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Legal Risk and Compliance

Bob Semple

9 November 2017

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ESSENTIALS OF LEGAL RISK AND COMPLIANCE

1. Don't do anything wrong today.

2. Don't do anything wrong tomorrow.

3. Repeat.

Legal Risk and Compliance needs a closer look

Key: over 3,000 galaxies detected by the Hubble telescope in a supposedly 'pitch black' part of the sky
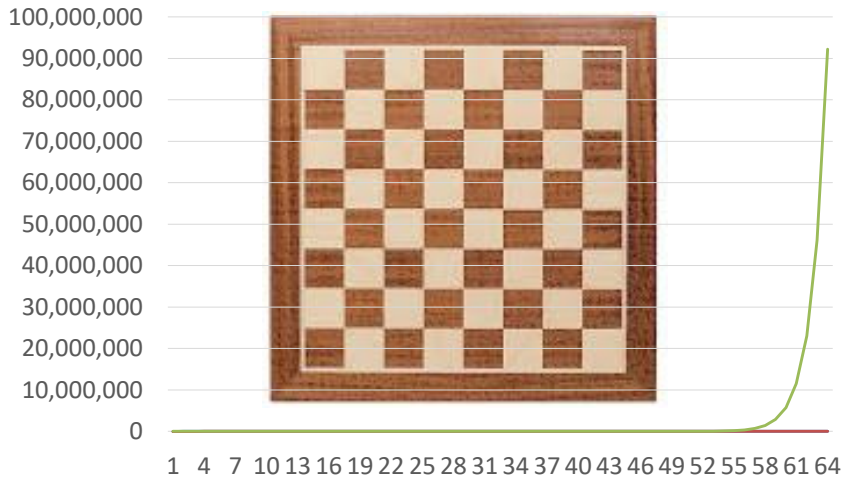

AGENDA
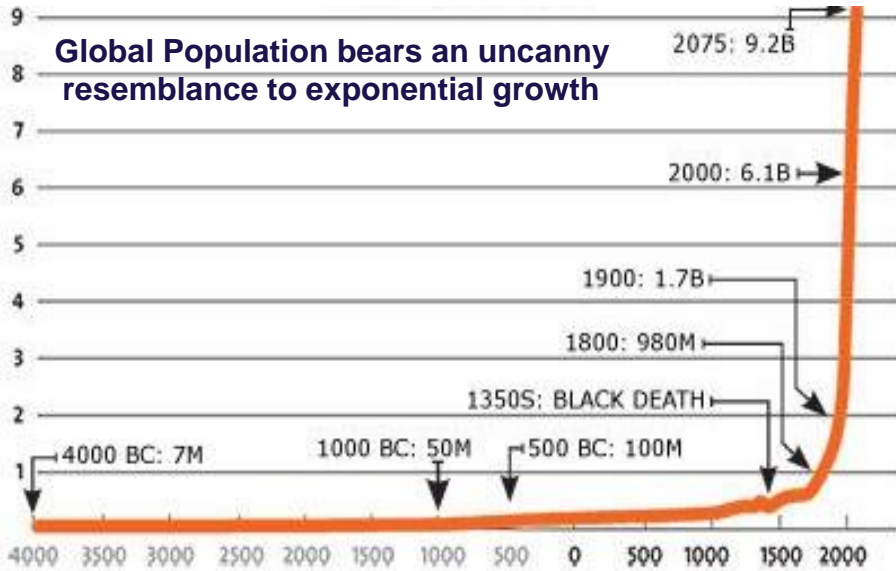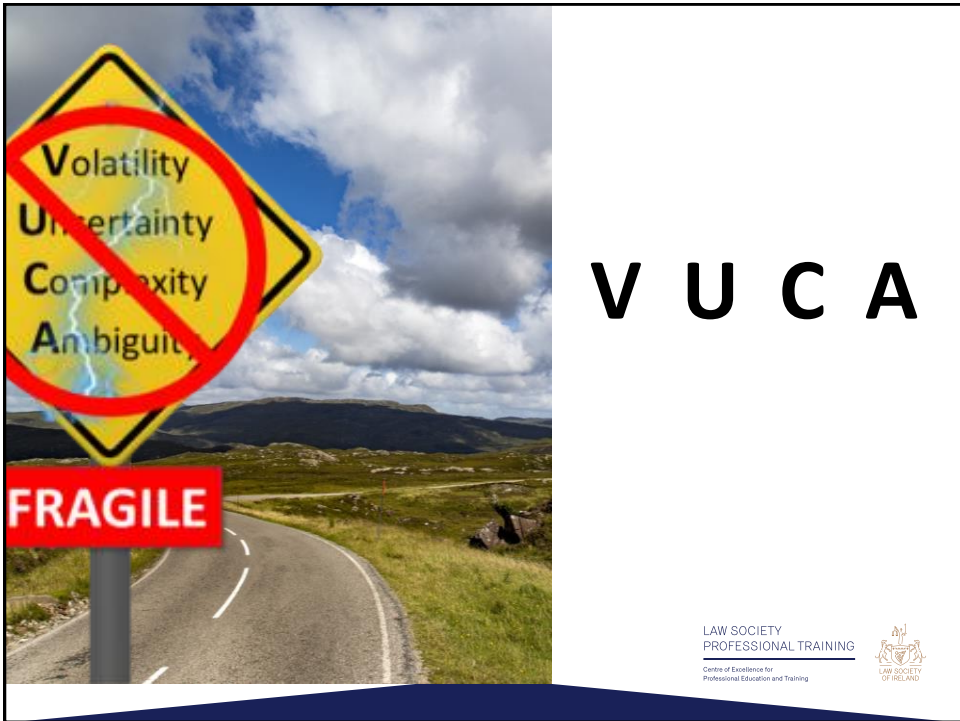
1. Who cares about numbers. . . ?

2. BʟINC

3. Implications for legal risk and compliance

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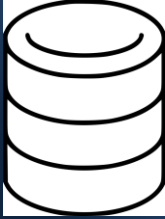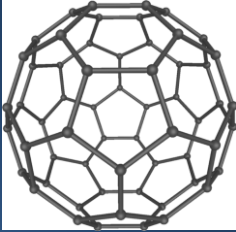We don't intuitively understand 'exponential growth'
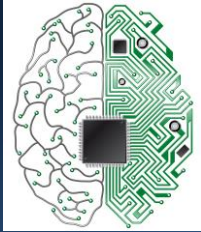- even though it is all around us

Global Population bears an uncanny resemblance to exponential growth

2075: 9.2B

2000: 6.1B

1900: 1.7B

1800: 980M

1350S: BLACK DEATH

4000 BC: 7M

1000 BC: 50M

500 BC: 100M

A selection of World Economic Forum Risks

V U C A

Volatility
Uncertainty
Complexity
Ambiguity

FRAGILE

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BₗINC

Bio-

Info-

Nano-

Cogno-

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2

Bio-

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" Medical Technology Producing Hamburgers "
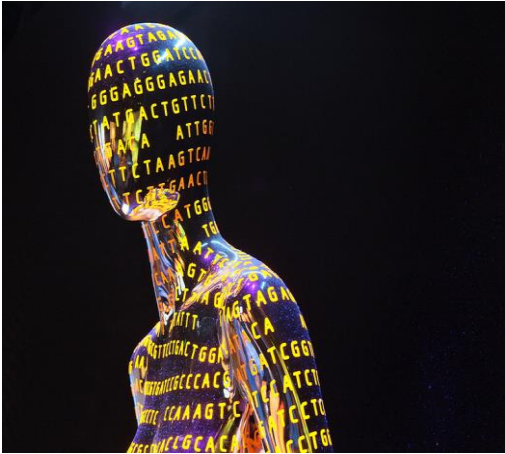
Mark Post, Prof. of Physiology at Maastricht University

CRISPR/Cas9

Humans 2.0?

Food 3.0?

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Info-

Prefix	Size
Kilo	10^3
Mega	10^6
Giga	10^9
Tera	10^{12}
Peta	10^{15}
Eta	10^{18}
Zeta	10^{21}
Yotta	10^{24}

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**ENIAC 1943 – replaced, 50 years later,
by a chip of equal power less than 1 inch square**

Exponential growth of power and storage
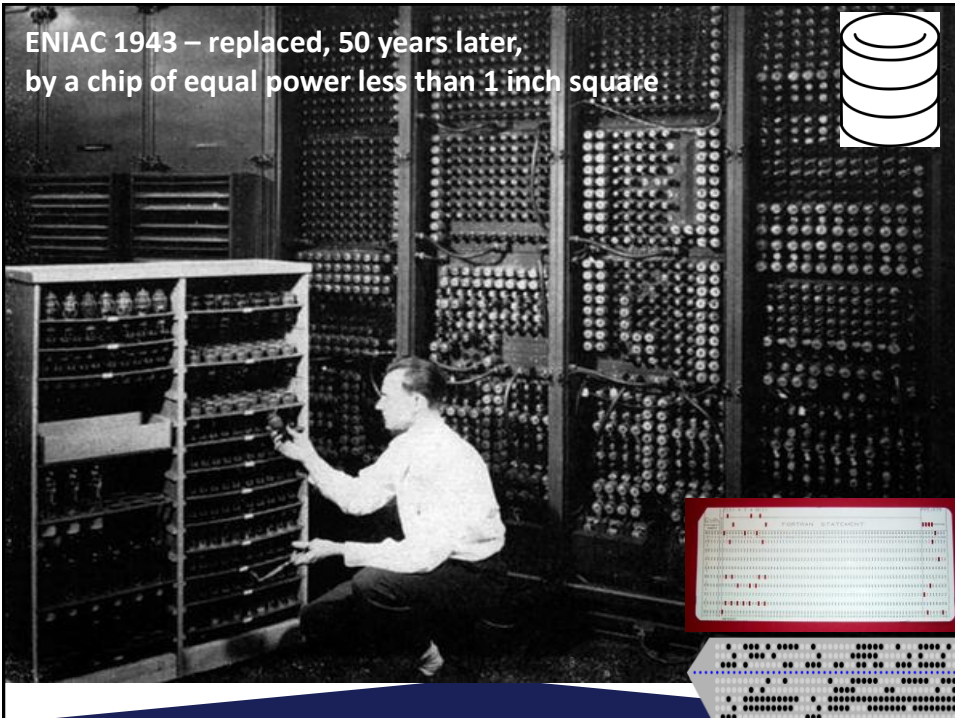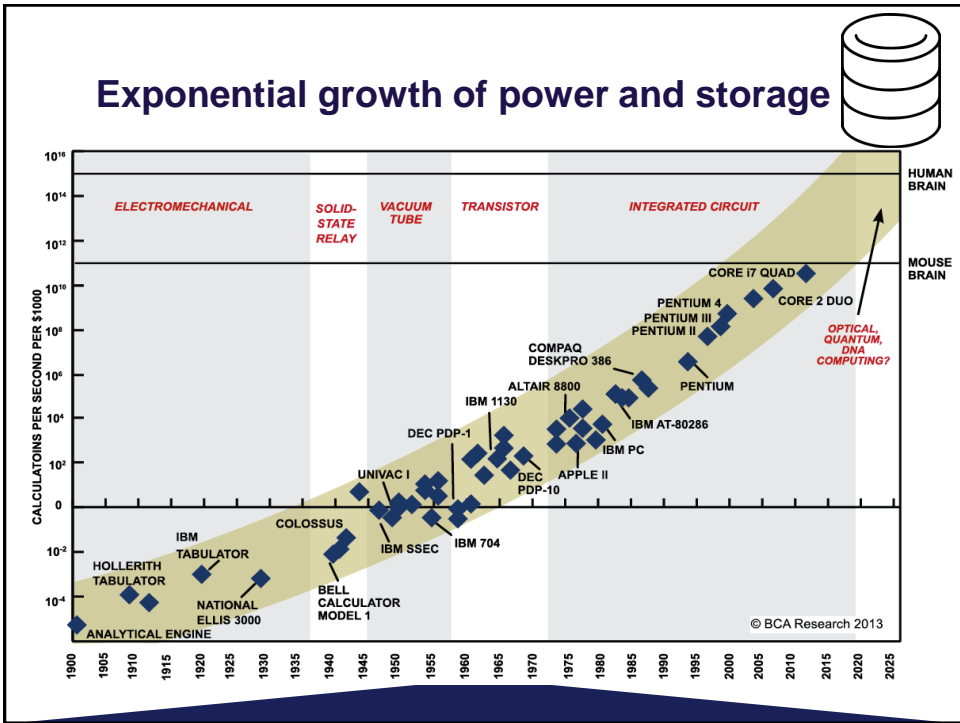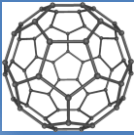
Ubiquitous devices produce undreamt-of volumes of data

165 Zettabytes by 2025
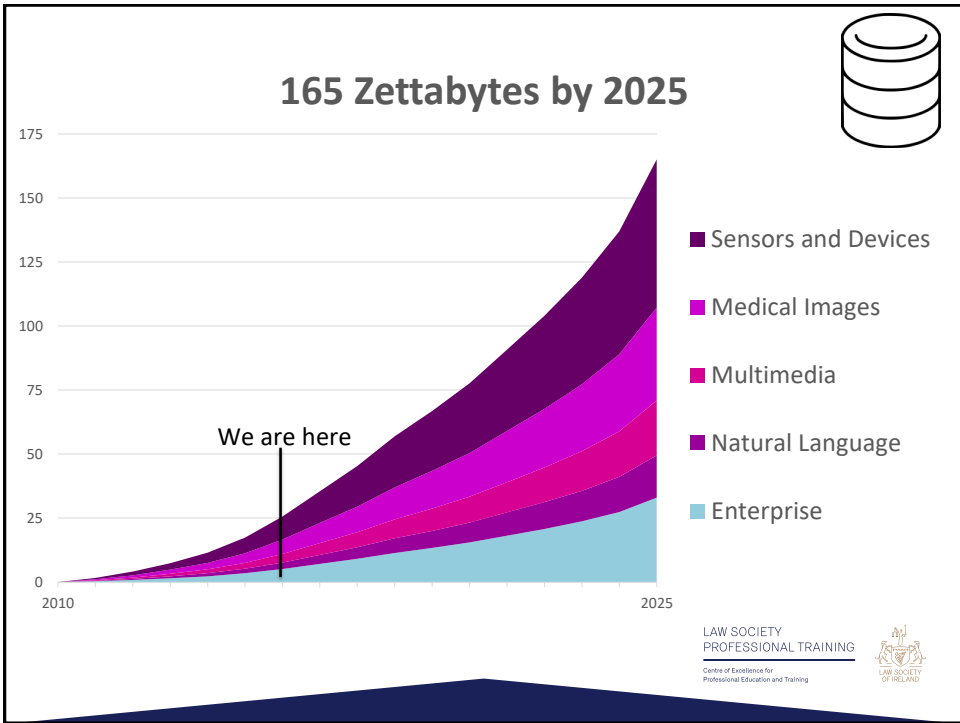
Nano-

Prefix	Size
Milli	10^{-3}
Micro	10^{-6}
Nano	10^{-9}
Pico	10^{-12}

How small can you go?

Drone technology brings massive benefits to farmers

GROWTH IN THE INTERNET OF THINGS
THE NUMBER OF CONNECTED DEVICES WILL EXCEED 50 BILLION BY 2020

BILLIONS OF DEVICES

2020 50.1B
2019 42.1B
2018 34.8B
2017 28.4B
2016 22.9B
2015 18.2B
2014 14.2B
2013 11.2B
2012 8.7B
2009 IoT INCEPTION
2003 0.5B
1992 1M
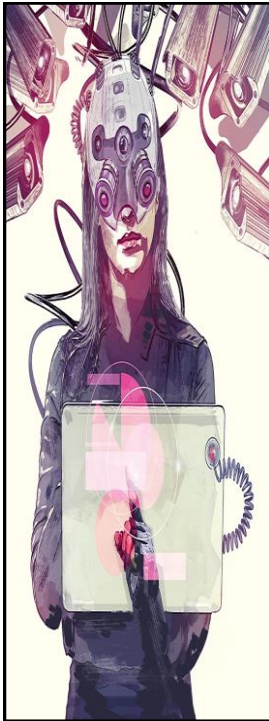
Cogno-
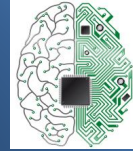
The next revolution is to augment human cognition:

- Industrial Revolution
- Steam and Railways
- Steel, Electricity, Heavy Engineering
- Oil, Automobiles and Mass Production
- Information and Telecoms
- **Cognitive Era**

Carlos Perez

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Augmented Reality

Machine learning

". . . from a database of 129,000 images of skin lesions a system was developed using machine learning that could be used to diagnose skin cancer with a level of accuracy that matches that of qualified dermatologists[1]."

Sebastian Thrun, Udacity

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Blockchain: Secure Shared Single Source of Truth

Peer to peer network

Blockchain = registry of assets
and transactions

GEN   1   2   3   X

ymin   y+nmin   y+nmin   Time
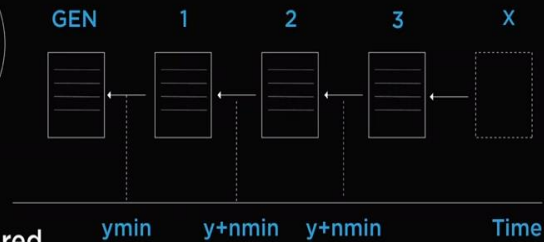
Transaction history stored
in blocks of data

Computer Systems are World Champions in every major game

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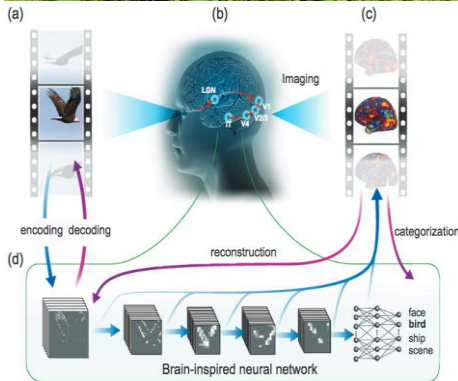
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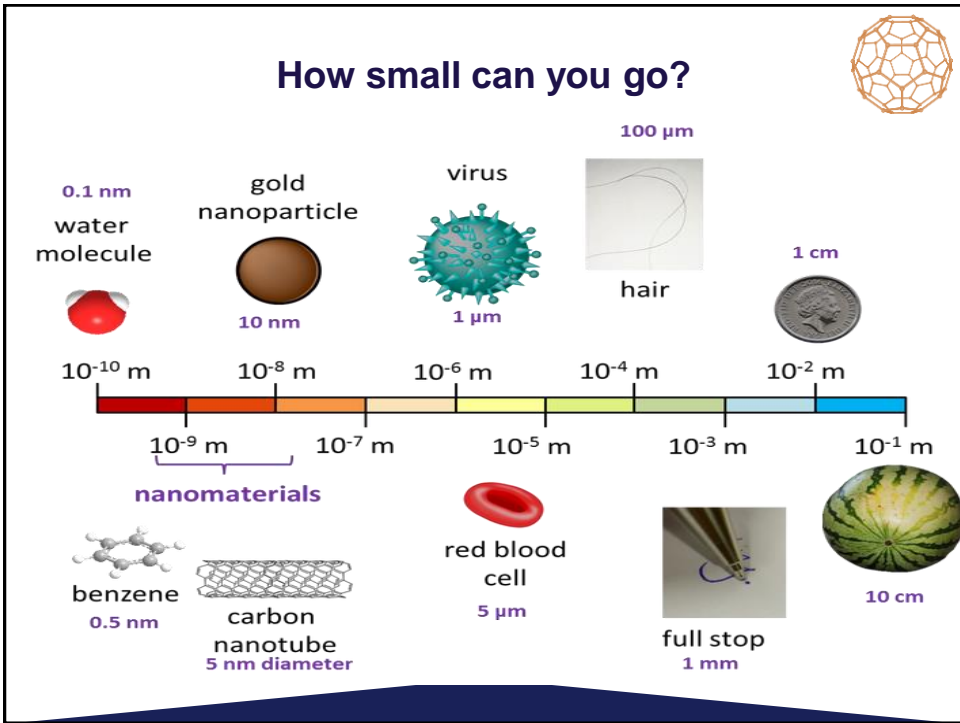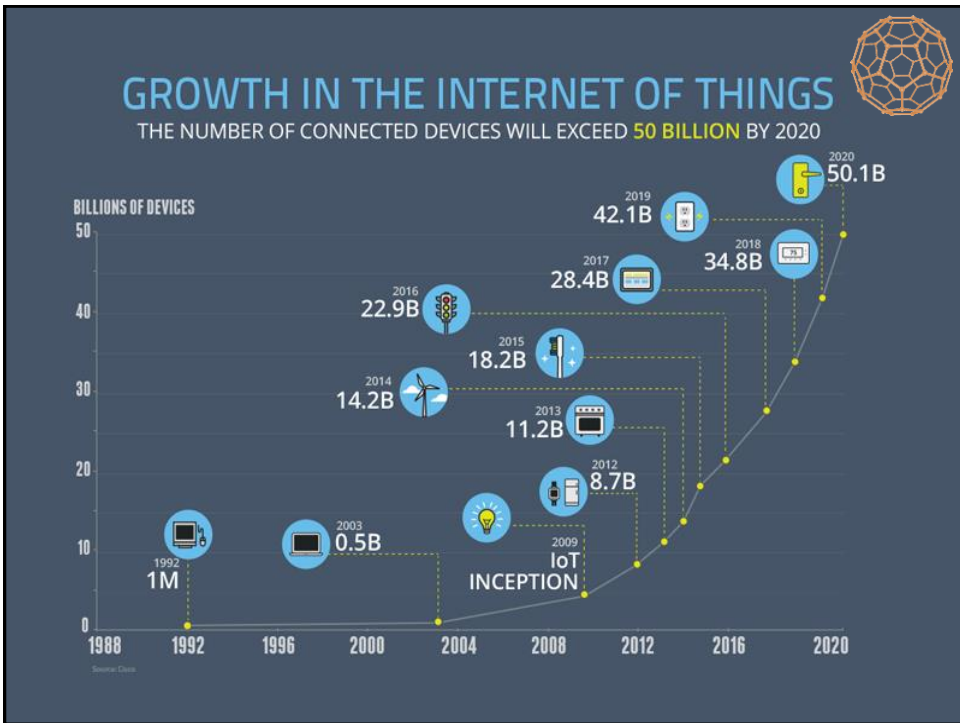
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- Assisted intelligence
- Augmented intelligence
- Autonomous intelligence
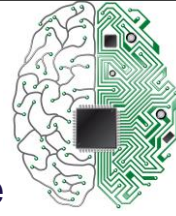
Bot.Me @ A revolutionary partnership
PwC, 2017

- Conscious intelligence?
- Homo Silicocarbo?

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Implications for
legal risk and compliance

3

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82% Paperwork

79% Scheduling

78% Timesheets

69% Accounting

65% Personal expenses

Everyone sees the potential benefits for themselves from these advances

60% HR functions, like benefits

60% Email management

49% Proposal writing

37% HR management
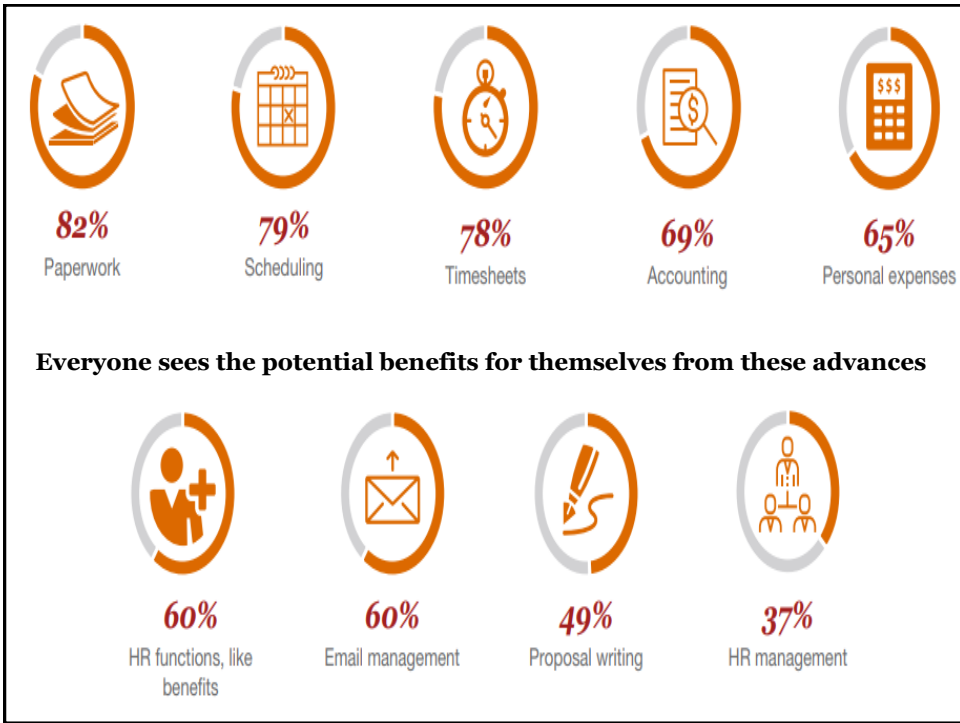
. . . but we risk missing the bigger picture?

"Policymakers are flying blind into what has been called the fourth industrial revolution or the second machine age"

Nature, October 2017

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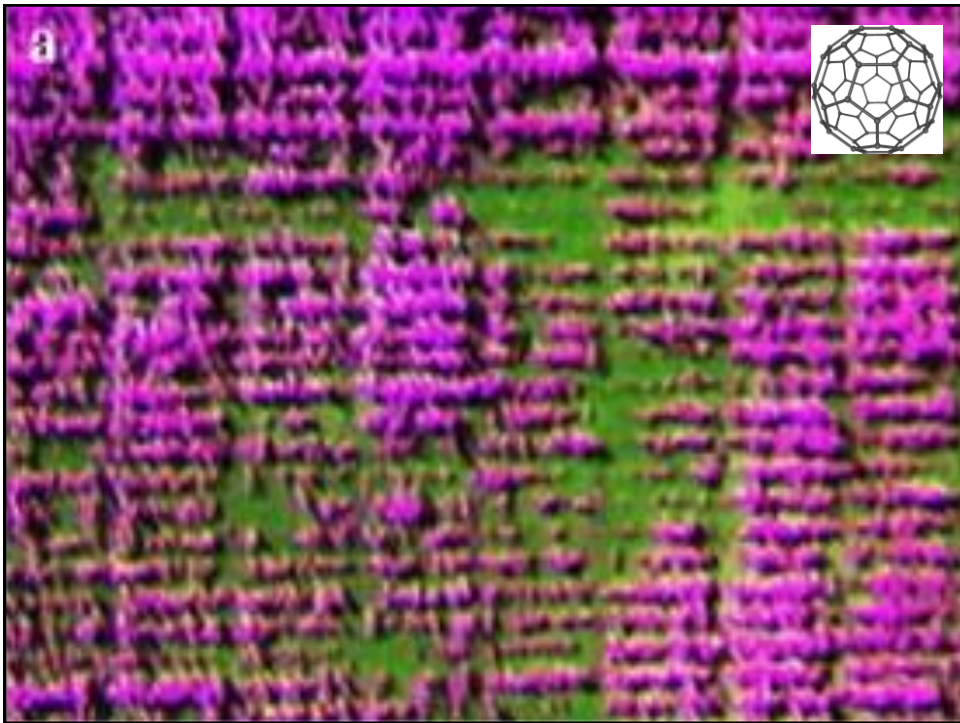Professional Education and Training

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The Blue World
Corporate is king

The Red World
Innovation rules

The Yellow World
Humans come first

The Green World
Companies care

Anticipated results of a successful cyberattack against automation and/or robotics systems

40%
Disruption of operations/manufacturing

39%
Loss or compromise of sensitive data

32%
Negative impact to quality of products produced

29%
Damage to physical property

22%
Harm to human life

Source: PwC, CIO and CSO, The Global State of Information Security® Survey 2018, October 18, 2017.
Base: 9,500 respondents

Lethal Autonomous Weapons

Converted F-16
Semi-autonomous
unmanned fighter

Electromagnetic rail-gun
Can blast a projectile out
at 7,250 kph

Swarming micro-drones
For stealth visual
and audio surveillance

Robot naval
fleets

Missile-dodging
satellites

Camera and sensor-
equipped bombs

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"47% of jobs in the United States are at high risk of computerization, with jobs in transportation, logistics, production and administrative support particularly vulnerable.

Oxford Martin Programme on Technology and Employment
University of Oxford, UK, 2013

"Millions of jobs will be eliminated, millions of new jobs will be created and needed, and far more jobs will be transformed"

Erik Brynjolfsson, Director, Initiative on the Digital Economy, MIT

Reimagining Financial Services

Key Personal Skills and Attributes

Skill	Percentage
Adaptability	86%
Problem Solving	85%
Collaboration skills	81%
Emotional Intelligence	76%
Creativity and innovation	74%
Leadership skills	69%
Digital skills	69%
Risk management skills	60%

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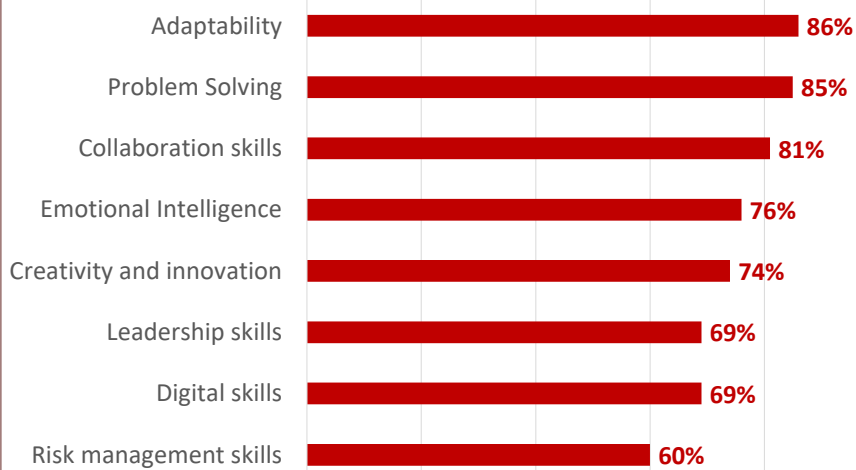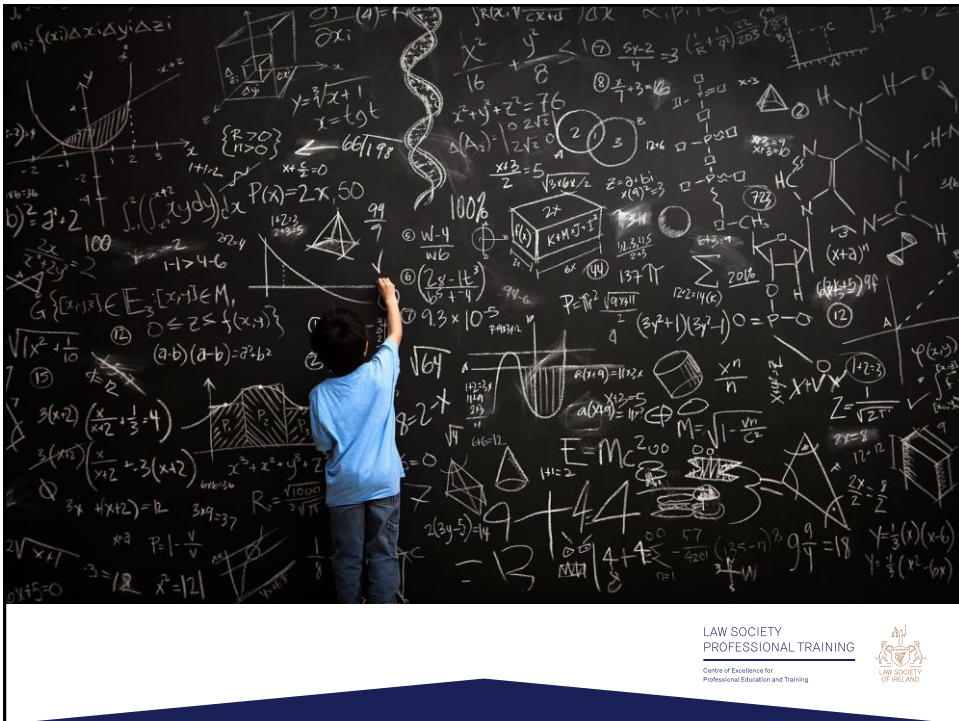
AGENDA

1. It's all a matter of perspective . . .

2. BLINC

3. Implications for legal risk and compliance

Parting thoughts. . .

- **Recognising the numbers and the rate of change**

- **Figuring out the profound impact of BₗINC on every organisation** *(strategy, competition, customers, staff etc)*

- **Changing stakeholder expectations (esp. Regulators)**

- **Engaging inside the organisation**
  (shared responsibility/opportunity)

- **Harnessing breakthrough technologies**

- **Personally upskilling**

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Relentless progress will increase the challenge

We need to step up to the challenge. . .

Volatility
Uncertainty
Complexity
Ambiguity

FRAGILE

Vision
Understanding
Clarity
Agility

AGILE

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