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Insurance and AI

The Faces of AI and Potential to Disrupt the Industry

Reny Vargis| 20 November 2019

Introduction to AI
Layers of AI Applications

Sample AI Insurance applications:

Chat bots

Robo advisors

Sample ML Insurance applications:

Recommendation Engine

Fraud Detection

Sample Deep Learning Insurance applications:

Agriculture Intelligence from Satellite Data

Media Intelligence from Text Data
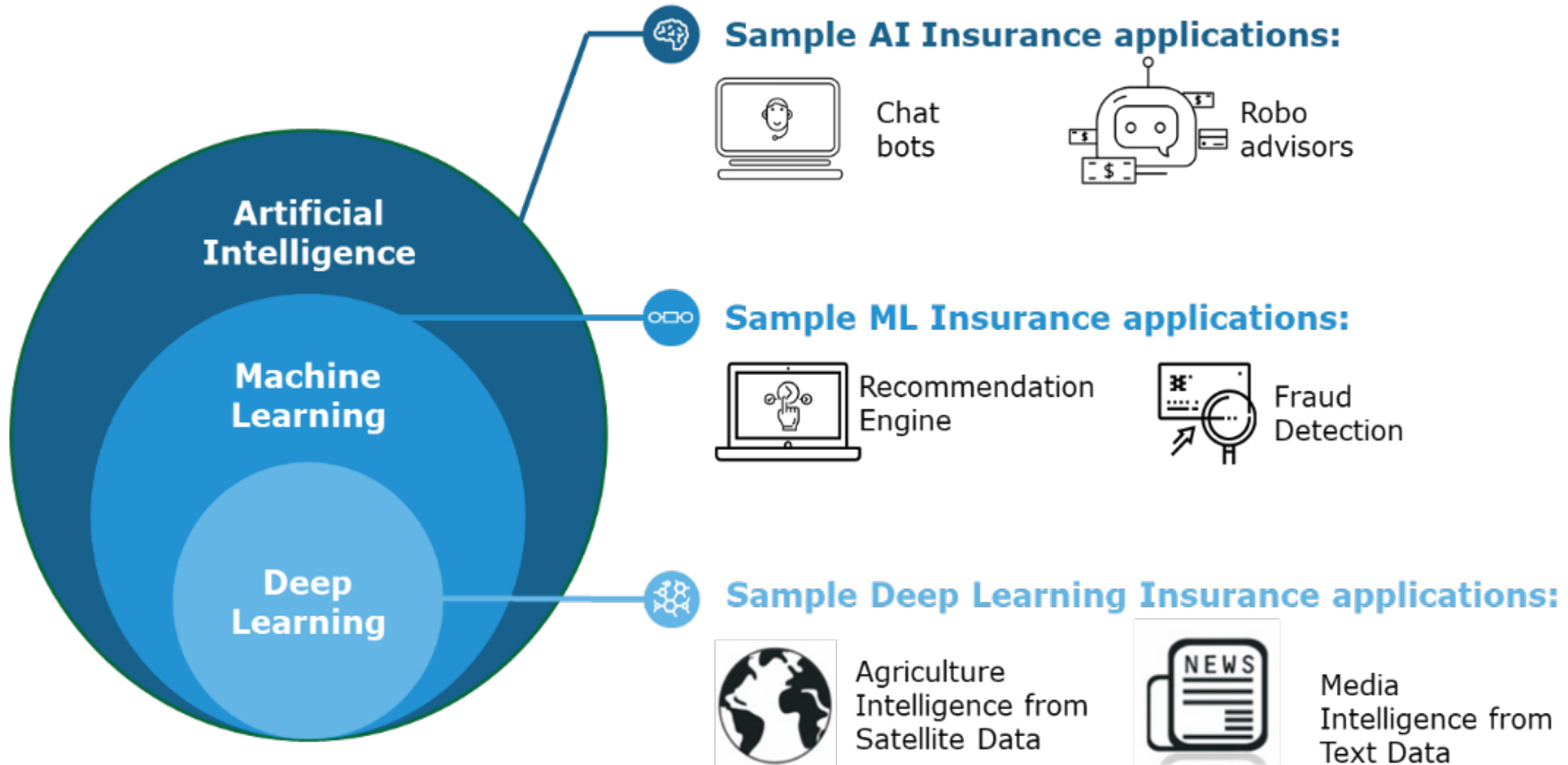
Introduction to AI
AI Functional Capabilities

Voice
- Transcription, enrichment and analysis of audio data, invariably resulting in natural language processing but with the additional information available during speech such as emotional tone, for example the augmentation of a chatbot to support spoken questions and responses

Computer Vision
- Analysis that enables the tagging of objects and events within a video or image, for example identification of an individual from a picture of their face
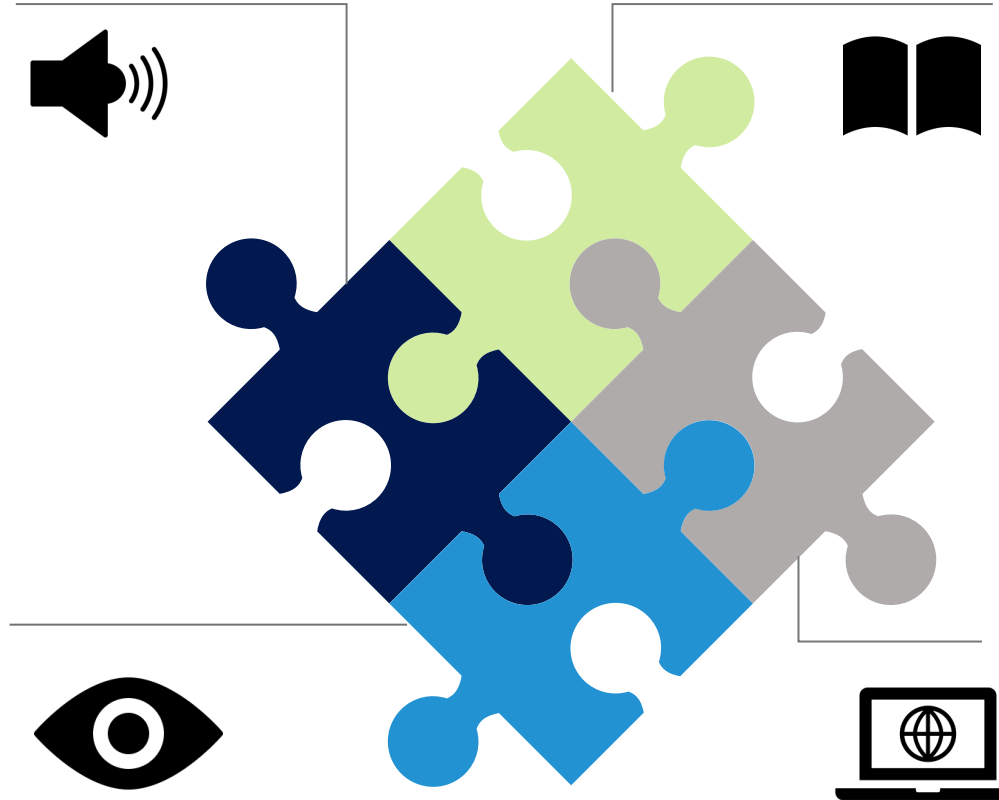
Natural Language Processing (NLP)
- Often abbreviated to NLP encompassing both understanding of written text and the generation of new text, for example the understanding of questions and generation of text responses within a chatbot;

- Not to be confused with neuro linguistic programming, a controversial psychotherapy treatment

Internet-of-Things (IoT)
- Processing of any sensor information from a network of devices connected through the internet. This category might include visual and voice data, and hence overlap with Voice and NLP, but also other data types like temperature readings, smells etc.

Journey to AI
Accelerate data curation and disrupt insurers' processes and route to market

Computer Vision
Use Drones and Computer Vision Technology to establish the ground truth within the underwriting and claims process

Voice & NLP
Use Chatbots to interact with customers and carry out other mundane tasks

Internet of Things
Provide new sources of data such as real-time monitoring of environmental variables and customer habits

Revolutionise Data Curation

- Explore new information that traditional data collection methods weren't able to attain

- Reduce or remove the need for human to input or interpret data streams

- Increase the Return of Investment on data capture

Traditional quantitative application, e.g. GLM

AI curated data and advanced statistical algorithms

Augmented capabilities and powerful decision making engines to support businesses

Our Lens on Insurance Company Infrastructure
Areas for Disruption

Find

Access Channels

Internet	Advisor
Contact Center	Mobile
Physical Channel	Other Channels

Product Lifecycle Mgmt

Product Pricing	Product Development
Product Strategy	Product Integration
Product Design	Product Mgmt

Sell

Sales, Distribution and Servicing

Access Channel & Strategy	Policy Issue & Billing
Customer Service Delivery	Direct Channel Strategy
Sales delivery	Direct Sales and Distribution Mgmt
Advisor Channel Strategy	Policy Administration & Servicing
Advisor Sales & Distribution Mgm	

Marketing

Market Segmentation	Channel/Distribution Mgmt
Market Planning & Execution	Content Mgmt
	Campaign Mgmt

Administrate

Asset Management
- Investment Accounting
- Investment Mgmt

IT
- Utility Capabilities
- Business IT Strategy & Mgmt

Regulatory Risk Management
- Compliance Mgmt
- Legal
- Licensing
- Enterprise Risk Mgmt
- Anti-Money Laundering

Human Resources
- HR Mgmt
- Support Services
- Reward Management

- IT Mgmt
- Supporting Systems & Mgmt

Business Management
- Finance & Accounting
- Treasury
- Corporate Actuarial
- Business Mgmt
- Cross-Functional Governance

Underwrite
- UW Process
- UW Expertise
- UW, Admin Systems & Data

Handle Claims

Claims Operations
- Claims Process
- Claims Intake
- Claims Adjudication

- Payments
- Claims Systems & Data
- Dispute Mgmt

Potential For AI Disruption   Low   Medium   High

6

Example Applications

Find

Find Lens (green group)

Company	ZURICH	Hippo	PROGRESSIVE (IOT)
Description	Selfie Quote used to accelerate life insurance quoting	Backfilling information into their applications from trusted data sources and ensuring the coverage in our policies is relevant for the types of homes and possessions people own	Progessive Insurance is leveraging machine learning algorithms for predictive analytics based on data collected by IoT devices from customer drivers
Benefit	(Efficiency, Growth)	(Efficiency, Growth)	(Efficiency, Growth)

Sell Lens (purple group)

Company	Social Intelligence	SPIXII	Liberty Mutual
Description	Supporting targeted advertising and customer analysis through social media data	Using bots based on distribution strategy to support sales agents	Answer Consumers everyday quote queries
Benefit	(Efficiency, Growth)	(Efficiency, Growth)	(Efficiency, Growth)

Underwrite Lens (teal group)

Company	CAPE	Lemonade	EOH
Description	GIS and satellite imagery used for property underwriting in US	AI Maya generates personalised policy in just 90 seconds	EOH supporting insurers fraud prevention at the underwriting stage by using layer voice analytics
Benefit	(Efficiency, Growth)	(Efficiency, Growth)	(Growth)

Administrate Lens (blue group)

Company	ICICI Lombard	Lemonade	NUANCE	Manulife (IOT)
Description	Drones used to monitor cultivatable land and crop yield	AI Maya supports sophisticated policy queries	Customer support and recommendations using voice queries	Wearable technology is employed by Manulife to support their Vitality life insurance, providing customers discounts on premiums
Benefit	(Efficiency, Growth, Protect)	(Efficiency, Growth)	(Efficiency)	(Efficiency, Growth, Protect, Regulatory)

Handle Claims Lens (green group)

Company	StateFarm	trōv	Deloitte
Description	Drones used to assess damage post hurricanes Florence and Michael in 2018	Trov's on demand insurance via chatbot processes claims in minutes through a few taps of a mobile phone	TrueVoice analyses calls for risk using behavioural models
Benefit	(Efficiency)	(Efficiency, Growth, Protect, Regulatory)	(Efficiency, Protect, Regulatory)

Legend:
- Efficiency
- Growth
- Protect
- Regulatory

Central diagram: Find Lens, Administrate Lens, Handle Claims Lens, Underwrite Lens, Sell Lens

Sell

Company	ZURICH	Hippo	PROGRESSIVE
Description	Selfie Quote used to accelerate life insurance quoting	Backfilling information into their applications from trusted data sources and ensuring the coverage in our policies is relevant for the types of homes and possessions people own	Progessive Insurance is leveraging machine learning algorithms for predictive analytics based on data collected by IoT devices from customer drivers
Benefit	🚲 📈	🚲 📈	🚲 📈

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IOT

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Find Lens · Administrate Lens · Handle Claims Lens · Underwrite Lens · Sell Lens

🚲 **Efficiency**   📈 **Growth**   🛡 **Protect**   ⚠ **Regulatory**

Underwrite

Find Lens / Left tables

IOT

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Right tables

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Circular diagram: Find Lens, Administrate Lens, Handle Claims Lens, Underwrite Lens, Sell Lens

Legend:
- Efficiency
- Growth
- Protect
- Regulatory

Handle Claims

Find Lens / Sell Lens / Underwrite Lens (Left panel)

	👁	📖	IOT
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	👁	📖	🔊
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Administrate Lens (Right top panel)

	👁	📖	🔊	IOT
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Benefit	🚲 📈 🛡	🚲 📈	🚲	🚲 📈 🛡 ⚠

Handle Claims Lens (Right bottom panel)

	👁	📖	🔊
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Benefit	🚲	🚲 📈 🛡 ⚠	🚲 🛡 ⚠

Legend:
- 🚲 Efficiency
- 📈 Growth
- 🛡 Protect
- ⚠ Regulatory

Central wheel: Find Lens, Administrate Lens, Handle Claims Lens, Underwrite Lens, Sell Lens

Administrate

Find Lens

			IOT
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Sell Lens

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Description	Supporting targeted advertising and customer analysis through social media data	Using bots based on distribution strategy to support sales agents	Answer Consumers everyday quote queries
Benefit	🚲 📈	🚲 📈	🚲 📈

Underwrite Lens

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Benefit	🚲 📈	🚲 📈	📈

Administrate Lens

				IOT
Company	ICICI Lombard GENERAL INSURANCE	Lemonade	NUANCE	Manulife
Description	Drones used to monitor cultivatable land and crop yield	AI Maya supports sophisticated policy queries	Customer support and recommendations using voice queries	Wearable technology is employed by Manulife to support their Vitality life insurance, providing customers discounts on premiums
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Legend: 🚲 Efficiency | 📈 Growth | 🛡 Protect | ⚠ Regulatory

True Voice

THE CHALLENGE

When you're running a call center, every customer call matters—but without face to face interaction it's easy to miss half the conversation.

Trends continuously indicate the need for an advanced solution to meet customer requirements.

Data explosion

40% of contact centers have no data analysis tools, a top industry driver

Rise of data mining

66% of contact centres plan to invest in advanced analytics in next 2 years

Personalization

59% of customers prioritize personalization of interactions with contact centres as medium and high

Switching economy

82% of customers prioritize personalization of interactions with contact centres as medium and high

FEATURES

By analyzing behavior and emotion on each and every call, TrueVoice helps to quickly understand how customers feel.

Monitoring all customer interactions enables the ability to quickly highlight areas of risk and opportunities to improve outcomes.

✓ Machine-learning feedback loop

✓ Behavioral & sentiment analysis

✓ Speech transcription

✓ Outcome based models

BENEFITS

Reduce risk
Monitor <u>all</u> customer interactions to enhance regulatory compliance and reduce risk, ensuring you protect your most vulnerable customers.

Transform customer experience
Empower call agents to deliver an enhanced customer experience by helping to better understand customers.

Deliver efficiencies
Optimize key call center processes to lower operational costs.

Improve customer satisfaction
Benchmark all interactions to promote consistent outcomes for all customers.

TrueVoice

LEVERAGING DISRUPTIVE TECHNOLOGY…

- TrueVoice analyzes both language and behaviors – both "what is said" and "how it is said" – this is unique in the market

- TrueVoice harnesses the power of machine learning (ML) models to predict outcomes rather than relying on standard key word spotting

- The ML models also provide capability to improve identification and outcomes over time – the greater the volume of data the smarter and more accurate the outcomes

- TrueVoice is built on a flexible, scalable, cloud based architecture enabling easy integration to existing platforms and recording solutions

- Non-semantic behaviours are captured and linked to outcomes – hesitations, pauses, and silence all form part of the analysis

AI Driven

Speech & Emotion

Regulatory & Compliance

TrueVoice platform

Market Proven

Flexible Architecture

Smart Customer Insights & Analytics
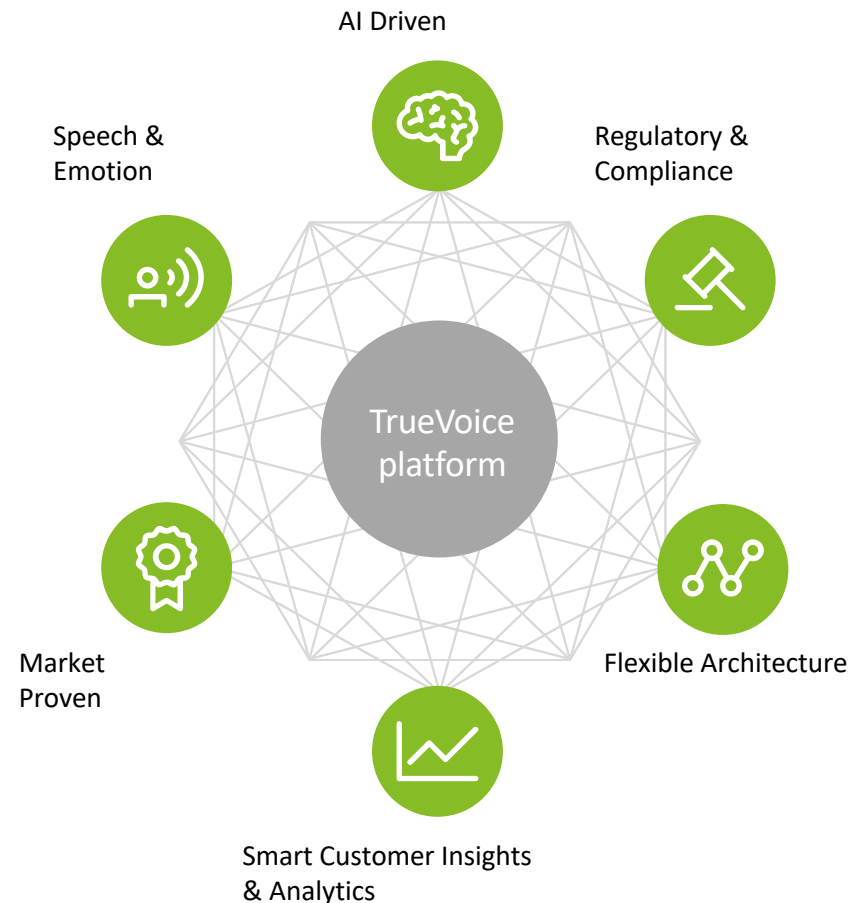
…TO DEVELOP A MARKET LEADING PLATFORM

- Access to Deloitte SME's - developed in conjunction with world-class regulatory, compliance and operational teams

- TrueVoice provides deep analytics and insight which can be tailored to your specific requirements

- Outcomes are linked to a customer journey rather than isolated interactions, where appropriate

- Outlier detection, such as a potential complaint indicator, enables appropriate action on higher risk segments or interactions

- TrueVoice is proven in the market, supporting 30+ different languages and offering flexible billing options including value based billing

OPERATIONAL EFFICIENCIES

AUTOMATING PROCESSES

2.3% Upfront reduction in call center operational cost

70% Quality assurance process automation

Current state agent efficiency

Future state agent efficiency

Current state time taken

Future state time taken

Identify agents who need training

Provide direct training
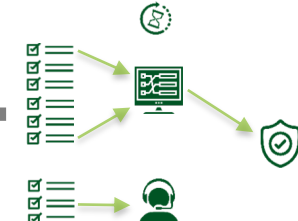
Employ TrueVoice's automated processing

RESULTS

- Identified 2.3% of dead time to eliminate from call center
- Identified 19.8% of interactions for channel shift
- Identified 6% of AHT reduction by improving process and agent training

- 54 - 72% efficiency improvement in current quality assurance process

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