Exponential Technologies, Disruption and What to do about it.

Michael Leadbetter

SAP Banking Summit, Cartagena
September 8-9 2017

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Michael Leadbetter

/// Founder

Greenshoot EdTech
Pivot Factory

/// Executive

Euromoney Institutional Investor
Pearson Inc
Kaplan Inc

/// Faculty/Advisor

EXO Works
The Princeton Review
Singularity University

exoworks

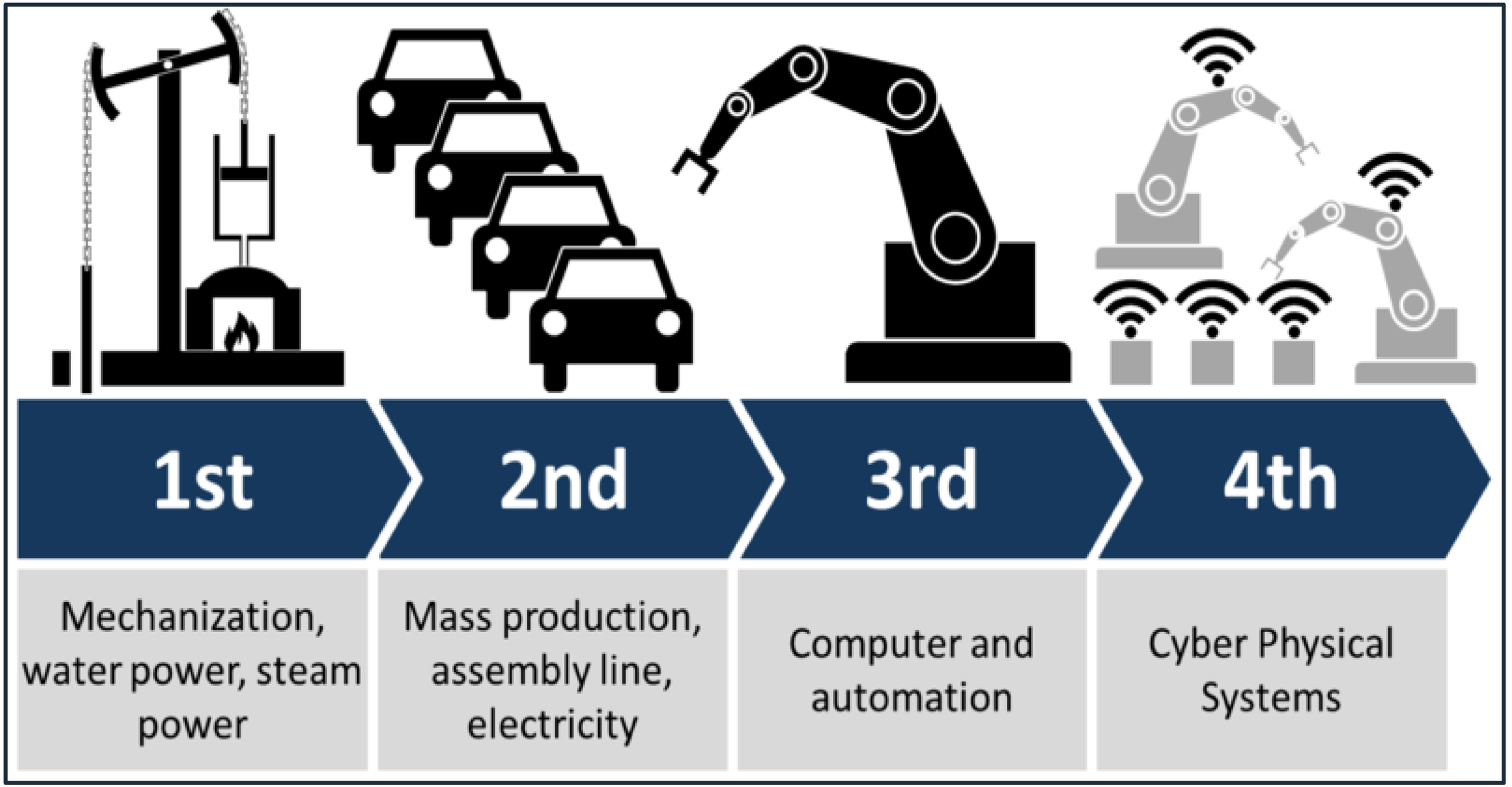
- Exponential Organizations
- Sprints
- P&G, Ike Asistencia, Rassini, City of Medellin

- Exonomics
- Crypto Currencies
- Adaptability Quotient

Singularity UNIVERSITY

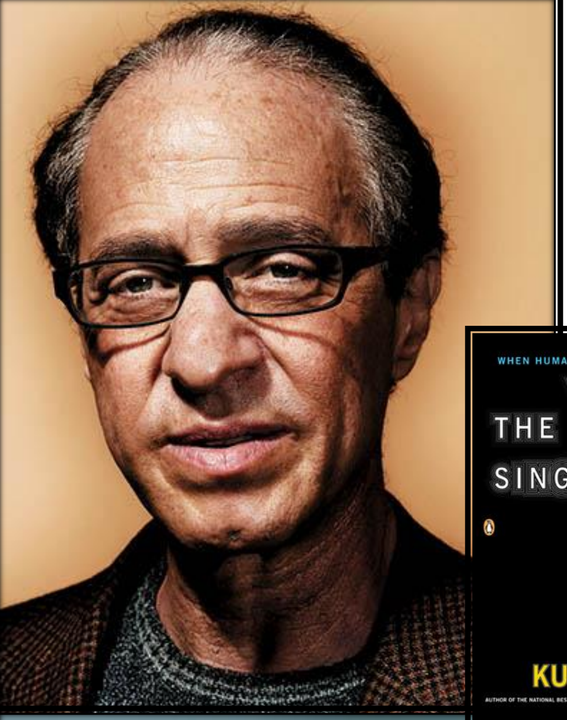
- Exponential technologies
- Grand Global Challenges

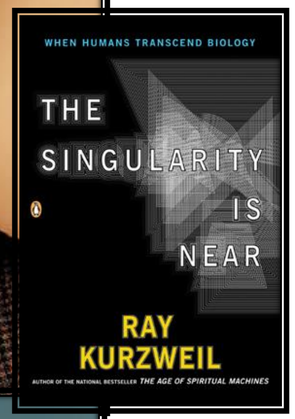
Exponentially Developing Technologies

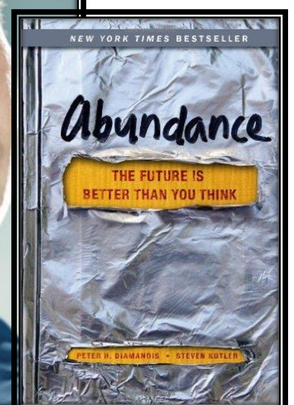


4th Industrial Revolution - Physical, Digital, Biological lines blurred

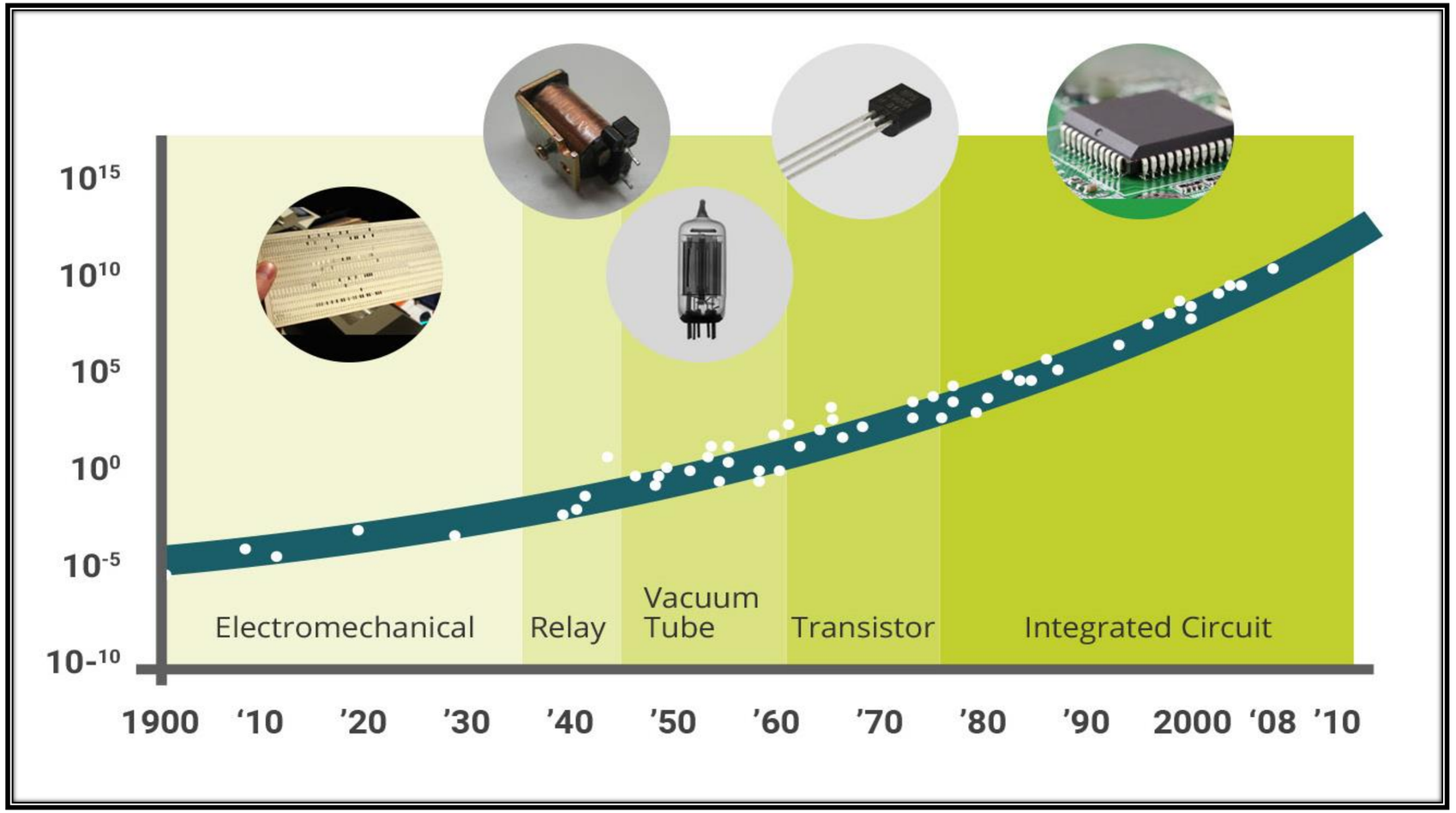
Singularity
UNIVERSITY
NASA
Autodesk
Genentech
Google
Cisco
Nokia
NASA Research Park, California



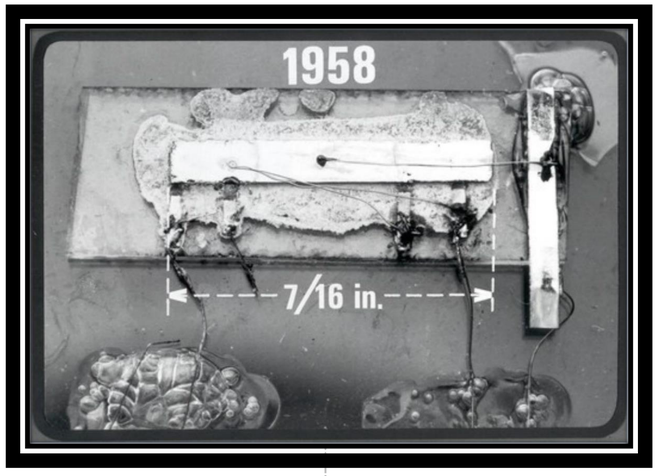




Law of Accelerating Returns

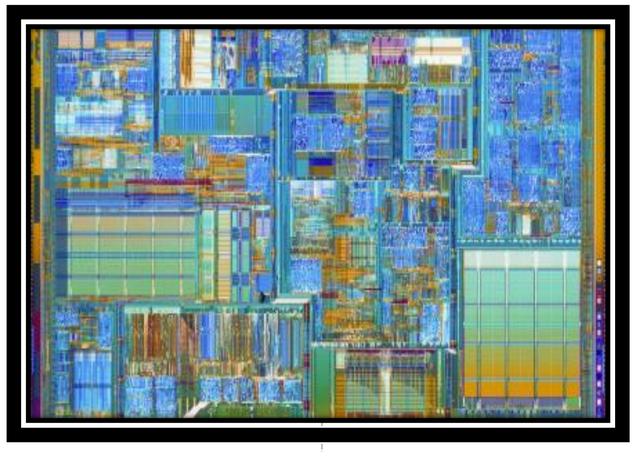


First Circuit Board
2 transistors



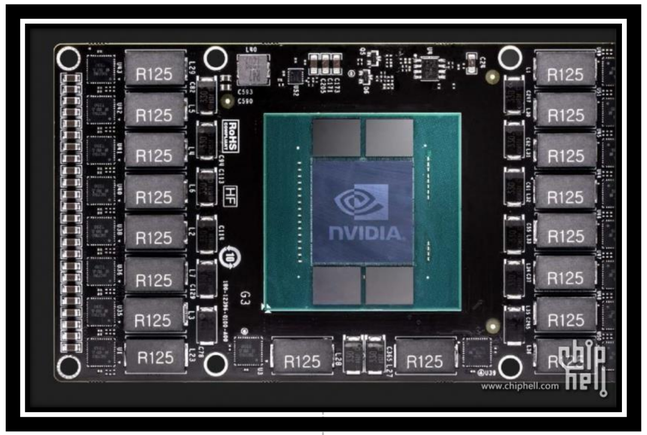
1958

Intel 4004
2,300 transistors



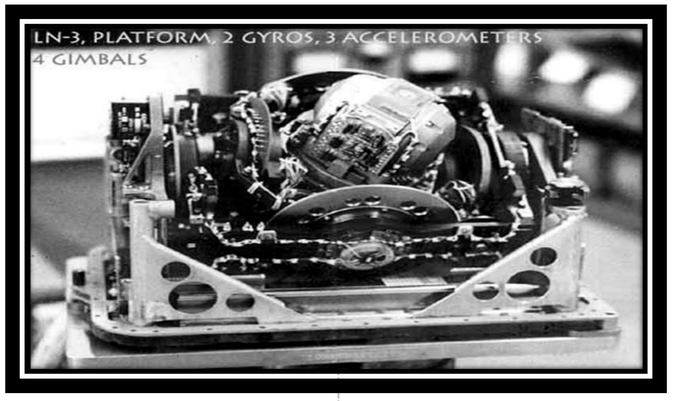
1971

Nvidia’s GPU
7.1 billion transistors

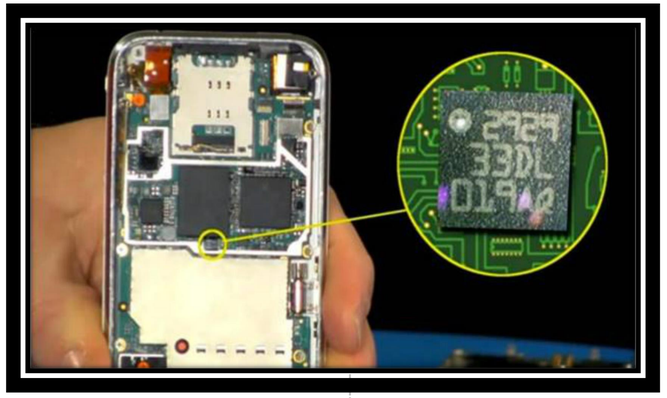


2012

Intertial Measurement Unit



Today



Smart Sensors

Scripps

3D Printing

Artificial Intelligence

Computers & Networks

Digital Medicine

Nanotechnology

Robotics

Synthetic Biology

Modern
Meadow

MATTERNET

MADE
IN SPACE
MADE
IN SPACE

Be My Eyes
Lend your eyes to the blind

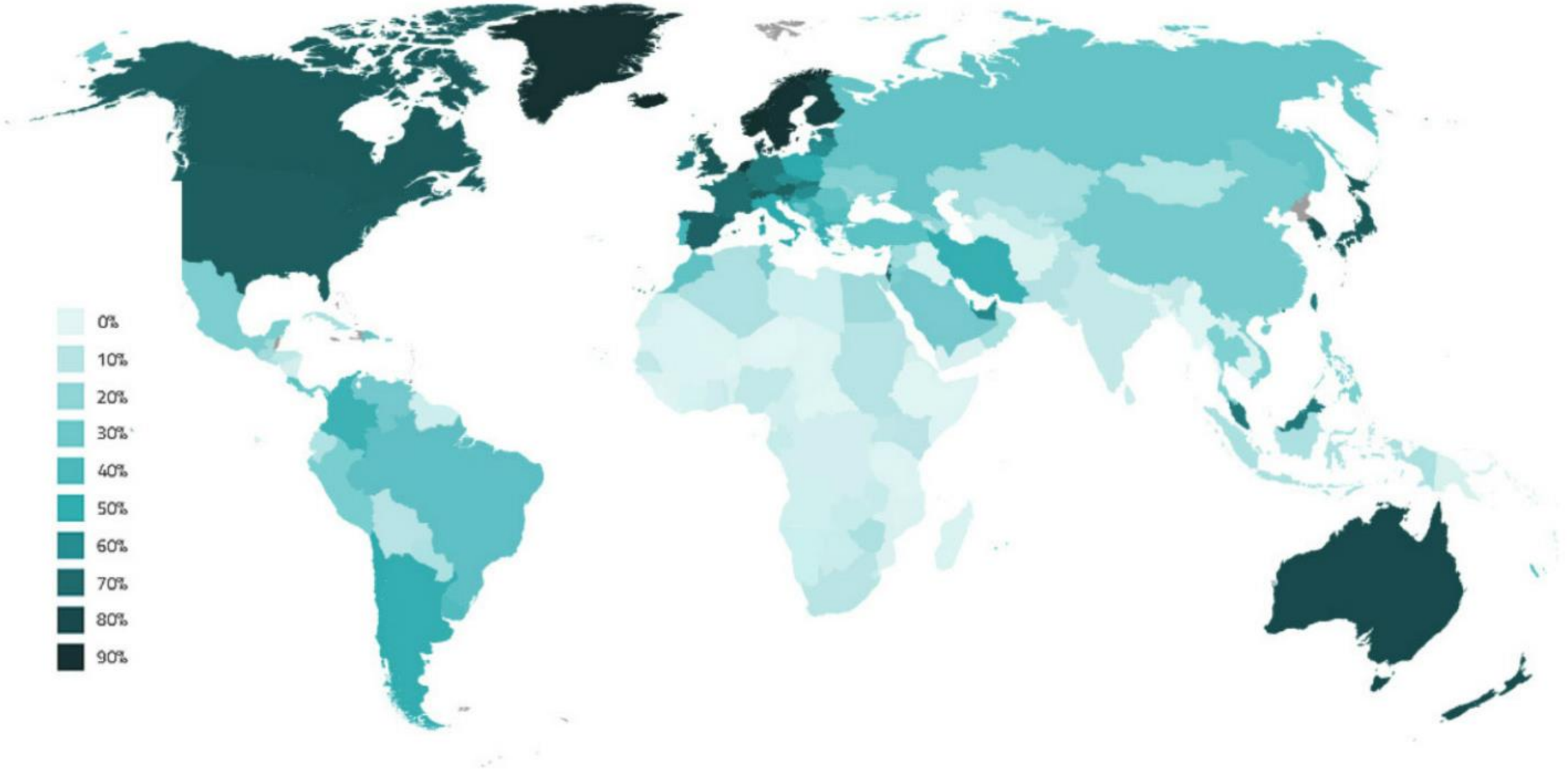
Before

After

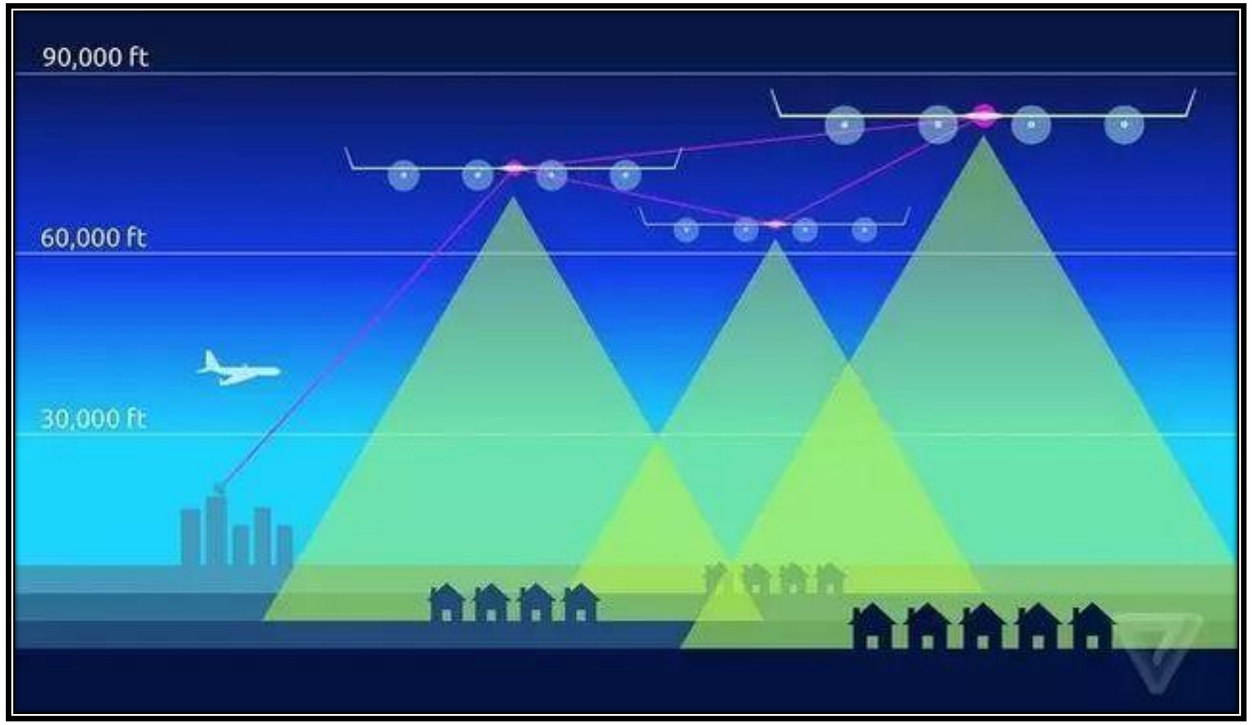
75% little to zero awareness of breakthroughs

80% expect game changers in 2 years
100% in 5 years

Worldwide Internet Penetration



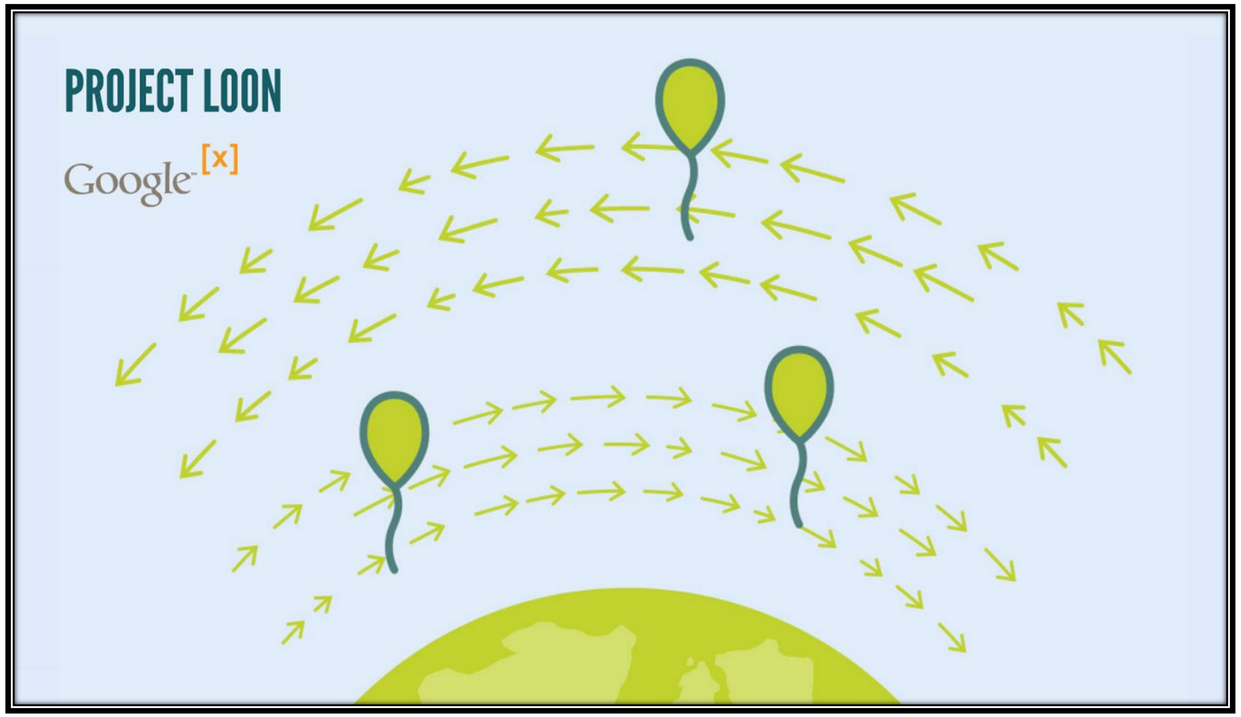
facebook



Acquila

- Solar aircraft and lasers
- Radio internet coverage

Google[x]



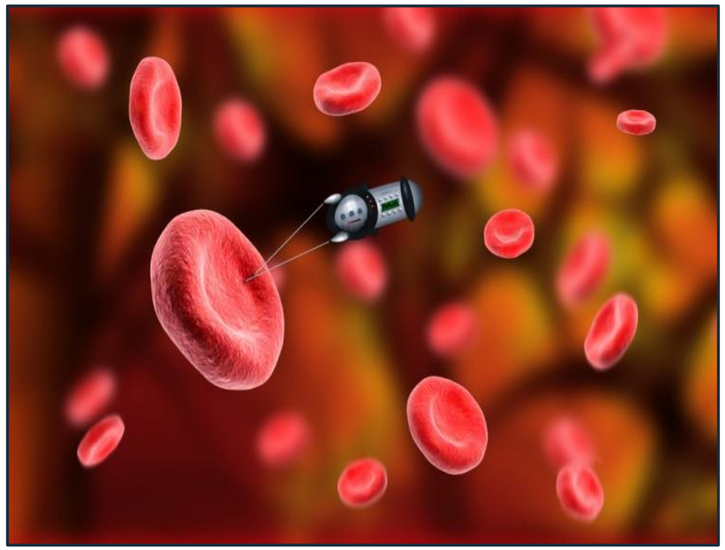
Project Loon

- Network of balloons
- Navigates on jet streams

GIVEN IMAGING

proteus DIGITAL HEALTH

Scripps



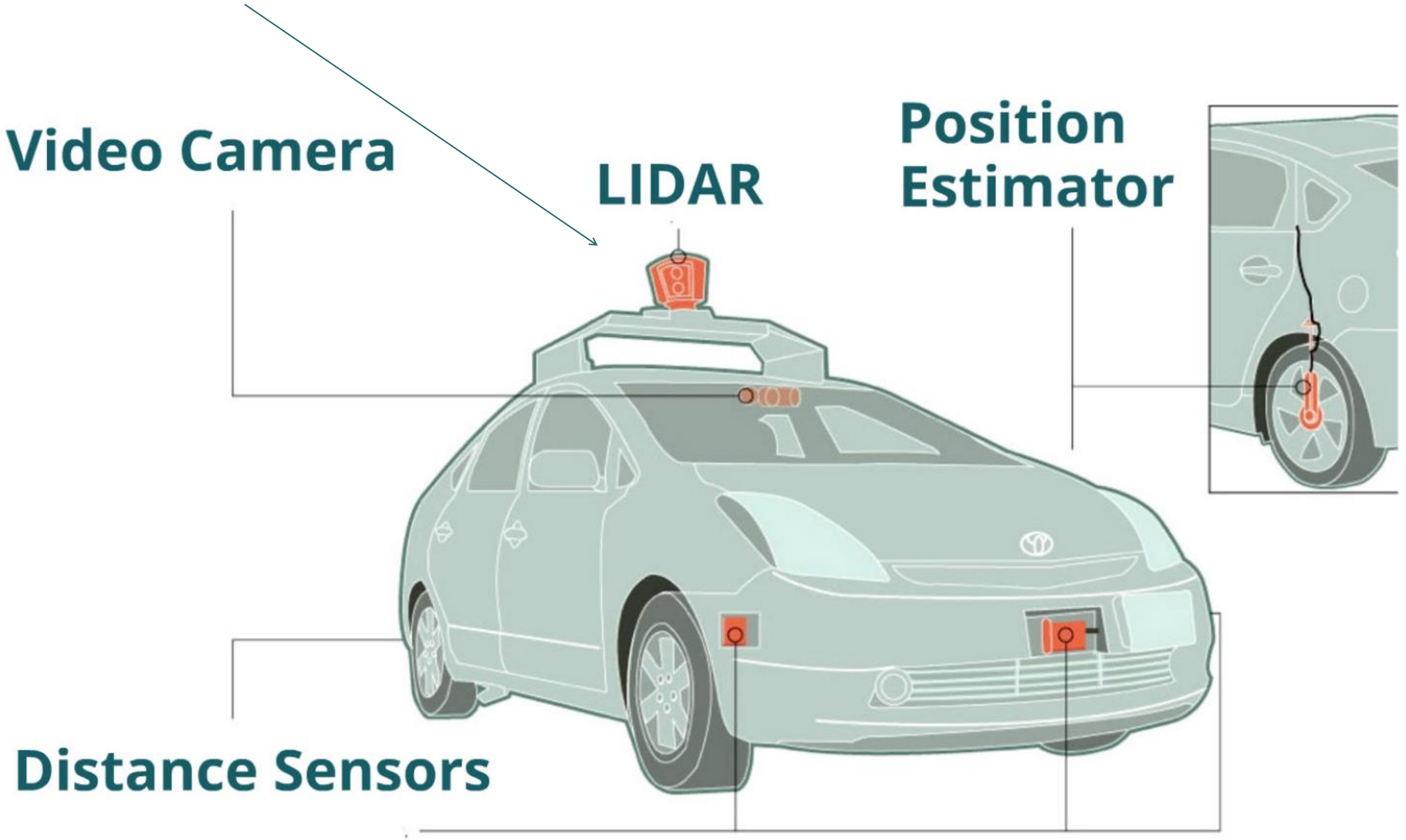
Sproutling

SCANADU

cuidar·me

Google

LIDAR price $75,000 - >$1,000



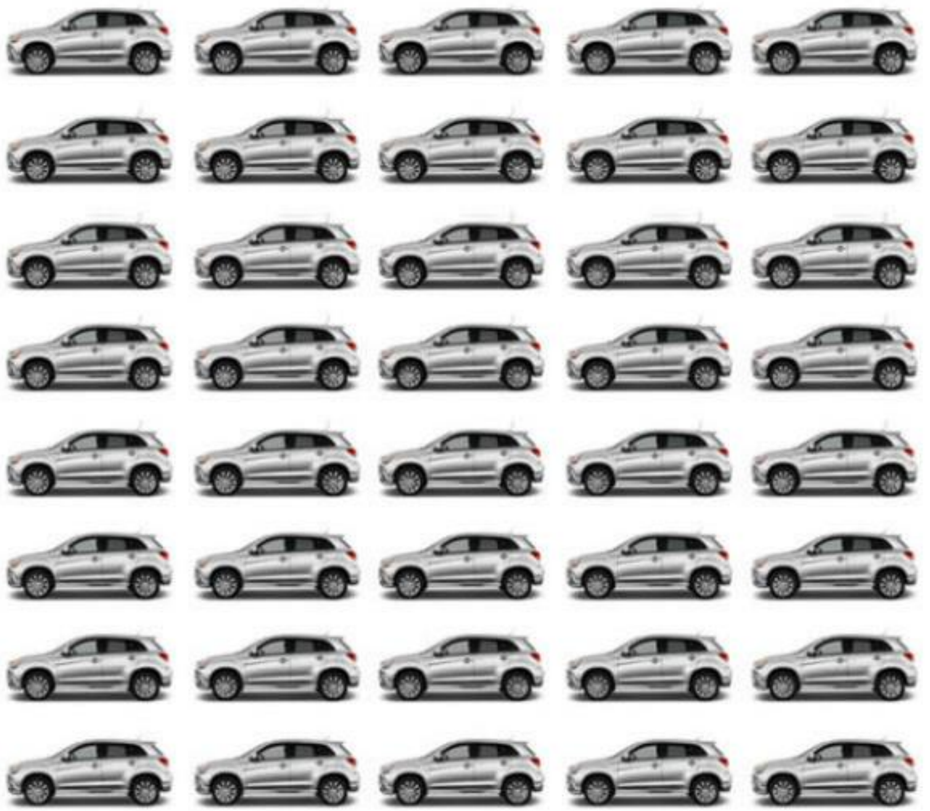
300,000 robotaxis

are needed in Singapore

VS

780,000 cars

currently used in Singapore



VOLVO

Auto Insura
Personal Information
Full Name:
Street Addres
City:

2.60

Disruption

PHASES OF DISRUPTION

Digitized

Deceptive

Disruptive

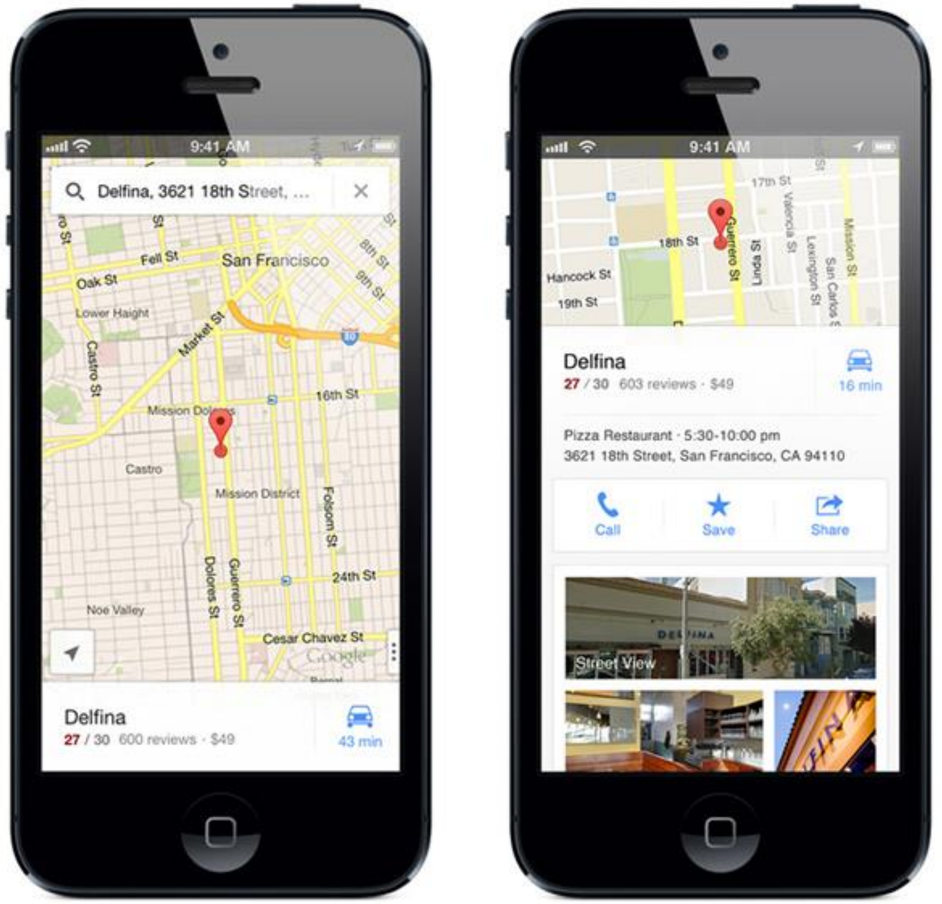
Dematerialized

Demonetized

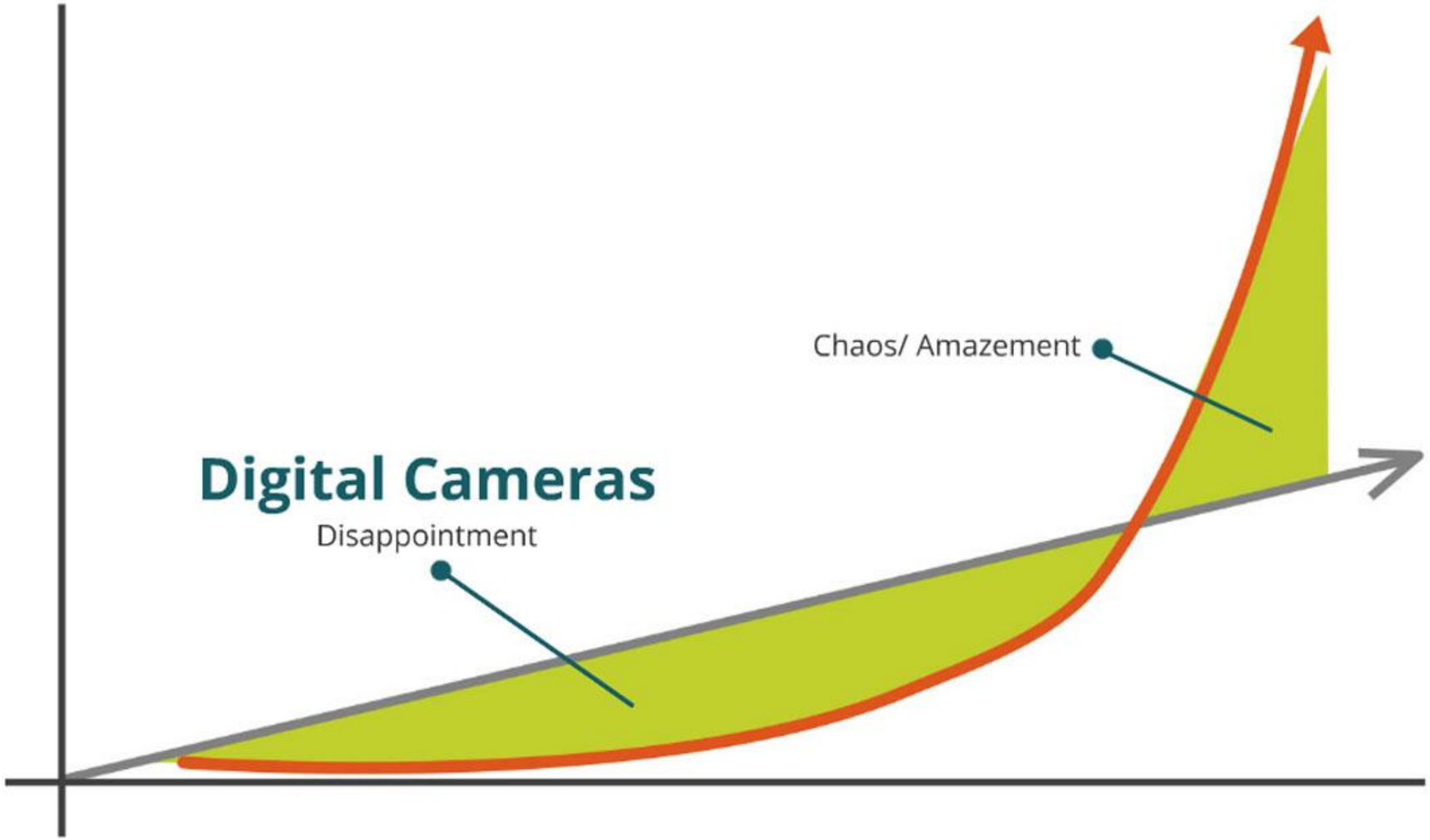
Democratized

DIGITIZED

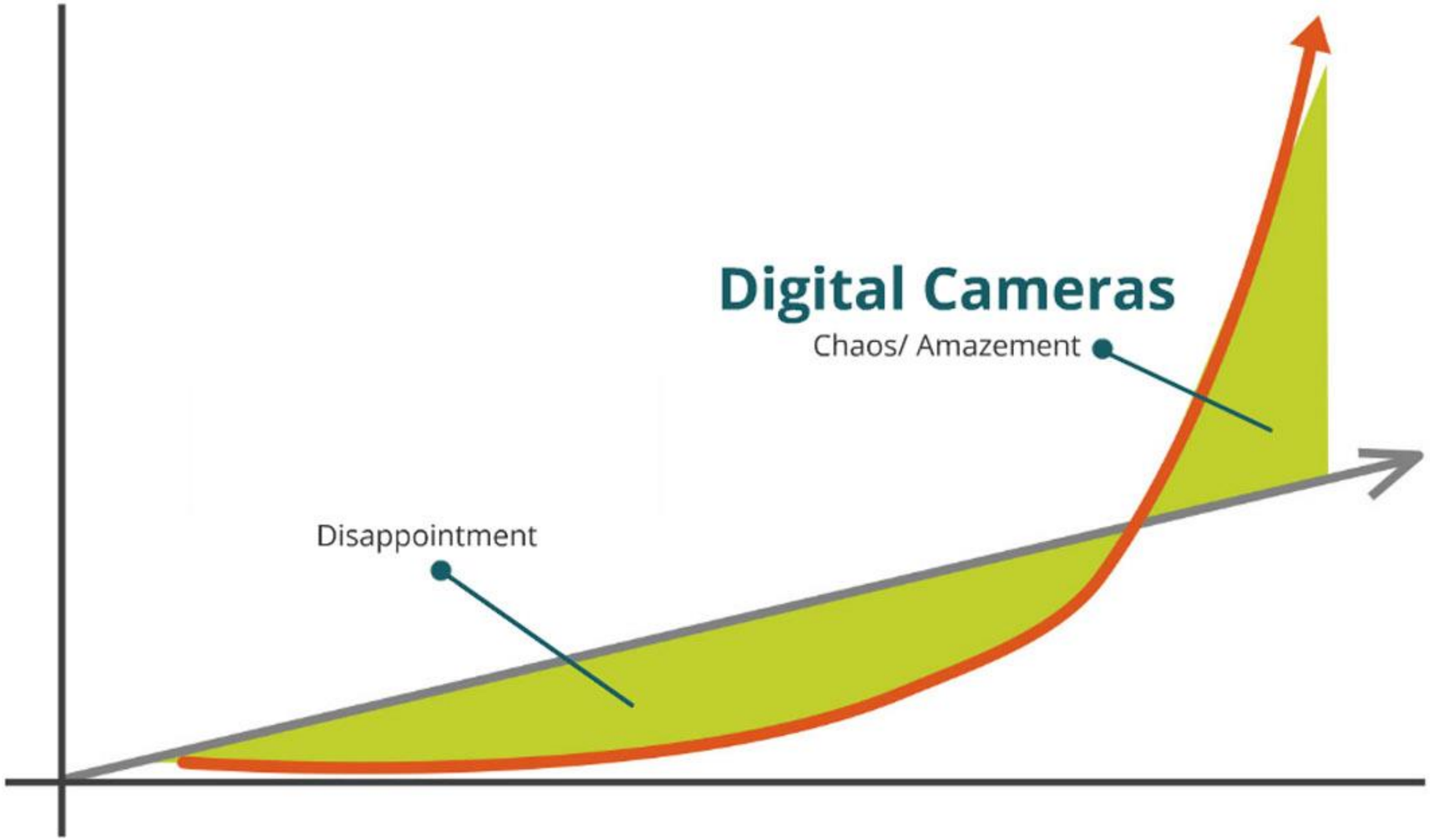
LONDON,
METROPOLITAN BOROUGHS


9:41 AM
Delfina, 3621 18th Street, ...
San Francisco
Fell St
Oak St
Lower Haight
Market St
Castro St
16th St
Mission Dolores
Castro
Mission District
Folsom St
24th St
Noe Valley
Dolores St
Guerrero St
Cesar Chavez St
Google
Delfina
27 / 30 600 reviews · $49
43 min
9:41 AM
17th St
18th St
Hancock St
19th St
Guerrero St
Lundy St
Valencia St
Mission St
Delfina
27 / 30 603 reviews · $49
16 min
Pizza Restaurant · 5:30-10:00 pm
3621 18th Street, San Francisco, CA 94110
Call
Save
Share
Street View

DECEPTIVE



DECEPTIVE



DISRUPTIVE

Kodak
Kodak
Kodak
Kodak
TX 400

SONY
SONY
SONY
SONY
SONY
Canon
Nikon
LUMIX
COOLPIX

BLOCKBUST
STORE CLOSING

My Movies
Store
All Movies
Graham Siener shared
SKYFALL
LIVE AND LET DIE
FROM RUSSIA WITH LOVE
GOLDENEYE
MOONRAKER
A VIEW TO A KILL
THE SPY WHO LOVED ME
THE MAN WITH THE GOLDEN GUN

DEMATERIALIZED

iTunes

amazon

ebay

1984

Photography by doug@mrsan.ru
Engineering by Anton Georgiev

DEMONETIZED

craigslist

skype™

Google

DEMOCRATIZED

BOB'S PHOTO

MANHASSET, NY

1970’s

Today

Digital cameras in development

- Scarcity of camera ownership
- Scarcity of photo’s per person
- Deceptive

Digital cameras in abundance

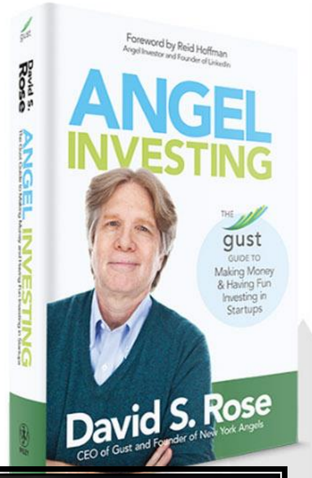
- Abundance of device ownership
- Abundance of photos per person
- Everyone a photographer
- Online sharing
- Shift in problem set, (scarcity to abundance)
- Digitized, disruptive, dematerialized, demonitized, democratized

“Thousands more photographs being taken, I only need 1% to be printed.”

“More *perfect* shots that must be printed”.

“I provide more services.”

“Revenues almost back to pre-digital camera levels.”



"Any company designed for success in the 20th century is doomed to failure in the 21st."

David Rose

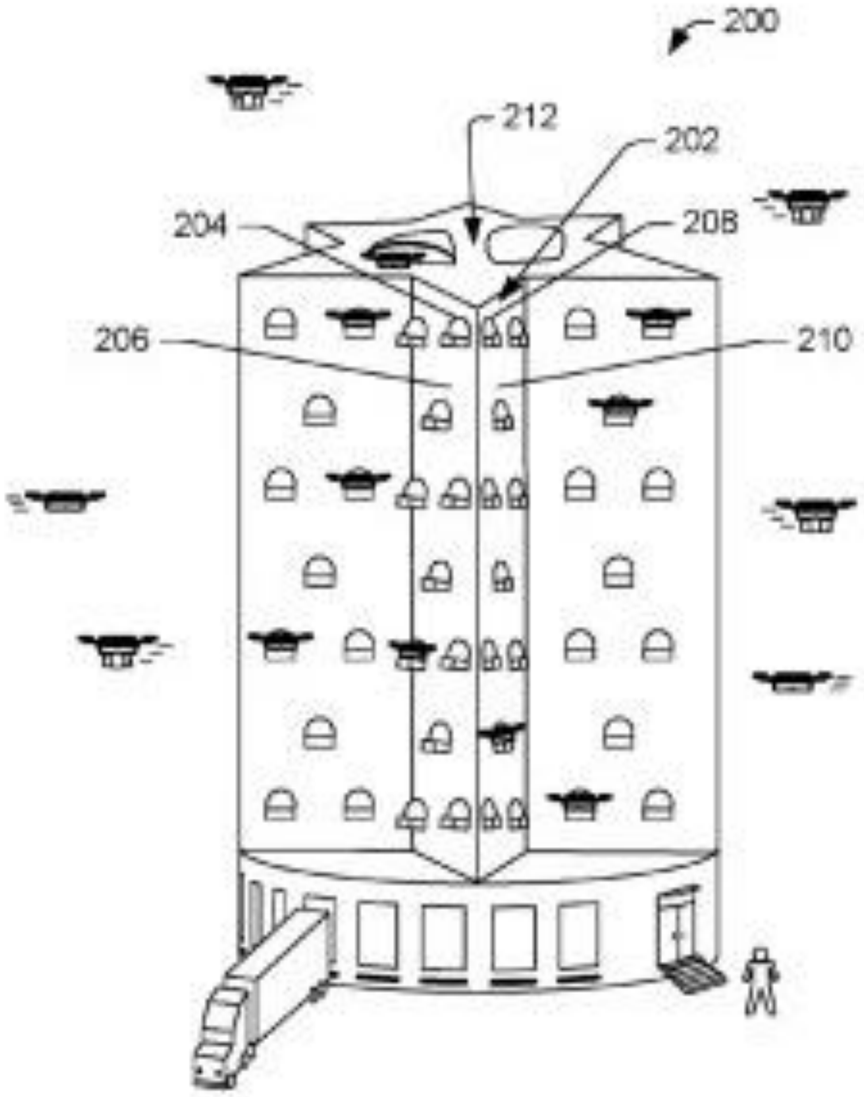
Improving Internal Functions

- $1Bn budget for technology improvements
- Internal operations and customer ease of use

- Automate 80% of functions
- Reduce 10,000 jobs by 2020

- Machine learning in recruitment
- 240,000 applications for 1,400 roles

- Artificial intelligence in customer service
- Recognizes human emotion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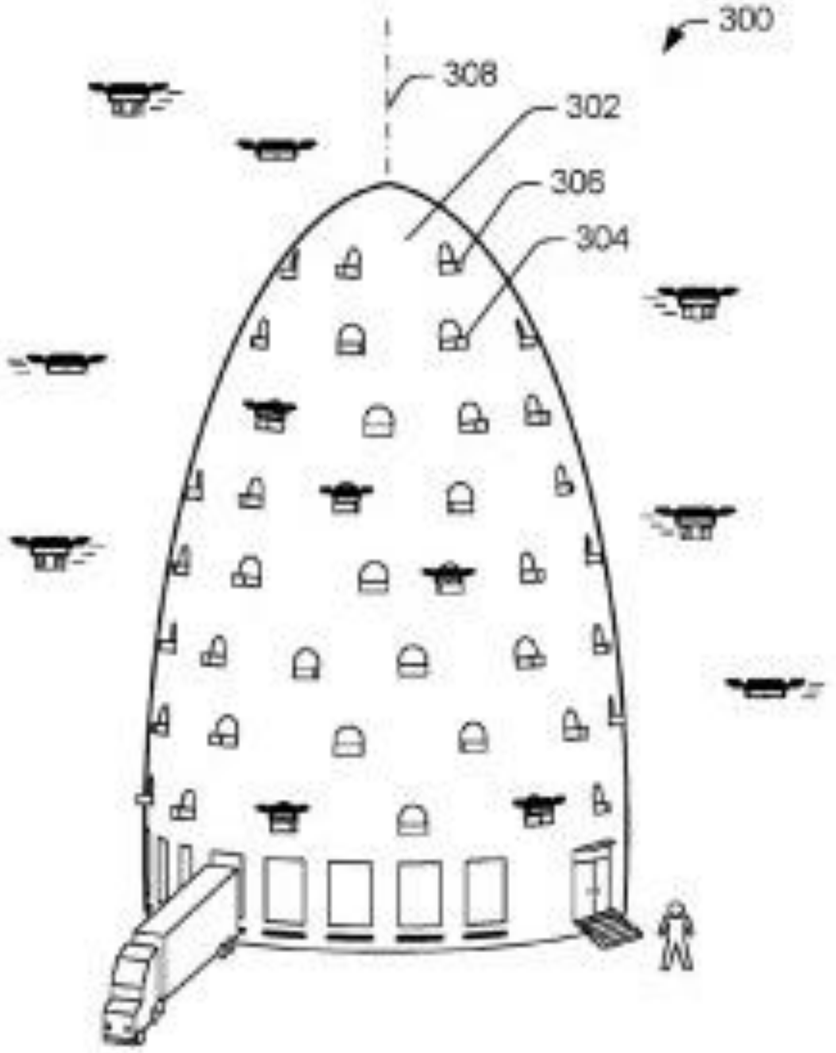
210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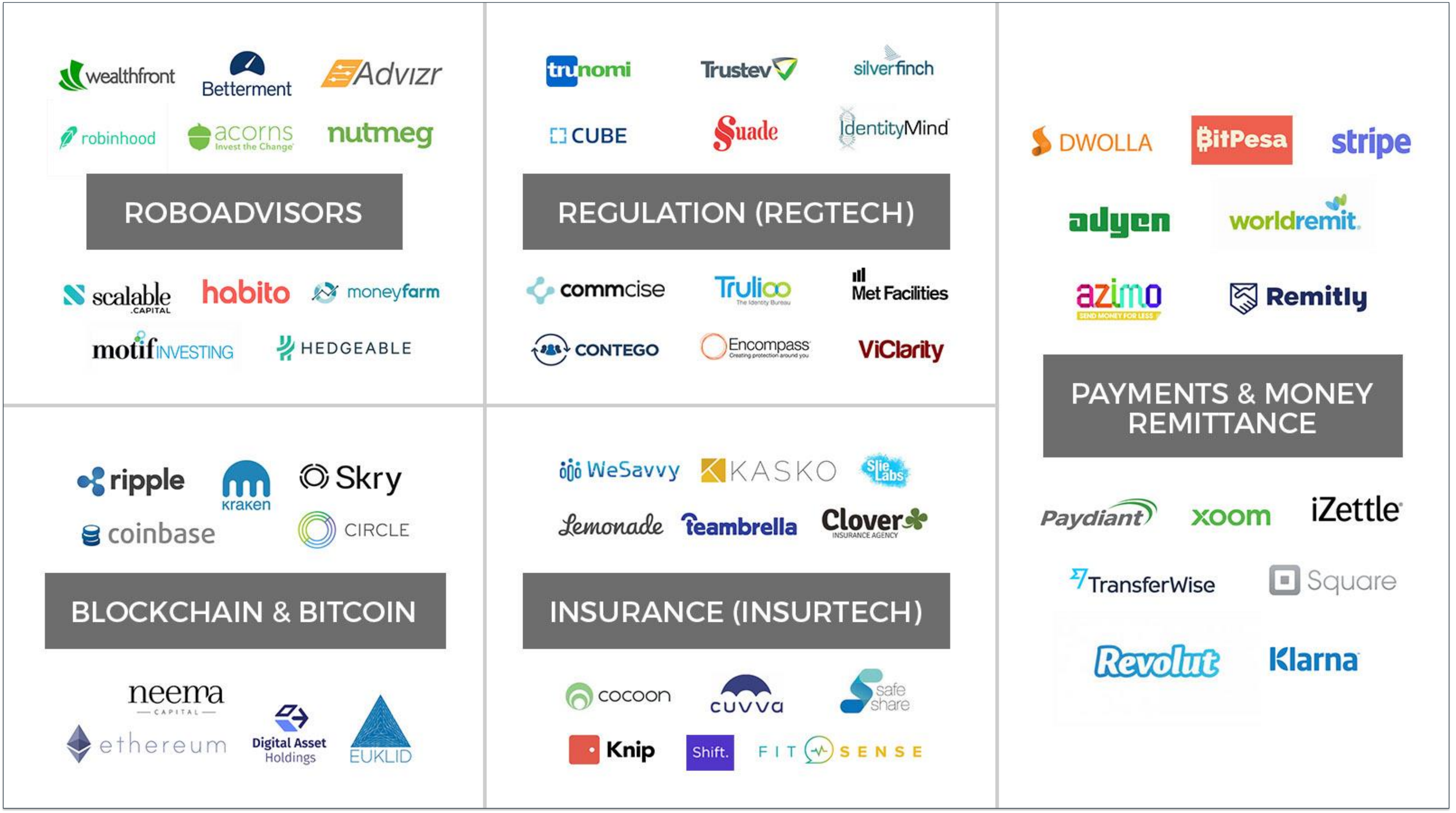
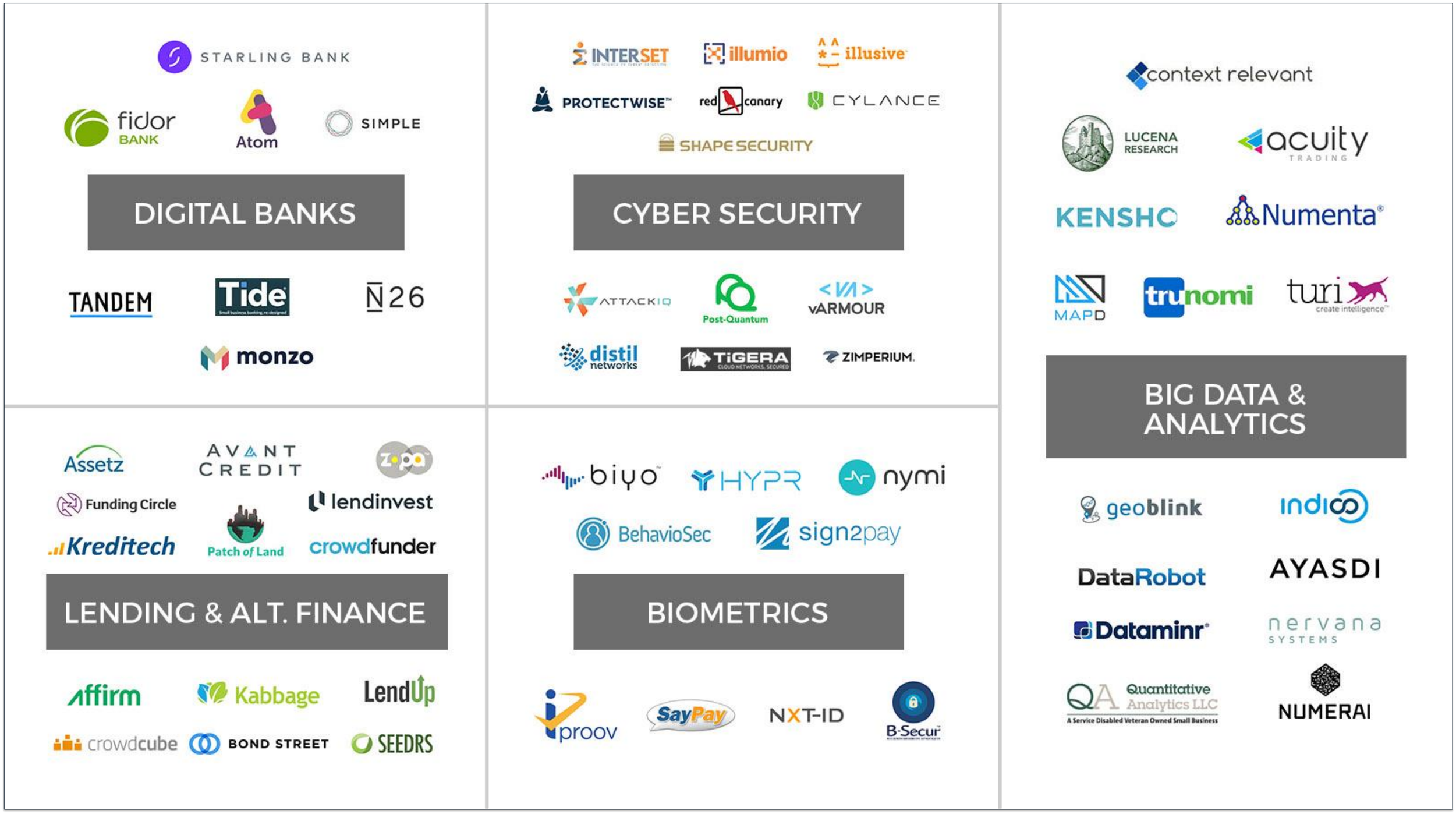
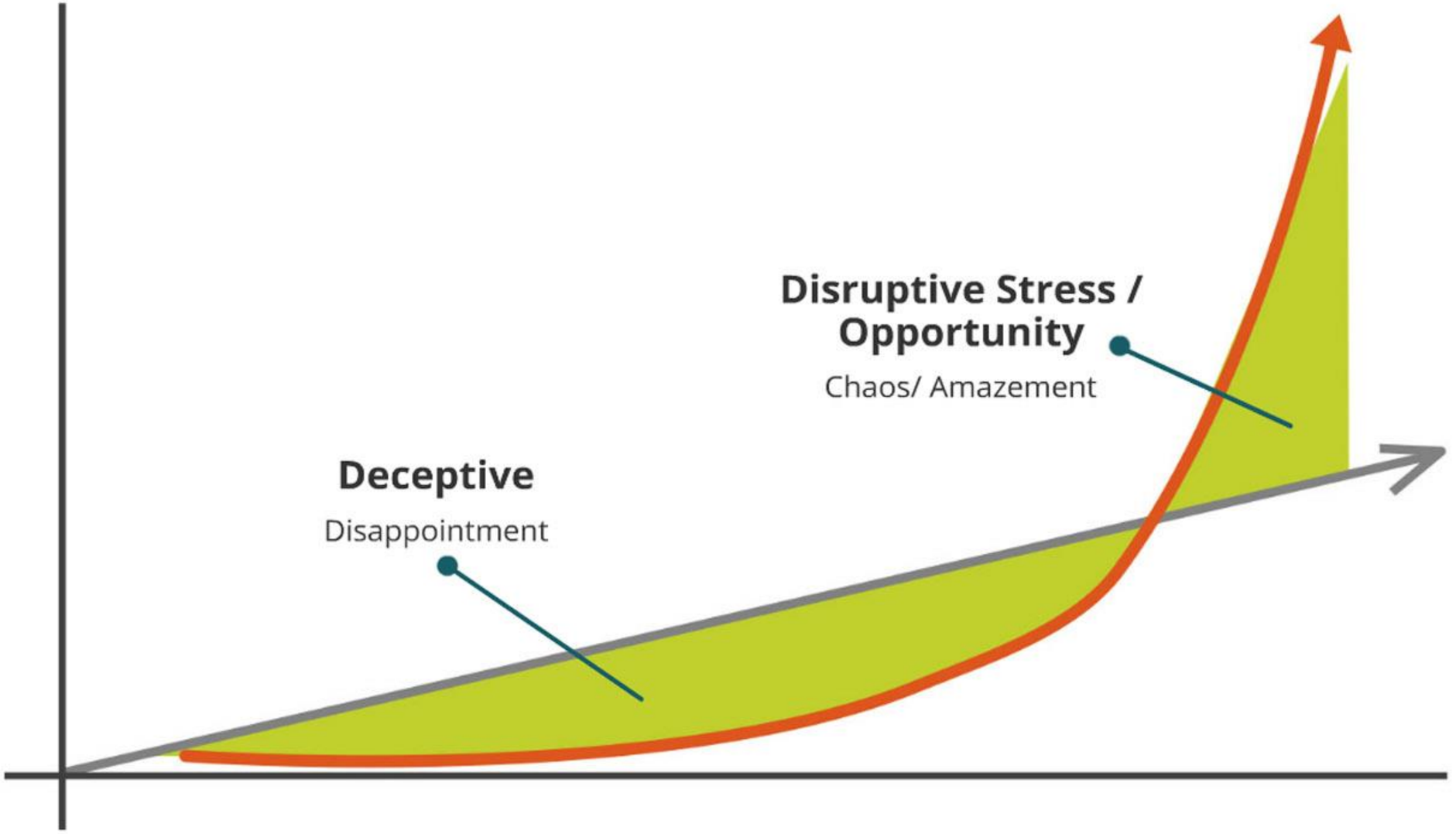
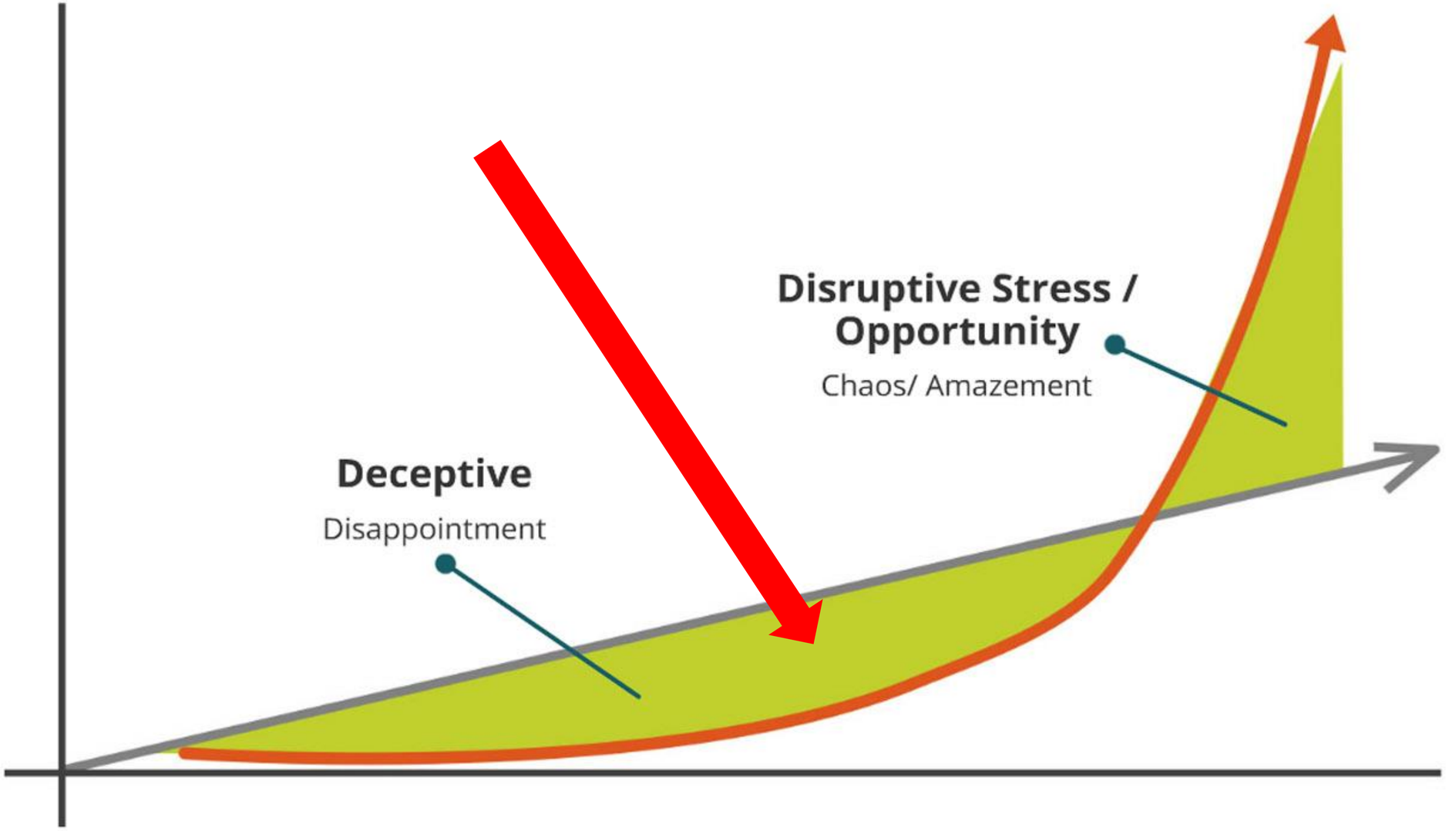
304

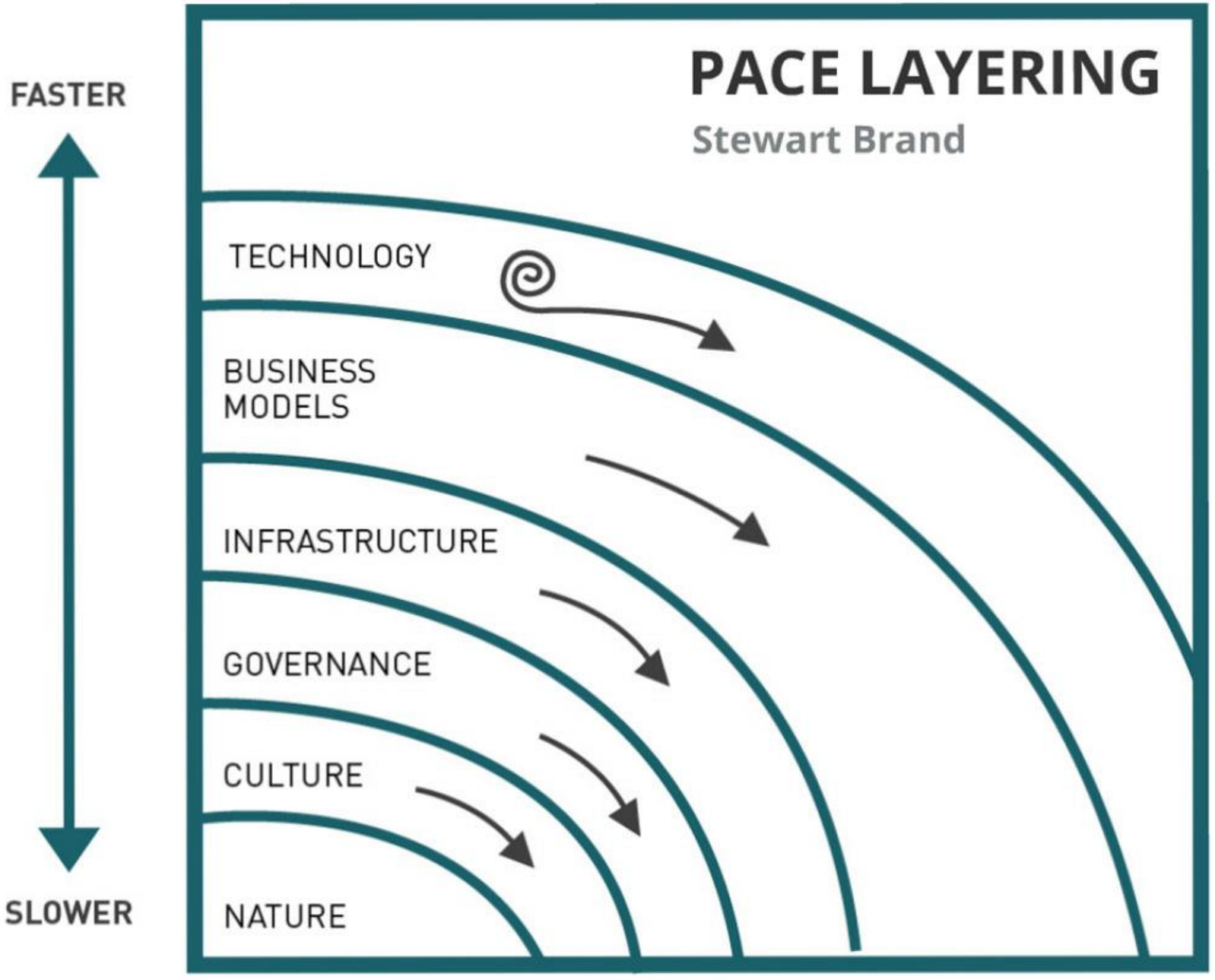

wealthfront
Betterment
Advizr
robinhood
acorns
Invest the Change
nutmeg
ROBOADVISORS
scalable
.CAPITAL
habito
moneyfarm
motif INVESTING
HEDGEABLE
trunomi
Trustev
silverfinch
CUBE
Suade
IdentityMind
REGULATION (REGTECH)
commcise
Trulioo
The Identity Bureau
Met Facilities
CONTEGO
Encompass
Creating protection around you
ViClarity
DWOLLA
BitPesa
stripe
adyen
worldremit
azimo
SEND MONEY FOR LESS
Remitly
PAYMENTS & MONEY REMITTANCE
ripple
kraken
Skry
coinbase
CIRCLE
BLOCKCHAIN & BITCOIN
neema
CAPITAL
ethereum
Digital Asset
Holdings
EUKLID
WeSavvy
KASKO
Slice Labs
Lemonade
teambrella
Clover
INSURANCE AGENCY
INSURANCE (INSURTECH)
cocoon
cuvva
safe share
Knip
Shift.
FIT SENSE
Paydiant
xoom
iZettle
TransferWise
Square
Revolut
Klarna


STARLING BANK
fidor BANK
Atom
SIMPLE
DIGITAL BANKS
TANDEM
Tide
N26
monzo
INTERSET
illumio
illusive
PROTECTWISE
red canary
CYLANCE
SHAPE SECURITY
CYBER SECURITY
ATTACKIQ
Post-Quantum
vARMOUR
distil networks
TiGERA
ZIMPERIUM.
context relevant
LUCENA RESEARCH
acuity TRADING
KENSHO
Numenta
MAPD
trunomi
turi
create intelligence
BIG DATA & ANALYTICS
Assetz
AVANT CREDIT
zopa
Funding Circle
lendinvest
Kreditech
Patch of Land
crowdfunder
LENDING & ALT. FINANCE
Affirm
Kabbage
LendUp
crowdcube
BOND STREET
SEEDRS
biyo
HYPR
nymi
BehavioSec
sign2pay
BIOMETRICS
proov
SayPay
NXT-ID
B-Secur
geoblink
indico
DataRobot
AYASDI
Dataminr
nervana SYSTEMS
QA Quantitative Analytics LLC
A Service Disabled Veteran Owned Small Business
NUMERAI


Disruptive Stress /
Opportunity
Chaos/ Amazement
Deceptive
Disappointment


Disruptive Stress /
Opportunity
Chaos/ Amazement
Deceptive
Disappointment

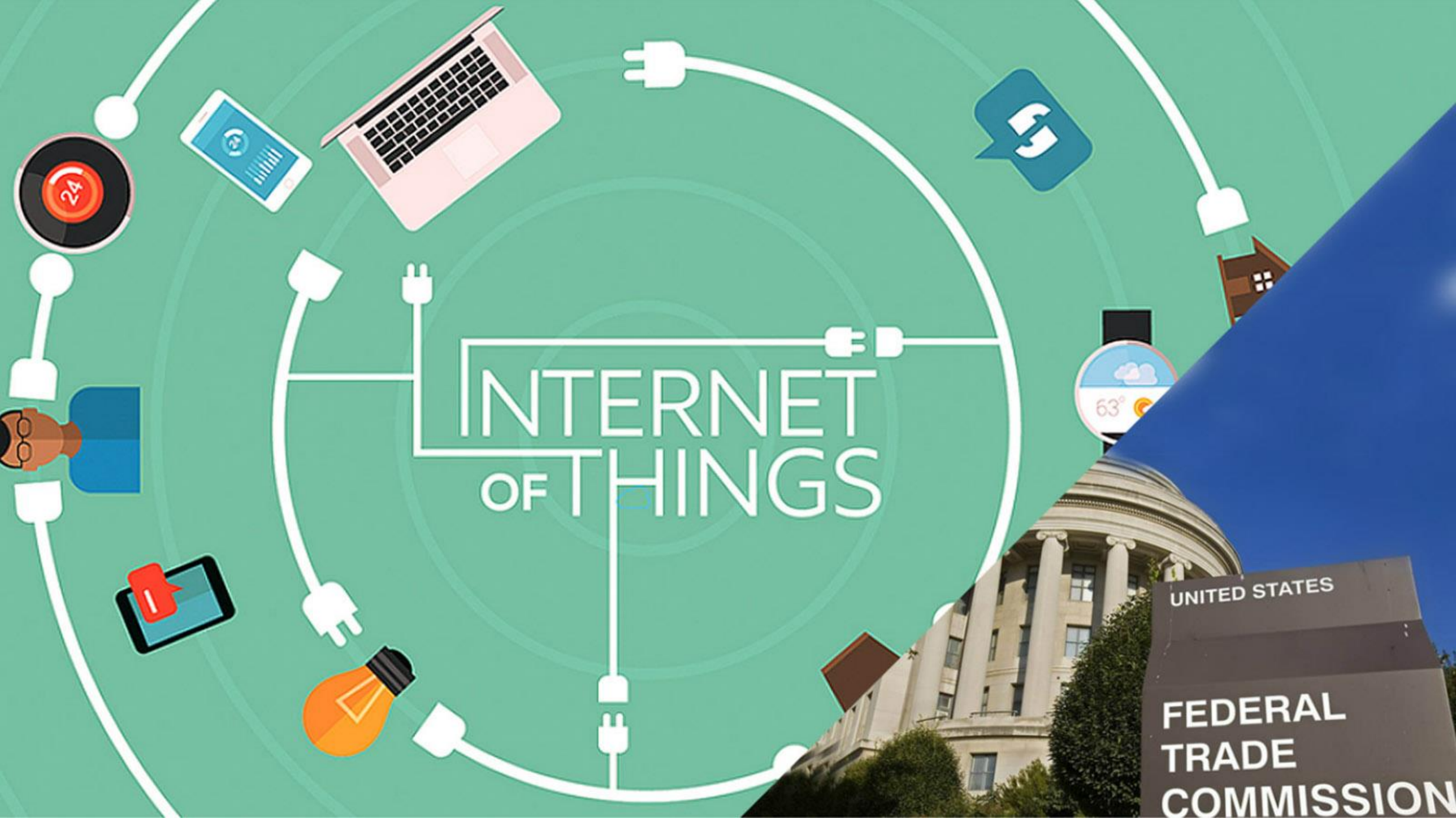
Social Change & Discomfort


PACE LAYERING
Stewart Brand
FASTER
SLOWER
TECHNOLOGY
BUSINESS
MODELS
INFRASTRUCTURE
GOVERNANCE
CULTURE
NATURE

AXON
POLICE OFFICER
LOS ANGELES POLICE
1908

65% 12:27 PM
ymadison.com/
ASHLEY MADISON
Life is short. Have an affair.®
Over 39,050,000 anonymous members!
Start searching now - it's easy!
Join Free

FEDERAL AVIATION ADMINISTRATION


INTERNET
OF THINGS
UNITED STATES
FEDERAL
TRADE
COMMISSION

U.S. SECURITIES AND EXCHANGE COMMISSION

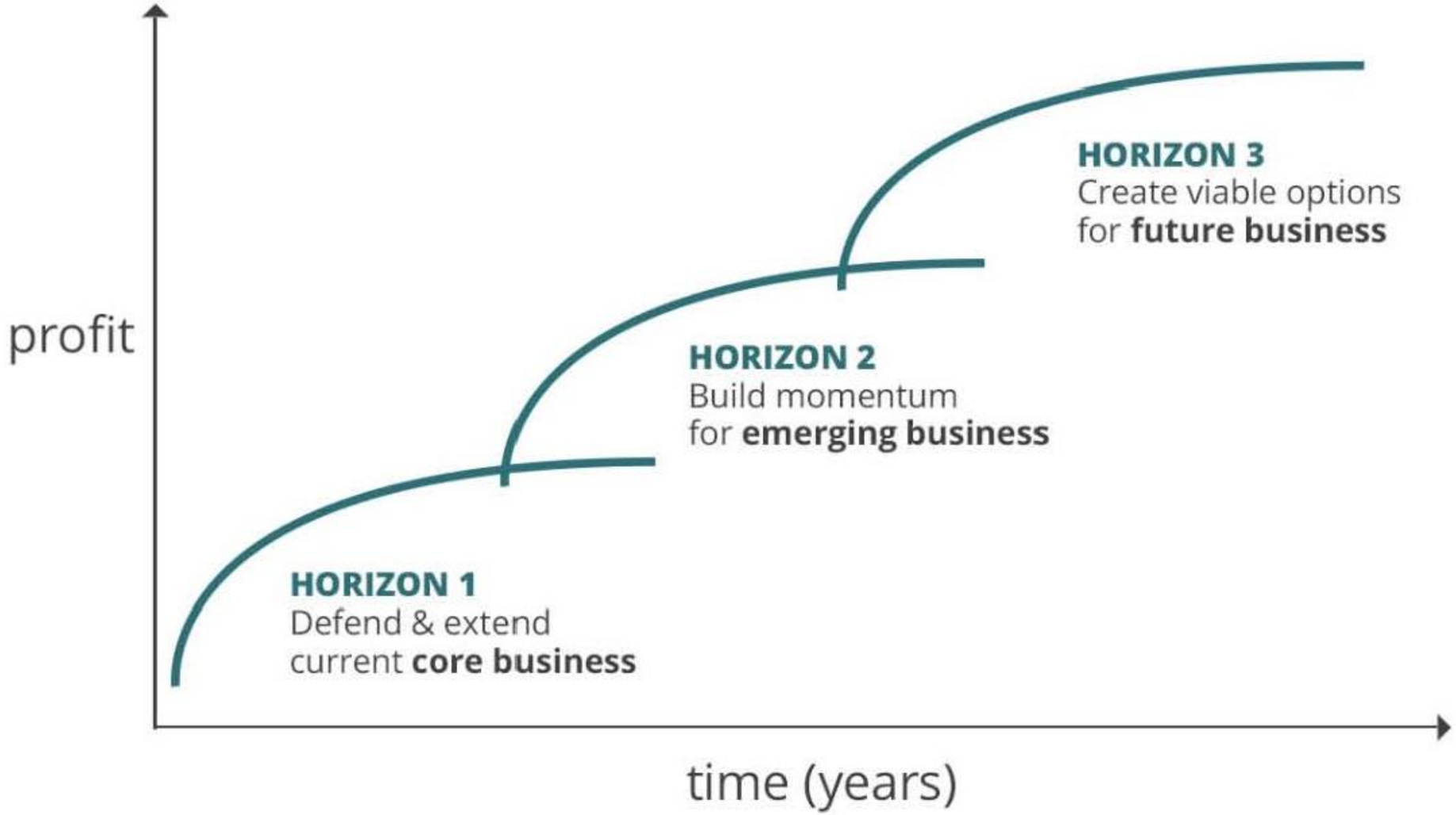
JAWBONE
9:41 AM
Today
81%
69%
62%
FDA

U.S. Department of Transportation

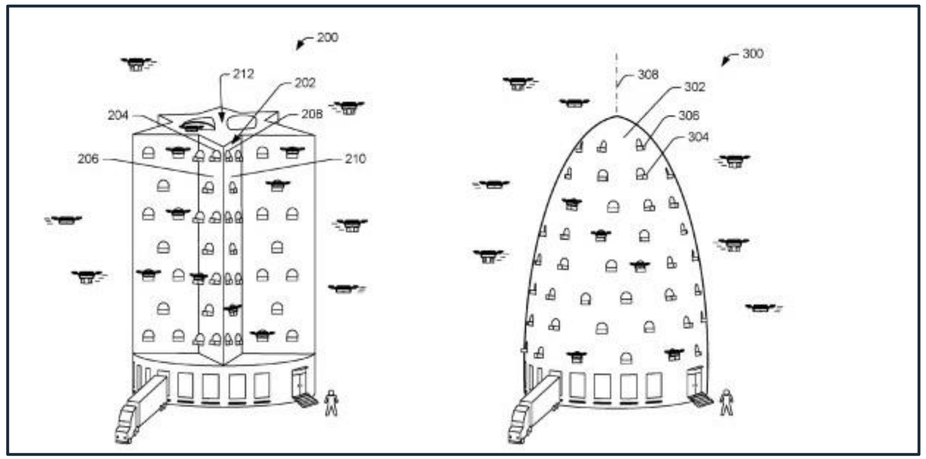
AMORT UBER
SERVICE PLUS

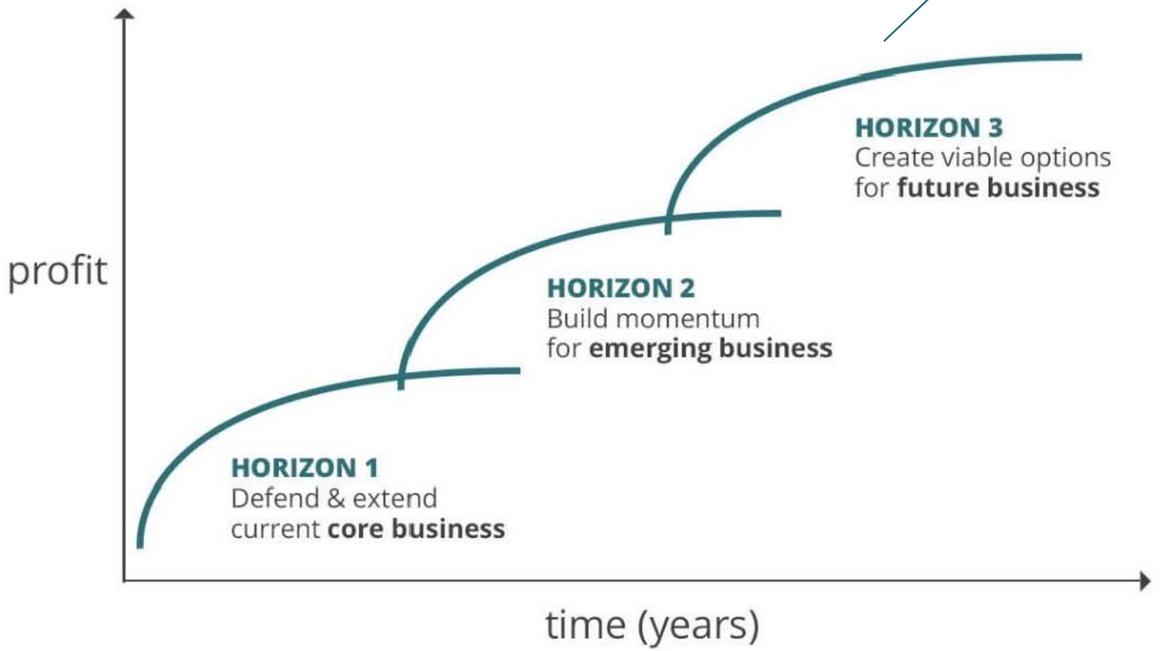
What To Do About It

THREE HORIZONS OF GROWTH

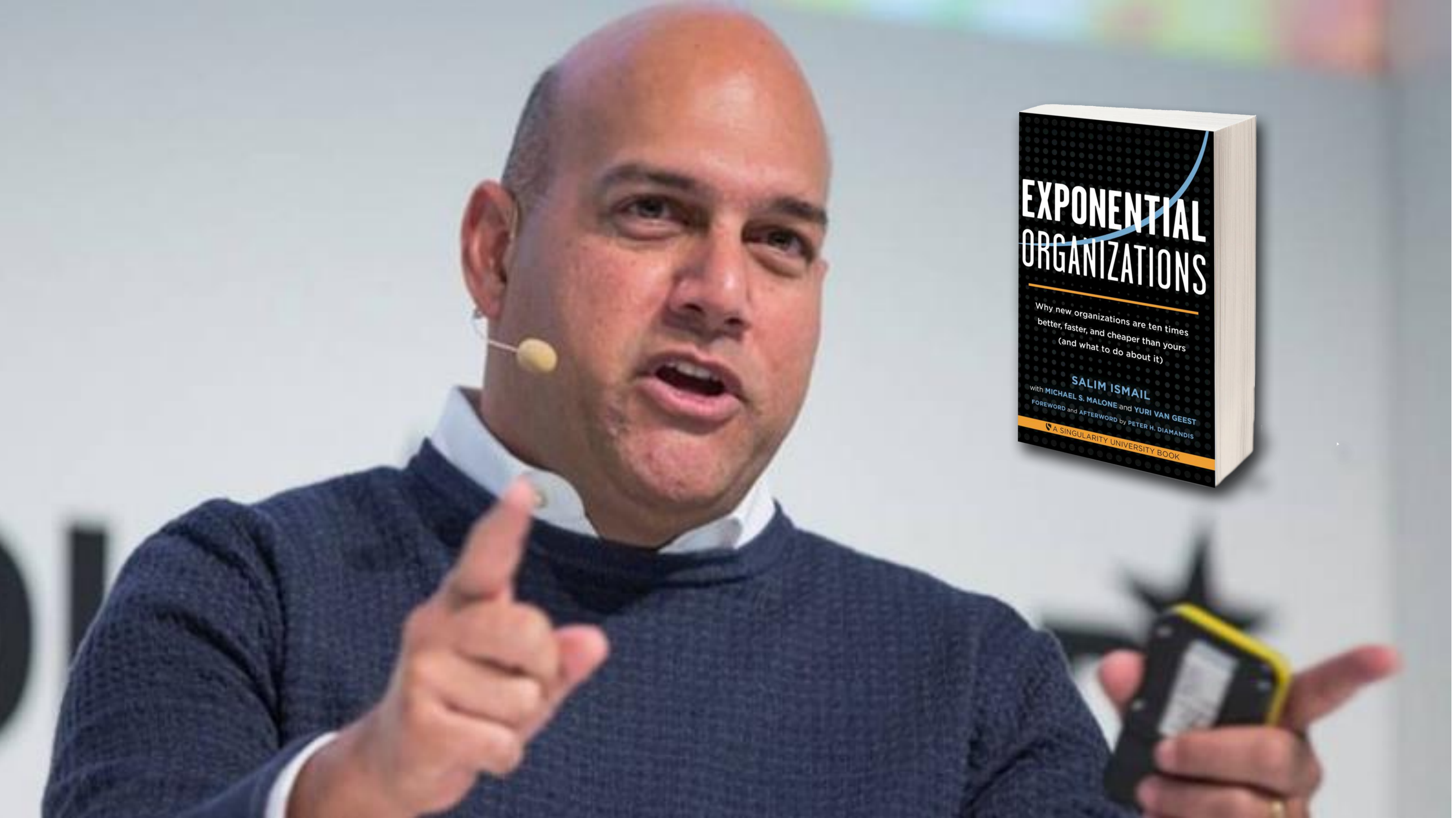


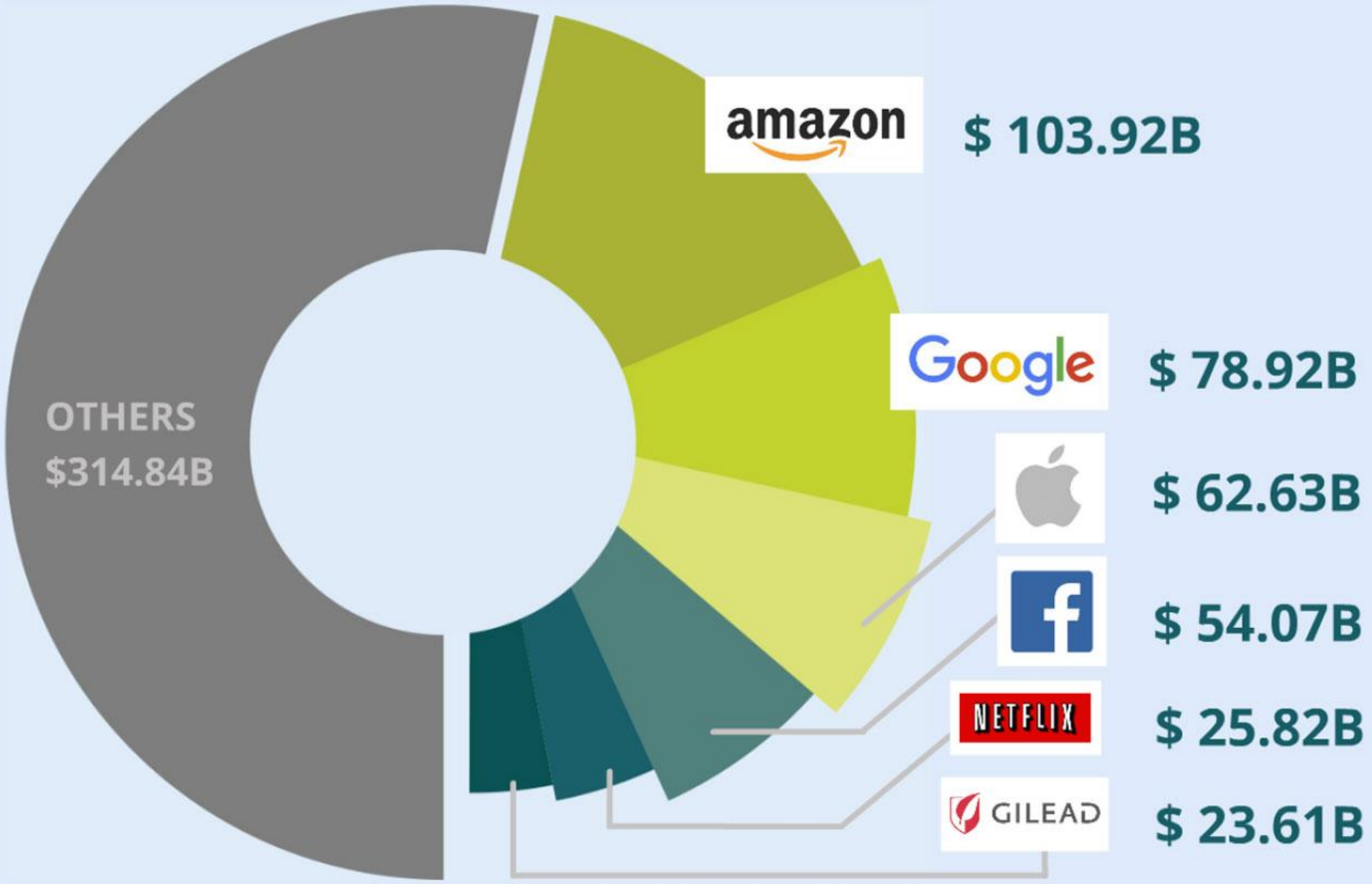
THREE HORIZONS OF GROWTH





facebook
10 YEAR ROADMAP
3
5
10
ok
ECOSYSTEMS
Video
Messenger
Search
WhatsApp
Groups
Instagram
PRODUCTS
Connectivity
Drones
Satellites
Lasers
Terrestrial Solutions
Telco Infra
Free Basics
AI
Vision
Language
Reasoning
Planning
VR / AR
Mobile VR
Rift
Touch
Social VR
AR Tech
TECHNOLOGIES


EXPONENTIAL
ORGANIZATIONS
Why new organizations are ten times better, faster, and cheaper than yours (and what to do about it)
SALIM ISMAIL
with MICHAEL S. MALONE and YURI VAN GEEST
FOREWORD and AFTERWORD by PETER H. DIAMANDIS
A SINGULARITY UNIVERSITY BOOK


OTHERS
$314.84B
amazon
$ 103.92B
Google
$ 78.92B
$ 62.63B
$ 54.07B
NETFLIX
$ 25.82B
GILEAD
$ 23.61B

Tangerine
Forward Banking™

- **Employee automony**
- 7 x more customers per employee
- 4 x more customer deposits per employee

TED

- **Crowd engagement**
- Global media company in 5 years

amazon

- **Exprimentation**
- The Institutional Yes!

Massive Transformative Purpose (MTP)

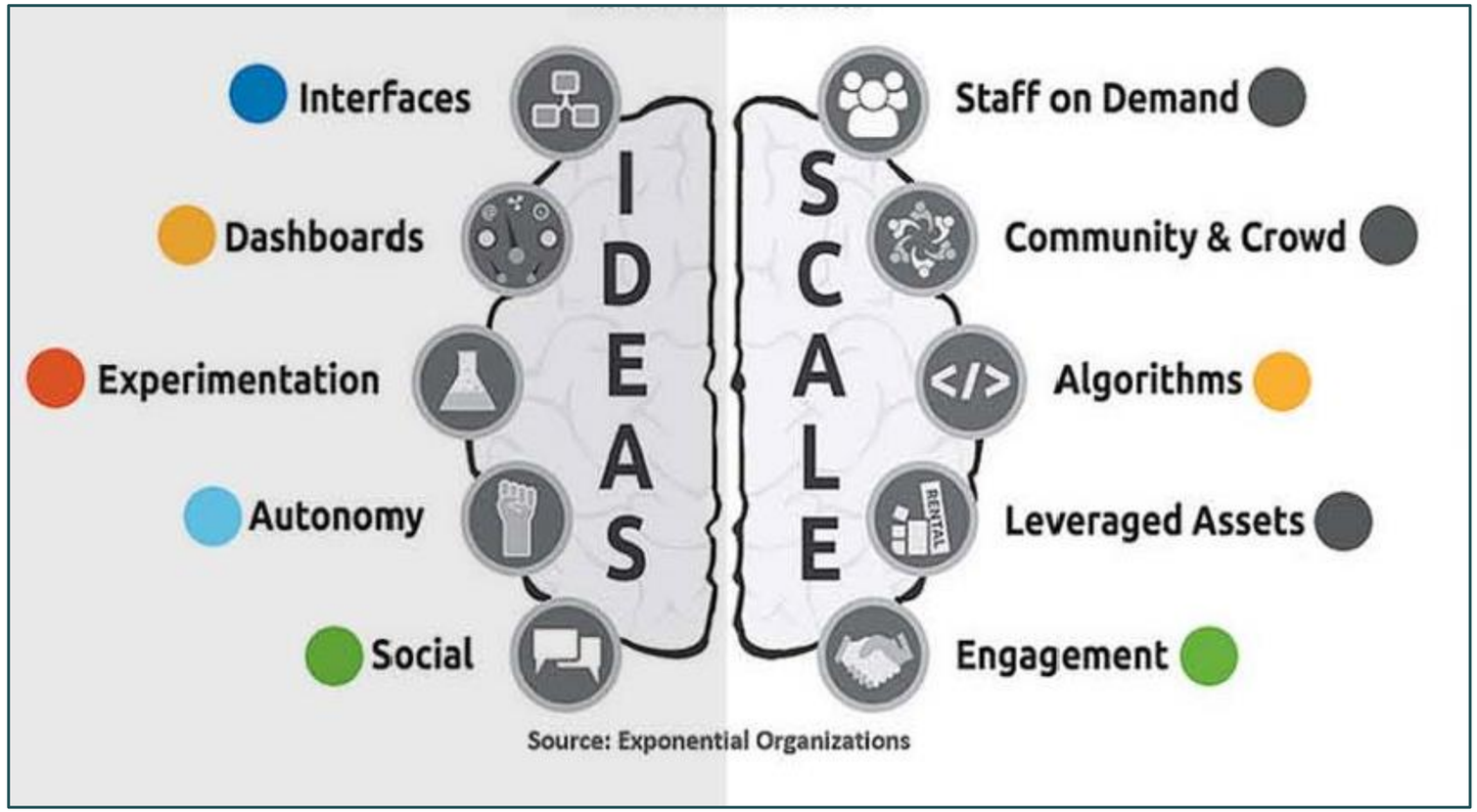
“Positively impact one billion people”
“Ideas worth spreading”
“Organize the worlds information”
“Solving the workforce STEM gap”

Unique
Aspirational
Broad
Sincere

4 or more attributes = exponential organization

amazon

Tangerine
Forward Banking™



Allstate

Google

UBER

Ranking of Fortune 100 by Exponential Score

Average S&P +9.9%

Fortune 100 Company	ExQ
Google	**72.9**
Amazon	**66.2**
Apple	**62.6**
International Business Machines (IBM)	**61.0**
Verizon Communications	**58.8**
General Electric	**56.6**
Microsoft	**55.9**
Cisco Systems, Inc.	**55.8**
The Walt Disney Company	**54.8**

Fortune 100 Company	ExQ
Costco Wholesale	32.0
Phillip Morris International Inc.	31.6
Hess Corporation	31.3
HCA Holdings, Inc.	31.0
Phillips 66	30.7
Tesoro Corporation	30.0
Valero Energy	29.8
Plains GP Holdings, L.P.	27.5
Energy Transfer Equity, L.P.	26.5

Top 10: + 26.7%

Bottom: 10 -1.7%

Crowd on Demand Attribute

- Paid $10,000 for Kaggle competition
- 271% improvement in 2 weeks

- 50% of IT staff consultants
- Not just helpful, mandatory

- Need to know where products are in Walmart
- Uses Gigwalk app.

How Can Big Companies Adapt

- **Transform mindsets and implement diversity**
- Exponential organizations at the edge
- Hire a black ops team
- Partner with / acquire an exponential organization

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- **Partner with, invest in, acquire an exponential organization**

Parting Thoughts

- Solving today’s problems / iterating is not enough
- Finance (banking) is not safe from outside parties/disruption
- Fundamental shift in your business model will most likely required

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