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Seminar IA|BE on Artificial Intelligence

Kris Claessens, 24th of September 2019

Presenting **thewave** : the new technology kid on the block



Insurance industry knowledge

The Insurance industry is our only focus. We believe that this focus brings maximum value to our clients



We know the insurers

Our consultants operate at 13 of the top 15 Belgian insurers



Solid & flexible partner

Although a 'small' player, we have supported insurers during large & complex transformation programs. The growth of our client base illustrates this well.



E2E business & IT expertise

Combine Ensur's profound business knowledge and our partners' deep technology expertise

Build & integrate insurance solutions

Invent, build and integrate tailored digital solutions for our clients in the insurance sector

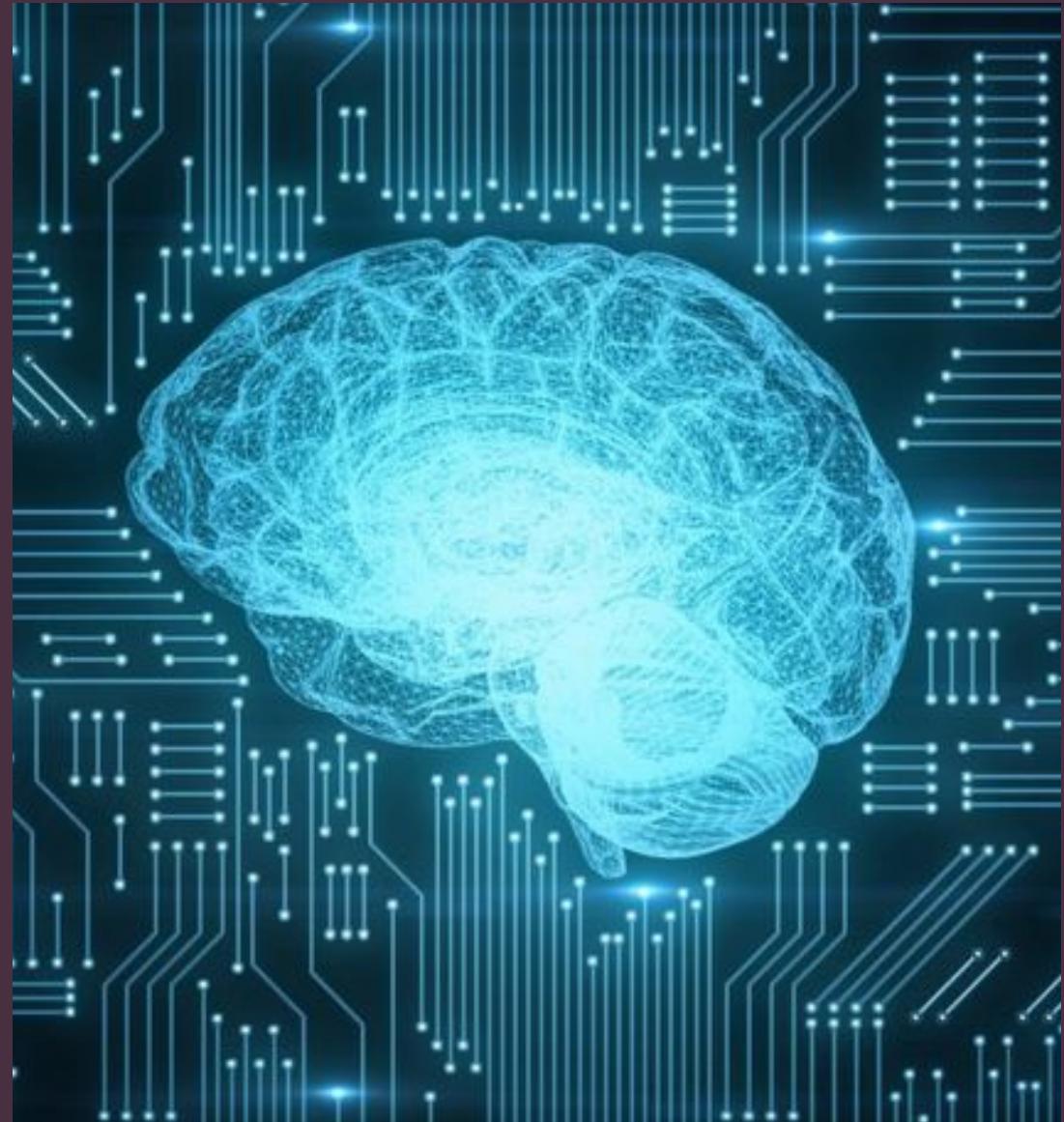
Technical consulting

We also provide technology related consulting and project management services

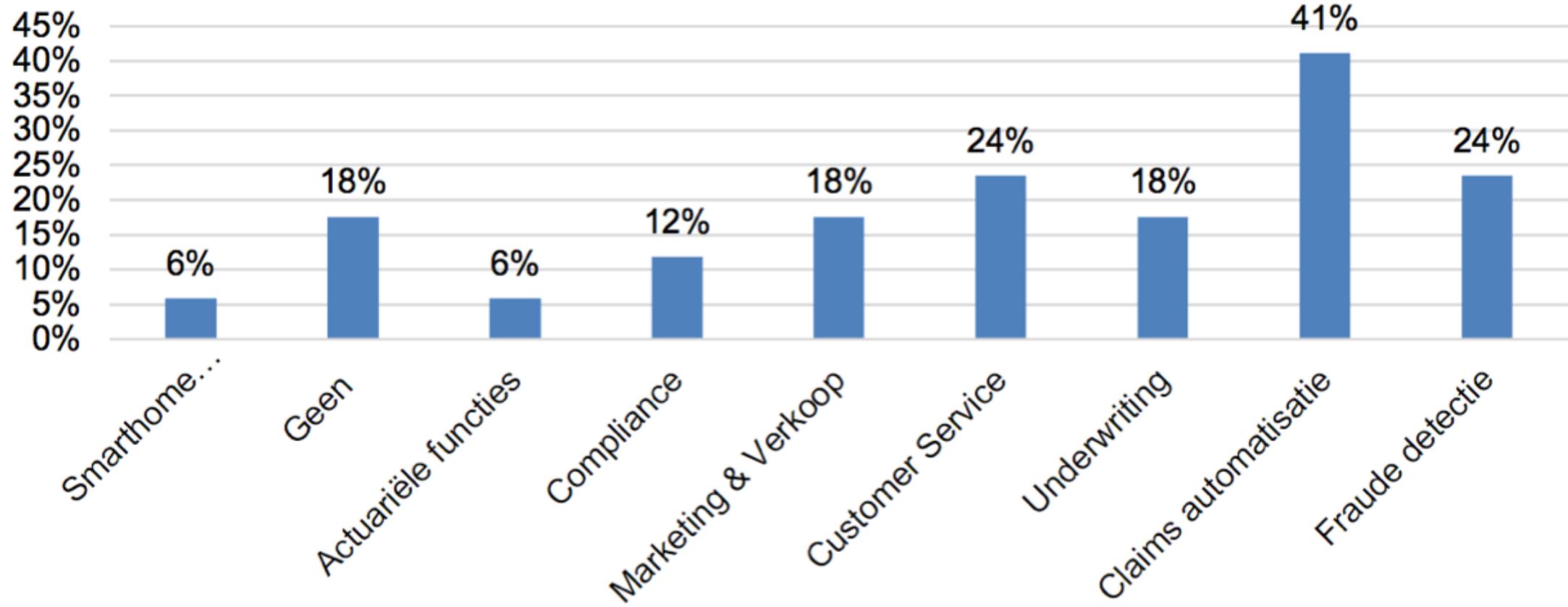
Level of AI adoption in the insurance industry **today**

Survey amongst 17 Belgian Insurance Companies in the context of a Master Dissertation *“Business Engineering Data Analytics”* of the University of Ghent - Q2 2019 by Jannes Sarrens & Gertjan Vervrangen

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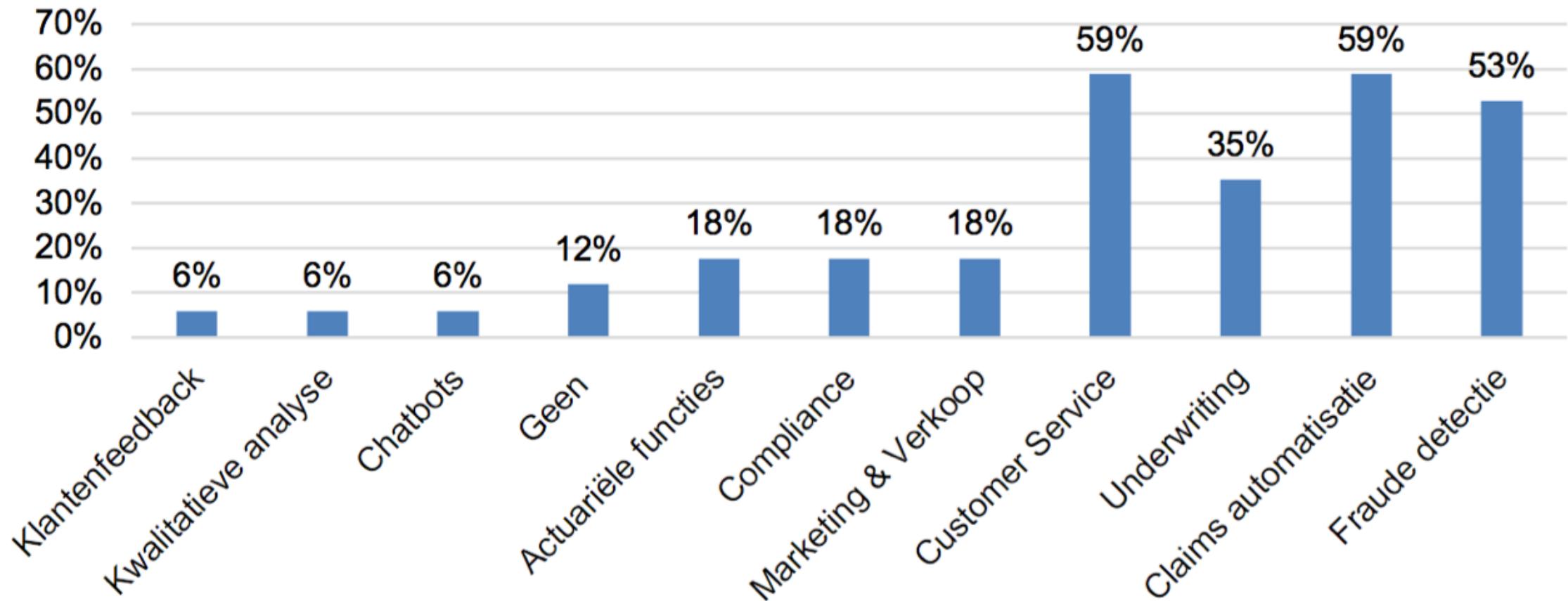


In which processes is the insurance industry using AI today ?



- **Claims automation has the highest application of AI today**
- **1 out of 5 insurers have indicated not being involved in AI today ...**

In which domains are you investing with new AI applications ?



- Claims automation & Customer Service are getting the biggest AI attention ...
- ... followed by Fraud detection in which ML can indeed be very effective

Concrete AI related Use Cases today at the Belgian insurers

Underwriting

Use Case & AI solution provider

Delivering Structured Property Data



Business Value

- Enables mobile subscription
- Quantify mismatch with the insurance portfolio

Claims

Document keyword extraction



- Reduce process cycle times
- Free-up capacity for value added work

Fraud

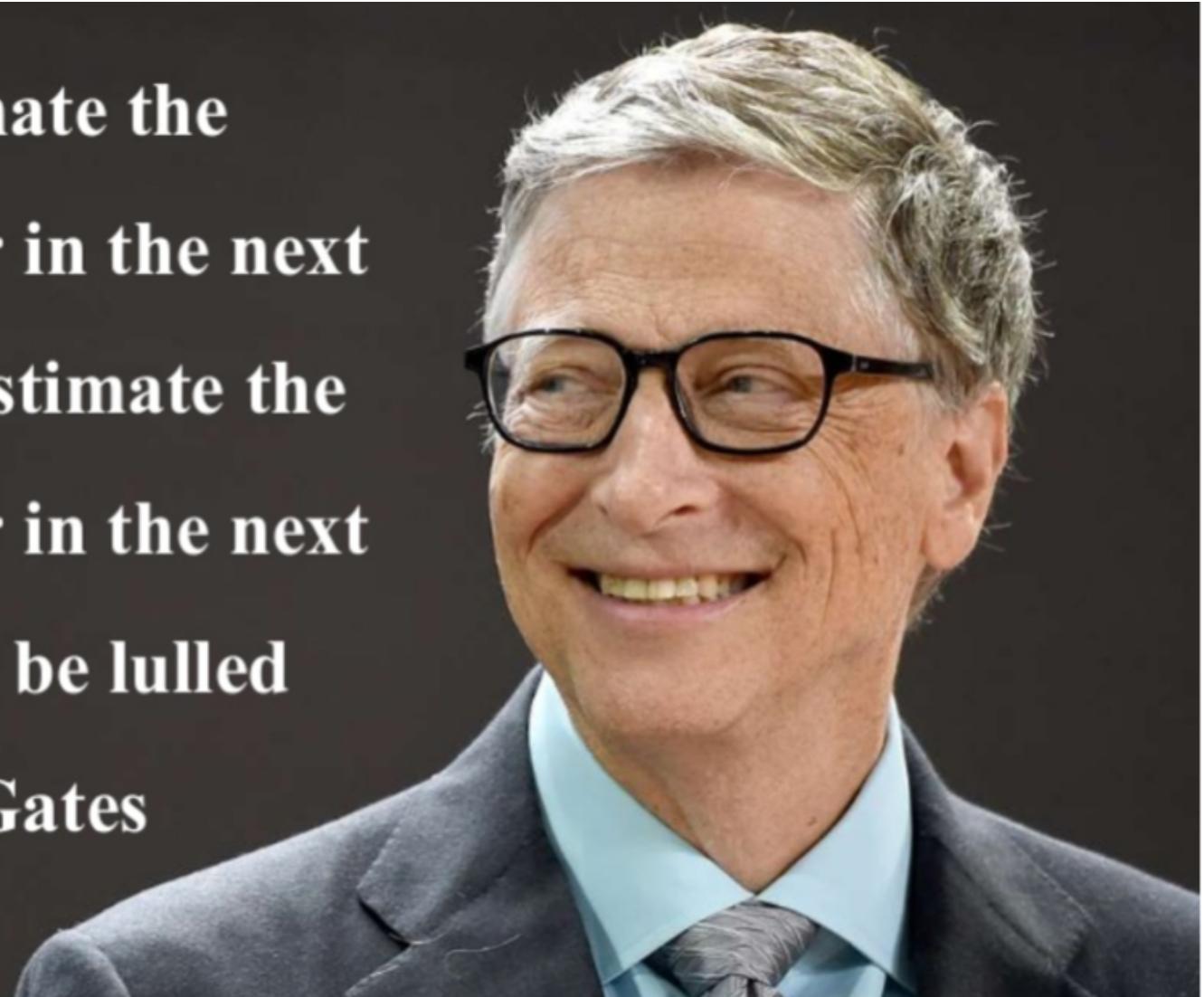
Fraud detection



- Reduce fraud losses
- Stay ahead of emerging fraud scenario's

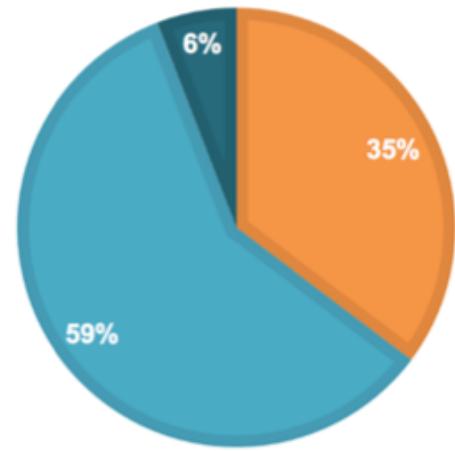
Is this quote from Bill Gates applicable on “AI in insurance” ?

“We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten. Don’t let yourself be lulled into inaction.” – Bill Gates

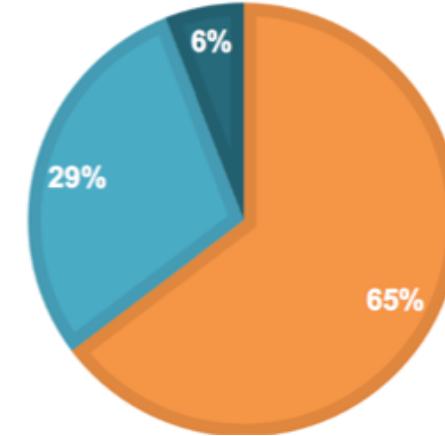


The outlook on “AI in insurance” on following domains (1/2)

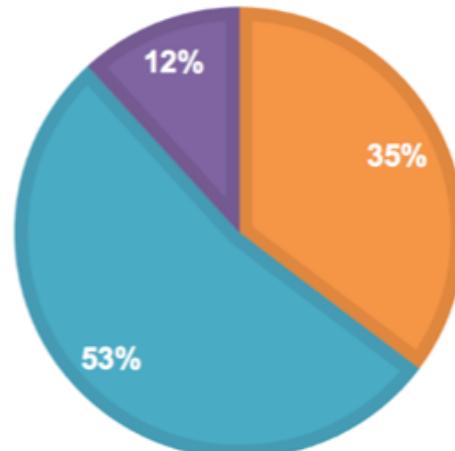
Marketing & Sales



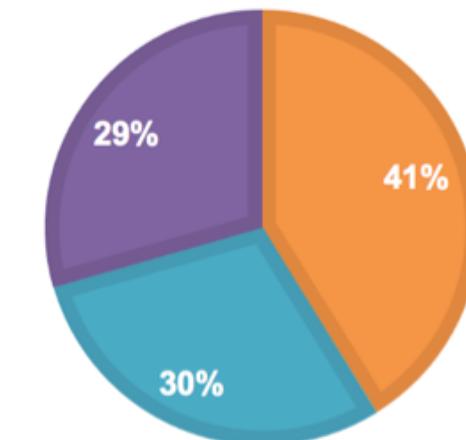
Customer Service



Underwriting



Risk Management

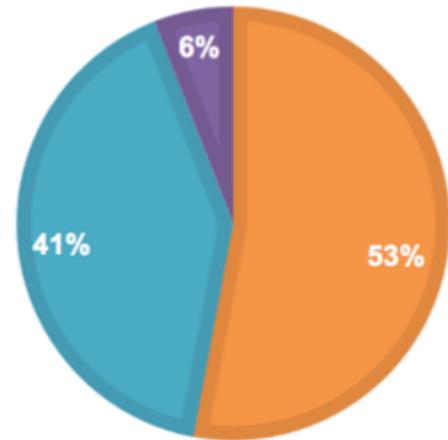


- 2 jaar
- 5 jaar
- 10 jaar
- >10 jaar
- Nooit

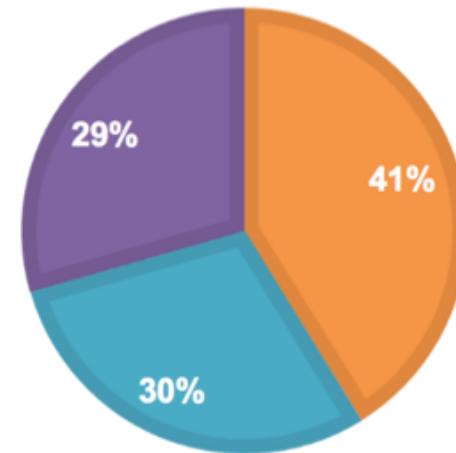
Customer Service with the fastest adoption

The outlook on “AI in insurance” on following domains (2/2)

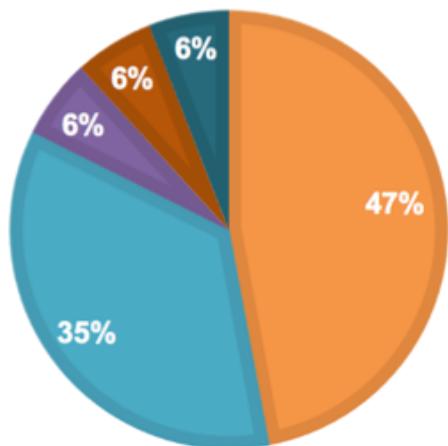
Claims



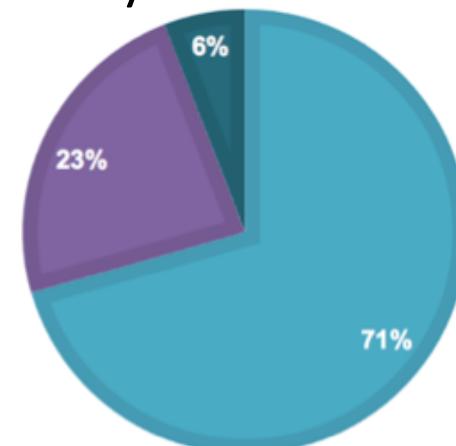
Actuarial Function



Fraud



Regulatory



- 2 jaar
- 5 jaar
- 10 jaar
- >10 jaar
- Nooit

Claims slightly upfront, but Regulatory clearly lagging behind ...

How will AI shape the
future Insurance
products : forecasting
with
examples

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Future Insurance Products allowing further segmentation



Non Life



Health



Life

- **Automatic activation of coverages with IoT geo-fencing** (e.g. Shipping War Risk Cover by Norwegian insurer DNK)
- **Dynamic Pricing in real time with IoT sensors instead of proxy static data** (e.g. Car insurance “*miles tracker*” by UK ByMiles)

By Miles.**Manulife**

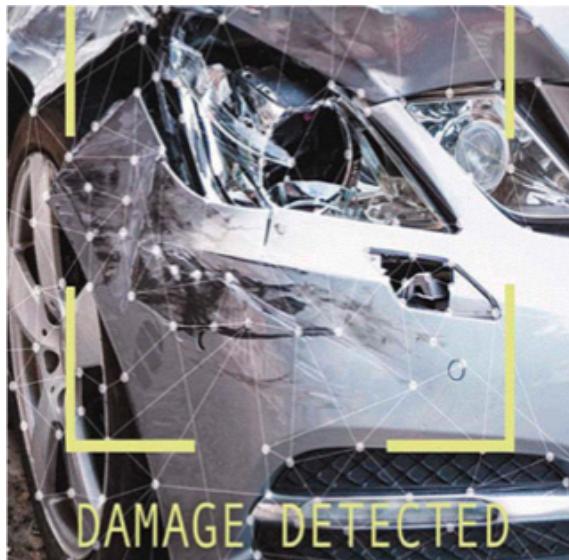
- “**Vitality**” **reward programs** are part of pricing (e.g. discounts at John Hancock Life Vitality with smart watches)
- Pricing is based upon **wearables & IoT available data** (e.g. “*connected toothbrushes*” at US-based Deam Dental)

- **Product & Pricing** targeted at specific segments :
 - **Inclusive** segmentation (e.g. Manulife Canada offerings Life Insurance to HIV positives)
 - **Further** segmentation (e.g. “*insurance for the healthy conscious*” by US insurtech Health IQ)

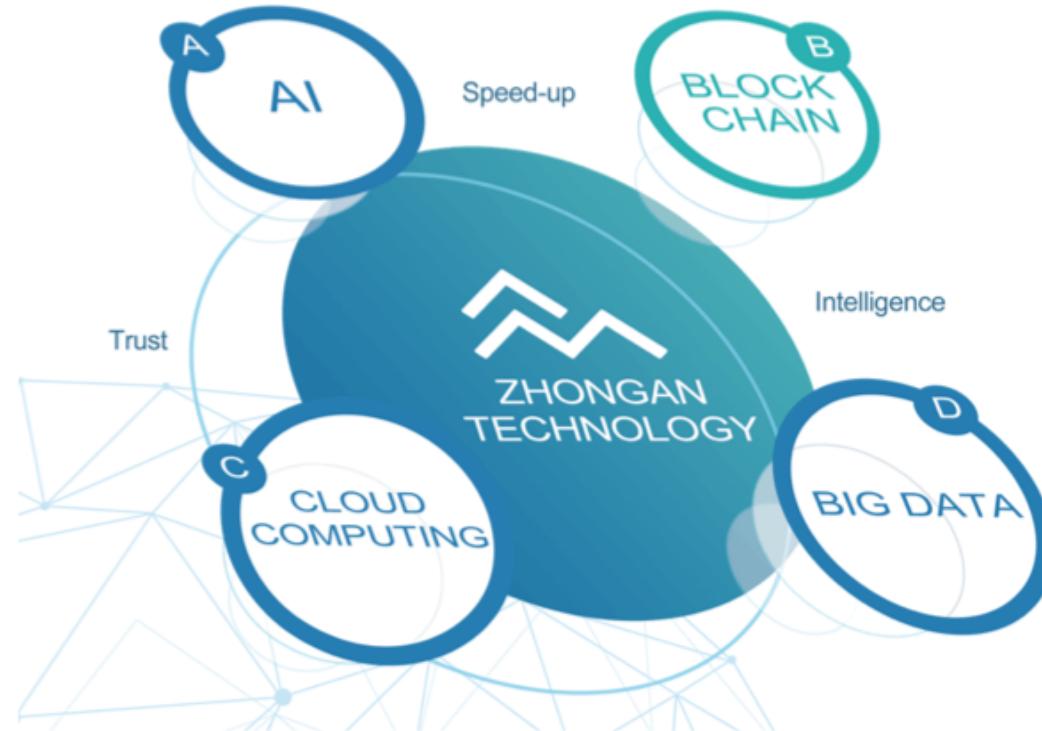
The Future Claims Journey : Prevention & Fully Automated



- **Prevention :**
 - **Home** : proactively monitor water levels, temperature & other key risk factors with **instant alerts** to tenants and insurers
 - **Self driving car** full of sensors decreasing claims cost
 - **Wellbeing** : health trackers & incentive workout programs
- **Fully Automated Claims handling :**
 - Initial **claims routing, repair services** triggered automatically upon loss
 - Use of streaming video for **loss description and estimated amounts** (with a *Convolutional Neural Network*)
 - **Human-in-the-loop** : complex claims, contested claims with interaction and negotiation empowered by analytics



Back from the future : meet Chinese digital insurer Zhong An



Smart customer service
• Health insurance
• Robo-adviser



Object & Face recognition
• Broken cellphone screen recognition
• Runner ID detection
• Product face recognition



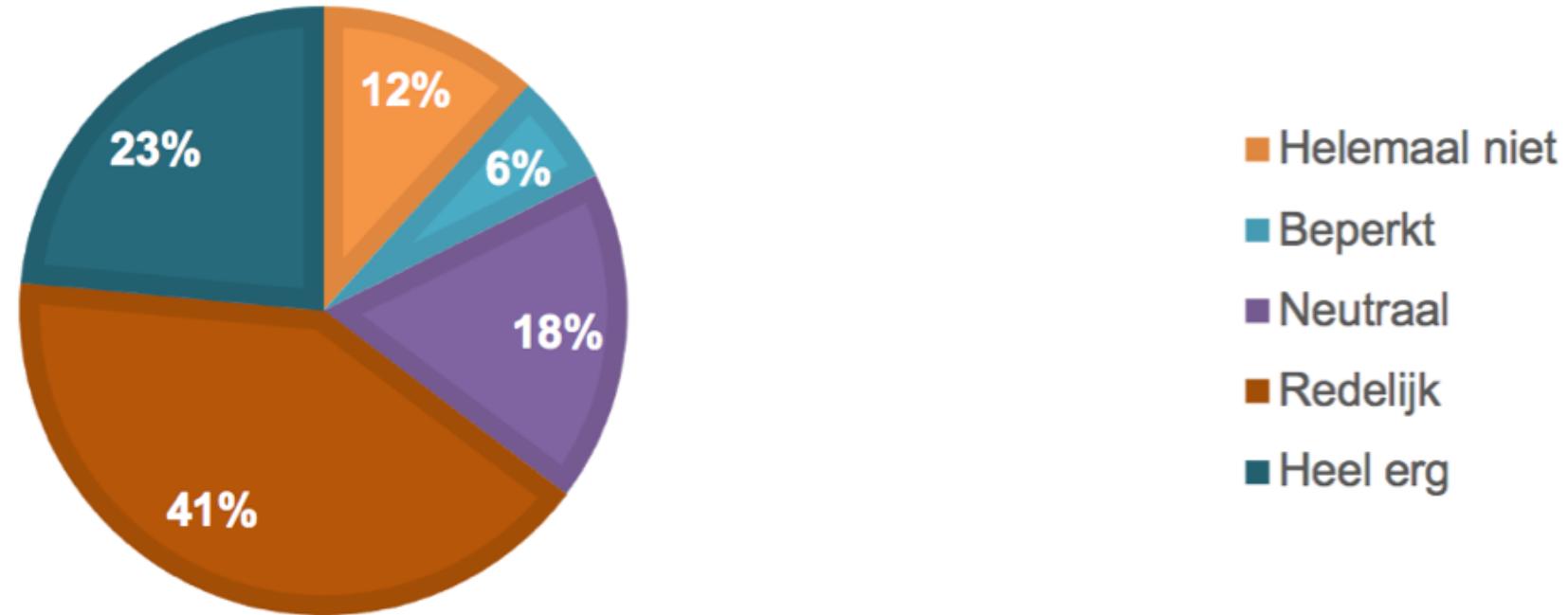
User behavior analysis
• Investment preference analysis
• User health portrait



Public opinion analysis
• News event heat analysis
• Public opinion analysis of listed companies

- The company receives vast amounts of customer data such as **customer behaviors** (e.g. search and browsing history, consumption patterns) and third party data
- The company is more technology than insurance : 1.700 employees, 52% are in technology

How big will be the impact of IoT & Domotica in the next 5y ?



2/3 believes the impact will be important to severe

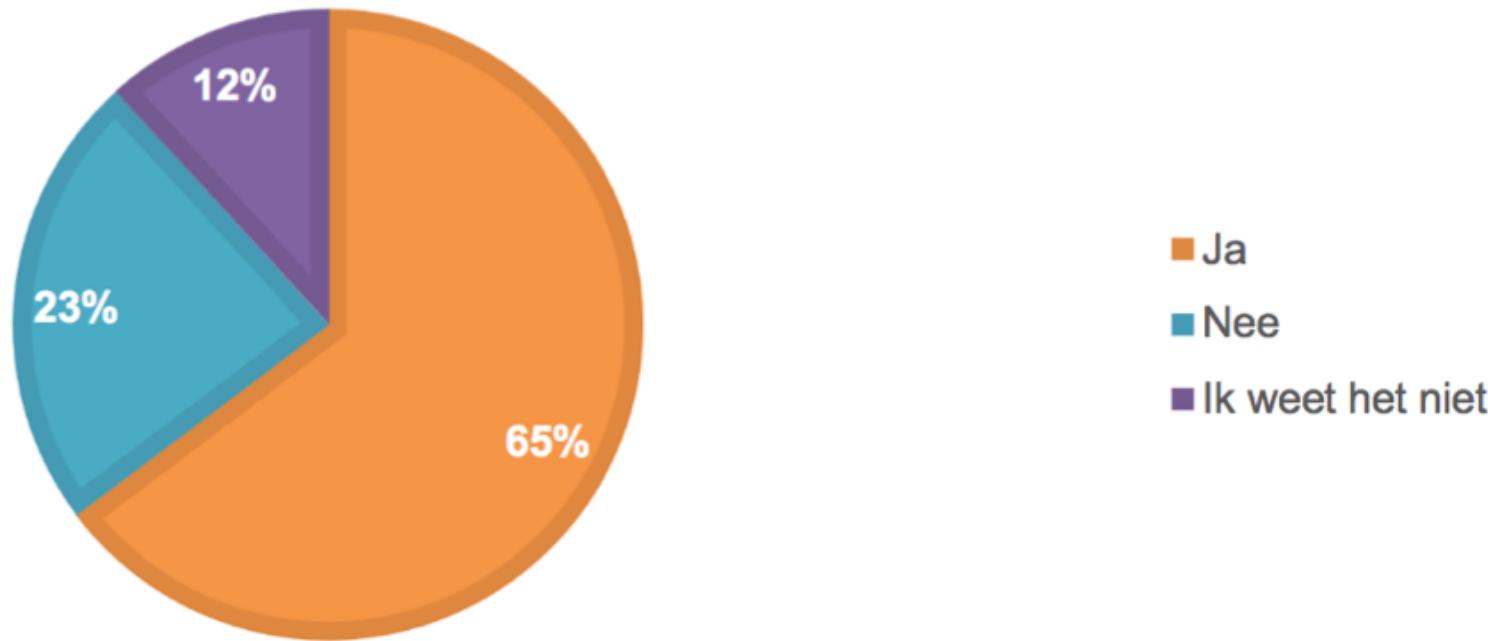
With all this AI
automation : what
will happen to the
people working in the
insurance industry ?

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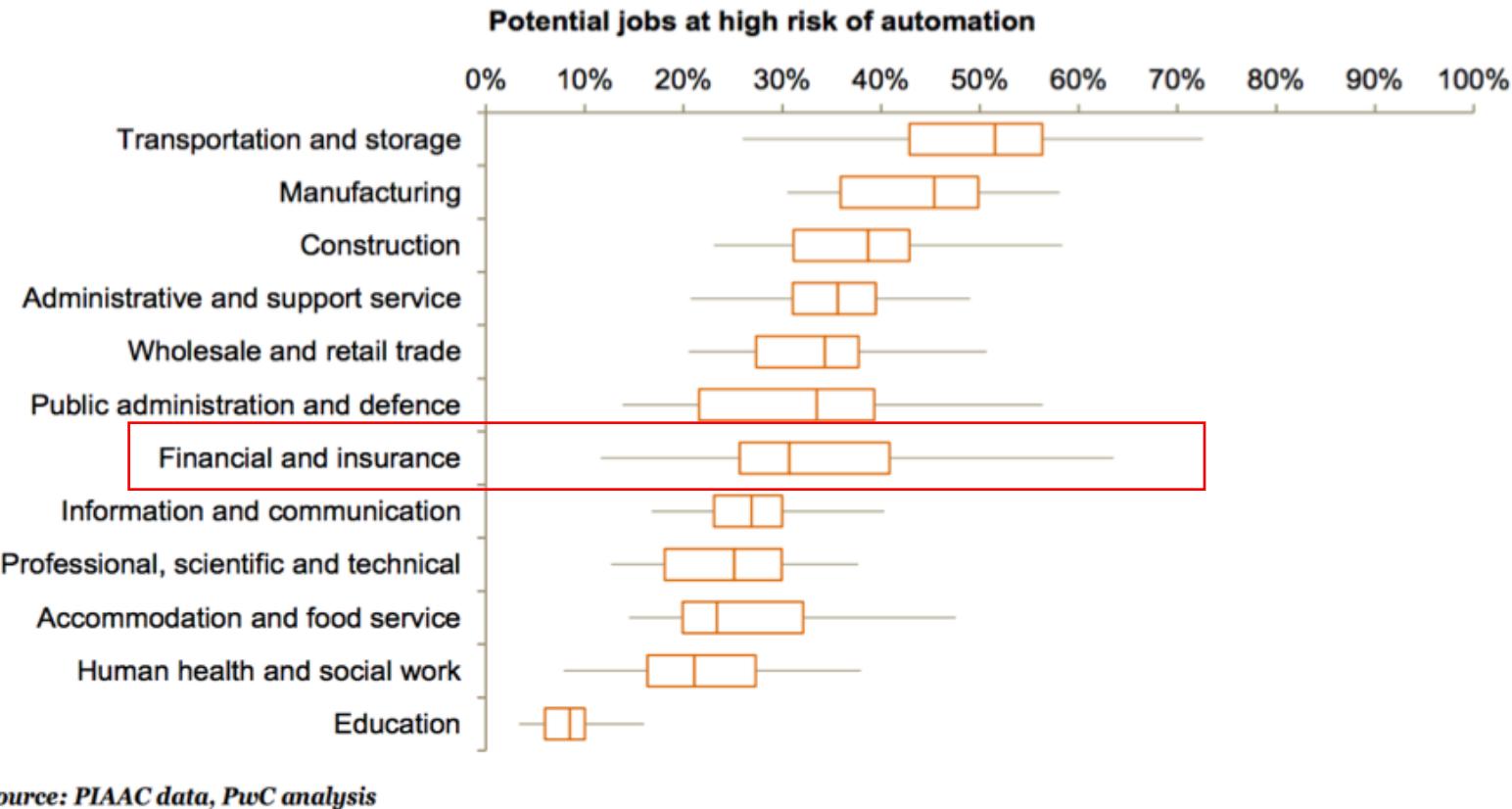
What does the insurance sector think about job losses ?

Do you believe AI will lead to job losses ?



One example from the claims function : Fukoku Mutual Life Insurance has been using IBM's Watson Explorer since January 2017 to do the work of 34 claims adjusters which represents **30 % of its claims staff**

How many jobs *could* be lost thru Artificial Intelligence ?



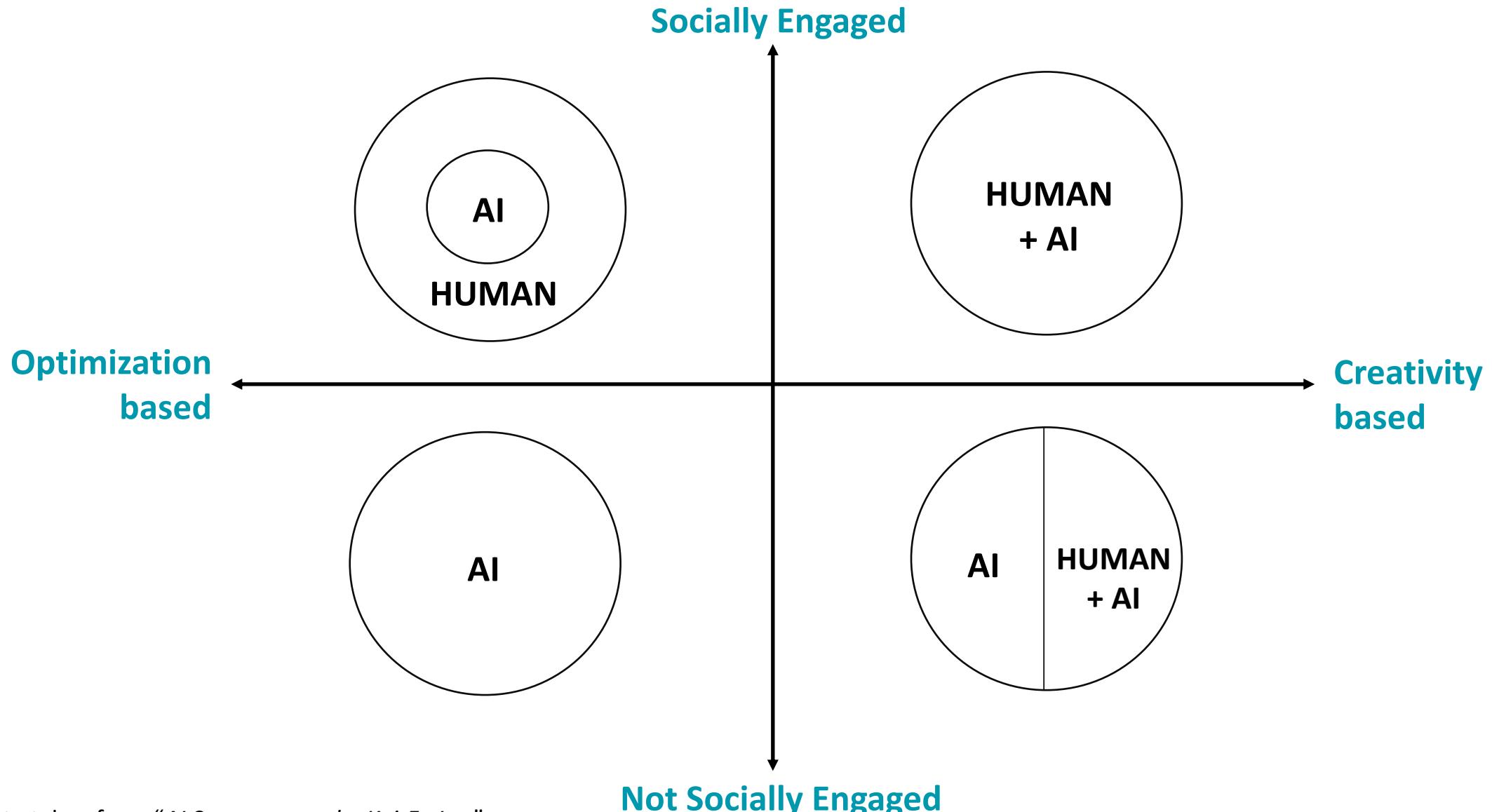
- 3 job impact studies have been done by PwC, McKinsey & Bain
- Study from PwC gives details on insurance : ... **up to 40% of the jobs at risk**
- Actual jobs losses will be mitigated by **regulatory, legal & social dynamics**

Which insurance profiles could come in the danger zone ?

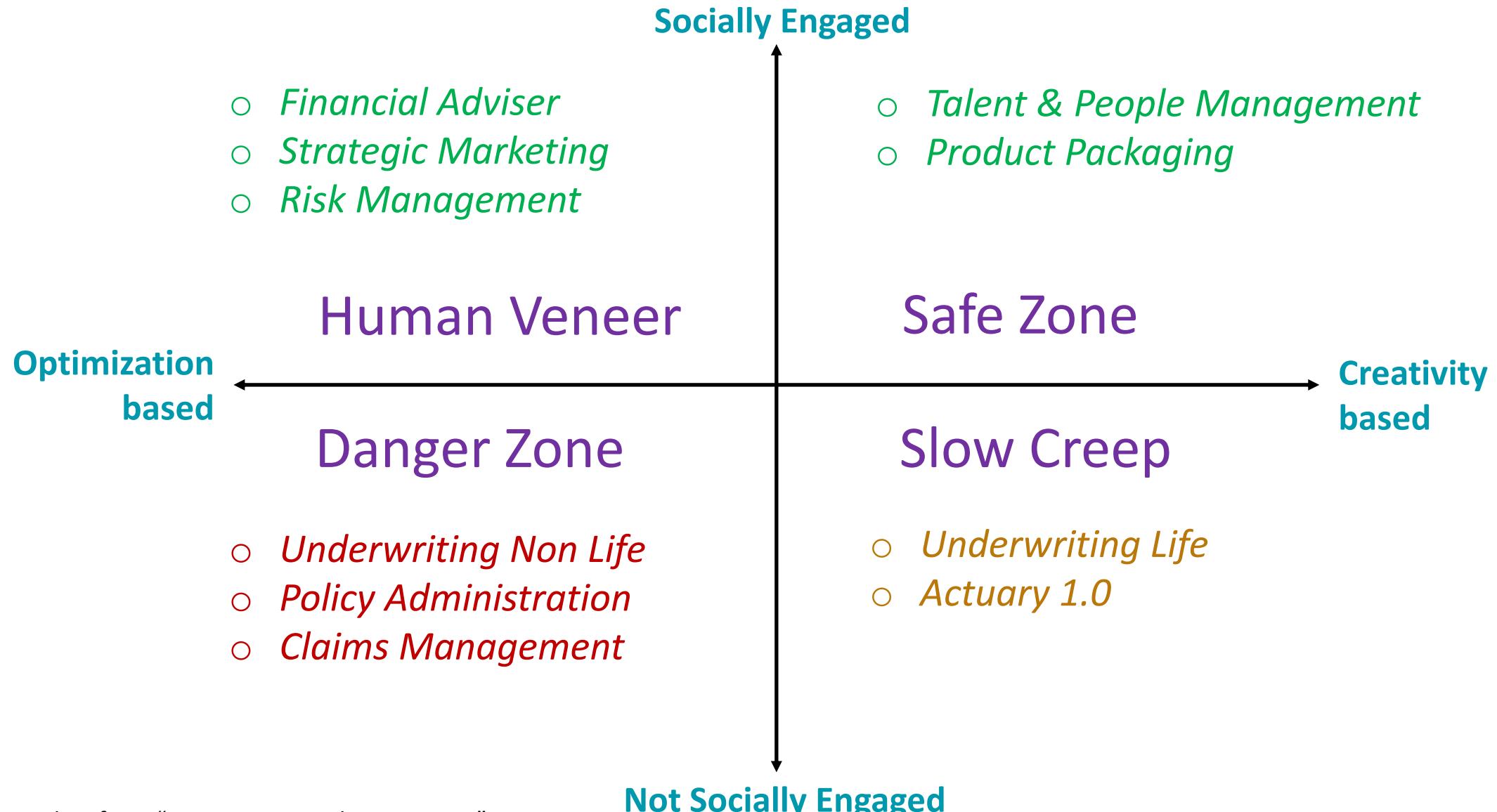
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Future Human – AI coexistence in insurance (1/2)



Future Human – AI coexistence in insurance (2/2)



The Actuary 2.0

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Actuary 2.0 : the (b)right way forward !

Freeing up capacity in order to take up new AI – related tasks :

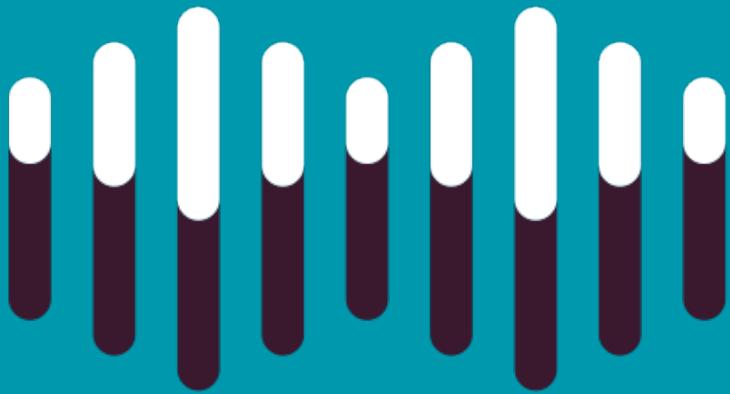
- Data Integration : it will become impossible to integrate “Big” Datasets
- Data **Quality** : data quality must be managed enterprise wide & fixed upstream
- Regulators should not insist that you explain the AI model but you should **regulate based on how they perform**

Data Science :

- An Actuary can more easily expand his/her competences towards Data Science ...
- ... the other way around will be much more difficult ...

Acting at the “**human-in-the-loop**” :

- Testing AI models by verifying the boundaries and produced outputs
- **AI Bias** : making sure data is ethical & representative
- Working closely with new roles such **data ethics, data audit & algorithm audit**



Thank you

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