# Verisk Analytics Overview

18 May 2017
Dr Milan Simic, EVP and Managing Director

**verisk Analytics**

SERVE | ADD VALUE | INNOVATE

# Overview

- Introduction to Verisk and Verisk Insurance Solutions

- Underwriting & Rating
  - Actuarial Solutions for Residential and Commercial Lines
  - Underwriters Advantage

- Claims

- Recent Innovations in Telematics for Insurance
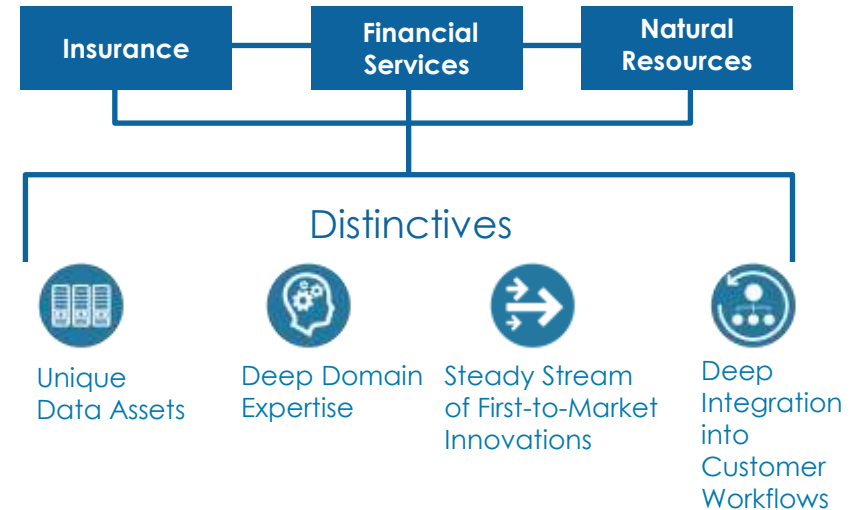
- AIR Worldwide

# Verisk Analytics - Overview

- A leading responsible data analytics company in pursuit of our customers' most strategic opportunities

- Provider of predictive analytics and decision support solutions to customers in specific vertical markets

- Global company with offices and customers in nearly 80 countries around the world

- Member of the S&P 500 and NASDAQ-100 indices with ~$14B market cap

- One of only 15 companies in the United States to appear on the *Forbes* World's Most Innovative Companies and America's Best Large Employers lists

- Socially responsible company serving the long-term interests of our stakeholders
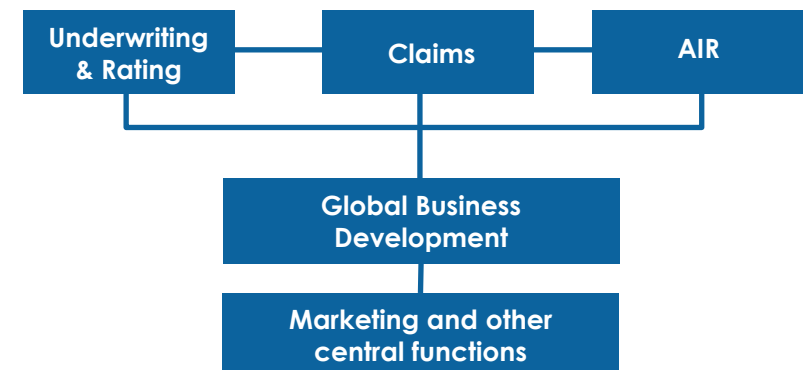
## Data Analytics Leader in Multiple Verticals

| Insurance | Financial Services | Natural Resources |
|---|---|---|

### Distinctives

Unique Data Assets

Deep Domain Expertise

Steady Stream of First-to-Market Innovations

Deep Integration into Customer Workflows

### Verisk Insurance

| Underwriting & Rating | Claims | AIR |
|---|---|---|

Global Business Development

Marketing and other central functions

# Verisk Analytics – Global Presence

## 6,400+ employees

## 2016 revenue: ~$2 billion

## Offices and customers in nearly 80 countries

# History of Growth and Innovation

## 1971

Not-for-profit advisory and rating organization

ISO

## 1980–1996

Significant enhancement of insurance policy programs

Adoption of advisory prospective loss costs

Revised board of directors structure to include noninsurers

## 1997

For-profit corporation transition

AISG acquired to expand claims management solutions

## 2002–2008

AIR Worldwide and Xactware acquired to expand insurance vertical market capabilities

AIR WORLDWIDE

Xactware

## 2009

Verisk Analytics formed and completed IPO (NASDAQ:VRSK)

Enhanced innovation with new services for claims, GIS, and insurance coverages

## Today

Scalable data and analytic solutions offered to vertical markets

Global expansion

Long-term value with scaling margins and a balanced approach to capital allocation

---

**Not-for-Profit** → **For-Profit** → **IPO and Continued Expansion**

---

## 1972–1979

Consolidation of major state, regional, and national rating and statistical organizations

## 1998–2001

Significant product expansion, international growth, and improved operational efficiency

National Insurance Crime Bureau claims database acquisition

LOCATION and other property-related products and services created

First Lloyd's of London agreement signed

## 2010–2015

3E Company, Argus, and Maplecroft, acquired expanding into financial services and supply chain verticals

The Verisk Way evolves its principles to serve, add value, and innovate

Corporate social responsibility program formalized

Wood Mackenzie acquired, expanding internationally in the global energy, chemicals, and metals and mining industries

ARGUS
A Verisk Analytics Business

Wood Mackenzie
A Verisk Analytics Business

# Recent Acquisitions Complement Existing Operations

| Acquisition | Strategic Rationale | Overview |
|---|---|---|
| **Risk Intelligence Ireland** | Global focus (Ireland) | Provider of fraud detection, compliance, risk control, and process automation services |
| **GeoInformation Group** | Global focus (UK) | Provider of essential geospatial information for those seeking insight into land and property |
| **MarketStance** | Extend into marketing department | Provider of market intelligence to help identify potential growth opportunities |
| **Analyze Re** | Enhance portfolio analysis capability | Provider of real-time pricing, exposure management, and enterprise portfolio roll-up capabilities for reinsurance |
| **Arium** | Expand risk modeling | Specialist in liability risk modeling and decision support |
| **Emergent Network Intelligence (ENI)** | Analytics and Global Focus | Innovator in insurance claims efficiency and fraud detection |
| **Healix Risk Rating (HRR)** | Insurance Expansion and Global Focus | Provider of automated medical risk assessment for the travel insurance industry |

Product Development/ Mgmt > Actuarial Analysis > Underwriting > Claims Management > Compliance > Portfolio Analysis > Risk Transfer

# Underwriting and Rating

# Actuarial Expertise

verisk
Analytics

# ISO Solutions and Actuarial Analysis
## Industry-Standard Programs

**ISO**

Advisory Information

Loss Costs

Rules

Policy Language

Advisory loss cost information based on line, class, occupancy, etc. (created from data analysis)

Classification and rating rules (the commercial and personal lines manuals)

ISO policy language in 26 insurance lines (13,000 forms) included in more than 200M policies

**~3,000** regulatory filings submitted annually

Product Development/ Mgmt | Actuarial Analysis | Underwriting | Claims Management | Compliance | Portfolio Analysis | Risk Transfer

# Actuarial Analysis: Homeowners
## ~$83B in Direct Written Premium

Multi-peril policy language

By-peril analysis is key to profitability

Building characteristics determine risk profile

## Verisk-Provided Profitability Tools

Regulatory approved policy language

Advisory loss costs

Classification and rating rules

By-peril predictive analytics

Product Development/Mgmt | Actuarial Analysis | Underwriting | Claims Management | Compliance | Portfolio Analysis | Risk Transfer

9

# By-peril rating has proven to enhance insurer market share and profitability

25 insurers using by-peril plans have increased market share from 28% to 34% in 6 years

## 2007 to 2013 Market Share of By-Peril Insurers



- 28%
- 66%
- 6%
- 2007 Market Share

Companies rating by-peril have loss ratios 4.3 points lower than their competition (70.8% vs. 75.1%)



Loss Ratio

75.1%

70.8%

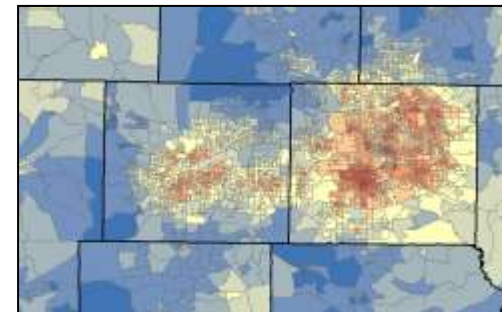Loss Ratio for Non By-Peril    Loss Ratio for By-Peril
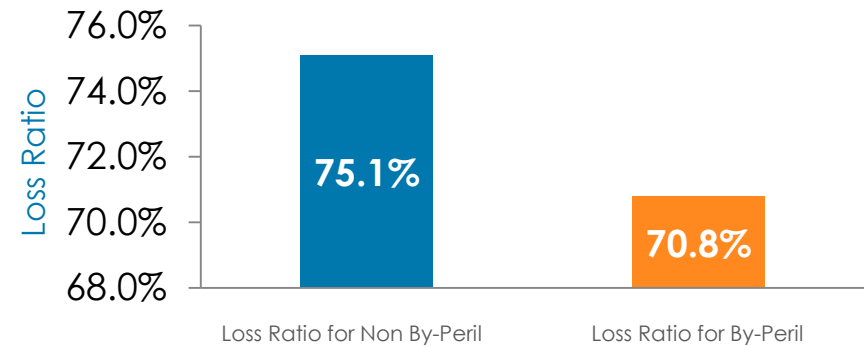
*Source: ISO research using Perr & Knight filings and 2007-2013 AM Best Financials*

## Additional analytics provide growth opportunities
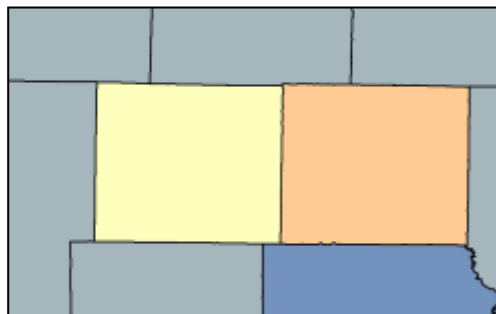


650 Traditional Territories



225,000 Census Block Groups

10

# By-peril rating informed by building characteristics results in highly granular rating factors

## Base All-Peril Loss Cost = **$769**

3,000 sq foot, 4 bed, 3.5 bath, colonial, brick exterior, attached 2 car garage, same zip code, $300K ITV

2,500 sq foot, 3 bed, 2.0 bath, ranch, wood siding, 2 car carport, pool, same zip code, $300K ITV

11

# By-peril rating informed by building characteristics results in highly granular rating factors

## Base All-Peril Loss Cost = **$769**

3,000 sq foot, 4 bed, 3.5 bath, colonial, brick exterior, attached 2 car garage, same zip code, $300K ITV

2,500 sq foot, 3 bed, 2.0 bath, ranch, wood siding, 2 car carport, pool, same zip code, $300K ITV





| |
|---|
| Multiple stories have higher water losses |
| 3 baths and 2 stories lead to higher water claims |
| Attached garage lowers fire and wind exposure |
| Brick construction lowers weather claims |

| |
|---|
| Larger footprint has higher weather exposures |
| Fewer bathrooms decrease water claims |
| Pool increases wind and liability exposure |
| Single story increases theft and vandalism |

# By-peril rating informed by building characteristics results in highly granular rating factors

## Base All-Peril Loss Cost = **$769**

3,000 sq foot, 4 bed, 3.5 bath, colonial, brick exterior, attached 2 car garage, same zip code, $300K ITV



Multiple stories have higher water losses

3 baths and 2 stories lead to higher water claims

Attached garage lowers fire and wind exposure

Brick construction lowers weather claims

All-peril loss cost:
**$889**
- Hail: $31
- Water nonweather: $308
- Liability: $61
- Fire: $271

2,500 sq foot, 3 bed, 2.0 bath, ranch, wood siding, 2 car carport, pool, same zip code, $300K ITV



Larger footprint has higher weather exposures

Fewer bathrooms decrease water claims

Pool increases wind and liability exposure

Single story increases theft and vandalism

All-peril loss cost:
**$729**
- Hail: $15
- Water nonweather: $199
- Liability: $83
- Fire: $234

13

# Underwriting: Personal Lines
## ~$89B Homeowners Multi-Peril Direct Written Premium

verisk
Insurance Solutions™

Comprehensive suite of underwriting analytics to expedite accurate underwriting decisions, including replacement cost estimation, location-based risk data, catastrophe risk data, and claims loss histories

Verisk provides data and analytics needed to support homeowners underwriting:

Replacement cost estimates
Fire protection capability
Catastrophe hazard data
Claims loss history
Crime risk
Property characteristics
(year built, total living area, roof shape/material, siding, etc.)

Verisk analyzes **~10M** requests each month in real time

Product Development/Mgmt | Actuarial Analysis | Underwriting | Claims Management | Compliance | Portfolio Analysis | Risk Transfer

# Underwriting: Commercial Lines
## ~$170B in Direct Written Premium*

verisk
Insurance Solutions

Unique database of **3.9M** commercial buildings, **26M** businesses, and ratings on **~47,000** fire protection areas provide differentiated methods to underwrite

## Verisk verifies application information is correct:

| Buildings | Businesses | Fleets |
|---|---|---|
| • Construction | • Classification | • Vehicles in the fleet |
| • Occupancy | • Annual sales | • Rating territory |
| • Protection | • Employee count & payroll distribution | • Garage location |
| • Exposure | • Firmographic details | |
| | • Governing & companion classes | |

* iii estimates – WC $58B, BOP & Property - $80B, CA - $32B

| Product Development/ Mgmt | Actuarial Analysis | Underwriting | Claims Management | Compliance | Portfolio Analysis | Risk Transfer |

# Building Characteristics are often key rating variables and have material impact on the premium charged

## BGI Case Study

### Building Characteristics (Site Verified)

- Construction Class = 3
- Public Protection Class = 3
- Occupant = Mercantile
- Building Replacement Cost = $2.9M
- Sprinklered Building with ASGR = 90
- Area = 25,280 square feet



**Manchester, CT**

## Premium = ~$2,200

| Rating Attributes | Range | Approximate Premium | Impact |
|---|---|---|---|
| Construction Class | 6 | $1,760 (-20%) | Potential Premium Leakage |
| | 1 | $2,930 (+33%) | Customer Acquisition/Churn issue |
| Public Protection Class | 1 | $2,004 (-9%) | Potential Premium Leakage |
| | 10 | $3,929 (+79%) | Customer Acquisition/Churn issue |
| Occupant | Manufacturing | $3,096 (+40%) | Customer Acquisition/Churn issue |
| Building Replacement Cost | $4M | $2,640 (+20%) | Customer Acquisition/Churn issue |
| No Sprinkler System | | $2,932 (+33%) | Customer Acquisition/Churn issue |
| Building Area | 50K square feet | $3,850 (+75%) | Customer Acquisition/Churn issue |

# Building Characteristics are often key rating variables and have material impact on the premium charged

## BGII Case Study

### Building Characteristics (Site Verified)

- BGII Symbol = AA - Superior Wind Resistive
- Number of Stories = 31
- BCEGs = 3
- Year Built = 1970
- Distance to Coast = 1001 - 1500 feet
- Building Replacement Cost = $119.5M (With exclusions)

### Premium = ~$410K

Miami, FL

| Rating Attributes | Range | Approximate Premium | Impact |
|---|---|---|---|
| BGII Symbol | B | $768K (+87%) | Potential Premium Leakage |
| Number of Stories | 10 | $365K (-11%) | Customer Acquisition/Churn issue |
| BCEGs | 10 | $451K(+10%) | Potential Premium Leakage |
| Year Built | 2003 | $267K(-35%) | Customer Acquisition/Churn issue |
| Distance to Coast | 2 - 3 miles | $326K(-20%) | Customer Acquisition/Churn issue |

# Underwriting

# Underwriters Advantage

# Getting reliable and accurate information continues to be the major obstacle



- Loss control inspections not always feasible because of cost and/or time

- Carriers largely reliant on the information provided within the insurance application

  – Limited validation using Google Earth, Bing or other such tools

- Carriers also not able to apply existing analytics to international markets because of data limitations

**The limiting factor on growth for the industry is in developing a comprehensive understanding of risk**

# Underwriters Advantage solution provides extensive information about Commercial & Residential properties in UK

- Underwriters Advantage (UA) solution is now available for properties in the UK in addition to the US

- Accurate and reliable risk data and analytics for property underwriting and rating

  - Current coverage: 80% of Residential and 50% of Commercial Property

- Includes geo-location of the property, aerial imagery, building characteristic data

  - construction

  - occupancy

  - flood zone details

  - risk indices for natural hazards

  - vulnerability to terrorism

  - crime information

  - replacement cost estimates

# Underwriters Advantage - Providing the building blocks for effective underwriting

# High resolution aerial imagery provides visual information on property and structure
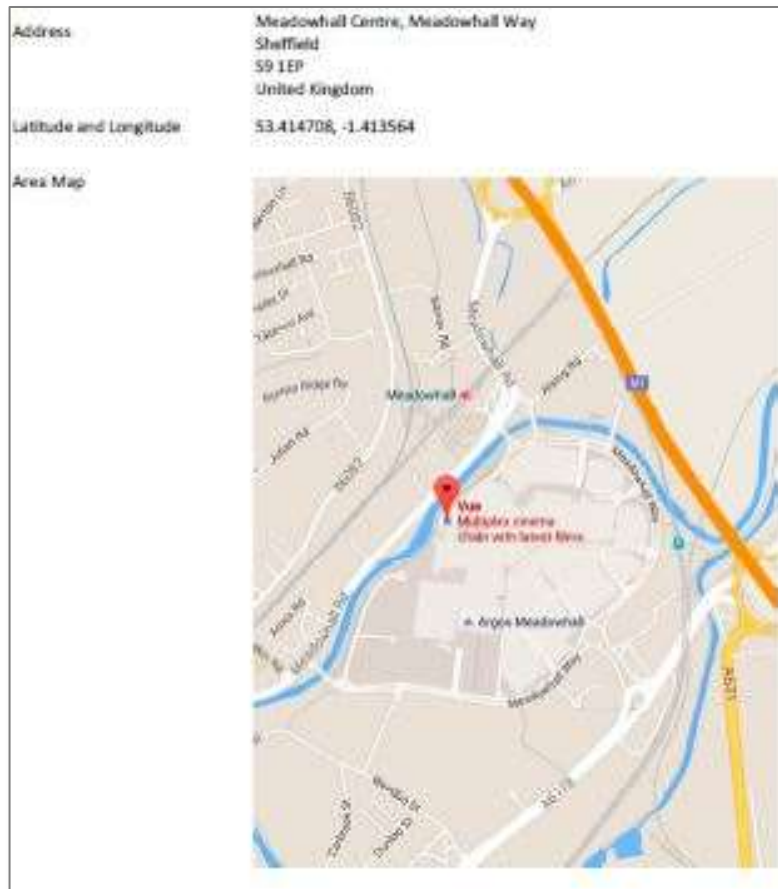


Imagery allows underwriters to determine exposure to hazards and identify external and adjacent exposures

# Construction Overview provides critical information about building including age, size and construction class

## CONSTRUCTION OVERVIEW

| | |
|---|---|
| Building Height | 14.3 meters |
| Ground Floor Area of The Entire Building | 7,875 square meters |
| Number of Stories | 1 |
| Building Age | 1945 - 1980 |
| Building Structural Frame | Primarily steel frame |
| Roof Geometry and Covering | Pitched roof with steel, aluminum or tin, or other non-metallic panels such as Fiberglass Reinforced Plastic (FRP) |
| Exterior Wall Construction Material | Steel, aluminum, tin or other metallic alloy material |
| Mostly Likely Construction Class | Non-combustible |
| Worst Case Construction Class | Frame |
| Data Creation Date | 2006 |
| Data Revision Date | 2015 |
| Data Confidence | Data generated from multiple sources with reasonable confidence |

# Occupancy Overview helps identify and verify information on potential occupants



## OCCUPANCY OVERVIEW

| Building Use Type | 11 – Retail |
| --- | --- |
| Name of Businesses At Address | Vue Cinema |
| | The building may contain other occupancies which are not listed in this report |

### Details for Businesses At Address

**Business Name – Vue Cinema**

| Classification: | 8810 - Cinemas | Total Employees: | 45 |
| --- | --- | --- | --- |
| SIC: | 59140 – Motion picture projection activities | | |
| Phone Number: | 8712240240 | Contact: | N/A |
| Web Address: | WWW.MYVUE.COM | | |

**Occupancy information can enable validation of the hazards of occupancy imposed on the building**

# Natural Hazards Overview includes Indices that quantify the risk from different natural hazards and…

## Natural Hazard Risk Indices

The natural hazard risk indices quantify the risk to a country from the specific natural hazard, utilizing a scale from 1 to 10 with 1 being the worst and 10 being the best.

| Hazard | Index |
|---|---|
| Flood | 8.67 |
| Landslide Precipitation | 10 |
| Extra Tropical Cyclone | 5.51 |
| Severe Local Storm | 8.95 |

# …flood zoning details for flooding hazards that might impact the property

## NATURAL HAZARDS

### Details for Risks of Flooding

This section includes indication of the likelihood of flooding from rivers and sea, or from surface water. Two indicators are provided for risk of flooding from rivers and sea depending on whether the flood defenses that may be in the area are considered. Flood defenses were built to protect against floods from river with a 1 in 100 chance or from the sea with a 1 in 200 chance of occurring each year. Areas benefiting from flood defenses are areas that may receive benefit from the flood defenses built. However, not all areas benefiting from them are shown currently. The information used in this analysis contains public sector information licensed under the Open Government License v3.0.

Risk of Flooding from Rivers and Sea

| | |
|---|---|
| Before including the effect of any flood defenses that may be in this area | Flood Zone 3 - 1 in 100 or greater (>1%) annual probability of river flooding , or a 1 in 200 or greater (>0.5%) annual probability of flooding from the sea in any year |
| After considering the effect of any flood defenses that may be in this area | High - greater than 1 in 30 (3.3%) in any given year |
| Areas Benefitting from Flood Defenses | No |

| | |
|---|---|
| Risk of Flooding from Surface Water | High - greater than 1 in 30 (3.3%) |
| Flood Warning Areas | Yes |
| Flood Alert Areas | Yes |

# Terrorism and Crime information includes indices that quantify the related risk to the property

## TERRORISM RISK AND CRIME INFORMATION

### Terrorism Risk

The Terrorism risk is measured with the use of the terrorism intensity index, which assesses the national level risk of terrorism based on analyses of historic impact and frequency data about terrorist incidents over the past year and the five years prior.

| | |
|---|---|
| Terrorism Intensity Index | 10 |

### Crime Information

Crime information contained in this report is based on the public sector information under the open Government License v3.0, and evaluated based on the level of Lower-layer Super Output Area (LSOA) where the building belongs to. LSOAs are small areas designed to be of a similar population size, with an average of approximately 1,500 residents or 650 households, produced by the Office for National Statistics for the reporting of small area statistics. There are 32,844 Lower-layer Super Output Areas (LSOAs) in England.

The overall crime indices are measured based on recorded crime rates for four composite indicators including burglary, violence, theft and criminal damage during the period of 2013 and 2014. The indices by crime type are measured based on recorded crime rates for each specific crime type for the five years period from 2011 to 2015.

For both the overall crime indices and the indices by crime type, deciles are calculated by ranking the 32,844 LSOAs in England from most deprived to least deprived and dividing them into 10 equal groups, with 1 being the most deprived 10% of LSOAs.

| | |
|---|---|
| LSOA the building belongs to | E01007913 – Sheffield 018C |

### Overall Crime Indices for the LSOA

| | |
|---|---|
| Crime Score | -0.302 |
| Crime Rank (with 1 being the most deprived) | 21,097 out of 32,844 |
| Crime Decile (with 1 being the most deprived 10%) | 7 |

# Replacement cost estimates help better assess and quantify the risk

## ESTIMATED REPLACEMENT COST

360Value replacement cost represents the estimated cost for a contractor and/or repair company to rebuild the structure(s) described herein in the referenced geographic market in accordance with current building codes following a total loss. This information is provided on the condition and understanding that it represents only an estimate and that the provider is not responsible for good faith errors. The replacement cost amount(s) includes pricing for labor, materials and contractor's overhead and profit, but does not include costs for excavation or land value.

### Assumed Building Features

| | |
|---|---|
| Heating and Air Conditioning | 100% Commercial Heat / AC Forced Air System |
| Fire Suppression System | 100% Manual Firehose and Standpipe System |
| Loading Dock Equipment | 4 Loading dock bays |
| Safes/Vaults | 1 built-in safe |
| Entry Doors | 4 canister roll-up doors |
| Others | 44.6 square meters covered walkway/breezeway |

### Estimated Cost Breakdown

| | |
|---|---|
| Labor, Materials and Supplies | £5,855,321.77 |
| Other Fees and Taxes | £1,016,107.92 |

### Estimated Cost Breakdown for Additional Features

| | |
|---|---|
| Breezeway | £7,993.62 |
| Loading Dock Equipment | £10,078.94 |
| Safe/Vault | £332.00 |
| Firehose and Standpipe System | £23,504.64 |
| Roll-up Doors | £4,472.00 |
| Estimated Replacement Cost (Replacement cost includes all applicable permits, fees, overhead, profit, and sales tax) | £6,917,810.88 |
| Estimated Replacement Cost per Square Meter | £878.49 |

# Claims

# Life of a Claim

### First Notice of Loss (FNOL)

A painless and reassuring experience at FNOL has a major impact on how fast the claim is settled and on customer satisfaction.

### Initiate Claim

Getting the right people on the claim as fast as possible reassures the policyholder and builds confidence.

### Investigation and Exposure Identification

Up-to-date data and fast estimation tools provide fast, fair, open, and detailed settlement costs.

### Quality review / Reinspections

Built-in inspection tools and streamlined auditing tools help adjusters get it right and let managers know where training is needed.

### Exposure Analysis and Evaluation

Fighting fraud and managing risk is key to protecting the interests of both policyholders and shareholders.

### Disposition

Getting it right, on time—while navigating coverage and compliance issues and delivering on your promises—is a victory every time.

# ClaimXperience

Collaborate with policyholders from the office with the accuracy of an onsite visit.
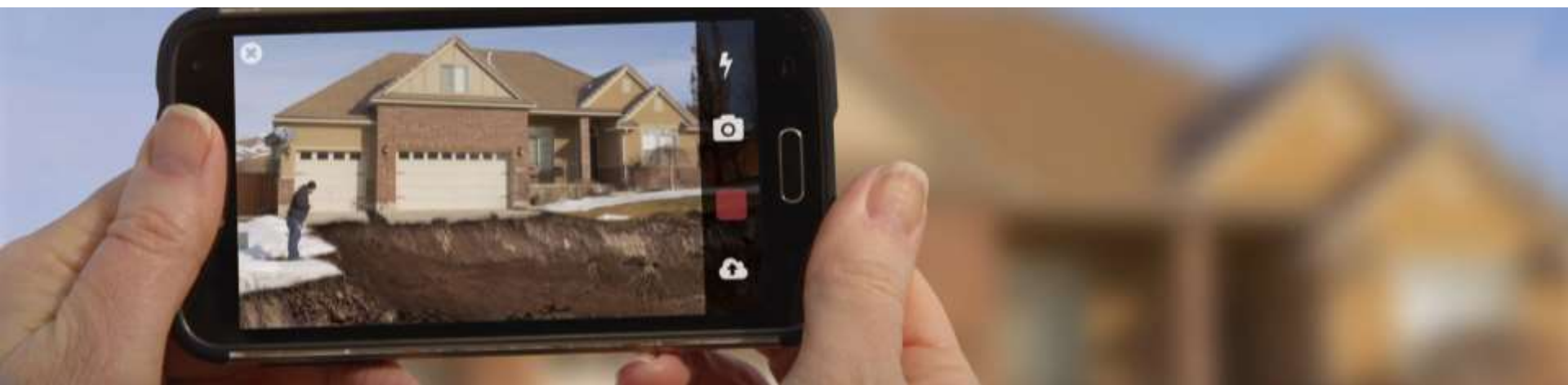


One desk adjuster increased his proportion of light-touch claims from 75% to 82%.

# XactAnalysis

Assign, track, manage, analyze, and store claims with a single tool.





**A three-year study shows:**
Companies completing at least 6,000 estimates a year, can save over $828,000 by finding errors using XactAnalysis
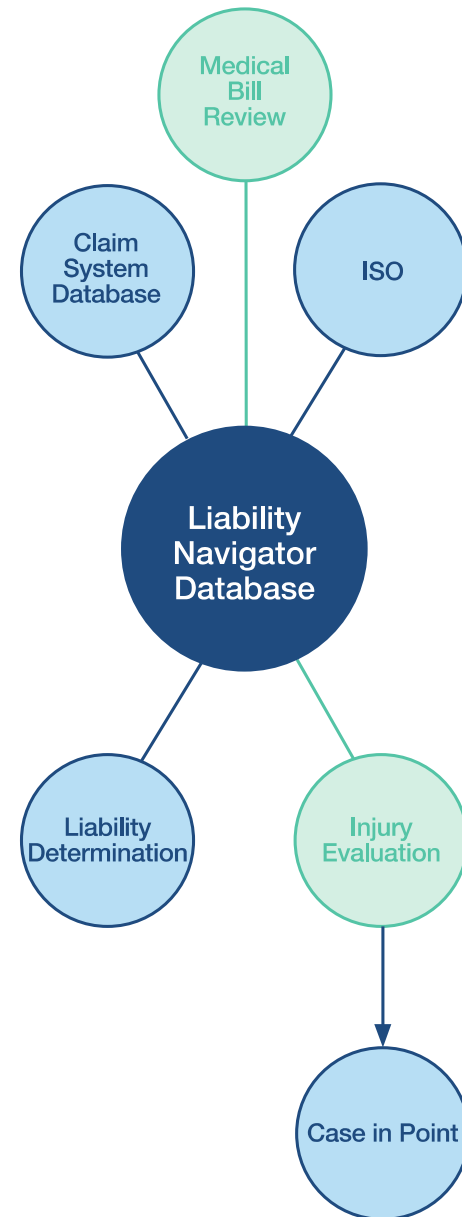
# Xactimate

Quickly create accurate estimates for restoration jobs of every kind.

**Georgia Farm Bureau**
• Reduced average cycle time by an entire month
• Achieved 482% ROI

# Liability Navigator and Claims Outcome Advisor (COA™)

Achieve consistent claim settlements, accurate liability assessments, and improved subrogation recovery

**SUCCESS METRICS**

**Improved:**
- Medical accuracy of claims evaluation: 90%
- General damage settlement consistency: 60%

Medical Bill Review

Claim System Database

ISO

Liability Navigator Database

Liability Determination

Injury Evaluation

Case in Point

# Property Claim Services (PCS)
# United States, Canada, Turkey

Improved operational efficiency for all aspects
of catastrophe response and management

- Industry loss estimates and claim counts for more than
  1,800 catastrophe events going back to 1950 in the U.S.
- Canada events going back to 2009, Turkey to 2016
- Industry standard for cat coding for reinsurance purposes

# Property Claim Services (PCS) Global Marine and Energy

## A single version of the truth for large offshore risk losses – from reserving to risk transfer



SUCCESS METRICS

- New service launched in 2017 based on significant global industry demand
- Benchmark claim handling and reserving assumptions to an independent industry loss estimate
- Access broader and deeper capacity to support risk and capital management

# Telematics

# Making Sense of the Telematics Data

## Predicting market leaders

Venture capital is available for this market, and start-ups pop up daily.

## A complex connected ecosystem

Identifying sources of data can be difficult when multiple players are involved: hardware manufacturers, platform owners, etc.

## Variety of devices

Technology is changing the way we live our lives. Analysts estimate 50 billion devices will be connected to the Internet by 2020.

*Source: Cisco*

## Big data

Depending on the volume, variety, and velocity of data, insurers could expect over 10MB of data per household per day.

## Unwieldy and unstructured

Understanding data from multiple sensors and how it correlates to future loss is a moving target that requires expertise.

?

# Many-to-Many Problem

## Telematics/ IoT Solution Providers:

- Value of insurance industry vertical unknown
- Limited bandwidth to service multiple insurers
- Only engaged with a fraction of insurance industry, leaving much of the market "untapped
- Cost-prohibitive to create integration with numerous individual insurers
- Lacks insurance analytics expertise

## Insurers:

- Fragmented market — technology winners TBD
- Data is unfamiliar, unstructured, and inconsistent, making insight creation difficult, lengthy, and costly
- Inability to systematically validate existence of technology and audit discount eligibility
- Inability to use data and insights in workflows
- Cost and time it takes to manage claims and customer satisfaction

# Verisk Data Exchange™



IoT Data Providers — Data sources

Verisk Data Exchange — Normalized data → Predictive analytics

Insurers — UBI programs
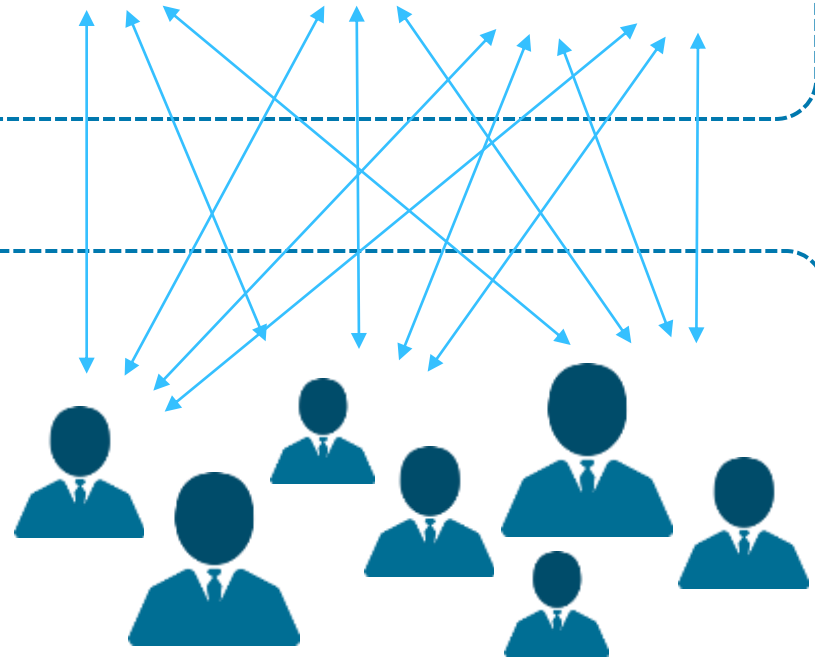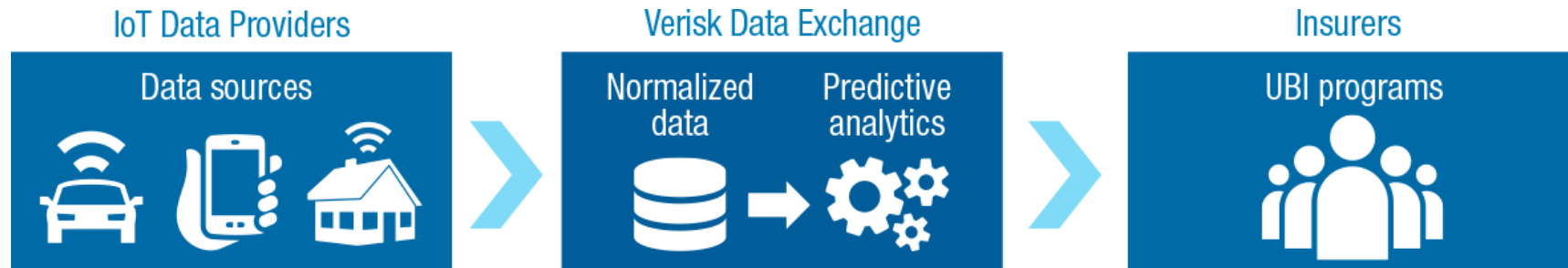
- Single, efficient access point for IoT sensor data from wide ecosystem of partners

- Device and data source agnostic

- Focused on telematics data harnessing, normalization, and accuracy to drive decision analytics within insurance service verticals

- Verisk experience + expertise in insurance carrier underwriting, rating, and claims processes utilizing big data + analytics to enhance and improve performance

- Servicing risk selection, underwriting, claims, and risk management actions

- Scalability + Agility + Multifaceted: Reach more insureds, evolve with tech, grow with new business model needs in all insurance verticals

# **Our Vision**: Internet of Things Sensor Data for Insurers

Vehicle Telematics

Smart Home/ Building Providers

Security Companies

Industrial Equipment Manufacturers

Wearable Manufacturers

Smart Cities

### Verisk Data Exchange

Insights

Filings

Data Stewardship

Distribution

Insurer

Insurer

Insurer

Insurer

Insurer
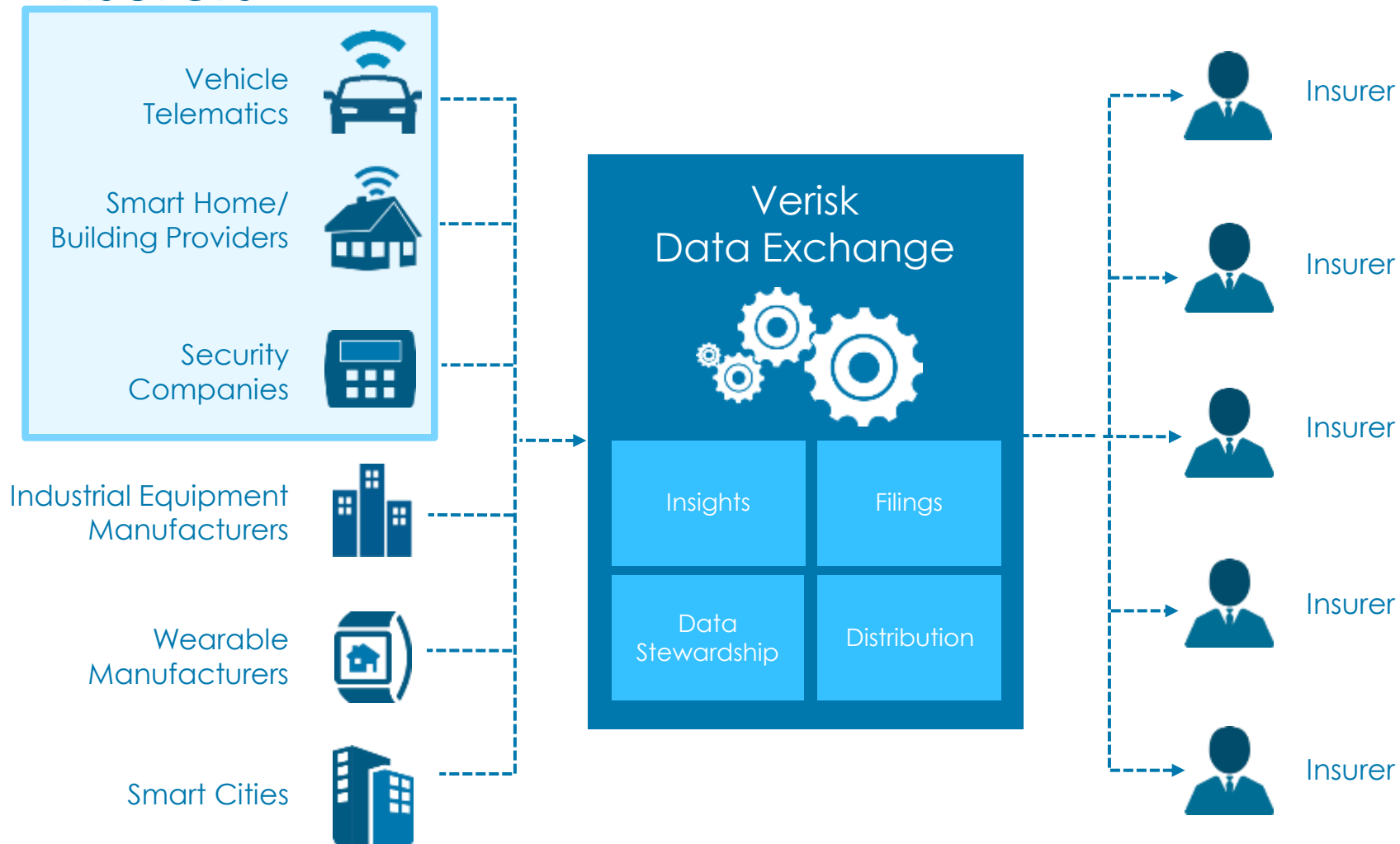
# AIR Worldwide

Natural Catastrophes

Crop & Agriculture

Terrorism & Political Risk

Life & Health

Casualty & Cyber

Climate Change

# Cat Models for More Than 110 Countries
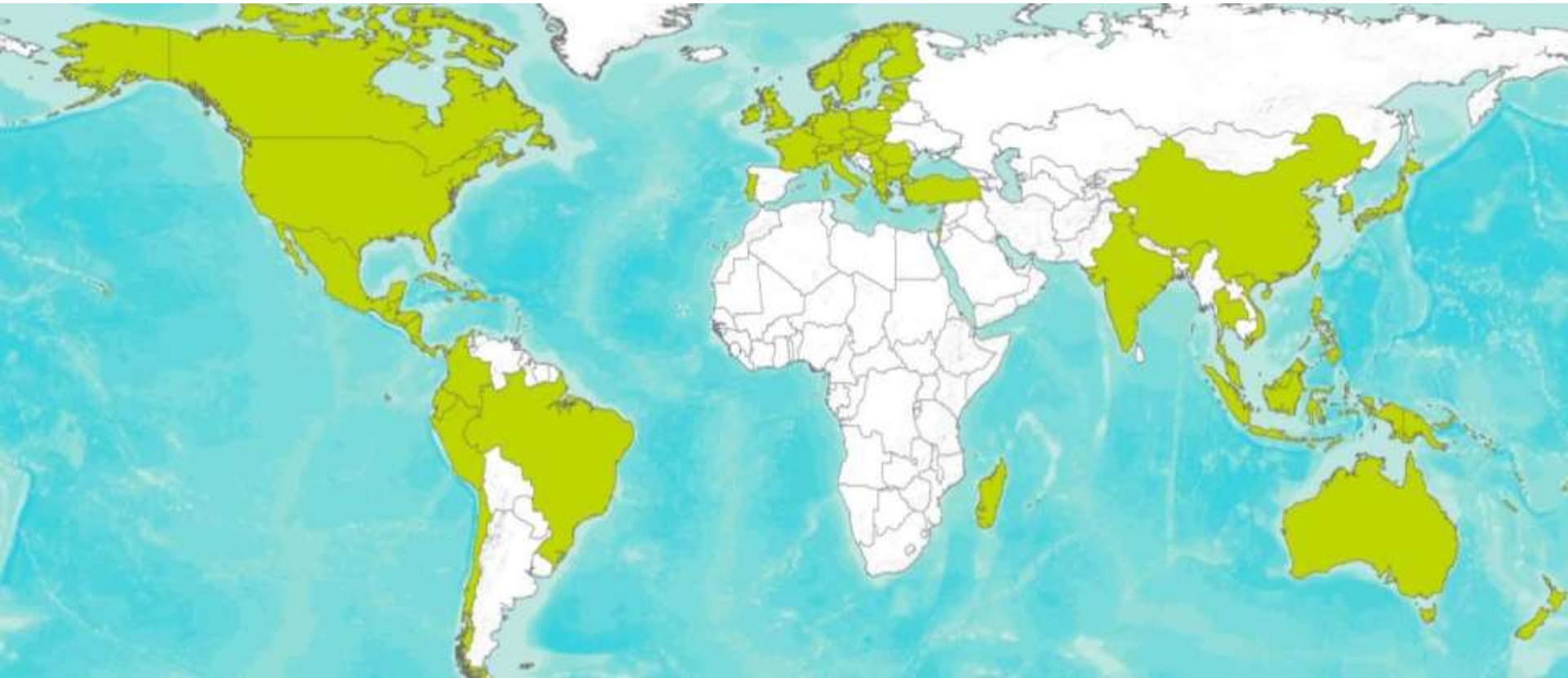
# Touchstone®

Understand and truly own your risk with the industry's most advanced detailed modeling and analytics platform
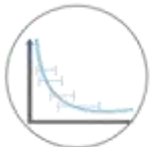


- Loss Analytics w/ Uncertainty
- Access to Multiple Models
- Underwriting
- Data Quality Analytics
- Loss Grouping
- Hazard Analytics
- Geospatial Analytics
- Non-Cat Analytics
- Comparative Analytics
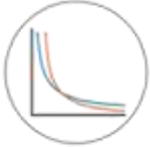
- More than 150 companies rely on Touchstone to understand and manage their catastrophe risk
- Eight of the top 10 top commercial lines writers are AIR clients
- Nine of the top 10 homeowners writers are AIR clients

# Probabilistic Pandemic Model Estimates Morbidity and Mortality

## Stochastic Event Generation



Annual Frequency

Location Frequency

Stochastic Catalogue

Transmission Ability

Virulence by Age/Gender Cohort
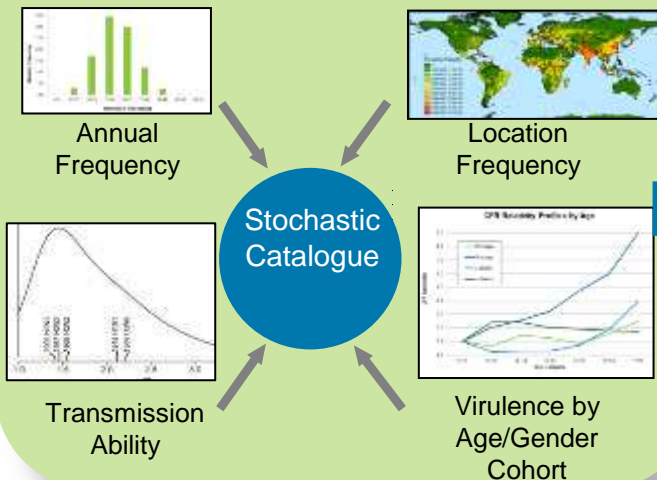
## Epidemiologic Model Coupled with Long- and Short-Range Travel and
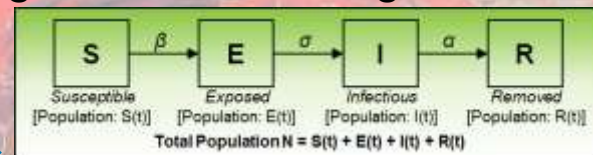


| Pharmaceutical Interventions | Non-Pharmaceutical Interventions |
|---|---|
| Vaccines | Travel Restrictions |
| Antivirals | Active Containment |

## Financial Impact & Portfolio Analytics

Exceedance Probability
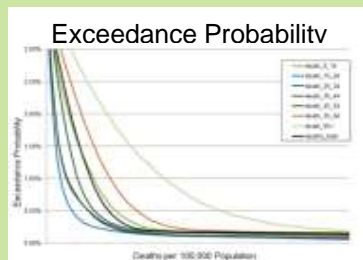
Workers' Comp Insurance Losses

Life Insurance Losses

Health Insurance Losses

## Event Footprint by Illness Severity and Age/Sex Cohorts



Deaths

Hospitalisations

Physician Visits

Infected Persons

# A 1918-Like Event Today Would Cause 21-33 Million Deaths Worldwide



Deaths per 100,000

- < 50
- 50 to 150
- 150 to 250
- 250 to 350
- 350 to 500
- > 500
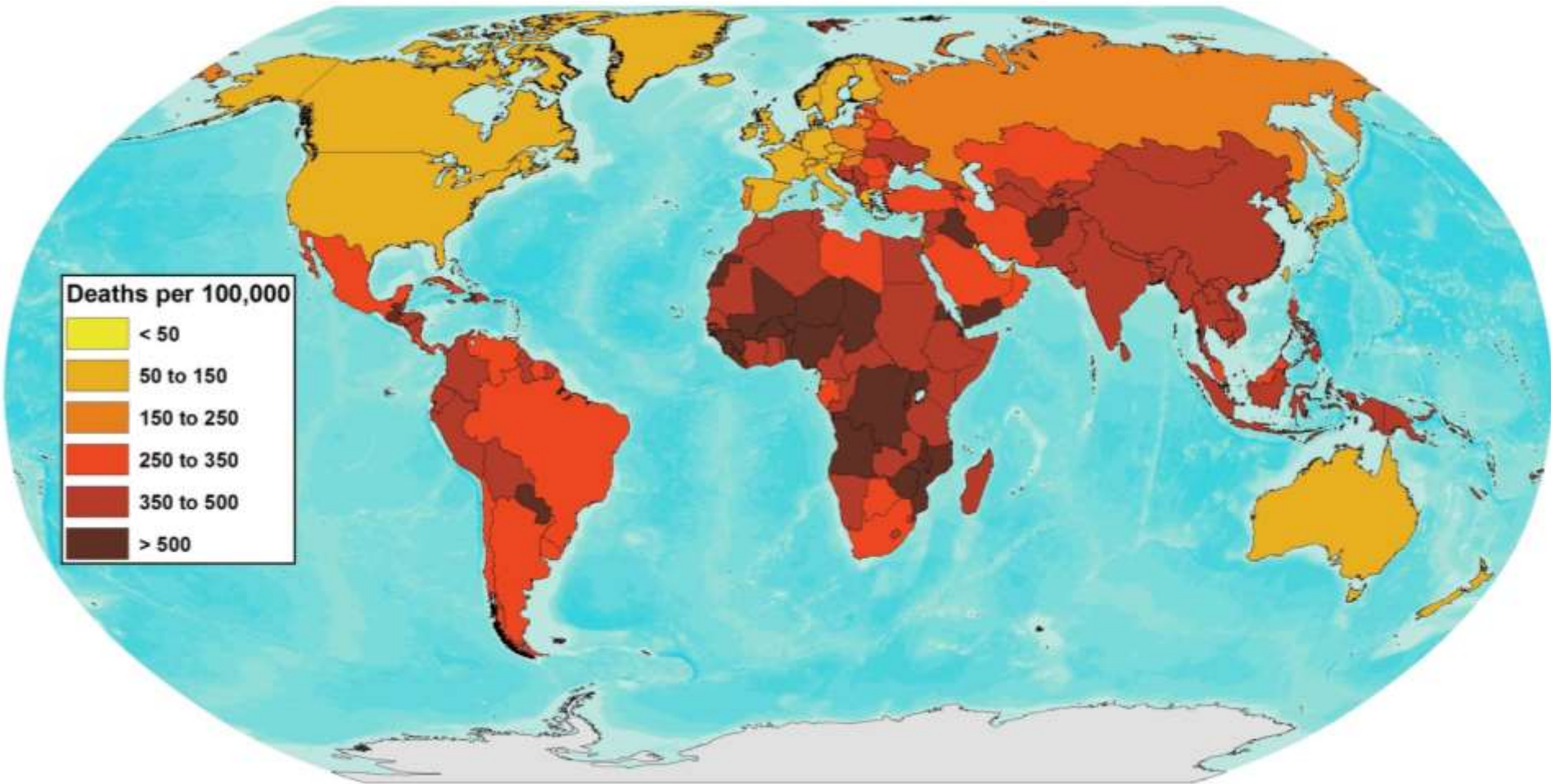
# AIR was the Chosen Modeller for the World Bank PEF

**M**unich Re, Swiss Re and catastrophe modeling firm AIR Worldwide collaborated on the recent World Bank launch of a $500 million insurance fund designed to help protect poor countries from pandemic risk.

The new Pandemic Emergency Financing Facility (PEF) includes an insurance window combining funding from the reinsurance markets with proceeds of World-Bank issued pandemic (catastrophe) bonds, as well as a complementary cash window. If an outbreak happens, the PEF would quickly release funds to qualified international responding agencies and countries.

World Bank officials announced the new Pandemic Emergency Financing Facility (PEF) on May 21; Japan has committed $50 million in initial funding toward the initiative.

# ARC (Analytics of Risk from Cyber)

## Gain insights into your cyber exposure to grow your business intelligently



- Since its release in April, ARC is currently being evaluated by 7 of the top 10 cyber insurance writers

# Arium

Evaluate liability accumulations and understand casualty risk using a powerful exposure management application



- Since being acquired by AIR in 2017, a handful of companies have already licensed Arium to better understand their underlying casualty risk