

# **GATES : GLOBAL AGREEMENT FOR TECHNOLOGY SHARING**

**Prof dr m s s el namaki**  
**VU School of Management**



**Technology  
will be  
the gold standard of  
tomorrow**

## **Symptoms of today ...**

- ❑ **Global trade follows technology flows**
- ❑ **An emerging technology divide is separating developed from developing economies.**
- ❑ **Key technology players dominating key economies**

## **Symptoms of tomorrow ...**

- **Technology assets will acquire a standard measure.**
- **Central Banks will hoard technology assets/include them in national reserves**
- **Search for technology dominance becomes source of conflict**
- **Country assets will be expressed in terms of technology parameters**

**But...**  
**Which technologies?**

**Key technologies of today**  
**and**  
**Emerging technologies of tomorrow**

# I Artificial Intelligence (AI)

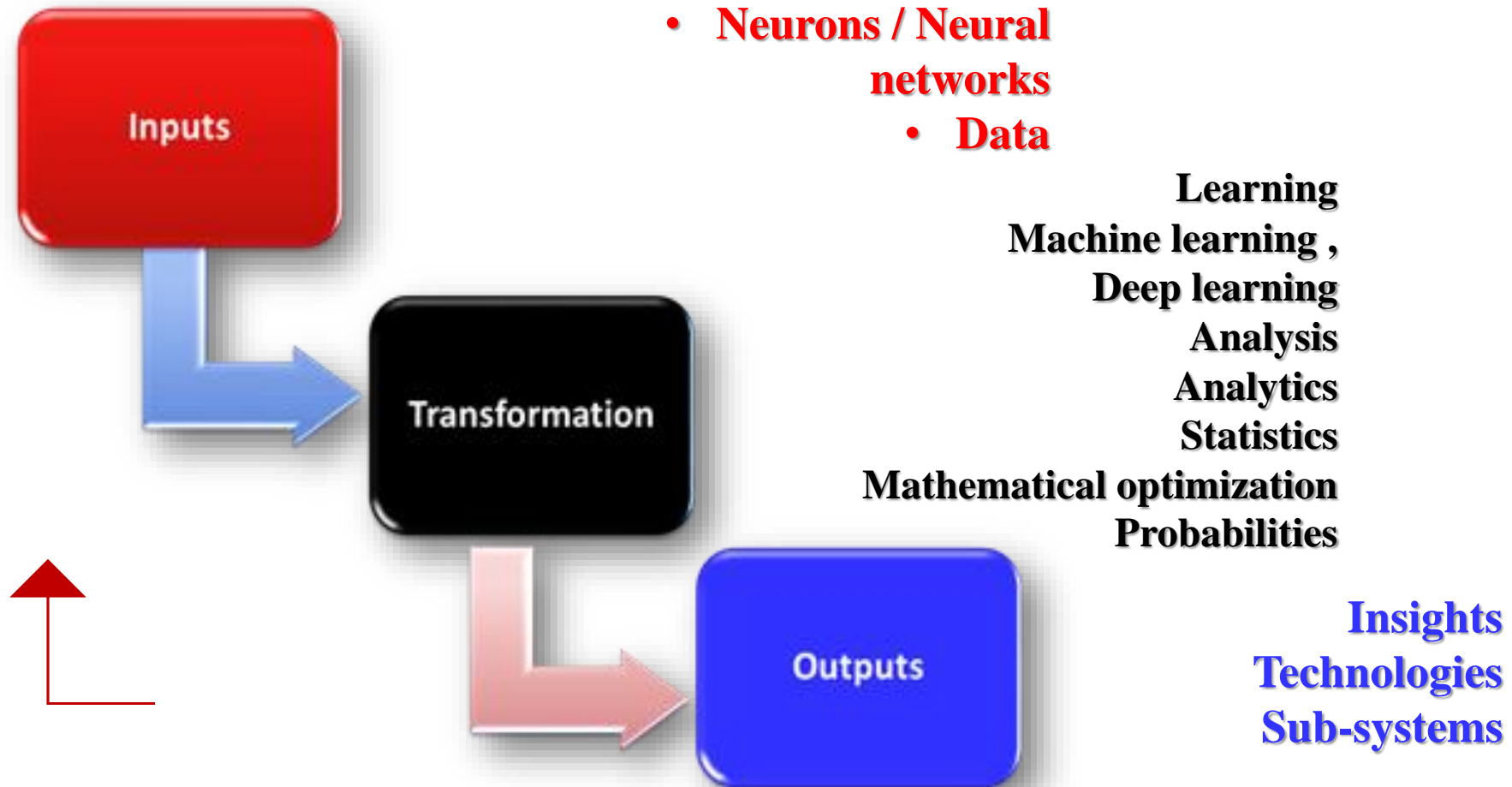
- “A branch of computer science dealing with the simulation of human intelligent behavior

Or

*“.....mental capability to reason, plan, solve problems, think abstractly, comprehend and learn from experience...”*



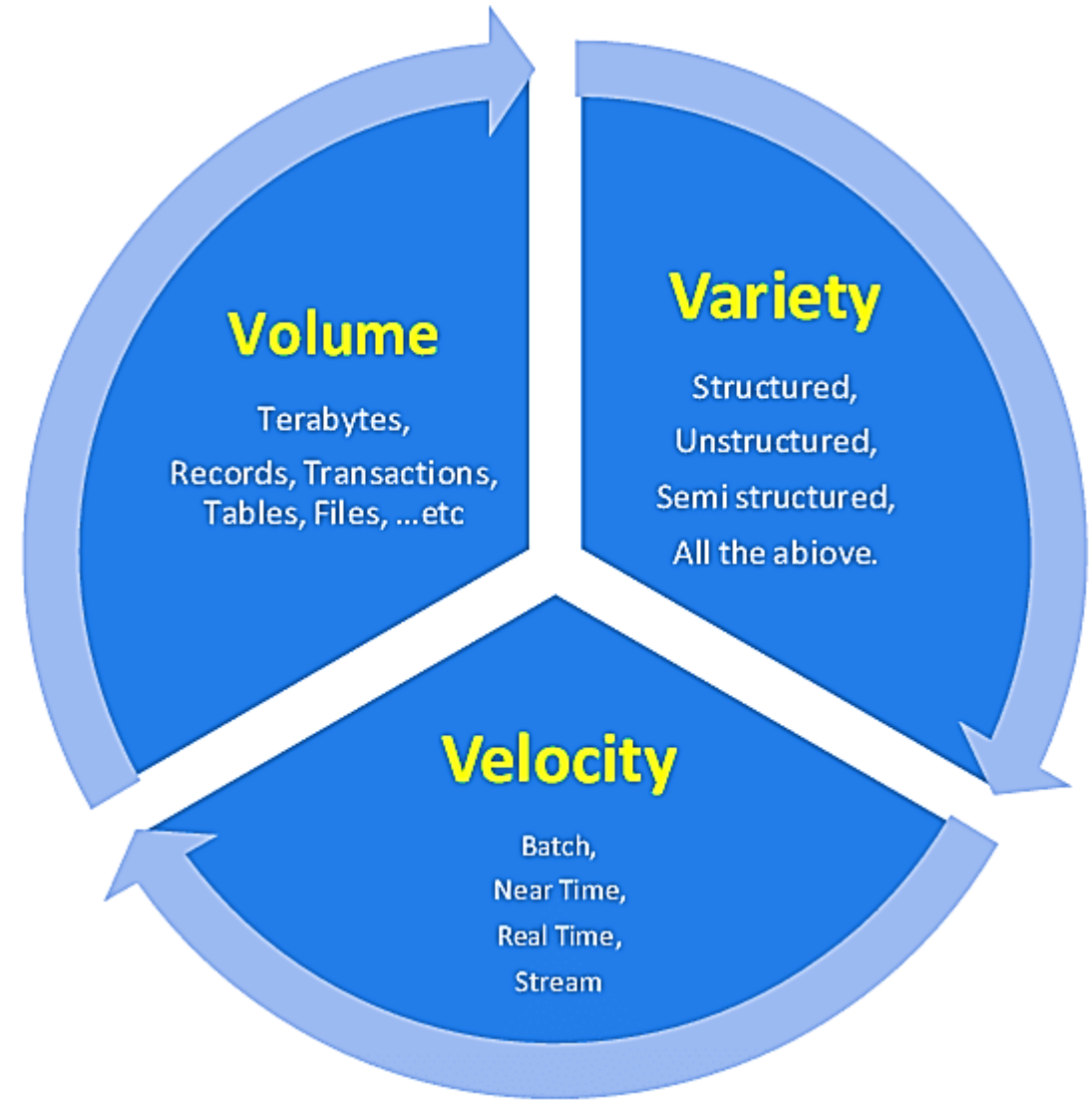
# AI System



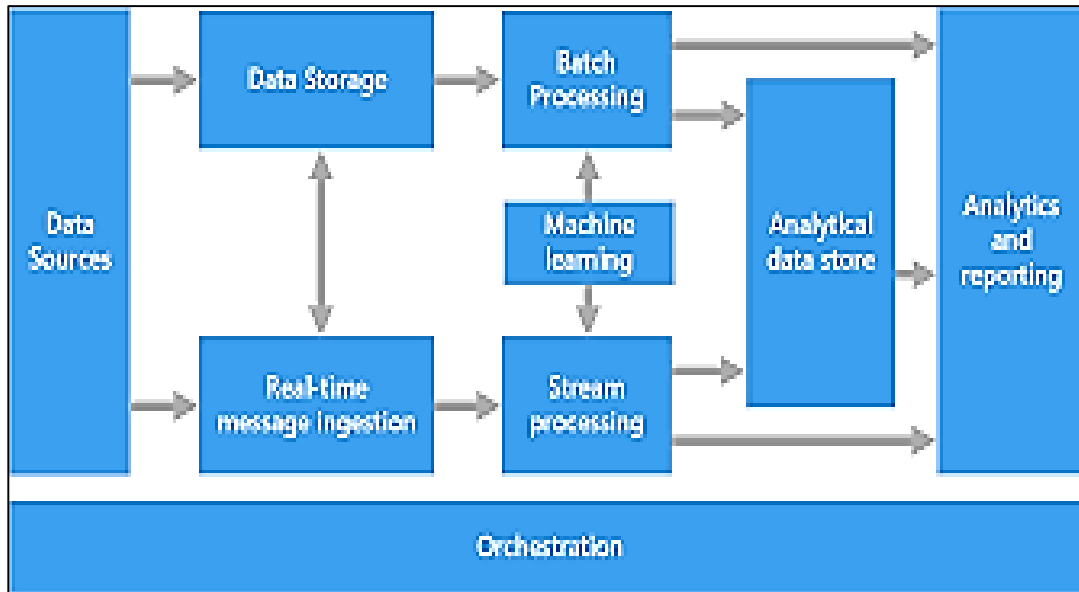


## **II    Big Data**

**A combination of  
structured,  
Semi structured and  
unstructured data  
used in  
machine and deep learning  
...**



# Big data technologies



- Natural Language Generation.
- Converting data into text, enabling computers to communicate ideas
  - Speech recognition. ...
  - Virtual Agents. ...
- Machine Learning Platforms. ...
  - AI-Optimized Hardware. ...
  - Decision Management. ...
- Deep Learning Platforms. ...
  - Biometrics.



# IOT

## III

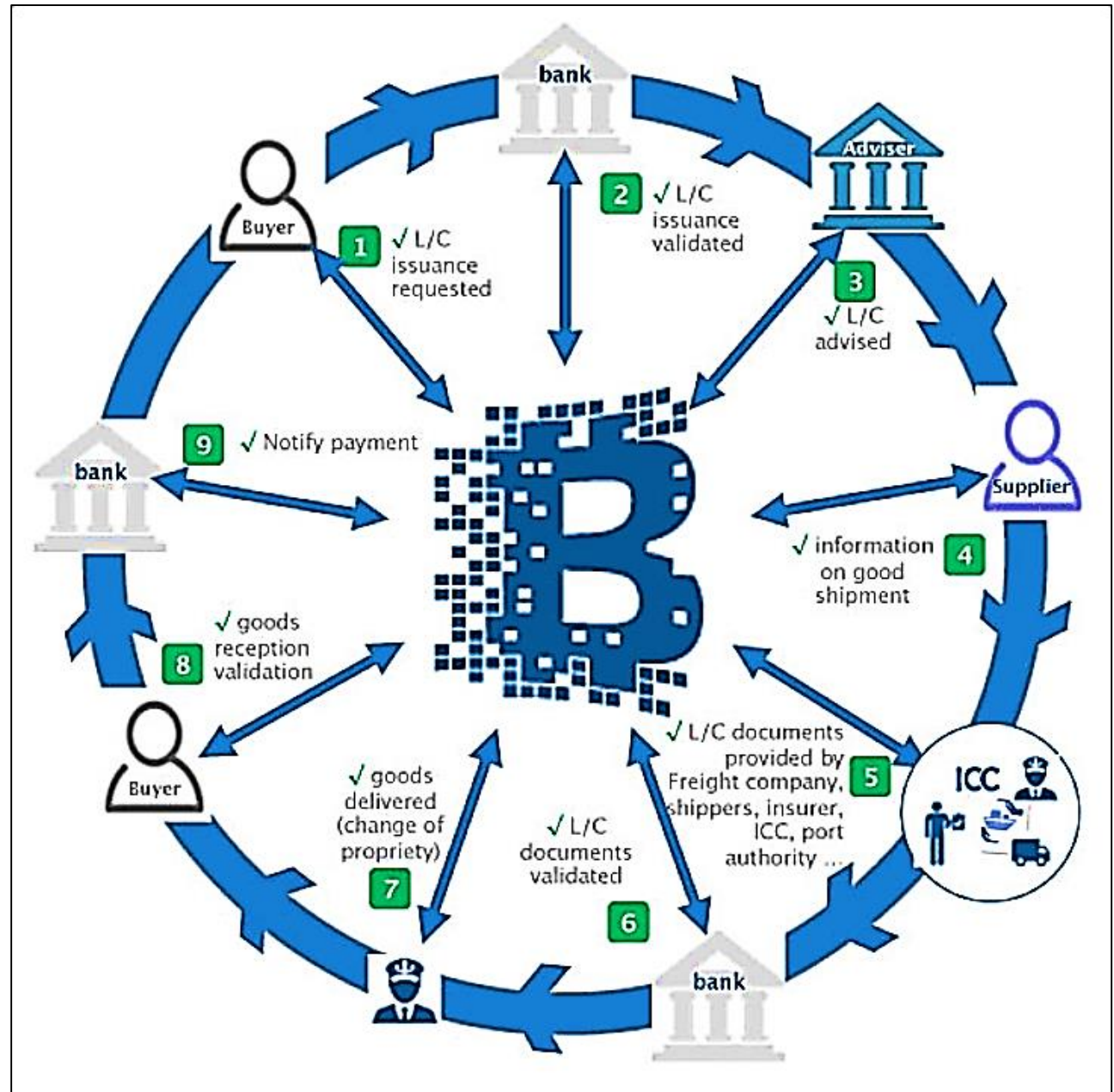
# IoT



*The network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment*

# IV

## Fin tech



# 5G

## The fifth generation of cellular network technology.

V

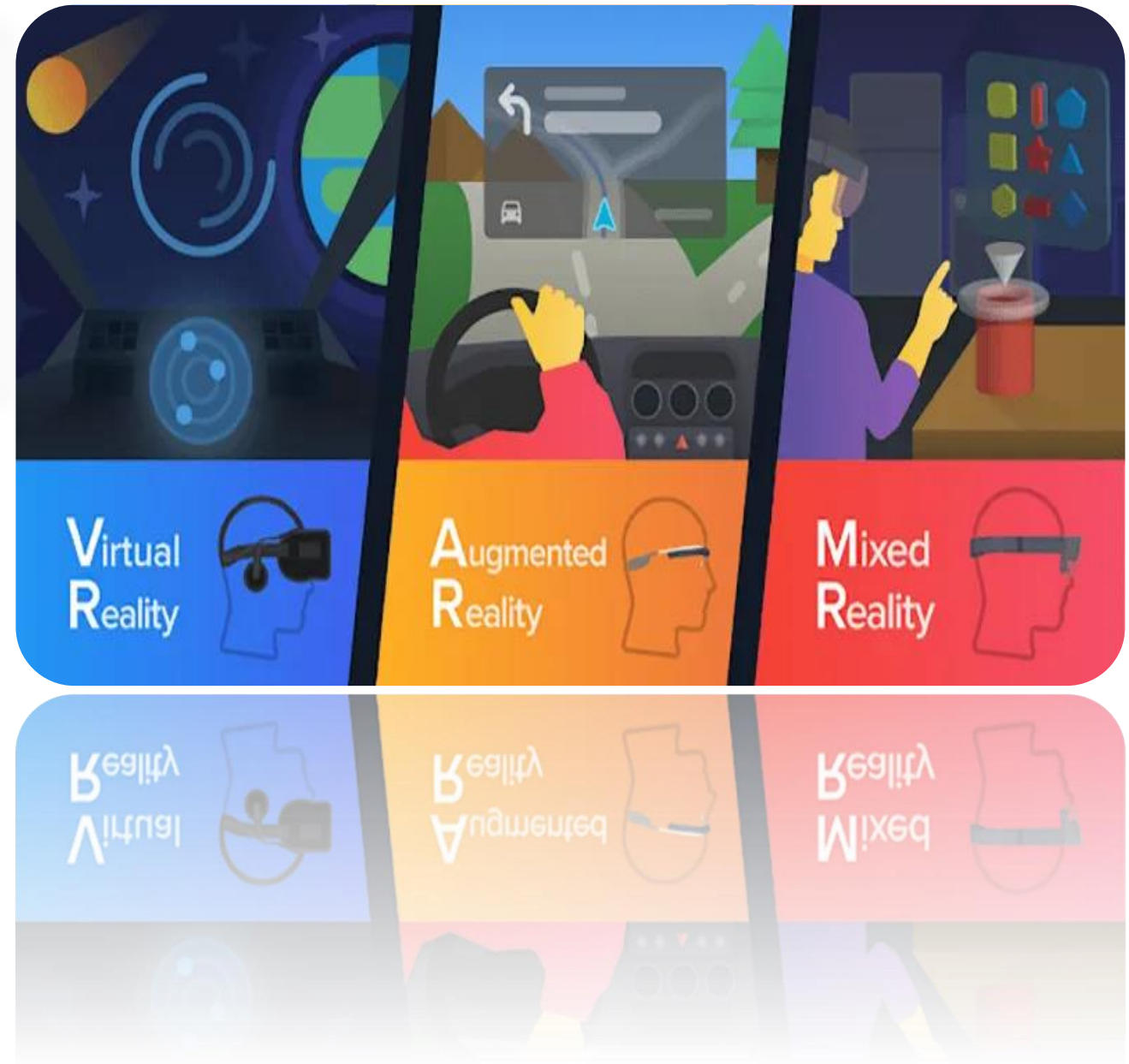
*Increased speed and responsiveness of wireless networks. ...*

*5G bandwidth and antenna technology will enable sharp increase volumes of data transmitted over wireless systems.*



# VI AR & VR

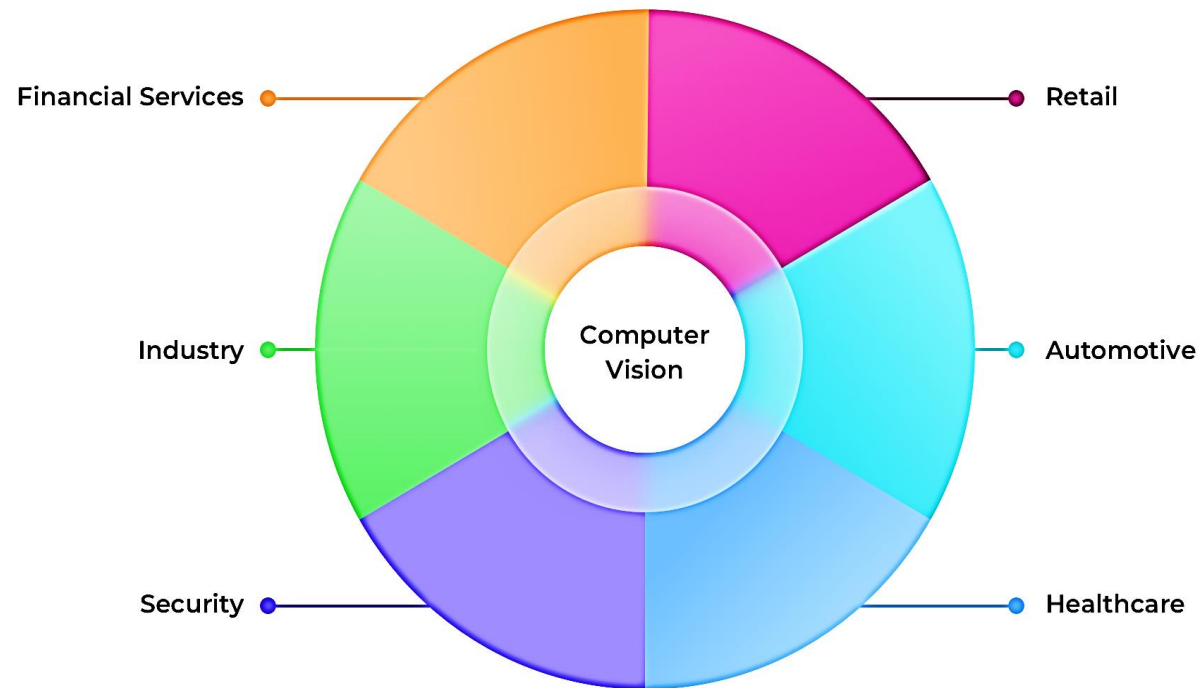
*AR and VR transform how people engage with machines, data and each other. Businesses are using mixed reality, AI and sensor technologies to enhance execution flexibility, operational efficiency and individual productivity.*





# VII

## Computer vision



- *Computer “vision” involves systems that are able to identify items, places, objects or people from visual images – those collected by a camera or sensor..*
- *Computer vision equipped tools and technology will roll out for ever-increasing uses as autonomous cars , production lines , security cameras , face recognition etc,*

# VIII

# Quantum Computing

*Ability to process and analyze big data . It is the key to leveraging machine learning and the power of AI.*

**Definition:** A fundamentally new mode of information processing that can be performed only by harnessing physical phenomena unique to quantum mechanics

- Highly theoretical at current state of research
- Has potential for computing power far beyond classical computers

**The consequence**

**Technology industry is  
dominating the global  
economy**

**How??**



# Concentration

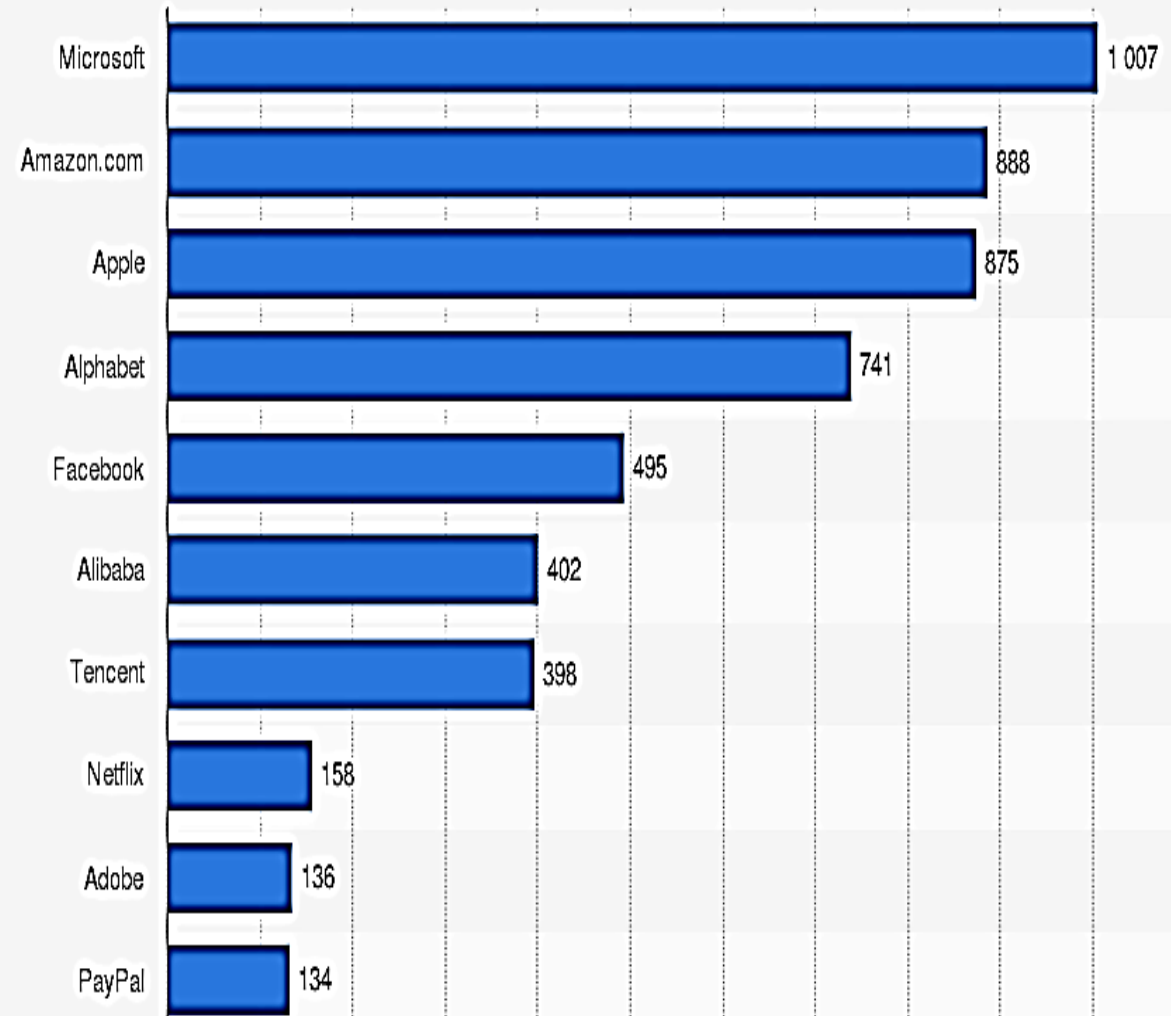


# Player concentration

*A few players led by well known names as Microsoft , Amazon and Apple are leading the industry.*

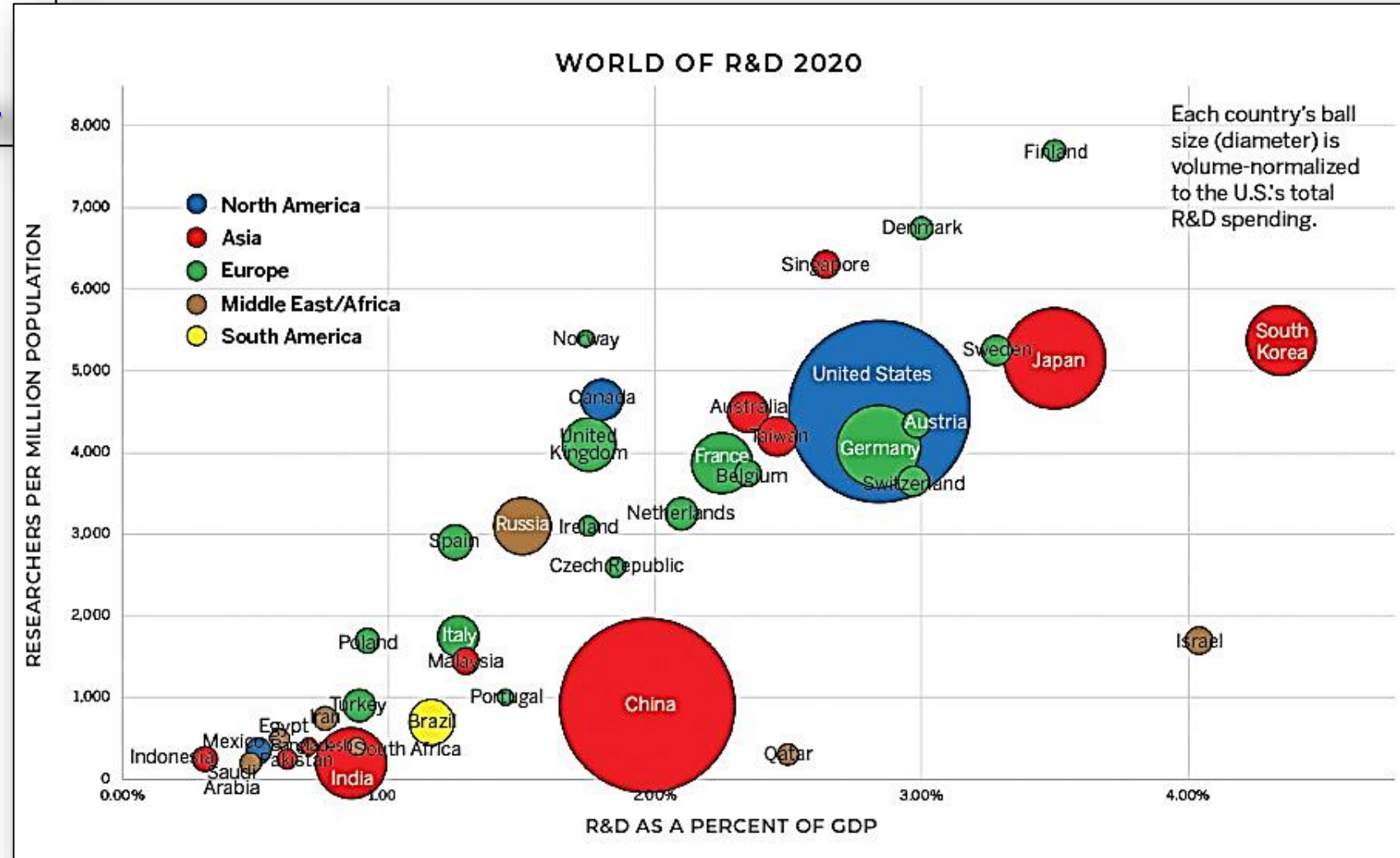
*They merge and acquire any potential competitors of complentors.*

Market capitalization of the largest internet companies worldwide as of June 2019 (in billion U.S. dollars)



# R and D concentration

*Technology R  
and D in key  
sectors is led by  
a few technology  
operators and  
countries*



# Country and investment concentration

*The technology universe is now binary*

*‘In China, 583 million people pay with their phones—more than the total U.S. population.’*

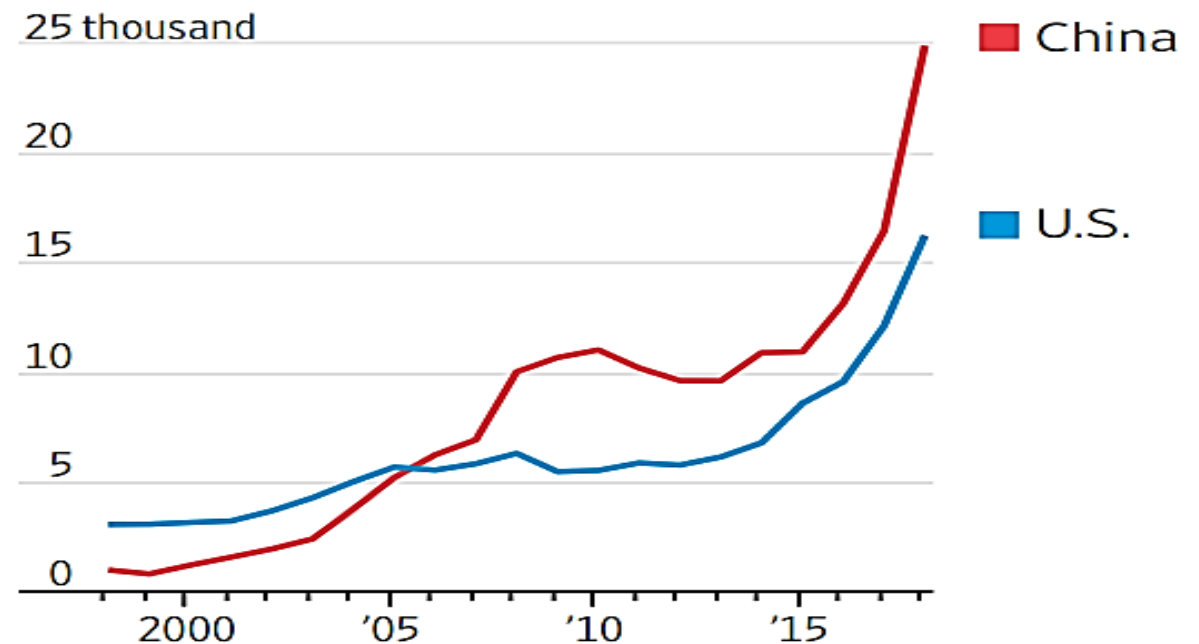
*China to become AI world leader by 2030.*

The technology universe is now binary

In just 5 years, all of the top 20 technology companies are Chinese and American.



## Number of AI papers tracked by Scopus\*



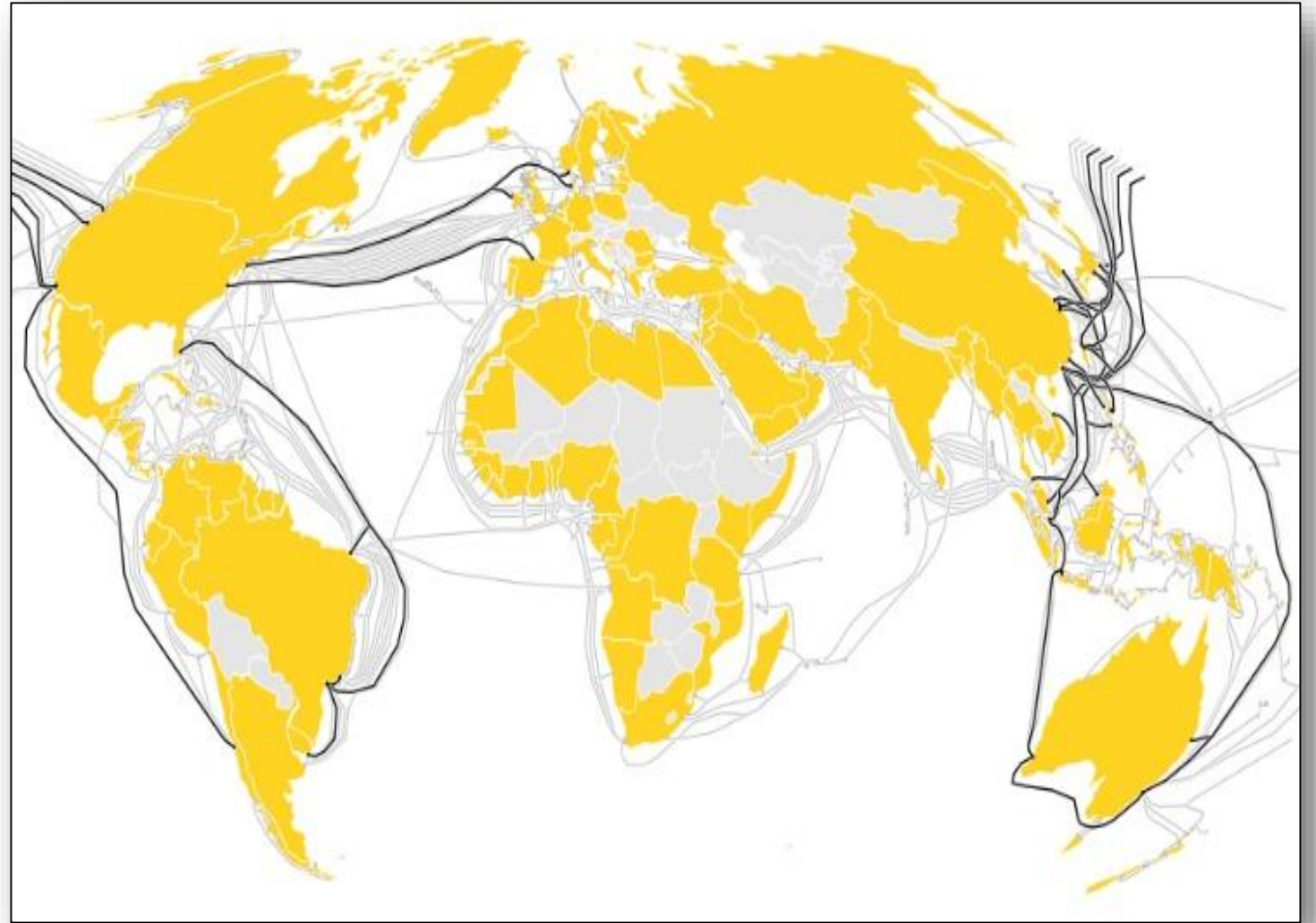
\*Scopus collects data on abstracts and citations.

Source: The AI Index 2019 Annual Report

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# Communication concentration

*Leading Technology Corporation Google, Facebook, Amazon and Microsoft are investing into their own undersea cables.*



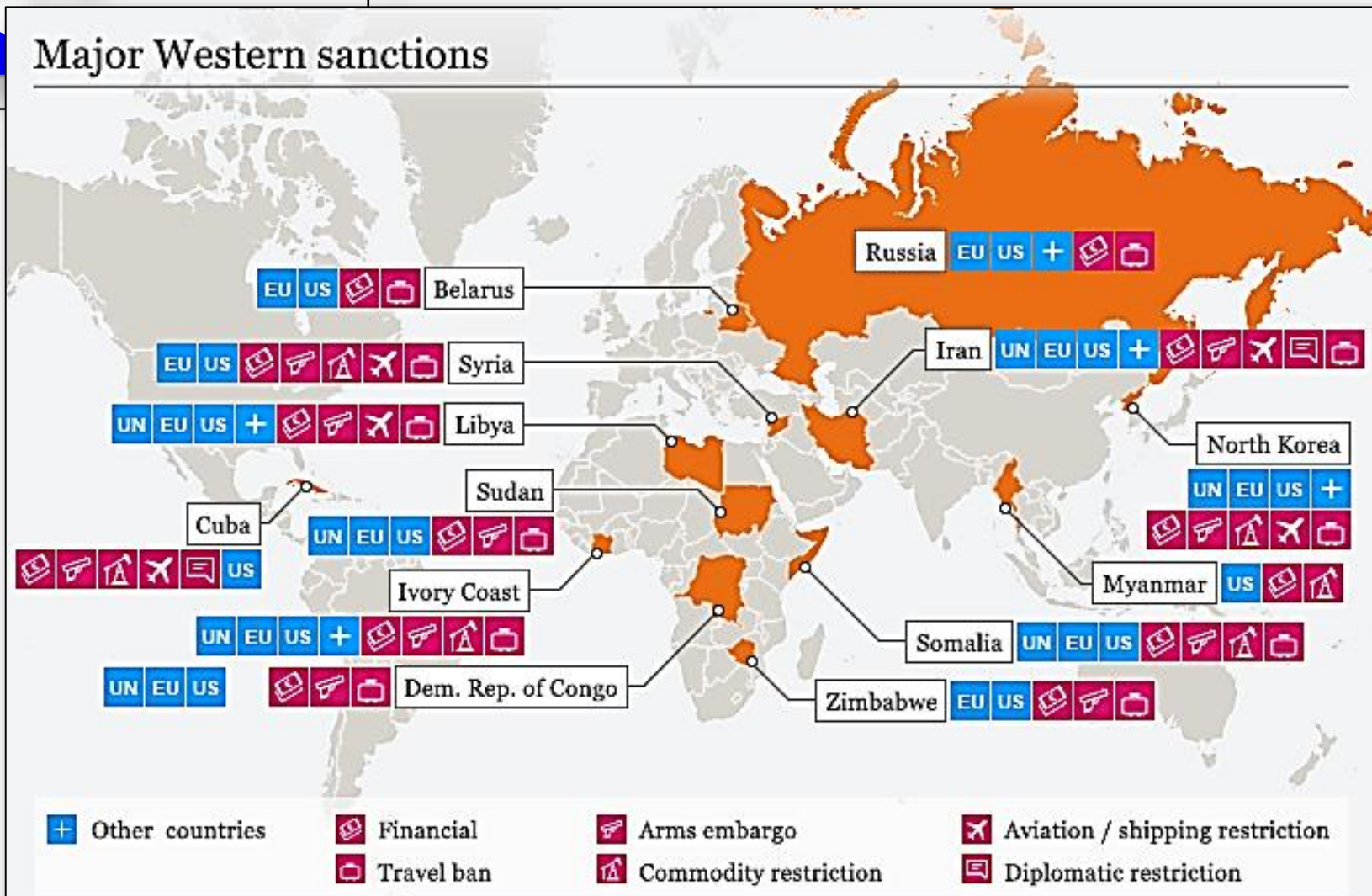
Source : The new investors in underwater sea cables, April 2019 , Internet Health Report (Google , Microsoft, Amazon, Facebook)



# Political power concentration

*Technology is increasingly used as a sanction . either through prohibition or conditionalities*

## Major Western sanctions



# **The dire consequences of concentration**

**Technology industry concentration is having dire short  
and long term consequences**



# **Dire consequences**

## **Immediate**

- *Few corporations deciding industry present future.*
- *Two countries are competing for leadership. Others kept at bay!*
- *Narrow research focus determined by self interests*
- *High entry barriers*
- *Dark practices*

## **Long term**

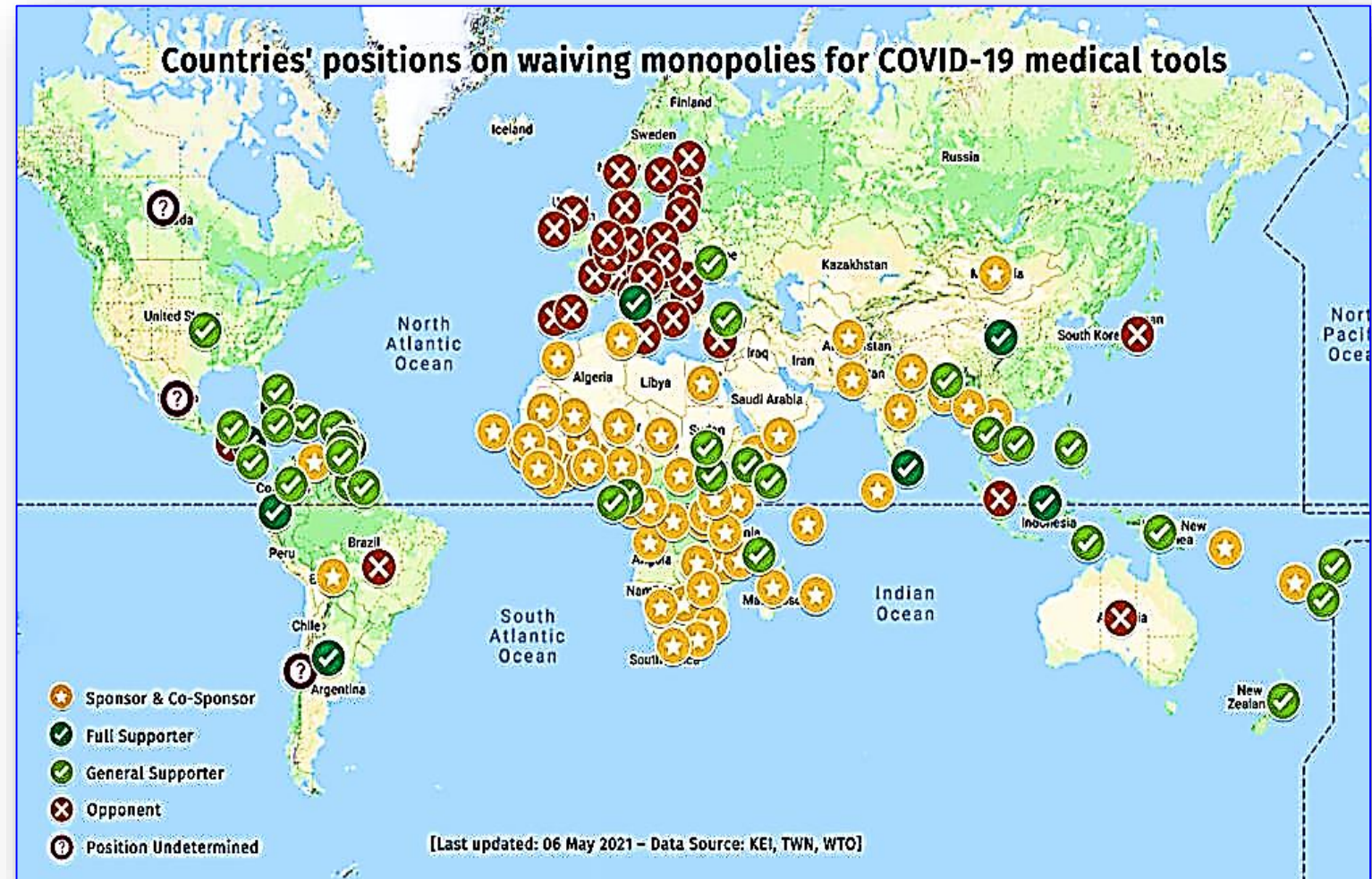
*Have a new divide  
between the new Haves  
and the new Have nots*

*Back to the third world  
concepts of yesterday...*

# The case of Corona

***WTO COVID-19 patent negotiations are proving controversial.***

*Many countries resist  
continue to block a waiver  
that would open up access  
to patents and tools.*



# WTO TRIPS AGREEMENT

*Patent protection  
for eligible product  
and process  
inventions in all  
fields of technology  
that are new, involve  
an inventive step  
and can be  
industrially applied..*

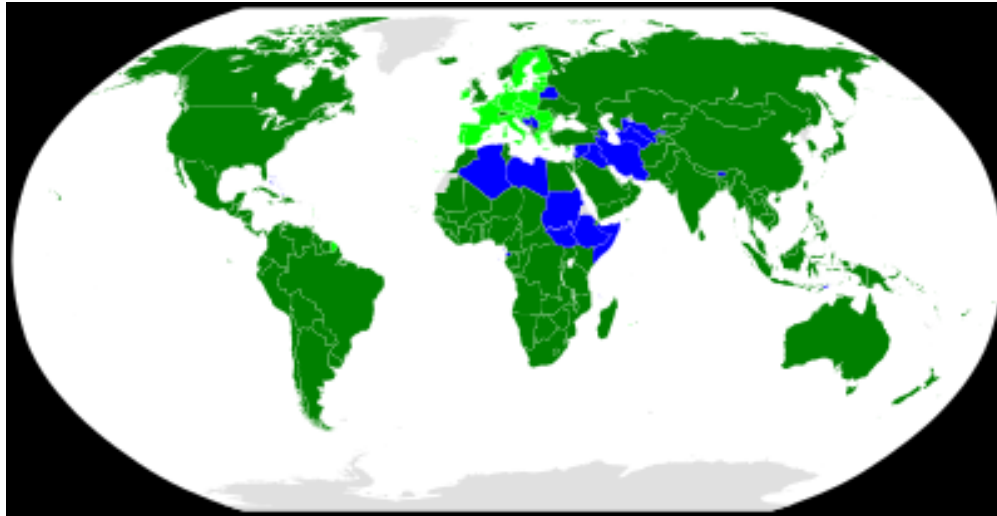
## TRIPS

Trade Related Intellectual Property Rights



*Powerful enforcement  
mechanism include  
discipline through the  
WTO's dispute settlement  
mechanism.*

# WTO TRIPS



WTO members (where the TRIPS agreement applies)  
Parties to the Agreement where also the membership of the  
European Union applies  
Observers to the WTO

## Types of intellectual property under TRIPS Agreement

- Copyright and related rights
- Trademarks, including service marks
  - Geographical indications
  - Industrial designs
  - Patents
- Layout-designs (topographies) of integrated circuits
- Undisclosed information, including trade secrets



# Covid 19 patent controversy

*South Africa and India called for a waiver for all members of certain provisions of the TRIPS Agreement in relation to the “prevention, containment or treatment” of COVID-19.*

*"Vaccine policy is economic policy because the global economic recovery cannot be sustained"*

## Article 1 of WTO TRIPS Agreement

*Nature and Scope of Obligations*

1. Members shall give effect to the provisions of this Agreement. **Members may, but shall not be obliged to,** implement in their law more extensive protection than is required by this Agreement, provided that such protection does not contravene the provisions of this Agreement. Members shall be free to determine the appropriate method of implementing the provisions of this Agreement within their own legal system and practice.

# Who is for and who is not !

*countries could produce COVID-19 vaccines and drugs on a larger scale, at lower prices. BUT*

*Some say yes, some say no and some are on the fence!.*



**The road forward**

# **GATES**

**GLOBAL AGREEMENT FOR TECHNOLOGY SHARING**

**The only road towards a fair global  
growth**



**A new regime for cross country technology flow.**

**A fresh and conducive approach to cross country technology interaction and “sharing”.**

- Patent pools,
- Patent commons,
- Open source innovation,
- Open licensing arrangements
- non-assertion pledges or covenants
- Other vehicles .

**THANK YOU...**