BIG DATA, AI AND BLOCKCHAIN TRANSFORMING CAREERS

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PRESENTATION MADE TO ICPAK 34th Annual Summit

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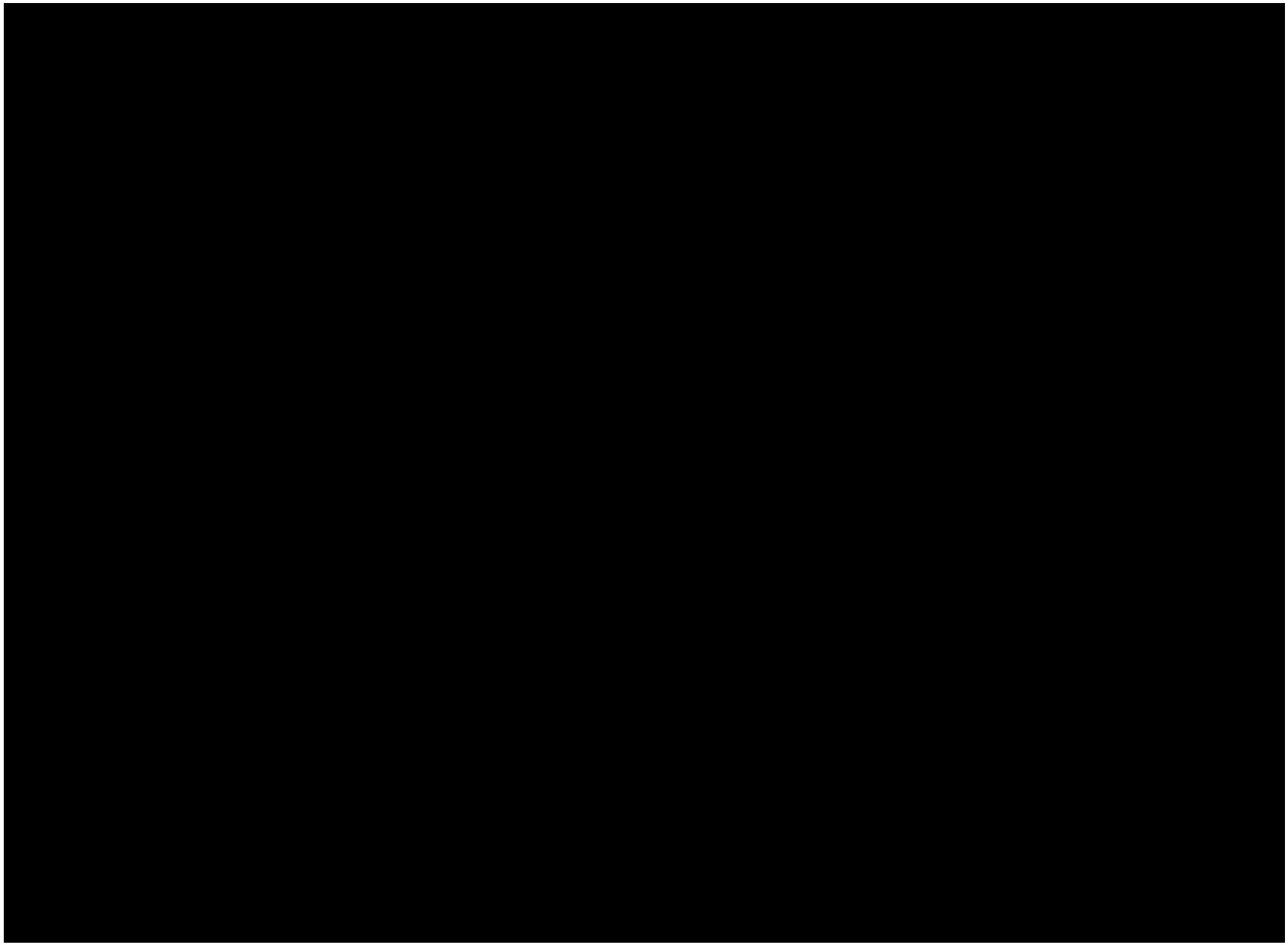
@coachtimoriedo

- WHAT WE DO
- WHAT IT IS
- TRENDS
- WHAT’S DRIVING
- OPPORTUNITIES
- GETTING STARTED



DEPT	BOARD & EXCO	SENIOR LEADERSHIP	PRODUCT TEAMS	TECH	MARKETING, SALES, CUSTOMER SERVICE
ROLES	Strategic Direction	Cascading & Monitoring	Implementation	Tools	Monetization
CHALLENGES	Defining A Disruption Driven Culture	Best practices	Knowledge and skill capacity	Knowledge and skill capacity	Leverage and optimisation
FORMAT	Breakfast Roundtable, Coaching	Seminar & Lab, Coaching	Seminar & Lab, Coaching	Seminar And Lab, Coaching	Seminar and Lab , Coaching

TOOLS

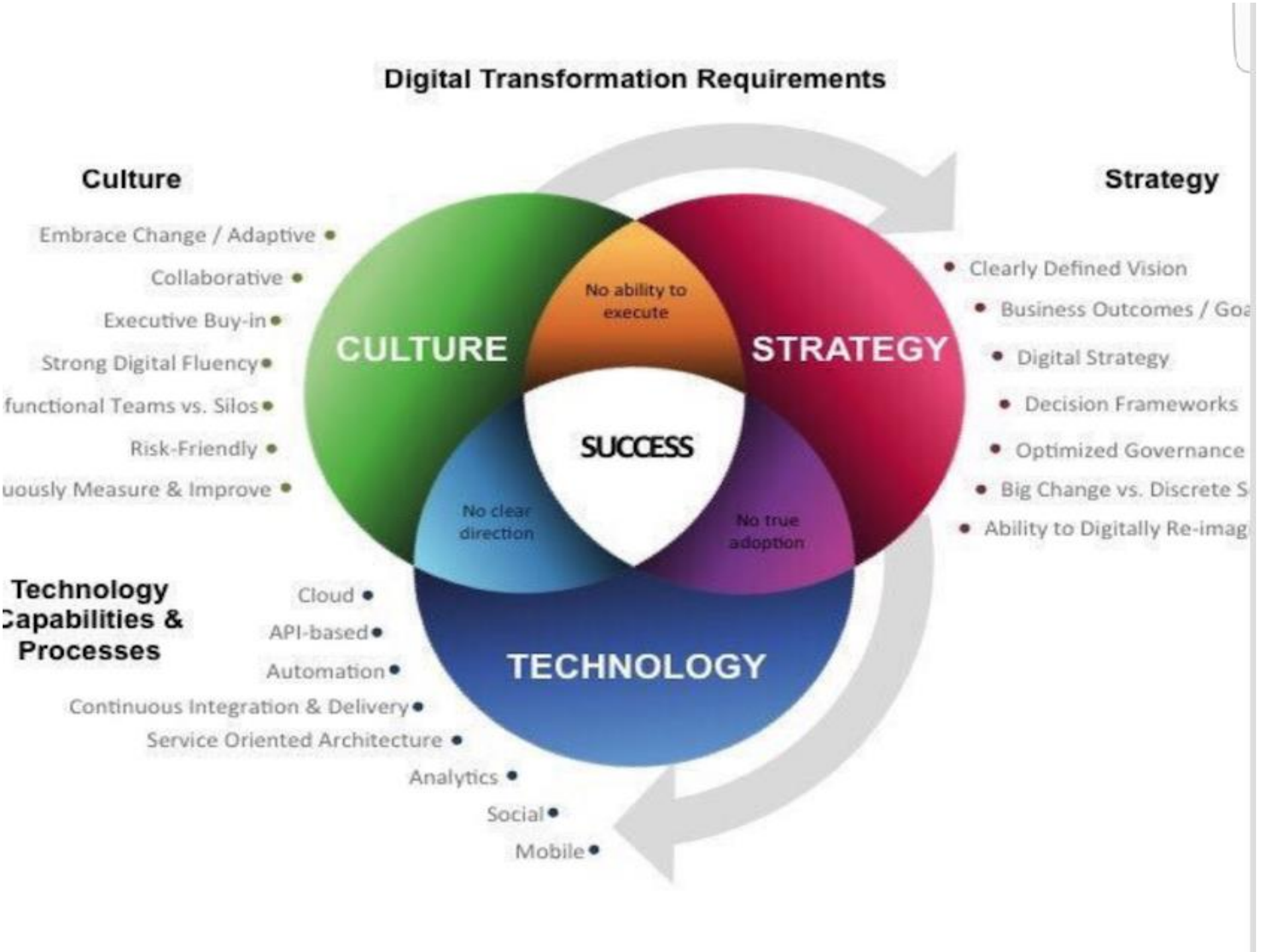
- Blockchain Platforms
  - Blockchain TV
  - Tokenisation
  - Social Media Analytics
  - Live stream data
  - Transaction Portals
  - Footfall traffic counting
- Predictive Analytics
  - Recommendation engine
  - Prediction Algorithms

Digitalization

Digital Transformation

Digital Re-Invention


One of the biggest mysteries in the technology world
is the identity of Satoshi Nakamoto,
CNBC


Digital Transformation Requirements
Culture
Embrace Change / Adaptive
Collaborative
Executive Buy-in
Strong Digital Fluency
functional Teams vs. Silos
Risk-Friendly
uously Measure & Improve
Strategy
Clearly Defined Vision
Business Outcomes / Goa
Digital Strategy
Decision Frameworks
Optimized Governance
Big Change vs. Discrete S
Ability to Digitally Re-imag
CULTURE
STRATEGY
TECHNOLOGY
No ability to execute
No clear direction
No true adoption
SUCCESS
Technology Capabilities & Processes
Cloud
API-based
Automation
Continuous Integration & Delivery
Service Oriented Architecture
Analytics
Social
Mobile

6 TECH THEMES OF DIGITAL TRANSFORMATION LEADERS

1 INTEGRATION

4.5x more likely to meet their integration goals

One of the top challenges that other organizations

2 INTELLIGENCE

Cuts across 8 technology classes deployed

Mix of different analytics, data management and collection techniques.

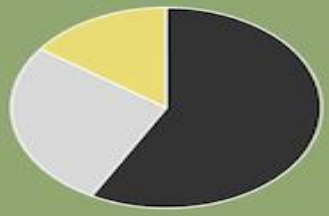
3 AUTOMATION

Major theme in multiple technologies used

One of the top areas of growth as compared to last year's research and it is being applied to variety of new use cases.

4 AGILITY

58% are looking to become agile across all key processes



Reported to be one of the top 5 goals for digital transformation for all organizations.

5 COLLABORATION

Nearly 2x more likely to improve collaboration and communication

One of the major areas of innovation both in internally and externally. It's being impacted by culture which was reported as #1 challange.

6 FLEXIBILITY

Improved flexibility by 1.7x over last 6 months

Mostly driven by changes in customer expectations and pace of change in digital economy.

These findings are based on survey research of more than 1,000 global organizations conducted by Digital Enterprise Journal.


CNBC

HUMAN DECISION MAKING

1. **TRAP : OVER CONFIDENCE**
   This is when a decision maker places greater weight or value on what they know, and assumes that what they don't know isn't important

2. **TRAP : ANCHORING BIAS**
   This is tendancyto lock onto a single fact as a reference point for future decisions, even though that reference point may not have logical relevance to the decision at hand

3. **TRAP : FRAMING EFFECT**
   This is a bias in which a person's decision is influenced by how the decision is presented. For example humans avoid risk when a positive frame is presented but seek risks when a negative frame is presented

4. **TRAP : RISK AVERSION**
   This is the result of people's preference for certainty over uncertainity, and for minimizing the magnitude of the worst possible outcomes to which they are exposed

5.

TRAP : SUNK COSTS

This is are retrospective costs that have already been incurred and cannot be recovered. Consequently, sunk costs should not factor into going foward decisions, and should be ignored as if they never happened

6.

TRAP : ENDOWMENT EFFECT

This is the hypothesis that people ascribe more value to things merely because they own them. We over-value what we have which leads to unrealistic expectations on price terms

7.

TRAP : CONFIRMATION BIAS

This is the tendency to interpret evidence as confrimation of one's existing beliefs of theories. Confirmation Biases Impact how people gather, interpret and recall information


SILICON VALLEY
MACHINE LEARNING
BLOCKCHAIN


CNN

What is it?

- The first four decades brought about email, Word Wide Wide, dot coms, social media, mobile web, big data, cloud computing and early days of IoT.
- It reduced the cost of searching, collaborating and exchanging
- In 1981 there was an attempt to solve internet problems of privacy, security, and inclusion with cryptography.
- 1n 1993, David Chaum came up with e-Cash that made it possible to safely and anonymously pay over the Internet, but online shoppers didn't care about their privacy and security.
- In 2008, Satoshi Nakamoto came up with peer-to-peer electronic cash system using cryptocurrency known as Bitcoin.
- Cryptocurrency is not created or controlled by countries, but it is a set of rules that ensure the integrity of the data exchanged among billions of devices without going through a trusted third party.
- This Trust protocol allows trusted transactions directly between two/more parties authenticated by mass collaboration and powered by collective self-interests rather than large corporations motivated by profit.
- This technology has led to globally distributed ledgers called blockchain
- Blockchain technology allows us to send money directly and safely without going through a bank, money transfer, credit card or PayPal

Foundational principles that underlie Blockchain Technologies

- Distributed Database: All access all the time! Everyone partaking in the database can see everything in the database. This architecture provides true decentralization where there is no single point of control or failure. This transparency allows independent verification of transactions to occur without a middleman verification step.

- Peer-to-Peer Transaction: Blockchain takes the idea of “serverless computing” to a whole new level as there is no central hub for processing transaction data. All transactions are processed and stored in the nodes plugged into the network and those nodes share that data with all of the other nodes.

- Transparency with Pseudonymity: Blockchain users have the choice to remain anonymous or share their identities. However, the record itself is present and visible to all. Transactions are encrypted and assigned a unique address as the means of identification.

- Irreversibility of Records: Once a record has been transacted in the distributed ledger, it cannot be modified due to the linkage between all records (blocks) that comprise the blockchain. These records are encrypted, ordered chronologically, and visible to all.

- Computational Logic: Due to the programmatic nature of the blockchain, logic and algorithms can be applied to automate transactions between nodes upon pre-defined conditions

Defining Blockchain

A distributed ledger technology

Blockchain is a cryptographic, or encoded ledger – a database of transactions in the form of blocks arranged in a chain. These are validated by multiple users through consensus mechanisms (such as proof-of-work in Bitcoin mining) shared across a public or private network.

Blockchain technology could cut banks' infrastructure costs for cross-border payments, securities trading, and regulatory compliance

Potential benefits of Blockchain technology for the financial services industry

- Reduce costs of overall transactions and IT infrastructure
- Irrevocable and tamper-resistant transactions
- Reduction in systemic risks (eliminate credit and liquidity risks)
- Consensus in a variety of transactions
- Ability to store and define ownership of any tangible or intangible asset
- Increased accuracy of trade data and reduced settlement risk
- Near-instantaneous clearing and settlement
- Improved security and efficiency of transactions
- Enabling effective monitoring and auditing by participants, supervisors, and regulators

2009-2012 Foundation days

- Emergence of Bitcoin based on a paper by Satoshi Nakamoto
- On January 3, 2009, the Genesis block was mined
- Experimental and limited to cryptographic community
- Blockchain as the backbone of Bitcoin

2012-2014 Moving beyond the cryptographers

- Rise of Bitcoin exchanges
- Mixed response to Bitcoin as it struggles with money laundering and criminal activity, but also gains acceptance across some online retail stores among others
- Rise of Bitcoin- based startups
- Bitcoin price surged to US$1,000
- Blockchain gains attention of financial services firms (begins internal trials)

2014-2015 Blockchain buzz years

- Blockchain, the underlying technology behind Bitcoin, gets serious attention and investment from financial services firms, regulators, and VCs
- Explosion of use cases within BFSI
- Announcement of consortiums to accelerate adoption, innovation, and common standards
- Banks experiment with their versions of cryptocurrencies
- Global service providers and technology companies put their weight behind Blockchain

2016-2017 Crossing the chasm

- The next two years are critical for Blockchain technology to demonstrate sustainable value and show adoption beyond proofs of concept by FS firms
- Startups backed by VC funding and consortiums need to show results to justify the large sums of funding and/or investment of time and resources
- Scalability and throughput issues need to be solved for the Blockchain technology to cross the chasm to mainstream adoption

2018-2020 Adoption movement

- Consortiums will be instrumental in defining protocols and common standards to facilitate widespread adoption
- Regulatory bodies likely to play a key role in facilitating adoption while ensuring compliance
- Explosion of use cases beyond BFSI
- IT service providers likely to accelerate investments to build capabilities around Blockchain technology implementation
- Rise of IPOs and Unicorns in the Blockchain startup ecosystem

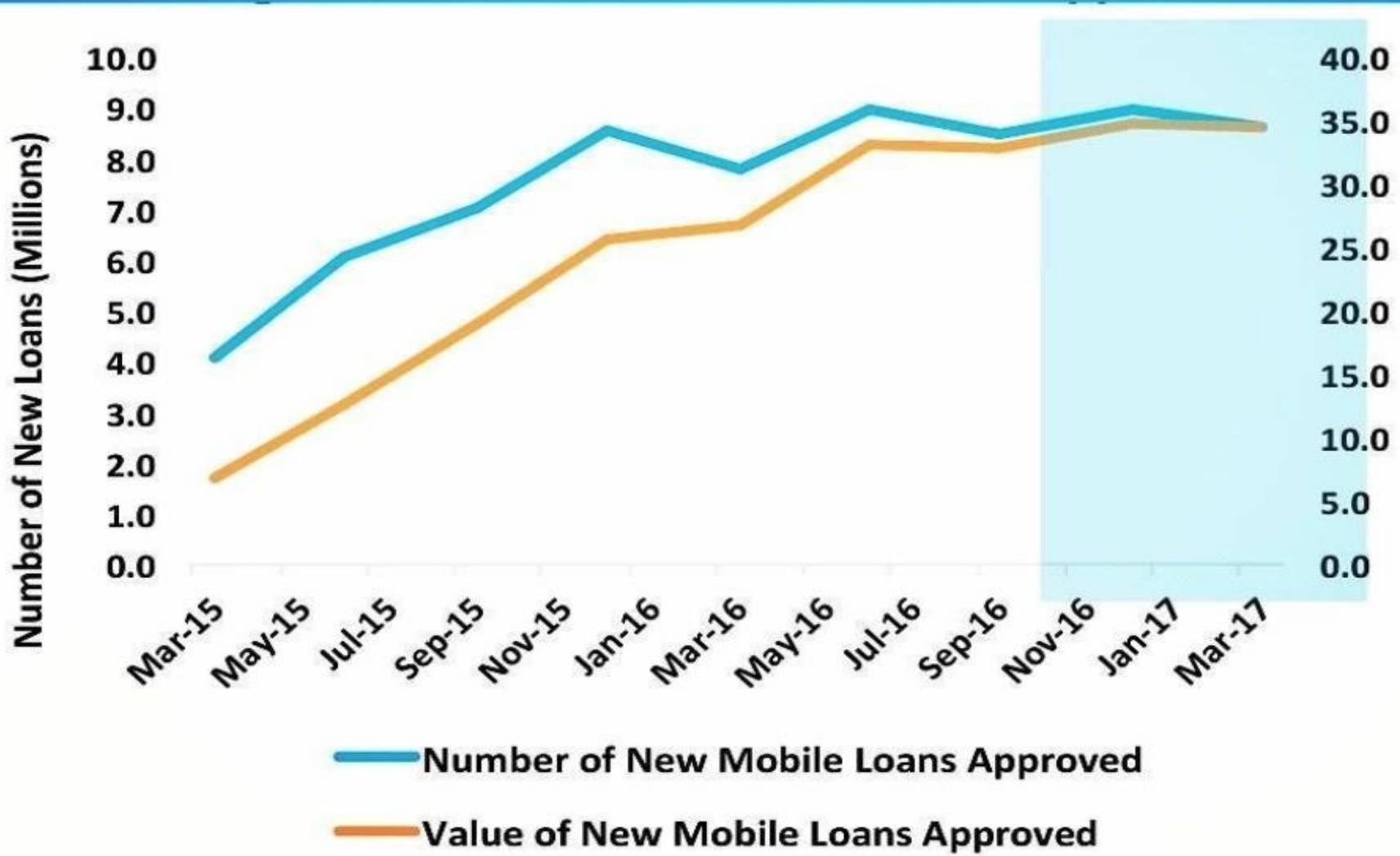
2020 & beyond Accelerated adoption

- Blockchain will gain adoption within and beyond BFSI, leading to new business models at the intersection of advanced analytics, IoT, and Blockchain based smart contracts
- Blockchain is referenced in two major shifts expected to occur in the nearest future, according to a report by World Economic Forum: The first tax collected by government using the Blockchain technology by 2023. The second one is storing more than 10% of global gross domestic product in Blockchains by 2027
- Banks' infrastructure costs for cross-border payments, securities trading, and regulatory compliance reduced by US$15-20 billion a year from 2022, according to a recent report by Spanish bank Santander

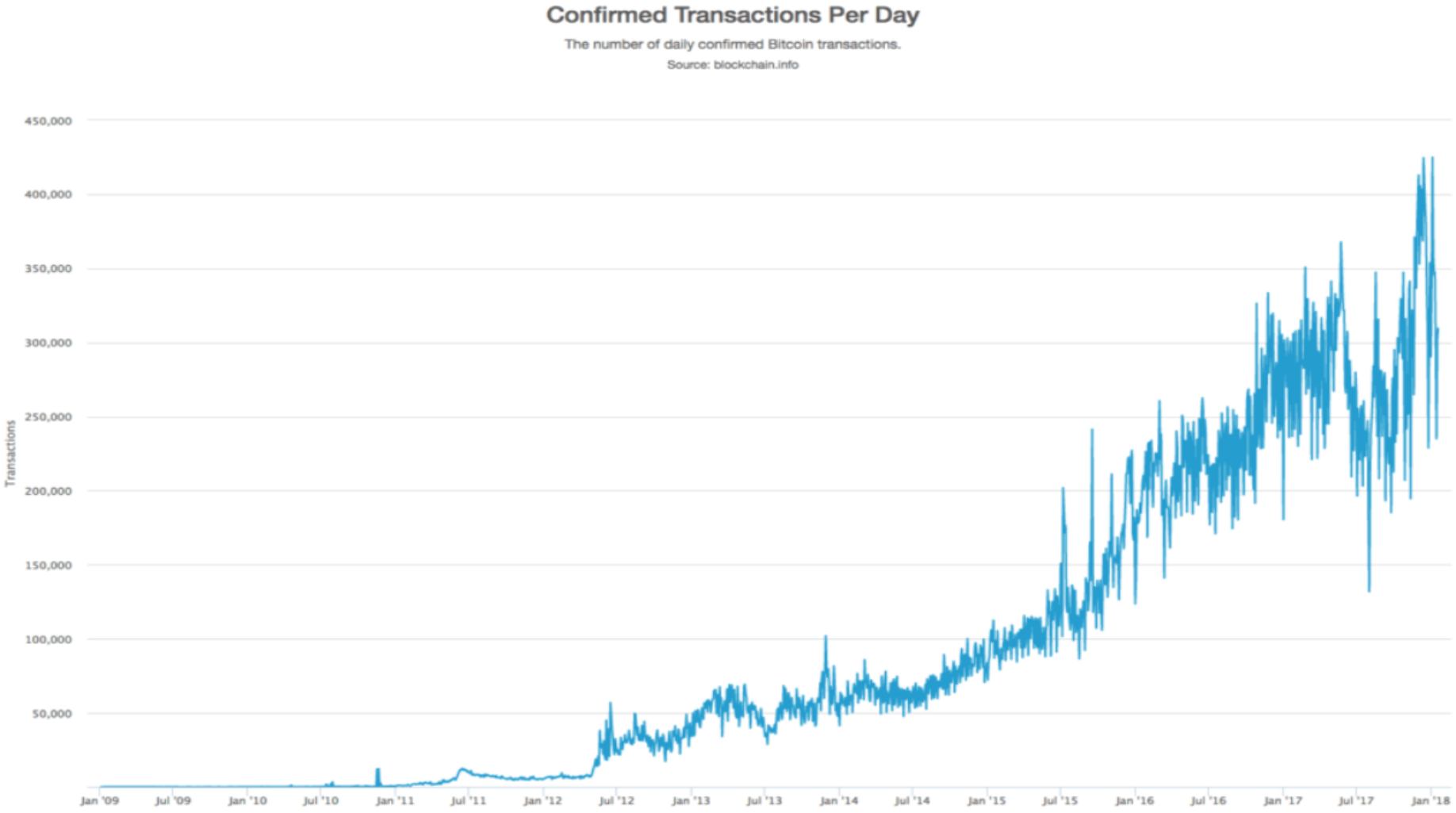
You've probably heard of
BITCOIN
but what about
ETHER?

Q3 2013	Launch of Telegram Messenger and the Telegram API
Q2 2015	Launch of the Bot API and Platform
Q2 2017	Launch of the Payments Platform
Q2 2017	Start of the development of TON
Q1 2018	Launch of Telegram External Secure ID
Q2 2018	Launch of the Minimal Viable Test Network of TON
Q3 2018	Testing and security audits of TON
Q4 2018	Deployment of the stable version of TON
Q4 2018	Launch of Telegram Wallet
Q1 2019	Creation of TON-based economy in Telegram
Q2 2019	Launch of TON Services, TON Storage, and TON Proxy

Figure 14: Evolution of Mobile Loan Approvals



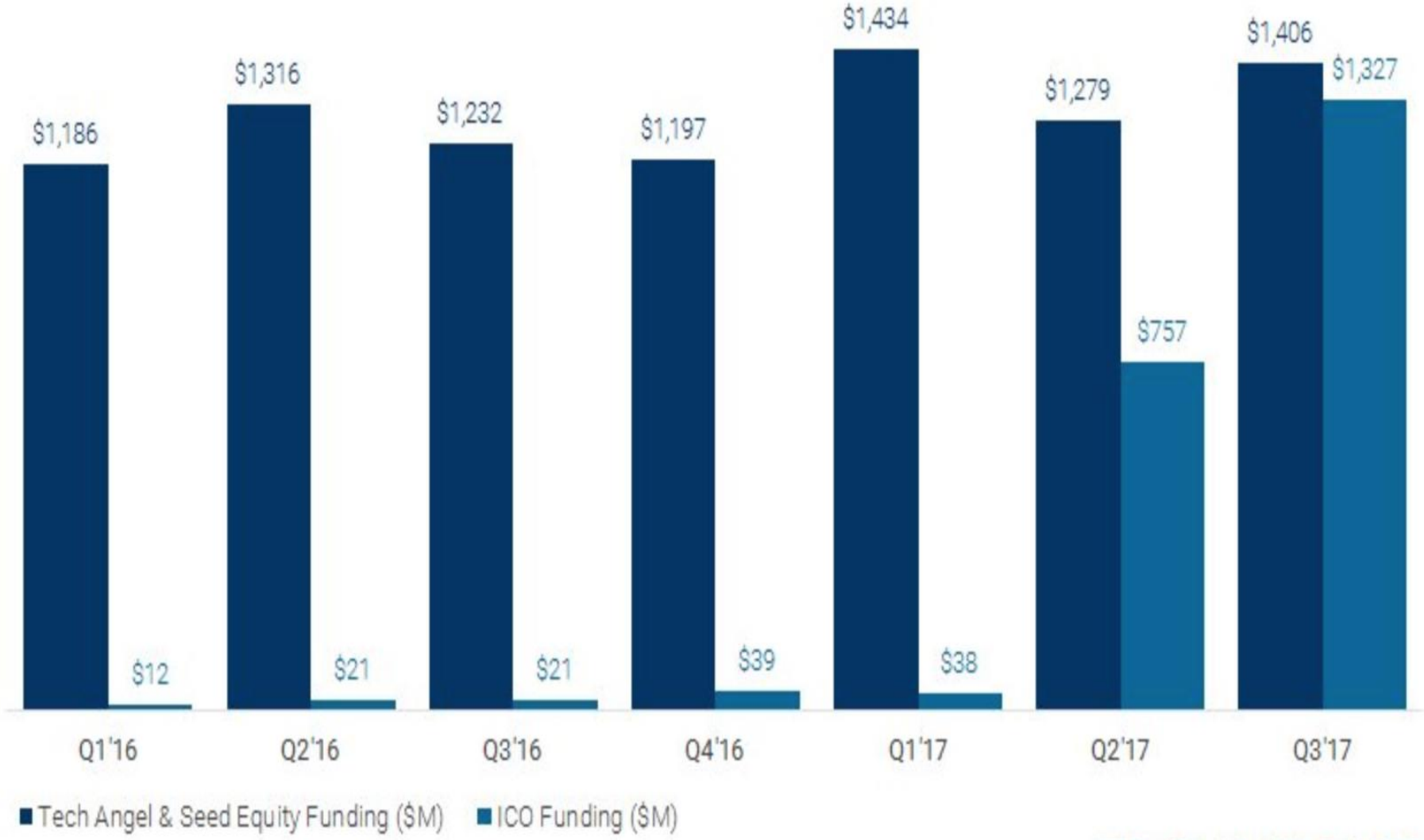
Source: CBK



The number of confirmed Bitcoin transactions per day has grown 8x from just over 50.000 in the summer of 2014 to more than 400.000 as of 2018.

Tech angel and seed equity funding vs. ICO funding

Q1'16 - Q3'17

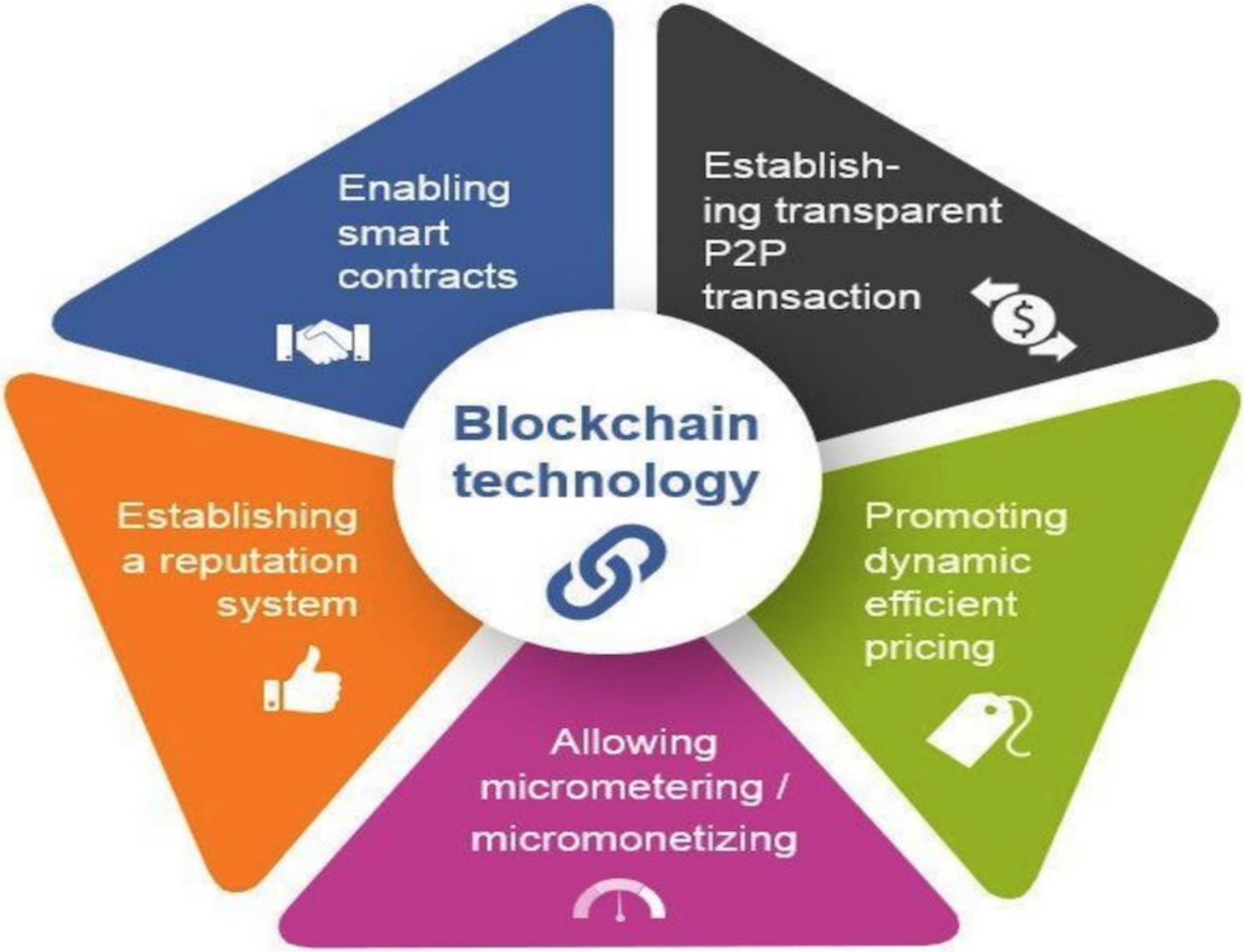


Sources: CB Insights, TokenData, CoinSchedule.

CBINSIGHTS

KODK Annotated Stock Chart

Source: Bloomberg. Kodak SEC filings, Kodak quarterly earnings presentations.


Blockchain technology
Enabling smart contracts
Establish-ing transparent P2P transaction
Establishing a reputation system
Promoting dynamic efficient pricing
Allowing micrometering / micromonetizing

Finance and Banking

- Credit scoring
- Fraud detection
- Risk analysis
- Client analysis
- Trading exchange forecasting

Retail and E-commerce

- Demand forecasting
- Price optimization
- Recommendations
- Fraud detection
- Customer segmentation

Marketing and Sales

- Market and customer segmentation
- Price optimization
- Churn rate analysis
- Customer lifetime value prediction
- Upsell opportunity analysis
- Sentiment analysis in social networks

Travel and Booking

- Demand forecasting
- Price optimization
- Price forecasting (for dynamically changing prices)

Healthcare and Life Sciences

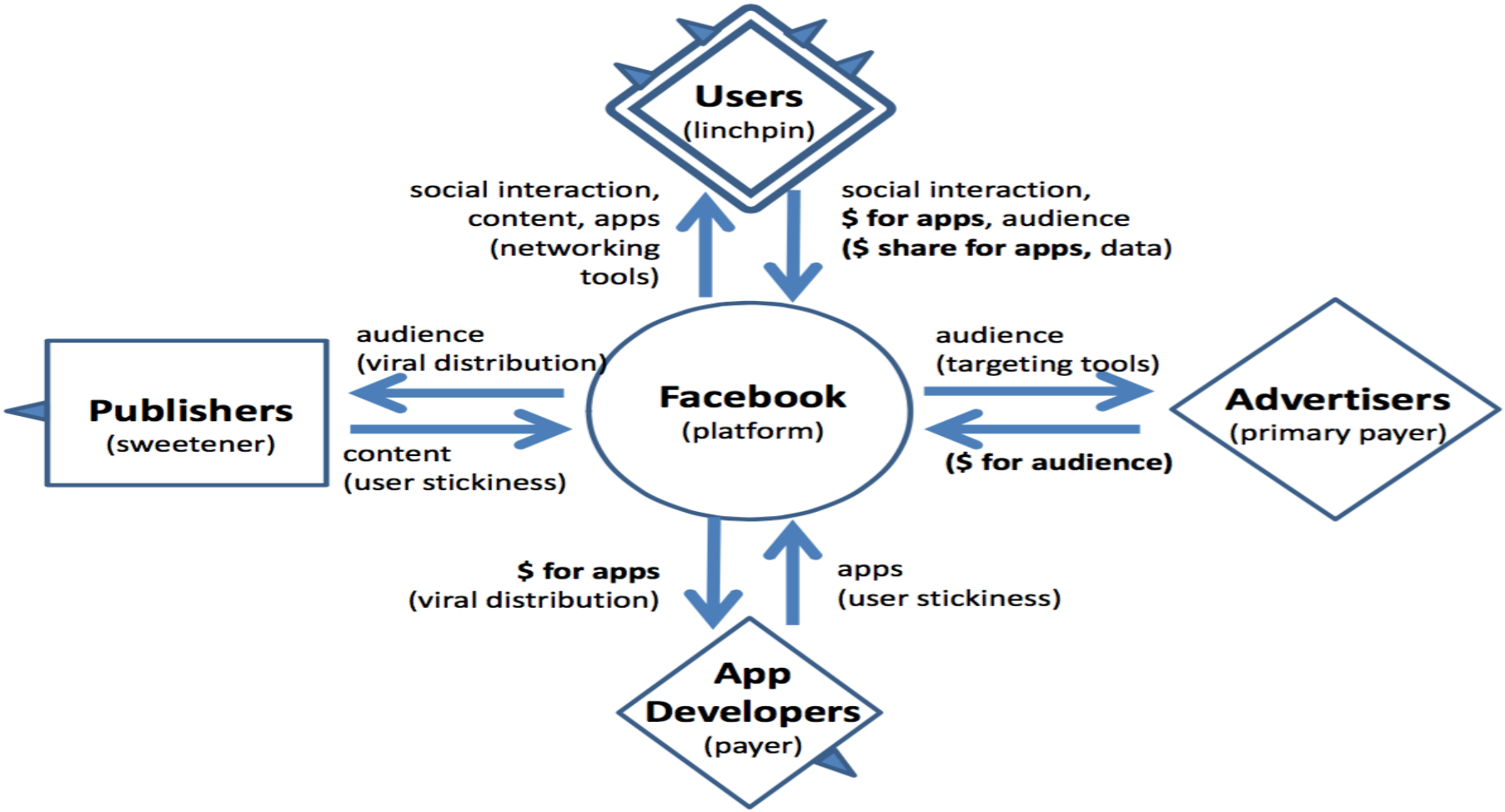
- Increase in diagnostic accuracy
- Identifying at-risk patients
- Insurance product cost optimization

Other

- Object recognition (photo and video)
- Content recommendations (movies, music, articles and news)
- And more

altexsoft

Platform Business Model Map
(Facebook)



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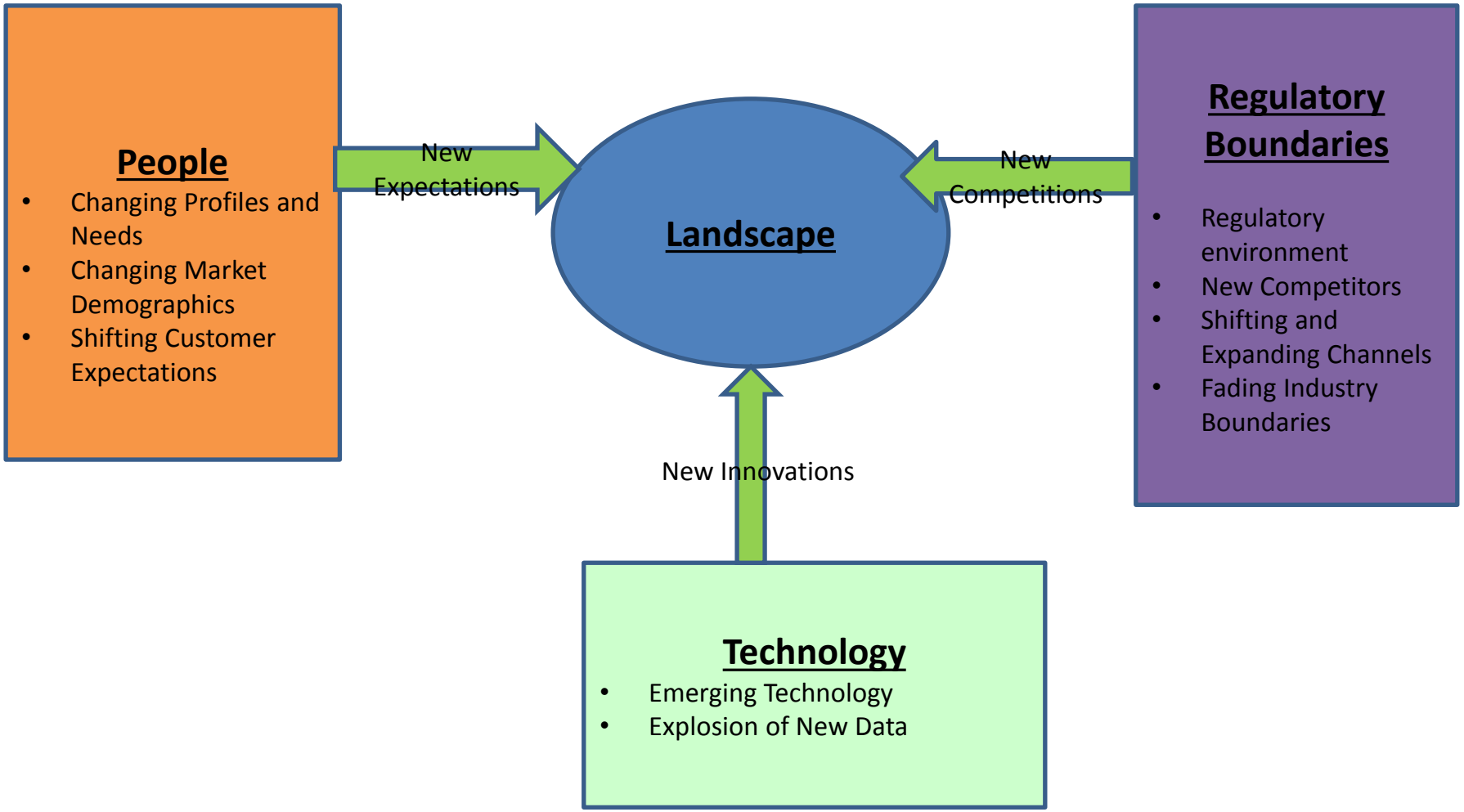
HATCH: How do you sustain a business model
in which users don't pay for your service?

Trends Framework




Trust


BUSINESS
ETHICS


The May 25, 2018 deadline for the General Data Protection Regulation (GDPR) is upon us.
Consent for the use of a person's data is at the heart of GDPR.
I Agree


Terms and
conditions

Preparing for the General Data Protection Regulation (GDPR) 12 steps to take now

1 Awareness

You should make sure that decision makers and key people in your organisation are aware that the law is changing to the GDPR. They need to appreciate the impact this is likely to have.

2 Information you hold

You should document what personal data you hold, where it came from and who you share it with. You may need to organise an information audit.

3 Communicating privacy information

You should review your current privacy notices and put a plan in place for making any necessary changes in time for GDPR implementation.

4 Individuals' rights

You should check your procedures to ensure they cover all the rights individuals have, including how you would delete personal data or provide data electronically and in a commonly used format.

5 Subject access requests

You should update your procedures and plan how you will handle requests within the new timescales and provide any additional information.

6 Lawful basis for processing personal data

You should identify the lawful basis for your processing activity in the GDPR, document it and update your privacy notice to explain it.

7 Consent

You should review how you seek, record and manage consent and whether you need to make any changes. Refresh existing consents now if they don't meet the GDPR standard.

8 Children

You should start thinking now about whether you need to put systems in place to verify individuals' ages and to obtain parental or guardian consent for any data processing activity.

9 Data breaches

You should make sure you have the right procedures in place to detect, report and investigate a personal data breach.

10 Data Protection by Design and Data Protection Impact Assessments

You should familiarise yourself now with the ICO's code of practice on Privacy Impact Assessments as well as the latest guidance from the Article 29 Working Party, and work out how and when to implement them in your organisation.

11 Data Protection Officers

You should designate someone to take responsibility for data protection compliance and assess where this role will sit within your organisation's structure and governance arrangements. You should consider whether you are required to formally designate a Data Protection Officer.

12 International

If your organisation operates in more than one EU member state (ie you carry out cross-border processing), you should determine your lead data protection supervisory authority. Article 29 Working Party guidelines will help you do this.

ico.
Information Commissioner's Office

ico.org.uk

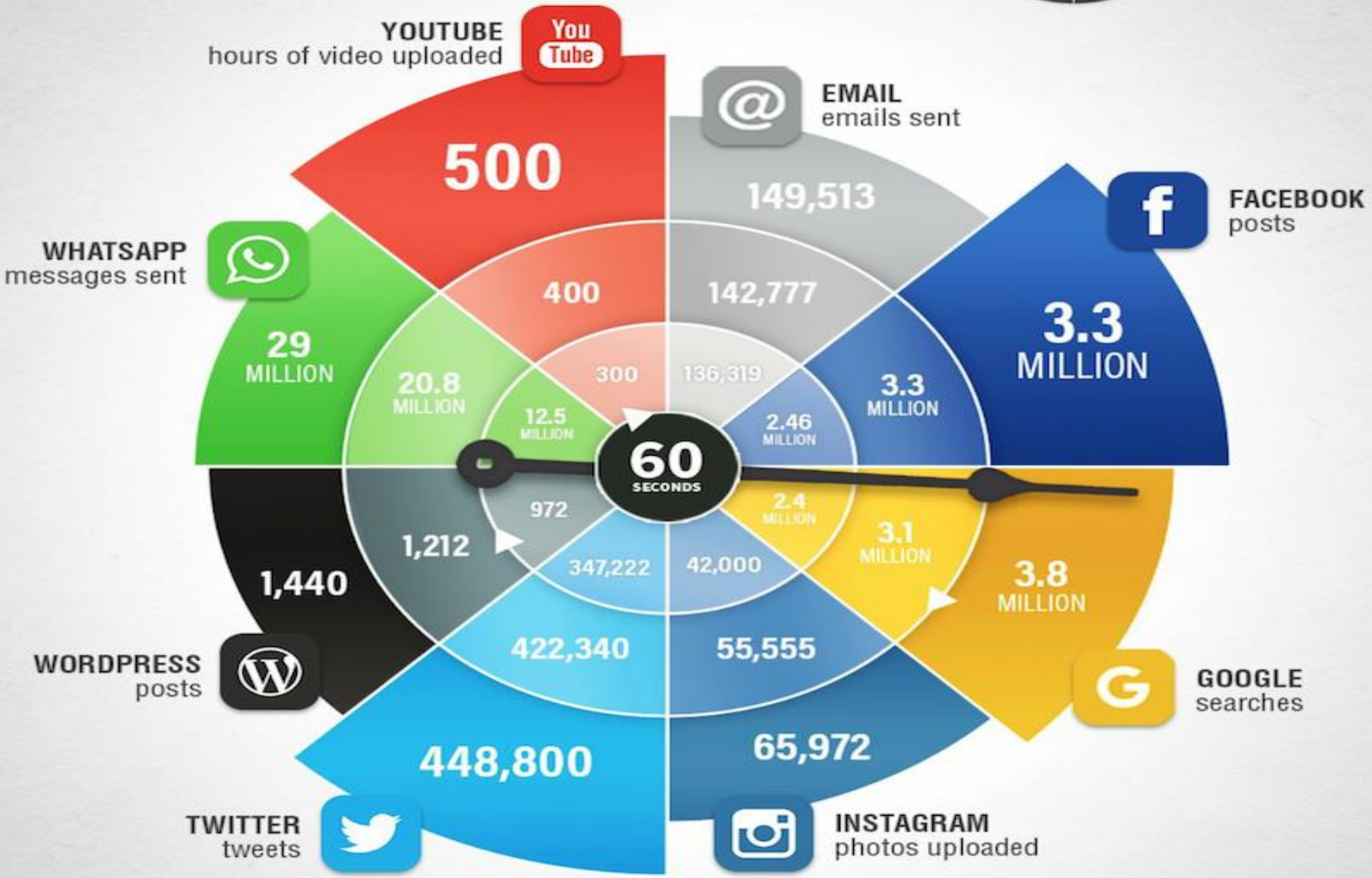
V2.0 20170306


DATA BREACH

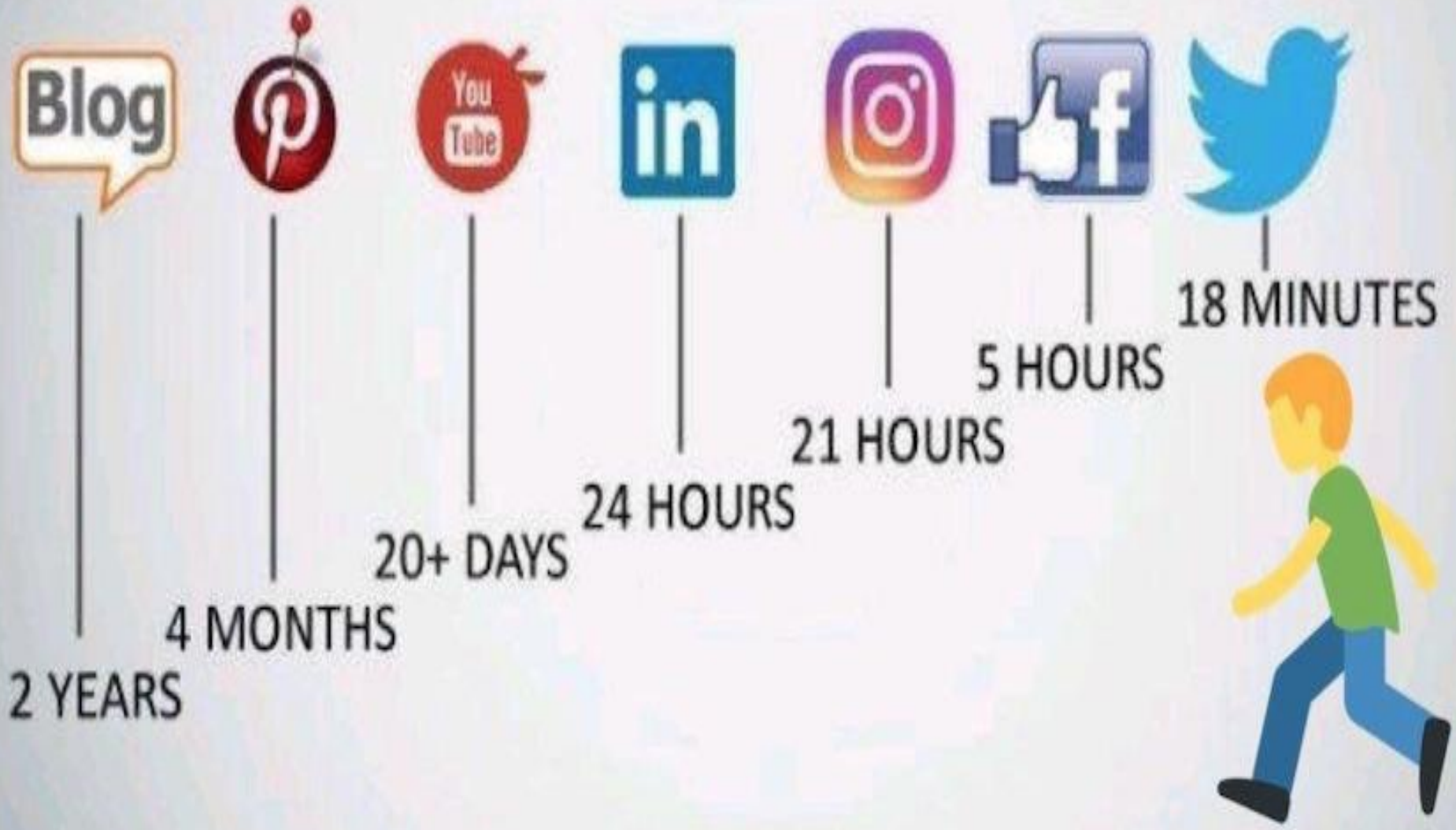

FOXCONN
DIMM1
MPBF11U0100-0B
RoHS Compliant
N15235 H67S
UL81127813938 PC H61SP V2.0

What happens online in 60 Seconds?

Managing Content Shock in 2017



HOW LONG DOES CONTENT LAST?



FACEBOOK (FB) STOCK NAS

ADD

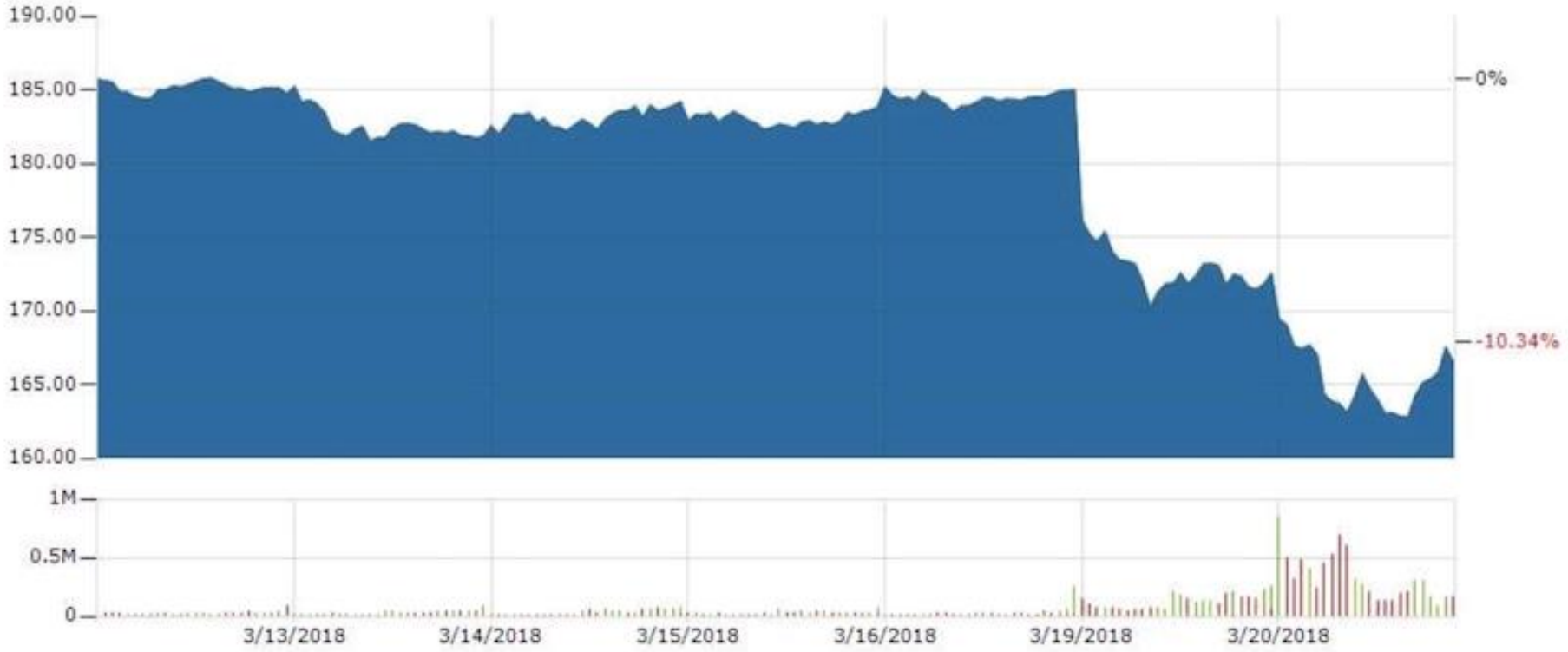
SHARE

168.28 USD -4.28 (-2.48%) 04:01:53 PM EDT BTT

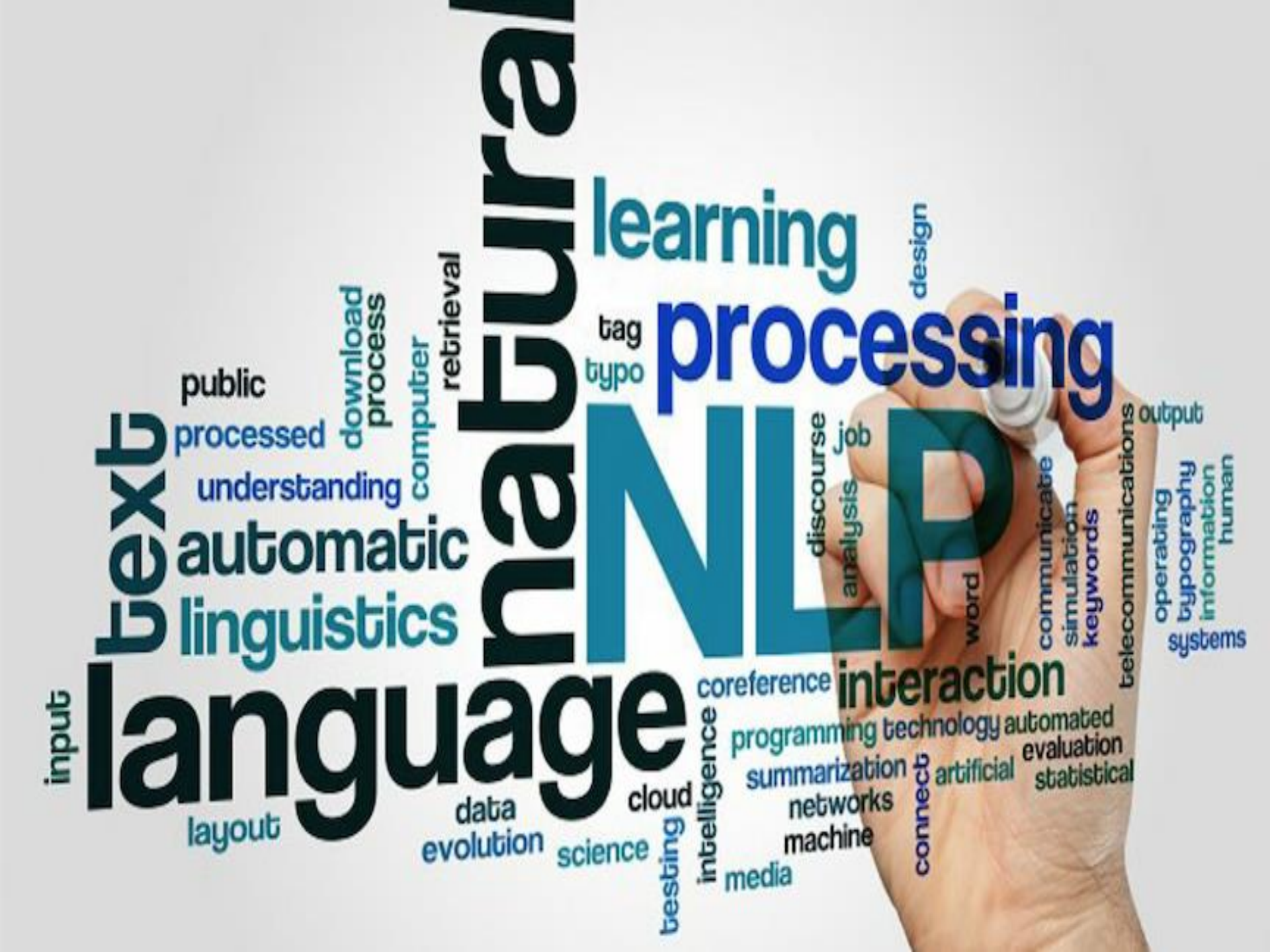
Prev. Close	172.56	Market Cap (USD)	532.94 B
Open	170.75	Volume (Qty.)	9,402,798

Day Low	Day High	52 Week Low	52 Week High
161.96	172.55	137.61	195.32
167.47		167.47	

INTRADAY 1W 1M 3M 6M YTD 1Y 3Y 5Y 10Y MAX CHART OPTIONS EXCHANGE: BTT

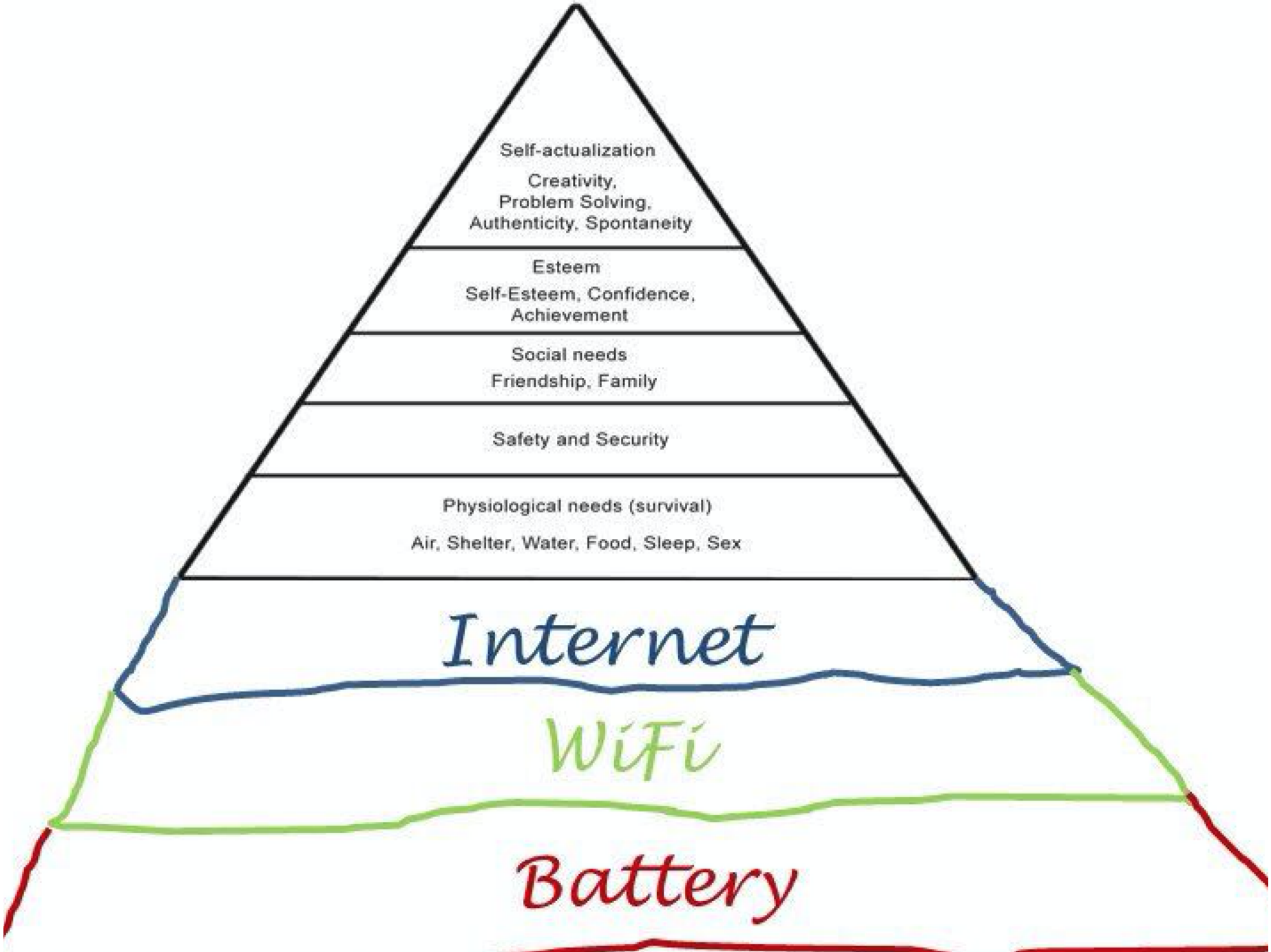


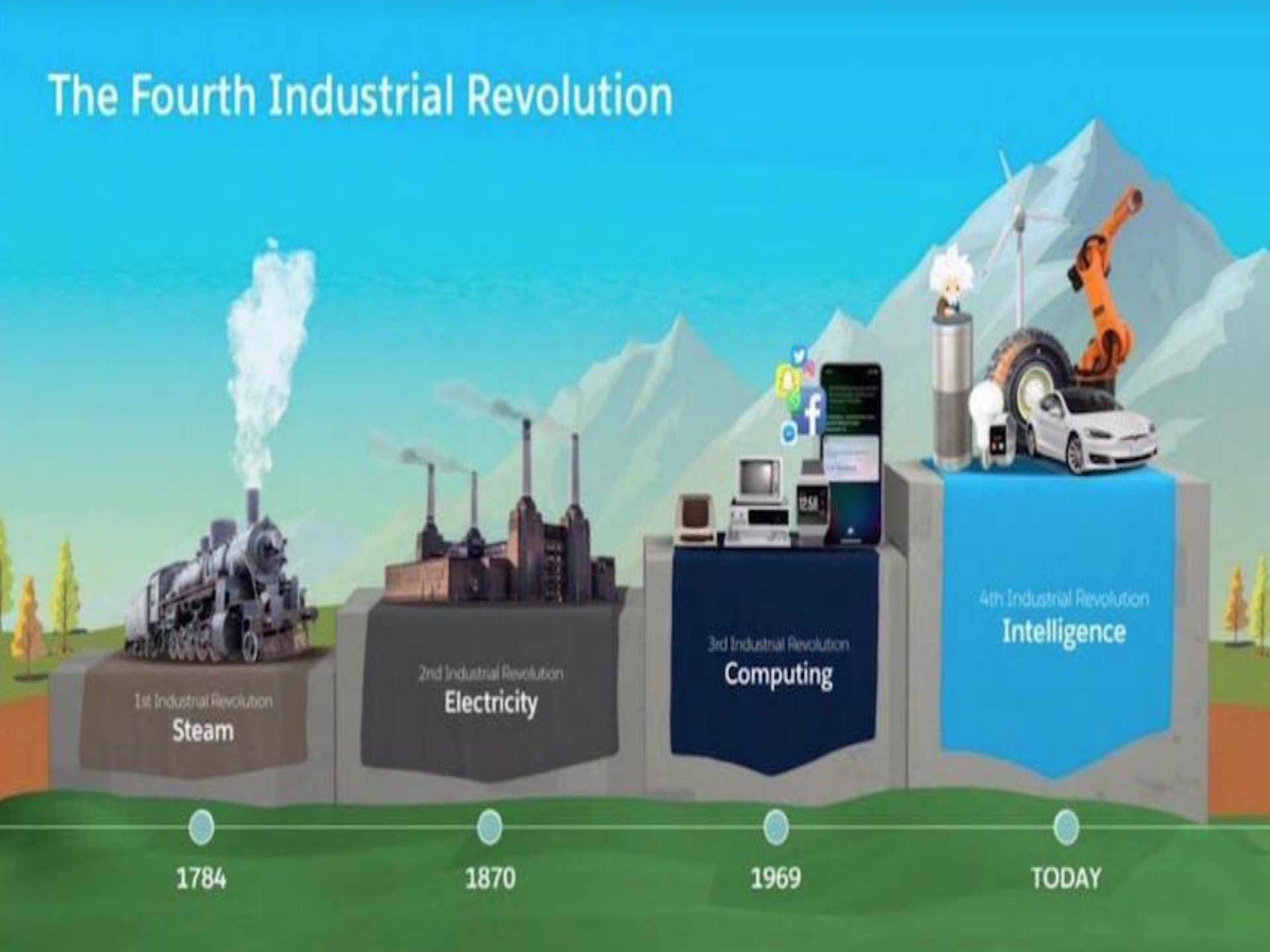
7 Sins
in the Digital World


natural
learning
processing
NLP
language
text
automatic
linguistics
understanding
processed
public
download
process
computer
retrieval
tag
typo
design
job
discourse
analysis
word
communicate
simulation
keywords
telecommunications
output
operating
typography
information
human
systems
interaction
coreference
programming
technology
automated
evaluation
statistical
summarization
artificial
networks
machine
connect
intelligence
testing
cloud
data
evolution
science
media
layout
input

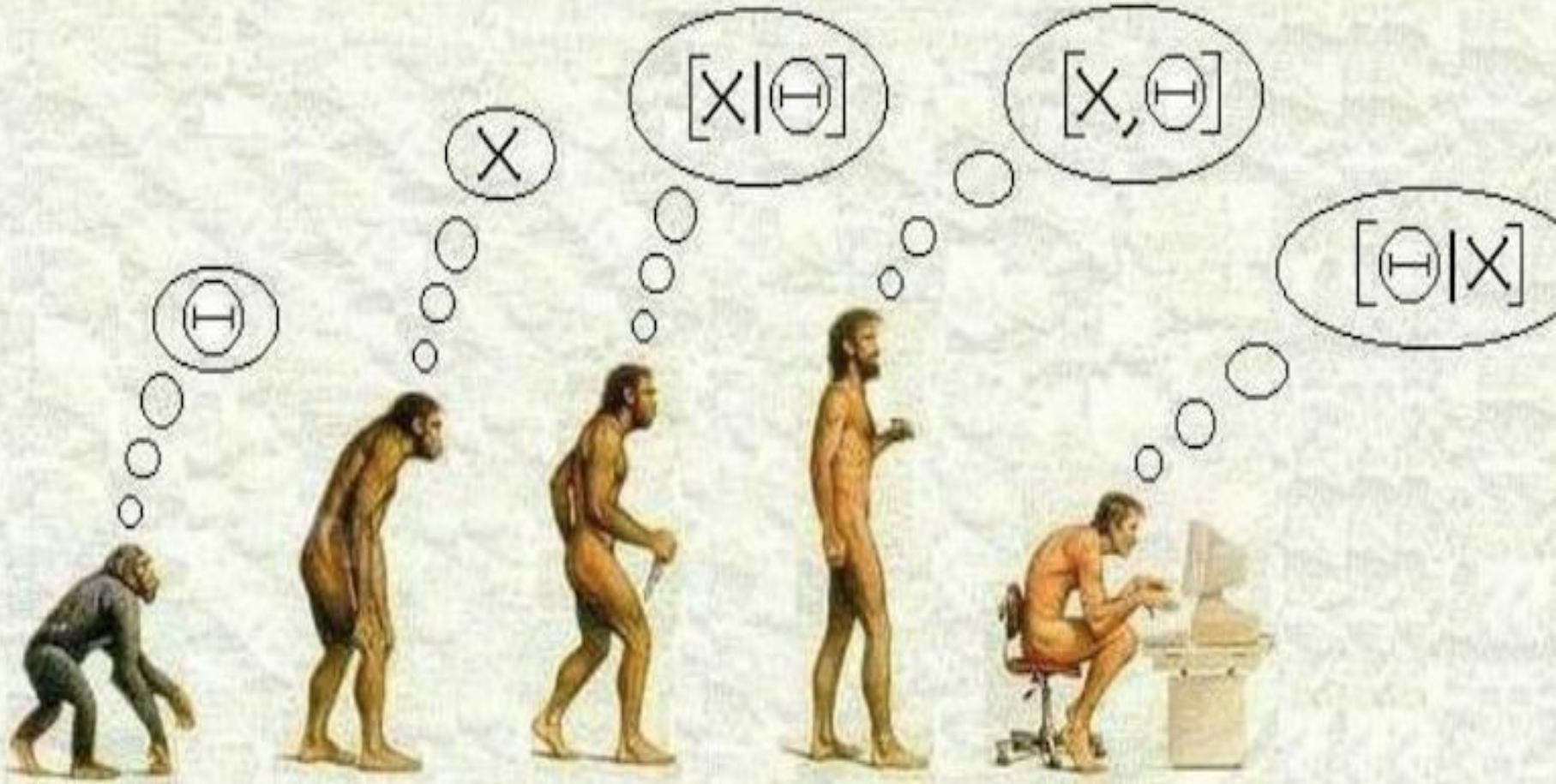
Types Of Data

- Disclosed Data what you post on your own pages.
- Service Data – the bio data you give to the site before you use it.
- Entrusted Data- what you post on other peoples pages.
- Incidental data- what others post about you.
- Behavioral data- data the site collects about your habits.
- Derived data, data about you that is inferred from all other data.


Self-actualization
Creativity,
Problem Solving,
Authenticity, Spontaneity
Esteem
Self-Esteem, Confidence,
Achievement
Social needs
Friendship, Family
Safety and Security
Physiological needs (survival)
Air, Shelter, Water, Food, Sleep, Sex
Internet
WiFi
Battery

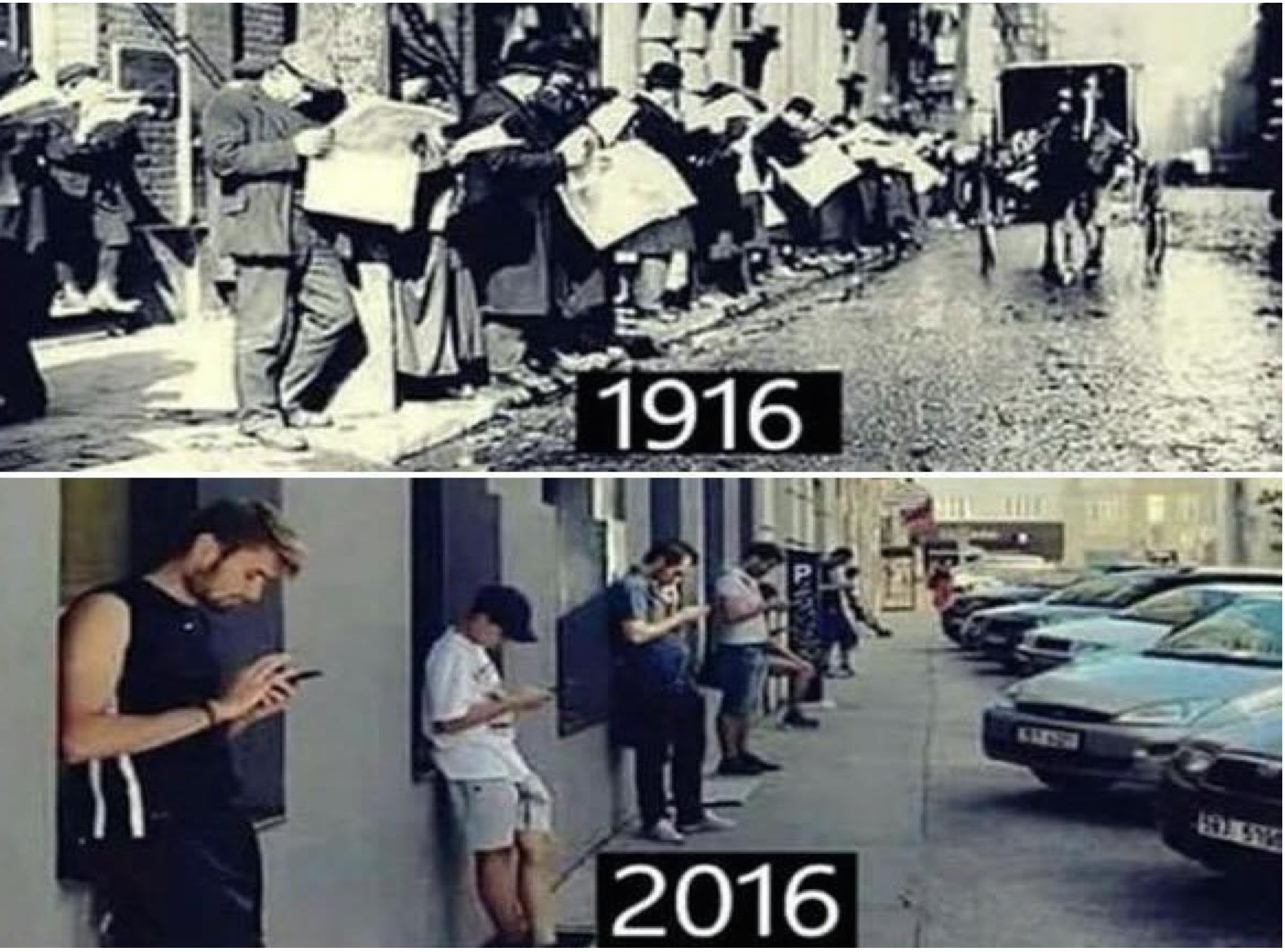

The Fourth Industrial Revolution
1st Industrial Revolution
Steam
2nd Industrial Revolution
Electricity
3rd Industrial Revolution
Computing
4th Industrial Revolution
Intelligence
1784
1870
1969
TODAY

(YET ANOTHER) HISTORY OF LIFE AS WE KNOW IT...



HOMO APRIORIUS | HOMO PRAGMATICUS | HOMO FREQUENTISTUS | HOMO SAPIENS | HOMO BAYESIANIS


65% of children today will end up in
careers that don't even exist yet


1916
2016

LAW OF ACCELERATING RETURNS

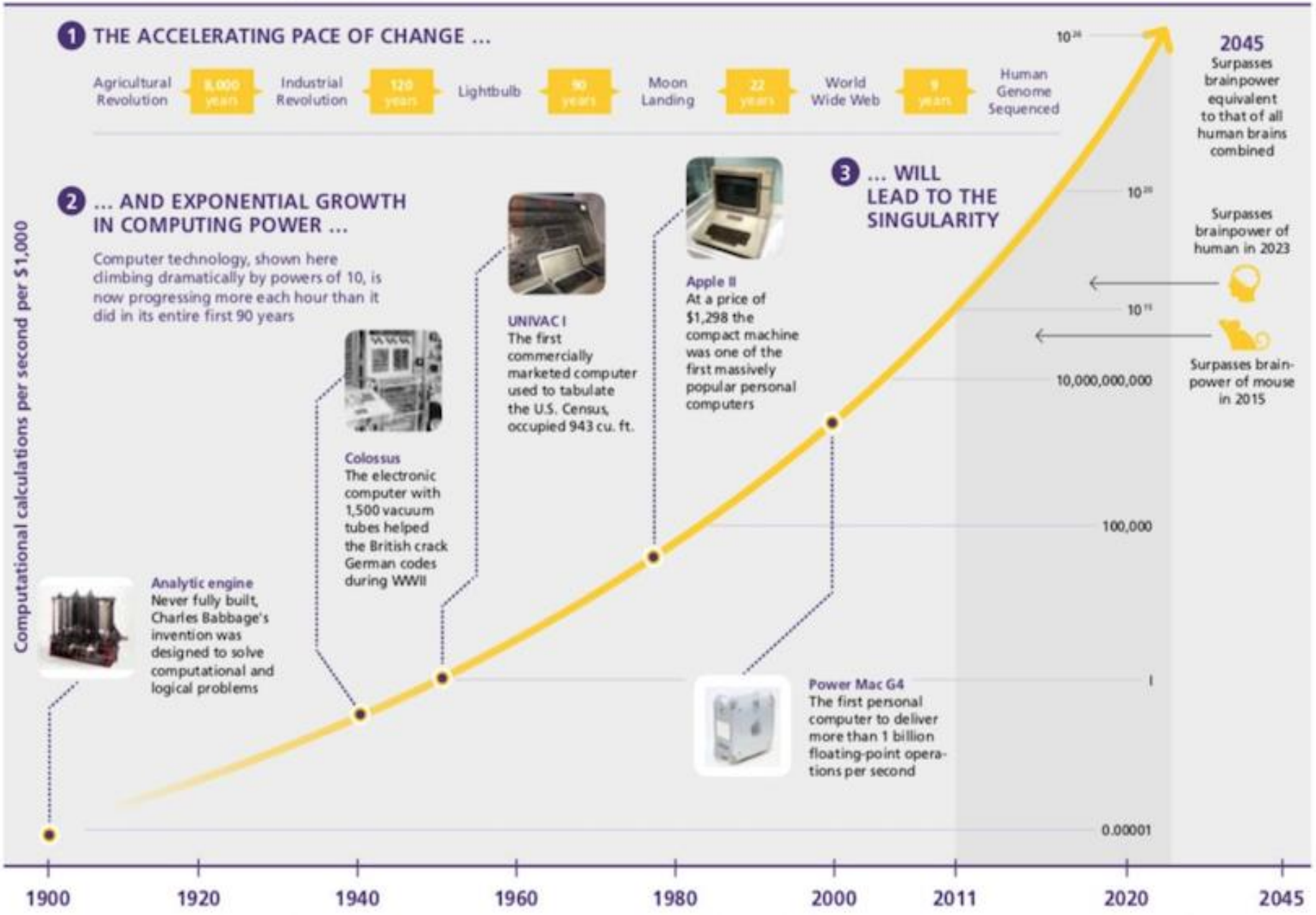
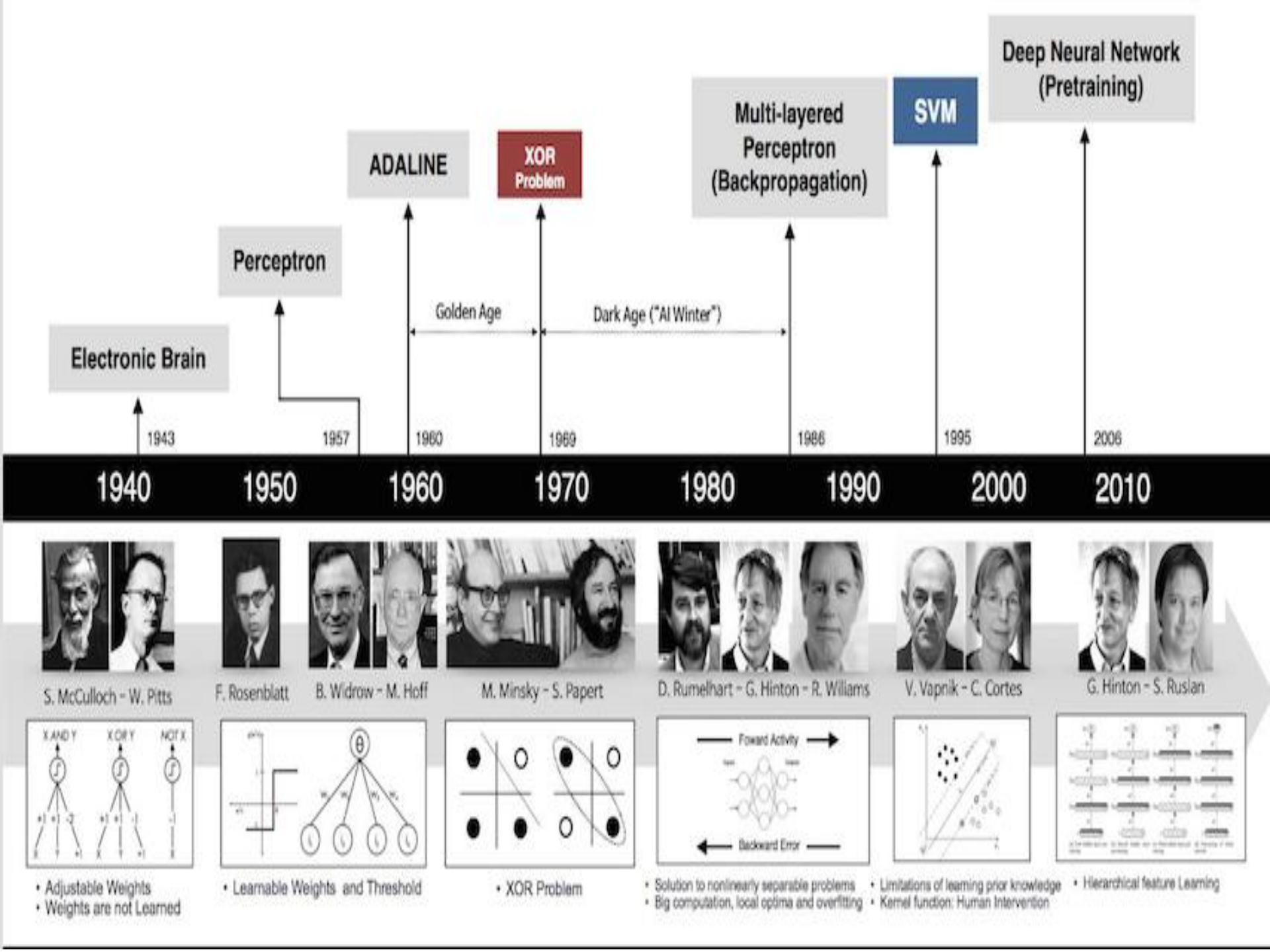
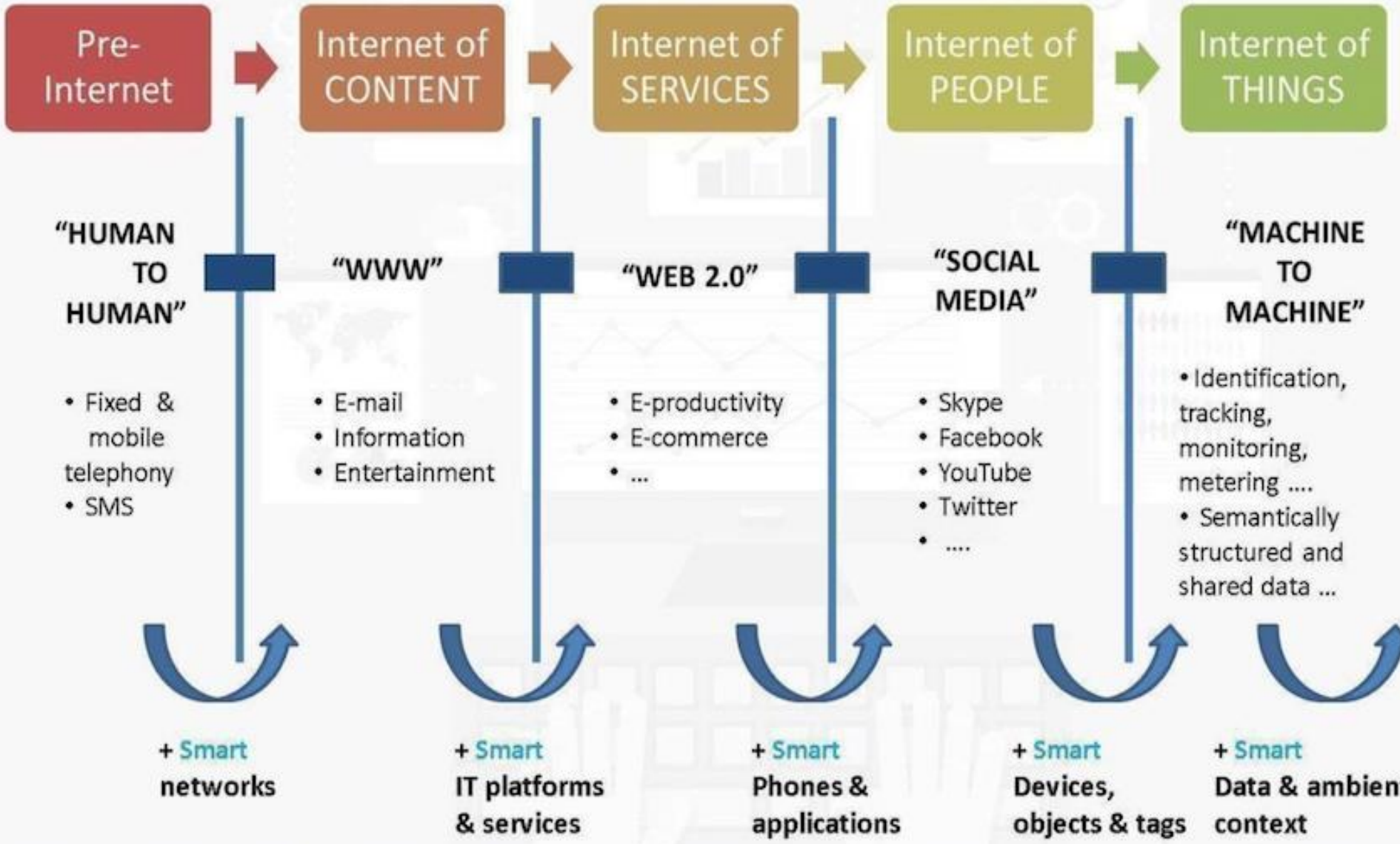


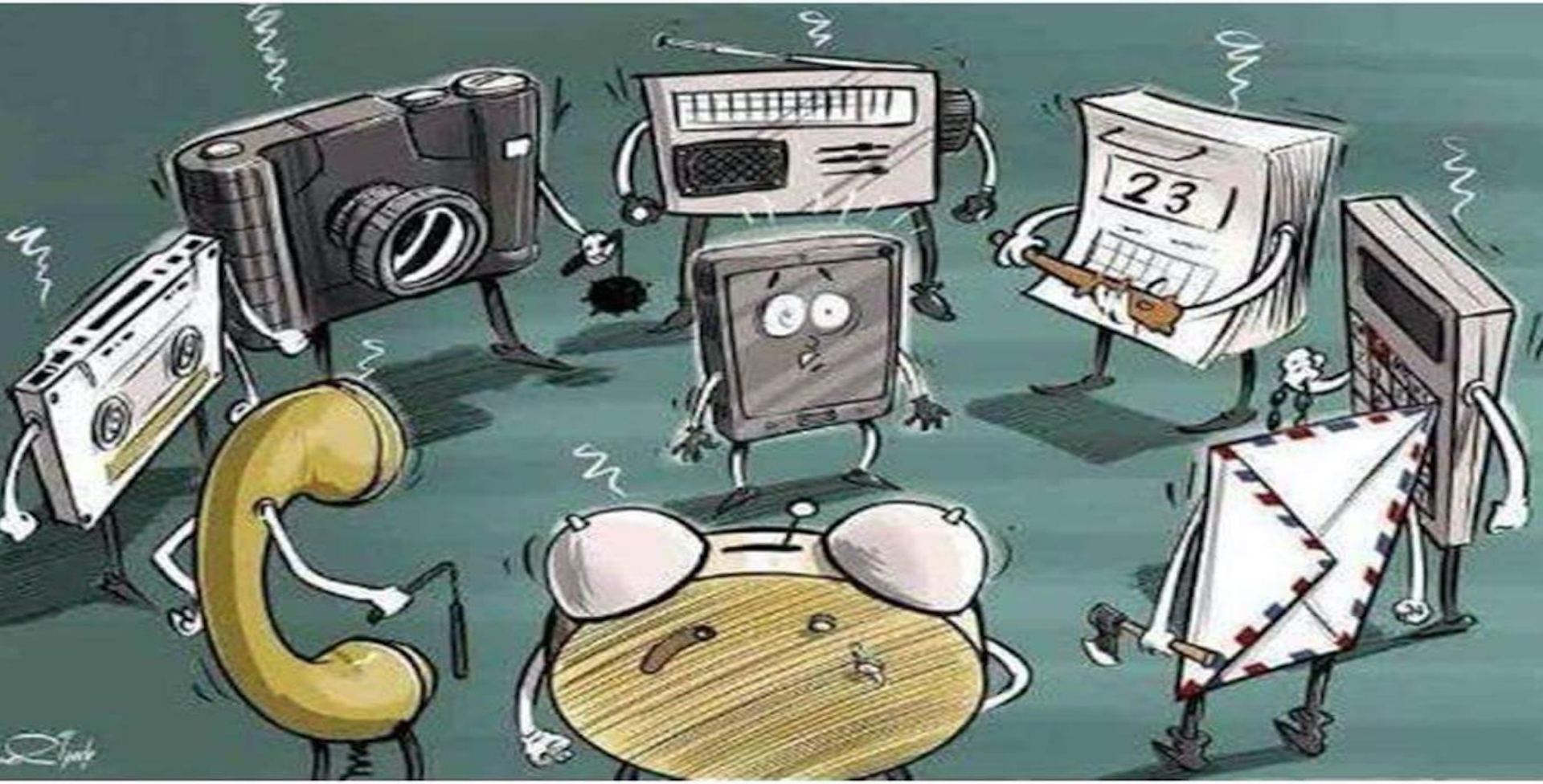
Figure 12: Ray Kurzweil's Law of Accelerating Returns depicts the exponential growth of computer processing power and technology innovations throughout history, and anticipates computers will exceed human intelligence in the future; **Source:** TIME / Wikipedia


Deep Neural Network (Pretraining)
SVM
Multi-layered Perceptron (Backpropagation)
XOR Problem
ADALINE
Perceptron
Electronic Brain
Golden Age
Dark Age ("AI Winter")
1943
1957
1960
1969
1986
1995
2006
1940
1950
1960
1970
1980
1990
2000
2010
S. McCulloch - W. Pitts
F. Rosenblatt
B. Widrow - M. Hoff
M. Minsky - S. Papert
D. Rumelhart - G. Hinton - R. Williams
V. Vapnik - C. Cortes
G. Hinton - S. Ruslan
X AND Y
X OR Y
NOT X
Foward Activity
Backward Error
• Adjustable Weights
• Weights are not Learned
• Learnable Weights and Threshold
• XOR Problem
• Solution to nonlinearly separable problems
• Big computation, local optima and overfitting
• Limitations of learning prior knowledge
• Kernel function: Human Intervention
• Hierarchical feature Learning

Evolution of Internet of Things



"Ohh.! So you're the one who,



took all our jobs." 😕

Global Broadband Speed League

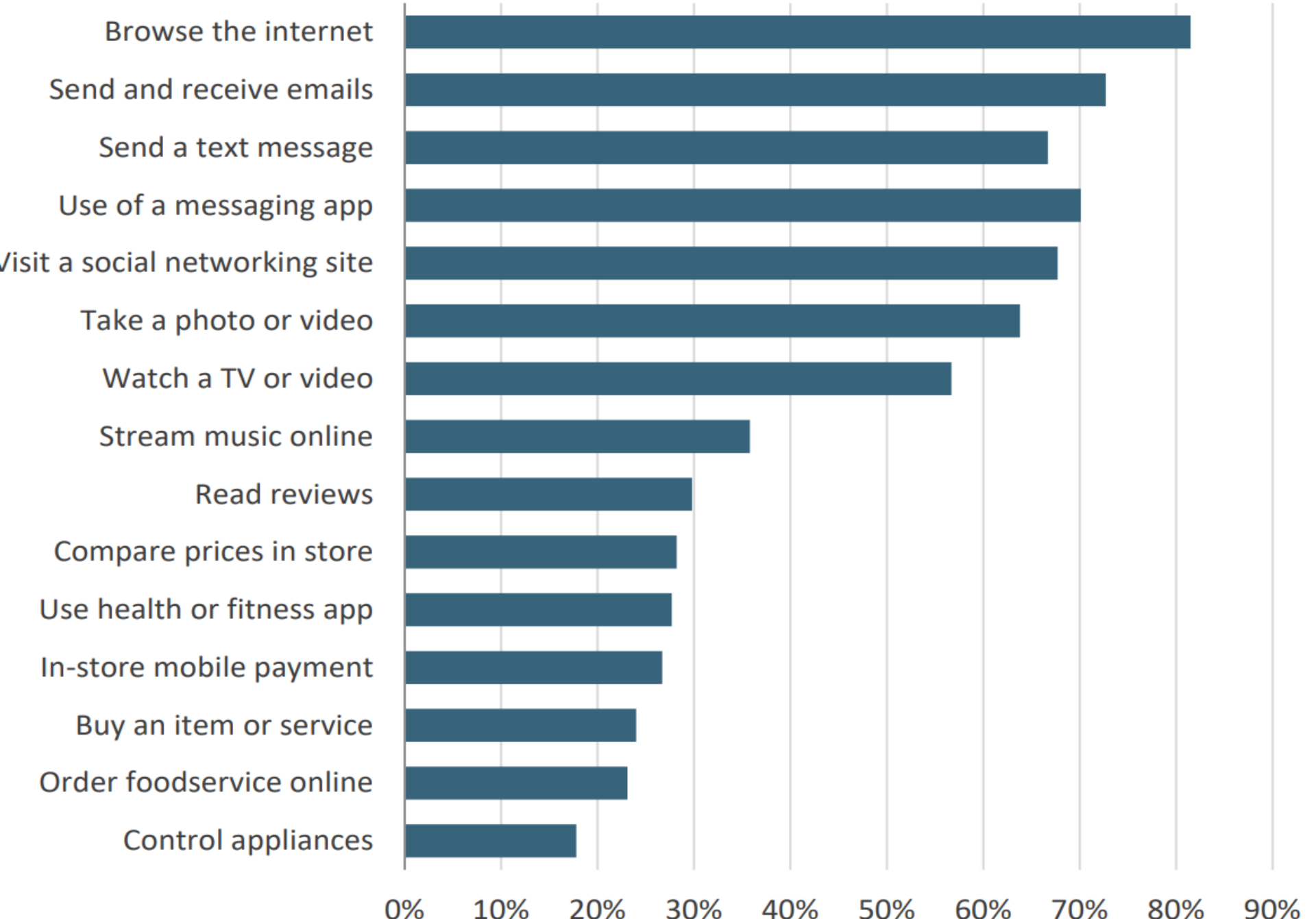
Global ranking	Country	Mean download speed (mbps)	Time to download HD Movie (7.5GB) (DD:HH:MM:SS)
1	Singapore	55.13	00:00:18:34
2	Sweden	40.16	00:00:25:30
3	Taiwan	34.4	00:00:29:46
4	Denmark	33.54	00:00:30:32
5	Netherlands	33.52	00:00:30:33
51	Kenya	8.83	00:01:55:55
79	Morocco	4.38	00:03:53:40
80	South Africa	4.36	00:03:54:54
88	Tunisia	3.5	00:04:52:23
89	Madagascar	3.49	00:04:53:15
95	Nigeria	3.15	00:05:25:27
105	Zimbabwe	2.49	00:06:50:34
106	Zambia	2.45	00:06:58:05
110	Ghana	2.3	00:07:26:11
115	Liberia	2.12	00:08:03:18
116	Uganda	2.12	00:08:04:00
117	Rwanda	2.11	00:08:05:02
126	Namibia	1.81	00:09:26:07
139	Tanzania	1.49	00:11:28:54
140	Mozambique	1.45	00:11:46:51
147	Ethiopia	1.34	00:12:46:40
151	Djibouti	1.25	00:13:39:29
153	Togo	1.24	00:13:48:23
155	Cote D'Ivoire	1.22	00:13:58:30

At 83 per cent, Kenya is now at the top, with Nigeria coming in second at 81 per cent.

This has been attributed to the country's high level of smartphones penetration rate which recently surpassed the 40 million mobile subscriptions in 2017 and stands at 41 million (+3 per cent), with reach at 90.4 per cent of the adult population.

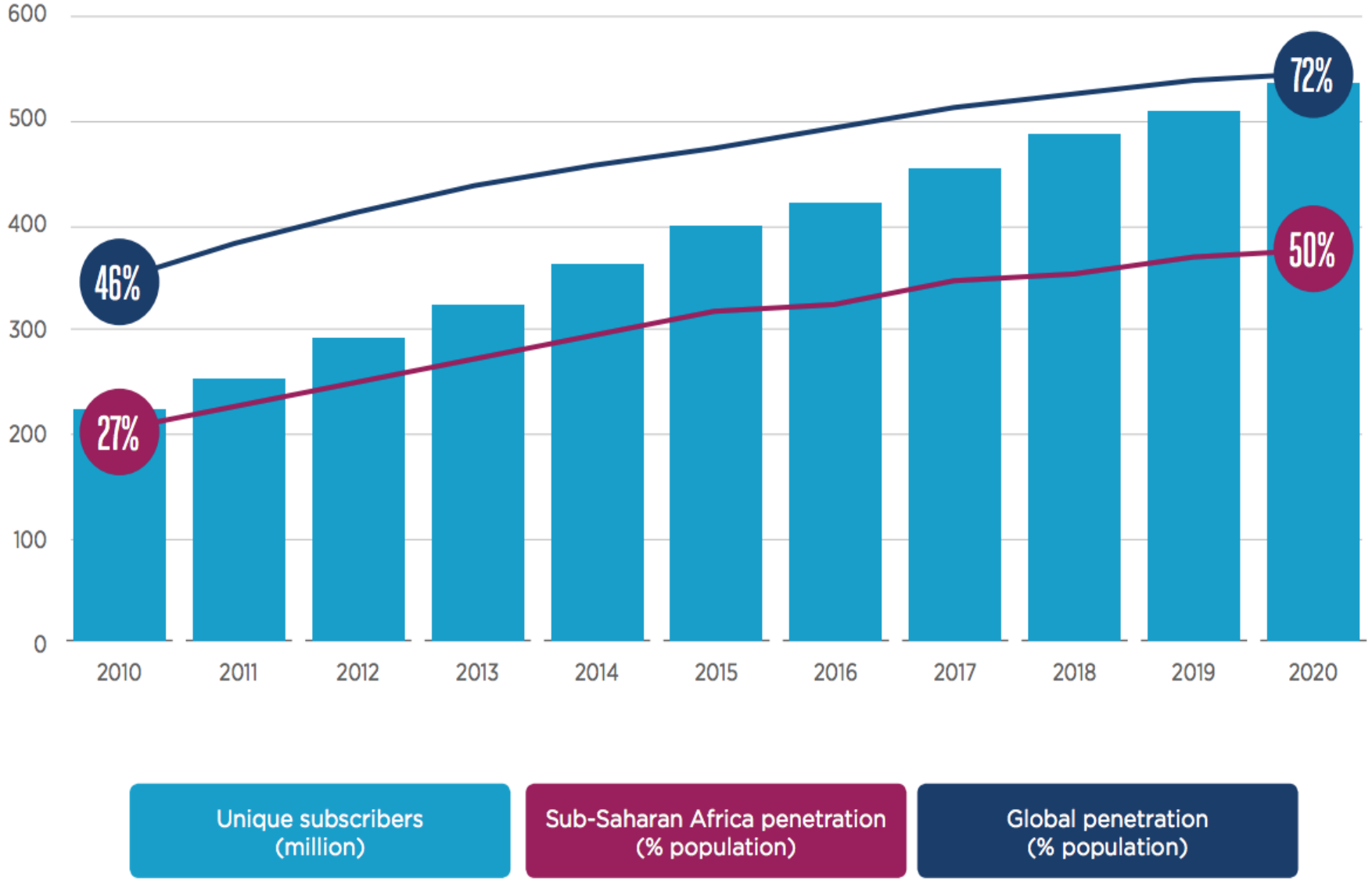
Other leading countries include India (79 per cent), Singapore (78 per cent), Ghana (75 per cent), Indonesia (72 per cent), South Africa (71 per cent), Thailand (69 per cent), Saudi Arabia (64 per cent), Turkey (62 per cent), China (61 per cent), UAE (61 per cent), Poland (59 per cent), Malaysia (57 per cent), and the rest of the world at 52 per cent.

Most Popular Mobile Phone Activities, 2017



PLATFORM	MONTHLY USERS
Whatsapp	12 million
Facebook	7.1 million
YouTube	8 million
Instagram	4 million
LinkedIn	1 million
Twitter	1 million
Snapchat	0.25 million

Sub-Saharan Africa unique mobile subscribers and market penetration



Service	Mshwari	KCB M-PESA	Eazzy Loan	M Coop Cash	Tala	Branch
Subscribers	20.1 M	9.8 M	1.6 M	3.3 M	770K	750 K
Total Loan Count	83.3 M	15.4 M	4.2 M	2.8 M	1.8 M	1.5 M
Total Loan Value	208 Bn	48.2 Bn	57 Bn	8.7 Bn	3.5 Bn	2 Bn
Loan Book	8 Bn	2.4 Bn	3.8 Bn	860 Mn	780 Mn	400 Mn
Avg Daily Count	70K	21K	8.5K	1K	310	190
Fee (MPR)	7.5%	3.66%	3.66%	3.66%	15%	14%
NPL	1.9%	2.9%	3.1%	2.77%	>10%	>10%
Minimum	50	50	100	1000	2000	250
Maximum	100K	100K	3 Mn	100K	50K	50K

Source: WAPI CAPITAL

Equity Group The Evolution of Digital

1994- 2004

Send & Wait
SMS based Financial Services

2004

Choose & Receive
USSD Financial Services

Creation of banking on *247#

Achievements

1st bank in Kenya to blaze USSD banking trail

2007 - 2014

Payments Democratization
Introduction of Point of Sale

Unparalleled card acceptance:
AMEX, MC, V, CUP, D, JCB etc
Agent driven POS

Achievements

Largest Acquirer in Kenya for the past 4 years
10,000 Merchants
28,000 Agents

Finserve Began Operations

2015

Digital disruption
Digital Bank & Digital Payments

MVNO – Equitel
Eazzy loans (mobile approved in 20 sec)
Eazzy Pay (mobile merchant solution)
Mobile App
Retail Internet Banking
Corporate Internet Banking
Digital Group based Banking
Digital international money remittances

Achievements

Fastest growing MVNO in the world
2.6M Equitel Activations
70,000 mobile payment merchants
22% Market share in 2 years on txns
No1 Bank app on playstore & appstore
Most Innovative Bank (2017)
1st Bank in Kenya with PCI-DSS certification

2017

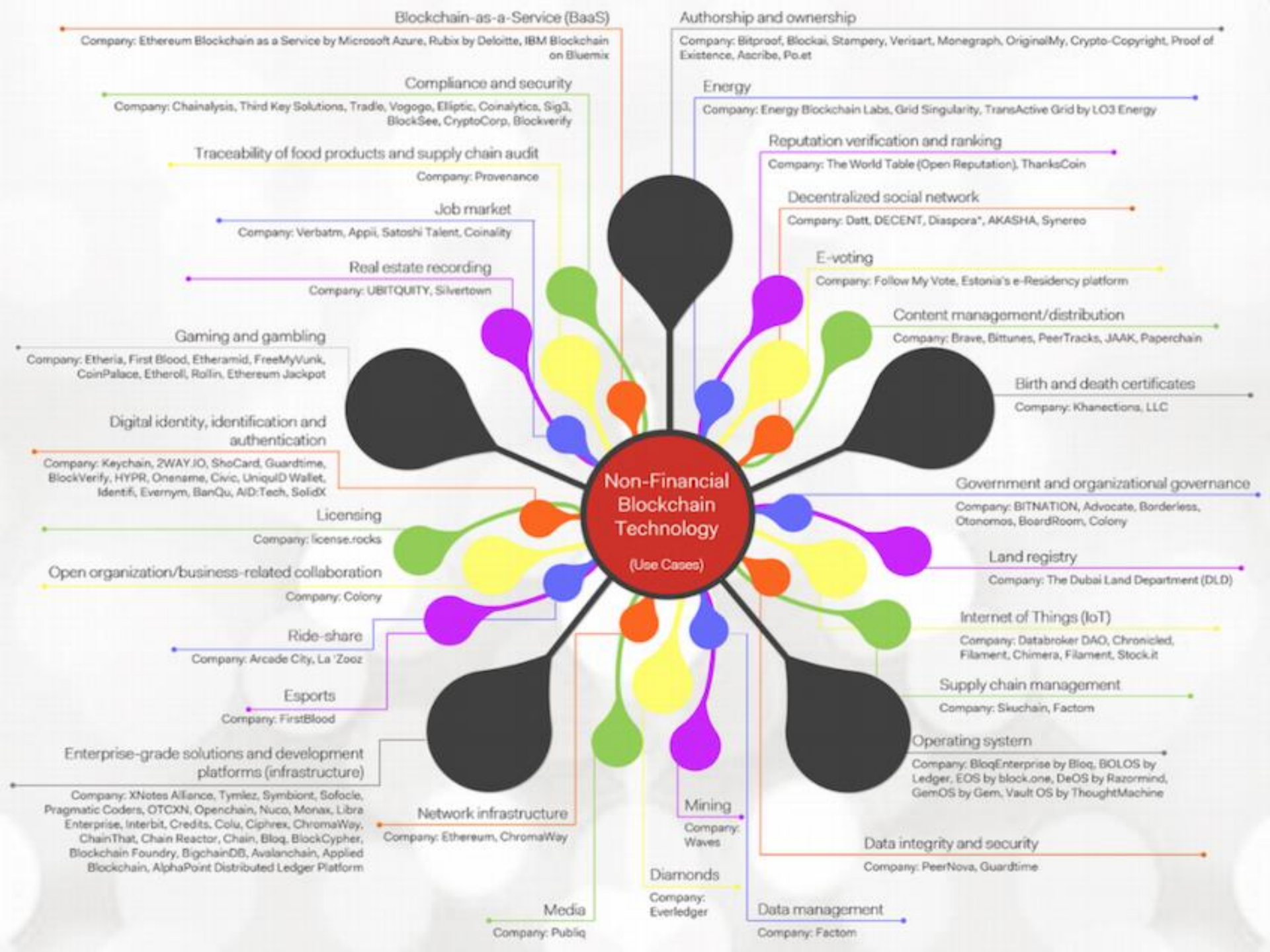
Open Financial Services
API based Fintech Enabler

Banking platform white labeling
Payment APIs
IMT APIs
E-commerce APIs & services
Credit APIs
Loans & Working Capital Loans APIs
Currency APIs
Stock market APIs
Insurance APIs
Big data & analytics
Digital only Bank

Achievements

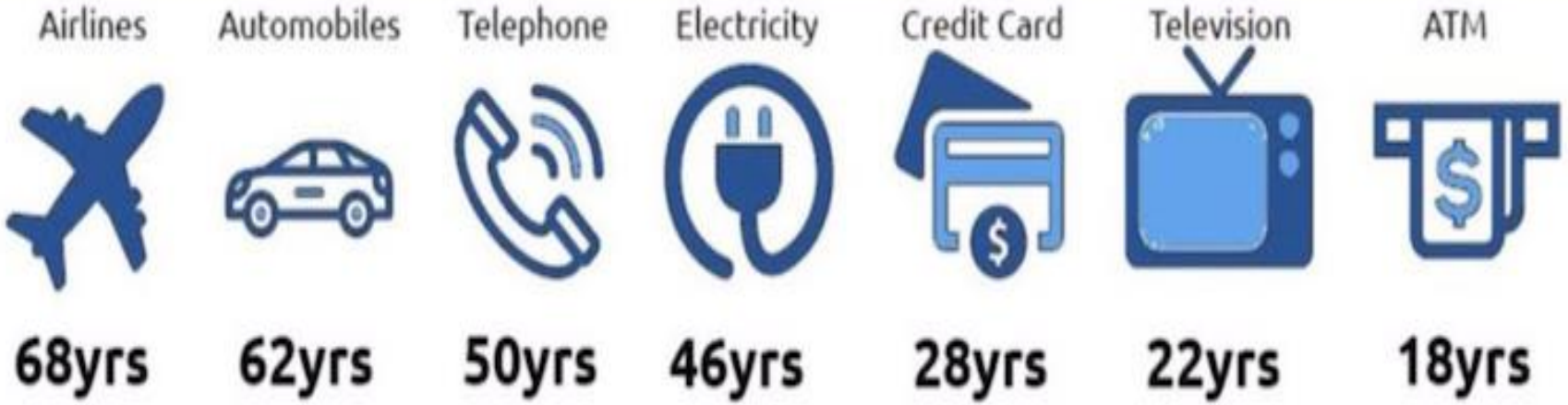
1st Bank to expose full set of APIs to 3rd parties & developer community

Equity 1.0 (1994-2004) | Equity 2.0 (2004-2014) | Equity 3.0 (2014-2024)


Non-Financial Blockchain Technology
(Use Cases)
Blockchain-as-a-Service (BaaS)
Company: Ethereum Blockchain as a Service by Microsoft Azure, Rubix by Deloitte, IBM Blockchain on Bluemix
Compliance and security
Company: Chainalysis, Third Key Solutions, Tradle, Vogogo, Elliptic, Coinalytics, Sig3, BlockSee, CryptoCorp, Blockverify
Traceability of food products and supply chain audit
Company: Provenance
Job market
Company: Verbatm, Appii, Satoshi Talent, Coinality
Real estate recording
Company: UBITQUITY, Silvertown
Gaming and gambling
Company: Etheria, First Blood, Etheramid, FreeMyVunk, CoinPalace, Etheroll, Rollin, Ethereum Jackpot
Digital identity, identification and authentication
Company: Keychain, 2WAY.IO, ShoCard, Guardtime, BlockVerify, HYPR, Onename, Civic, UniquID Wallet, Identifi, Evernym, BanQu, AID:Tech, SolidX
Licensing
Company: license.rocks
Open organization/business-related collaboration
Company: Colony
Ride-share
Company: Arcade City, La 'Zooz
Esports
Company: FirstBlood
Enterprise-grade solutions and development platforms (infrastructure)
Company: XNotes Alliance, Tymlez, Symbiont, Sofocle, Pragmatic Coders, OTCXN, Openchain, Nuco, Monax, Libra Enterprise, Interbit, Credits, Colu, Ciphrex, ChromaWay, ChainThat, Chain Reactor, Chain, Bloq, BlockCypher, Blockchain Foundry, BigchainDB, Avalanchain, Applied Blockchain, AlphaPoint Distributed Ledger Platform
Network infrastructure
Company: Ethereum, ChromaWay
Media
Company: Publiq
Diamonds
Company: Everledger
Mining
Company: Waves
Data management
Company: Factom
Data integrity and security
Company: PeerNova, Guardtime
Authorship and ownership
Company: Bitproof, Blockai, Stampery, Verisart, Monegraph, OriginalMy, Crypto-Copyright, Proof of Existence, Ascribe, Po.et
Energy
Company: Energy Blockchain Labs, Grid Singularity, TransActive Grid by LO3 Energy
Reputation verification and ranking
Company: The World Table (Open Reputation), ThanksCoin
Decentralized social network
Company: Datt, DECENT, Diaspora*, AKASHA, Synereo
E-voting
Company: Follow My Vote, Estonia's e-Residency platform
Content management/distribution
Company: Brave, Bittunes, PeerTracks, JAAK, Paperchain
Birth and death certificates
Company: Khanections, LLC
Government and organizational governance
Company: BITNATION, Advocate, Borderless, Otonomos, BoardRoom, Colony
Land registry
Company: The Dubai Land Department (DLD)
Internet of Things (IoT)
Company: Databroker DAO, Chronicled, Filament, Chimera, Filament, Stock.it
Supply chain management
Company: Skuchain, Factom
Operating system
Company: BloqEnterprise by Bloq, BOLOS by Ledger, EOS by block.one, DeOS by Razormind, GemOS by Gem, Vault OS by ThoughtMachine

AUTOMATION

NUMBER OF YEARS IT TOOK FOR EACH PRODUCT TO GAIN 50 MILLION USERS:



Brian Chesky
@bchesky

Follow

Marriott wants to add 30,000 rooms this year. We will add that in the next 2 weeks.

Reply Retweet Favorite More HootSuite

RETWEETS 286 FAVORITES 228

88 YEARS TO BUILD

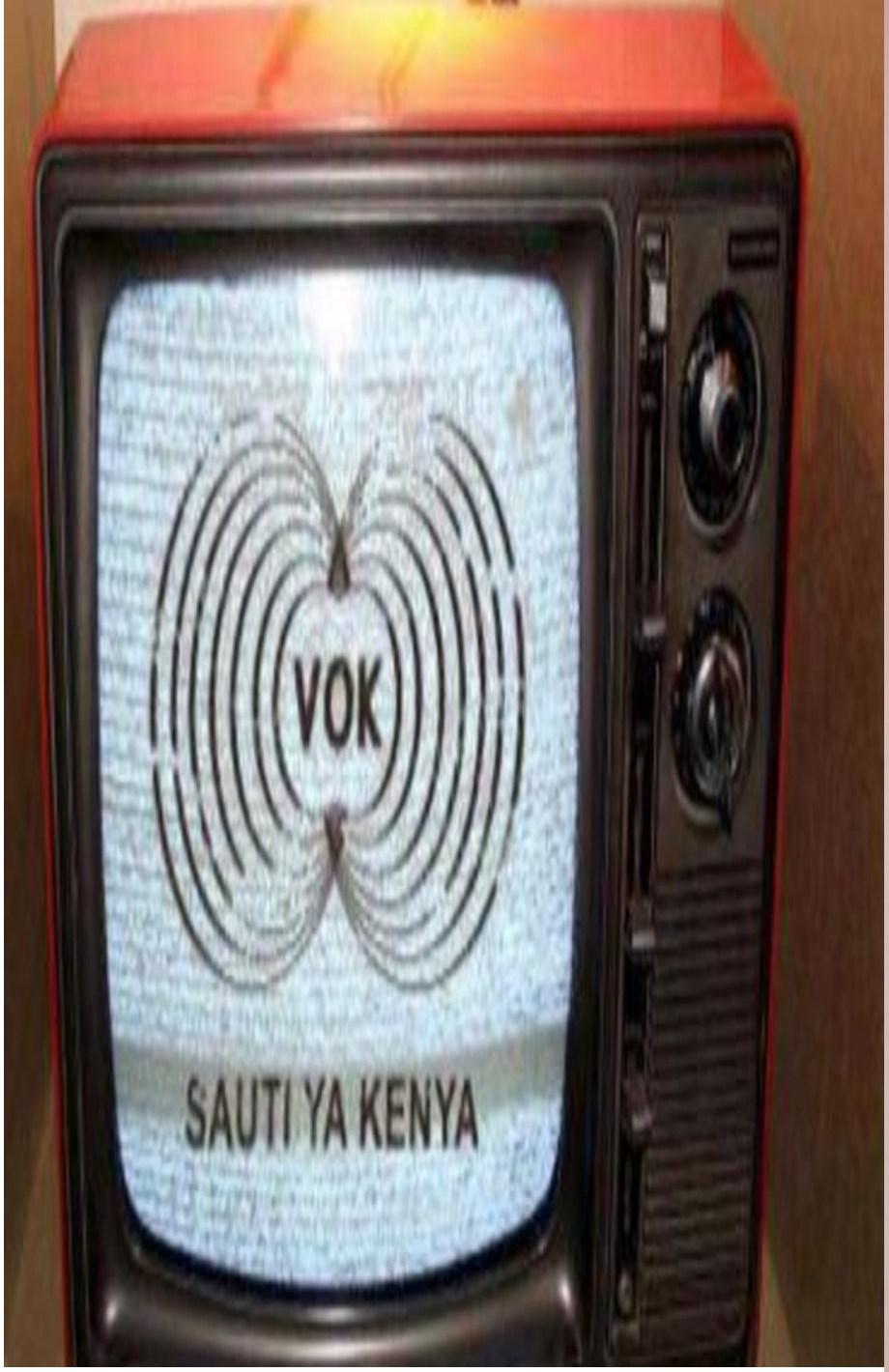
4 YEARS TO AMASS

697,000 ROOMS

650,000 ROOMS

80 COUNTRIES

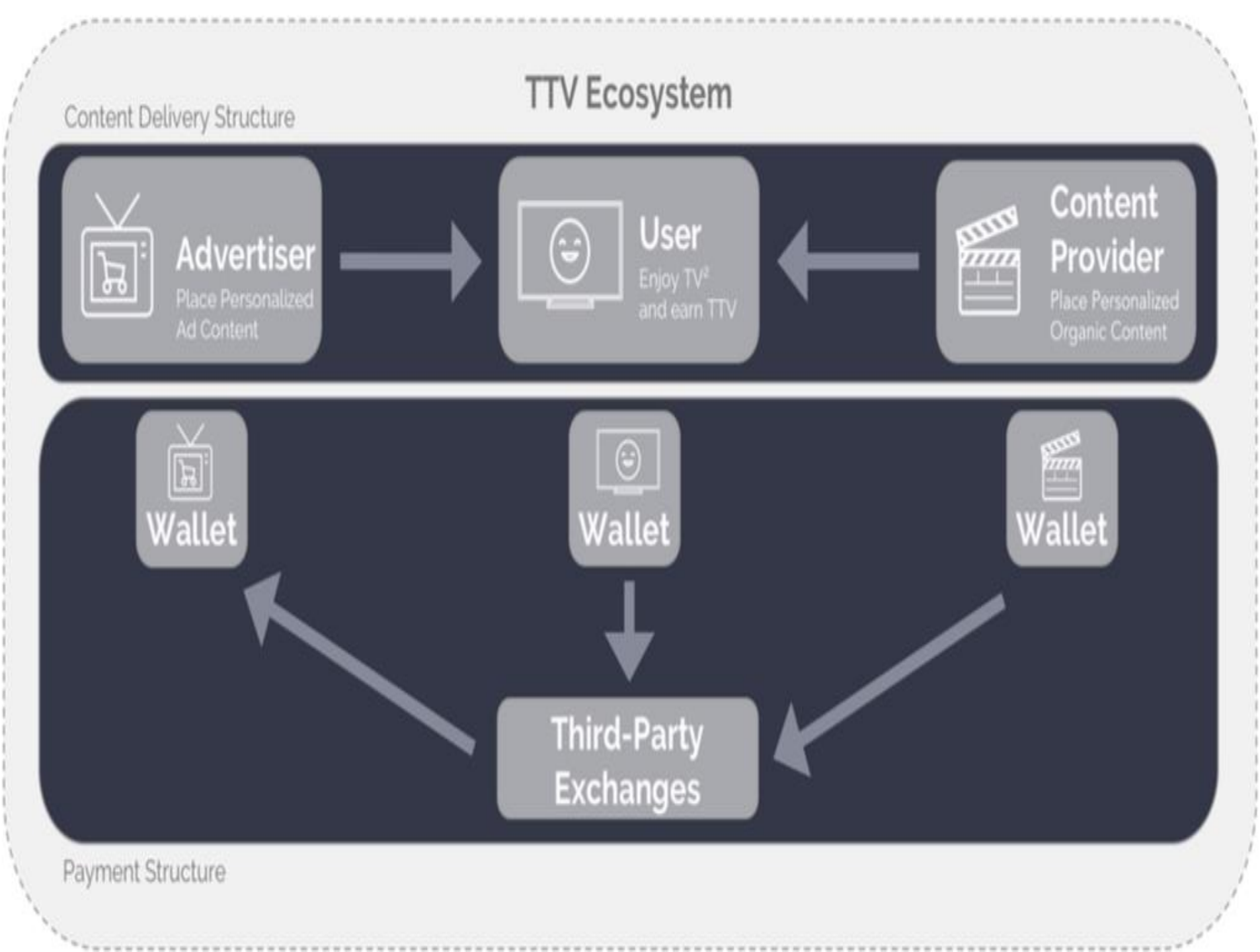
192 COUNTRIES


VOK
SAUTI YA KENYA

NETFLIX

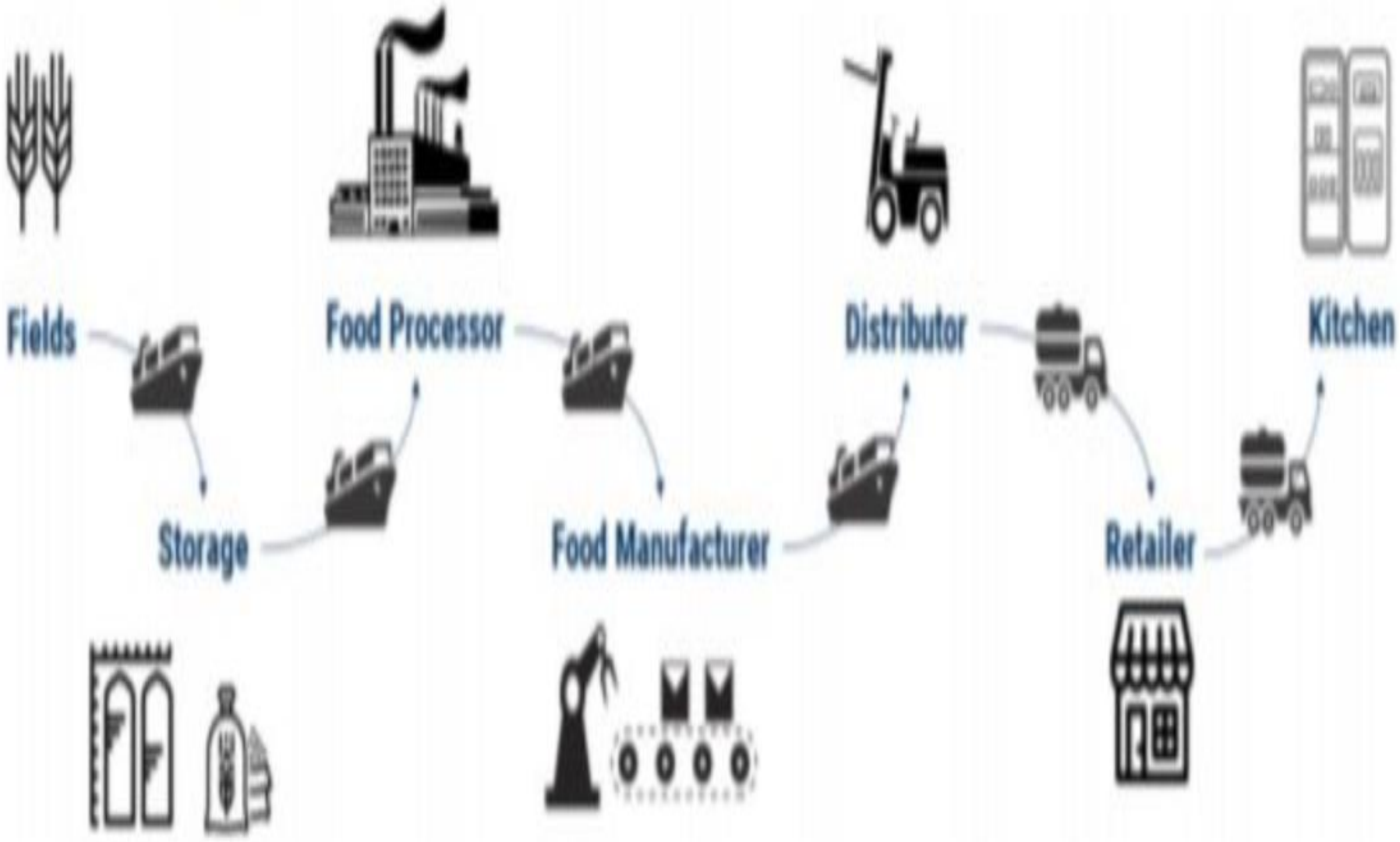
Half the money I spend on advertising is wasted;
the trouble is, I don't know which half.

(John Wanamaker)


TTV Ecosystem
Content Delivery Structure
Advertiser
Place Personalized Ad Content
User
Enjoy TV²
and earn TTV
Content Provider
Place Personalized Organic Content
Wallet
Wallet
Wallet
Third-Party Exchanges
Payment Structure


JOHN DEERE
Turbo
SyncShuttle

The complex global food supply chain




REPUBLIC
THE LAND
Title Number
Title Number
Land Registrar
NOVEMBER
District Land Registry

The emerging blockchain ecosystem

Wallets & Payments

bitpay
ABRA
CIRCLE
uphold
coinbase
xapo
colu.
BitGo

Micropayments

Blockstream

Exchanges

itBit
bitFlyer
QUOINEXCHANGE

Bank-to-Bank

SETL.io
ripple
Chain
R
symbiont

Mining Hardware

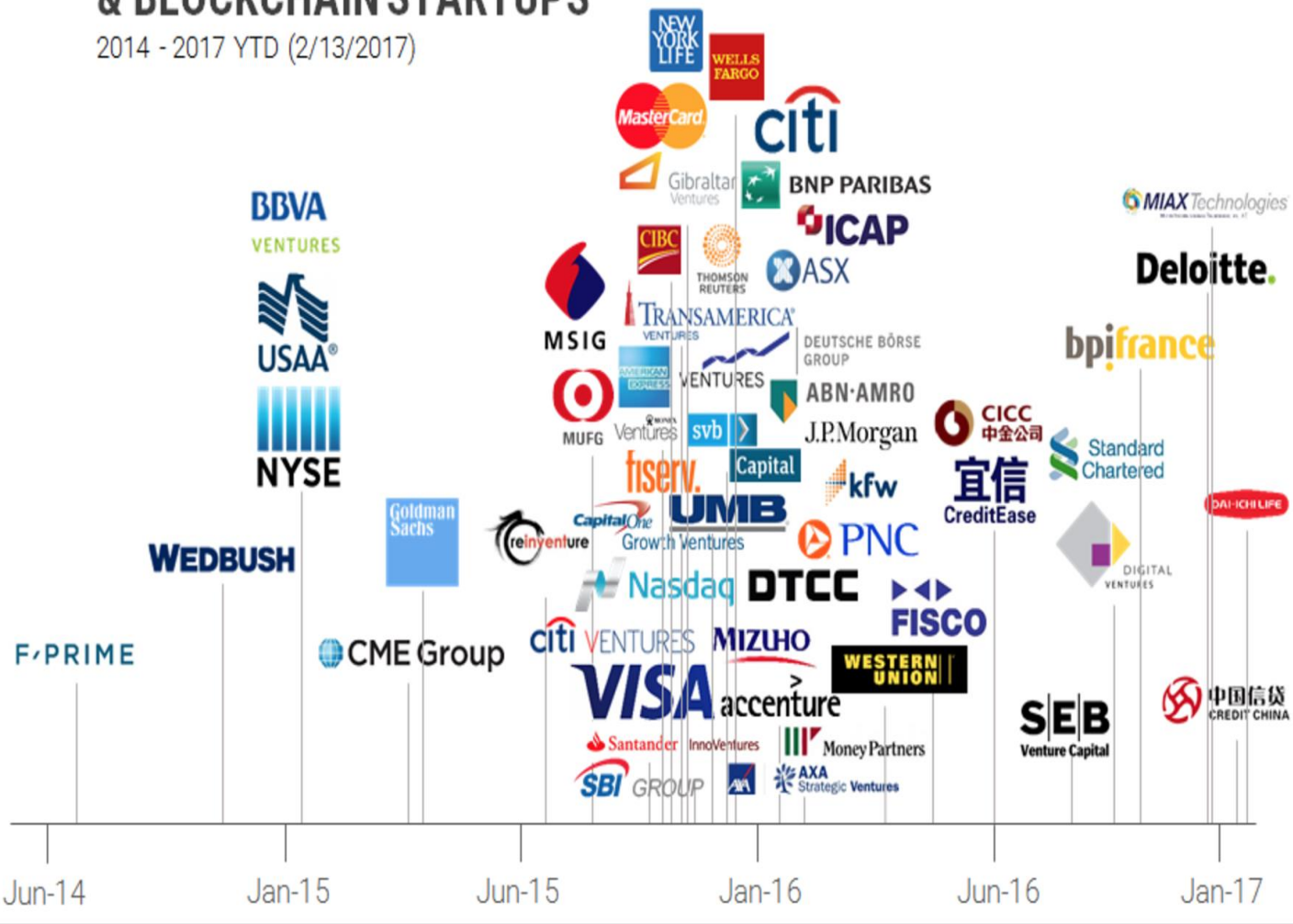
Canaan
BitFury

Smart Contracts

ETHEREUM
Slock.it
symbiont
Attores
Smart Contracts as a Service

THE MARCH OF FINANCIAL SERVICES FIRMS INTO BITCOIN & BLOCKCHAIN STARTUPS

2014 - 2017 YTD (2/13/2017)



DATE OF DEAL


2011
2016
5-year change in value
Top 50 banks
$2.7 trillion
$4.3 trillion
+58%
Top 50 insurers
$1.1 trillion
$1.9 trillion
+79%
Top 50 Fintech firms
$0.4 trillion
$1.0 trillion
+169%
Top five Tech firms
$1 trillion
$2.3 trillion
+140%

HOW UBER'S FIRST SELF-DRIVING CAR WORKS

Top mounted **LiDAR** beams 1.4 million laser points per second to create a 3D map of the car's surroundings.

There are **20 cameras** looking for braking vehicles, pedestrians, and other obstacles.

A **colored camera** puts LiDAR map into color so the car can see traffic light changes.

Antennae on the roof rack let the car position itself via GPS.

LiDAR modules on the front, rear, and sides help detect obstacles in blind spots.

A cooling system in the car makes sure everything runs without overheating.


"Do you have
FOMO—*fear of*
missing out?"


JOIN
OUR
TEAM


TIME FOR