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Our core beats digital.  
Solutions along the value chain

Monte Carlo | 8 September 2019  
Torsten Jeworrek • Anthony Kuczinski

Munich RE 



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## Global reinsurance landscape

Torsten Jeworrek

2

## A world of risks, a world of opportunities

Torsten Jeworrek

3


## Solutions along the value-chain – Our core beats digital

Torsten Jeworrek • Anthony Kuczinski

# 1 Moderate reinsurance premium growth expected until 2021, with lower rates than primary insurance premium growth

Global premium development from 2016–2018/2019e–2021e

## P-C RI: Ceded premiums 2018



Europe	€73bn	32%
North America	€72bn	32%
Asia Pacific	€55bn	24%
Latin America	€15bn	7%
Africa/Middle East	€12bn	5%
<b>Total</b>	<b>~€227bn</b>	<b>100%</b>

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

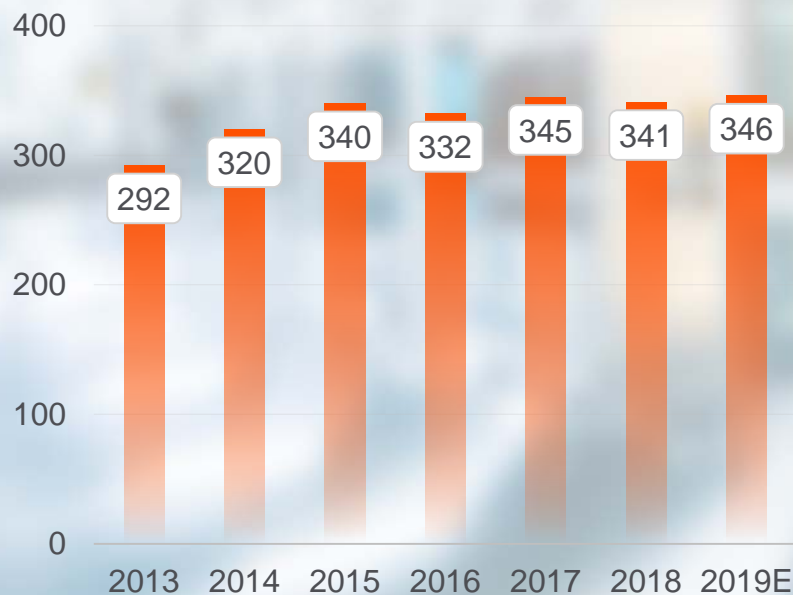
RI		PI	
16–18	19–21	16–18	19–21
1%	1%	1%	2%
3%	2%	3%	2%
1%	3%	5%	5%
1%	2%	-1%	3%
1%	2%	3%	3%
<b>1.5%</b>	<b>2%</b>	<b>3%</b>	<b>3%</b>

# 1 Traditional reinsurance market with stable development

## Alternative capital reevaluating investment case

### Dedicated reinsurance capital

Traditional RI capital in \$bn



Source: AM Best, Guy Carpenter, Aon Benfield, Munich Re

<sup>1</sup> Sum of reported top 50 fund NAV plus guess on non-reported capital

### Trends

#### Traditional market

- Capital base of the reinsurance industry overall stable over the last years
- Many reinsurers use dividend payments and share buy-backs to manage their capital more actively

#### Non-traditional capacity/Alternative Risk Transfer (“ART”)

- Total capital employed slightly growing to ~100 bn USD (Q1 2019)<sup>1</sup>
- 17/18 loss events resulting in material lock-ins
- Market has developed multiple forms to unlock and redeploy capital, so actual capacity reduction from lock-in limited
- Increasing interest in portfolios with lower concentration risk.
- Inflows to opportunistic, highly concentrated strategies stalled after two consecutive years of under-delivering and losses to capital
- Nevertheless, alternative capacity still concentrated in Florida/U.S. East Coast Nat Cat and retro market
- We continue to utilize this capacity source for capital management

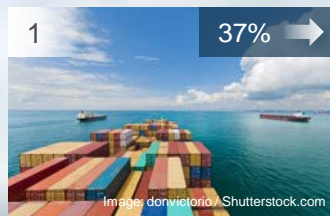


## 2 Challenges we are facing as an industry and we should be dealing with to remain relevant

POLITICAL UNCERTAINTIES OLD RISKS NEW RISKS  
GEOPOLITICAL CLIMATE CYBER  
VOLATILITY CHANGE RISKS  
NEW TRADE  
FORMS WARS DIGITALISATION  
OF ENERGY NEW FORMS OF MOBILITY

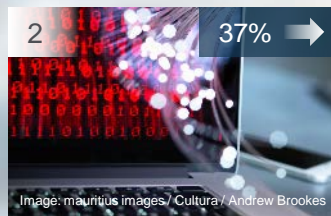
# 2 Digital transformation demands new solutions from (Re)Insurance industry

## Business Interruption



2018: 42% (1)

## Cyber incidents



2018: 40% (2)

## Natural catastrophes



2018: 30% (3)

## Changes in legislation and regulation



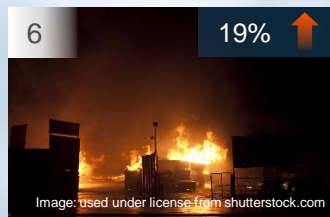
2018: 21% (5)

## Market developments



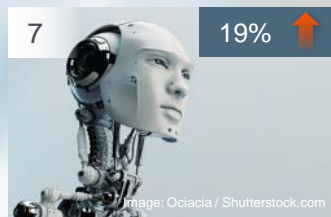
2018: 22% (4)

## Fire, explosion



2018: 20% (6)

## New technologies



2018: 15% (7)

## Climate change



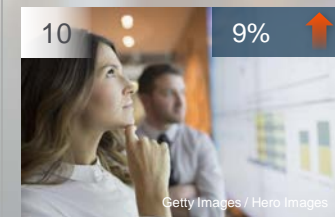
2018: 10% (10)

## Loss of reputation or brand value



2018: 13% (8)

## Shortage of skilled workforce



NEW

3

CYBER  
SOLUTIONS

Image: Andrew B. / Getty Images

WILDFIRE  
RISK SCORE

Image: Patrick Orton / Getty Images

PARAMETRIC  
SOLUTIONS

Image: MirageC / Getty Images

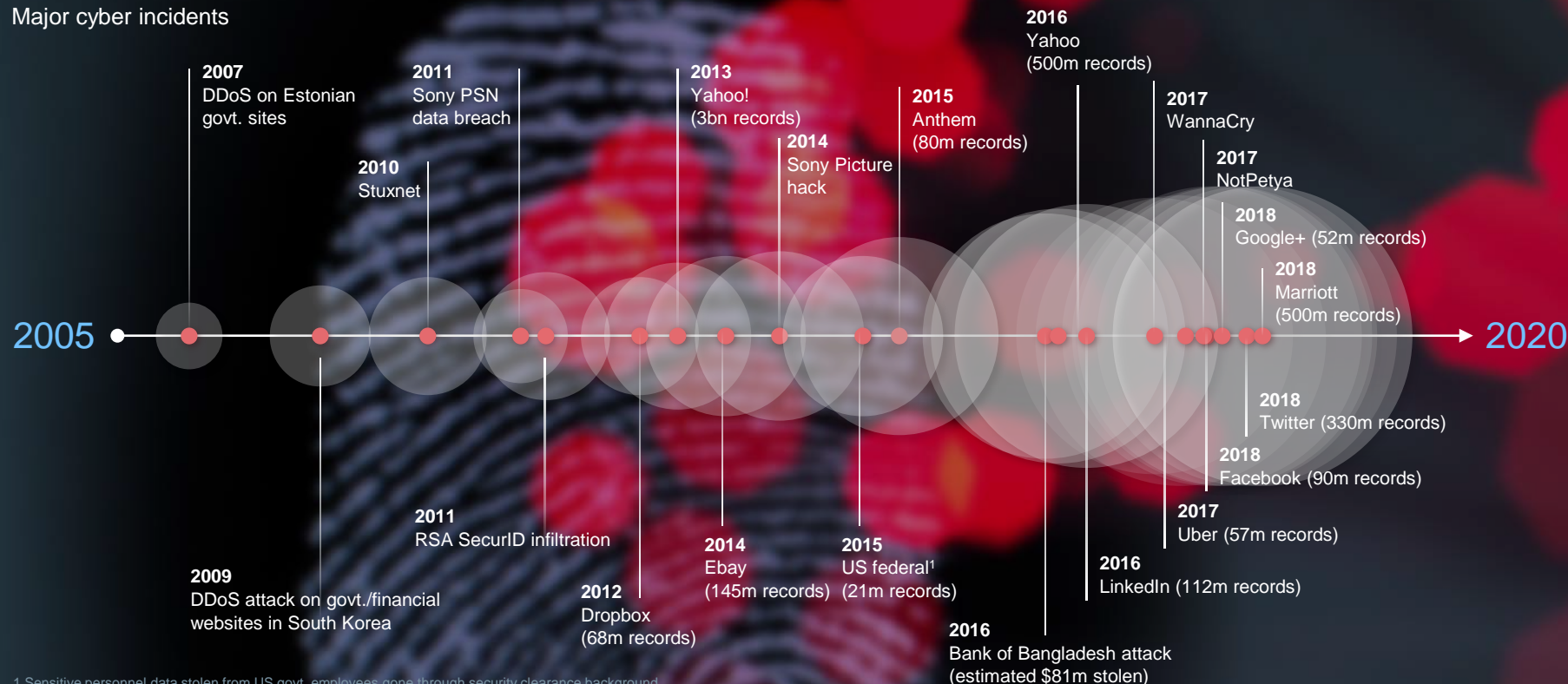
REMOTE  
INDUSTRIES

Image: THE LAB, Munich RE



# 3 Evolution and exponential growth in cyber incidents

## Major cyber incidents

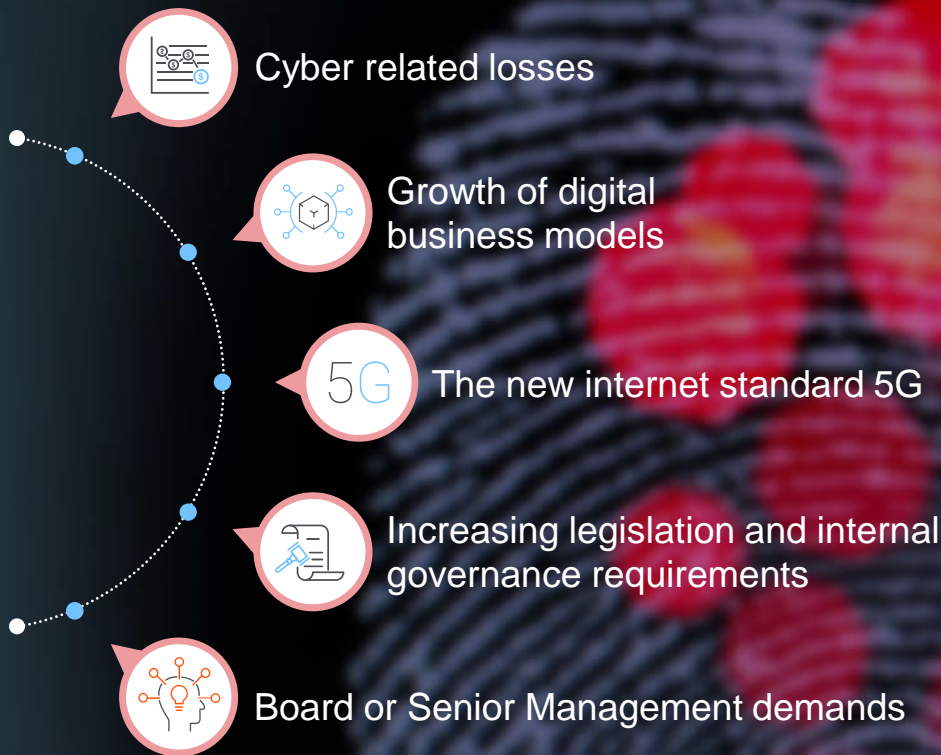


<sup>1</sup> Sensitive personnel data stolen from US govt. employees gone through security clearance background checks



# 3 Recent market trends and developments

## Underscore the necessity and potential of cyber insurance













### Global IT security investments will further grow:

- Most new buyers are SMEs (small sized: <€50m)
- Top buyers by industry:
  - Healthcare
  - Manufacturing
  - Professional services
  - Financial institutions
- Top cover elements:
  - BI (growing importance)
  - Data breach (remaining important)

# 3 Solutions for cyber in a data driven world

Co-operation  
and service  
offerings  
include

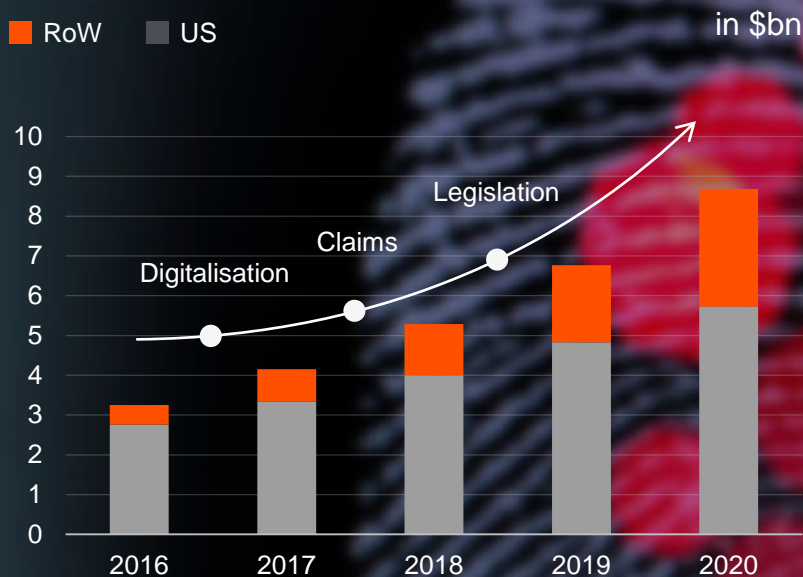
-  Legal advice and wording analysis
-  Workshops, training and client seminars
-  Technical risk assessment support
-  White-label concept design for cyber products
-  Support for pricing and accumulation control
-  Advice on “silent cyber” in traditional lines of insurance
-  Threat intelligence sharing and cyber-claims information exchange
-  IT service provider database and third-party services
-  Innovative cyber products and co-creation in the cyber network
-  Post-incident services and solutions

Cyber challenge accepted – Munich Re's cyber strategy reflects an active appetite for taking risks and driving innovation

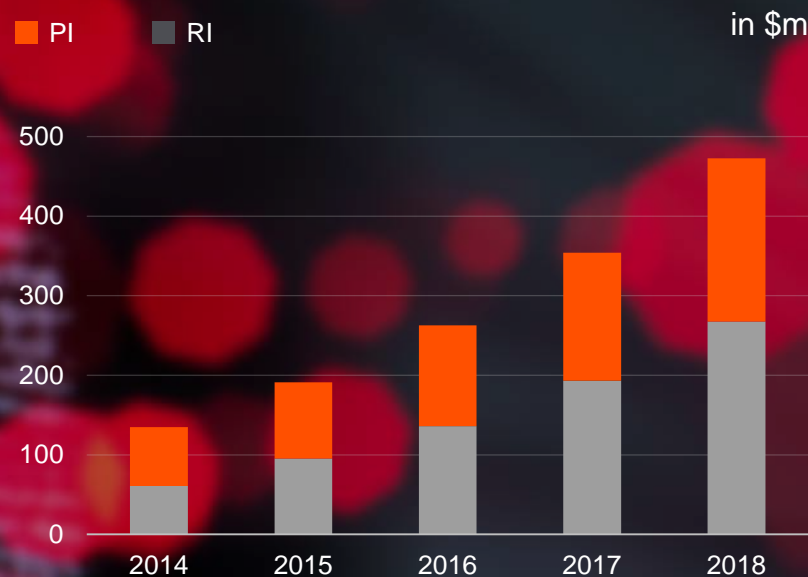
# 3 Cyber insurance market with strong expected growth

## Munich Re – Cyber reinsurer of the year 2017, 2018 and 2019

GWP global cyber insurance market<sup>1</sup>



GWP Munich Re cyber portfolio



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



3

CYBER  
SOLUTIONS

Image: Andrew Brookes / Getty Images

WILDFIRE  
RISK SCORE

Image: Patrick Ottou / Getty Images

PARAMETRIC  
SOLUTIONS

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REMOTE  
INDUSTRIES

Image: THE LAB, Munich Re

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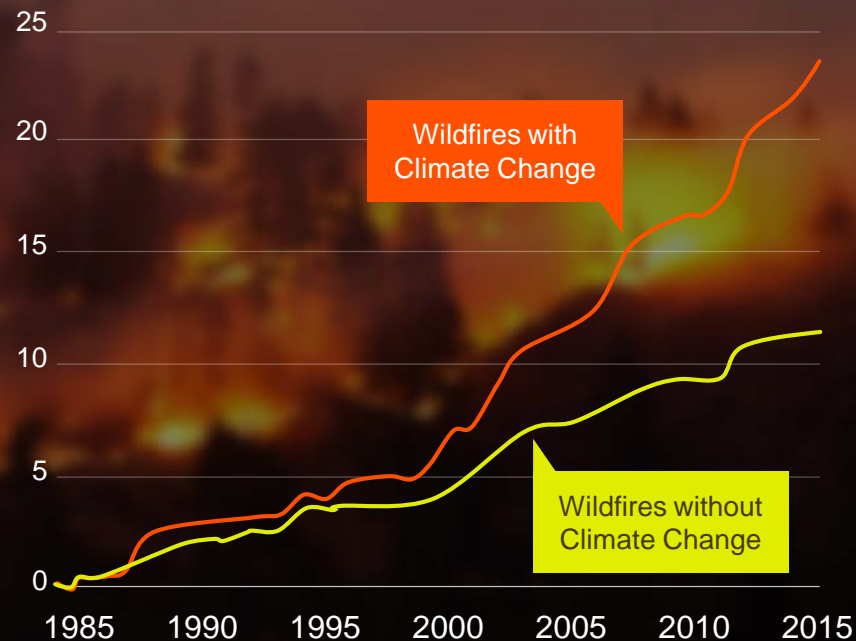




### 3 Losses caused by wildfires in California have increased in recent decades

...mostly due to the increase of values in high hazard areas but probably also due to a changing climate.

Estimated cumulative forest area burned  
(millions of acres)

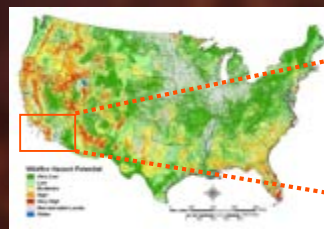


# 3 We enhanced external data with our claims experience & scientific assessment of the impacts of climate change

Munich Re internal & enriched external data



New Hazard Zones



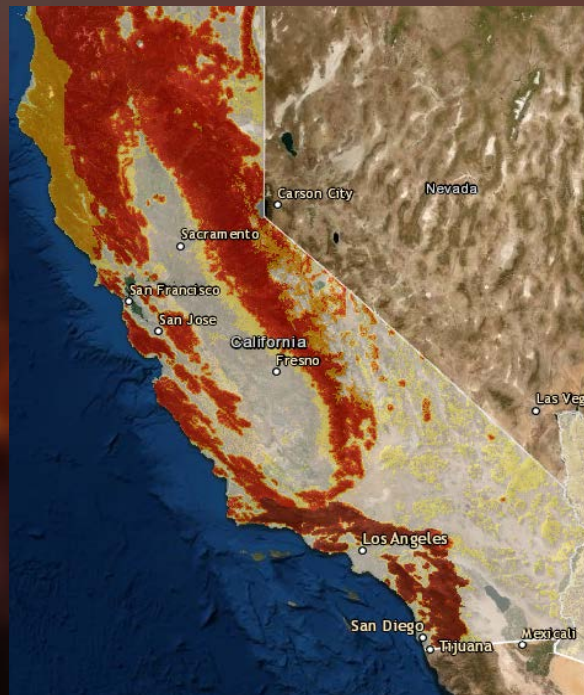
New Munich Re  
Wildfire Risk  
Score Map



We have developed a new wildfire risk score map for California, Colorado and Arizona to support customers and insurance companies managing wildfire risk

# 3 ... to come up with a new Wildfire Risk Score Map and a more accurate Risk Index

Turning vulnerability into resilience.  
Smart exposure management and  
claims control with Munich Re's  
HD Wildfire Risk Index



✓ Risk Index Class		
✓ 0 (No or very low)		
✓ 1 - 2 (Low)		
✓ 3 - 4 (Low)		
✓ 5 - 6 (Low)		
✓ 7 - 8 (Medium)		
✓ 9 - 11 (Medium)		
✓ 12 - 14 (Medium)		
✓ 15 - 17 (High)		
✓ 18 - 21 (High)		
✓ 22 - 25 (High)		
✓ 26 - 32 (Very high)		
✓ 33 - 39 (Very high)		
✓ 40 - 50 (Very high)		
✓ 51 - 65 (Extreme)		
✓ 66 - 80 (Extreme)		
✓ 81 - 100 (Extreme)		

3

CYBER  
SOLUTIONS

Image: Andrew Brookes / Getty Images

WILDFIRE  
RISK SCORE

Image: Patrick Orton / Getty Images

PARAMETRIC  
SOLUTIONS

Image: Mirazic / Getty Images

REMOTE  
INDUSTRIES

Image: THE LAB, Munich Re



# 3 Parametric trigger solutions

Advances in technology enhance trigger design and loss detection

Parametric solutions are products designed with a trigger beyond a tolerable threshold and an according payout mechanism.

Easily verifiable parameters determine the payout, hence the pre-agreed payment can be swiftly made.



Payment triggered by event occurrence exceeding parametric threshold.



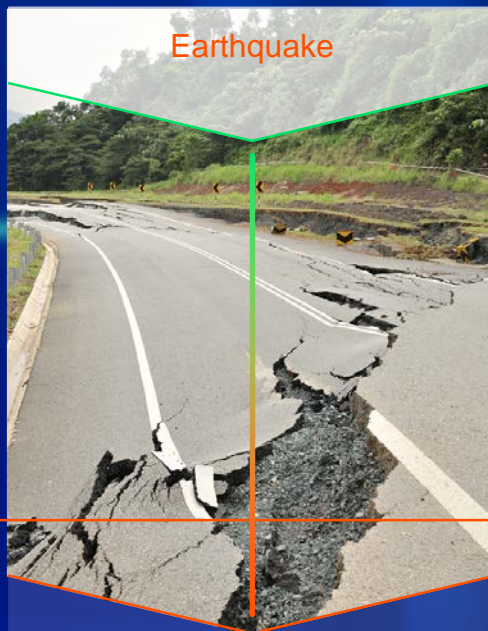
Pre-agreed payment structure based on event parameter or index value.

# 3 Broad range of applications for parametric triggers

New forms of data analysis and real-time monitoring allow structuring of new solutions

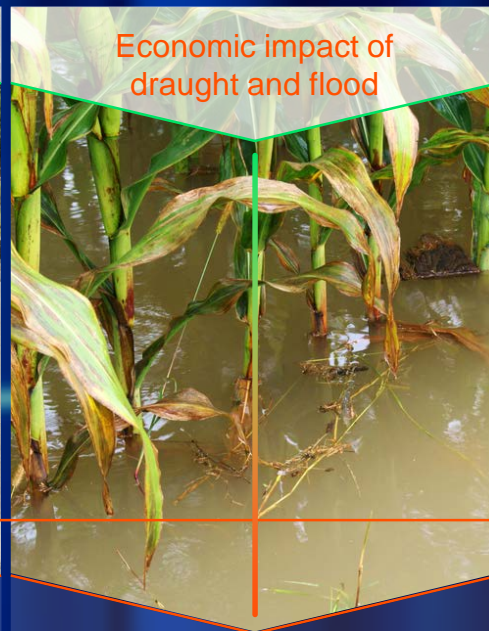


Payout is triggered by  
event occurrence  
Exceeding parametric  
threshold



Earthquake

For example: Minimum  
magnitude within a defined area



Economic impact of  
draught and flood

For example: Satellite and drone-  
based gauging of  
vegetation or flooding



Operating Temperature

For example: (smart) machines  
overheating

# 3 Parametric solutions bear beneficial characteristics – But basic risk must not be ignored



## SPEED

Parametric triggers ensure rapid recovery thanks to a simple and quick payout process that provides liquidity when it is needed most. No physical damage is required.



## CLOSING GAPS

Previously uninsurable risks arising from natural catastrophes can be covered. The product is easily customizable and allows limiting risk in a cost-efficient manner.



## UNPRECEDENTED LEVEL OF TRANSPARENCY

Pre-agreed independent third parties provide the data needed to trigger the cover – this information can be accessed immediately after the event.



## NO DEDUCTIBLES

Parametric products typically don't have a deductible, so there is no financial commitment from your side once all triggers have been met.



## REDUCED CLAIMS- RELATED EXPENSES

The simplicity of the payout process substantially reduces administrative costs.

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CYBER  
SOLUTIONS

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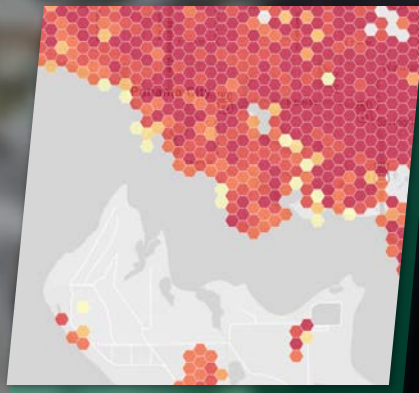
# 3 Challenges you face during a hurricane event

- » High volume of incoming claims
- » Difficulties in short-term planning
- » Challenges in securing and placement of resources
- » Restricted access to affected areas and limited ability to gain on-the-ground insight
- » Improving customer experience in case of loss

# 3 Remote Industries approach – algorithm-based, automated claims processing for natural catastrophes



High-resolution  
aerial imagery



Deep Learning



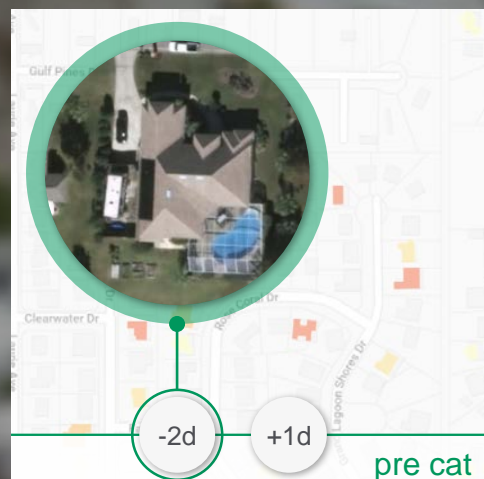
Video Inspection  
Tool



Simple web tool or  
API

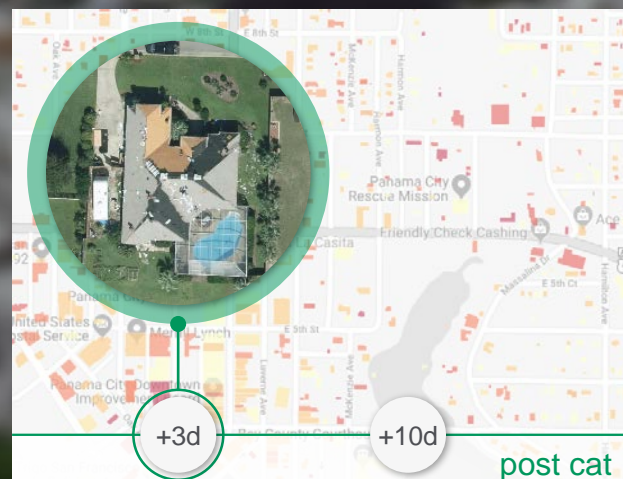
Automated claims processing from aerial imagery leads to lower claims handling costs, faster reaction times and better fraud detection possibilities

# 3 How Remote Industries works during a hurricane



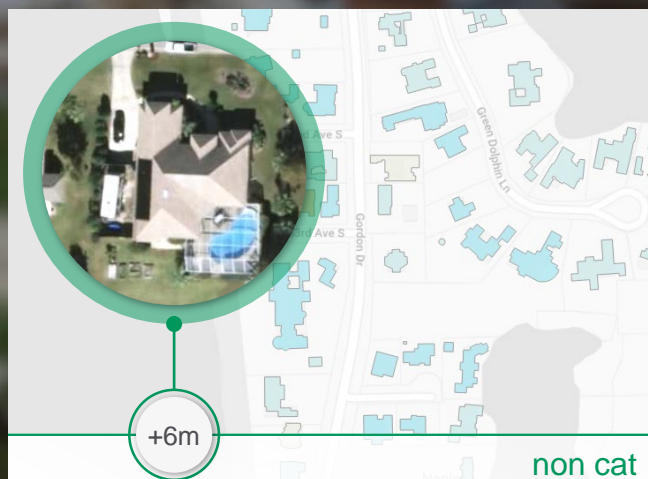
## Hurricane loss prediction

- Better loss-aggregate planning
- Improved planning of inside and field adjuster resources
- Pre-storm assistance to policyholder



## Hurricane claims management

- Pre-First Notice of Loss awareness in many cases
- Faster adjustment of property claims
- Better claims segmentation/triage
- Better steering of adjuster resources



## Post-hurricane repair identification

- More accurate underwriting at the UW desk
- Higher quality of policies renewed
- Confirmation of repair completion from storm event



# 3 Munich Re is investing in digital solutions to extend your reach beyond traditional (Re)Insurance

At our core, we are in the people business. When the worst happens, our job is to help alleviate human suffering.



We develop digital solutions to serve our customers in new, smarter, better ways





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## Disclaimer

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