



The Insurance
Institute of
Ipswich, Suffolk
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Chartered Insurance Institute

2020 Conference





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#FindYourHappy

Ben Smith





Challenge

#findyourhappy



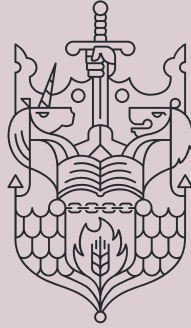
Challenge

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Insurance... Leading the Solutions for Climate Change

Nick Dunlop, Willis Towers Watson

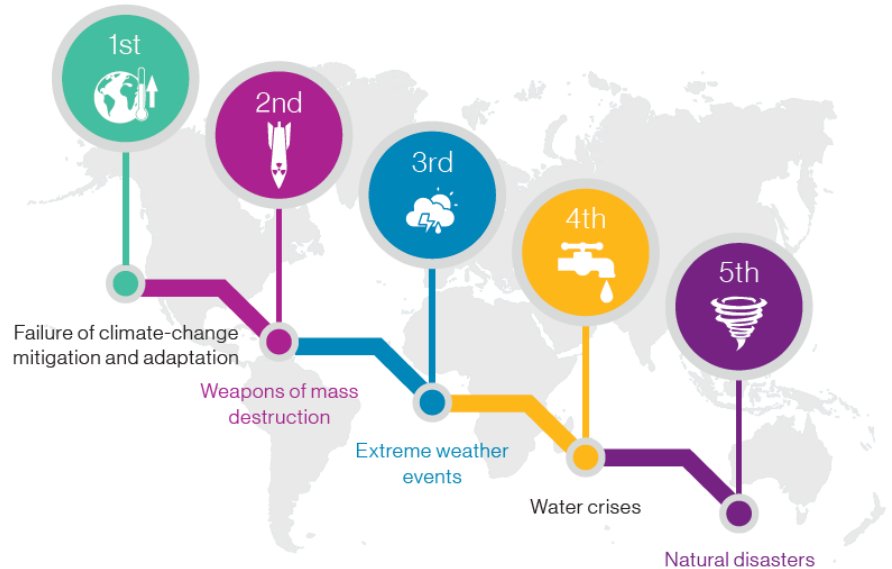


The World Economic Forum placed climate risks within four out of the top five global risks

Climate risks are a widespread threat to financial, social and political systems

From the destruction caused by extreme weather, to environmental degradation, economies are already experiencing the effect of acute and chronic climate related risks

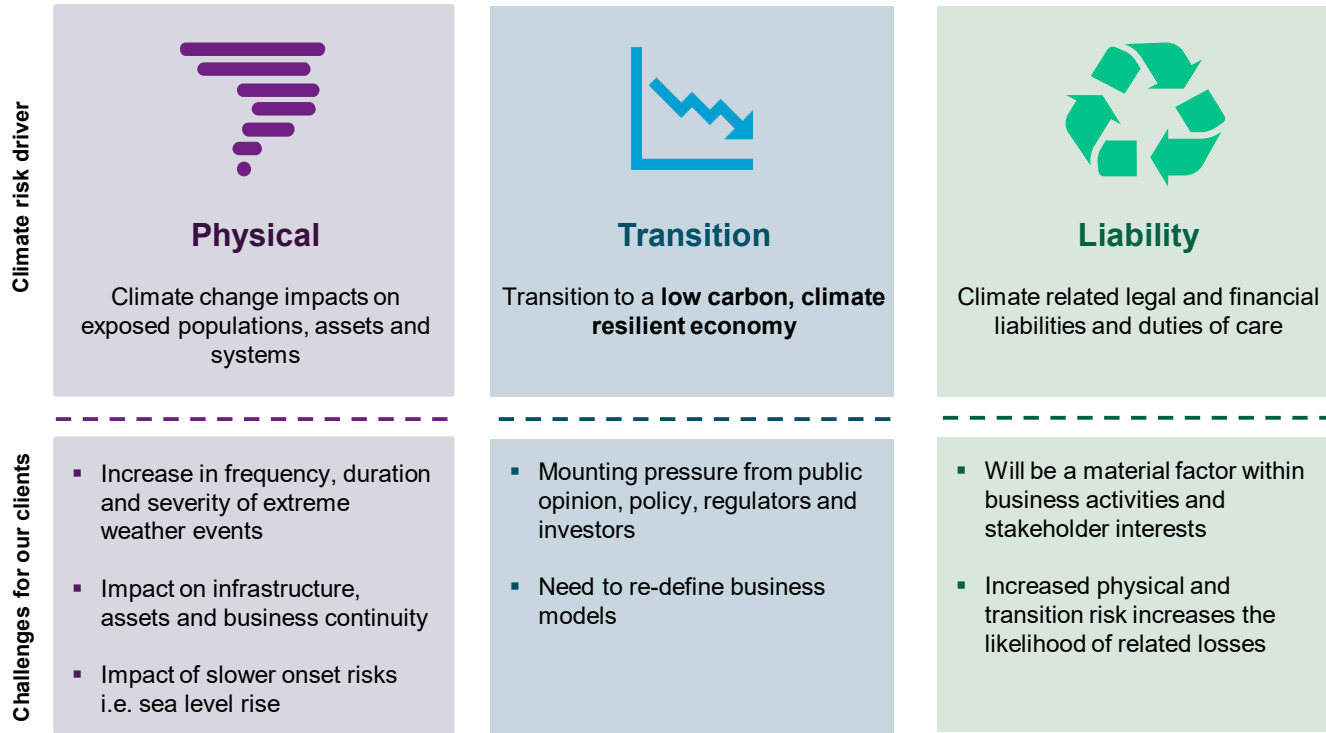
World Economic Forum 2020 Top 5 Global Risks¹



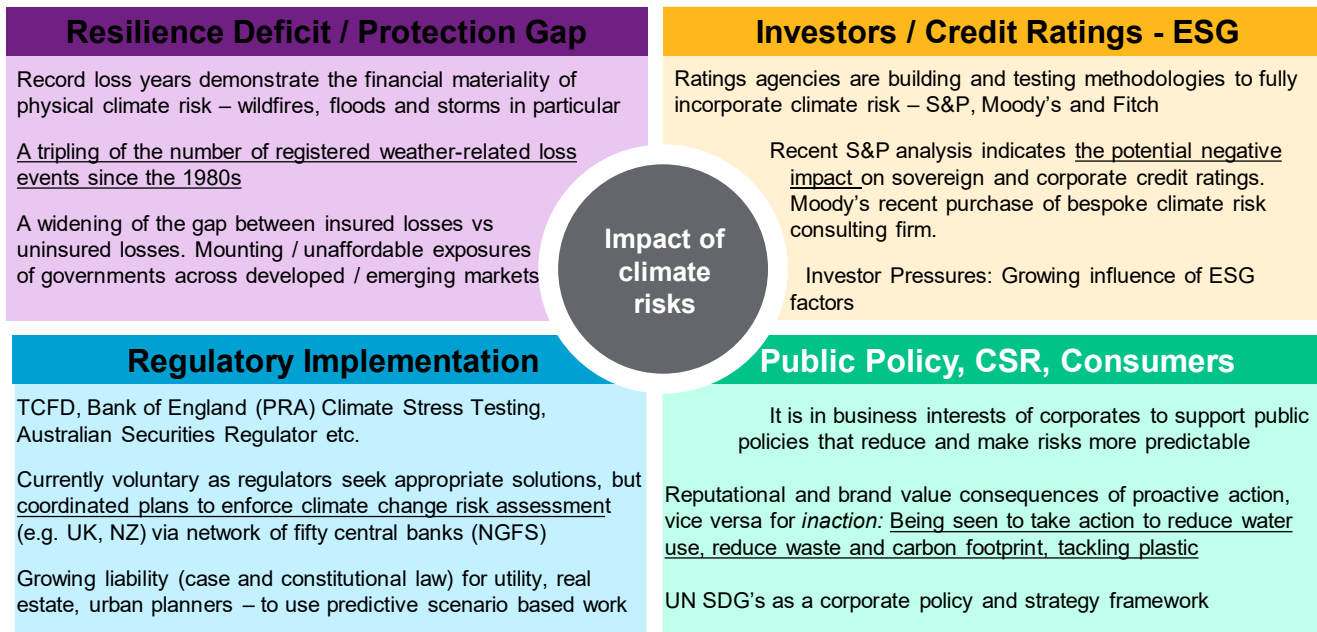
¹ WEF, 2020

It is therefore vital for public and private sectors to consider **climate risk financing** and **management** to protect **financial sustainability** and also unlock otherwise hidden **opportunities for growth**

Our clients will be exposed to the three dimensions of climate related financial risk classified by **regulators and disclosures**



Climate will increasingly impact business strategy



Risk trends are anticipated to amplify & mature within 10 - 30 years, impacting decisions today

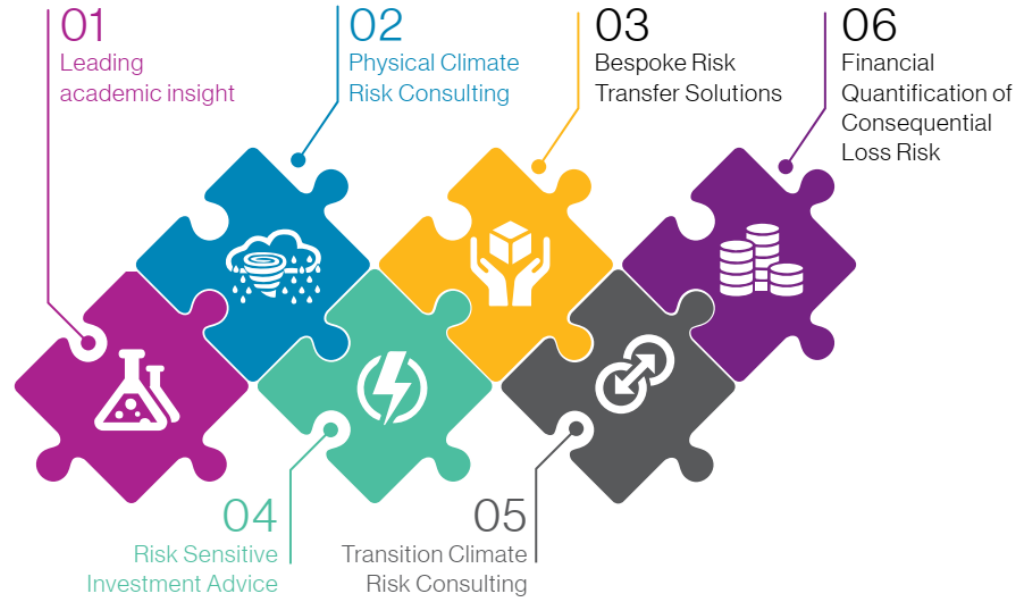
WTW is positioned to support clients to action on climate risk and opportunities

<p>Investment:</p>	<p>WTW is leading the Coalition for Climate Resilient Investment, launched at the UN General Assembly in 2019; a public/private sector coalition representing nearly 50 institutions with USD 8tn+ of assets</p>
<p>Insurance / Protection Gap:</p>	<p>WTW founded the Insurance Development Forum with UN, World Bank, Regulators and Industry leaders</p>
<p>Regulation :</p>	<p>WTW taken a leading position is establishing the global frameworks for climate risk and the Financial Services industry response E.g. Task Force for Climate related Financial Disclosure (TCFD)</p>
<p>Science:</p>	<p>e.g. Willis Research Network of leading climate research universities since 2007. WTW personnel contribute to high level bodies on climate e.g US President Council of Science Advisers, World Meteorological Organisation</p>



WTW is a member for major organisations on climate risk e.g. **McKinsey upcoming global climate report**

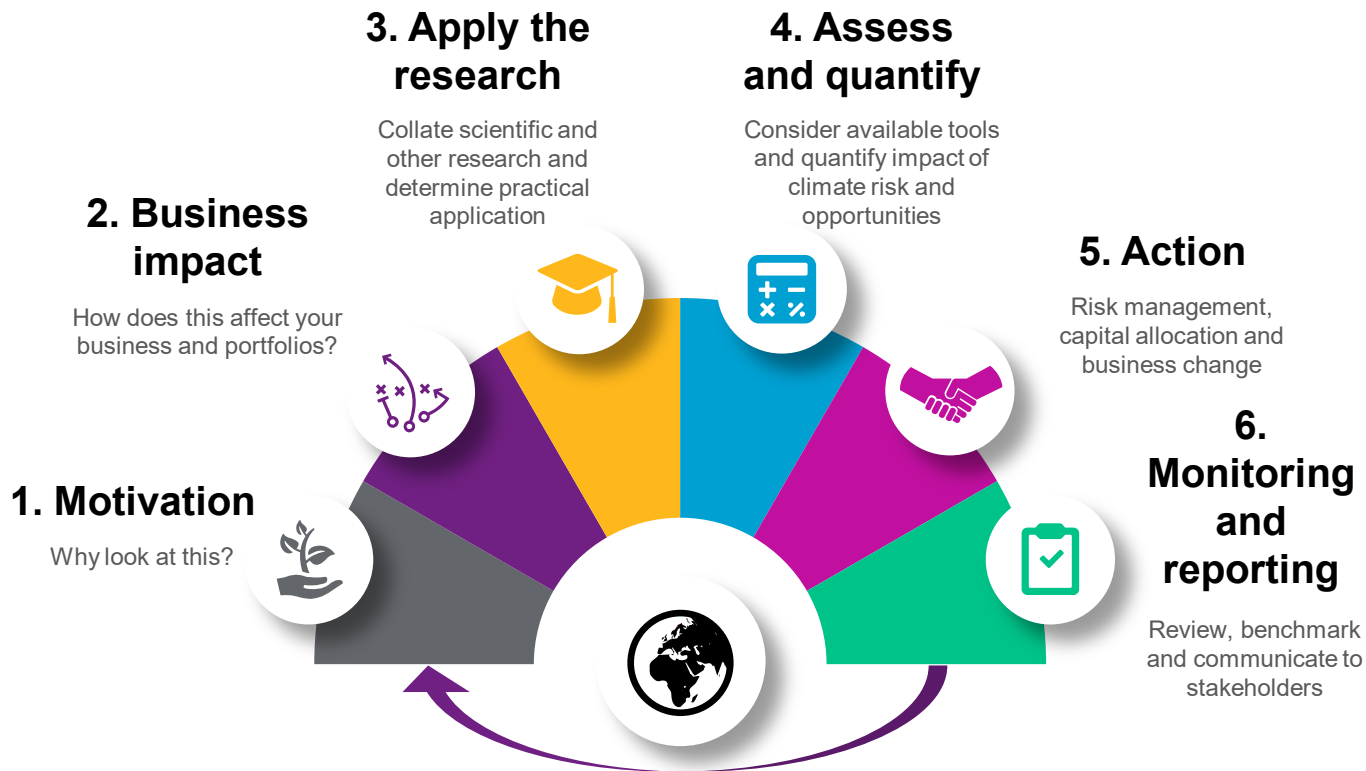
WTW offer advanced climate analytics and consulting services to help clients manage their climate risk and identify opportunities



By utilising this expertise, WTW can guide clients through **The Climate Risk Service Offering Framework** to understand, manage and develop resilience to climate risk

Climate Quantified

Helping our clients evolve from thinking to action on climate risk and opportunities



Climate Risk Service Offering Framework

1. Define motivation



Drivers for climate action



Regulatory

Compliance and standards

Solvency requirements

Capital management

Risk appetite and budgeting



Business and financial case

Financial materiality

Fiduciary duty

Prudential requirements

Future-proofing



Reputation and resilience

Corporate responsibility

Thought leaders

Peer benchmarking

Climate finance

Climate Change Service Offering Framework

2. Determine business impact



Planning for mandatory TCFD



Physical risk

Acute and chronic impacts



Transition Risk

Speed and efficiency of low carbon transition



Climate Risk Service Offering Framework

3. Apply climate research to business context



Expert research to practical application

Climate research

Willis Research Network
Thinking Ahead Institute
Collaborative Initiative
Scientific papers
Industry knowledge



Business impact

Physical risk

- Acute
- Chronic

Transition risk

- Policy and legal
- Technology

Liability Risk

Earnings volatility


Capital adequacy

Investment returns and asset impairment



Business application

Regulators scenarios
TCFD / PRA / rating agency



Peer review panel

Applicable climate projects

Operational improvements

Climate Risk Service Offering Framework

4. Calculate business metrics with appropriate tools



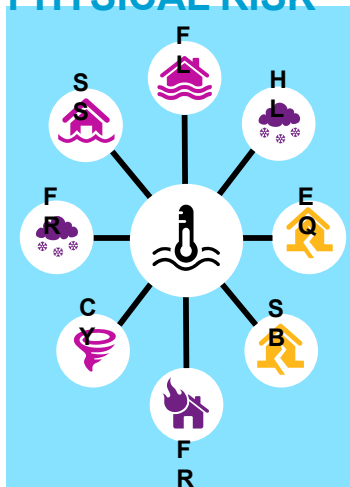
Apply analytics to quantify risks and opportunities



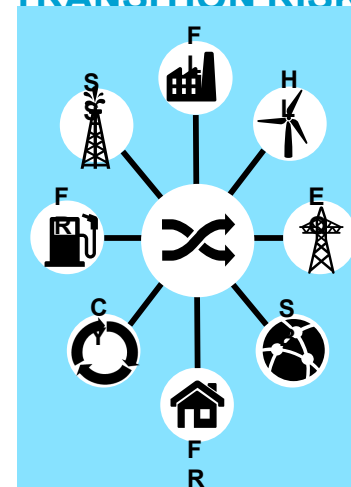
Tools and methods

- Exposure / asset / claims analysis
- Scenario modelling
- Peril mapping
- Probabilistic modelling
- Megatrend analysis

PHYSICAL RISK



TRANSITION RISK



Tools: Willis★

WRN★

External partners★

Climate Risk Service Offering Framework

5. Action and implementation



Practical action to take



Risk management

Risk transfer solutions to manage increased volatility, severity

Multi-year and multi-line

Stewardship, collaboration and advocacy



Capital allocation

Asset strategies across integration, diversification, hedging, impact and exclusion

Etc.



Business change

Impacts on business profitability

Stakeholder education and mitigation

Opportunities and new business

Climate Risk Service Offering Framework

6. Monitoring and reporting



Review, benchmark and communicate

Review

Activities vs. plan

Outcomes vs. objectives

Progress vs. metrics and ambitions

Feedback loop into iterative process

Benchmark

Vs. peer group

Vs. good and best practice standards

Vs. regulatory standards and stakeholder expectations

Feedback into action plan

Communicate

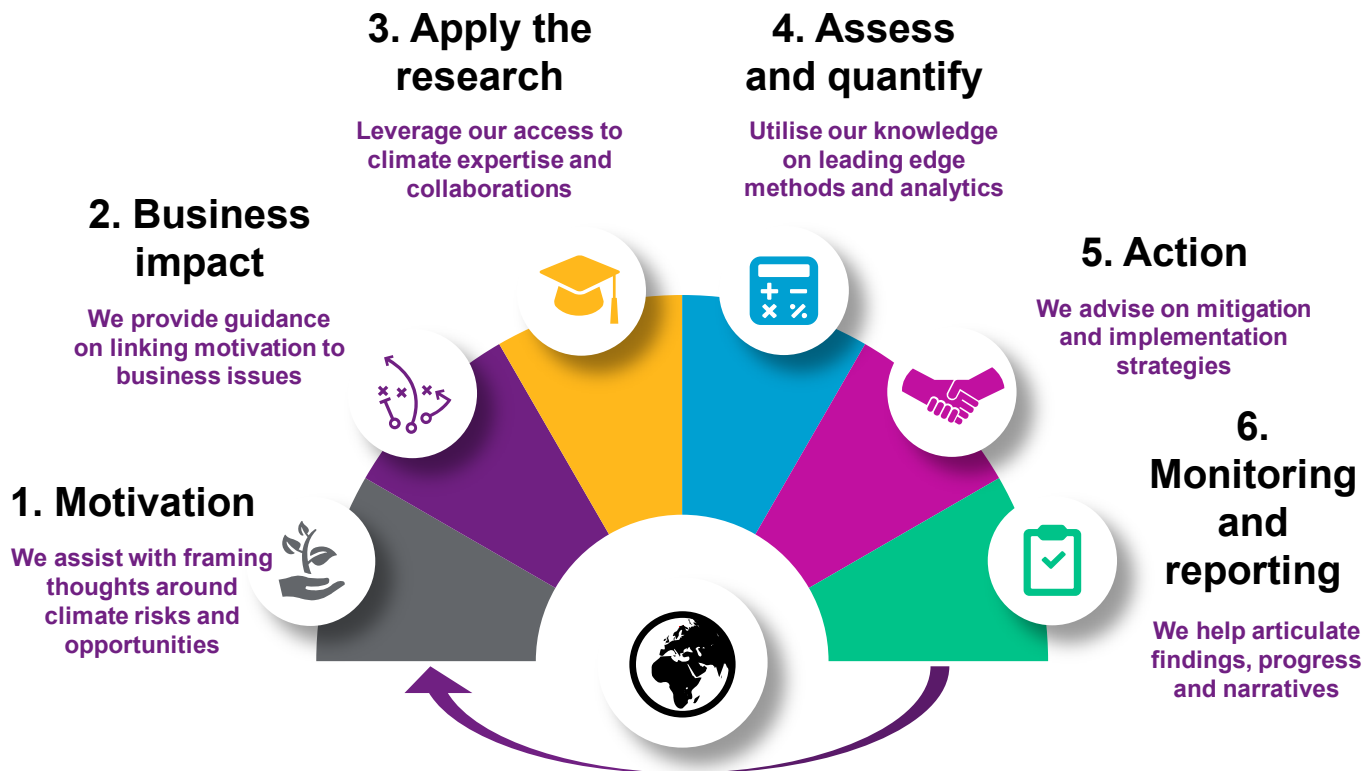
To key stakeholders: internal, members / policyholders, regulators / oversight bodies, public

Compliance

Reputational management

Climate Quantified

Telling the story of how you evolved from thinking to action on climate risk and opportunities



Appendix

Case Studies

Climate Quantified – Physical Risk Proposition

Stratification of services

Level 1 Standard Offering Utilising Global Peril Diagnostic

Identify Hazards – e.g. organisation’s exposure to flood, wildfire, hurricane etc.



Identify Current & Future Climate Risk for Key Perils



Level 2 Standard Offering Utilising Property Quantified

Quantify Current & Future Climate Risk for Key Perils and Time Periods



Level 3 Advanced Consultative Offering – *Strategic Risk Consulting*

Advanced Catastrophe Modelling



Tailored Climate Risk Mitigation Advice



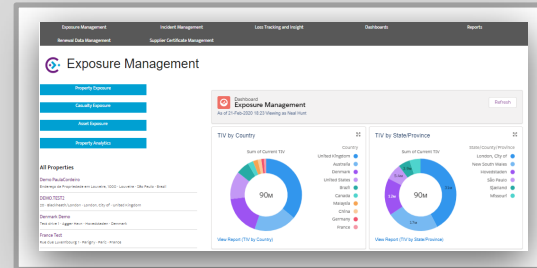
RI Central Exposure Management

Allows clients to record, manage and view Property, Casualty and Asset Exposure data.

The screenshot displays a comprehensive property record interface. On the left, there are sections for 'Assets (1)', 'Events (0)', 'Property Recommendations (1)', and 'Notes (1)'. The main area is divided into several data fields:

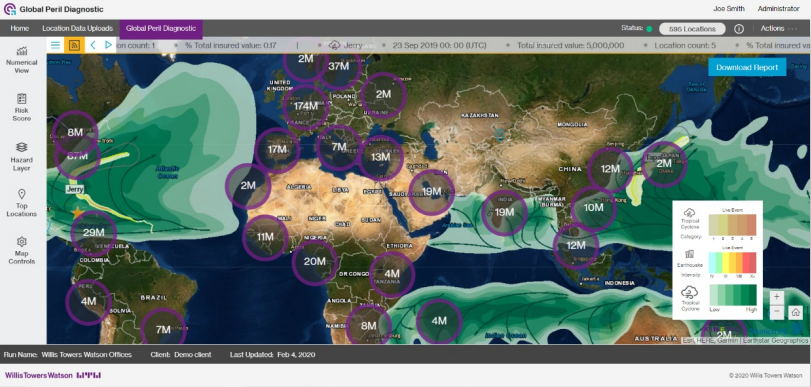
- General Information:** Steel Frame with Wood Frame in the upper floors, Total Estimated Value: \$6,000, Gross Square Footage: 5,467.
- Ownership & Structure:** Property Ownership Type: Owned, Number of Floors: 10, Levels above Ground: 9.
- Address & Location:** Address: 945 White Plains Rd, City: Bronx, State: New York, Country: United States.
- Identification:** State/County/Province: New York, Parcel Code: 10470-3522, Address Line 2: 945 White Plains Rd, Telephone: 718-6564.
- Property Values Trending:** A line graph showing the sum of total insurable value and the sum of total building value from CY2017 to CY2020. The values show a significant increase starting in CY2019.

Provides clients with a digital repository to update their schedule of value as their portfolio changes

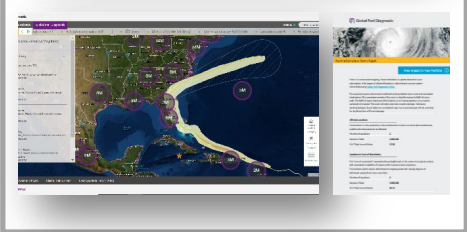
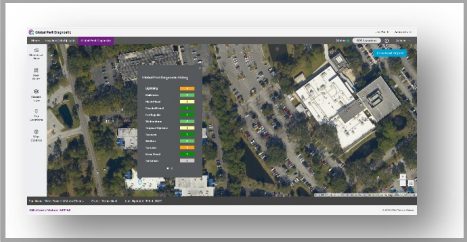


Global Peril Diagnostic

Interactive client insights identifying relative risk for peril & climate conditions via an intuitive risk scorecard, smart mapping and reporting



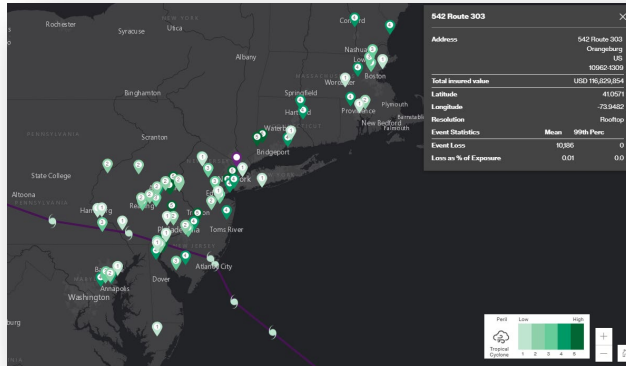
Real time event intelligence streamed via an event ticker, email alerts and impact reports tailored to client exposure (tropical cyclone and earthquake)



This screenshot shows a data table with multiple columns and rows. The columns are labeled with various categories, and the rows represent different data points. Each cell in the table contains a numerical value and is color-coded based on its value. The colors range from green (low values) to red (high values), with yellow and orange in between. The table provides a structured overview of the data, allowing for easy comparison and identification of trends or anomalies.

Property Quantified

- Quantify and predict Natural Catastrophe financial losses
- Run “What-if” scenarios using historical events
- Develop insurance hedging strategies



Filter by Peril

Flood

Filter by Region

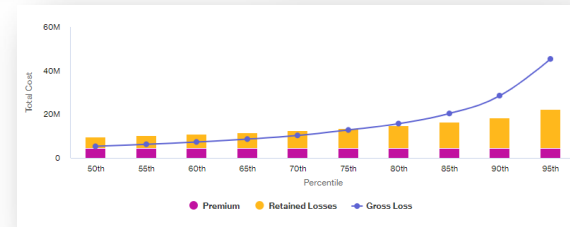
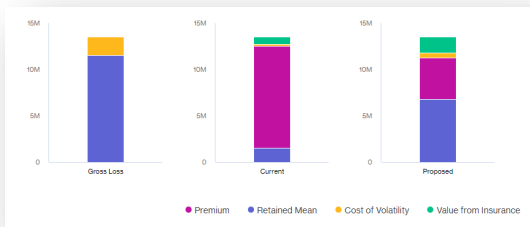
North America

Projected Annual Loss Potential

Expected Number of Claims	0.29
Expected Annual Loss	144,174

Annual Loss Amounts by Percentile

Percentile	Loss
50th (1 in 2 Year Event)	0
75th (1 in 4 Year Event)	0
90th (1 in 10 Year Event)	159,553
95th (1 in 20 Year Event)	465,227
99th (1 in 100 Year Event)	2,374,129
99.5th (1 in 200 Year Event)	4,370,463
99.8th (1 in 500 Year Event)	9,289,522
99.9th (1 in 1,000 Year Event)	16,658,769



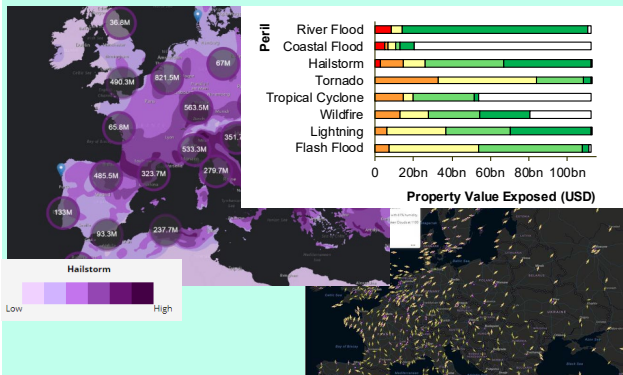
Physical Risk Proposition

Understand your climate risk

Identify Hazards



- Review exposure: assess portfolio against 12 climate and natural catastrophe perils
- Quantify the level of hazard the portfolio is exposed to using WTW's proprietary hazard analytics tool



Quantify Current Climate Risk



- Model the current portfolio of risks for key perils / regions identified in Stage 1
- Takes into account the vulnerability of the assets as well as the level of hazard to calculate the probability of different losses
- Calibrate the model to past events
- Increase understanding of the current vulnerability of the portfolio

<i>All values \$m</i>		Expected Annual Loss	
Return Period (Years)	Probability of Exceedance	River Flood	Wildfire
1 in 5	20.0%	\$ 25.0	\$ 10.0
1 in 10	10.0%	\$ 30.0	\$ 50.0
1 in 100	1.0%	\$ 100.0	\$ 300.0
1 in 200	0.5%	\$ 250.0	\$ 750.0
1 in 500	0.2%	\$ 500.0	\$ 1,000.0
Mean:		\$ 20.0	\$ 18.0

Example output

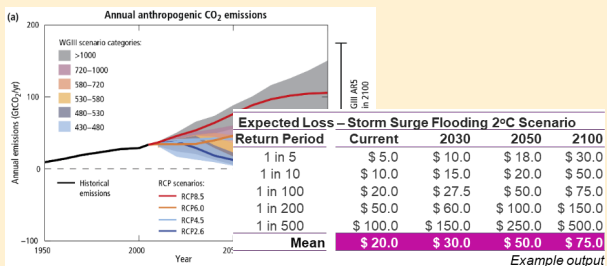
Physical Risk Proposition

Understand your climate risk

Quantify Future Climate Risk



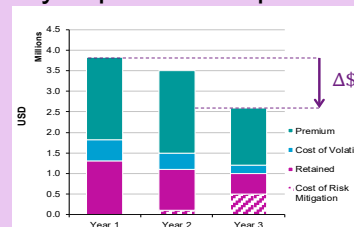
- Model future portfolio of risks for key perils/regions identified in Stage 1 & 2
- Model at different time periods (i.e. 2030, 2050, 2100) and climate scenarios (i.e. 1.5°C, 2°C, 4°C)
- Compare with the output of Stage 2 to determine the impact of climate change on the portfolio risk



Climate Risk Mitigation Advice



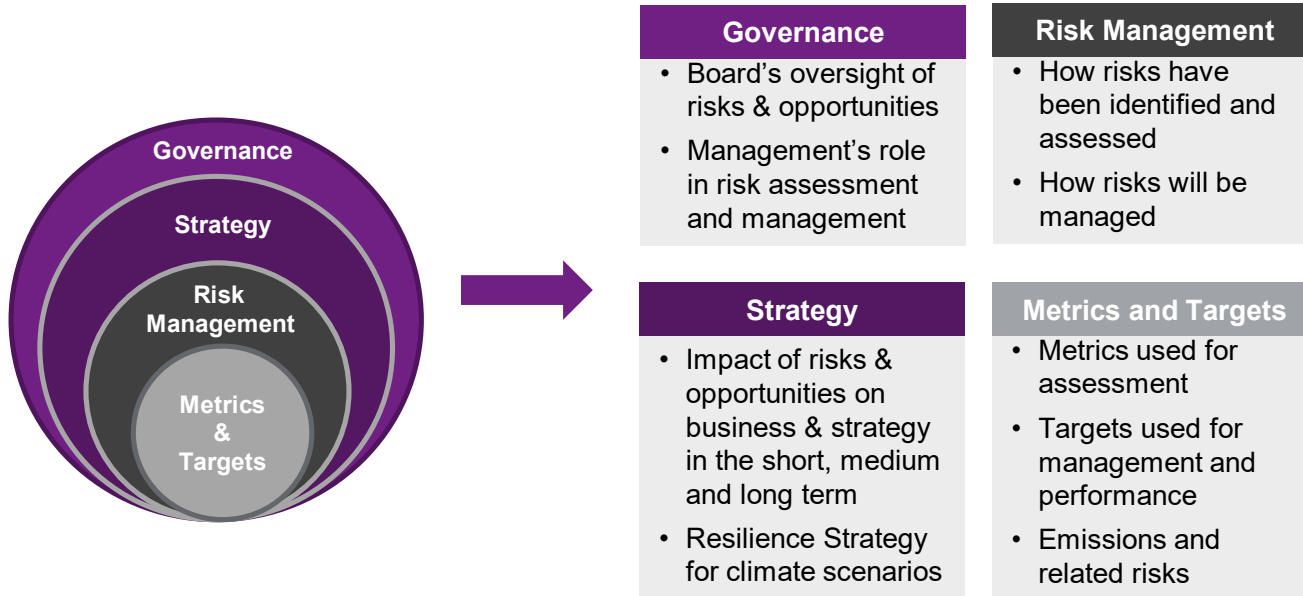
- Risk Financing and Mitigation measures to reduce the financial loss potential of climate change
- Identification of loss drivers that should be the focus for risk mitigation measures
- Tailored risk mitigation for loss drivers by peril and associated cost to implement
- Ranking of importance of these mitigation measures by impact to the portfolio



TCFD Guidance

A Climate Risk Management Framework

TCFD develops recommendations in 4 thematic areas that are applicable to organisations across sectors and jurisdictions, promoting transparency and financial stability



Transition Risk Proposition

Understand your climate risk

Transition Risks and Opportunities

- Transition risks and opportunities in line with the physical impacts of Climate Change modelled in physical analysis.
- Workshop to identify transition risks and opportunities in line with the TCFD categories; i.e. Regulatory, Market, Technological and Reputational risks
- Assign ranges of financial impact and probability of scenarios occurring
- Embed process within risk framework

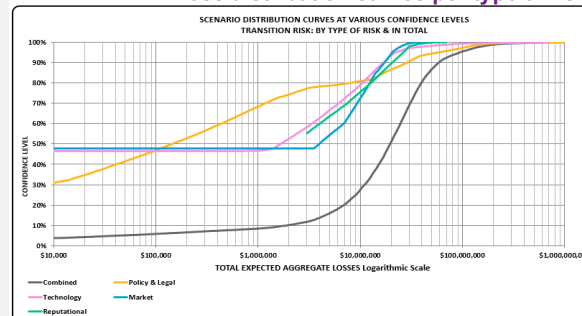
#	Transition Risk Name	I	L	GRS
1	Increased pricing of GHG emissions (Policy & Legal)	4	4	16
2	Changing consumer demand (Market)	4	3	12



Quantification of Transition Risks

- Quantification of the top transition risks and / or opportunities, split by risk scenario via our proprietary LossPIQSM process
- Enables the comparison of financial impact by region or by climate change scenario

Loss distribution curves per type of risk



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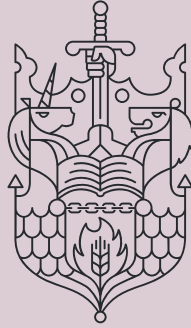
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Together, we unlock potential.



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Sensory Awareness

Tina Winwood and Lisa Johnson

Sensing Change



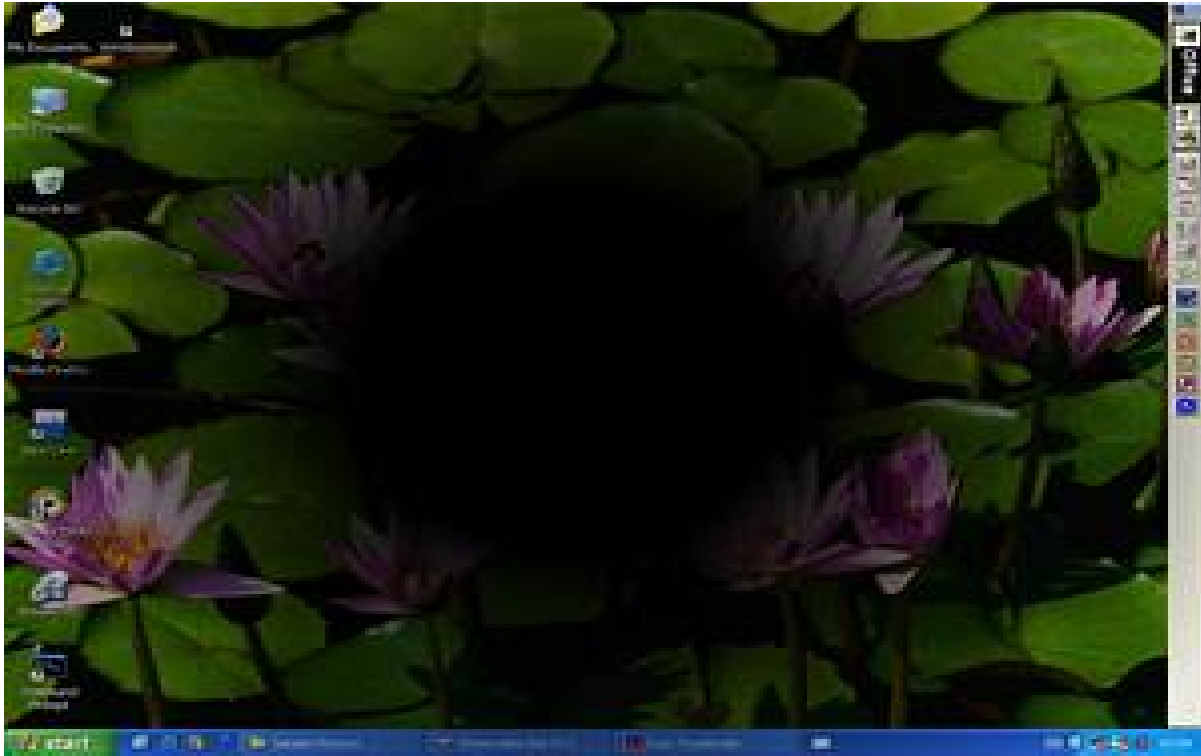
Visual Impairment Awareness Training



What sight condition is this ?



What sight condition is this?



What sight condition is this ?



What sight condition is this?

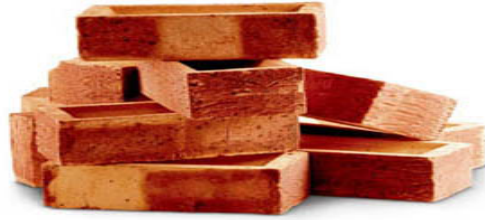


What sight condition is this?



What is this sight condition ?





Guidelines for communication

- Introduce yourself.
- Ask the person about their sight, what can they see
- Announce when you enter or leave a room
- Ask where best for you to sit or stand
- Never leave a person in an empty space
- Don't worry about saying things like "nice to see you" or "did you watch the Royal Wedding"
- Don't be afraid to ask the person if they need any help or support.
- Maintain eye contact

Registration as Blind and Partially Sighted

- There are two categories of registration;
- Sight impaired (partially sighted) or Severely Sight Impaired (blind).
- Each local council keeps a register of visually impaired people in their area.
- Registration can qualify a person for certain concessions and benefits.
- Registration is completely voluntary but for some concessions it is essential.
- Registration happens in two stages; firstly you need to be certified by an Ophthalmologist at the Eye Clinic.
- The certificate of registration is forwarded to your local authority services who will then process your registration and offer you an assessment.

Sight loss
Equipment Available

What we provide

- LLI, liquid level indicator
- Bump ons
- Symbol canes
- Guide canes
- Long canes
- White support sticks
- Signature guides



What we demonstrate

- Floor standing lamp
- Task lamps
- Pen friend
- Colour detector
- Boom box
- Large button keyboards
- Writing frames



Electronic

Can enlarge the text and change colour font and background.



Talking objects



BASIC DEAF AWARENESS



Three main types of deafness

- **D / deaf**
- **Hard of Hearing**
- **Deafened**

Conductive Hearing Loss

- *Can be treated*
- Glue Ear Perforation
- Head Injury Effects of surgery
- Colds & Flu – Ear Infections
- Foreign object in the ear



Sensorineural Hearing Loss

- *No cure – damaged Cochlea*
- Measles; Mumps
- Rubella
(German Measles)



- Chemotherapy

- Occupational Deafness



Social Deafness

- Age related deafness



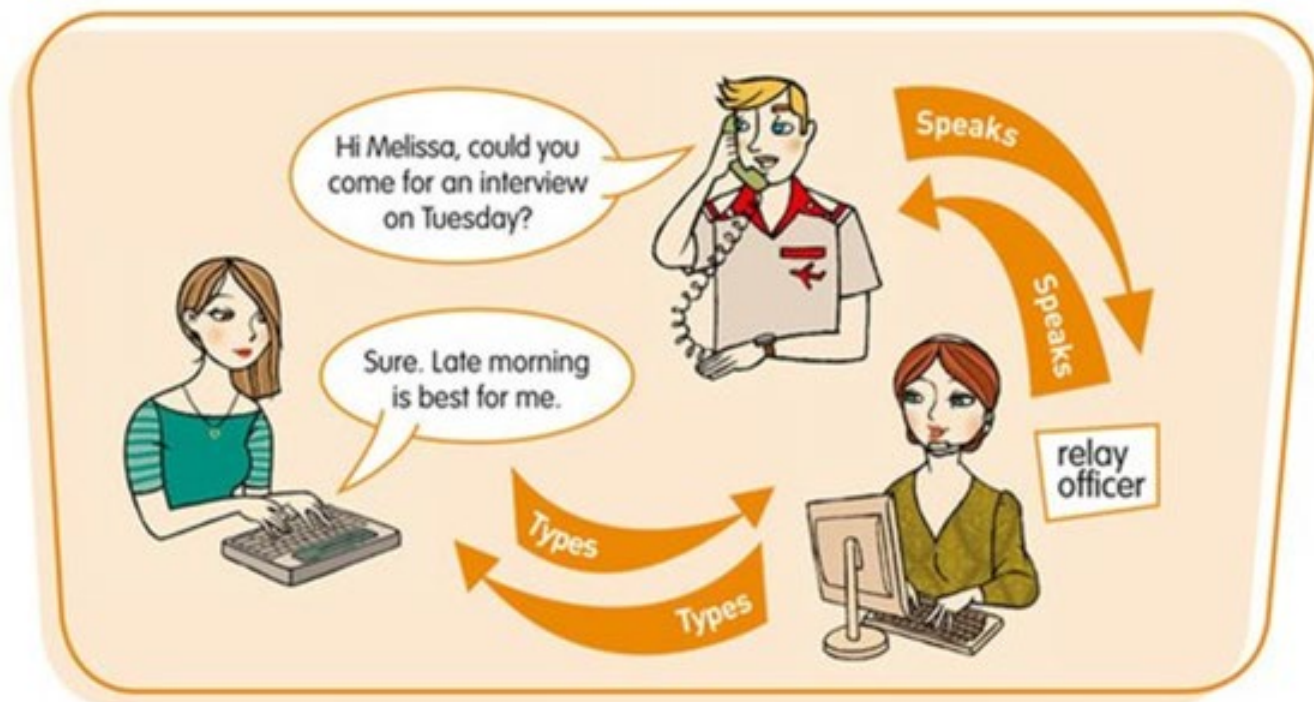
Equipment Available



- Pager System



Text Relay Service



Terminology

- Describing Deaf & Hard of Hearing People
- ACCEPTABLE:
- Deaf – with / without speech
- Profoundly deaf
- Deafened
- Partially Hearing
- Hard of Hearing
- Hearing Loss
- Hearing Impaired

Terminology *contd.*

- Not Acceptable:
- Deaf and Dumb
- Deaf Mute
- Cloth Ears

Communication Tips

- Please do not shout
- Make them aware you are there!



- Don't stand with your back to the light



- Check that the background noise is kept to a minimum.
- Do not eat or chew while speaking.
- Don't write while talking and speak slowly and clearly.
- Never say "it doesn't matter".

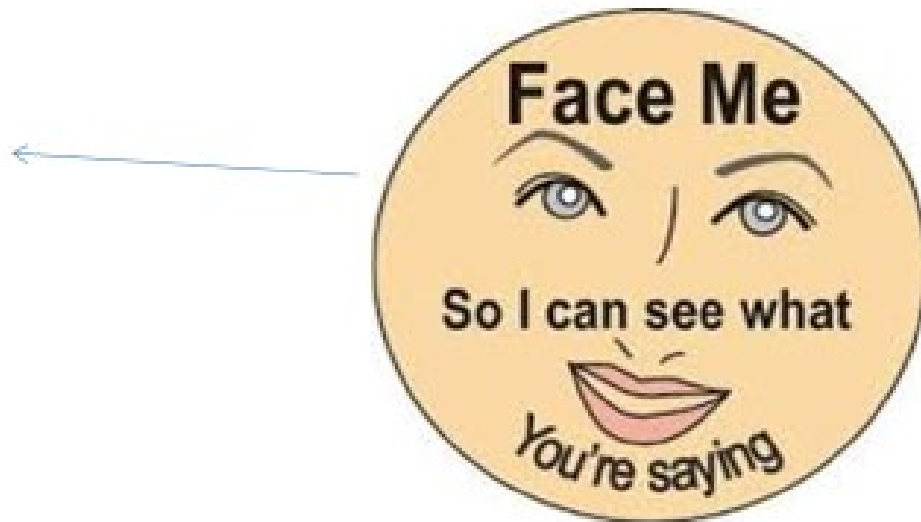
Lipreading

- Only 30% of speech is lip readable.
- Many lip shapes looks the same, but the sounds are different.

Examples:

P, B, M

Ch, Sh, J



Useful Links

- Further information can be found on the following websites:
- **RNIB** www.rnib.org.uk
- **Macular Disease Society** www.macular-disease.org.uk
- **Glaucoma Association**
www.glaucoma-association.com
- **Diabetes UK** www.diabetes.org.uk
- **Charles Bonnet Syndrome** (see **RNIB** website)

Sensing Change

Tel: 01473 260030

www.sensingchange.org.uk



@sensingchange



The Insurance Charities

The only charity in the UK &
Ireland solely supporting
employees from the
insurance sector



the insurance charities
for the things you can't insure against

- It helps those in the UK or Irish insurance industry including the Channel Islands and Isle of Man.
- Provides support where there is restricted financial means in terms of income and capital, and where an element of misfortune has arisen.



the insurance charities
for the things you can't insure against

What support it provides

- Ongoing and one off financial help
- Practical help with benefit applications and money management
- Partnerships with other charities to provide practical support



the insurance charities
for the things you can't insure against

Support we have provided in 2018/19



the insurance charities
for the things you can't insure against



£1.7 million

We gave out over £1.7 million to help current and former insurance employees and their families across the UK and Ireland



We made
836 awards
totalling
£1,700,000



Largest award **£43,000** being loan to repay debts incurred during period of ill health

Smallest award **£45** being for a professional membership fee

Some of the ways we've been able to help



£614,599
Day to day hardship



£18,675
Furniture & appliances



£11,770
Counselling



£20,263
Wheelchairs, scooters & trikes



£64,429
Family holidays



£71,835
Educational grants



£1,200
Assistance dog



£1,969
School uniform



£21,483
Funeral contributions



£61,660
Property adaptations



£36,111
Nursing home costs assistance



£685,833
Improving financial capability



251

Christmas hampers



68

Summer hampers

Dementia support

- Innovative partnership with Alzheimer's Society launched in 2019
- Fast-track support for you or a loved one
- Support could include regular phone calls, signposting to local groups or a referral to a specialist dementia adviser
- Volunteering opportunities to support those living with dementia



www.insurancecharities.org.uk/dementia



the insurance charities
for the things you can't insure against

Tackling domestic abuse

- Approximately 1 in 4 women and 1 in 6 men will suffer domestic abuse in their lifetime.
- 75% of those suffering from domestic abuse are targeted at their place of work.
- Toolkit available free to download in the Get Involved section of the website.



“Thank you so much for your financial help. It will make my life so much easier.”

“Thank you so much for your offer of support. I don’t think you could ever know the impact your help has had on this family.”

“Following a recommendation from a colleague, who was also in the industry, we contacted you to see if you could offer any assistance. My wife and I were completely overwhelmed with your amazing service and financial support.”

“You are an amazing charity and we just can’t thank you enough.”



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Further information

www.theinsurancecharities.org.uk

Follow: [@InsCharities](https://twitter.com/InsCharities)

Email: info@theinsurancecharities.org.uk

Insurance Charities Awareness Week
22-26 June 2020



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5 Things I have learned as a Working Woman

Sam Newman, Hiscox



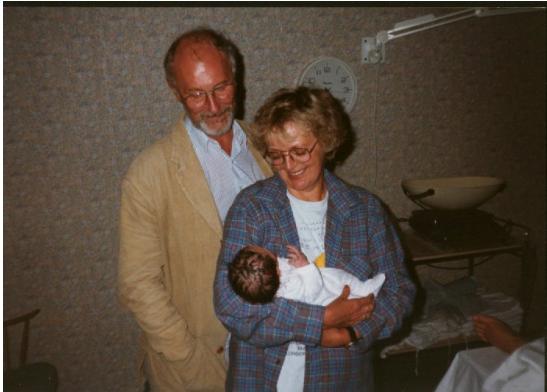
5 things I have learned

- Lean in
- You can't have it all
- Fake it 'til you make it
- Don't ask, don't get
- Be memorable

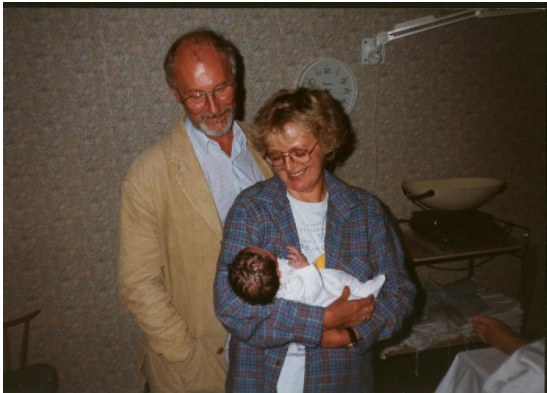
Who am I?



Who am I?



Who am I?







Mars Confectionery



Mars Confectionery







Lesson 1

“Lean in”

Sheryl Sandberg

Desperate for a baby...



Readi-bake

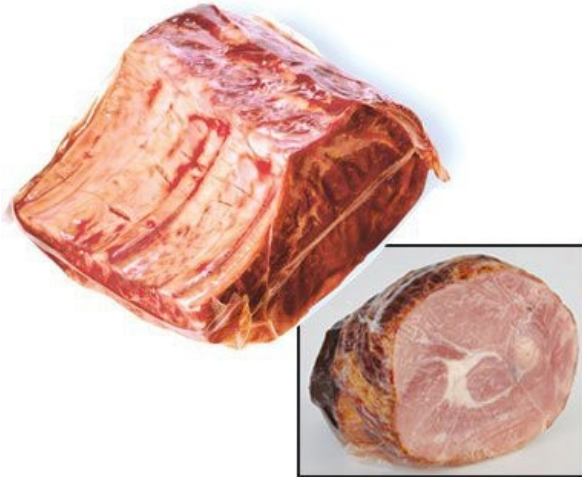


Lesson 2

You can't "have it all"

Sealed Air Cryovac

CRYOVAC®



Lesson 3

Fake it till you make it



Mind your language!

Don't undermine yourself

- Sorry
- Does that make sense?
- Disclaimers
- Uptalk
- Question instead of statement

Lesson 4

Don't ask, don't get

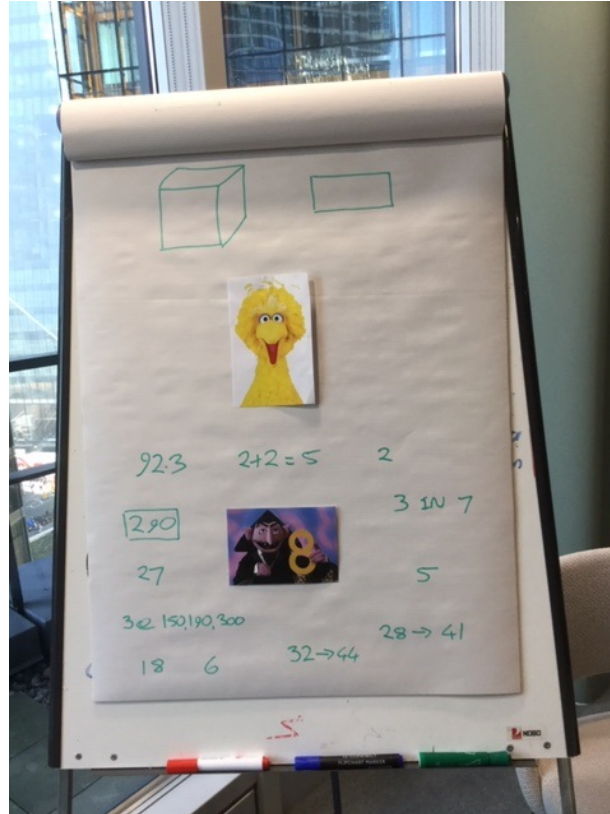




Lesson 5

Be memorable

Be memorable



5 things I have learned

- Lean in
- You can't have it all
- Fake it 'til you make it
- Don't ask, don't get
- Be memorable

THANK YOU





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and North Essex
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The Grenfell Tower fire

Graham Denny, Wordley Partnership



Roadmap

- Brief facts
- Lessons of the past not learned
- Regulatory context
- Legal landscape
- Investigations post Grenfell
- Insurances impacted in claims
- Impact of Grenfell
- Wider on-going issues

14 June 2017

- Location – North Kensington, West London
- The Tower
 - 27 storey block
 - Designed in 1967, constructed 1974 and refurbished (£8.6m) 2016
 - Refurbishment included new exterior cladding (aluminium composite materials panel (“ACM”) made of an insulated core sandwiched between two 0.5mm aluminium sheets), replacement windows and communal heating system
- 129 Flats across 21 residential floors and 3 levels of mixed use.
- Fire broke out on 4th floor
- Between the first 999 call at 0054 hours and 0807 hours 227 people escaped from Grenfell tower of whom 2 later died in hospital. A further 70 died in the Tower.

Cause

- Start of the fire was Hotpoint brand fridge freezer in Flat 16
- Did the building design comprise the resilience of the building design:
 - Doors installed failed fire tests – only withstand fire for 15 minutes when meant to withstand fire for 30 minutes – Kensington and Chelsea Council acknowledged that the doors tested provided less protection than guidelines recommend.
 - Cladding – ACM
 - Selected over the more fire resistant version and which was £2 per square metre cheaper;
 - Less fireproof than other alternatives;
 - Even if fitted correctly should resist fire;
 - Gap between cladding and building acts as a chimney to spread fire upwards and downwards;
 - Catalyst – fire spread from 4th floor to top floor in only 15 minutes.

Press Headlines

- *“Murder by numbers: the legacy of the Grenfell Tower Fire”* (New Statesman)
- *“Disaster waiting to happen”* (Daily Telegraph)
- *“They were told it was safe”* (The Sun)
- *“Disaster in 15 minutes – residents had warned building was “firetrap”* (The Times)
- *“Grenfell Tower doors resisted fire for half the time expected”* (UK Construction week)
- *“Met Police may press manslaughter charges, which could see individuals jailed”* (The Independent)

The Past Revisited?

- Early 1990s use of composite sandwich panels (typically aluminium faced which had a combustible expanded polystyrene foam core) as a covering for internal insulation was widespread in food industry.
- BUT use waned after a number of fires:
 - Sun Valley Poultry Fire (1993)- 2 firefighters killed and £80m of property and business interruption losses incurred;
 - Pride Valley Foods (1995), Durham- Project manager found negligent in failing to advise Pride Valley as to the characteristics of EPS panels;
 - Shaib Foods - Southall fire (January 1998) – architects negligent for failing to advise the owner to fit fire resistant panels.

The Past Revisited cont'd

- Late 1990s:
 - Propensity of EPS panels to promote spread of fire was well known.
 - No longer specified for internal use within food plants The associated litigation however took longer to work its way through (mid 2000s).
- Following 1999 Ayrshire residential fire House of Commons Environment, Transport and Regional Affairs Committee conducted investigation into cladding materials:
 - Noted concerns with the risk of unexpectedly rapid fire spread involving cladding systems;
 - Concluded on evidence seen it did not suggest that the majority of the external cladding systems in use in the UK posed a serious threat to life in the event of fire.

Global Position

- Before 2017 the use of ACM cladding had been implicated in the rapid spread in a number of fires:
 - Mermoz Tower (Roubaix, France, May 2012);
 - Tamwell Tower (Dubai, UAE, November 2012);
 - Lacrosse Building (Melbourne, Australia, November 2014);
 - The Torch (Dubai, UAE, February 2015);
 - The Address (Dubai, UAE, December 2015).

Regulatory context

- Para B4 (1) Schedule 1 to the Building Regulations 2010:

“The external walls of the building shall adequately resist the spread of fire over the walls....having regard to the height, use and position of the building.”

- Guidance of compliance provided by Approved Document B, Fire Safety 2006:

“12.5 The external envelope of a building should not provide a medium for fire spread if it is likely to be a risk to health and safety. The use of combustible materials in the cladding system and extensive cavities may present such a risk in tall buildings

...

Insulation Materials / Products

12.7 In a building with a storey 18m or more above ground level any insulation product, filler material (not including gaskets, sealants and similar) etc. use in the external wall construction should be of limited combustibility (see Appendix A)..”

Regulatory Context Cont'd

- Guidance available in 2014 included the following:
 - The 2014 iteration of Risk Control document 7 *“Recommendation for hot work”* (a supporting document for the Fire Code, published by the Fire Protection Association on behalf of RISC Authority), alluded to the possible combustibility of the filler in sandwich panels.
 - A 2008 paper (delivered by the author of BR 135) *“External Fire Spread – the testing of building cladding systems”* referred to the potential for fire to spread via cladding systems.
 - BRE report BR 135 *“Fire performance of external thermal insulation for walls of multi-storey buildings”* (3rd edition BRE (2013)) noted the critical importance of cladding systems in relation to the spread of fire.

Post Grenfell

- Insurance pay out:
 - Kensington and Chelsea Council received payment under £24.5m pay out from property/buildings insurance.
- Over 500 buildings identified (hospitals, universities and schools) as having high risk cladding.
- Owners and managers in the hotel, office, commercial and leisure sectors realising that the buildings within their portfolios may be at risk.
- Leaseholders facing significant bills to fix cladding that freeholders and developers refusing to fund. Homes unmortgagable.
- Issues now arising as to the payment for undertaking the remedial work.
- Whilst it is possible that the building regulations have simply been ignored it is also possible that they have either been misinterpreted or misunderstood.
- The US manufacturers removed the cladding from sale in the UK after the disaster on 14 June 2017.

Legal Landscape

- Professional negligence occurs where a professional fails to perform his responsibilities to the required standard. A claim may be based on one or more of the following:
 - Breach of a contractual term (express or implied);
 - Breach of duty of care owed in the tort of negligence;
 - Breach of fiduciary duty;
 - Breach of statutory duty.
- As a general rule, professionals are taken to have assumed responsibility towards their clients and so owe both a duty of care in tort and contractual obligations.
- Although the term gross negligence is sometimes found in commercial documents, it has never been accepted by English civil law as a concept distinct from simple negligence (*Tradigrain SA and others v Intertek Testing Systems (ITS) Canada Ltd and another* [2007] EWCA Civ 154, Moore-Bick LJ) – although see Gross Negligence Manslaughter.

Legal Landscape – Contractual Duties

- Contractual Duties:

- What does the contract stipulate?
- The Sale of Goods Act 1979 implies several terms relating to the goods:
 - A condition that the goods conform to their description (section 13);
 - A condition that the goods are of satisfactory quality, meaning that they must meet the standard that a reasonable person would regard as satisfactory taking into account description, price, appearance, finish, freedom from minor defects, safety, durability and fitness for all normal purposes (sections 14(2), 14(2A) and 14 (2B));
 - A condition that the goods will be reasonably fit for purpose (section 14(3)).
- The Supply of Goods and Services Act 1982:
 - In relation to materials, sections 3 and 4 of the Act imply the same terms as sections 13 and 15 of the Sale of Goods Act;
 - For the work element of the contracts, the Supply of Goods and Services Act implies the term that the service provider will carry out the service with reasonable skill and care (section 13).

Legal Landscape - Negligence

- Negligence: breach of the duty of care:
 - Typical claim on a construction project is a failure to perform services in accordance with the appointment. That is, X has failed to act within the implied or express duty of care in their appointment.
 - Basic requirements:
 - **Duty of care.** The defendant owes the claimant a duty not to cause the type of harm suffered.
 - **Breach of duty.** The defendant breached the duty owed.
 - **Causation.** This has two elements, both of which must be proved:
 - factual causation: the claimant must prove that, but for the defendant's negligence, the claimant would not have suffered loss; and
 - legal causation or remoteness: whether the defendant's negligence was the legal cause of the loss.
 - Generally, a person's conduct must conform to the standard of a person of normal intelligence. However, a person may hold himself out as being possessed of special skill.
 - Professional Codes: These might also affect the level that the contractor or professional is held to.

Legal Landscape – Statutory Duties

- Defective Premises Act 1972:
 - centre stage for claims brought by owners / leaseholders against building companies and contractors as they take *“on work for or in connection with the provision of a dwelling”* and consequently owe the statutory duty: *“to see that the work which takes on is done in a workmanlike or, as the case may be , professional manner.. So that as regards that work the dwelling will be fit for habitation when completed”*;
 - Defence s. 1(2)
 - *“A person who takes on any work for another on terms that he is to do it in accordance with instructions given by or on behalf of that other shall of that other shall, to the extent to which he does it properly in accordance with those instructions, be treated for the purposes of this section as discharging the duty imposed on him by subsection (1) above except where he owes a duty to that other to warn him of any defects in the instructions and fails to discharge that duty”*;
 - S. 1(4)
 - “A person who-*
 - (a) *In the course of a business which consists of or includes providing or arranging for the provision of dwellings or installations in dwellings; or*
 - (b) *In the exercise of a power of making such provision or arrangements conferred by or by virtue of any enactment;**arranges for another to take on work for or in connection with the provision of a dwelling shall be treated for the purposes of this section as included among the persons who have taken in the work”.*

Legal Landscape – Statutory Duties

- Civil Liability (Contribution) Act 1978:

“any person liable in respect of any damage suffered by another person may recover contribution from any other person liable in respect of the same damage whether jointly with him or otherwise” (section 1(1)).

Legal Landscape – Statutory Duties

- *The Corporate Manslaughter and Corporate Homicide Act 2007 (CMCHA 2007):*
 - It creates the offence of corporate manslaughter for organisations;
 - The offence replaces the common law offence of manslaughter by gross negligence for companies. An organisation will be guilty of the offence if all of the following apply:
 - The way in which its activities are managed or organised causes a person's death;
 - The person's death is the result of a gross breach of a relevant duty of care owed to that person;
 - The way in which senior management managed or organised the organisation's activities is a substantial element of the breach.
- **Breach of Health and Safety**
 - Employers and the self employed have duties under section 3 of the Health and Safety at Work Act 1974
 - Duty – to conduct their undertaking in such a way to ensure the public are not exposed to health and safety risks;
 - “Undertaking” – work carried out in the course of business;
 - Key test - whether duty holder can exercise control over both the conditions at work and where activity takes place;
 - Criminal prosecutions.
- **Gross Negligence Manslaughter – committed where death is a result of a grossly negligent (though otherwise lawful) act or omission on the part of the defendant. Defendant owed a duty of care, breached that duty of care in a manner which was grossly (criminally) negligent – indictable offence.**

Legal Landscape

- Causation
 - What is the cause of the loss?
 - Cladding alone?
 - Cladding plus other fire safety defects?
 - Which defects cause building to be “unfit for habitation”?
 - It is often the non-cladding defects that render cladding unsafe as opposed to non-compliant with B Regs.

Legal Landscape- Limitation

- Many buildings requiring remedial works will have been constructed years ago.
- Contractual claims:
 - Standard limitation 6 years for contract or 12 years for a deed;
 - But Contracts can look to vary limitation period:
 - Inframatrix v Dean Construction Limited [2012] EWCA Civ 64 – limitation period of 1 year.
 - Contractual limitation periods will not bind third party claims (Bloomberg LP [2015] EWHC 2858 (TCC)).
- Negligence:
 - 6 years from date of negligent act (accrues when a quantifiable or ascertainable loss is suffered);
 - 3 years from first knowledge of the cause of action (s. 14A Limitation Act 1980);
 - BUT overriding 15 year long stop from act of negligence giving rise to damage;
 - Contractual reduction of limitation period.

Legal Landscape- Limitation

- Defective Premises Act – “*at the time when the dwelling was completed*” but if further work undertaken to rectify work done then “*at time when further work is finished*”:
 - Date of completion, but completion of what? A range of possibilities applicable to different factual scenarios: date of issue of Final Certificate; date of completion or construction – “Practical completion”; date of “completion of flat” or when it is deemed “finished” within meaning of the purchase of contract;
 - Range of possible dates: date of issue of consultant’s certificate; six years from date of consultant appointment or collateral warranty; date of damage for tortious action; section 14A; date of knowledge.
- Civil Liability (Contribution) Act 1978 - *Section 10* of the Limitation Act 1980 a claim must be brought within 2 years from the date on which the person seeking a contribution is held liable by a judgment or arbitral award (section 10(3)) or where the person seeking contribution makes, or agrees to make, any payment in compensation for the damage, the earliest date on which the amount to be paid by them is agreed (section 10(4)):
 - The Court of Appeal has clarified that this two-year limitation period runs from the date on which the amount of damages were assessed and not from the date on which judgment on liability was given (*Aer Lingus v Gildacraft Ltd and another [2006] EWCA Civ 4*).

International Liabilities

- Claims by survivors and families of victims of Grenfell against US manufacturers of the cladding and insulation:
 - Arconic – manufactured the aluminium composite cladding;
 - Celotex – made the insulation;
 - Saint Gobain – Celotex’s parent.
- Law suit lodged at Court in Philadelphia:
 - Arconic sold the cladding material knowing as early as 2011 that the cladding panels eventually used were “not suitable for use on building facades”;
 - Celotex were concerned as early as 2013 about how the insulation would behave in a fire when used with cladding panels;
 - Whirlpool, which manufactured the Hotpoint brand fridge freezer where the fire started, is also being sued in the claim.
- Any trial in the US not likely to start until the end of 2021.

Official Public Enquiry (Sir Martin Moore Bick)

- Survivors and relatives of the victims began giving evidence to the inquiry in December 2017.
- More than 530 individuals and organisations have been granted core participant status for the inquiry.
- Believed to be the largest number of accredited to a public inquiry in the UK.
- May 2018 – Govt agreed for two experts to sit with Sir Moore Bick.
- Delays caused recently over demands from companies and individuals involved that their evidence should not be used to help incriminate them.
- Undertaking provided by the Attorney General for natural persons and not legal persons.

Official Public Enquiry (Sir Martin Moore Bick)

- Comments from Sir Moore Bick so far:
 - In no doubt that Grenfell’s refurbished exterior walls were not compliant with building regulations;
 - Emergency Control Room staff could not cope with the calls -
 - Report makes clear that the control room supervisors appeared not to manage the volume of calls;
 - Teams on the ground struggled -
 - No training on how the materials used to refurbish Grenfell would behave in a fire;
 - Institutional failings;
 - Nobody had an overall full understanding of how to prioritise rescues -
 - “Stay Put” strategy should have been abandoned sooner. But strategy had become an “article of faith” within the London Fire Brigade so to depart from it was “unthinkable”.

Review into Building Regulations – Dames Judith Hackitt

- 18 December 2017 - Interim Report published -
 - Called for a universal shift in culture

- 16 May 2018 – Final Report Published -
 - Set out more than 50 recommendations incl:
 - A new regulatory frame-work for multi-occupancy higher-risk residential buildings;
 - A mandatory incident reporting mechanism;
 - New dutyholder roles and responsibilities aligned with the Construction (Design and Management) Regulations 2015;
 - More rigorous enforcement powers;
 - More effective testing regime with clearer labelling and product traceability;
 - Reducing desktop studies rather than physical testing of materials or systems;
 - Criticism that the review did not call for a ban on flammable cladding.

Police Enquiry

- Looking into offences including manslaughter, corporate manslaughter, misconduct in public office and breaches of fire safety regulations.
- Over 31 million documents have been collated and 2,500 physical exhibits.
- 1,144 witnesses have given statements and over 300 companies are part of the investigation.

Impact of Grenfell – Govt Action

- Govt banned the use of aluminium composite materials in high rise buildings from December 2018.
- Govt also made funding available to registered social landlords and other public building owners to have ACM materials removed from existing buildings and has given local authorities powers to remove ACM materials from privately owned buildings and to pursue the building owners for the resulting costs.

Insurances Impacted in Claims

- Property / Buildings Insurance:
 - Change in material to cheaper materials – who knew what and what was disclosed;
 - Limits of indemnity;
 - Scope of indemnity:
 - Loss or damage triggers?
 - Does cladding constitute damage?
 - Defective design / part exclusions
- Professional Indemnity policies:
 - Retroactive Date;
 - Use of inferior materials – reckless / wilful behaviour exclusions;
 - Limits of indemnity;
 - Aggregation issues with multiple claims.

Insurances Impacted in Claims

- Directors and Officers Liability:
 - Covers directors and senior management;
 - Triggers:
 - Claims;
 - Notice of Formal Investigations;
 - Cover:
 - legal advice and representation costs in investigations and civil claims;
 - damages in civil claims;
 - Coverage issues:
 - Limits – cover in the aggregate;
 - Dishonesty exclusions:
 - Final judgment, tribunal findings, admissions;
 - Clawback.

Impact of Grenfell - Insurance

- Significant impact on the insurance market and construction industry.
- Professional Indemnity Insurance for Construction Professionals and Construction industry:
 - Substantial increase in the number of notifications to insurers;
 - Some insurers withdrawing from this insurance sector;
 - Rise in notifications and claims:
 - Increase in premiums in some cases 300% to 400% increases;
 - Change of scope of cover offered:
 - Changes from “each and every claim” to “aggregate” limits;
 - Exclusions now not just for combustibile cladding to broader for all cladding;
 - Lower limits of insurance being written;
 - Insurers are dictating that insureds cannot become involved in advising on buildings that need external cladding systems replacing;
 - Insurers fearful that buildings needing remediation work will still be at risk and in the event of a subsequent fire, those involved in advising on and implementing remedial schemes will face subsequent round of claims from building owners and other stakeholders.

Impact of Grenfell - Insurance

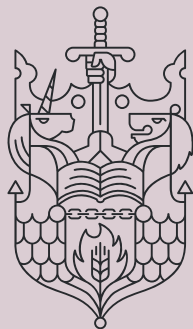
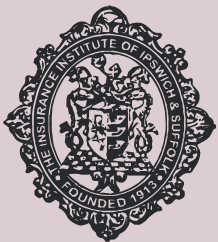
- Property Insurance:
 - Less affected than PI insurance;
 - Increased questions in relation to composition of building and refurbishment works;
 - Increased premiums and larger excesses;
 - Difficulties in obtaining insurance for affected high-rise buildings.

Practical Issues – legal landscape

- Legal Landscape affected by a number of issues:
 - Media Focus:
 - Accuracy of reporting;
 - Emotional nature of the event;
 - Political positioning;
 - Legal positioning ahead of and during investigations;
 - Outcomes of investigations and criminal actions;
 - Civil claims often are not commenced until after the outcomes of investigations and criminal actions are known.

Wider Issues

- Cost of remedial work:
 - Over 500 high rise buildings (over 18 metres tall) have Grenfell-style cladding;
 - Govt announced a £400m operation to remove dangerous ACM cladding from tower blocks owned by councils and housing associations (what about other non-ACM dangerous cladding?);
 - What about privately owned buildings -
 - Battle raging as to who is liable for the costs to replace cladding on high-rise residential buildings across the country.
- Insurer response putting at risk many in the construction industry.
- Advice to landlords:
 - Immediate checks should be undertaken to assess type of cladding and take action to remedy problems;
 - Update risk assessments using qualified experts;
 - Review and update evacuation policies and “Stay Put” advice and communicate fire safety advice clearly to residents.



The Insurance
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Blockchains, Cryptoassets and Insurance

Gary Nuttall, Distlytics Ltd



Agenda

- Introductions
- Blockchain(s)
- Cryptoassets
- Insurance
- Wrapup / Q&A

Agenda

- **Introductions**
- Blockchain(s)
- Cryptoassets
- Insurance
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Introduction – Session

Learning objectives

- Able to explain what a Distributed Ledger
- Have an appreciation of how a blockchain can be used
- Be aware of Insurance Use Cases
- Be aware of main insurable risks
- Understand what a cryptocurrency is

Out of scope

- Coding
- Trading

Introduction – Session

Intended audience

1. Assumption is that you have little or no prior knowledge
2. That your interest is from an insurance / finance perspective and not about the technology behind cryptocurrencies
3. That you are not part of a criminal enterprise looking to use crypto to money launder or fund criminal activities

Introduction – Session

Intended audience

News > World > Americas

More than 300 arrested in worldwide sting of ‘largest dark web child sex abuse marketplace run by bitcoin’

Accused include at least five Americans and one Briton

Clark Mindock New York | @ClarkMindock | 4 days ago |



United Kingdom



United States
of America



Germany



Republic of Korea



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Introduction – Session

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Introduction: Me (#GPN01)



Gary Nuttall MBCS CIPD

Providing Blockchain consultancy, insight and education.
Keynote speaker and presenter. ICO Advisor.
London, United Kingdom

Distlytics
Distributed Ledger Analytics
Consultancy & Insight

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Startupbootcamp
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AlliedBank
Human Resource Group

The Guardian
UK edition

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THE TOKEN TO POWER YOUR BUSINESS

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appg **BLOCKCHAIN**

THE CHARTERED INSURANCE INSTITUTE
CII

Chaucer

LLOYD'S

TOM
London Market Target Operating Model

Agenda

- Introductions
- **Blockchain(s)**
- Cryptoassets
- Insurance
- Wrapup / Q&A

Blockchain Primer

- Protocols
- Distributed Ledgers
- Blockchain

Blockchain Primer

- **Protocols**
- Distributed Ledgers
- Blockchain

Blockchain Primer

What is a protocol ?

Business, Socio/Cultural and
Technical



Blockchain Primer

Protocol

TCP/IP (1980's)

HTTP (1990's)

Blockchain (2008)

Blockchain Primer

Protocol	Commonly used for
TCP/IP (1980's)	Internet
HTTP (1990's)	World Wide Web
Blockchain (2008)	Distributed Ledger

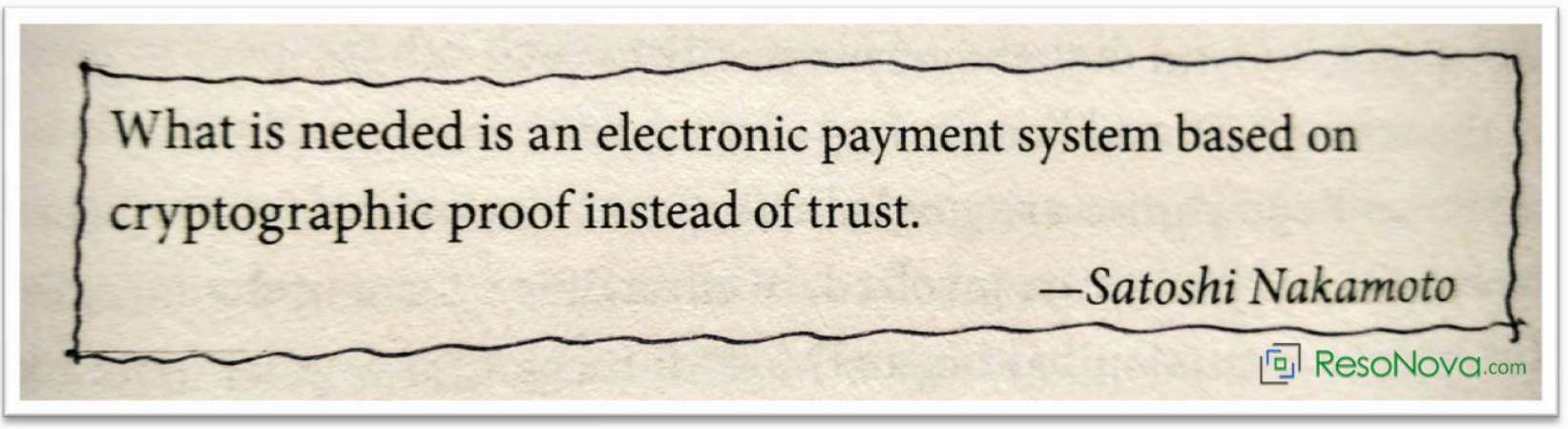
Blockchain Primer

Protocol	Commonly used for	Enables
TCP/IP (1980's)	Internet	Data sharing
HTTP (1990's)	World Wide Web	Displaying information
Blockchain (2008)	Distributed Ledger	Transfer of value

Blockchain Primer

(October 31, 2008 at 2:14 PM, EST) A few hundred members of an obscure cryptography group received an email from somebody calling himself Satoshi Nakamoto.

"I've been working on a new electronic cash system that's fully **peer-to-peer**, with **no trusted third party**," he bluntly stated. The email directed the readers to a nine page whitepaper hosted on Nakamoto's brand new domain, bitcoin.org. BITCOIN and a global financial revolution was born



What is needed is an electronic payment system based on cryptographic proof instead of trust.

—Satoshi Nakamoto

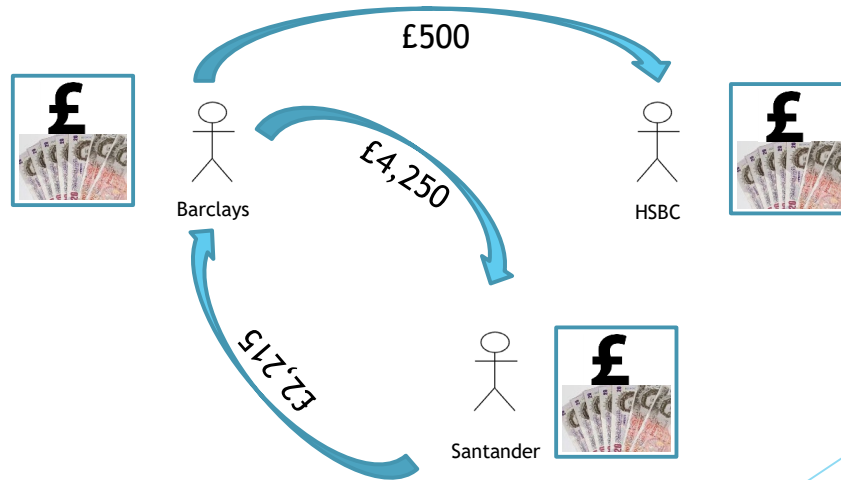
Blockchain Primer

- Protocols
- **Distributed Ledgers**
- Blockchain

Blockchain Primer: Distributed Ledger

...usually lots of transactions

BARCLAYS JOURNAL						
JOURNAL-ID	DATESTAMP	FROM	TO	CURRENCY	AMOUNT	
1	01/01/2016 08:35	BARCLAYS	HSBC	GBP	500.00	
2	01/01/2016 09:45	BARCLAYS	SANTANDER	GBP	4,250.00	
3	01/01/2016 11:35	SANTANDER	BARCLAYS	GBP	2,215.00	



Blockchain Primer: Distributed Ledger

Everyone has a copy of their own ledger

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Blockchain Primer: Distributed Ledger

INEFFICIENT

- **RECONCILIATION** – Need to check that every record of every transaction has been copied to each other's systems correctly
- **AUDIT** – Need to prove that the system works consistently

EXPENSIVE

- **Processing overhead** (needs computing power)
- **Reconciliation systems** need to be designed, developed, tested & supported
- **Excel addicts** writing macros, functions & stuff that goes wrong
- **Auditing overhead** – cost of auditors, audits, etc.
- **Data Quality issues** – End up “working around” problems

SLOW

- **Need to wait** for reconciliations to be executed and verified
- **Audits are after the event** and aren't preventative

Blockchain Primer: Distributed Ledger

SOLUTION!

Merge all the Ledgers into one...

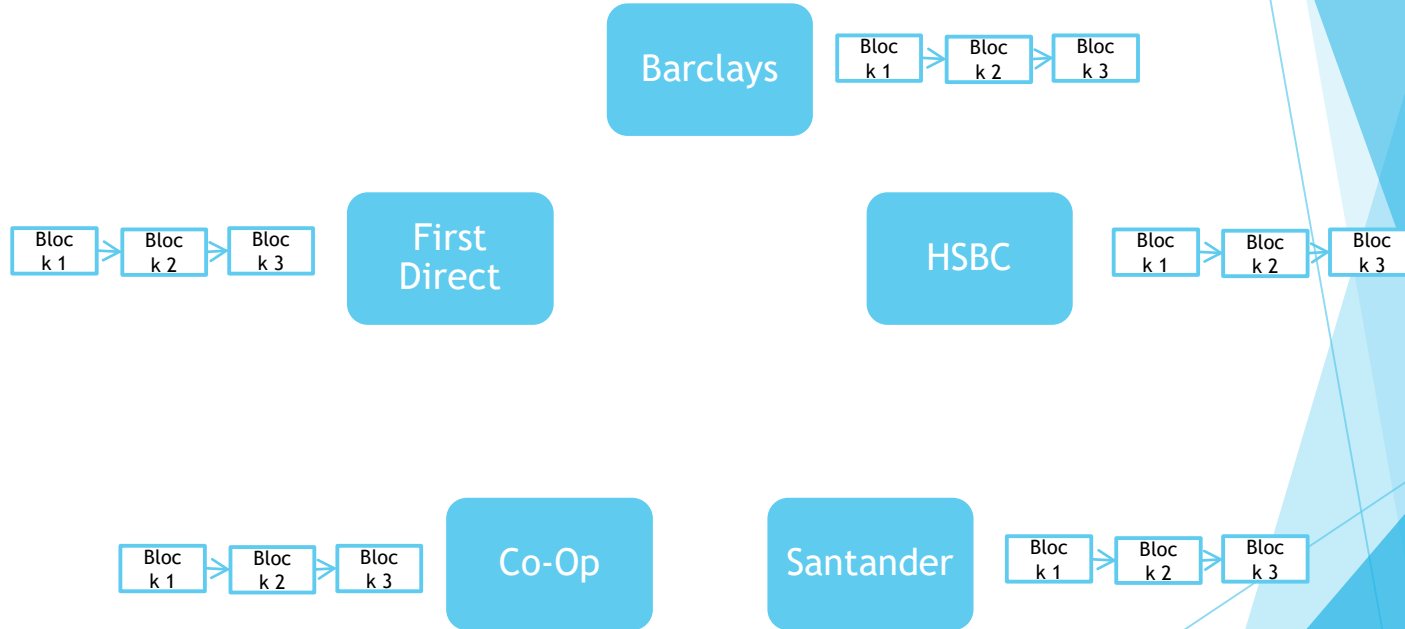
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A Mutual Ledger... Less reconciliation

Blockchain Primer: Distributed Ledger

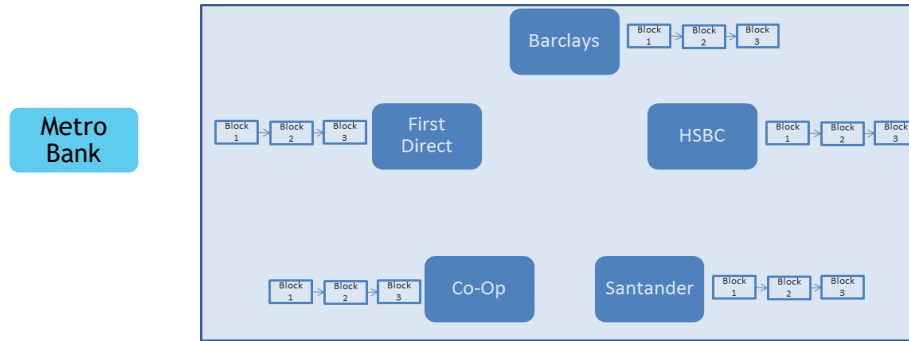
Distribute a copy of the ledger to everyone



...And you have a **Mutual Distributed Ledger**

Blockchain Primer: Blockchain

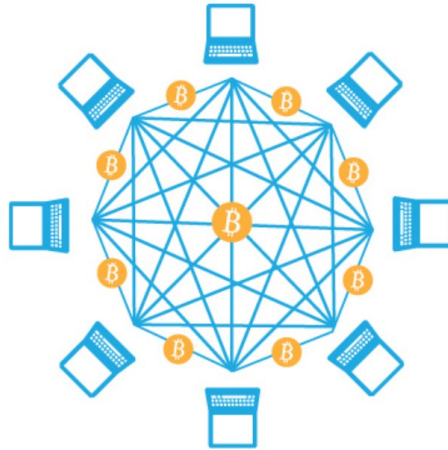
You can restrict access only to members...



... Giving a Private, Permissioned Ledger

Blockchain Primer: Blockchain

You can provide open access to everybody...



... but machine-to-machine payment using the Bitcoin protocol could allow for direct payment between individuals, as well as support micropayments.

Graphic: Deloitte University Press | DUPress.com

...Giving a **Public, Unpermissioned Ledger**

Blockchain Primer: SMART CONTRACTS

Computer program of business logic. Often linked with data sources (“ORACLES”), providing evidence of trigger events...

Weather conditions (Temperature, precipitation), Flight Delays, location (via IoT)

WARNING: Smart Contracts are neither Smart nor Contracts!

Journal ID	Datestamp	FROM	TO	UNIT	IDENTIFIER
1	01/01/2016 11:45:00	ATRIUM	LUFTHANSA	EUR	POLICY123
2	01/01/2016 11:45:01	BEAZLEY	FARMER MCGREGOR	GBP	POLICY234

POLICY12 3	IF (POLICY_IS_ACTIVE AND PREMIUM_PAID AND CLAIM_CONDITION_MET THEN PAY_CLAIM	POLICY234	IF (POLICY_IS_ACTIVE AND PREMIUM_PAID AND CLAIM_CONDITION_MET THEN PAY_CLAIM
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Blockchain Primer

- Protocols
- Distributed Ledgers
- **Blockchain**

Blockchain Primer: Blockchain

A **cryptographic hash** function is a **hash** function which takes an input (or 'message') and returns a fixed-size alphanumeric string. The string is called the '**hash** value', 'message digest', 'digital fingerprint', 'digest' or 'checksum'.




Cryptographic hash function - Simple English Wikipedia, the free ...

https://simple.wikipedia.org/wiki/Cryptographic_hash_function

Blockchain Primer: Blockchain

Imagine a physical ledger, with pages in it

BLOCK 0					PREVIOUS HASH =	
RECORD	DATETIME	FROM	TO	VALUE	UNITOFMEASURE	
1	01/01/2018 10:23	GARY	JANE	100	GBP	
2	04/01/2018 14:22	JOHN	PAUL	7	USD	
3	04/01/2018 15:36	CLARE	ALAN	125	GBP	
4	05/01/2018 10:16	GARY	PAUL	9	BTC	
5	06/01/2018 18:18	PETER	CLARE	83	USD	



Blockchain Primer: Blockchain

Imagine a physical ledger, with pages in it

At the bottom of the page you enter the hash for that page

BLOCK 0						PREVIOUS HASH =
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1	01/01/2018 10:23	GARY	JANE	100	GBP	
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4	05/01/2018 10:16	GARY	PAUL	9	BTC	
5	06/01/2018 18:18	PETER	CLARE	83	USD	
CALCULATED HASH =						00bf124aa001




Blockchain Primer: Blockchain

Imagine a physical ledger, with pages in it

At the bottom of the page you enter the hash for that page

At the top of the next page, you start with the hash from the previous page

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5	06/01/2018 18:18	PETER	CLARE	83	USD	
CALCULATED HASH =						00dea123123

Blockchain Primer: Blockchain


Imagine a physical ledger, with pages in it

At the bottom of the page you enter the hash for that page


At the top of the next page, you start with the hash from the previous page

So, the data is held in **BLOCKS** which are **CHAIN**ed together

BLOCK 0						PREVIOUS HASH =
RECORD	DATETIME	FROM	TO	VALUE	UNITOFMEASURE	
1	01/01/2018 10:23	GARY	JANE	100	GBP	
2	04/01/2018 14:22	JOHN	PAUL	7	USD	
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4	05/01/2018 10:16	GARY	PAUL	9	BTC	
5	06/01/2018 18:18	PETER	CLARE	83	USD	
CALCULATED HASH =						00dea123123



BLOCK 2						PREVIOUS HASH =
RECORD	DATETIME	FROM	TO	VALUE	UNITOFMEASURE	
1	01/01/2018 10:23	GARY	JANE	100	GBP	
2	04/01/2018 14:22	JOHN	PAUL	7	USD	
3	04/01/2018 15:36	CLARE	ALAN	125	GBP	
4	05/01/2018 10:16	GARY	PAUL	9	BTC	
5	06/01/2018 18:18	PETER	CLARE	83	USD	
CALCULATED HASH =						009a1aa1121

Blockchain Primer: Blockchain

Imagine a physical ledger, with pages in it


At the bottom of the page you enter the hash for that page

At the top of the next page, you start with the hash from the previous page


So, the data is held in BLOCKS which are CHAINED together

Now VERY difficult to change an earlier entry as all of the hashes on all pages would need to be recalculated

BLOCK 0						PREVIOUS HASH =
RECORD	DATETIME	FROM	TO	VALUE	UNITOFMEASURE	
1	01/01/2018 10:23	GARY	JANE	100	GBP	
2	04/01/2018 14:22	JOHN	PAUL	7	USD	
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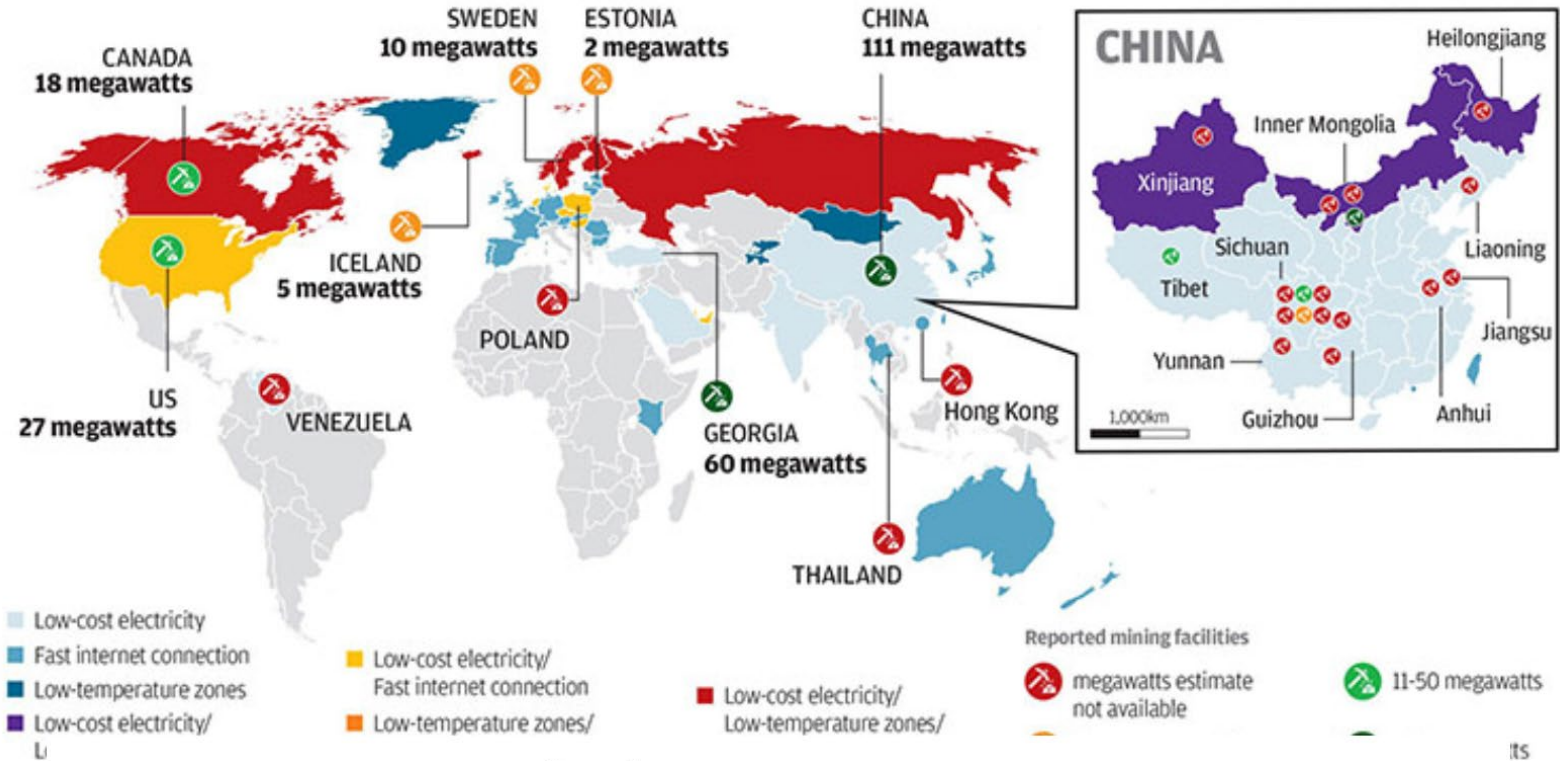
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Blockchain Primer: Blockchain

Global cryptocurrency mining sites



<https://bitcoinexchangeguide.com/list-of-the-biggest-bitcoin-cryptocurrency-mining-areas-in-the-world/>

Blockchain

So, back to the definition....

It's a software protocol (an agreed set of rules)

Running on a network of computers that have an incentive mechanism to avoid abuse

With an append-only database

That everyone has an identical copy of

With all entries timestamped

The data is cryptographically secured

And it provides a trusted, programmable, system

Blockchain Primer: So what?

Features

- Immutable – complete, timestamped, audit trail
- Distributed - Cyber resilient – still functional if nodes removed
- Crypto secured – can't be easily hacked or ransomed
- Programmable - Smart Contracts can be created
- (Pseudo)anonymous

Benefits

- Reconciliation significantly reduced as now single source
- Removal of need for trusted third party
- Decentralised – doesn't need to be owned by anyone (!)

Agenda

- Introductions
- Blockchain(s)
- **Use Cases**
- Insurance Opportunities

Blockchain **MEGA** Cases

1. As an Immutable Ledger
2. As a Cryptocurrency platform
3. To provide Digital Identity
4. Trusted Programmability
5. Tokenization of assets

Blockchain Mega Cases

- As an Immutable

DIAMONDS

Driving greater transparency and next generation standards for Diamonds

We are pioneers in protecting the value of diamonds through provenance tracking

Diamond supply chains are often complex, unconnected as well as fragmented by their own nature resulting in a lack of transparency and trust amongst stakeholders.

<https://www.everledger.io/industry-applications>



EVERLEDGER
diamonds

IBM | MAERSK

Transforming supply chains using **blockchain technology**

#ibmblockchain

FAIRFOOD

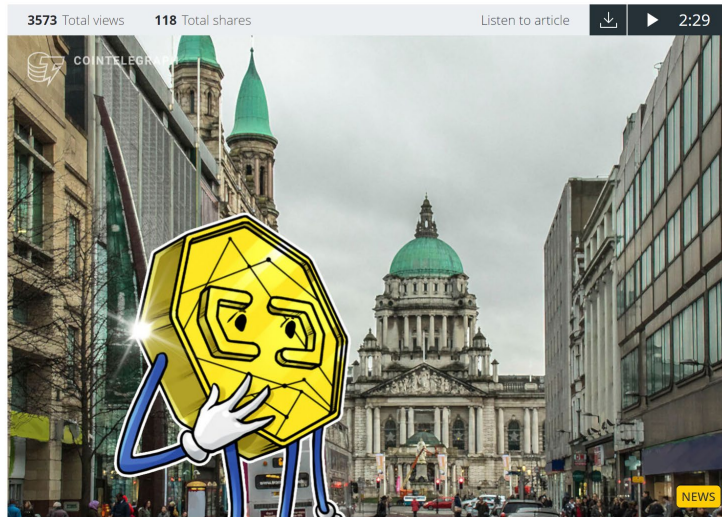
Proof of fair payment on the blockchain

Provenance technology supports fair trading in the digital age. Working in an international coconut supply chain, our software was extended to create a system that proves the exact living wage payment for product batches.

Blockchain Mega Cases

- As a Cryptocurrency platform

Belfast Launches Own Digital Currency to Boost Rockefeller Social Project Success



Authorities in the United Kingdom city of Belfast have partnered with Israeli payment firm Colu to issue their own digital token, a press release confirmed on May 8.

Colu, which operates local digital currency ecosystems in four cities, will issue belfast coin later this year in a bid to support local businesses.





















Colu has clarified to Cointelegraph that the belfast coin **will not be based on blockchain technology**. Although the Colu About Us says that they are powered by blockchain at press time, a Colu spokesperson has clarified that the app is not actually blockchain-based.

Blockchain Mega Cases

- As a Cryptocurrency platform

Cryptocurrencies ▾ Exchanges ▾ Watchlist

USD ▾ Next 100 → View All

#	Name	Market Cap	Price	Volume (24h)	Circulating Supply	Change (24h)	Price Graph (7d)
1	 Bitcoin	\$110,738,628,317	\$6,380.45	\$4,218,274,440	17,355,925 BTC	0.10%	
2	 Ethereum	\$20,613,262,023	\$200.21	\$1,453,952,823	102,956,695 ETH	0.77%	
3	 XRP	\$18,496,956,741	\$0.460060	\$430,948,559	40,205,513,967 XRP *	1.62%	
4	 Bitcoin Cash	\$8,129,003,660	\$466.21	\$486,375,248	17,436,338 BCH	10.06%	
5	 EOS	\$4,848,018,701	\$5.35	\$668,036,873	906,245,118 EOS *	1.68%	
6	 Stellar	\$4,316,357,254	\$0.228215	\$38,982,082	18,913,564,571 XLM *	2.21%	
7	 Litecoin	\$3,042,619,807	\$51.58	\$349,851,089	58,991,852 LTC	2.79%	
8	 Cardano	\$1,856,197,858	\$0.071593	\$15,686,723	25,927,070,538 ADA *	2.03%	
9	 Tether	\$1,766,752,520	\$0.994557	\$2,345,942,773	1,776,421,736 USDT *	-0.23%	
10	 Monero	\$1,752,666,108	\$105.98	\$12,844,607	16,538,358 XMR	2.82%	

Blockchain Mega Cases

- To provide Digital

22 Companies Leveraging BlockChain for Identity Management and Authentication

The image displays 22 logos for companies leveraging blockchain for identity management and authentication. The logos are arranged in a grid-like fashion. The companies shown are: OIX OPEN IDENTITY EXCHANGE, civic, HYPR, CREDITS, guardtime, 2WAY.IO, KYC-CHAIN, ATEN COIN, blockauth, Existence ID, CREDYCO, CRYTID, Cambridge Blockchain, UNIQUID, ShoCard, BLOCKSTACK, NETKI, evernym, uport, BITNATION GOVERNANCE 2.0, Identifi, and BLOCKVERIFY.

A vertical timeline on the right side of the slide shows various blockchain use cases from 1997 to 2014. Each year is accompanied by a circular icon and a text label: 1997 (Scales of justice) e-Governance, 2000 (Document with checkmark) e-Tax, 2001 (Crossed swords) X-Road, 2001 (Fingerprint) Digital ID, 2005 (Ballot box) i-Voting, 2007 (Microphone) Public safety, 2008 (Network of nodes) Blockchain, 2008 (Medical cross) e-Health, and 2014 (ID card) e-Residency.

<https://gomedici.com/22-companies-leveraging-blockchain-for-identity-management-and-authentication/>

Blockchain Mega Cases

- **Trusted**



Flight Delay Insurance

First decentralized insurance. Payouts are automatic and almost instant. Now fully licensed.



Demo video

Licensed



Hurricane Protection

Designed for low-income individuals and small business owners. Instant payouts are triggered by wind speed registered by weather-stations within 30 mile radius from insured's permanent location.

Designed



Crypto Wallet Insurance

Protection against risk of theft and attacks of hackers on wallet smart contracts. Target coverage - up to \$1M.

Designed

<https://etherisc.com/#products>

Blockchain Mega Cases

- Tokenization of



The Complete Blockchain Toolkit for Business

OST KIT gives you all the tools you need to run your blockchain-powered economy on scalable OpenST utility blockchains. Launch your own Branded Token without an ICO.

[ACCESS OST KIT \$\alpha\$](#)

[LOGIN TO OST KIT \$\alpha\$](#)



Launch your own Branded Tokens to turn your business into a dynamic ecosystem.

OST KIT is an opportunity to get in on the ground floor and help create a toolkit that meets the real needs of real businesses. Watch how more than 60 Proofs of Concept are building on top of OST today.

Agenda

- Introductions
- Blockchain(s)
- **Cryptoassets**
- Insurance
- Wrapup / Q&A

Cryptoassets

- Money
- Cryptocurrencies, assets and tokens
- Regulation
- Risks and Opportunities

Cryptoassets

- **Money**
- Cryptocurrencies, assets and tokens
- Regulation
- Risks and Opportunities

Money

- A store of value
 - A way of exchanging value
 - A unit of accounting
 - A means of taxation
-
- Divisible
 - Durable
 - Fungible

Money

What gives money its “value” ?



Perceived as reliable



Cryptoassets

- Money
- **Cryptocurrencies, assets and tokens**
- Regulation
- Risks and Opportunities

Cryptocurrencies, assets and tokens

DEFINITIONS

Are fluid

- Are ambiguous
- Vary from jurisdiction to jurisdiction and different regulators have different definitions

CRYPTOCURRENCIES

BITCOIN

Bitcoin Charts



















<https://coinmarketcap.com/currencies/bitcoin/>

CRYPTOCURRENCIES

“The Rest” (aka “Altcoins”)

Cryptocurrencies: 5,146 • Markets: 20,798 • Market Cap: \$261,429,478,432 • 24h Vol: \$172,390,753,486 • BTC Dominance: 64.3%

#	Name	Market Cap	Price	Volume (24h)	Circulating Supply	Change (24h)	Price Graph (7d)
1	 Bitcoin	\$168,157,905,296	\$9,220.02	\$45,037,446,572	18,238,350 BTC	-3.79%	
2	 Ethereum	\$26,415,884,634	\$240.45	\$23,835,936,581	109,859,775 ETH	-7.63%	
3	 XRP	\$10,683,951,013	\$0.244208	\$3,146,794,298	43,749,413,421 XRP *	-8.25%	
4	 Bitcoin Cash	\$6,059,161,670	\$331.11	\$6,104,837,117	18,299,438 BCH	-10.33%	
5	 Tether	\$4,621,140,356	\$0.995428	\$61,940,282,528	4,642,367,414 USDT *	-0.43%	
6	 Bitcoin SV	\$4,419,270,345	\$241.53	\$3,085,687,652	18,296,690 BSV	-10.58%	
7	 Litecoin	\$4,323,575,750	\$67.38	\$6,140,458,833	64,167,300 LTC	-9.49%	
8	 EOS	\$3,640,104,175	\$3.95	\$5,778,842,591	920,445,534 EOS *	-4.44%	

<https://coinmarketcap.com/currencies/bitcoin/>

/

CRYPTOASSETS

- Digital shares
- Property Investments
- Gold / commodities / currencies
- Fractional ownership schemes

CRYPTOTOKENS

- “Programmable Money”
- Execute on top of a blockchain platform (e.g. Ethereum, NEO, EOS)
- Non-Fungible – Think loyalty points
- Used for fundraising projects (ICOs)

CURRENCIES, ASSETS & TOKENS

WHAT'S THE DIFFERENCE ?

- Cryptocurrency = Decentralised digital currency
- Cryptoasset = Digital share / title of fractional ownership
- Cryptotoken = Programmable digital money
- Often all traded on the same crypto exchange!

Cryptoassets

- Money
- Cryptocurrencies, assets and tokens
- **Regulation**
- Risks and Opportunities

REGULATION



Guidance on Cryptoassets

Feedback and Final Guidance to CP 19/3

Policy Statement

PS19/22

July 2019

FCA CP19 Interim guidance issued:

E-Money
Security Tokens
Utility tokens

Anti-Money Laundering (AML/CTF)
Know Your Customer (KYC)
Market Abuse Directive (MAR)

<https://www.fca.org.uk/publication/policy/ps19-22.pdf>

REGULATION



HM Revenue
& Customs

Policy paper

Cryptoassets: tax for individuals

Updated 20 December 2019

<https://www.gov.uk/government/publications/tax-on-cryptoassets/cryptoassets-for-individuals>

HMRC Guidance issued December 2018 & 2019 for individuals on:

- What cryptoassets are
- Income Tax
- Capital Gains Tax
- Earnings
- Record keeping

REGULATION



HM Revenue
& Customs

Policy paper

Cryptoassets: tax for businesses

Updated 1 November 2019

<https://www.gov.uk/government/publications/tax-on-cryptoassets/cryptoassets-tax-for-businesses#contents>

HMRC Guidance issued November for 2019 Business on:

- Corporation Tax
- Investments (chargeable gains)
- VAT
- Venture Capital Schemes and capital relief
- Paying employees in cryptoassets
- Stamp Duty

Cryptoassets

- Money
- Cryptocurrencies, assets and tokens
- Regulation
- **Risks and Opportunities**

RISKS & OPPORTUNITIES

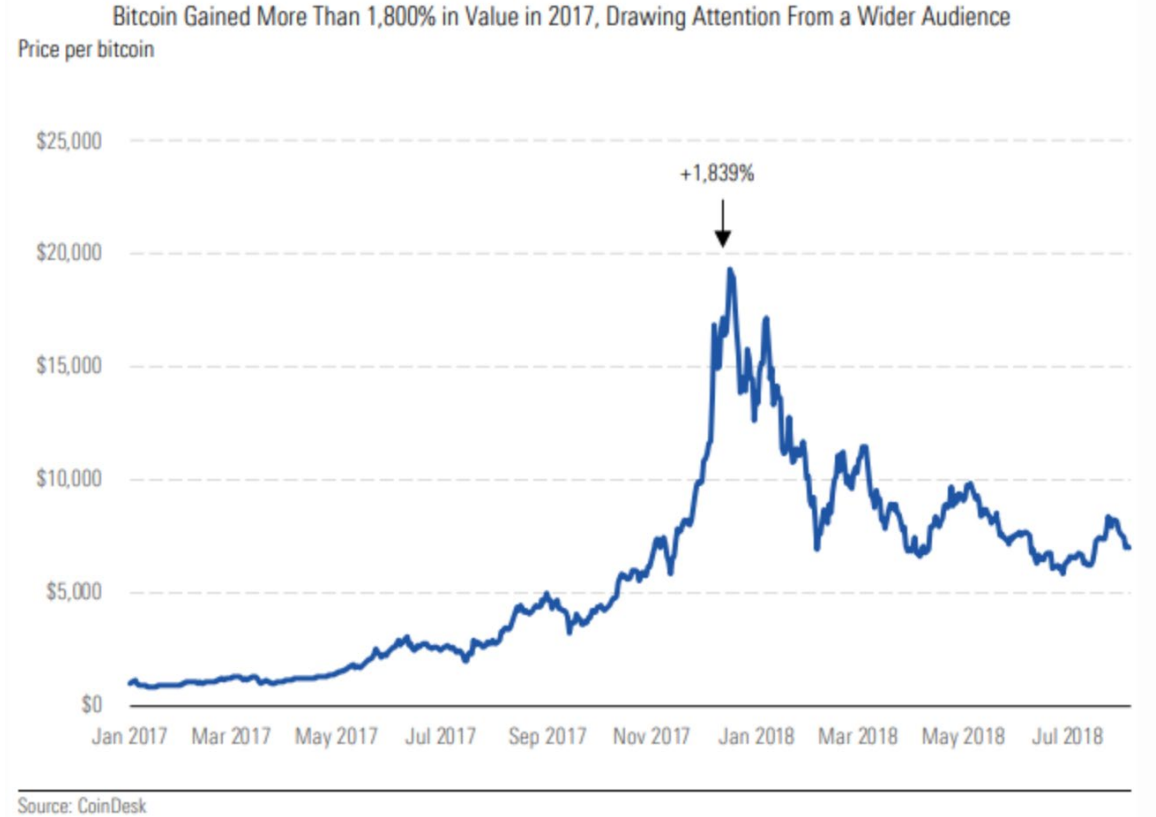
RISKS

- Liquidity
- Volatility
- Scams
- Loss & Theft
- Mistakes
- Regulation

RISKS & OPPORTUNITIES

OPPORTUNITIES

- Growth
- Diversification / Sharpe Ratio

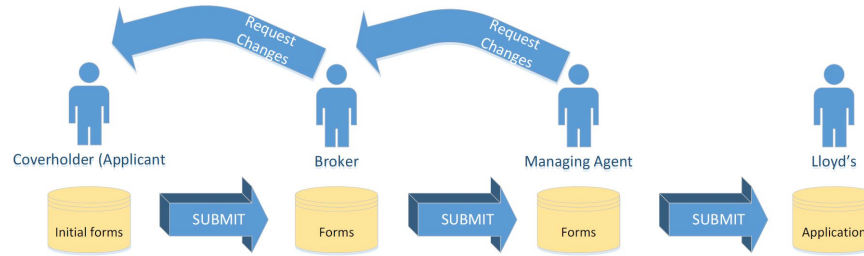


Agenda

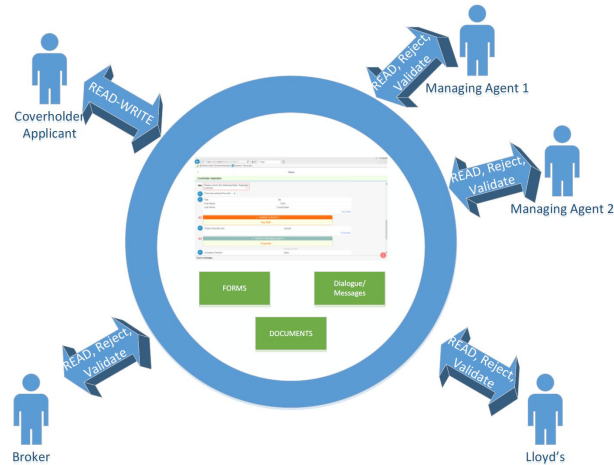
- Introductions
- Blockchain(s)
- Cryptoassets
- **Insurance**
- Wrapup / Q&A

Blockchain Use Cases – INSURANCE

As-Is



To-Be



Blockchain Use Cases – INSURANCE

- Policy Administration
 - Accounting & Settlement
 - Parametric Insurance
 - Coverholder Management (including KYC)
 - Motor Fleet Management
 - Expense Management
 - Claims
 - Subrogation
 - Peer 2 Peer Insurance / Mutualisation
- v2.0

Current State: Use Cases - INSURANCE

Category	Line of Business	Example
Policy Admin +	End to End Insurance	Blocksure* (due disclosure), Chain-B, Zhong An (Non-Life P&C)
Operations	Accounting & Settlement	ChainThat, R3, Surematics, Consensys/I-Chassis
Marketplace	P2p + matching Insurance	Fidentiax, Wekeep, TeamBrella, LenderBot, Nexus Mutual, Akinova, Ixledger (GenRe), Shanghai Insurance Exchange
Alternate risk	Prediction Market	Gnosis, Augur
IoT	Trade Finance	EY/Maersk/IBM (MS-Amlin, XL-Catlin, Willis), Bancassurance (AIA), AIGang
Smart Contract	Flight Delay	InsurEth, Etherisc/Atlas Insurance (Malta), Fizzy (Axa)
	Crop Protection	Achmea, AoN/Etherisc/Oxfam
Reinsurance	Retrocession	B3i (Property Cat XOL), XLRAS
Parametric	Cat Bond, Weather	Allianz, Rainvow
Captive	Prof Indemnity & property	Allianz
General	Motor	Travel Ezee (Allianz), USAA/State Farm (Subrogation)
	Unemployment	DynamisApp
	Marine	Microsoft/R3/Maersk Insurwave
	P&C	Riskblock Alliance
	Life	LIMRA/BAC
	Surety Bond	Zurich/Accenture
	Industry Loss Warranty	Cognizant/CordainSur

Live Insurance Platforms – Press Releases 2018

Insurance firm + [technology provider]	Product	Date & Link
A.P. Moller - Maersk, ACORD, MS Amlin, Willis Towers Watson and XL Catlin. [EY/Microsoft]	Marine Hull	25 May 2018 - http://www2.laufer.com/first-marine-insurance-blockchain-platform-live.html
Covea Insurance and Commercial & General [Blocksure/Corda]	GI + some Life & Health	31 July 2018 - https://coverager.com/blocksure-goes-live-with-covea-insurance-and-commercial-and-general/
Zurich Insurance [Accenture]	Surety Bond (Benelux)	16 Oct 2018 - https://newsroom.accenture.com/news/accenture-and-zurich-benelux-apply-blockchain-technology-to-help-streamline-customer-experience-and-improve-transparency.htm
Aon [Etherisc/Ethereum]	Crop Protection	29 Oct 2018 - http://aon.mediaroom.com/news-releases?item=137772
Huatai P&C Insurance [Qingsongchou]	Critical Illness	31 Oct 2018 - https://www.prnewswire.com/news-releases/qingsongchou-launched-the-first-full-industrial-chain-blockchain-insurance-in-cooperation-with-a-renowned-insurance-company-300741336.html
Marsh [Evident]	Gig Proof of Insurance	31 Oct 2018 - https://www.insurancebusinessmag.com/us/people/marsh-were-in-the-beginning-stages-of-a-massive-blockchain-revolution-115101.aspx

Forbes

EDITOR'S PICK | 53,344 views | Jun 19, 2019, 11:48am

MetLife Plans To Disrupt \$2.7 Trillion Life Insurance Industry Using Ethereum Blockchain



Steven Ehrlich Contributor 

Crypto & Blockchain

I write about blockchain technology with a focus on regulation

MetLife's LumenLab is collaborating with Singapore Press Holdings (SPH) and NTUC Income (Income) on a platform of smart contracts known as 'Lifechain' to help loved ones quickly determine if the deceased was protected with a policy and automatically file a claim

<https://www.forbes.com/sites/stevenehrlich/2019/06/19/metlife-plans-to-disrupt-2-7-trillion-life-insurance-industry-using-ethereum-blockchain/#574df4d82770>

This is not MetLife's first experimentation with blockchain technology. The core smart contract platform that constitutes Lifechain is very closely related to what was built for the company's mobile app [LumenLab](#), that utilized Ethereum to pay out claims to expectant mothers who contracted gestational diabetes.

Live Insurance Platforms – Press Releases 2019

Innovative Blockchain Design for Life Insurance & Annuity Commissions Lowers Costs & Enables Growth Focus

NEWS PROVIDED BY

InsurTech Express →

Aug 22, 2019, 08:00 ET

"The Commission Blockchain plan that InsurTech Express is launching can streamline the entire commission and contracting process for participating carriers and distributors alike," said Dan LaBert, CEO of the National Association of Independent Life Brokerage Agencies (NAILBA).

"The InsurTech Express Blockchain for Life and Annuity Commissions solves many **pain points** that distribution and carriers have experienced for years," "This innovative approach to **paying commissions** will reinforce trust between all parties. By setting up commission schedules and hierarchies, the new process **eliminates manual entry** into Agency Management Systems.

<https://www.prnewswire.com/news-releases/innovative-blockchain-design-for-life-insurance--annuity-commissions-lowers-costs--enables-growth-focus-300905538.html>

Insurance Opportunities

Insurance and virtual money



It is only recently that virtual money or cryptocurrencies have emerged in the financial landscape. Are these new monetary values covered by standard home insurance policies?

[National Bank Insurance Auto | Home](#)
27 April 2017

BITCOIN SERVICES FEBRUARY 19, 2018 10:51

Cryptocurrency Insurance: More Companies Join The Bandwagon



Crypto-Currencies will open new horizons in the world of insurance.


We see mutual-help systems functioning on a variety of scales and levels, whether it be through insurance, mutual aid organizations, or through like-minded individuals pooling and purchasing items together. In utilizing cryptocurrency and Blockchain technology, we believe can make the process of mutual aid much more efficient and simple. By utilizing these technologies, we believe that the insurance world will expand as

a whole.

SPONSORED

Introducing BITRUST: The
Cryptocurrency Insurance

QUEST AUTHOR | MARCH 6, 2018 11:33 AM



INSURANCE COMPANIES SEE BIG OPPORTUNITY IN UNREGULATED CRYPTOCURRENCY MARKET

What needs insuring ?

- Wallet insurance (loss & theft)
- Key Management
- Professional Indemnity/D&O Cover
- Exchange protection
- Counterparty (Trade) Risk
- Mutualisation/p2p
- Custodial Services
- Ransomware/Cyber

Agenda

- Introductions
- Blockchain(s)
- Cryptoassets
- Insurance
- **Wrapup / Q&A**

Wrapup

What's next ?

- Government acceptance & regulation
- Project Libra
- Central Government adoption
- Crowdfunding platforms
- Growth in “Crypto Financial Services”
- “DeFi”

Wrapup

Learning outcomes

- Able to explain what a Distributed Ledger
- Have an appreciation of how a blockchain can be used
- Be aware of Insurance Use Cases
- Be aware of main insurable risks
- Understand what a cryptocurrency is

Any questions ?

Gary Nuttall

Contact details:

eMail: gnuttall@distlytics.com

Skype: @gpnuttall

Mobile: +44 (0) 787 614 1273

Twitter: @GPN01

LinkedIn: uk.linkedin.com/in/garynuttall

Web: www.Distlytics.com



Distlytics provides education, training, consultancy and advisory services.

Technology domains include blockchain/DLT, Artificial Intelligence, Big Data and Analytics.

Industry expertise includes Insurance, Life & Pensions, Legal, Healthcare, Distribution and much more.

Specific services are dependent upon client needs and existing methodologies. Previous engagements have included:

- Initial team training
- Value chain analysis
- Feasibility study
- Options analysis
- Requirements elicitation
- Workshop planning & execution
- Project filtering & shortlisting
- Vendor selection
- Project Management
- Board papers
- Post-project review & recommendation

If you need help, advice, training or guidance around Blockchain/DLT, then contact gnuttall@distlytics.com to see how we can help.