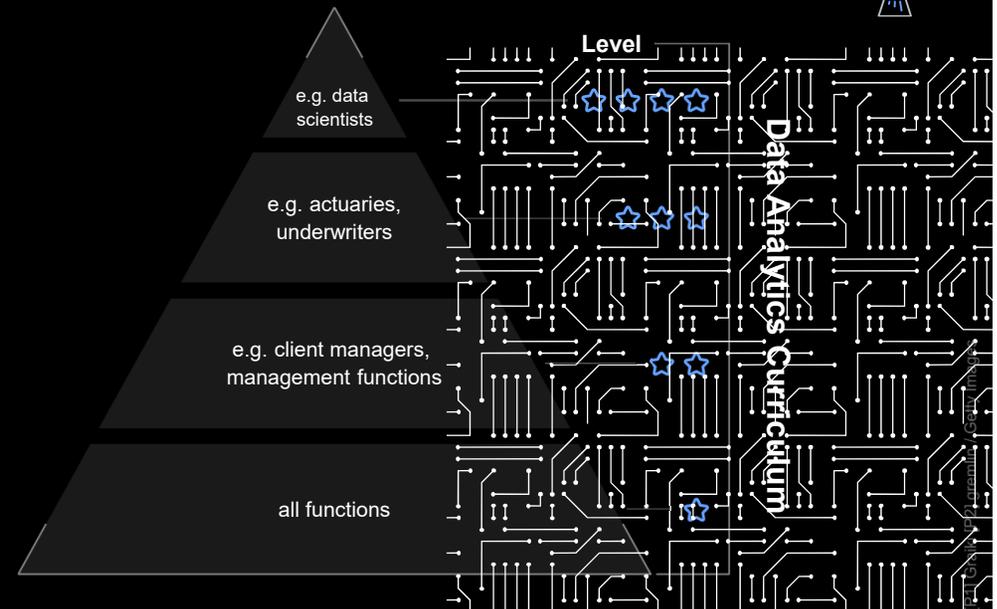e.g. data analytics curriculum

Data
e.g. data lake

Technology
e.g. expert and self-service tool stack

Image: [M] Munich Re | [P1] Gremlin / [P2] gremlin / Getty Images

# The combination of existing experience with new talent is key to successfully implement Data Analytics at Munich Re
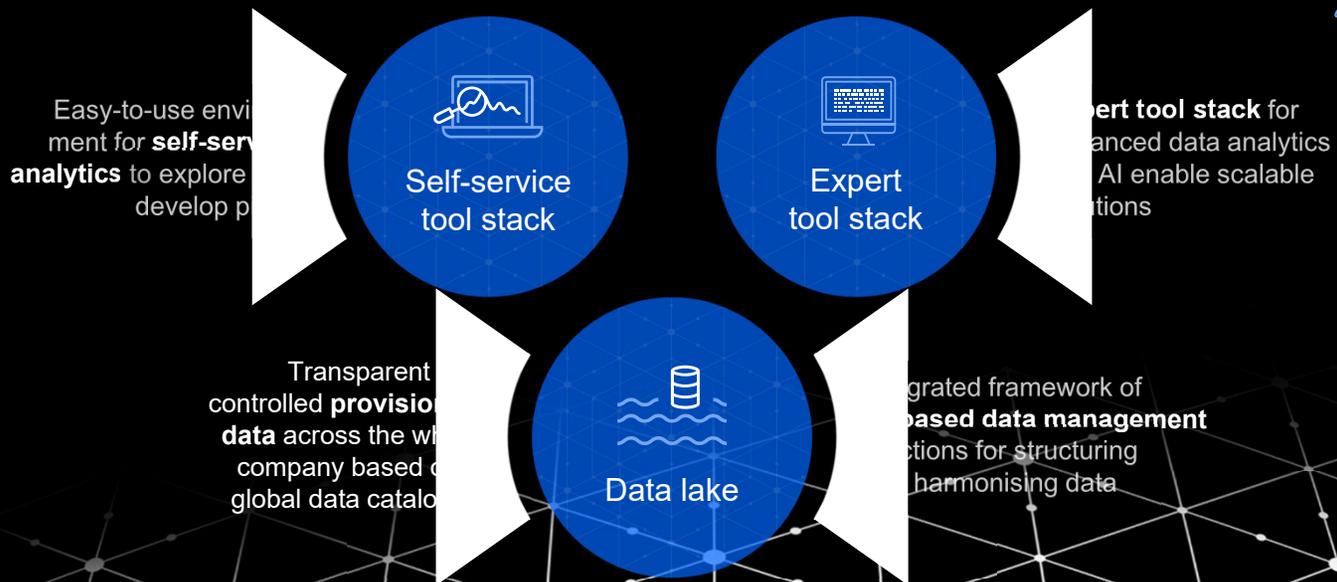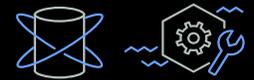
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## Munich Re's data analytics community

- **Global network of expert teams** in data analytics, data engineering, AI and data hunting

- **Thousands of colleagues trained** in our Data Analytics Curriculum on four levels

**Level**

e.g. data scientists

e.g. actuaries, underwriters

e.g. client managers, management functions

all functions

Data Analytics Curriculum

Munich Re has trained a significant portion of employees working on data analytics topics to ensure strong business proximity

# At Munich Re, a modern cloud-based infrastructure for data, analytics and AI supports our transformation

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Easy-to-use environment for **self-service analytics** to explore data and develop p...

**Expert tool stack** for advanced data analytics and AI enable scalable solutions

**Self-service tool stack**

**Expert tool stack**

**Data lake**

Transparent and controlled **provision of data** across the whole company based on a global data catalogue

Integrated framework of cloud-**based data management** functions for structuring and harmonising data

*State-of-the-art technology enables different groups within Munich Re to facilitate data analytics and AI*

# Example: the Insurance Analytics Platform (IAP) supports primary insurers to implement analytics based decisions
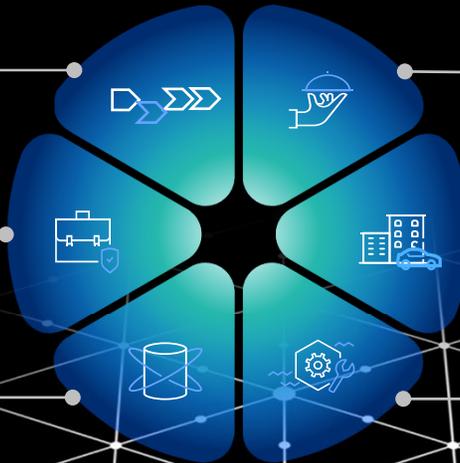
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**Close-to-core business models**

AI- and data-driven business models

**Solution:** data analytics service mainly for pricing, risk assessment and distribution

**Business model:** development of new and improvement of existing business

**Data:** using full potential of clients' data enriched by further information

**Target segment:** primary P&C insurers around the globe

**Lines of Business:** current focus on motor and property

**Integration, delivery and security:** secure and compliant cloud based architecture facilitates easy integration ("Result as a Service")

# Example: with aiSure, we enable AI vendors to augment their products with performance guarantees

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| Close-to-core business models | AI- and data-driven business models |
|---|---|

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AI solution provider
(e.g. Fraugster)

Performance guarantee
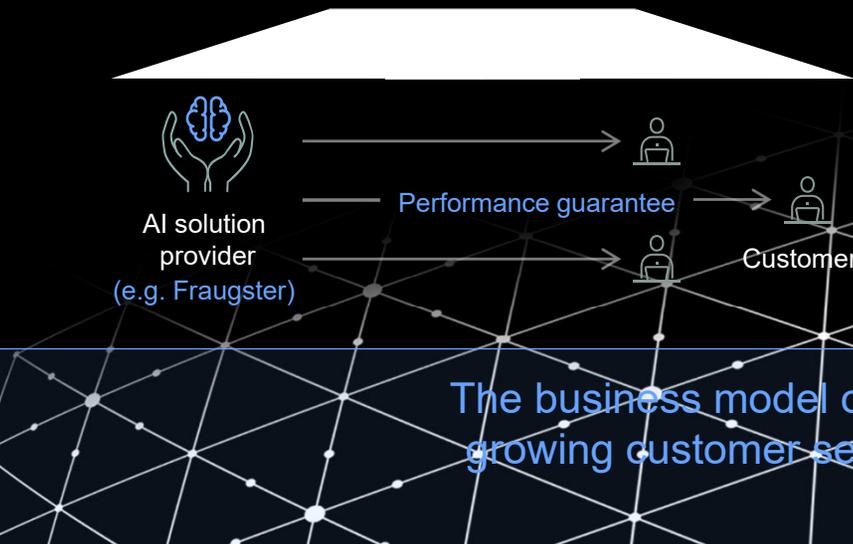
Customers

## Concept

aiSure provides a **performance guarantee for AI solutions** that protects the customers of AI vendors (start-ups and corporates) against the financial impact of underperformance

## Impact

- AI vendors encounter **more customer trust** by the performance guarantee, leading to **shorter PoCs** and **increased sales**
- Particularly for AI vendors in their start-up phase, the performance guarantee **ensures economic stability**

The business model of aiSure opens up a new, strongly growing customer segment and market for Munich Re

# Munich Re systematically partners with academia and industry players in emerging technologies

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Image: LMU



Image: Monty Rakusen / Getty
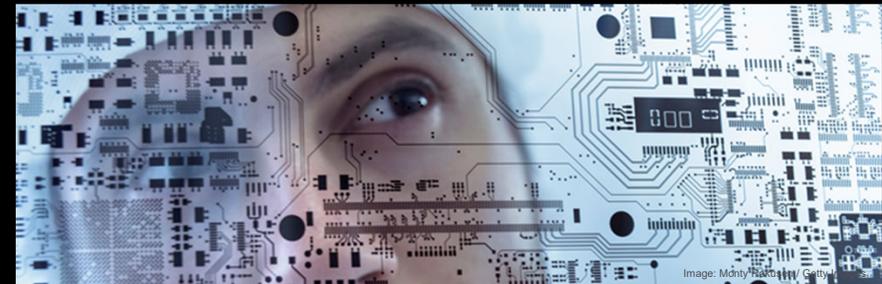
## Academic cooperation

- **Example:** Cooperation on various topics with DFKI, Germany's leading research institution for innovative, AI-based software technology

- We systematically cooperate with universities in Europe, the US and Asia in the **further education of employees and talent scouting**

Deutsches Forschungszentrum für Künstliche Intelligenz GmbH

## Industry cooperation

- **Example:** Co-foundation of QUTAC, an industry consortium with focus on the commercial application of quantum technology

- **Quantum technology offers new opportunities,** which we want to understand and leverage

QUANTUM TECHNOLOGY AND APPLICATION CONSORTIUM

QUTAC

Targeted partnerships allow Munich Re to efficiently explore and address new tech-driven business models

# Prospective and sustainable investments in data, people, technology and partnering …

Early and prospective investments in data ana... ...usiness success **to d... ...able growth**

Extensive enablement of exis... ...elopment of state-of-the-art employees and bespoke recruiti... ...nology assets **to democratise data combine digital and insurance know-...** ...lytics and scale digital capabilities**

Targeted c... ...academia and indu... ...erstand **key trends and technologies**

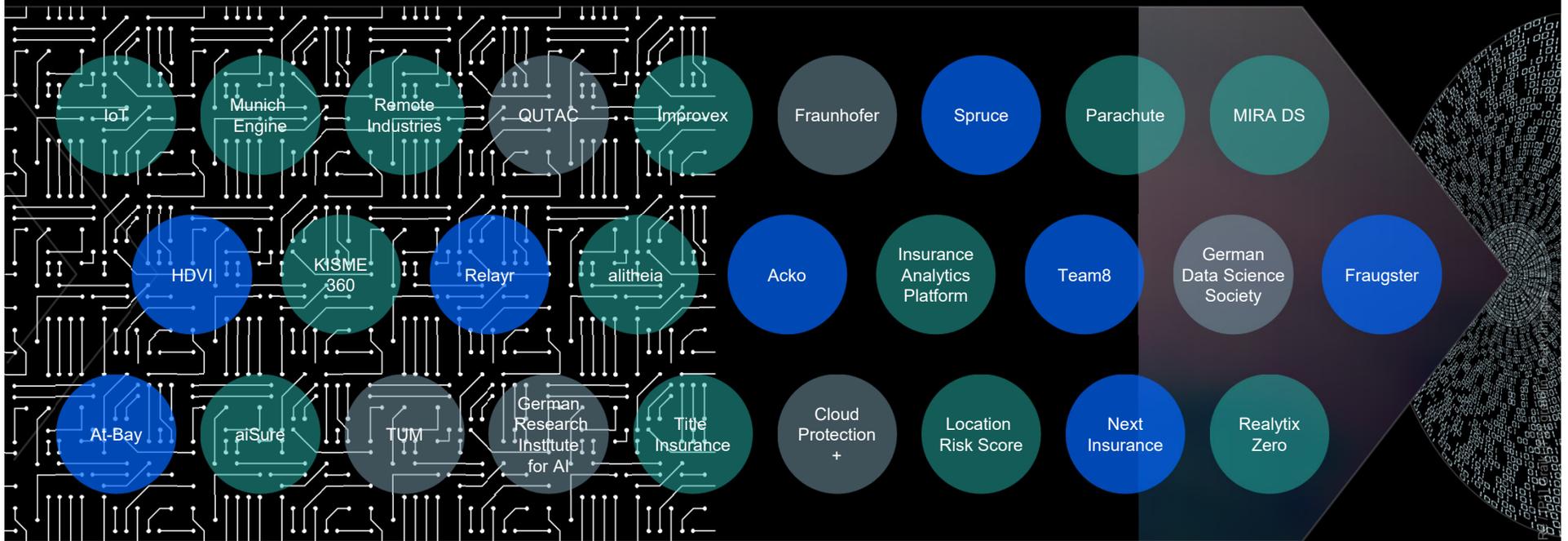**… enable us to work simultaneously on close-to-core and new AI- and data-driven business models**

Image: [M] Munich Re... [P1] braki [P2] gremlin /Getty Images

# Agenda

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Summary

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Image: [M] Munich Re – [P1] braki [P2] gremlin / Getty Images

Thank you for your attention.

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Image: [M] Munich Re / [P1] Graiki [P2] gremlin / Getty Images