Interface Between Law & Technology

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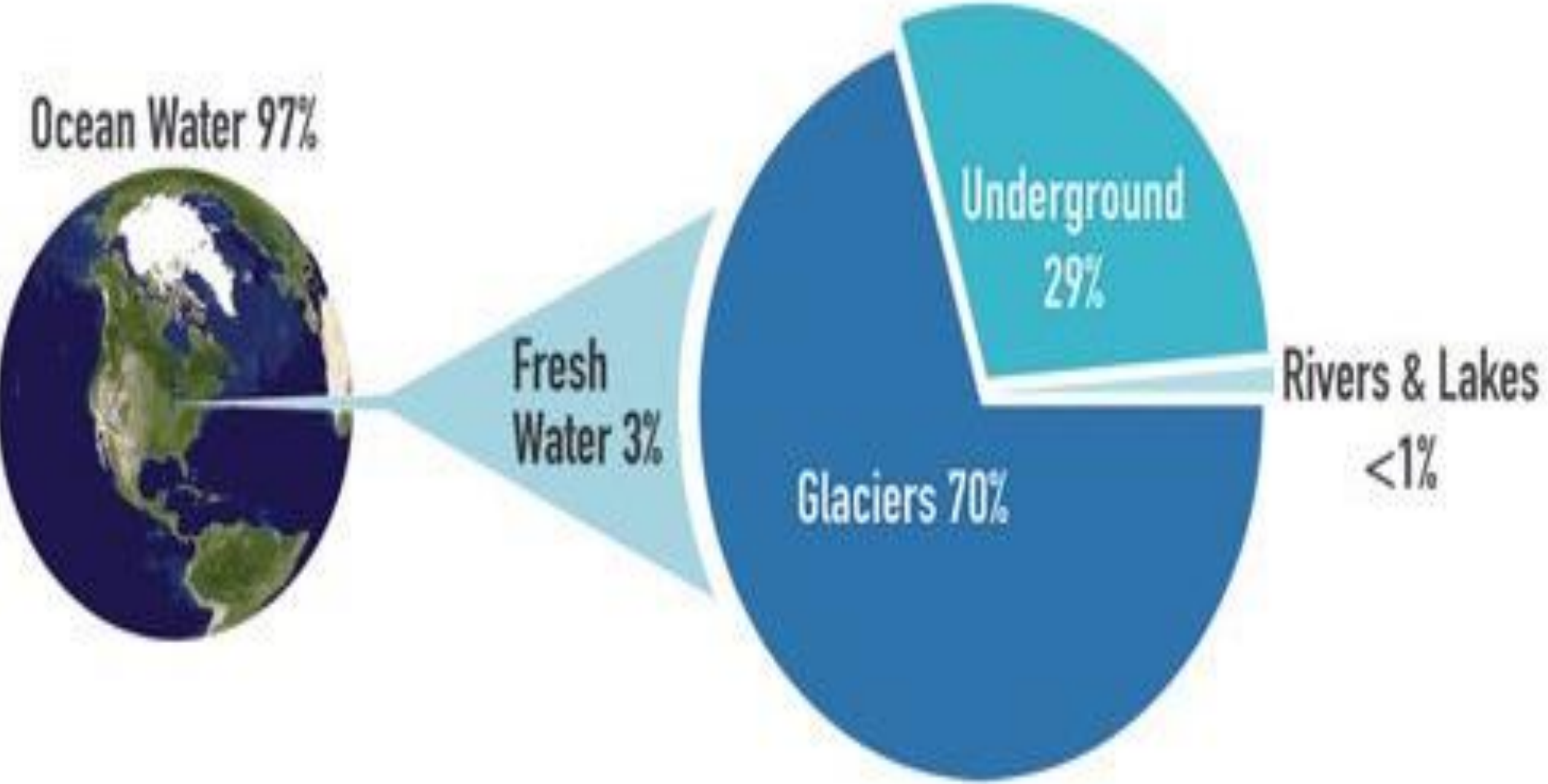
Latin-English Dictionary

Ignorantia juris neminem excusat

Ignorance of the law excuses no one

Ultimately Balance Prevails….

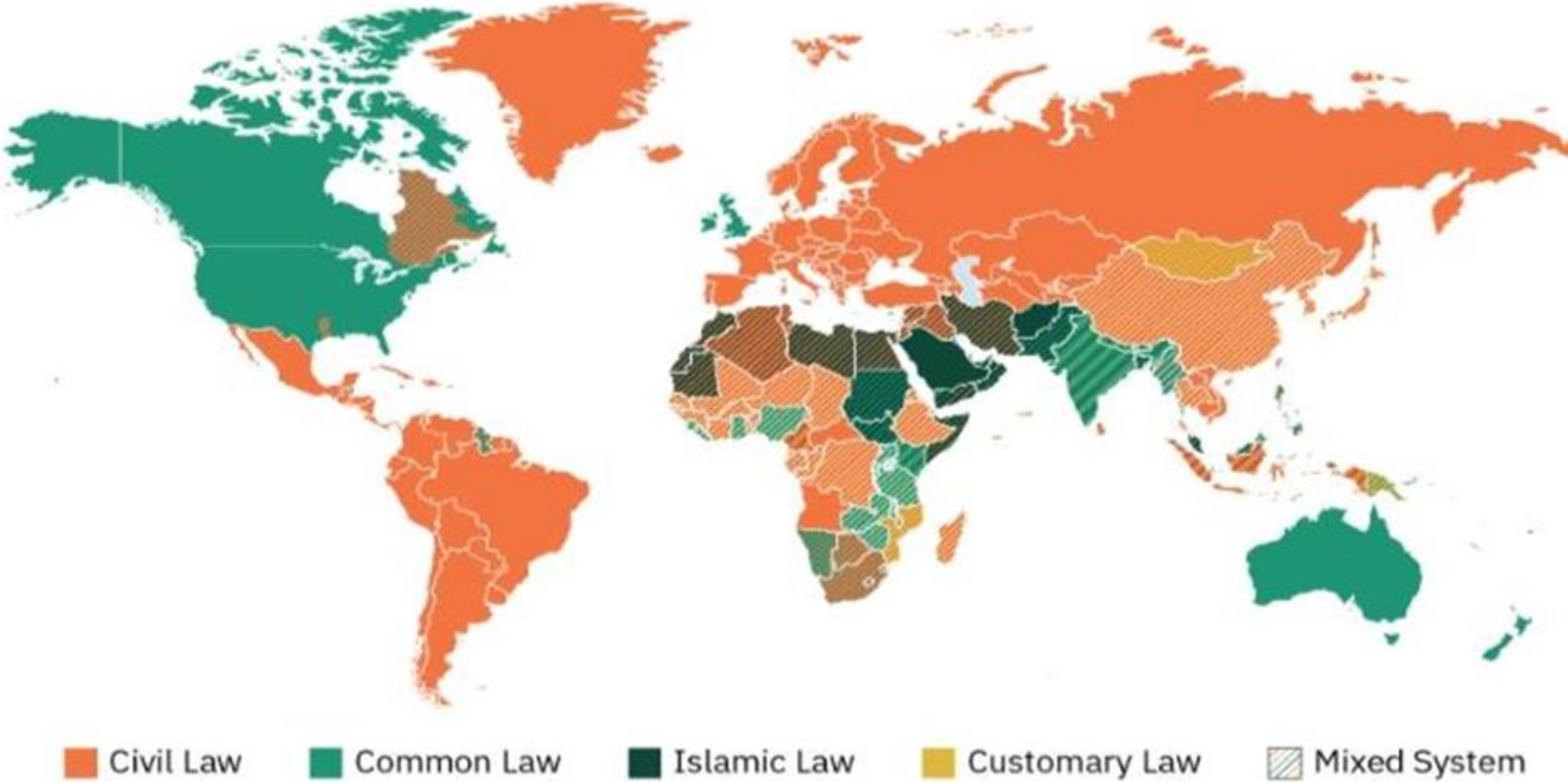

Ocean Water 97%
Fresh Water 3%
Underground 29%
Rivers & Lakes <1%
Glaciers 70%

Law of the Land is Supreme


NO GAMBLING!


CASINO
LOOSE $ SLOTS
CIGARS


INTERNATIONAL
WATERS


Civil Law
Common Law
Islamic Law
Customary Law
Mixed System

Law of Sea *vs* *Law of Maritime*

Defines and Governs the Rights & Liabilities of Nations with respect to ocean resources
(Public International Law)

Admiralty Law, A body of Law that governs Nautical Issues and Private Maritime Dispute
(Private International Law)

United Nation Conventions on Law of Sea (UNCLOS) 1982

320 Articles, 17 Parts & 9 Annexures


Delimitation
Environmental control
Marine Scientific Research
Economic and Commercial Activities
Transfer of Technology
Settlement of Disputes

Marine Law

Maritime Law (aka Admiralty)

Law of the Sea

Shipping Law

'Wet' Shipping Law

'Dry' Shipping Law

Transport / Carriage of Goods Law etc.

WATER WAR

Sir Creek may be a small strip of water but it holds immense economic significance for both India and Pakistan

EARLY HISTORY

"Freedom of the Seas"
set forth by Hugo Grotius in **1618**
proposed that the seas should be open
and accessible to all nations, thereby allowing
international trade.

1648 **The Treaty of Westphalia**
confirmed this idea that complete authority
and sovereignty over land by rulers would be recognized,
but no nation could exercise sovereignty over the oceans.

1982 **The United Nations Convention on the Law of the Sea (UNCLOS)** was passed in 1982.

It now has **166** STATES parties

FIRST **successful international collaborative approach** to maritime security and building a framework on ocean law.

Addresses conduct on, over, and under **70%** of the world's surface.

The doctrine of Freedom of the Seas persists during the twentieth century; however, naval arms control also contributed to **maritime governance.**

Maritime law evolves from a focus on the regulation or prevention of naval warfare to a structure for **secure, safe and environmentally sustainable uses of the oceans.**

The International Maritime Organization (IMO)

is the key institution of the United Nations created in 1948 for the development of international maritime law.

It now has **170** STATES parties | **3** associate members |  CONSENSUS oriented

ADOPTS REGIMES AND TREATIES regarding international shipping

50 treaties + **100s** of codes & guidelines

applied to almost **100% OF GLOBAL TONNAGE**

3 INTERNATIONAL TREATIES

to counter drug activities that are widely accepted and complementary:

1961 Single Convention on Narcotic Drugs
180 STATE PARTIES

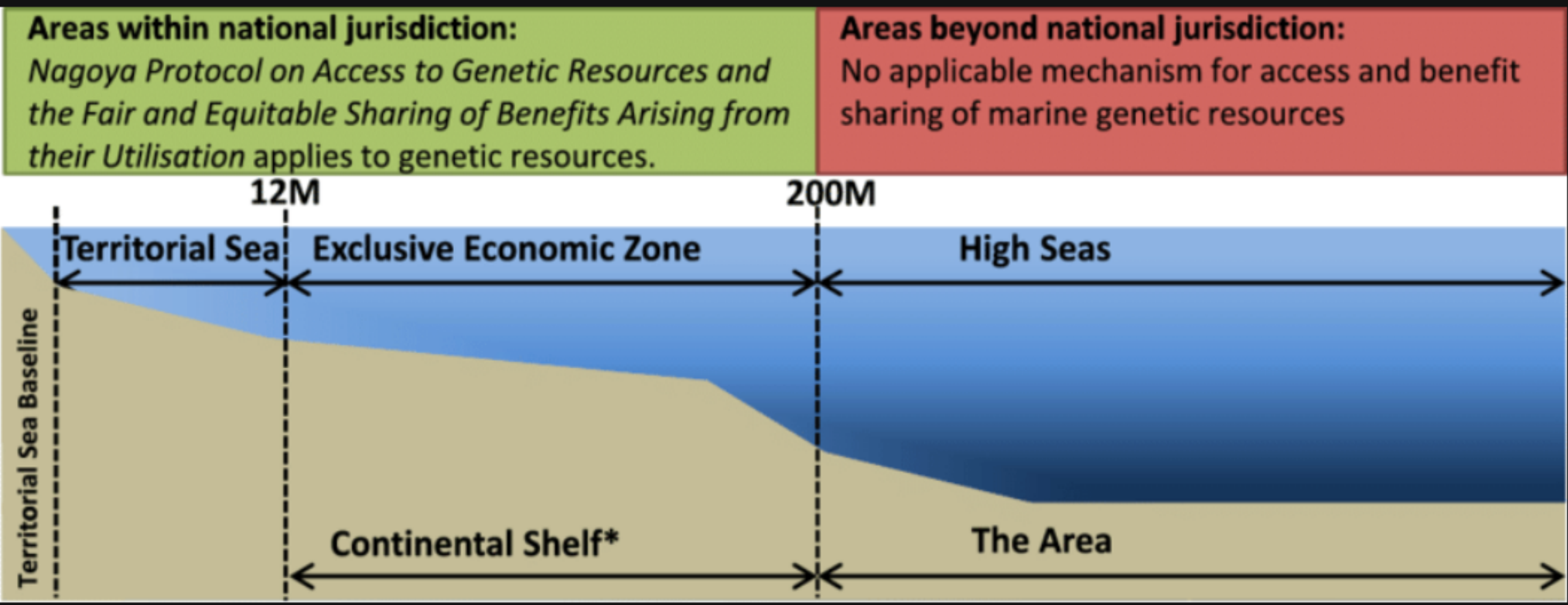
1971 Convention on Psychotropic Substances
175 STATE PARTIES

1988 UN Convention on Illicit Traffic of Narcotics and Psychotropic Drugs
170 STATE PARTIES

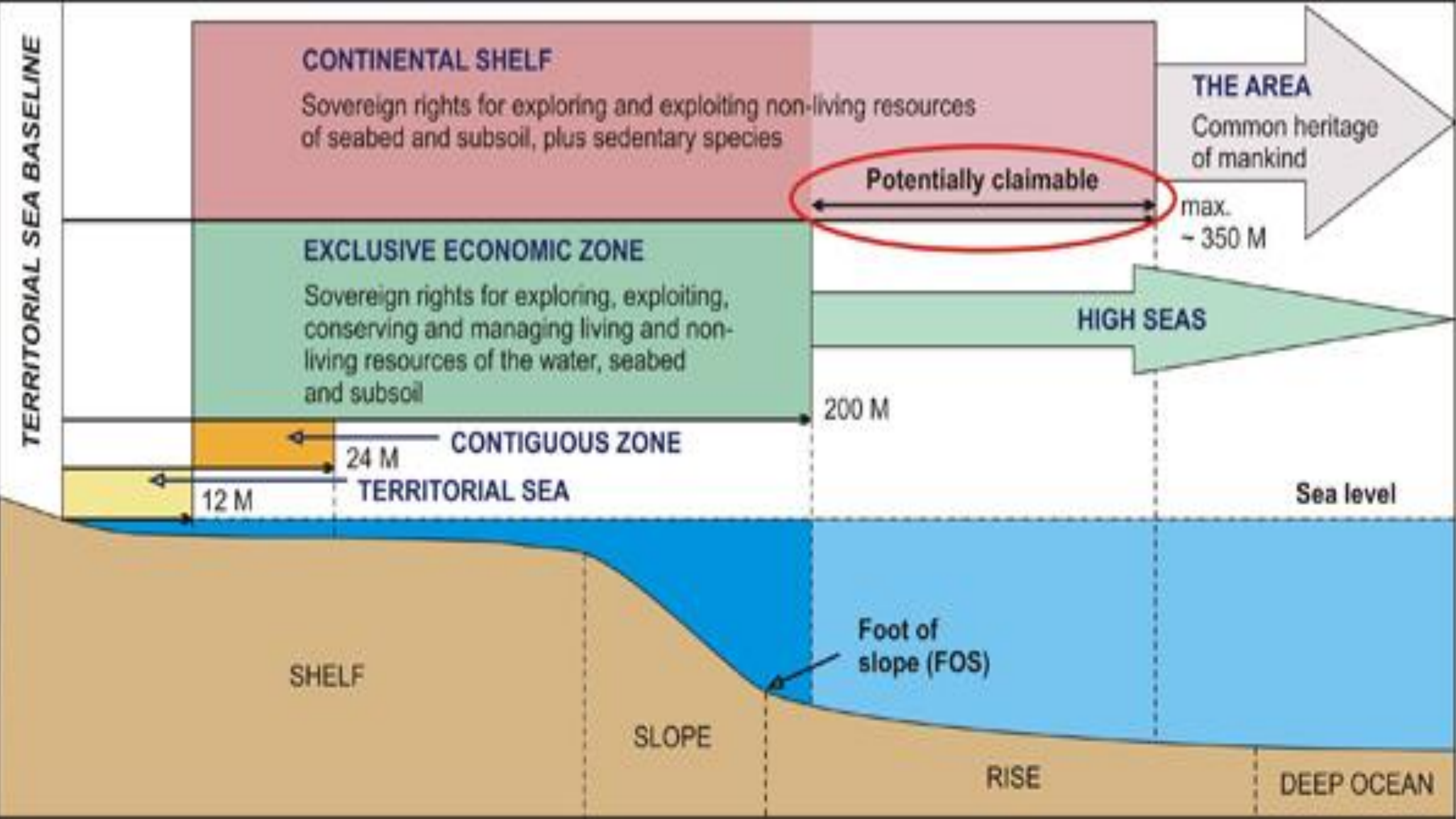
These treaties outline control measures for allowing
"lawful narcotic drugs and psychotropic substances
for medical and scientific purposes
while preventing their diversion into the black market."

This treaty regulates chemicals used in manufacturing drugs and provides additional provisions for other drug-related crimes such as money laundering.

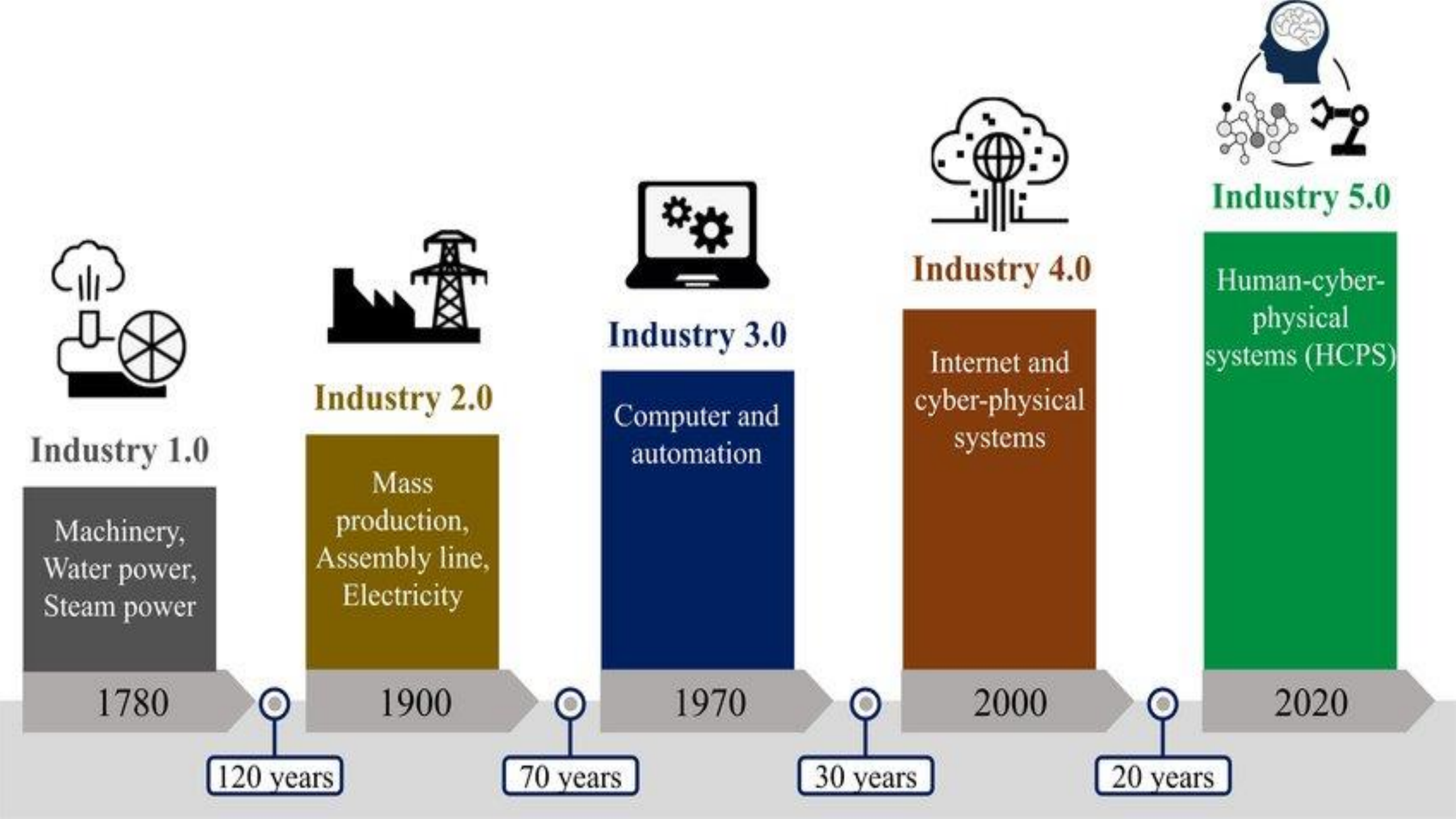
There are additional regional counter-drug agreements that allow "other nations to operate in waters under their jurisdictions" and determine the counter-narcotics procedures and guidelines related to boarding and seizure.



Under the United Nations Convention on the Law of the Sea (UNCLOS) the ocean is divided into areas within and outside of national jurisdiction. While the Nagoya Protocol applies in areas within national jurisdiction, there is no applicable mechanism for access and benefit-sharing of marine genetic resources in areas beyond national jurisdiction. (Notes: " M " = nautical mile; * The outer limit of the continental shelf could extend beyond 200M, as provided for by UNCLOS article 76. Some maritime zones included in areas within national jurisdiction are not indicated in this diagram (I.e.: Internal Waters; Archipelagic Waters; Contiguous Zone).


TERRITORIAL SEA BASELINE
CONTINENTAL SHELF
Sovereign rights for exploring and exploiting non-living resources of seabed and subsoil, plus sedentary species
THE AREA
Common heritage of mankind
Potentially claimable
max. ~ 350 M
EXCLUSIVE ECONOMIC ZONE
Sovereign rights for exploring, exploiting, conserving and managing living and non-living resources of the water, seabed and subsoil
HIGH SEAS
200 M
CONTIGUOUS ZONE
24 M
TERRITORIAL SEA
12 M
Sea level
Foot of slope (FOS)
SHELF
SLOPE
RISE
DEEP OCEAN


Classifieds
OXFORD
AMERICAN
Encyclopedia
YELLOW PAGES
Crosswords


Industry 1.0
Machinery, Water power, Steam power
1780
120 years
Industry 2.0
Mass production, Assembly line, Electricity
1900
70 years
Industry 3.0
Computer and automation
1970
30 years
Industry 4.0
Internet and cyber-physical systems
2000
20 years
Industry 5.0
Human-cyber-physical systems (HCPS)
2020

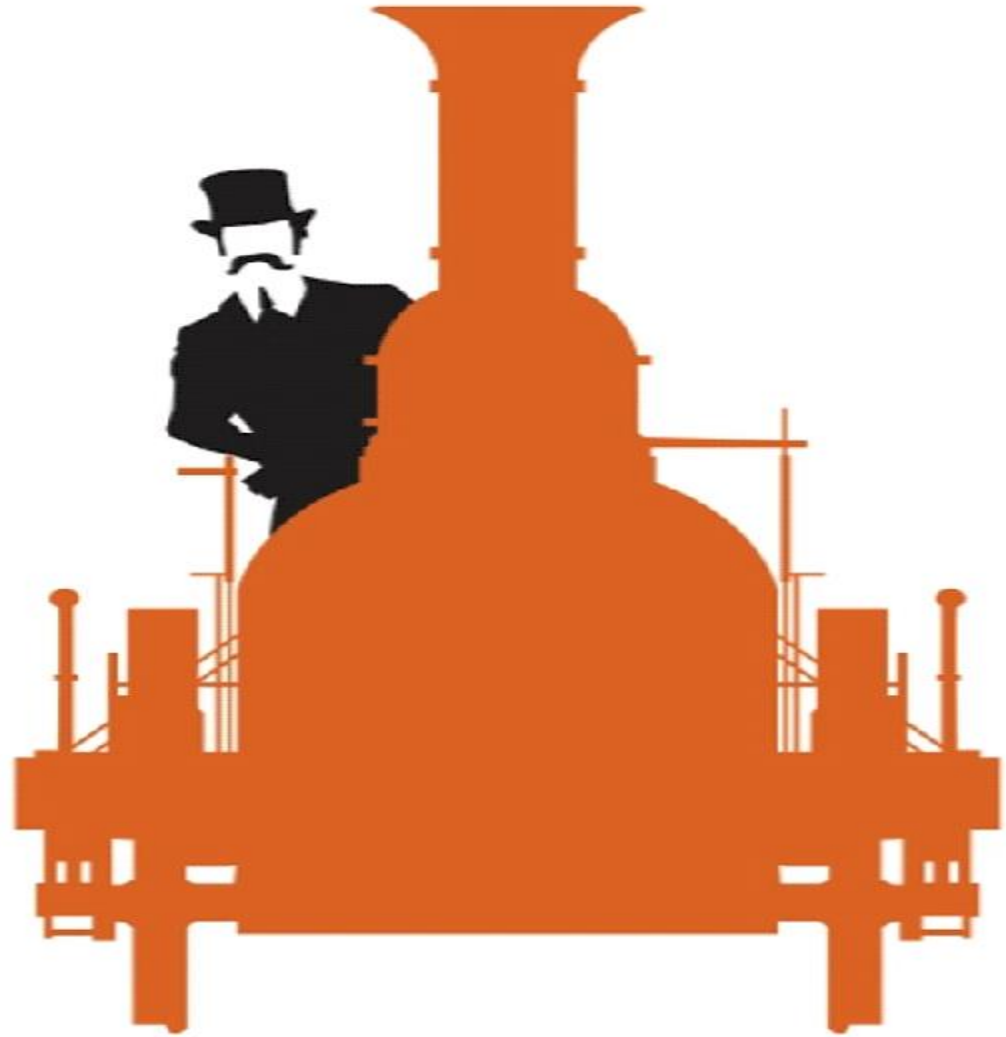
We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before.

Klaus Schwab,
President of the World Economic Forum,
The Fourth Industrial Revolution

Productivity growth from the steam engine

0.3%

1850–1910



Source: McKinsey Global Institute analysis

McKinsey&Company

#Automation

Evolution of Communication Technology

Voice Calling

1G

1980s

Voice calling

0.1 USD/min

Text Message

2G

1990s

Voice calling

0.05 USD/min

Internet Access

3G

2000s

Data Transmission

0.1 USD/MB

Smart Phones

4G

2010s

Data Transmission

0.1 USD/GB

Smart Homes

5G

2020s

Connection Link

1 USD/TB

Autonomous Cars

6G

2030s

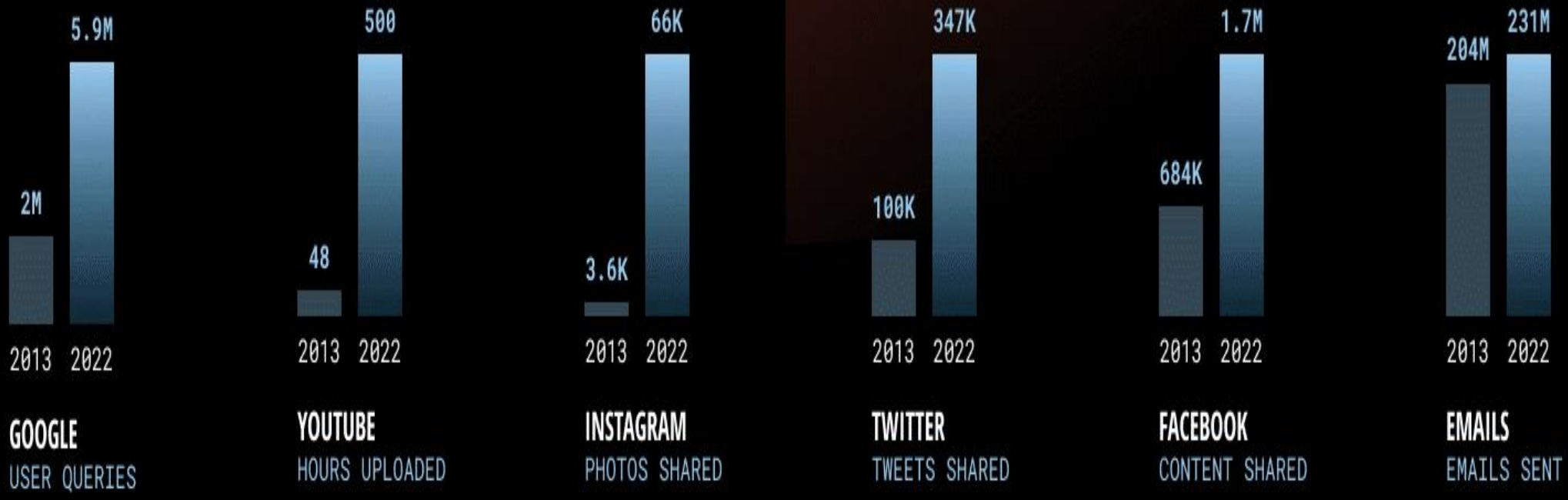
Connection Link

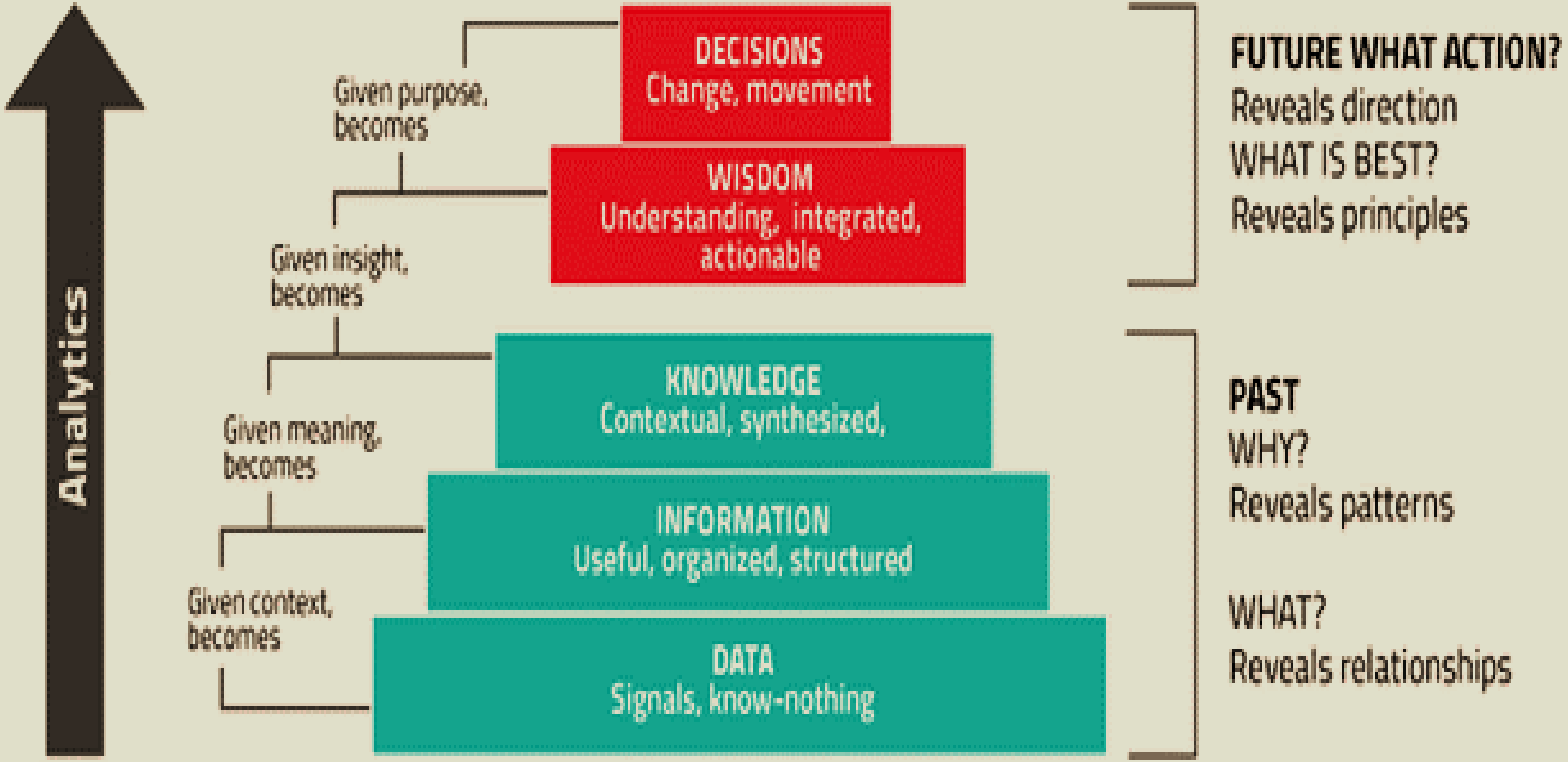
Expected :1 USD/PB

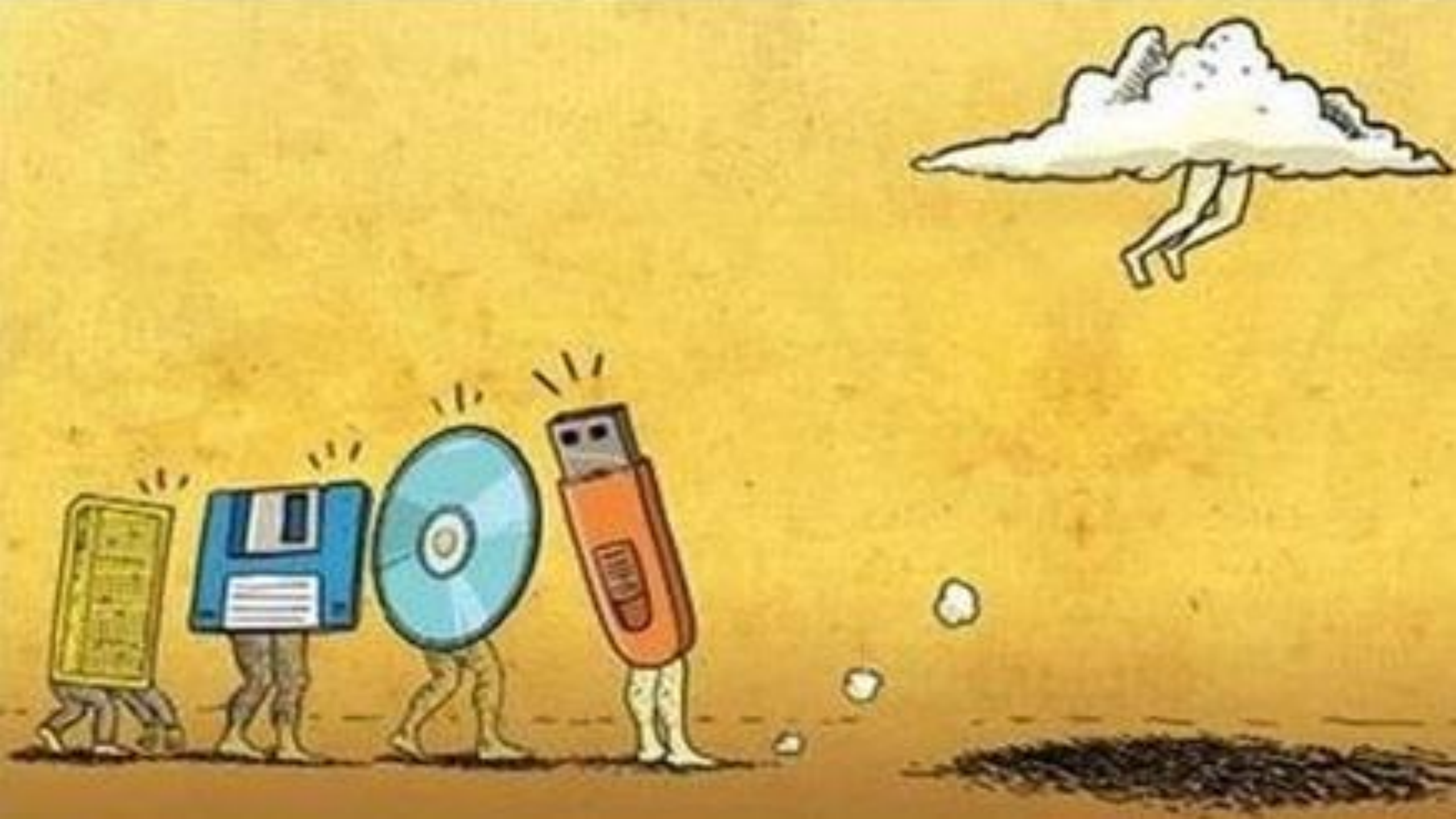
DOMO

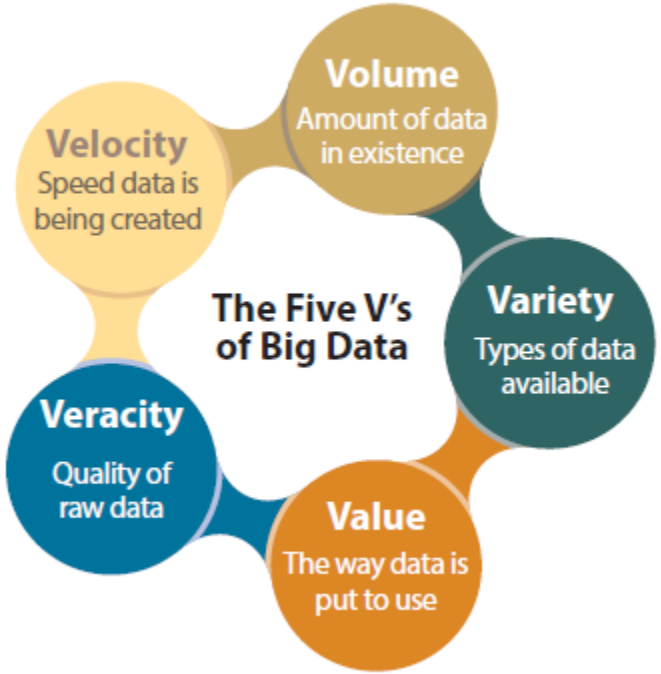
DATA NEVER SLEEPS 10.0

DATA NEVER SLEEPS 1.0 VS. 10.0

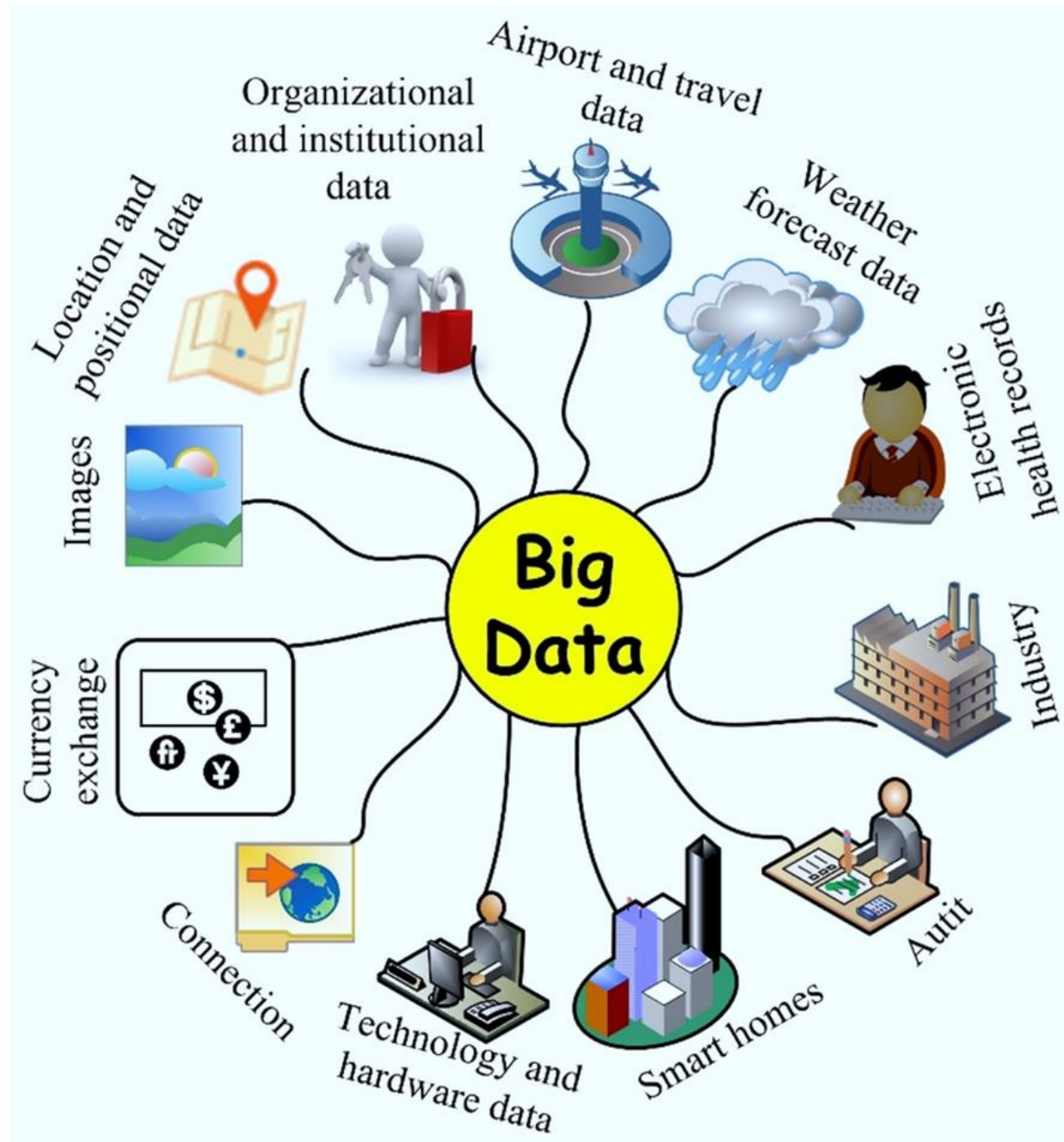


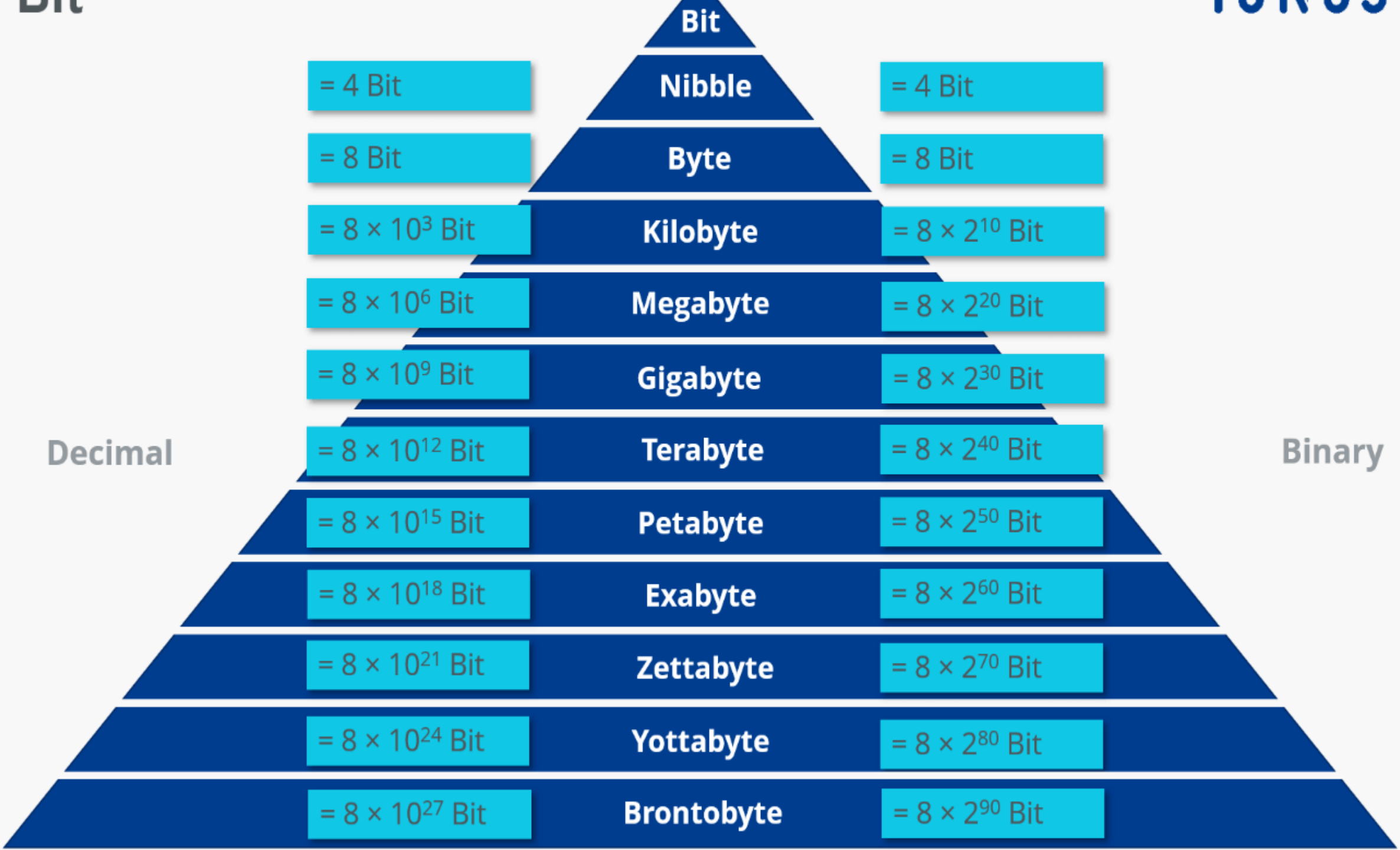

Analytics
DECISIONS
Change, movement
Given purpose, becomes
WISDOM
Understanding, integrated, actionable
Given insight, becomes
KNOWLEDGE
Contextual, synthesized,
Given meaning, becomes
INFORMATION
Useful, organized, structured
Given context, becomes
DATA
Signals, know-nothing
FUTURE WHAT ACTION?
Reveals direction
WHAT IS BEST?
Reveals principles
PAST
WHY?
Reveals patterns
WHAT?
Reveals relationships




Volume
Amount of data in existence
Velocity
Speed data is being created
The Five V's of Big Data
Variety
Types of data available
Veracity
Quality of raw data
Value
The way data is put to use


COLLECTION
STORAGE
NETWORK
RESEARCH
BIG DATA
CLOUD TECHNOLOGY
ANALYSIS
VISUALIZATION
VOLUME


Big Data
Airport and travel data
Organizational and institutional data
Location and positional data
Weather forecast data
Images
Electronic health records
Currency exchange
Industry
Connection
Autit
Technology and hardware data
Smart homes


Bit
Nibble
Byte
Kilobyte
Megabyte
Gigabyte
Terabyte
Petabyte
Exabyte
Zettabyte
Yottabyte
Brontobyte
= 4 Bit
= 8 Bit
= 8 × 10^3 Bit
= 8 × 10^6 Bit
= 8 × 10^9 Bit
= 8 × 10^12 Bit
= 8 × 10^15 Bit
= 8 × 10^18 Bit
= 8 × 10^21 Bit
= 8 × 10^24 Bit
= 8 × 10^27 Bit
= 4 Bit
= 8 Bit
= 8 × 2^10 Bit
= 8 × 2^20 Bit
= 8 × 2^30 Bit
= 8 × 2^40 Bit
= 8 × 2^50 Bit
= 8 × 2^60 Bit
= 8 × 2^70 Bit
= 8 × 2^80 Bit
= 8 × 2^90 Bit
Decimal
Binary

Artificial

Something,
which is…?
NOT Natural

Intelligence ≠ Intellect
Intelligence > Intellect

Intelligence

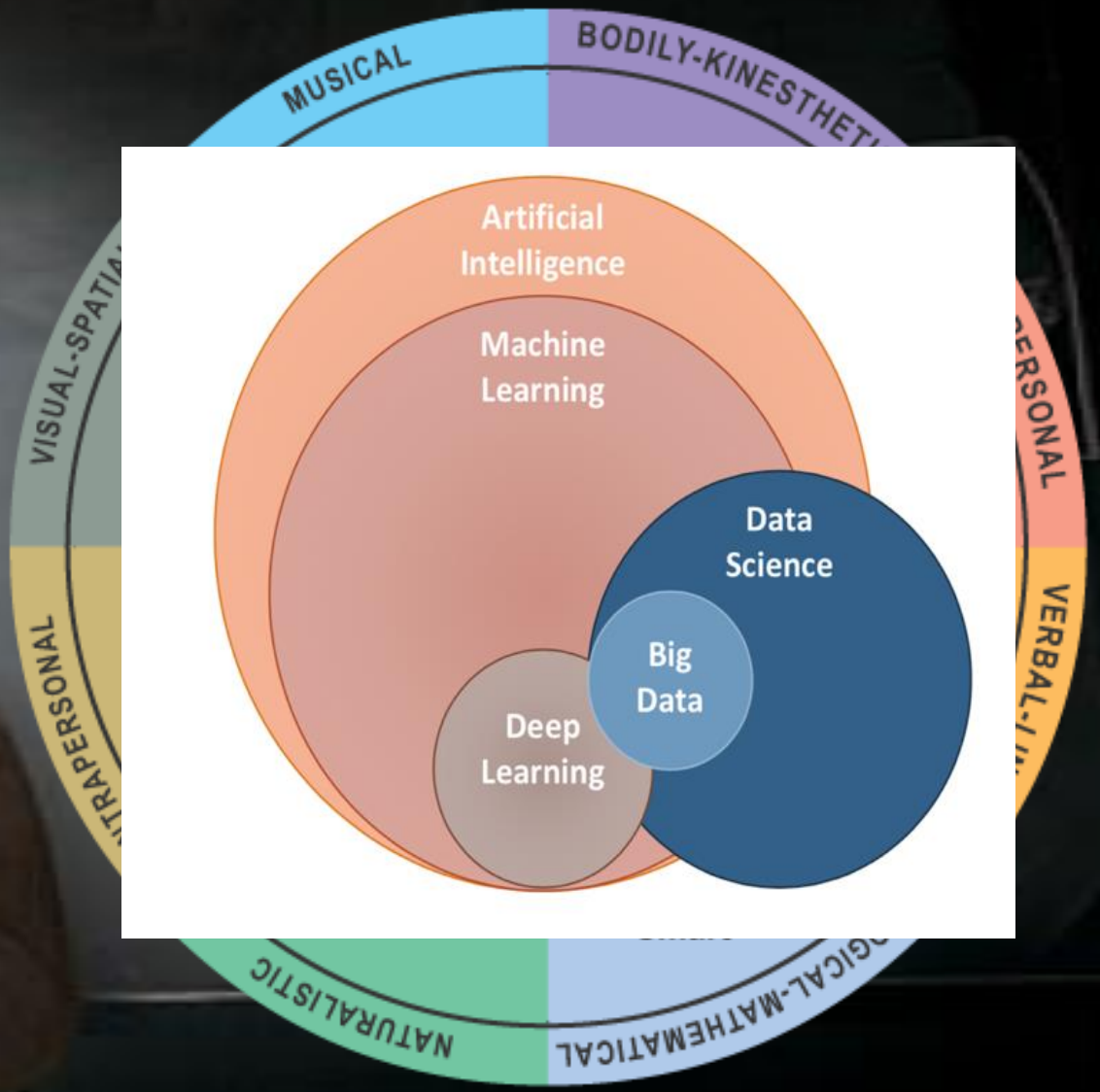
INTELLCT

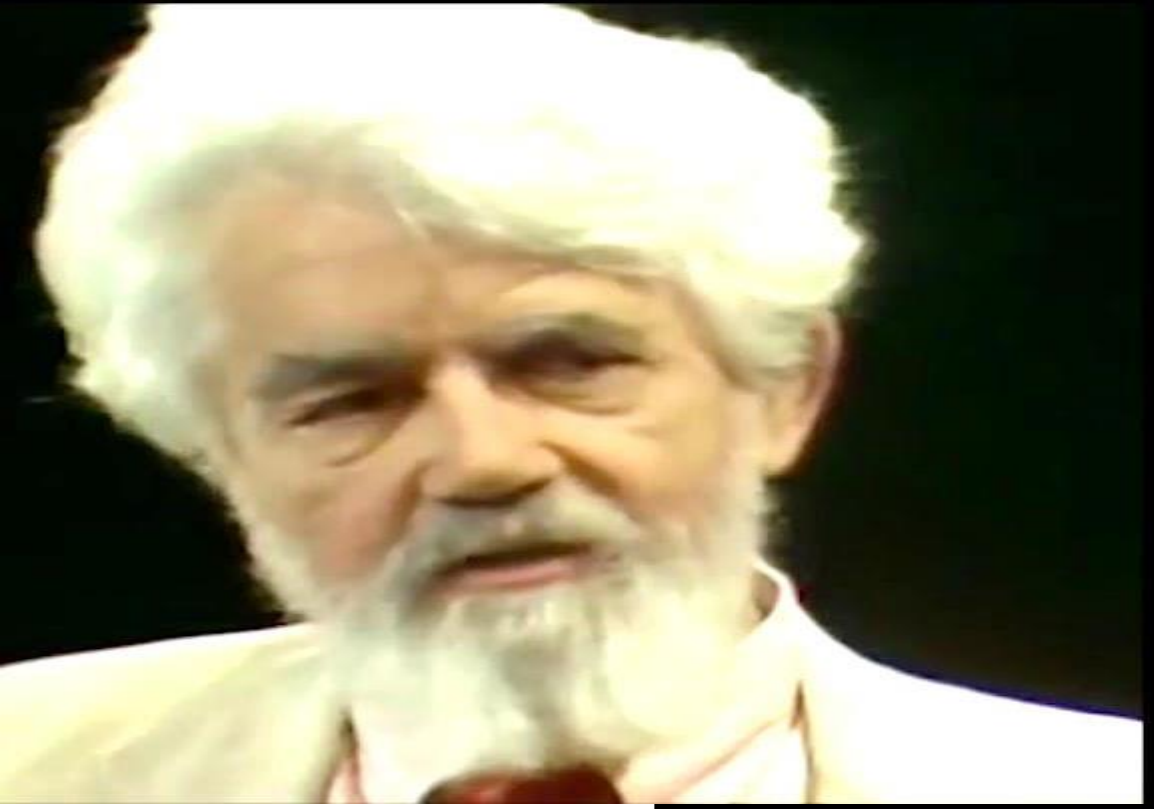
The Capacity:

- ✓ To Learn
- ✓ To Reason
- ✓ To Understand
- ✓ To Judge
- ✓ To Decide

Multiple Intelligence Theory

Howard Gardner (Frames of Mind) 1983

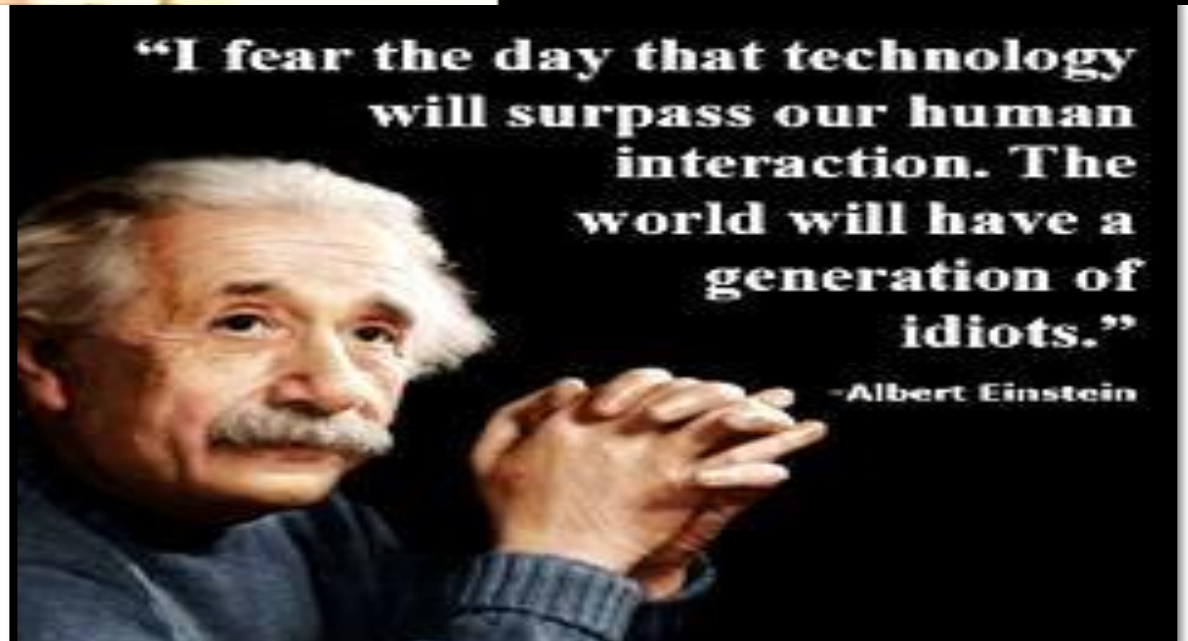




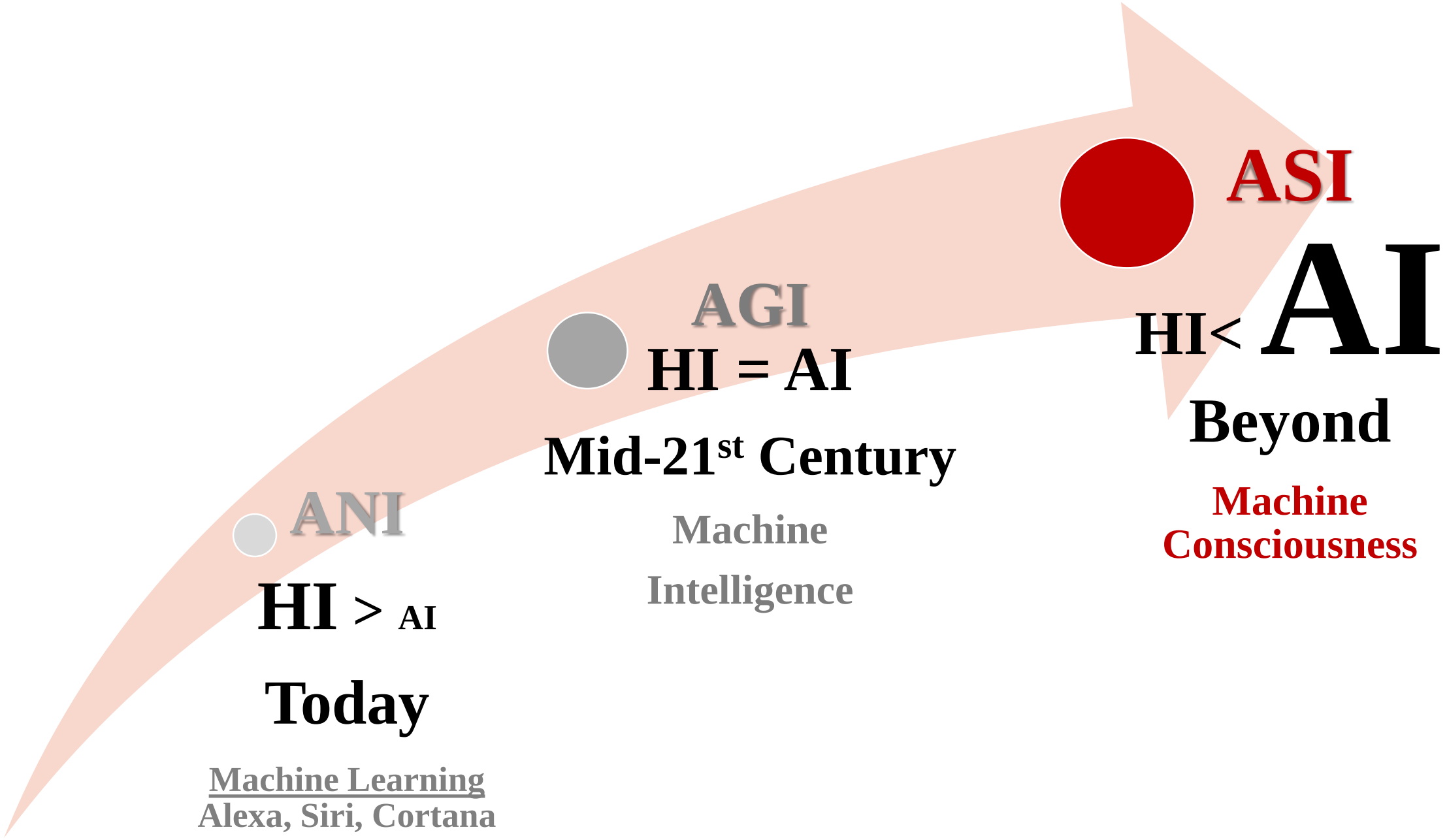
"If it takes 200 years to achieve artificial intelligence and then finally there's a textbook that explains how it's done, the hardest part of that textbook to write will be the part that explains why people didn't think of it 200 years ago."

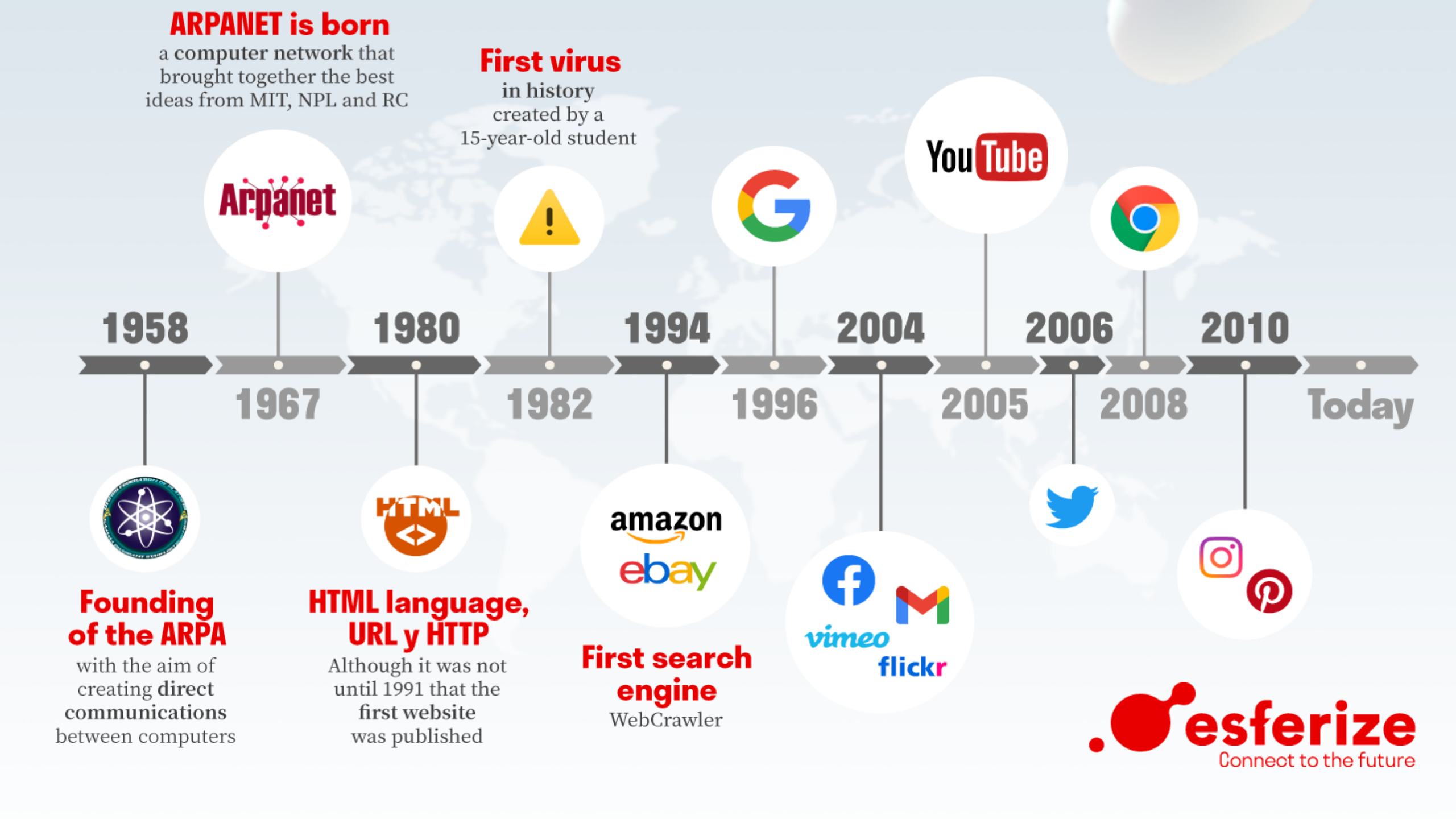
– John McCarthy

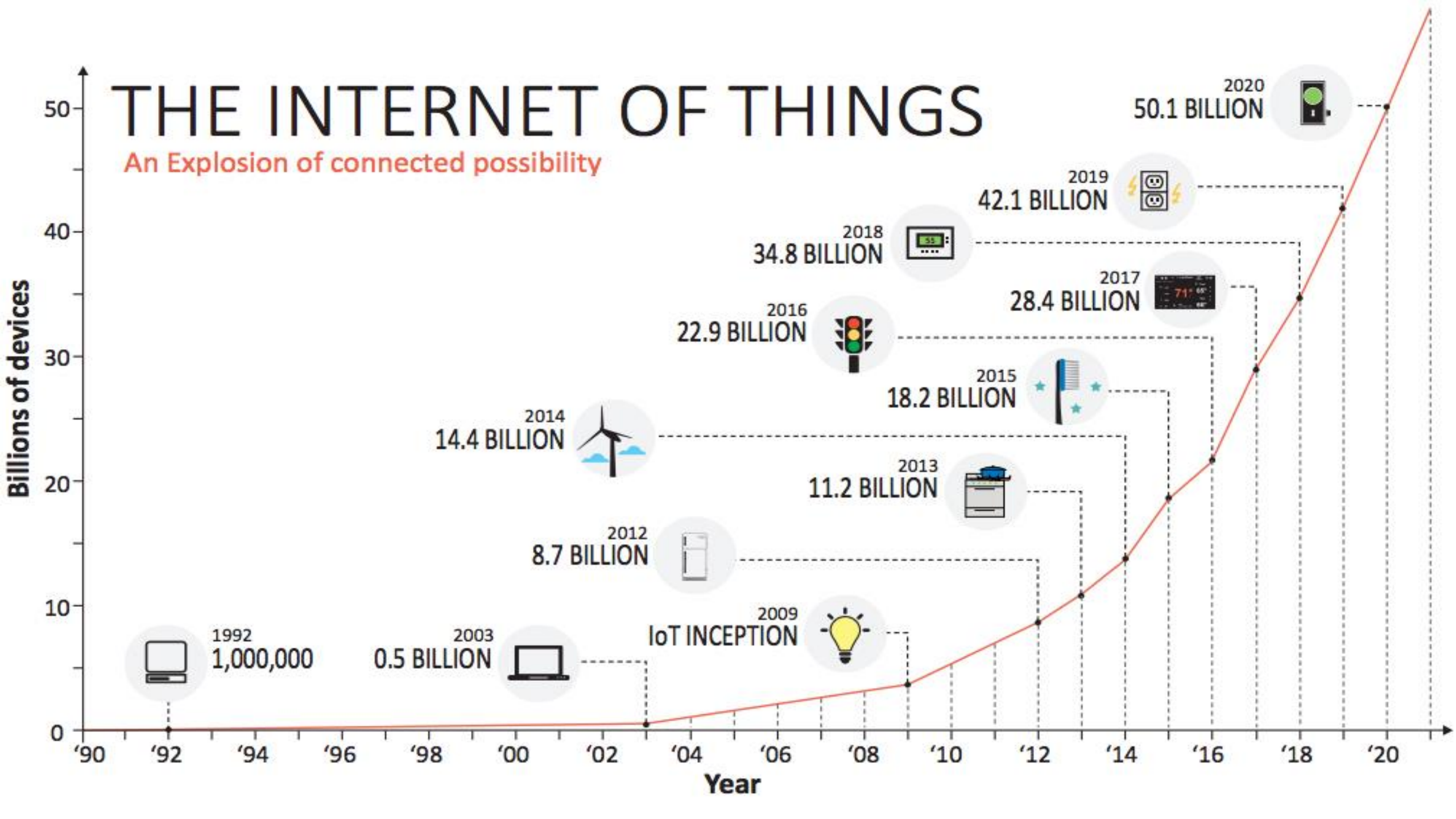
(Coined the term "Artificial Intelligence")



Evolution of AI




ARPANET is born
a computer network that brought together the best ideas from MIT, NPL and RC
First virus
in history
created by a 15-year-old student
Arpanet
YouTube
1958
1967
1980
1982
1994
1996
2004
2005
2006
2008
2010
Today
HTML
amazon
ebay
vimeo
flickr
Founding of the ARPA
with the aim of creating direct communications between computers
HTML language, URL y HTTP
Although it was not until 1991 that the first website was published
First search engine
WebCrawler
esferize
Connect to the future


THE INTERNET OF THINGS
An Explosion of connected possibility
Billions of devices
Year
0
10
20
30
40
50
'90
'92
'94
'96
'98
'00
'02
'04
'06
'08
'10
'12
'14
'16
'18
'20
1992
1,000,000
2003
0.5 BILLION
2009
IoT INCEPTION
2012
8.7 BILLION
2013
11.2 BILLION
2014
14.4 BILLION
2015
18.2 BILLION
2016
22.9 BILLION
2017
28.4 BILLION
2018
34.8 BILLION
2019
42.1 BILLION
2020
50.1 BILLION

Machine-to-Machine

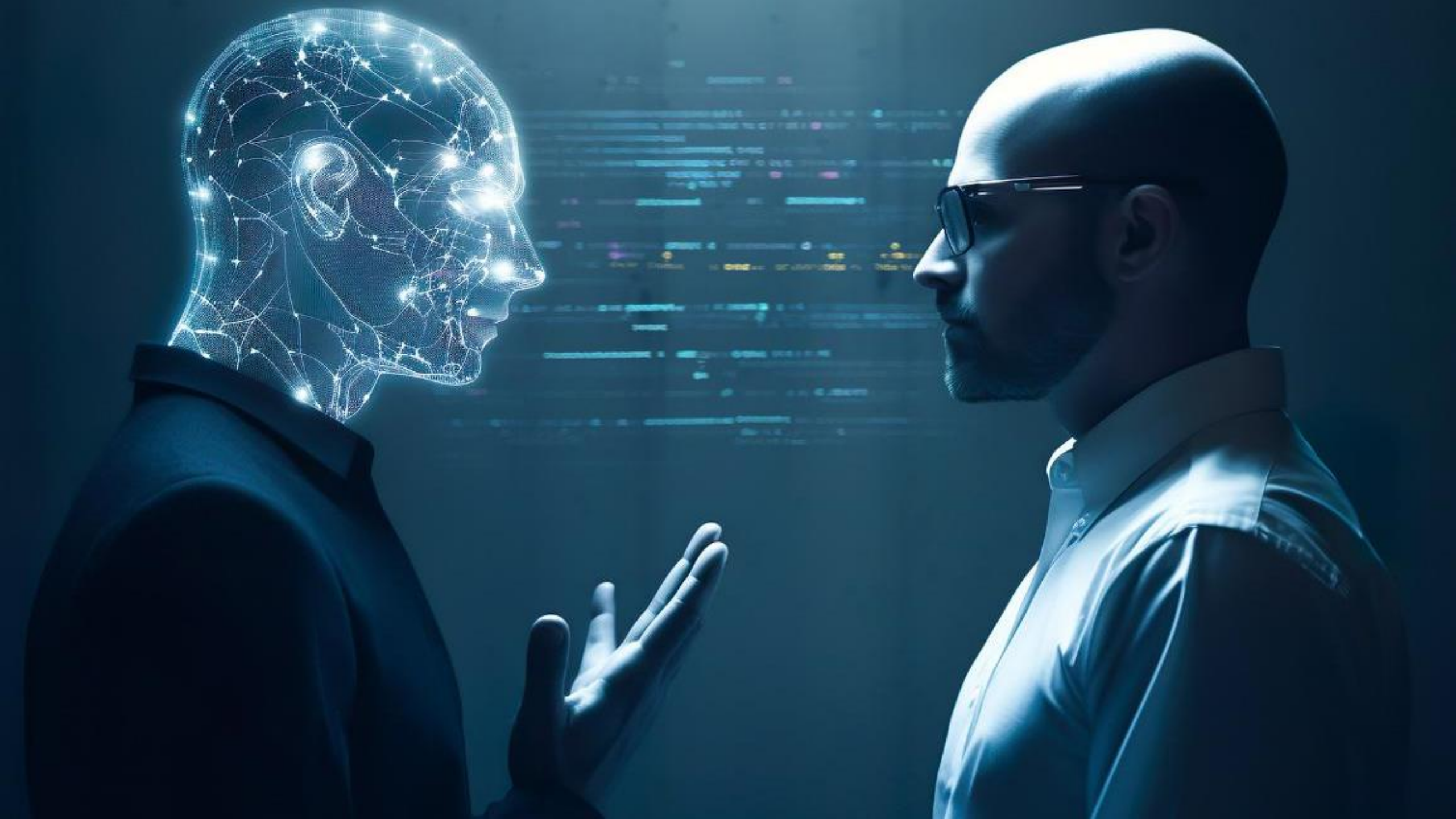
A device that captures an event and transmit the event over the network to an application. The application translates event to meaningful information.

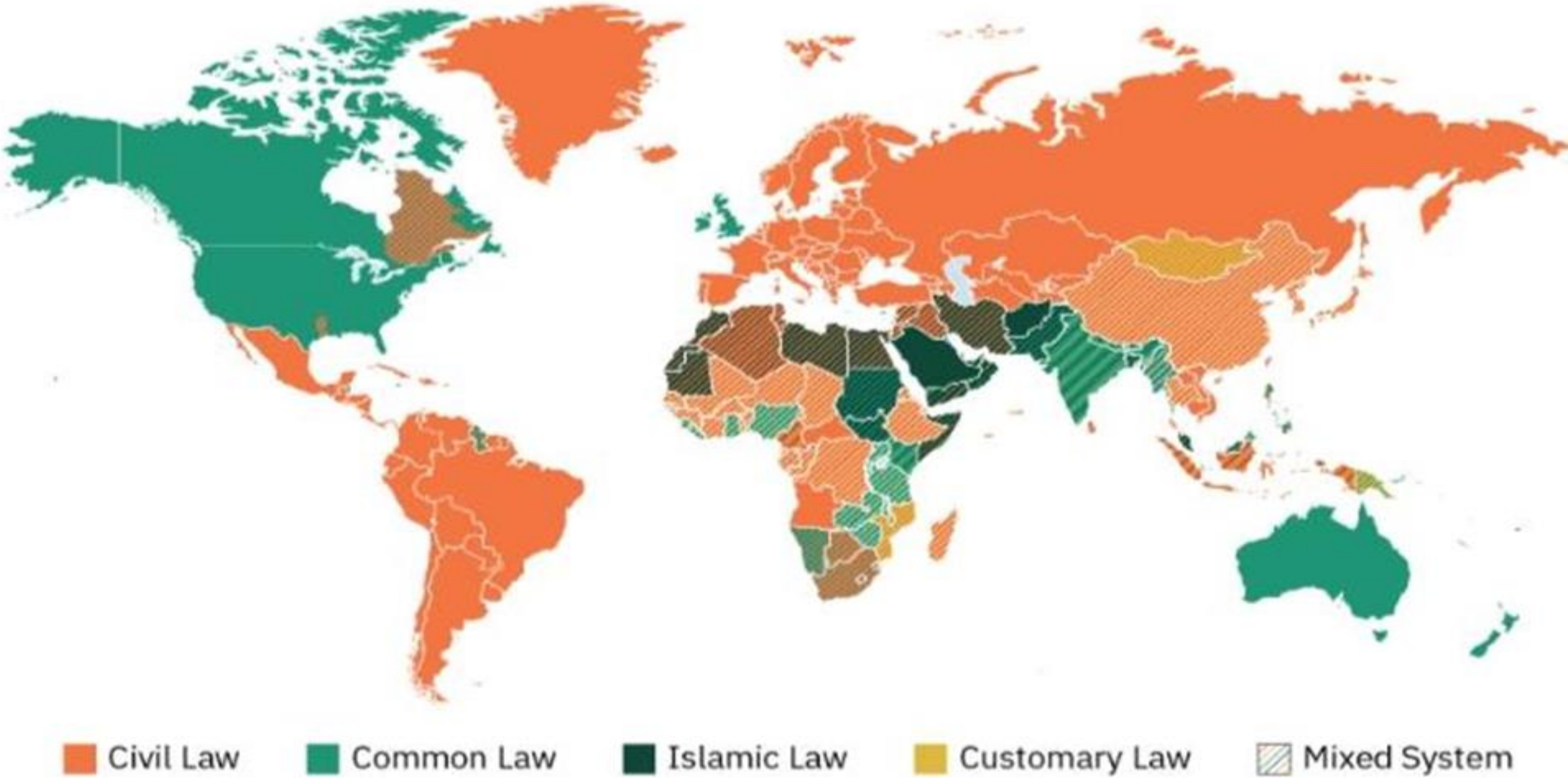
Internet of Things

A network of uniquely identifiable things that communicate without human interaction using IP connectivity.

Internet of Everything

Bringing together the people, process, data, and things to make networked connections more meaningful by turning information into actions.




Civil Law
Common Law
Islamic Law
Customary Law
Mixed System

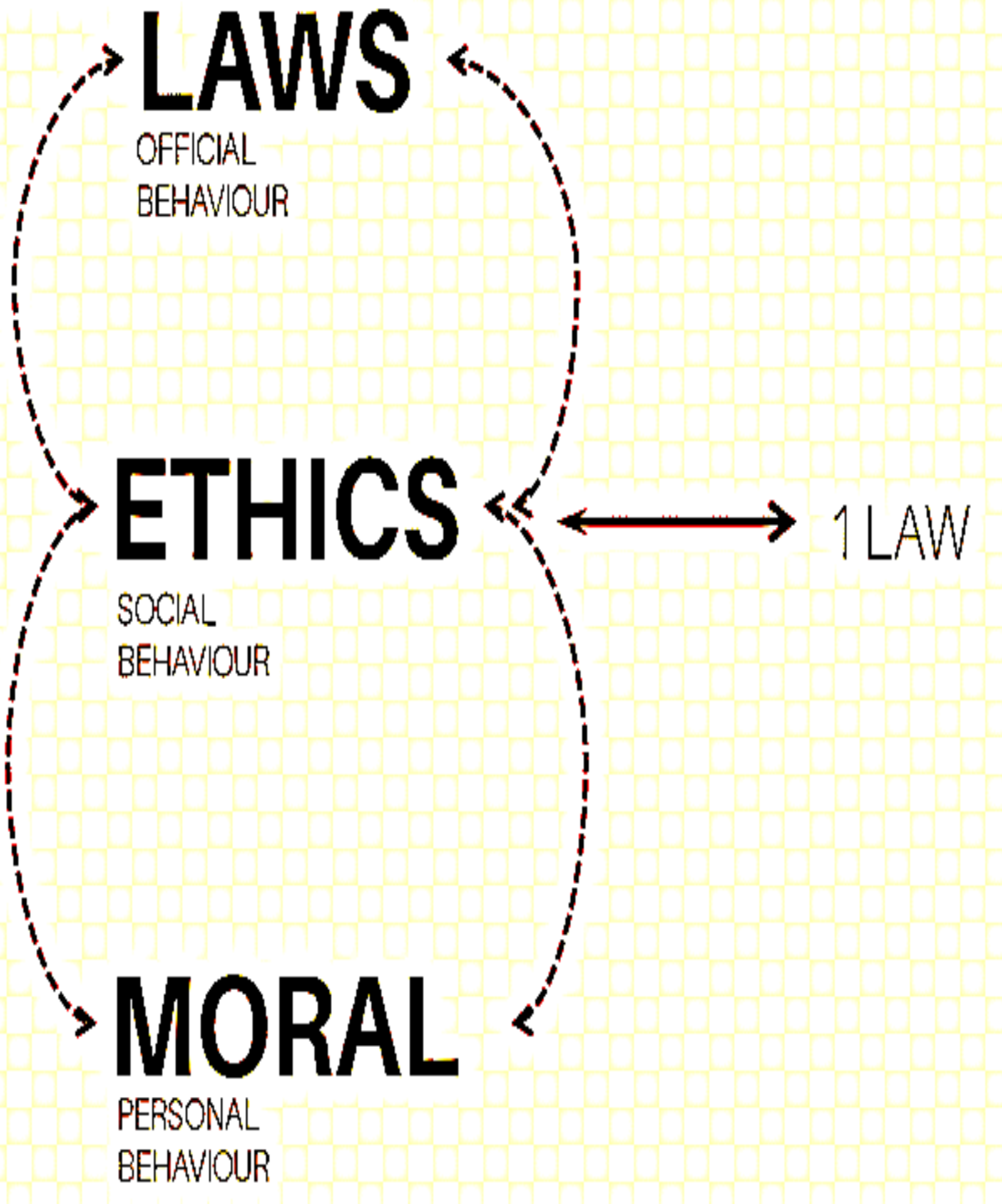
THE RULE OF LAW

Equality
under the law

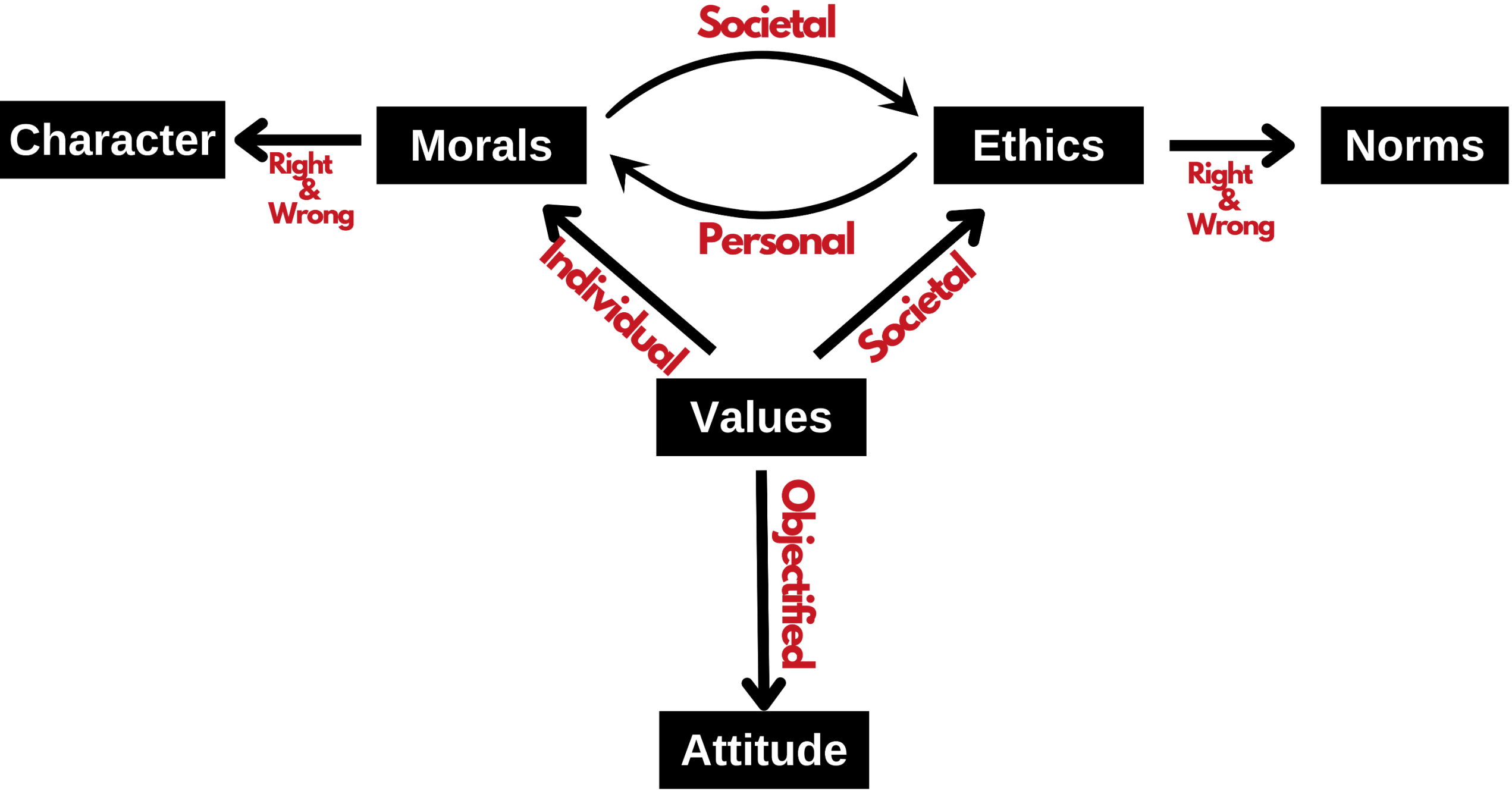
Transparency
of law

Independent
judiciary

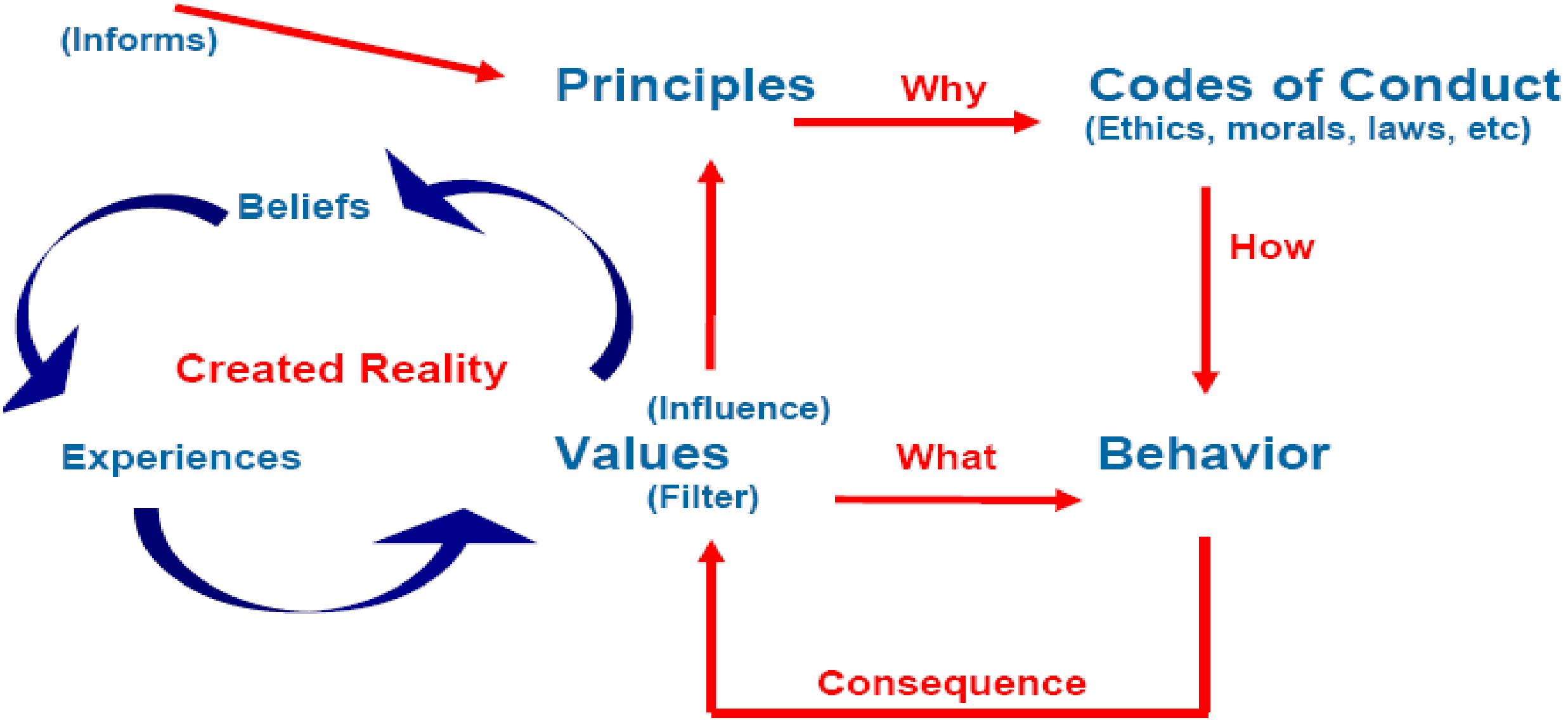
Accessible
legal remedy

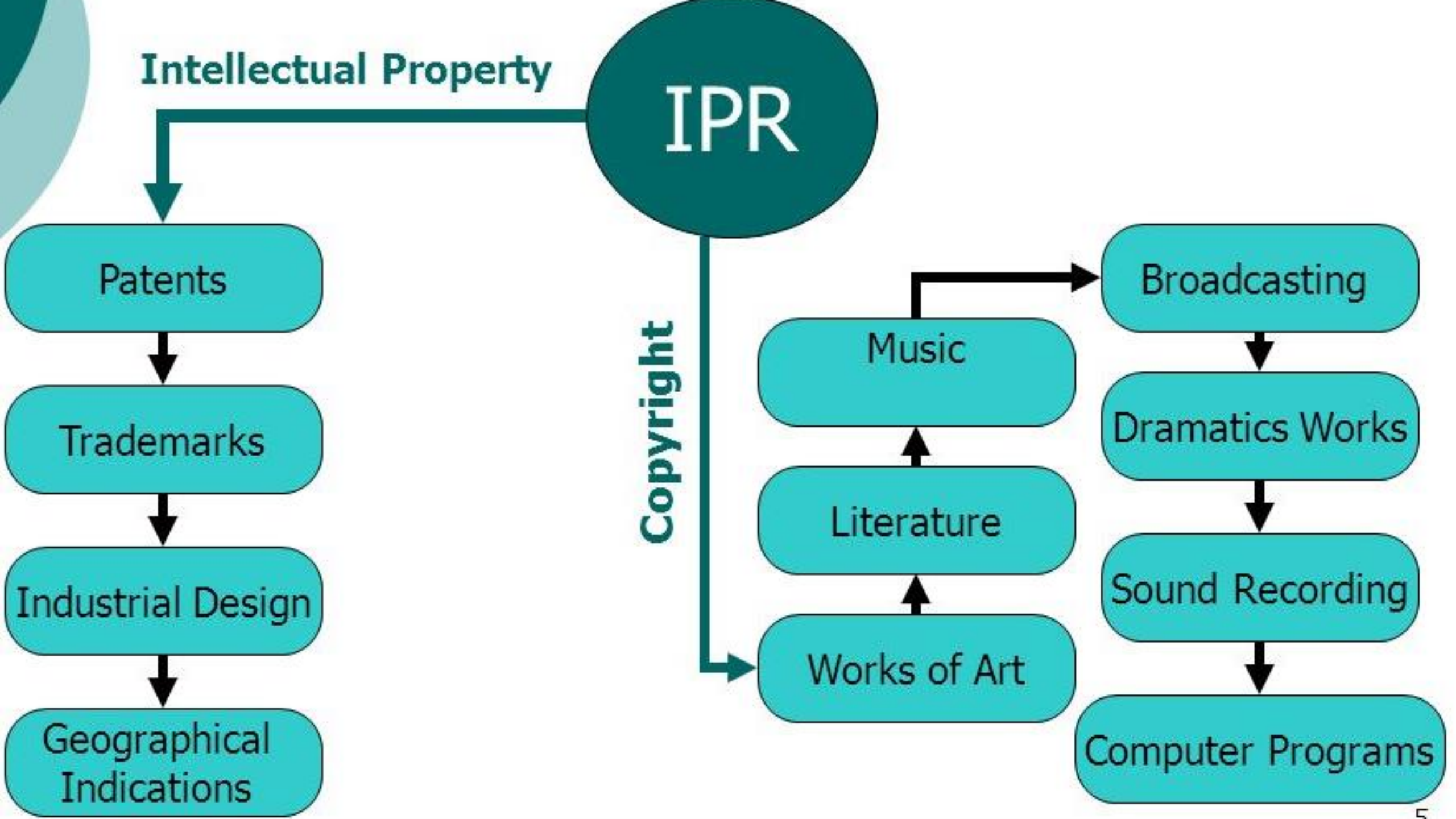

LAWS
OFFICIAL
BEHAVIOUR
ETHICS
SOCIAL
BEHAVIOUR
1 LAW
MORAL
PERSONAL
BEHAVIOUR

RULES	LAWS
 Made by groups and their leaders	 Made by parliament and the courts
 Group leaders make sure members of the group follow the rules	 Police and courts make sure people follow the laws
 There are consequences for people in the group for not following group rules	 Legal consequences for not following laws include fines and jail time

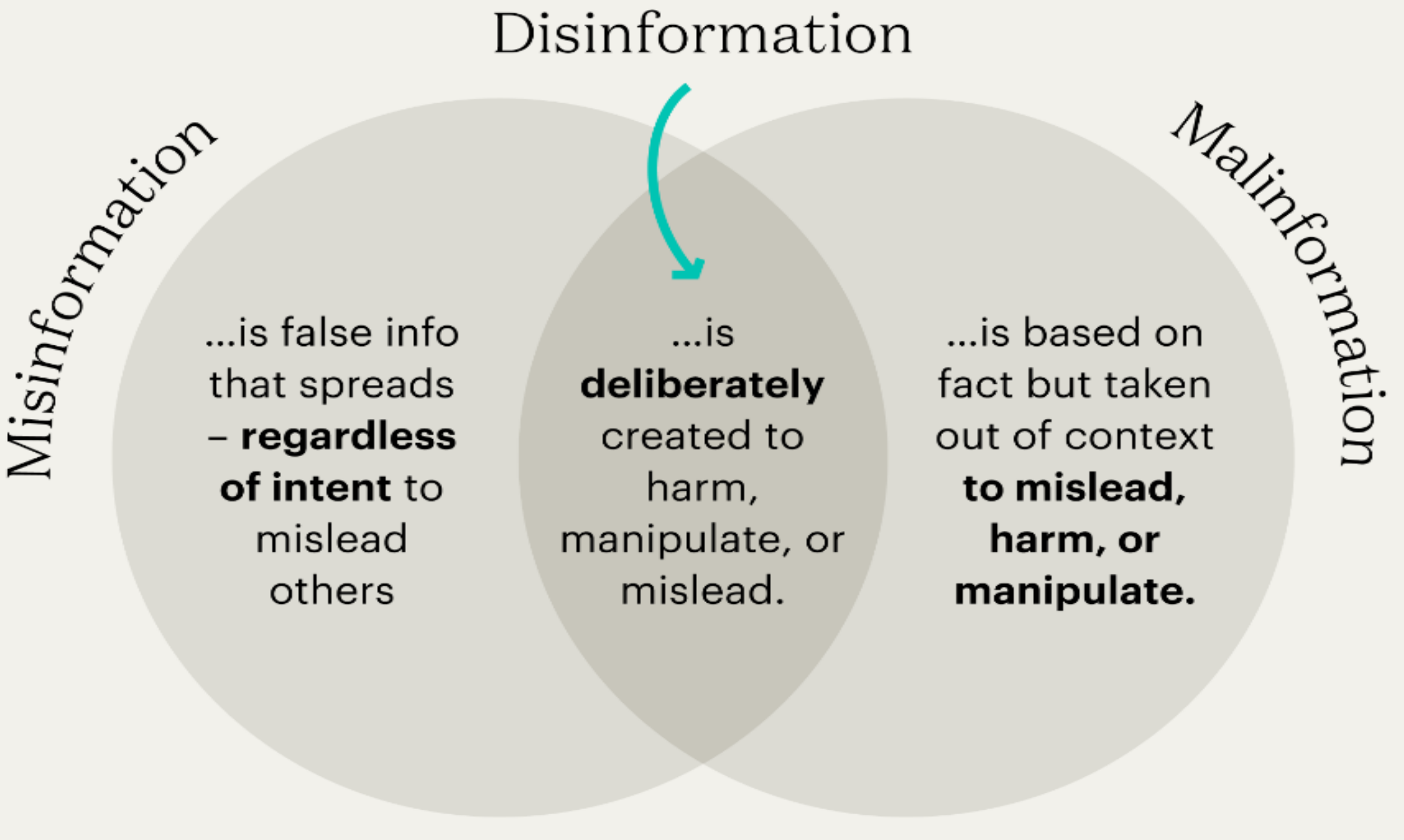

Societal
Character
Right & Wrong
Morals
Ethics
Right & Wrong
Norms
Personal
Individual
Societal
Values
Objectified
Attitude

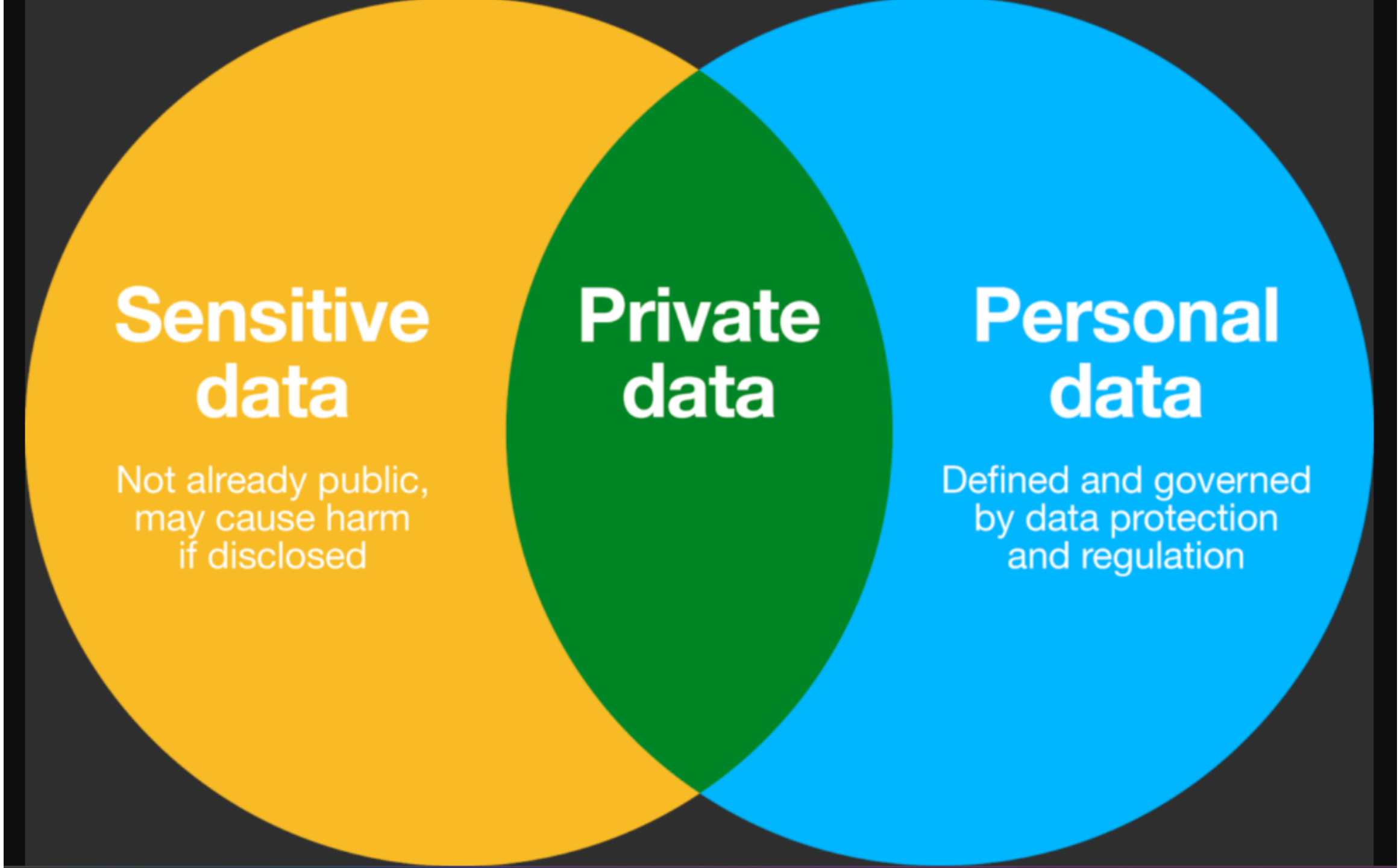
Knowledge


(Informs)
Principles
Why
Codes of Conduct
(Ethics, morals, laws, etc)
Beliefs
How
Created Reality
(Influence)
Experiences
Values
(Filter)
What
Behavior
Consequence


Intellectual Property
IPR
Patents
Trademarks
Industrial Design
Geographical Indications
Copyright
Music
Literature
Works of Art
Broadcasting
Dramatics Works
Sound Recording
Computer Programs

Elon Musk's company Neuralink has received approval from the FDA to begin the first human trials of its brain-computer interface (BCI) device. The announcement was made on May 25, 2023, and marks a major milestone for the company


Misinformation
...is false info that spreads – **regardless of intent** to mislead others
Disinformation
...is **deliberately** created to harm, manipulate, or mislead.
Malinformation
...is based on fact but taken out of context **to mislead, harm, or manipulate.**


Sensitive data
Not already public, may cause harm if disclosed
Private data
Personal data
Defined and governed by data protection and regulation

ETHICAL

Regulation

Privacy

Mitigation of Bias

Transparency

Relevance

LEGAL

Governance

Confidentiality

Liability

Accuracy

Decision Making


Sam Altman
CEO, OPENAI
It's, it's one of my areas of greatest concern.
Mr. Samuel Altman


Sen. Josh Hawley (R-Mo.)
Should we be concerned about models that can?
MR. HAWLEY
0:02 / 1:59

Fastest growing vs. fastest declining jobs

Top 10 fastest growing jobs

1.	AI and Machine Learning Specialists
2.	Sustainability Specialists
3.	Business Intelligence Analysts
4.	Information Security Analysts
5.	Fintech Engineers
6.	Data Analysts and Scientists
7.	Robotics Engineers
8.	Electrotechnology Engineers
9.	Agricultural Equipment Operators
10.	Digital Transformation Specialists

Top 10 fastest declining jobs

1.	Bank Tellers and Related Clerks
2.	Postal Service Clerks
3.	Cashiers and ticket Clerks
4.	Data Entry Clerks
5.	Administrative and Executive Secretaries
6.	Material-Recording and Stock-Keeping Clerks
7.	Accounting, Bookkeeping and Payroll Clerks
8.	Legislators and Officials
9.	Statistical, Finance and Insurance Clerks
10.	Door-To-Door Sales Workers, News and Street Vendors, and Related Workers

Source
World Economic Forum, Future of Jobs Report 2023.

Note
The jobs which survey respondents expect to grow most quickly from 2023 to 2027 as a fraction of present employment figures

Loss of Privacy and Confidentiality

Loss of Routine Jobs

Writers Guild of America
Against AI ChatGPT Generative Pre-Trained Transformer

Age of Disinformation

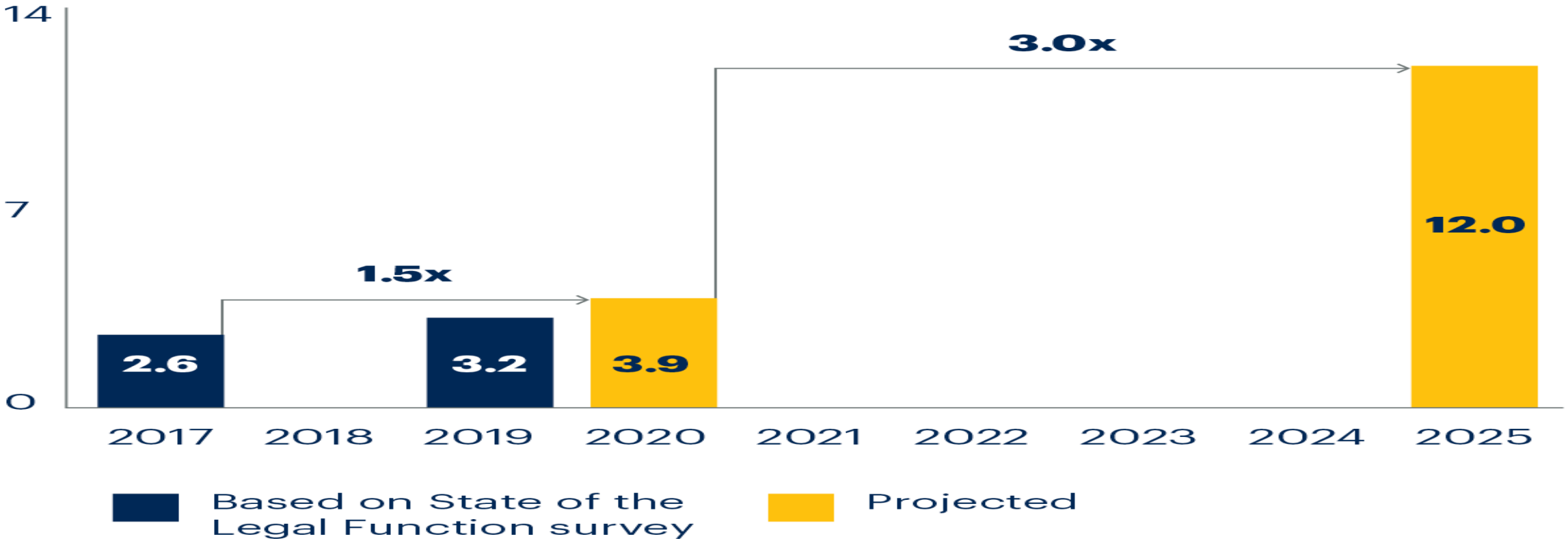
Cloned Voices, Driverless Vessels, Virtual Torts,

Lack of Unified Regulation on AI used in Maritime Law

Cyber Forensics
Maritime Dispute Resolution
IPRs Lapses
Drone Aviations with AI

Legal tech budgets are growing amid crisis

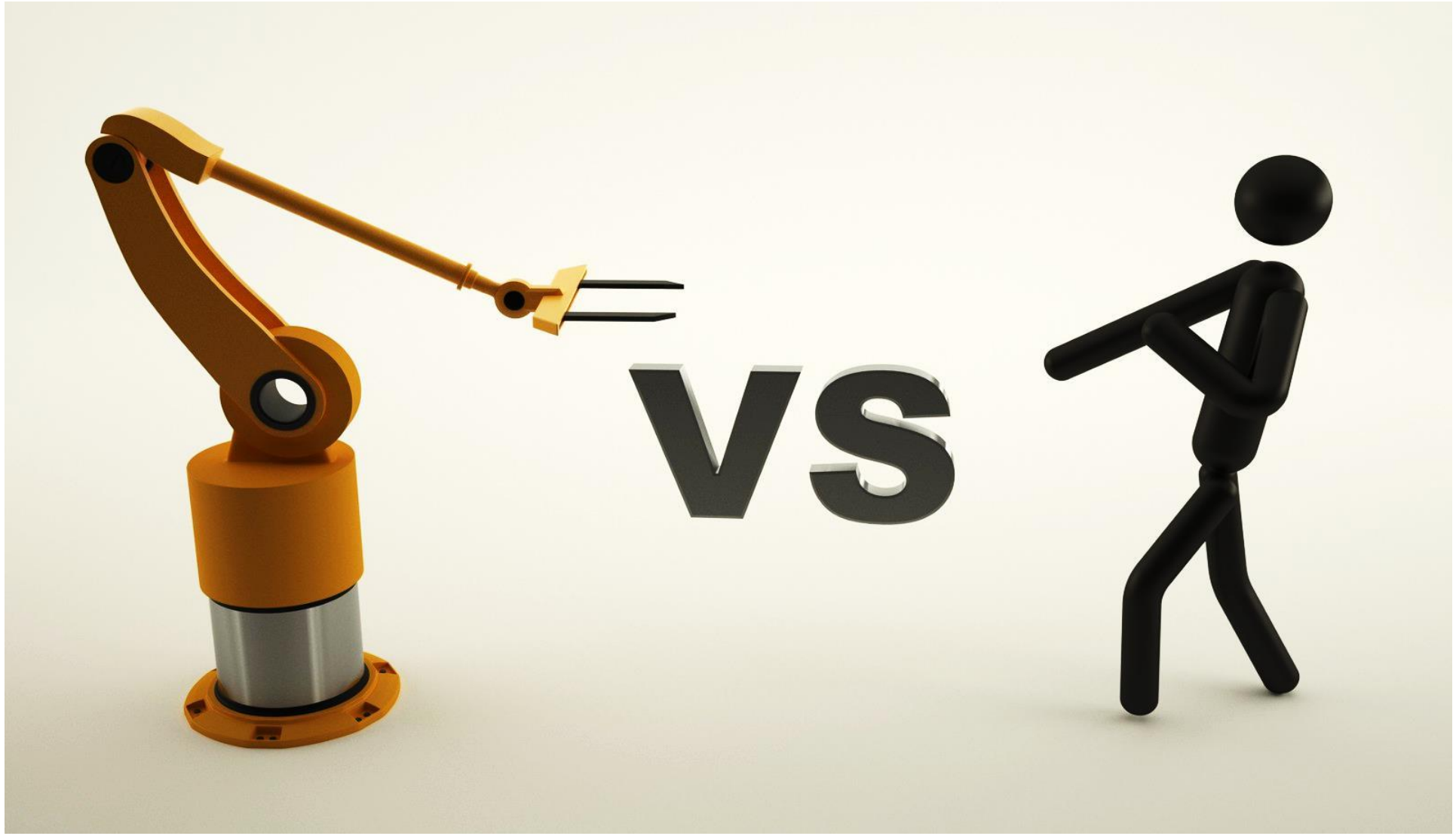
Average legal technology budget as a percentage of total legal department budget



gartner.com/SmarterWithGartner

n = 142 (2018), n = 116 (2020)
Source: Gartner State of the Legal Function

Gartner®


VS