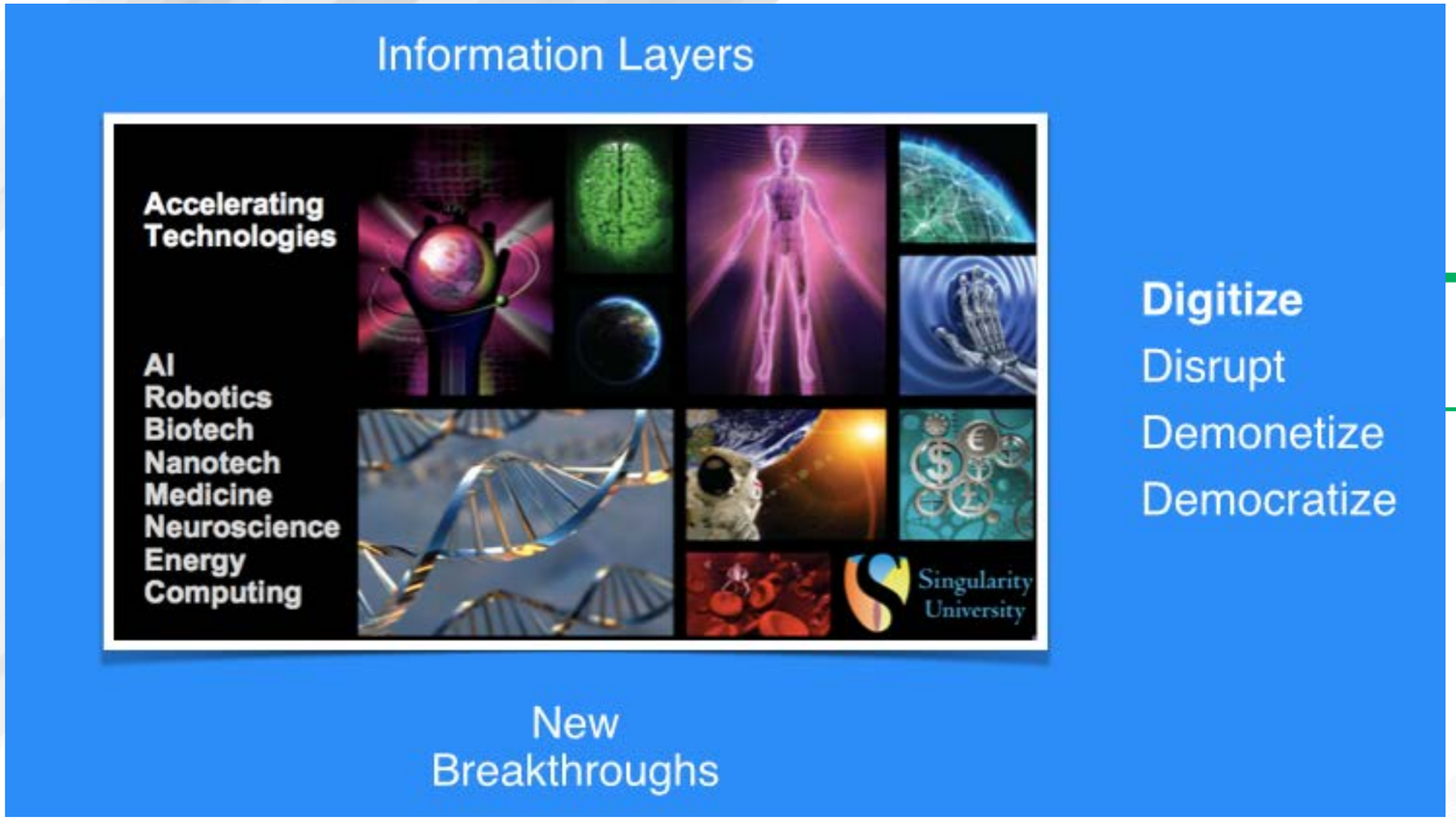
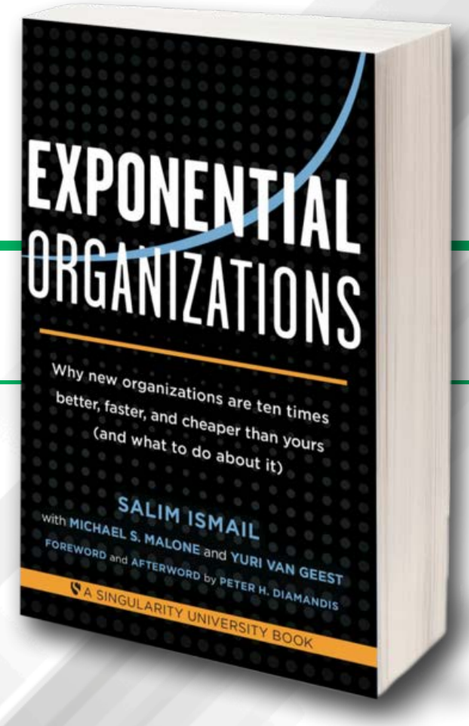
EXPONENTIAL DISRUPTION





SALIM ISMAIL

@salimismail

// Global Ambassador, Founding Executive Director

Singularity University

// Co-Founder

Angstro

Confabb

PubSub

// Vice President

Yahoo

Information Layers

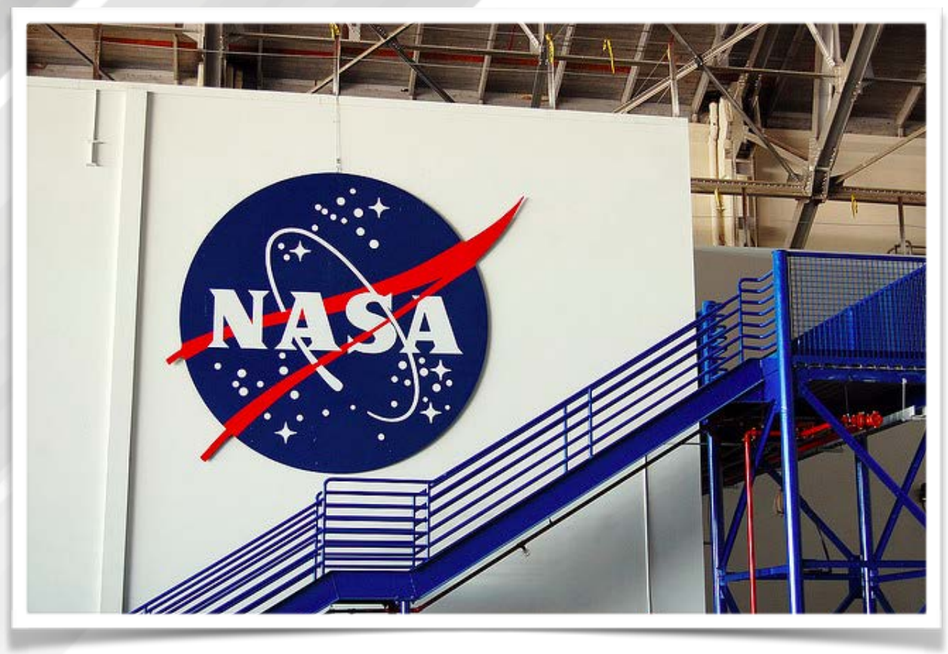
Digitize

Disrupt

Demonetize

Democratize

New
Breakthroughs



Genentech

Autodesk

NOKIA

Google

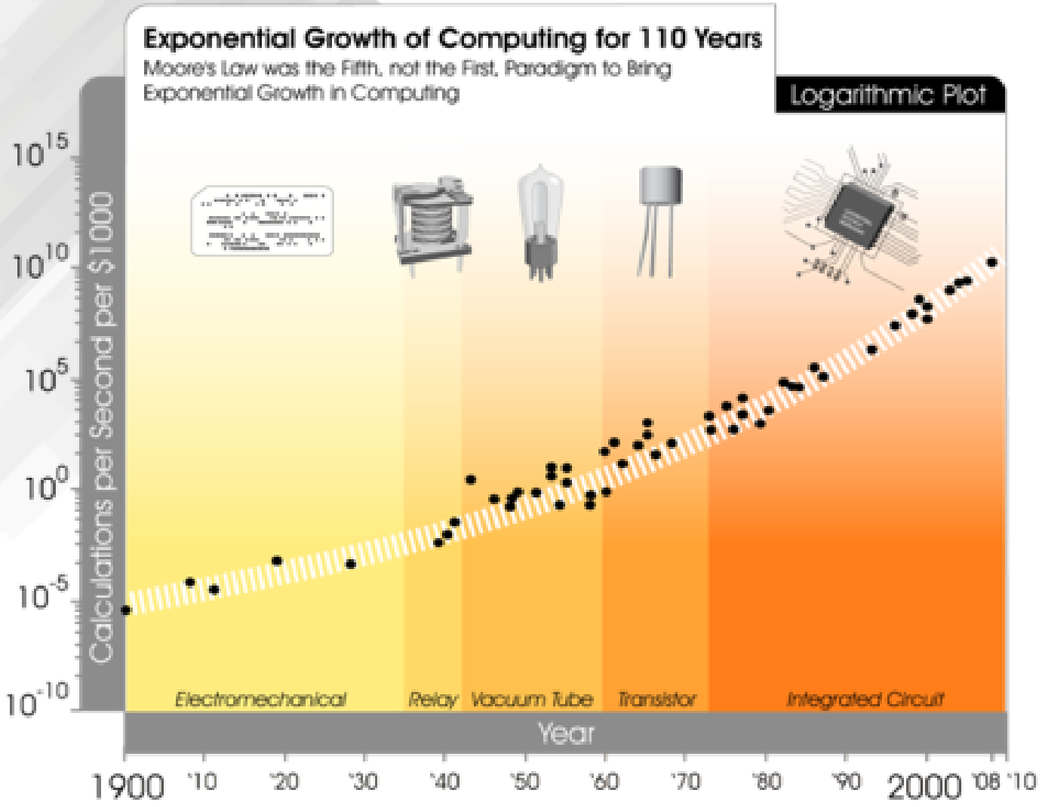
Ewing Marion
KAUFFMAN
Foundation

ePlanet Ventures

CISCO

SU Founding Conference - September 2008

Singularity University was founded in Sept 2008 by Drs. Ray Kurzweil & Peter Diamandis



Accelerating Technologies

AI
Robotics
Biotech
Nanotech
Medicine
Neuroscience
Energy
Computing

Singularity University Mission

Our mission is to educate, inspire, and empower leaders to understand and utilize exponentially advancing technologies to address humanity's grand challenges.

How will you positively impact
1 billion people in the next decade?

10^{9+}

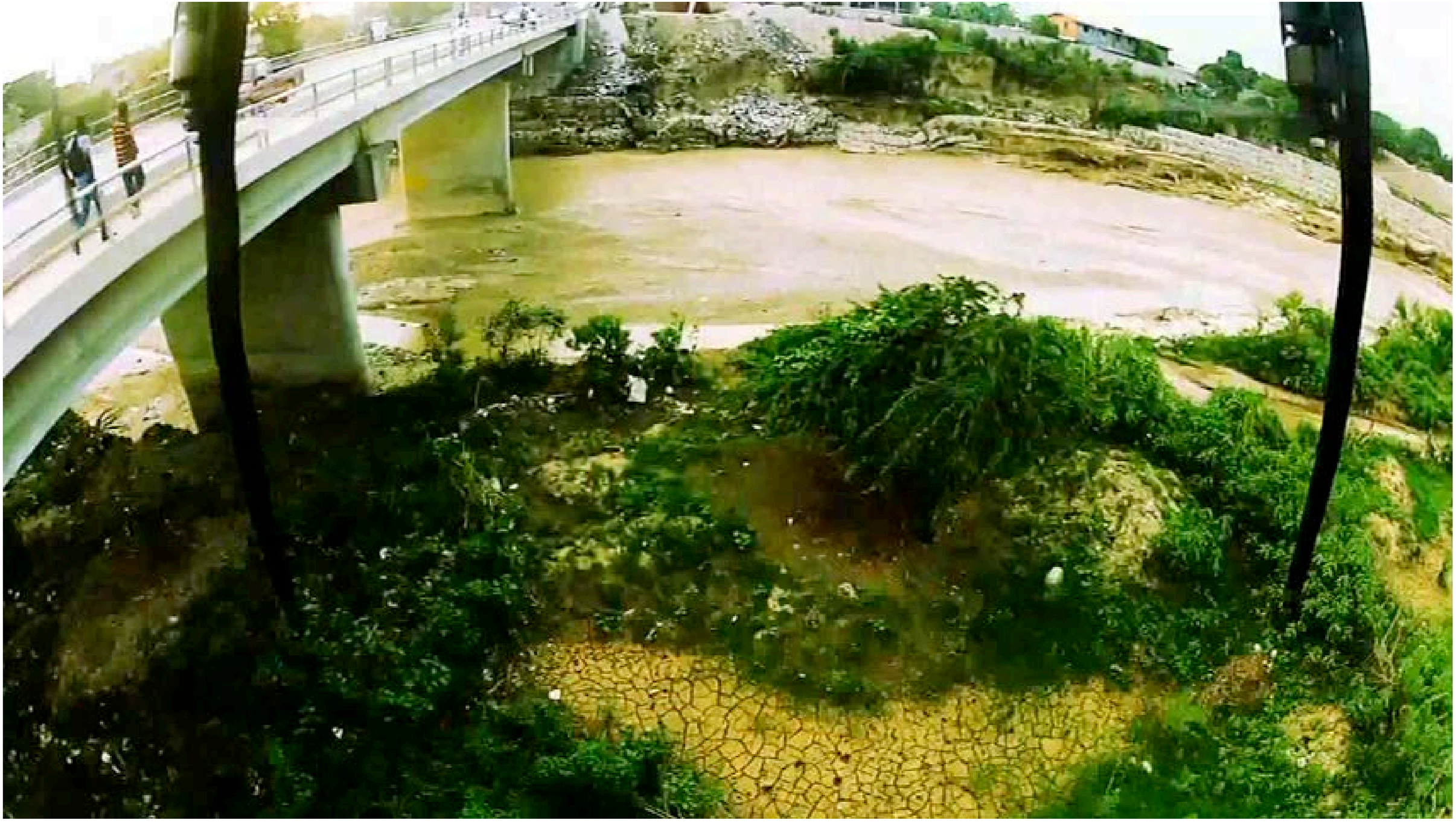
Grand Challenge

1.4 billion in extreme poverty
1 billion with no access to all-season roads

1 billion with no access to all-season roads

It will take Africa 50 years to catch up
MEDO
ACAIN

DRONES
DRONES



amazon
PrimeAir

DISRUPT NY Winklevoss Twins to Chat Bitcoin at Disrupt NY Get Your Tickets Today

Gadgets matternet NAS founder Haiti

Matternet To Test The First Real Drone Delivery System In Switzerland

Posted 3 hours ago by John Biggs (@johnbiggs)

373 SHARES

Next Story

The Swiss postal service, Swiss Post, is going to attempt drone deliveries for the first time ever

CrunchBase

Matternet –

OVERVIEW

Matternet is a 21st century transportation system that will transform the way we move goods locally. Matternet is creating an automated delivery network

36k trees a day

THE INDEPENDENT MONDAY 27 APRIL 2015

Ex-Nasa man to plant one billion trees a year using drones

Made in Space

Executive program overview

Executive Program Participants:

Entrepreneurs, CEOs, CTOs, investors, inventors, government leaders, and policy experts from around the world

IPP INNOVATION PARTNERSHIP PROGRAM

Current IPP Partners

Before: 75% had little or zero awareness of breakthroughs

IPP
INNOVATION
PARTNERSHIP
PROGRAM

After:

Game-changing impact - 80% in 2 yrs

- 100% in 5 yrs

100% had immediate action items

Information Layers

Digitize

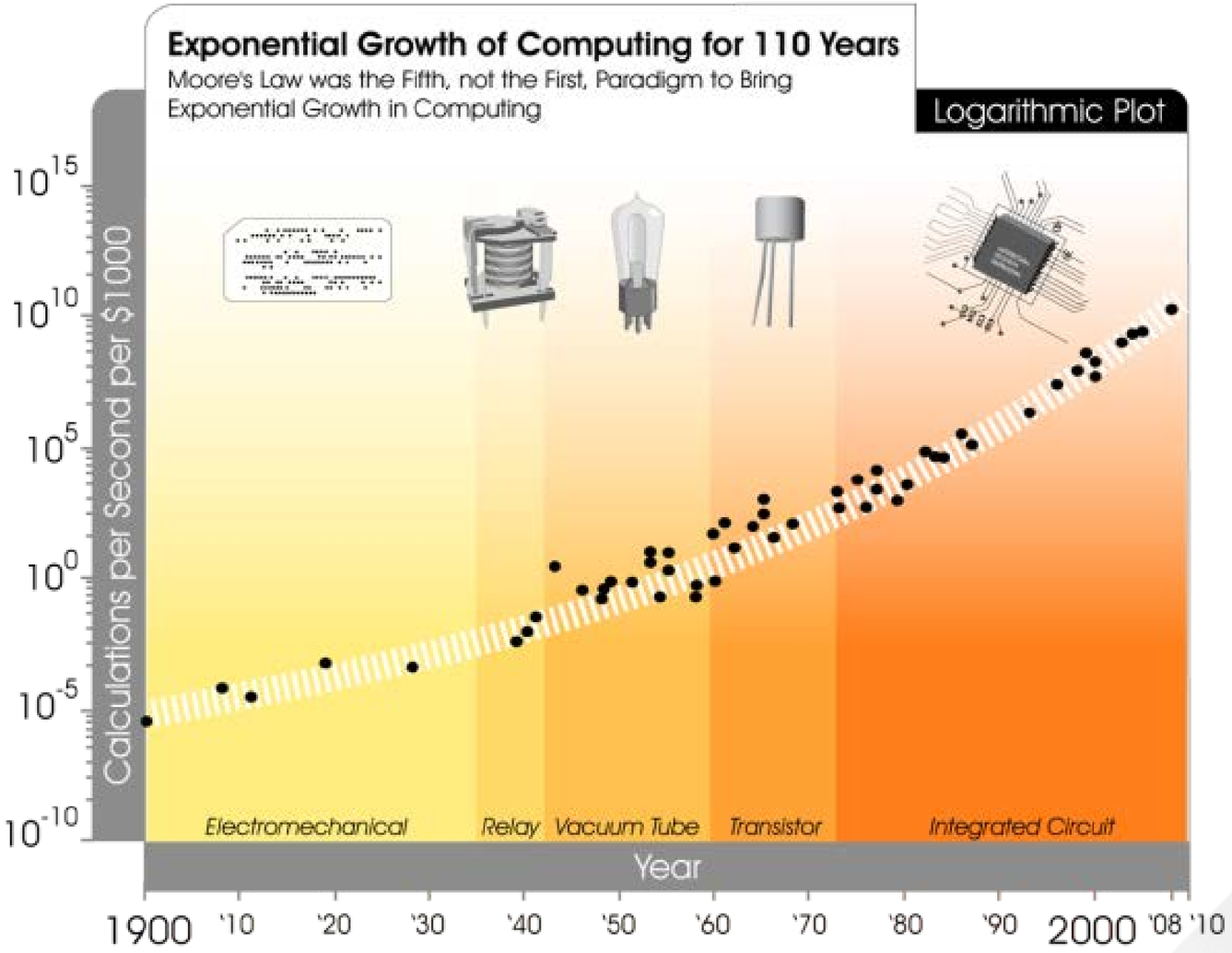
Disrupt

Demonetize

Democratize

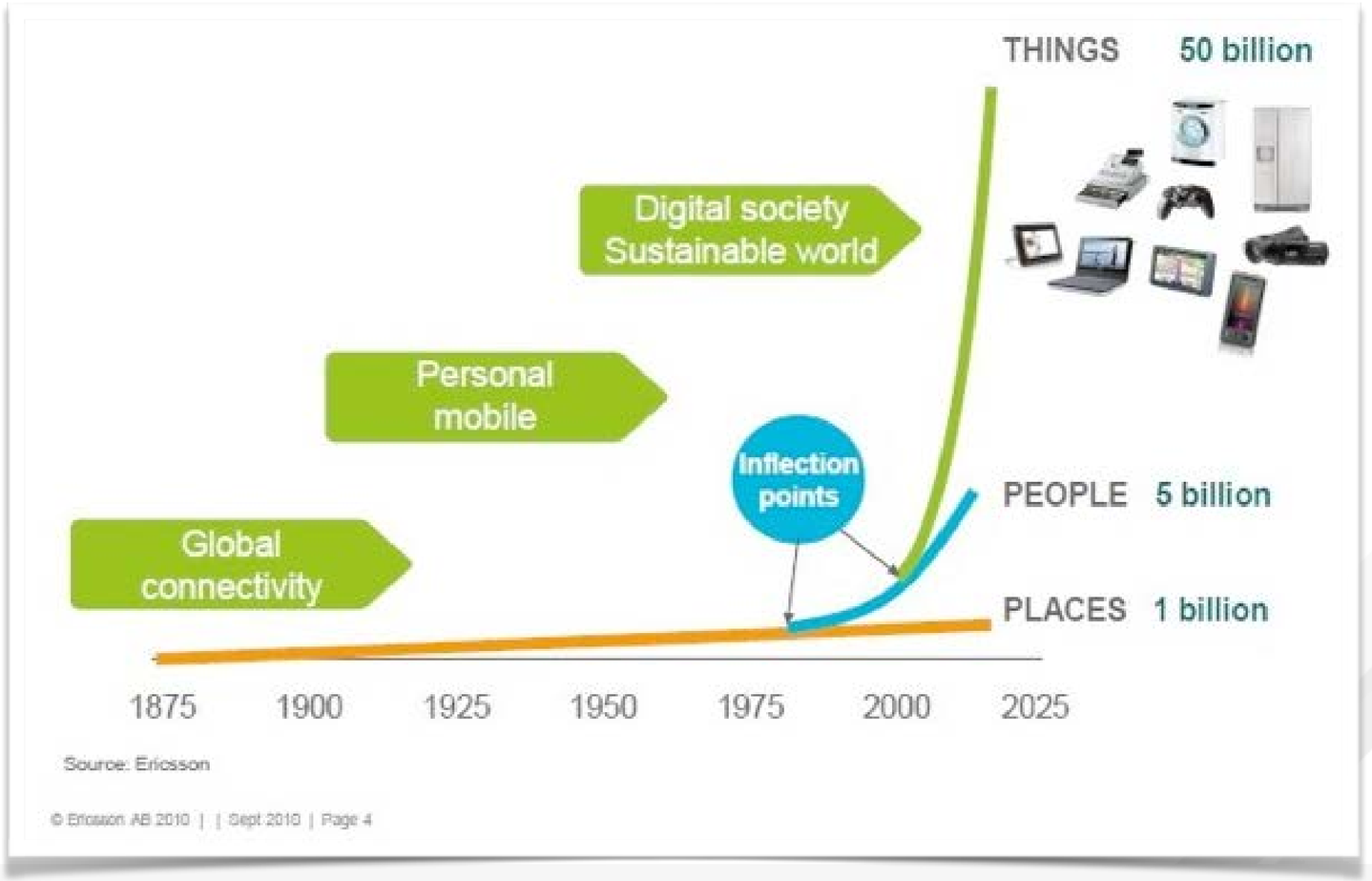
New
Breakthroughs

Rate of Change Increasing



Internet of Things

50B devices by 2020



M2M communication will be

> 50%

of data traffic by 2030

1 trillion

connected devices
using low bandwidth

Google Confidential and Proprietary

Oculus Rift
Google Glass

Decoding human intonation *

18 years of research

Over 60,000 subjects world-wide

4 active researches

4 approved US patents
(and two more on the way…)

Major awards

BEYONDVERBAL
THE SCIENCE OF EMOTIONS

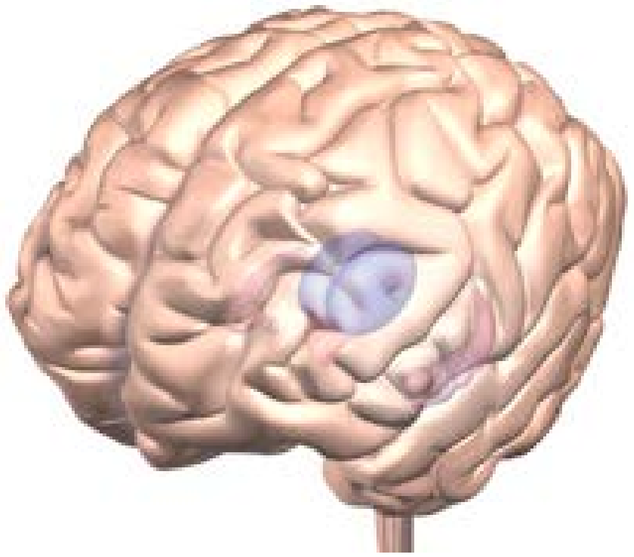
Dr. Yoram Levanon
Decision Making, Physics

Dr. Lan Lossos
Neuropsychology

Wharton University of Pennsylvania
SEI Center

DEMO Spring 2010
The Launchpad for Emerging Technology
People's Choice Winner!

tsia SERVICE REVOLUTIONS



VR disrupts R

Information Layers

Digitize

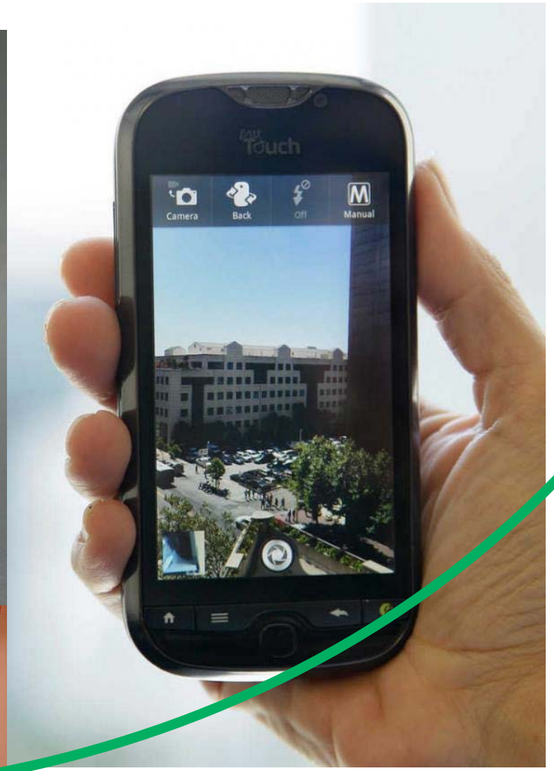
Disrupt

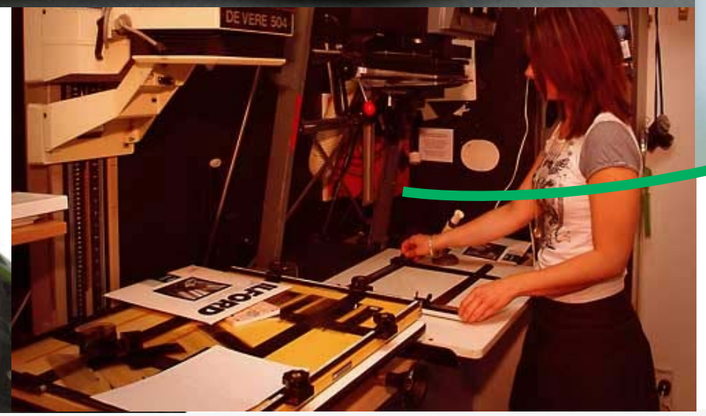
Demonetize

Democratize

New
Breakthroughs

Why information » exponential

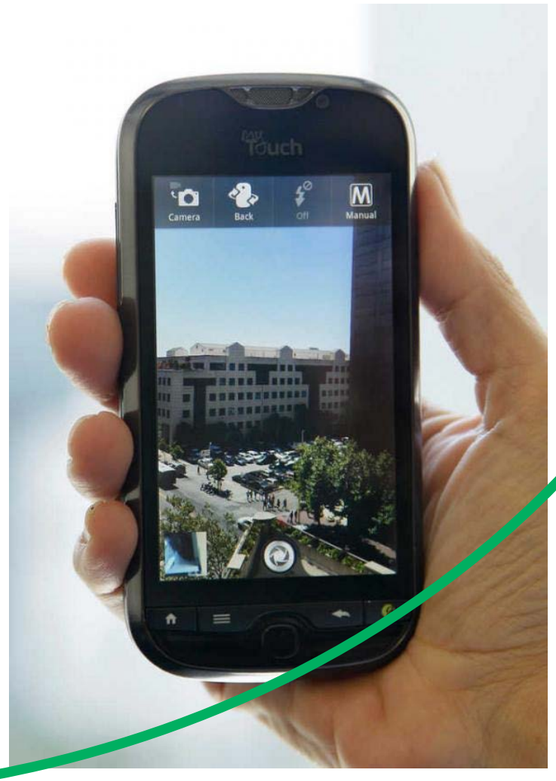




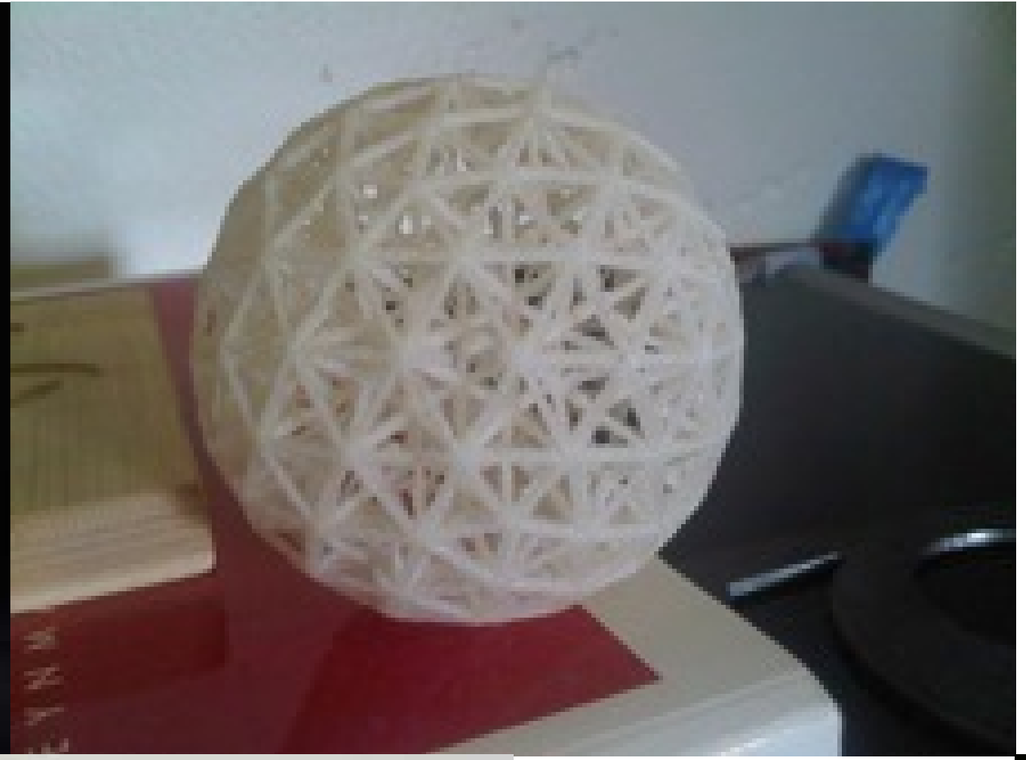
Why information » exponential

// zero friction to move/copy
// zero marginal cost
// apply computation
// data correlations
// machine learning
// modeling
// simulations

// 100% democratization
of effort/innovation



3D printing / Digital fabrication



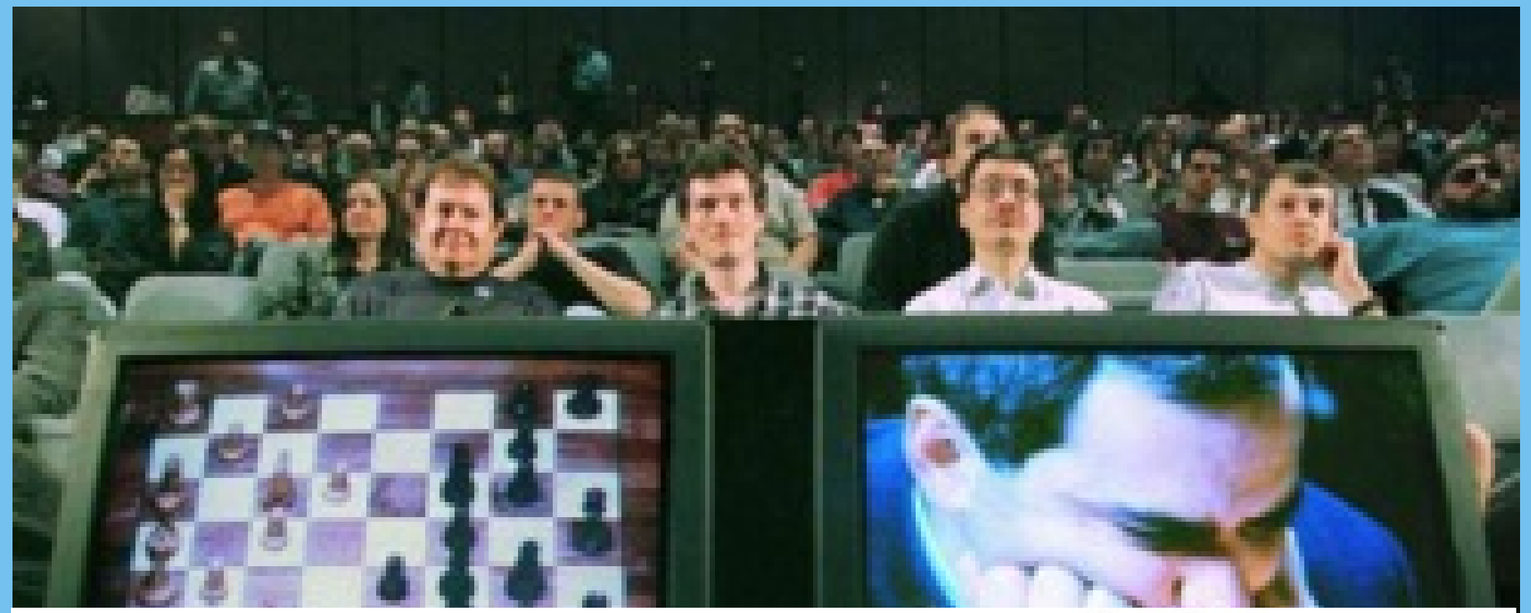
AI & Robotics

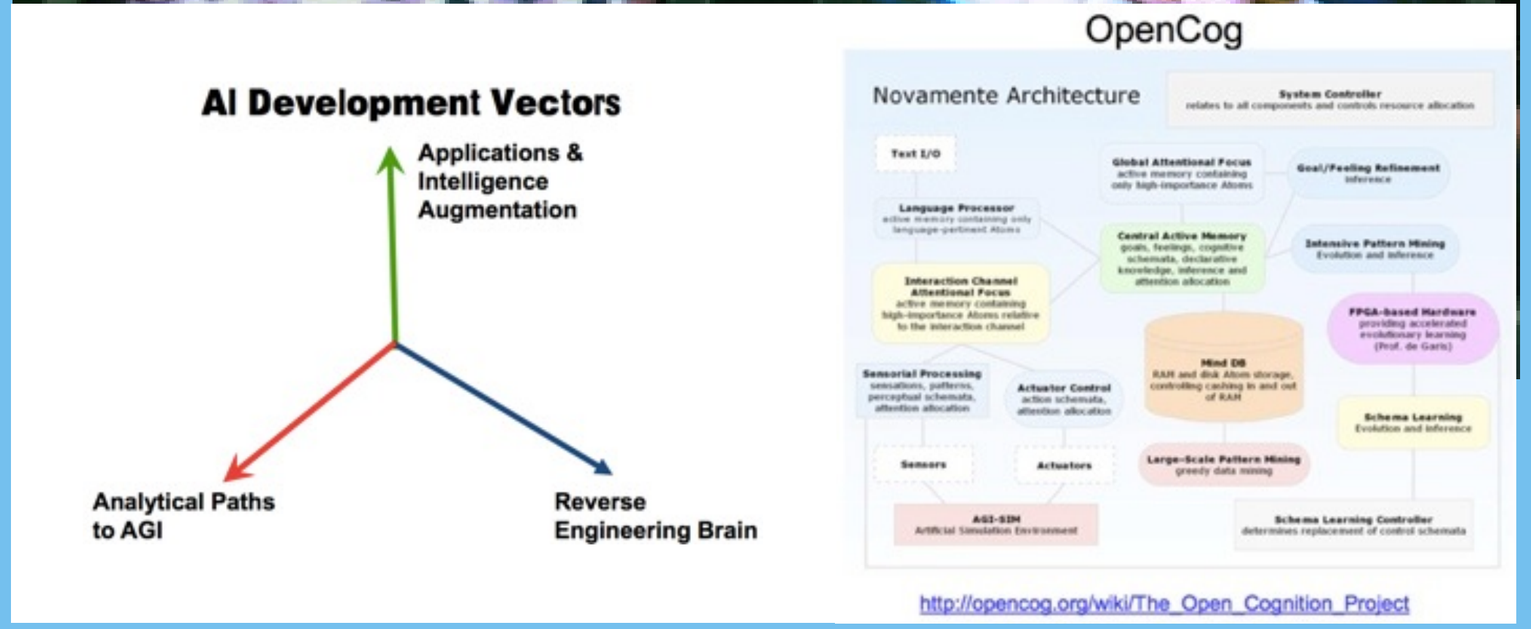
Dan Barry, MD

(Space, AI, Robotics)
NASA Astronaut

Neil Jacobstein

(AI, Robotics)
AI CEO, Visiting Scholar
Stanford





Last upgrade - 50k years

Ancient architecture

Torrents of data

Hardwired biases

Limited bandwidth

Technological amplification

Change accelerating

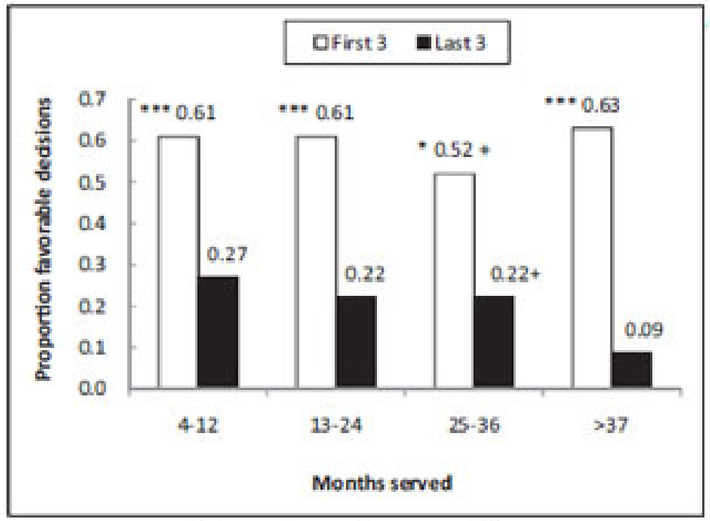
Global problems

Navigation requirements increasing

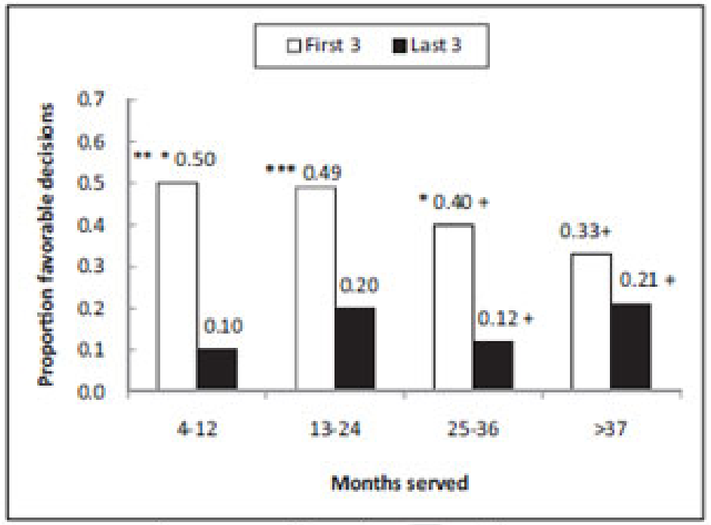
Biases & heuristics in human cognition

Anchoring bias – fixating on 1st impressions
Status quo bias – failure to consider alternatives to what is
Sunk-cost bias – protecting earlier bad choices
Confirming-evidence bias – selective data collection
Framing bias – posing the wrong question
Overconfidence bias – failure to challenge assumptions
Saliency bias – focus on dramatic events vs whole picture
Base-rate bias – neglecting relevant baseline information
Pattern invention bias – imposing patterns on events
Prudence bias – slanting probabilities & estimates

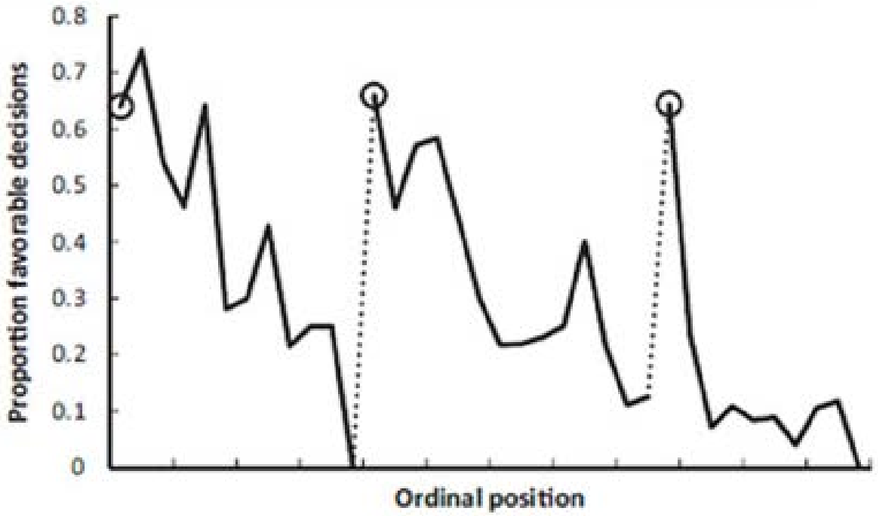
Shai Danziger - 1,112 parole hearings



No previous incarcerations



Some previous incarcerations

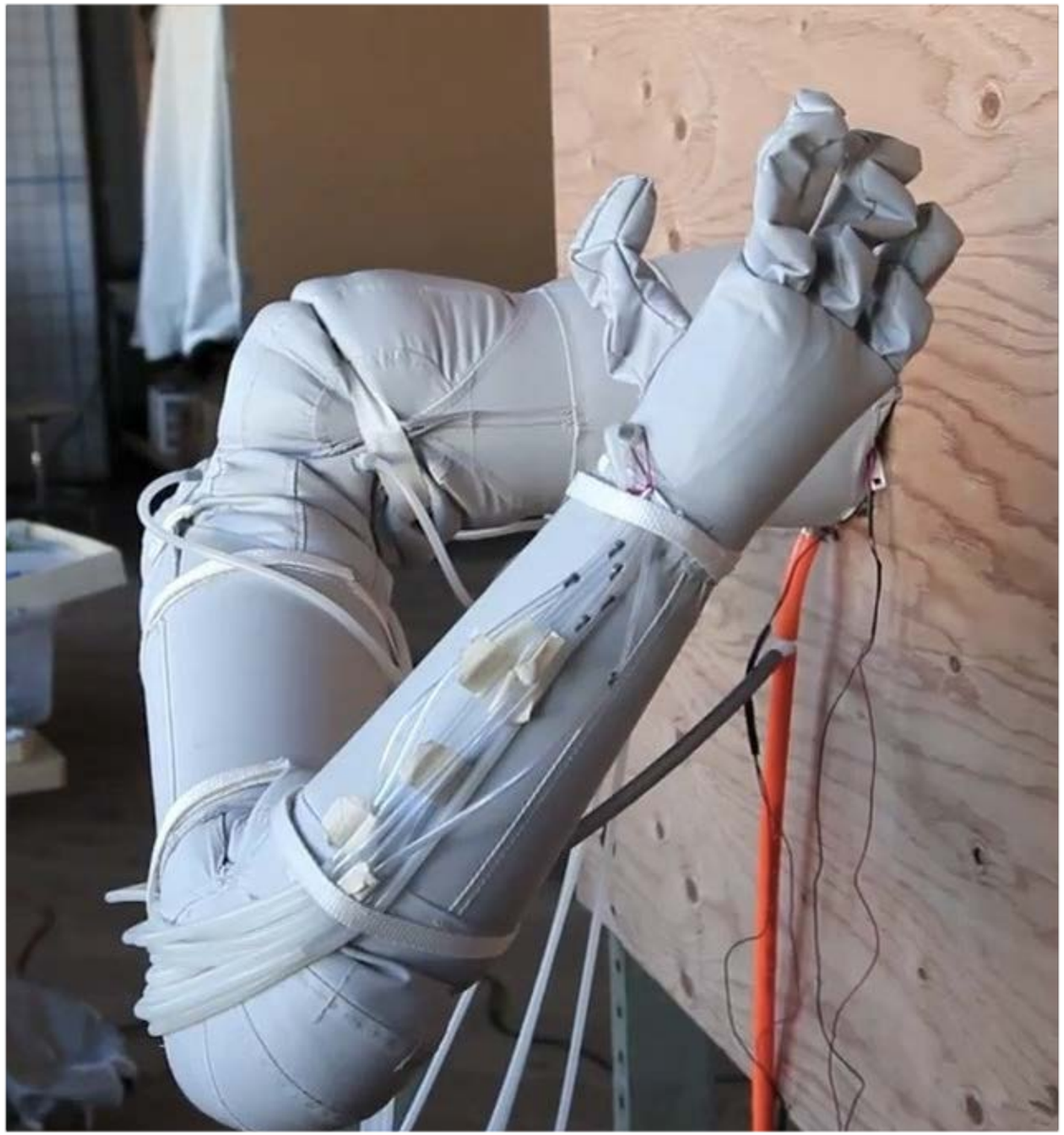


Was $ 700

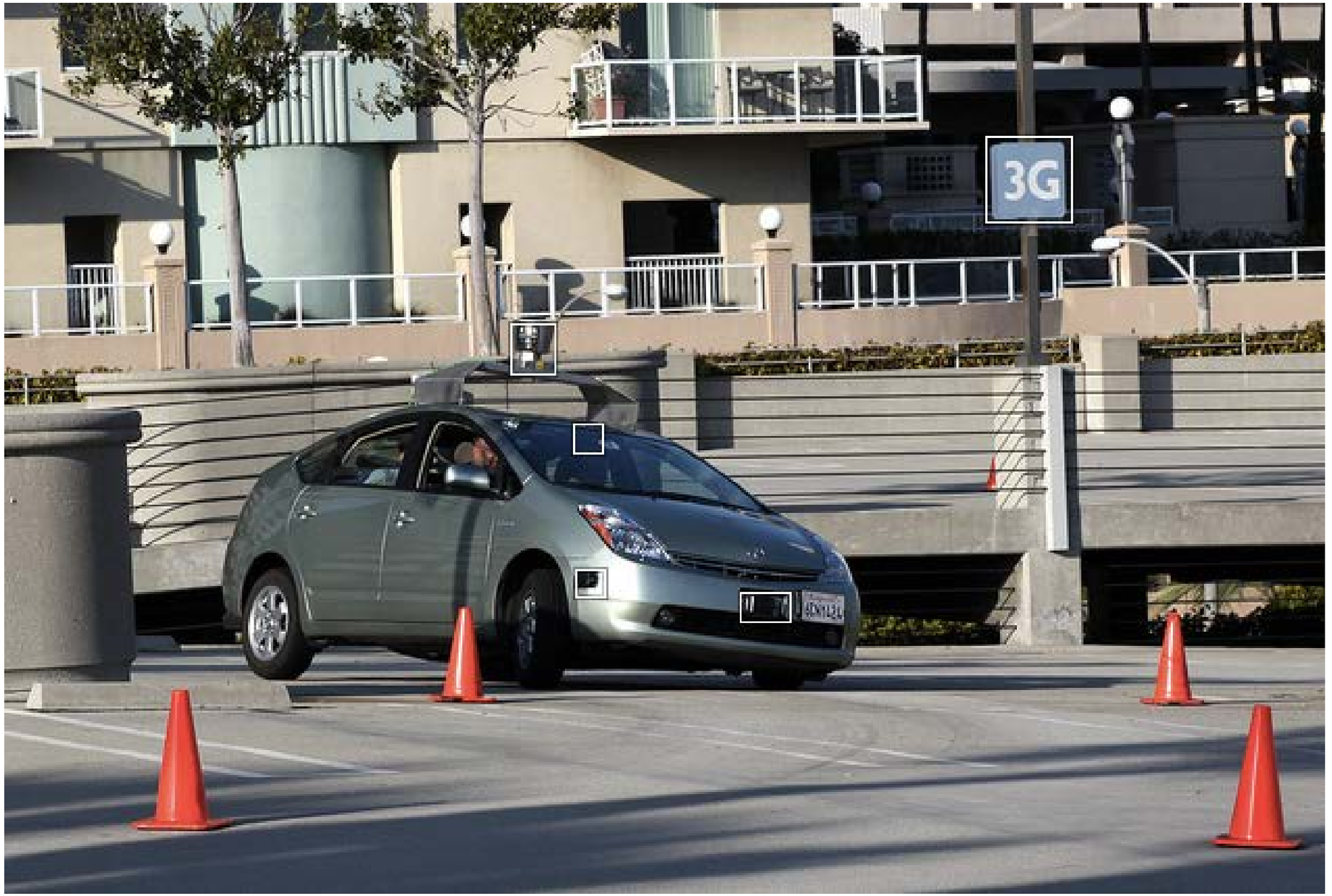
Today $ 20

Baxter: $ 22,000

Pneumatic Robotics



Google Car - www.robocars.com

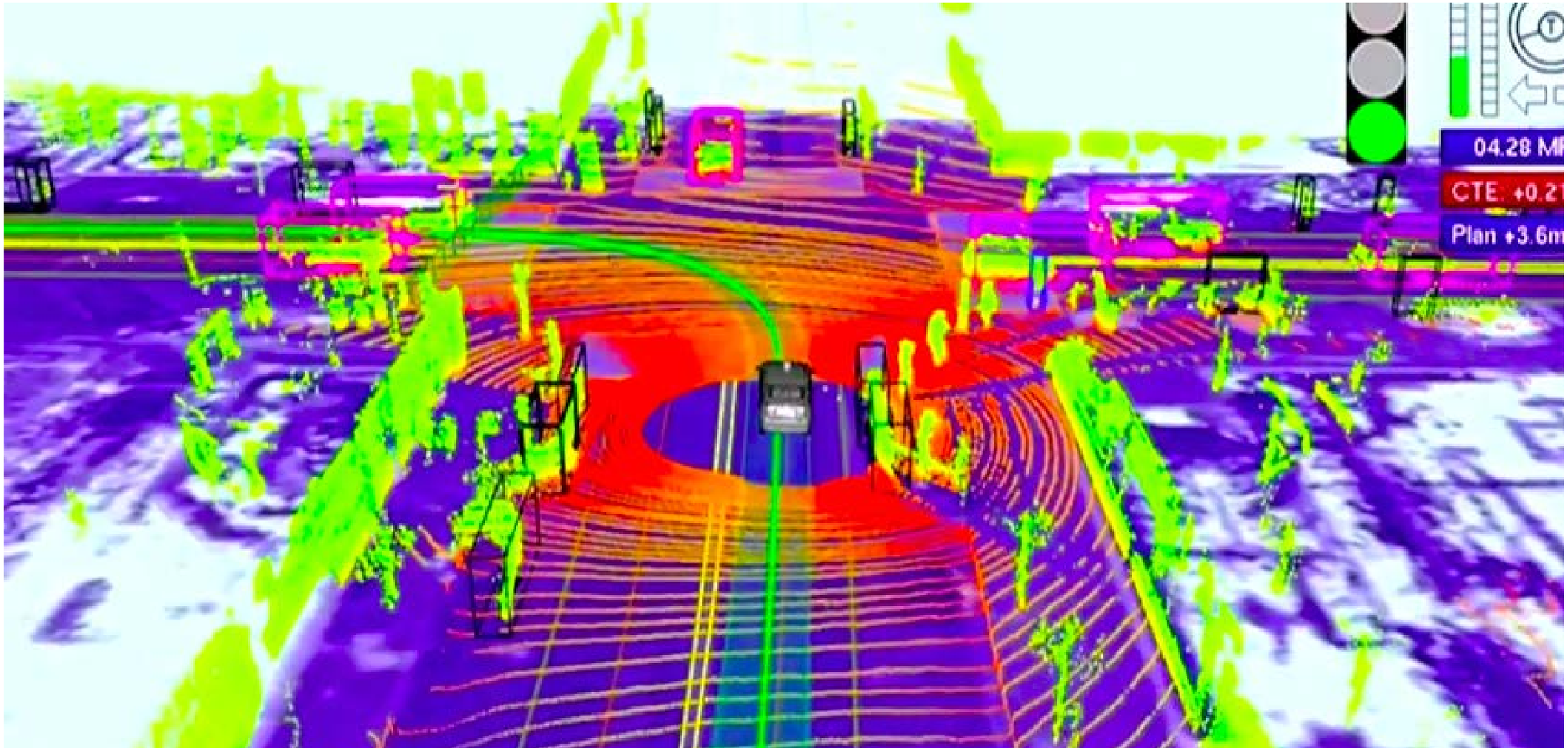


Brad Templeton

(Computer & Networks)
Chairman EFF

Lidar

- 64 lines, 50m pavement, 120m cars
- 1.3m points/.sec
- 1cm accurate
- $75K today, $300 later



Paradigm Change: Robotic Vehicles

>900,000 miles

Legal in:
- Nevada
- California
- Florida

photo: Paul Saffo

GOOGLE

10-15x increase in capacity of roads

real estate values

proximity less relevant

Uber or drones = delivery vehicles

Vox

WEDNESDAY, MAY 6, 2015

This is the first licensed self-driving truck. There will be many more.

Updated by Joseph Stromberg on May 6, 2015, 11:23 a.m. ET *@josephstromberg* *joseph@vox.com*

TWEET (257) SHARE +

The Freightliner Inspiration Truck — the first semi-autonomous truck to get a license to drive on public highways. (Freightliner)

M

The 3 deadlie

How does the
regu

Hillary just to
stance on

Why one of R
experts is worr

The Telegraph

Home Video News World Sport Finance Comment Culture Travel Life Women Fa

Politics | Election 2015 | Investigations | Obits | Education | Science | Earth | Weather | Health

Science News | Dinosaurs | Space | Night Sky | Evolution | Picture Galleries | Science Video

HOME » NEWS » SCIENCE » SCIENCE NEWS

Driverless car beats racing driver for first time

Scientists predict motorists could soon be transported by autonomous cars with the driving skills of Michael Schumacher

3K 503 7 129 3K Email

Neuroscience

// Ancient architecture

// Torrents of data

// Hardwired biases

// Limited bandwidth

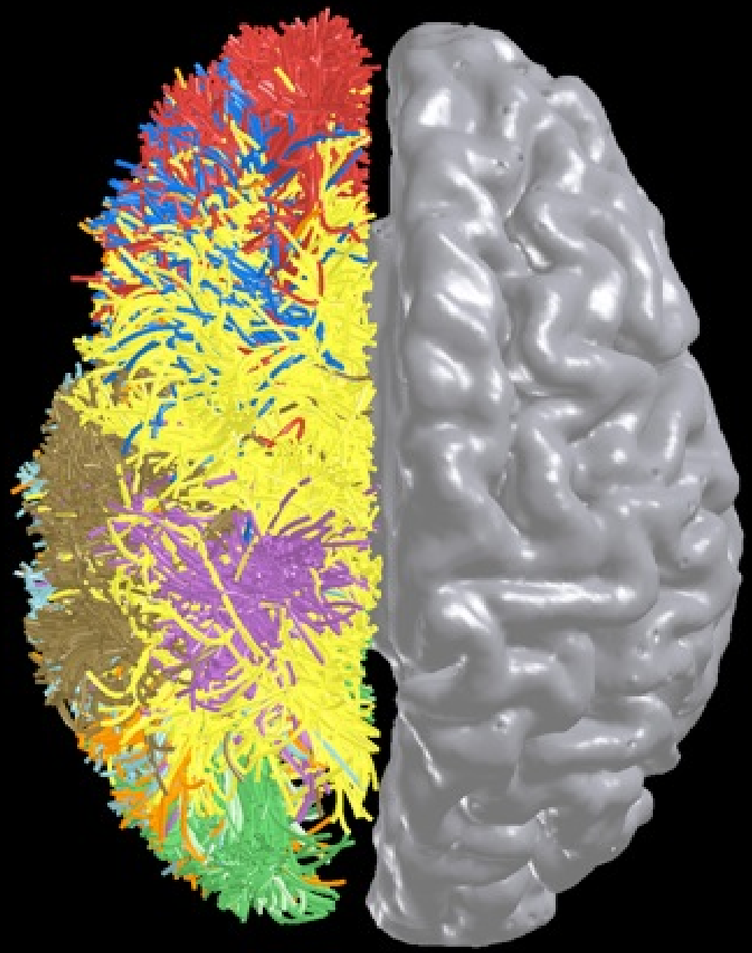
// Technological amplification

// Change accelerating

// Global problems

// Navigation requirements increasing

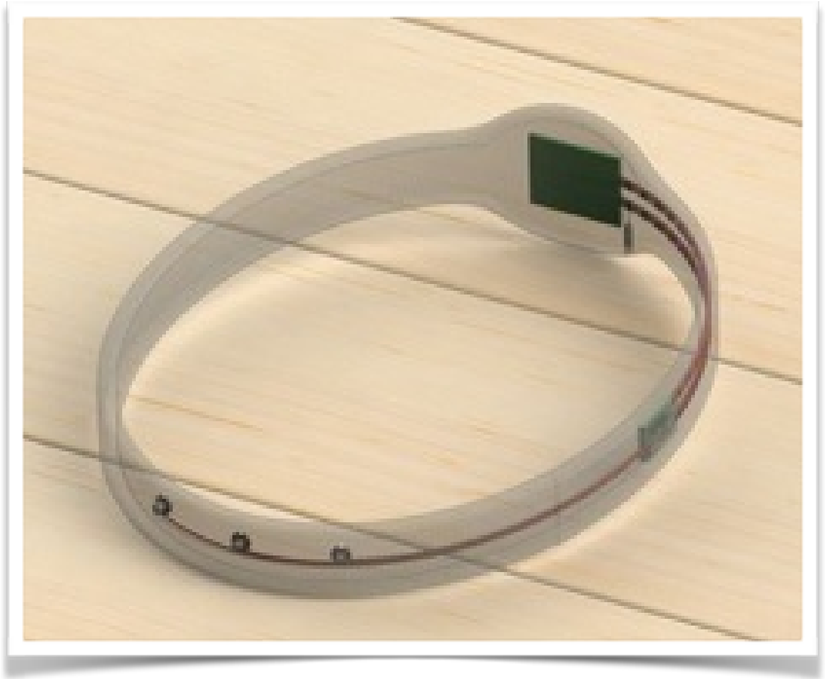
Neuroscience



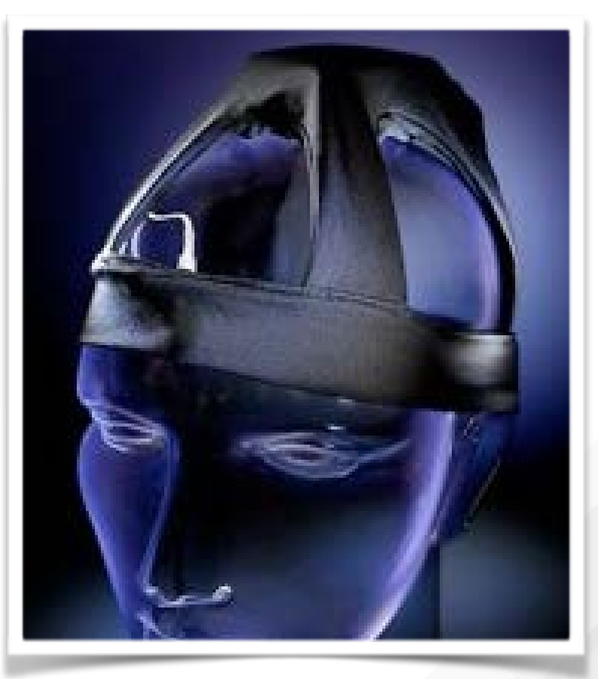
Sherbondy, Ananthanrayanan, Dougherty, Wandell, and Modha, HBM, 2009

Brain Computing Interfaces (BCI)

NeuroSky
Mindwave



Axio Headband



NeuroVigil
iBrain

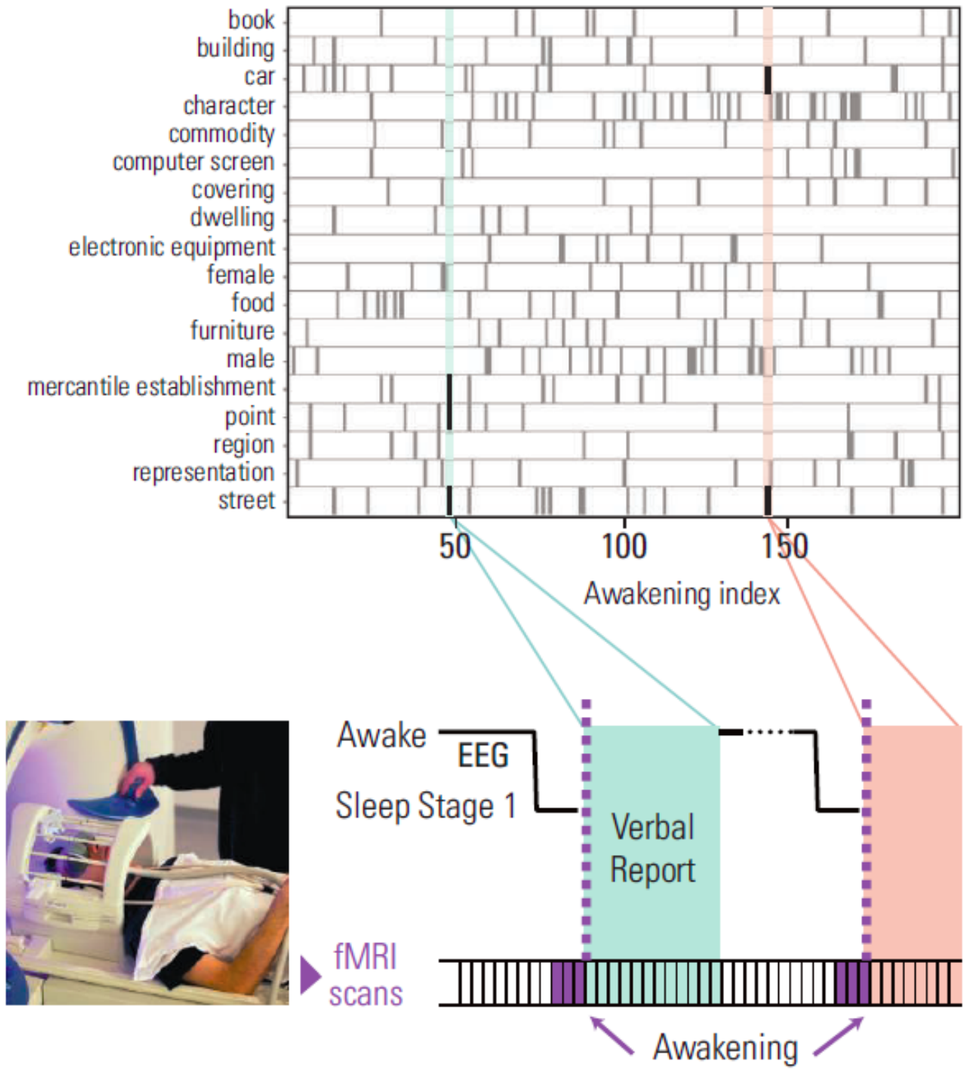
Storing dreams

// Dreamcatcher

// MRI machine

// Stores images

// Replays your dreams



Dream catcher. Researchers collected reports of dreamed images from people awoken after sleeping in an MRI machine.

Accelerating Technologies

AI
Robotics
Biotech
Nanotech
Medicine
Neuroscience
Energy
Computing

QUALCOMM TRICORDER XPRIZE

Artificial Intelligence Physician

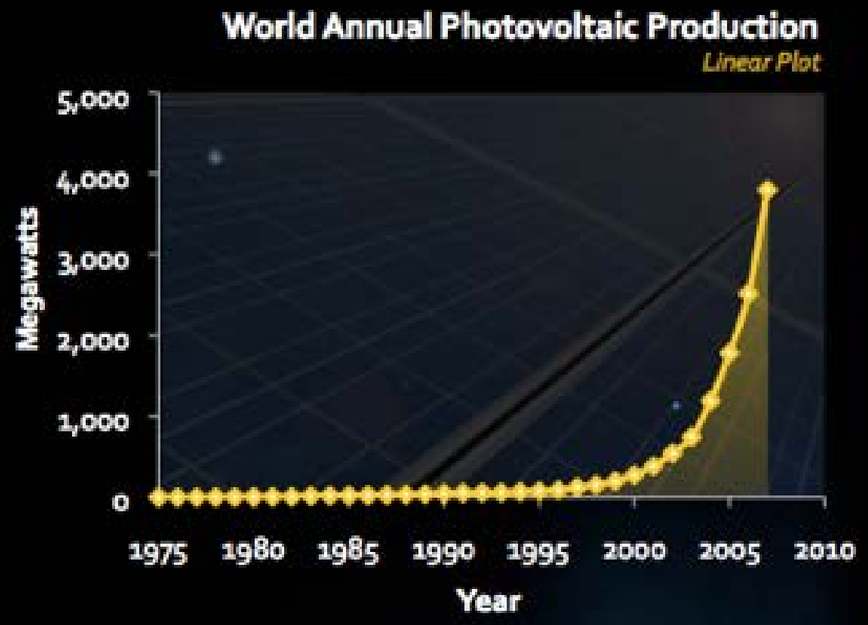
>

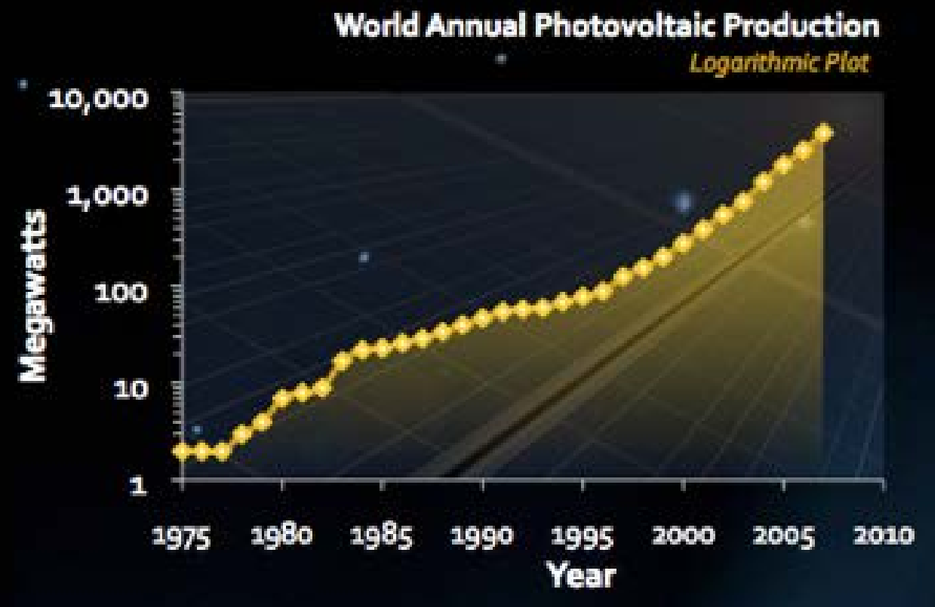
Scanadu

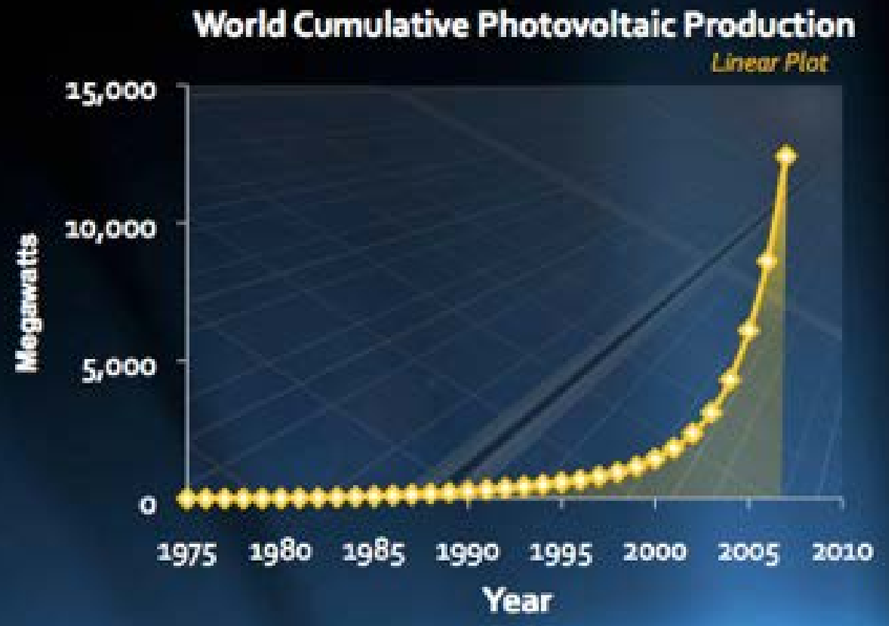
© 2012 CBS Interactive

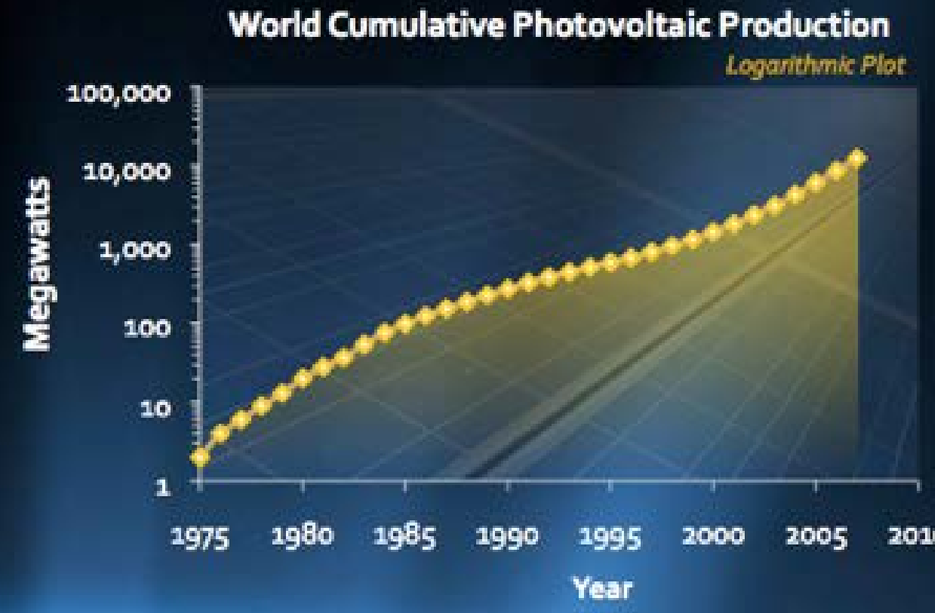
PWR
SYS
DATA
SENSE
I
E
ALPHA
BETA
DELTA
GAMMA
LIBRARY
GEO
MET
BIO
COM TRANSMISSION
ACPT PROG
INTRSHP TRICRDR
EMRG
IMAGE RECORD
FWD INPUT
RVS ERASE
ID
TR-560 TRICORDER
STARFLEET R&D

Solar


World Annual Photovoltaic Production
Linear Plot
Megawatts
5,000
4,000
3,000
2,000
1,000
0
1975 1980 1985 1990 1995 2000 2005 2010
Year


World Annual Photovoltaic Production
Logarithmic Plot
Megawatts
10,000
1,000
100
10
1
1975 1980 1985 1990 1995 2000 2005 2010
Year

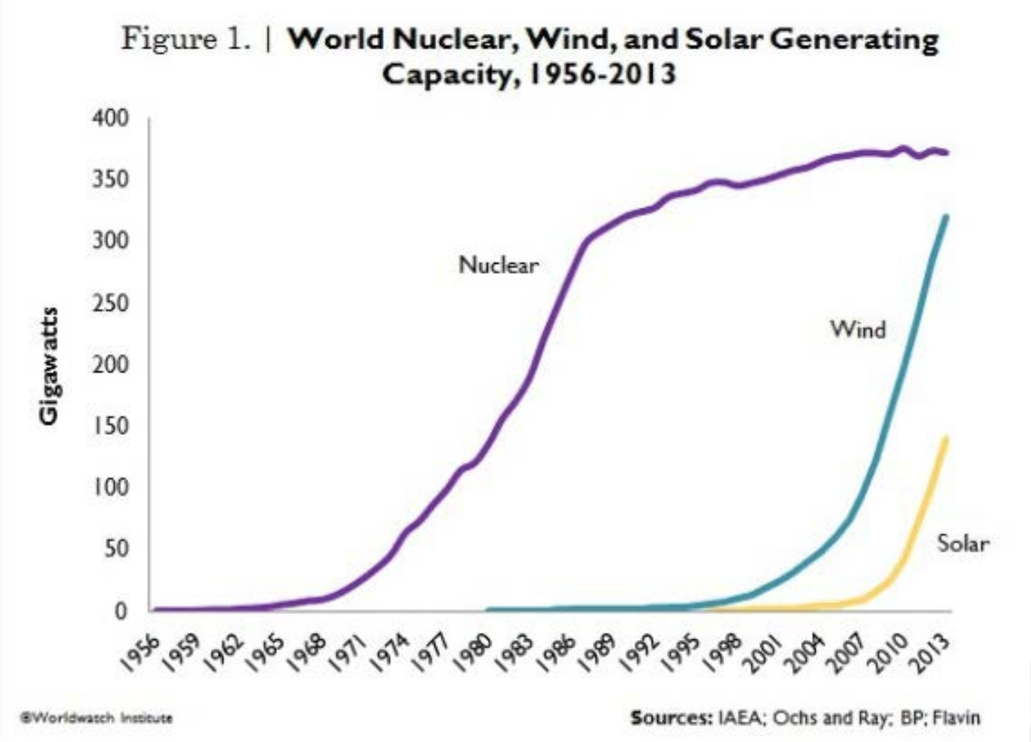

World Cumulative Photovoltaic Production
Linear Plot
Megawatts
15,000
10,000
5,000
0
1975 1980 1985 1990 1995 2000 2005 2010
Year


World Cumulative Photovoltaic Production
Logarithmic Plot
Megawatts
100,000
10,000
1,000
100
10
1
1975 1980 1985 1990 1995 2000 2005 2010
Year

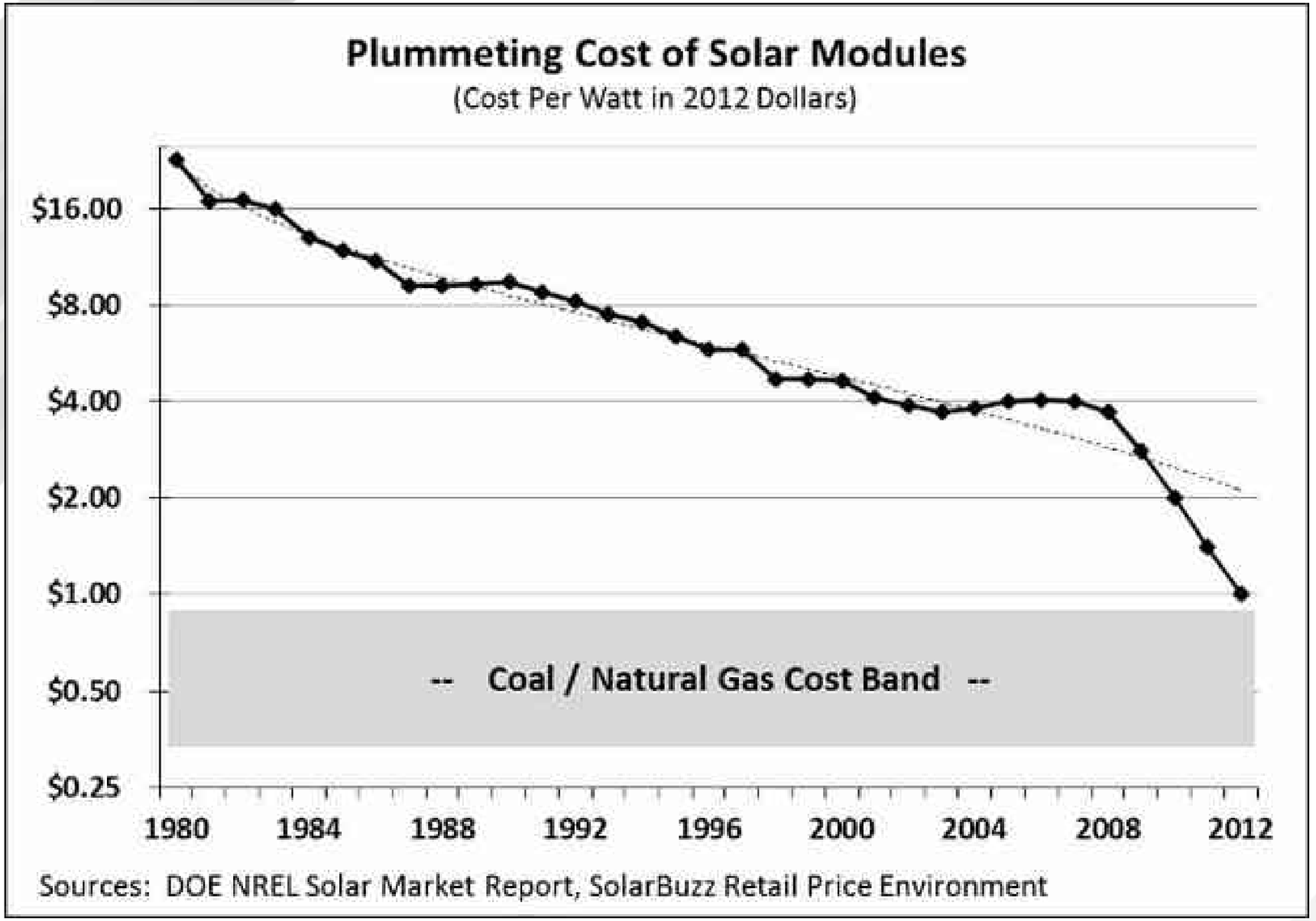
Relative cost of solar…

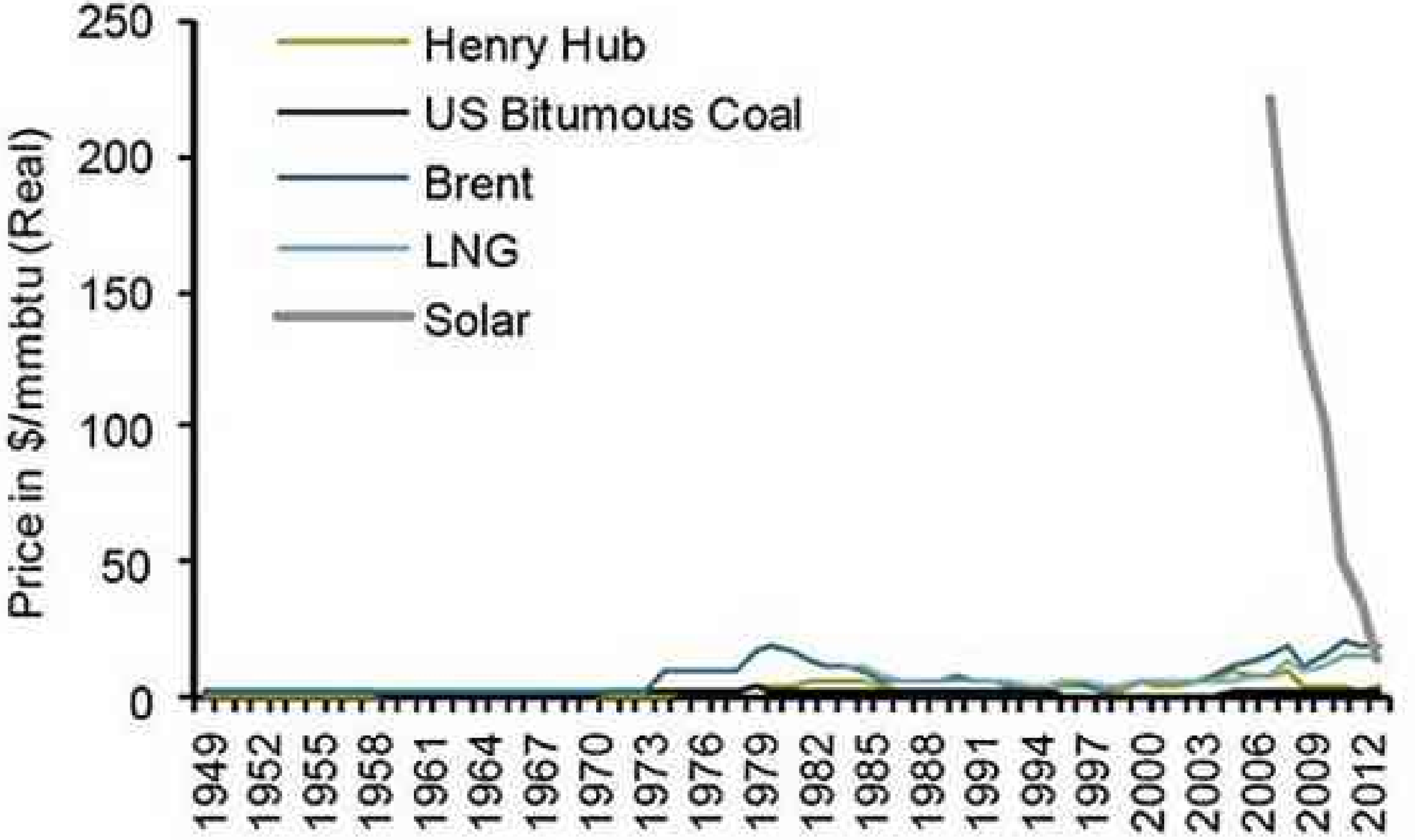
	1970-2013	1970-2020
Petroleum	5355x	16065x
Nuclear	1540x	4620x
Natural Gas	2275x	6825x
Coal	900x	2700x

Source: Tony Seba



2016 == U.S. Grid


Plummeting Cost of Solar Modules
(Cost Per Watt in 2012 Dollars)
$16.00
$8.00
$4.00
$2.00
$1.00
$0.50
$0.25
-- Coal / Natural Gas Cost Band --
1980
1984
1988
1992
1996
2000
2004
2008
2012
Sources: DOE NREL Solar Market Report, SolarBuzz Retail Price Environment


Price in $/mmbtu (Real)
250
200
150
100
50
0
Henry Hub
US Bitumous Coal
Brent
LNG
Solar
1949
1952
1955
1958
1961
1964
1967
1970
1973
1976
1979
1982
1985
1988
1991
1994
1997
2000
2003
2006
2009
2012

Information Layers

Digitize

Disrupt

Demonetize

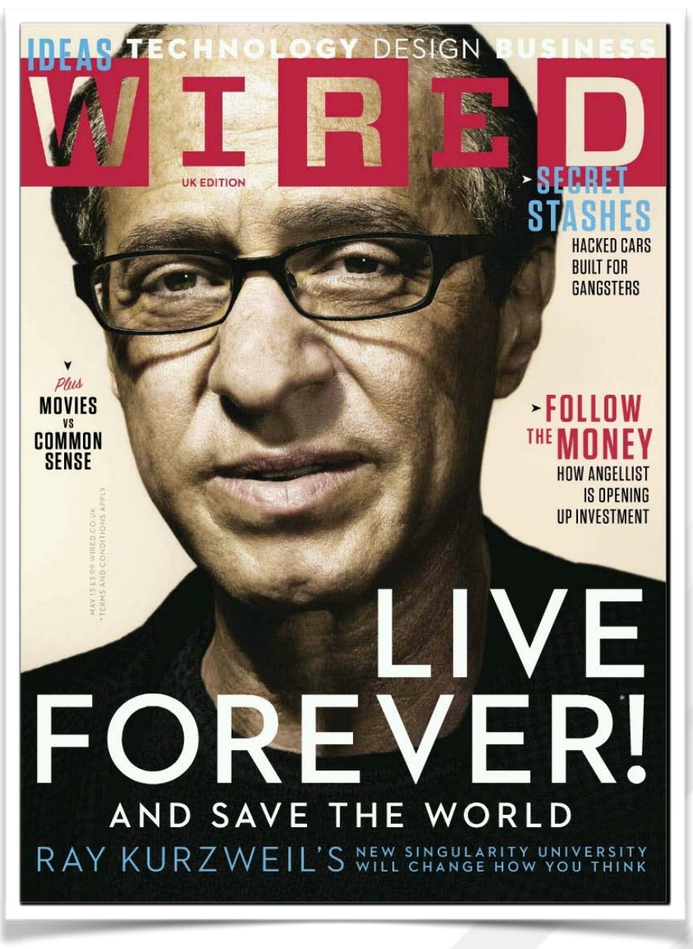
Democratize

New
Breakthroughs

Recent News

The Economist
Europe loses the mobile-phone war
Africa's new wealth
Japan's tea party
How to switch off the internet
The shoe-thrower's index
Print me a Stradivarius
The manufacturing technology that will change the world
This violin was made using an EOS laser-sintering 3D printer (and it plays beautifully)

The New York Times Magazine
WHO IS Watson?*
$5,300
$6,500
$13,400
ROBERT
erica
WATSON

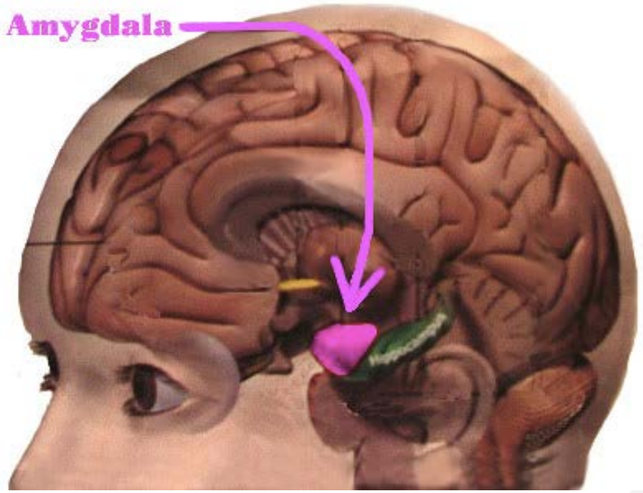

IDEAS TECHNOLOGY DESIGN BUSINESS
WIRED
UK EDITION
SECRET STASHES
HACKED CARS BUILT FOR GANGSTERS
Plus
MOVIES VS COMMON SENSE
FOLLOW THE MONEY
HOW ANGELLIST IS OPENING UP INVESTMENT
LIVE FOREVER!
AND SAVE THE WORLD
RAY KURZWEIL'S NEW SINGULARITY UNIVERSITY WILL CHANGE HOW YOU THINK

Society is not ready..

LIFE
Local & linear

LIFE
Exponential & global

Amygdyla & Technology



1. Anything that is in the world when you're born is normal and ordinary and is just a natural part of the way the world works.

2. Anything that's invented between when you're fifteen and thirty-five is new and exciting and revolutionary and you can probably get a career in it.

3. Anything invented after you're thirty-five is against the natural order of things.

Douglas Adams

Luddite Reaction

florida | Miami Herald

In Florida, officials ban term 'climate change'

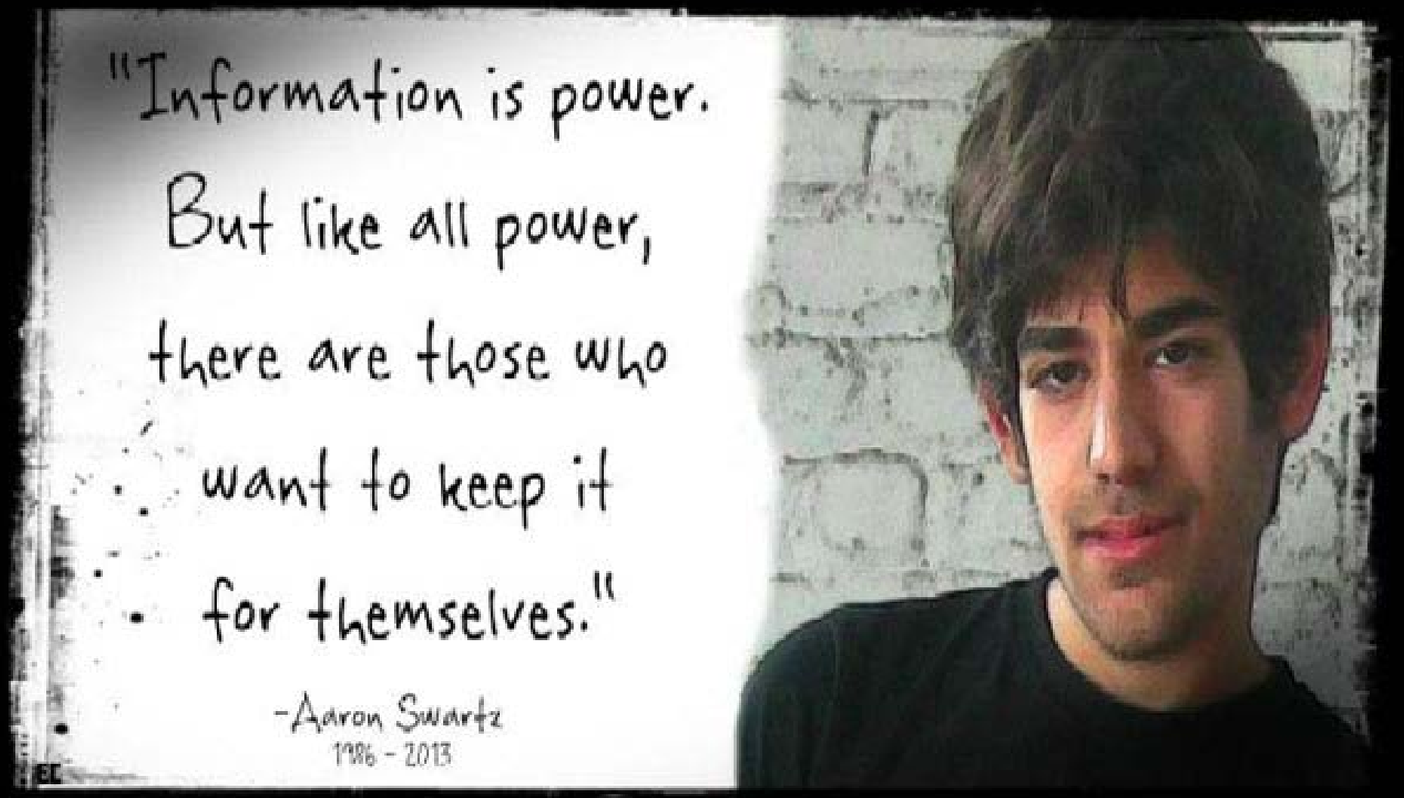
BY TRISTRAM KORTEN - FLORIDA CENTER FOR INVESTIGATIVE REPORTING

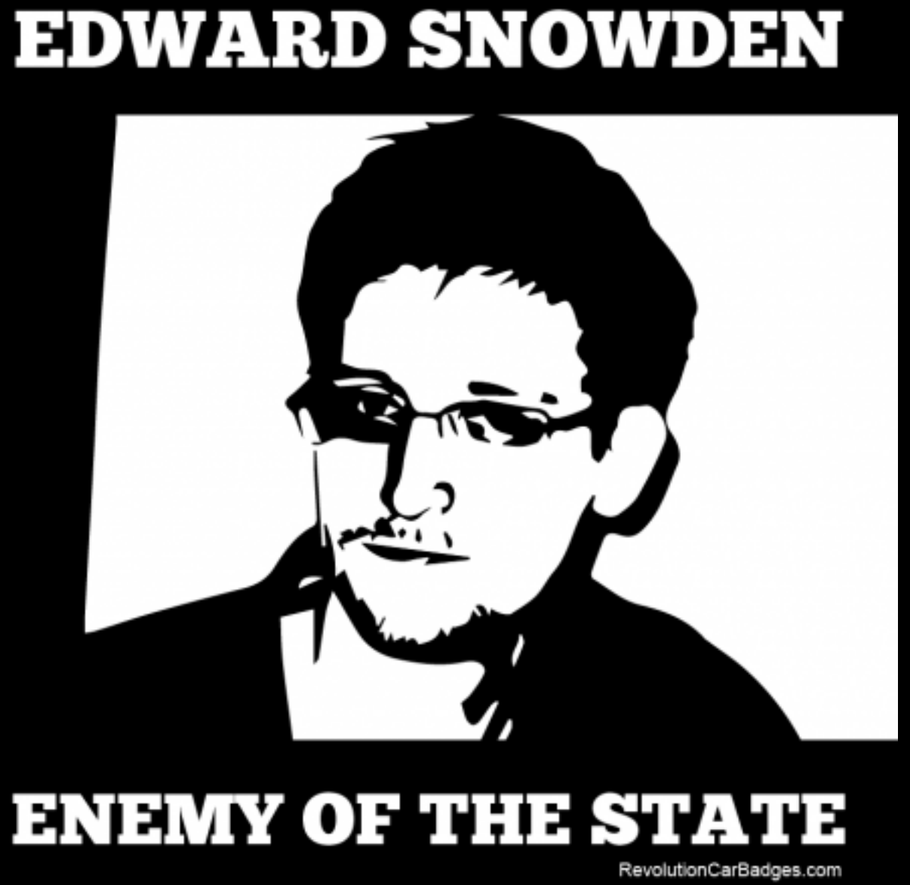
03/08/2015 4:00 AM | Updated: 03/08/2015 5:53 PM

“Social media is a menace to society”

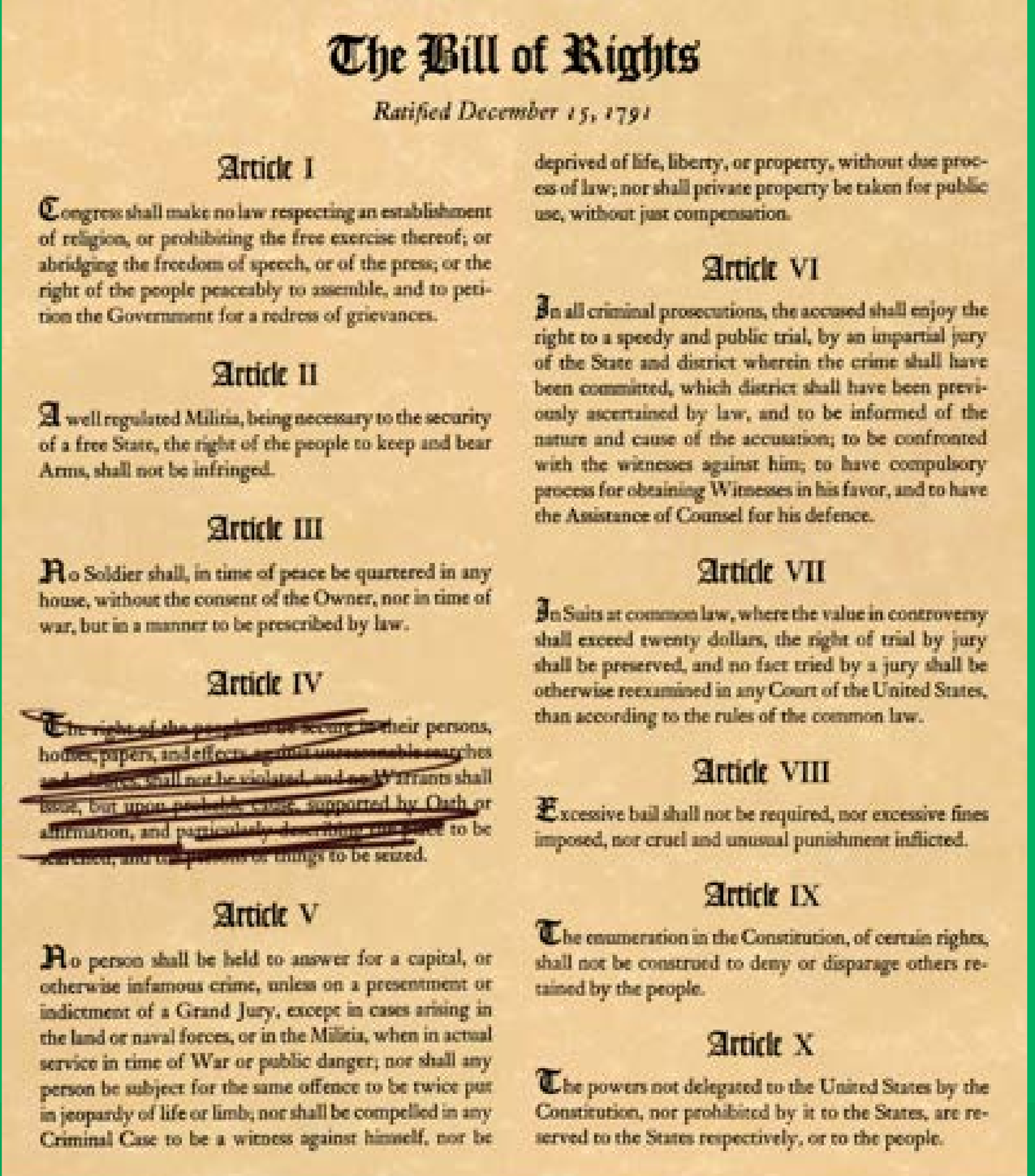
Erdogan
Turkey Prime Minister - National Post

Google Confidential and Proprietary





Google Confidential and Proprietary



The Bill of Rights

Ratified December 15, 1791

Article I

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

Article II

A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.

Article III

No Soldier shall, in time of peace be quartered in any house, without the consent of the Owner, nor in time of war, but in a manner to be prescribed by law.

Article IV

~~The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.~~

Article V

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any Criminal Case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

Article VI

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining Witnesses in his favor, and to have the Assistance of Counsel for his defence.

Article VII

In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury shall be otherwise reexamined in any Court of the United States, than according to the rules of the common law.

Article VIII

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishment inflicted.

Article IX

The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

Article X

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.

Regulatory Frameworks

// Privacy (cloud)

// Identity

// Anonymity

// Surveillance

- Retrospective
- Prospective

Curriculum Planning Meetings

Science.Mic

A Team of Biohackers Has Figured Out How to Inject Your Eyeballs With Night Vision

By Max Plenke March 25, 2015

LIKE MIC ON FACEBOOK: Like

Information Layers

New
Breakthroughs

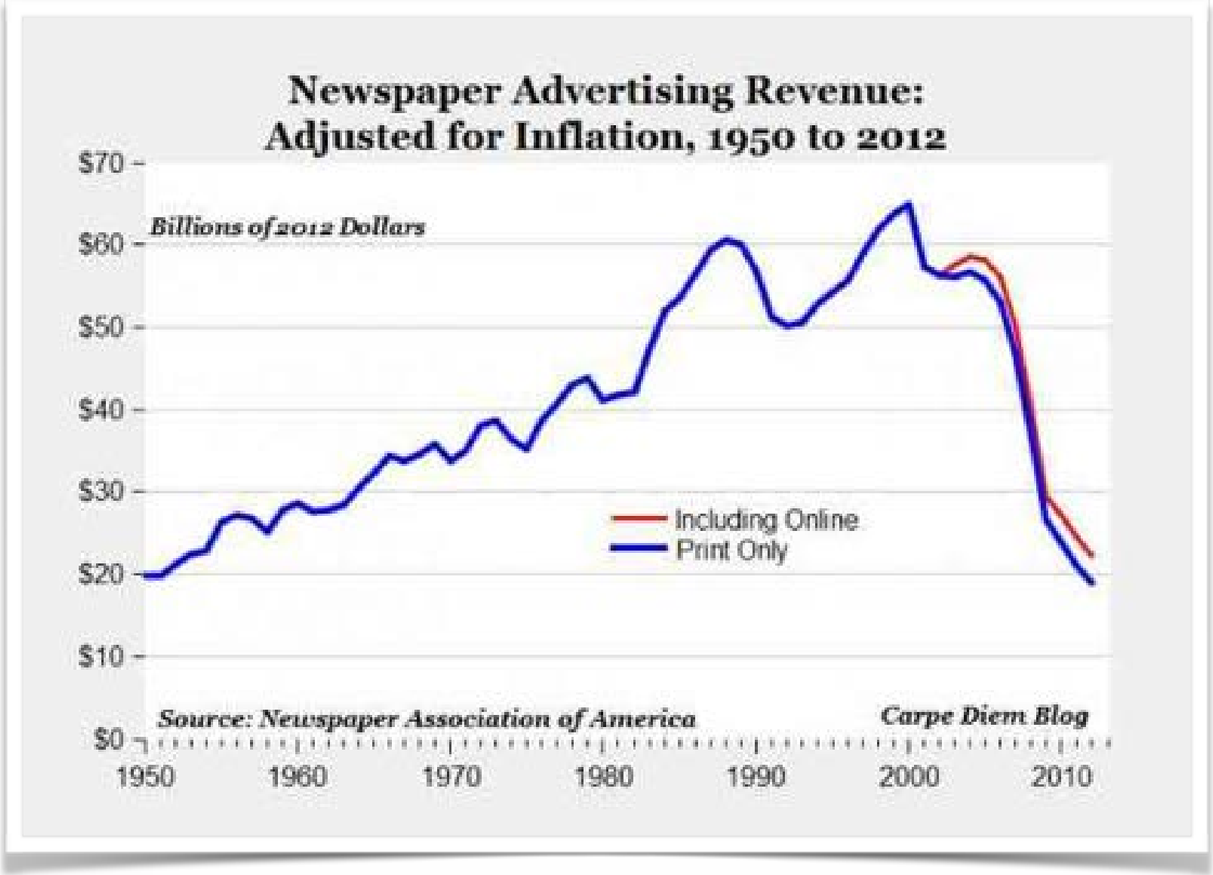
Digitize

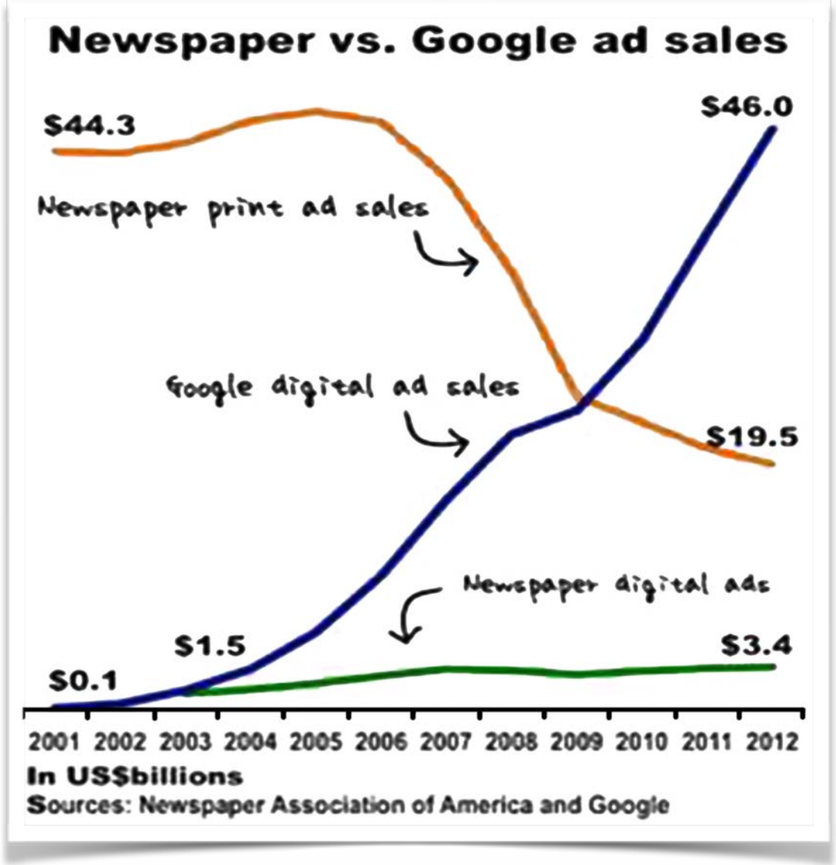
Disrupt

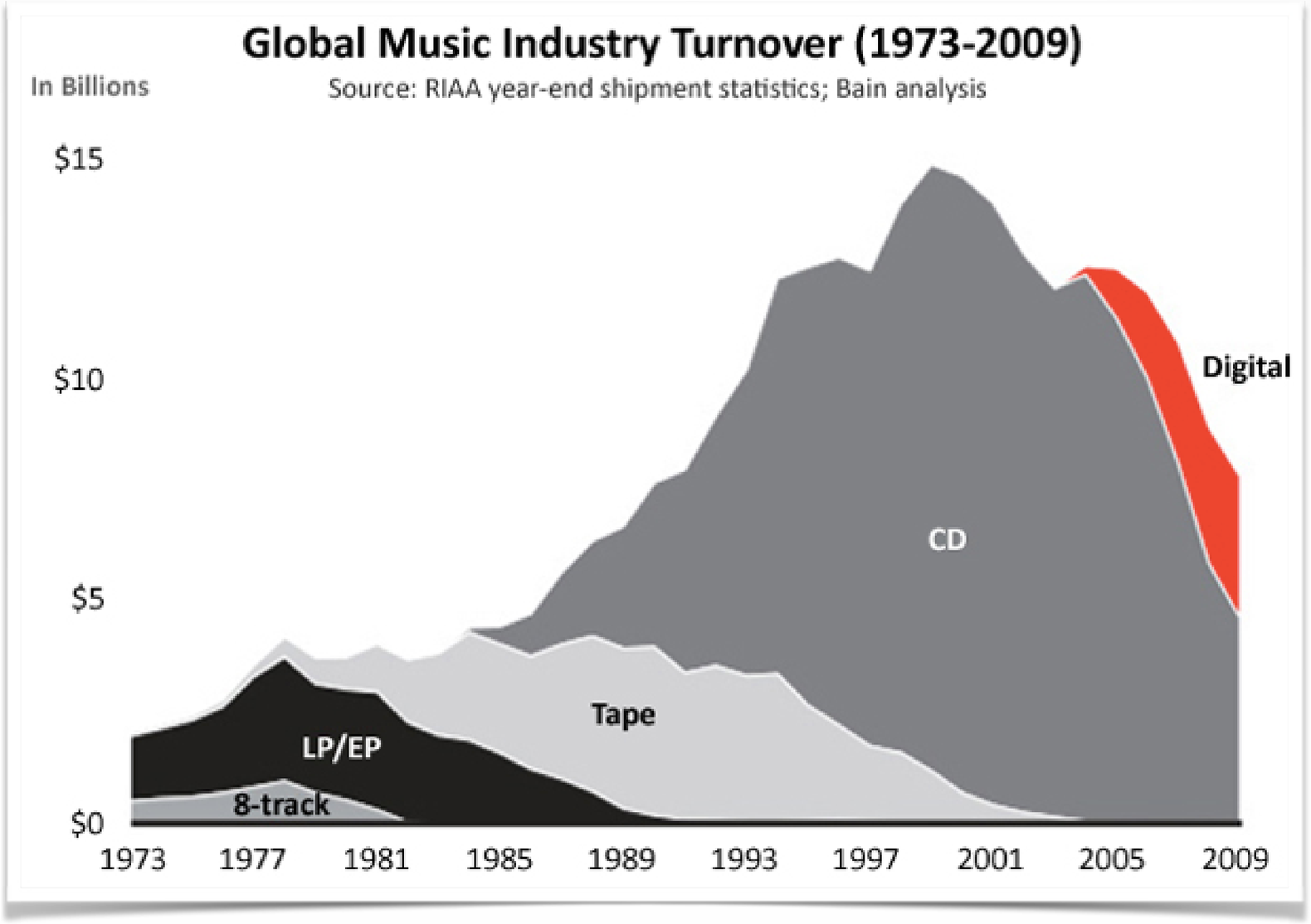
Demonetize

Democratize

Newspapers


Newspaper Advertising Revenue:
Adjusted for Inflation, 1950 to 2012
Billions of 2012 Dollars
$70
$60
$50
$40
$30
$20
$10
$0
Including Online
Print Only
Source: Newspaper Association of America
Carpe Diem Blog
1950
1960
1970
1980
1990
2000
2010


Newspaper vs. Google ad sales
$44.3
$46.0
Newspaper print ad sales
Google digital ad sales
$19.5
Newspaper digital ads
$1.5
$3.4
$0.1
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
In US$billions
Sources: Newspaper Association of America and Google

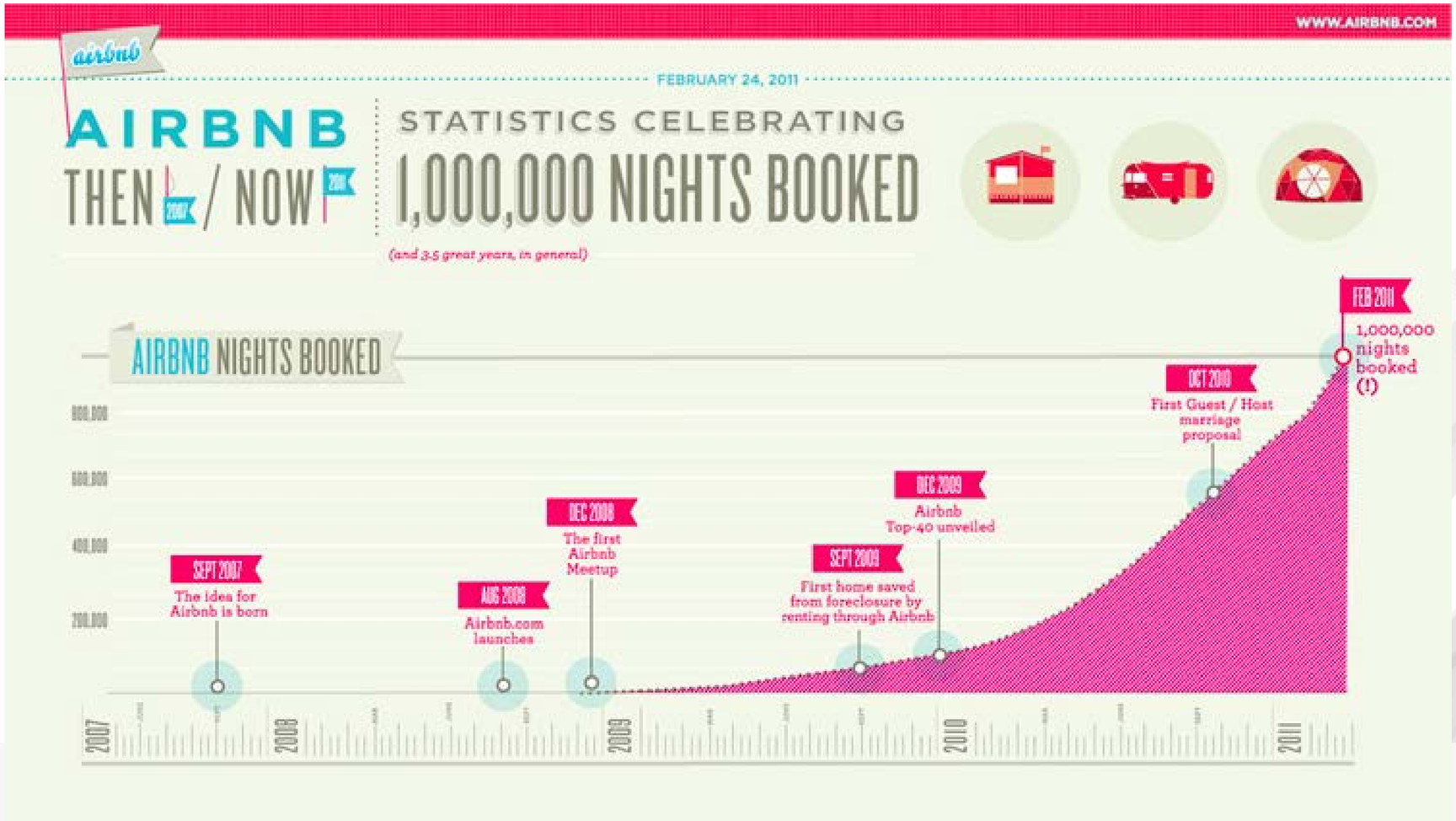

Global Music Industry Turnover (1973-2009)
In Billions
Source: RIAA year-end shipment statistics; Bain analysis
$15
$10
$5
$0
1973
1977
1981
1985
1989
1993
1997
2001
2005
2009
Digital
CD
Tape
LP/EP
8-track

Collaborative Consumption

dilawar

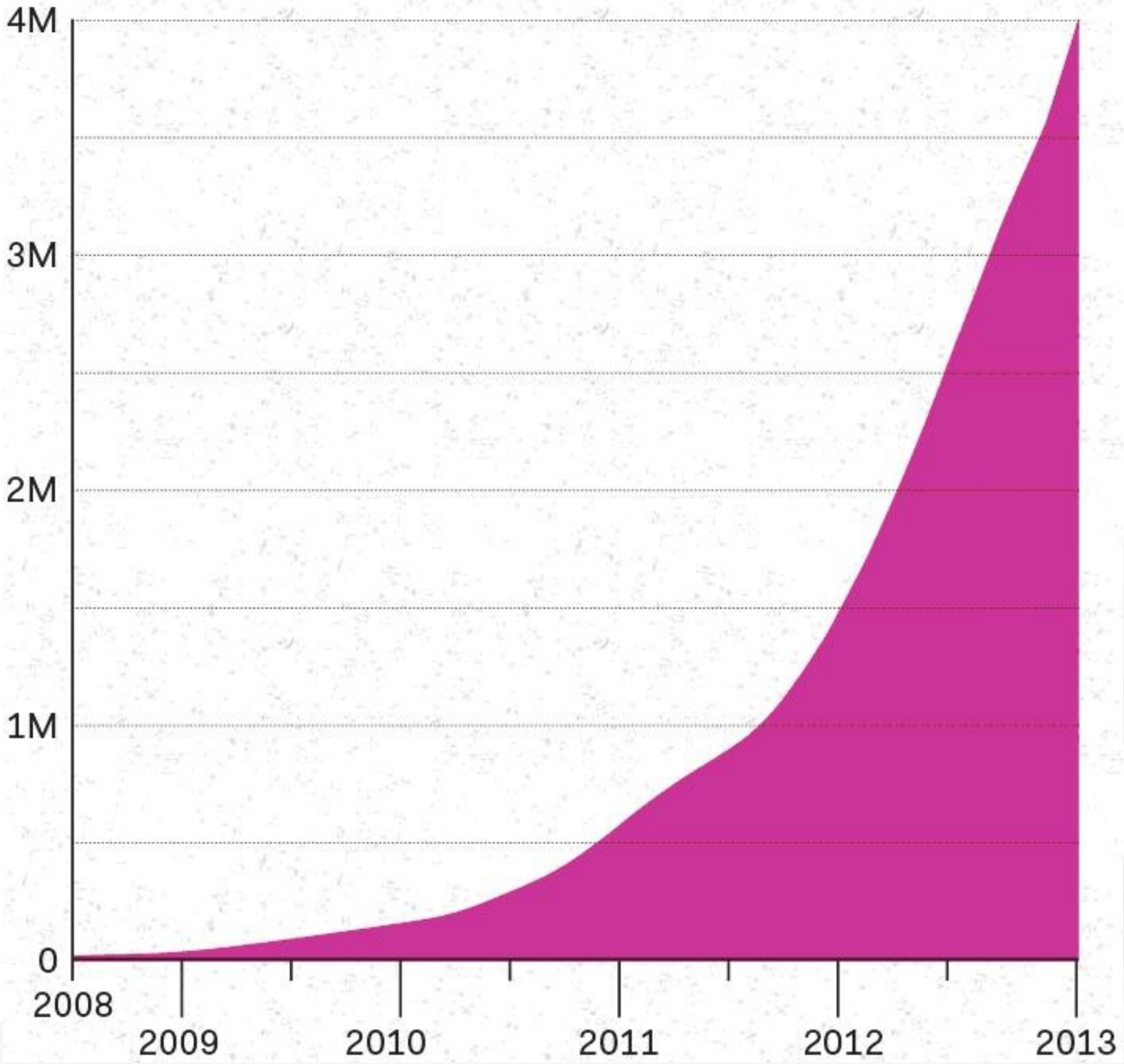
Disruption. rt @dkberman: Peter Thiel to invest in #Airbnb, valuing at $2.5B or 40% of all of Hyatt Hotels. http://on.wsj.com/R8zZv0

10/19/12 11:43 AM



Airbnb
Room nights

Recently, 500k rooms occupied in one night

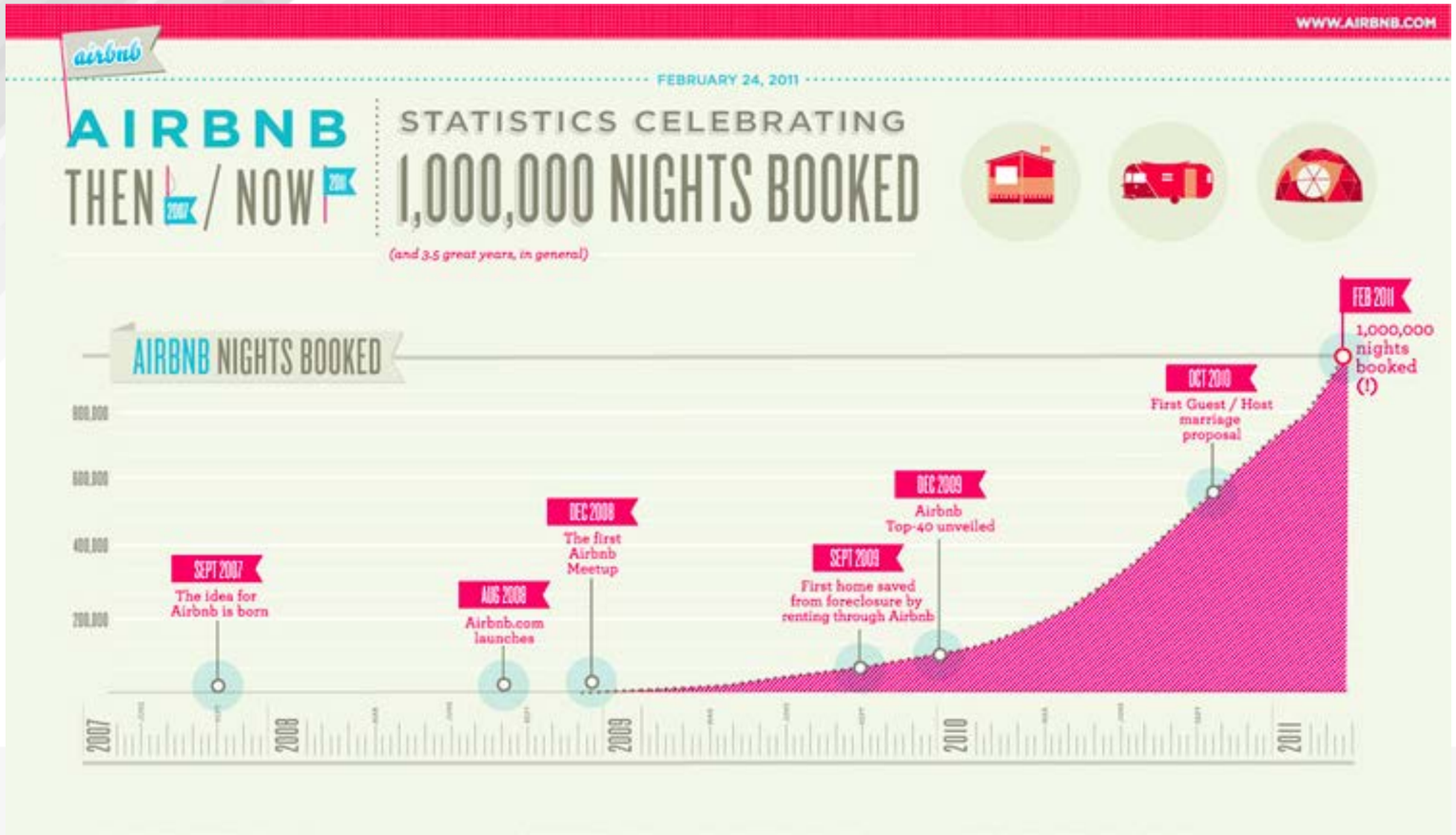


Collaborative Consumption

dilawar

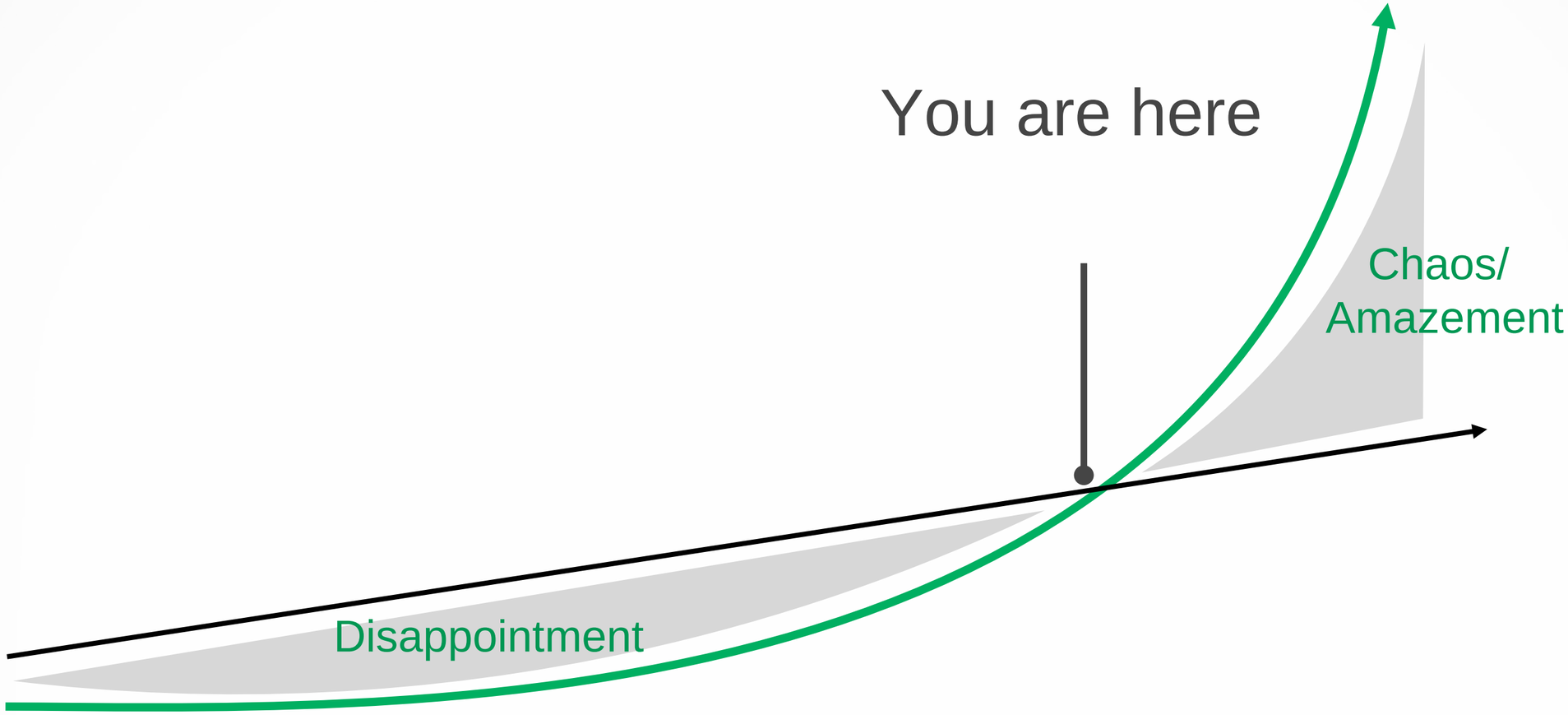
Disruption. rt @dkberman: Peter Thiel to invest in #Airbnb, valuing at $2.5B or 40% of all of Hyatt Hotels. http://on.wsj.com/R8zZv0

10/19/12 11:43 AM

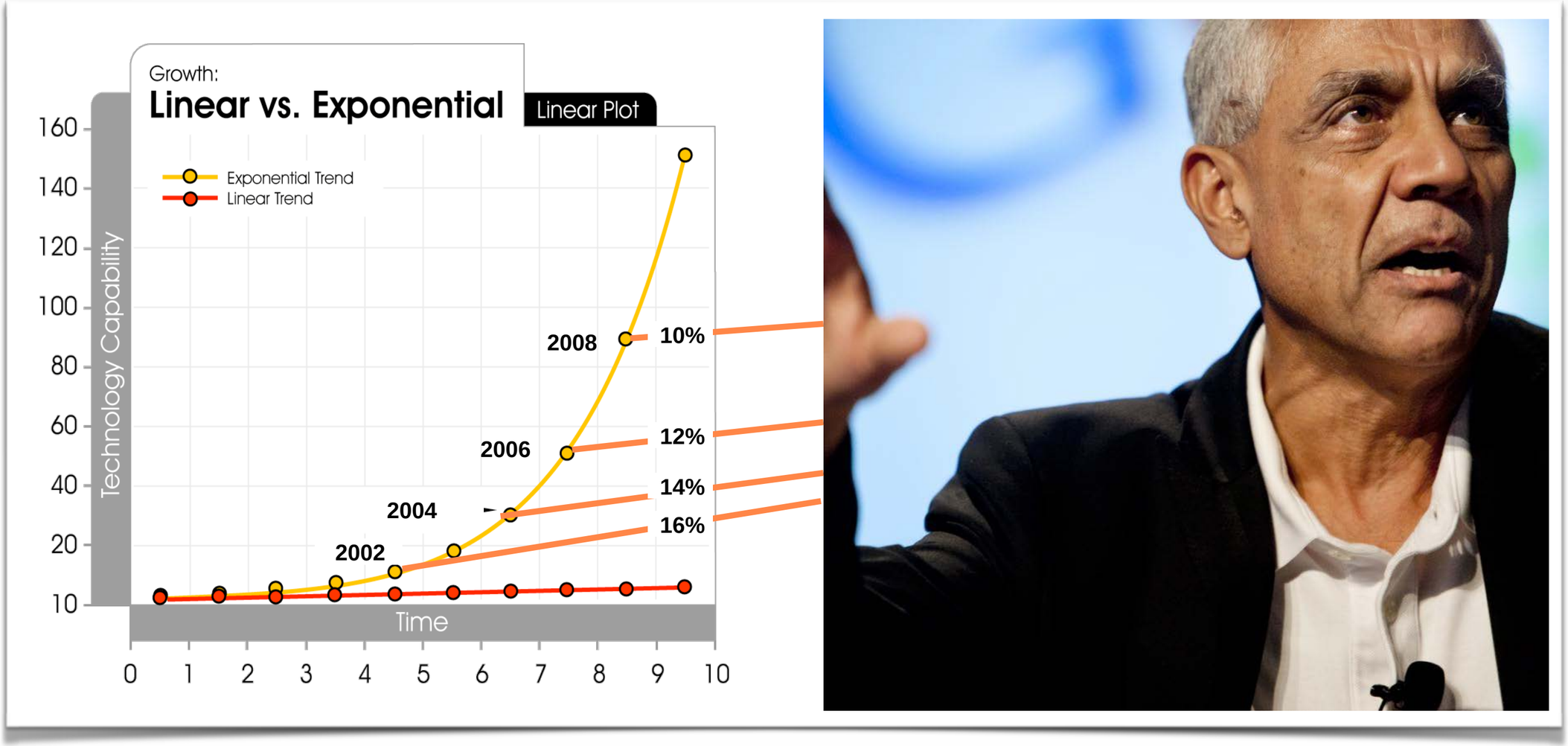


- Bartering
- Bike sharing
- Boats
- Book swapping
- Carpool/Ride sharing
- Car sharing
- Clothes swapping
- Collaborative workspace
- Co-housing
- Coworking
- Crowd funding
- Garden sharing
- Fractional ownership
- Peer-to-peer lending

Deception of linear vs exponential



Vinod Khosla // The rise of mobile phones



Information Layers

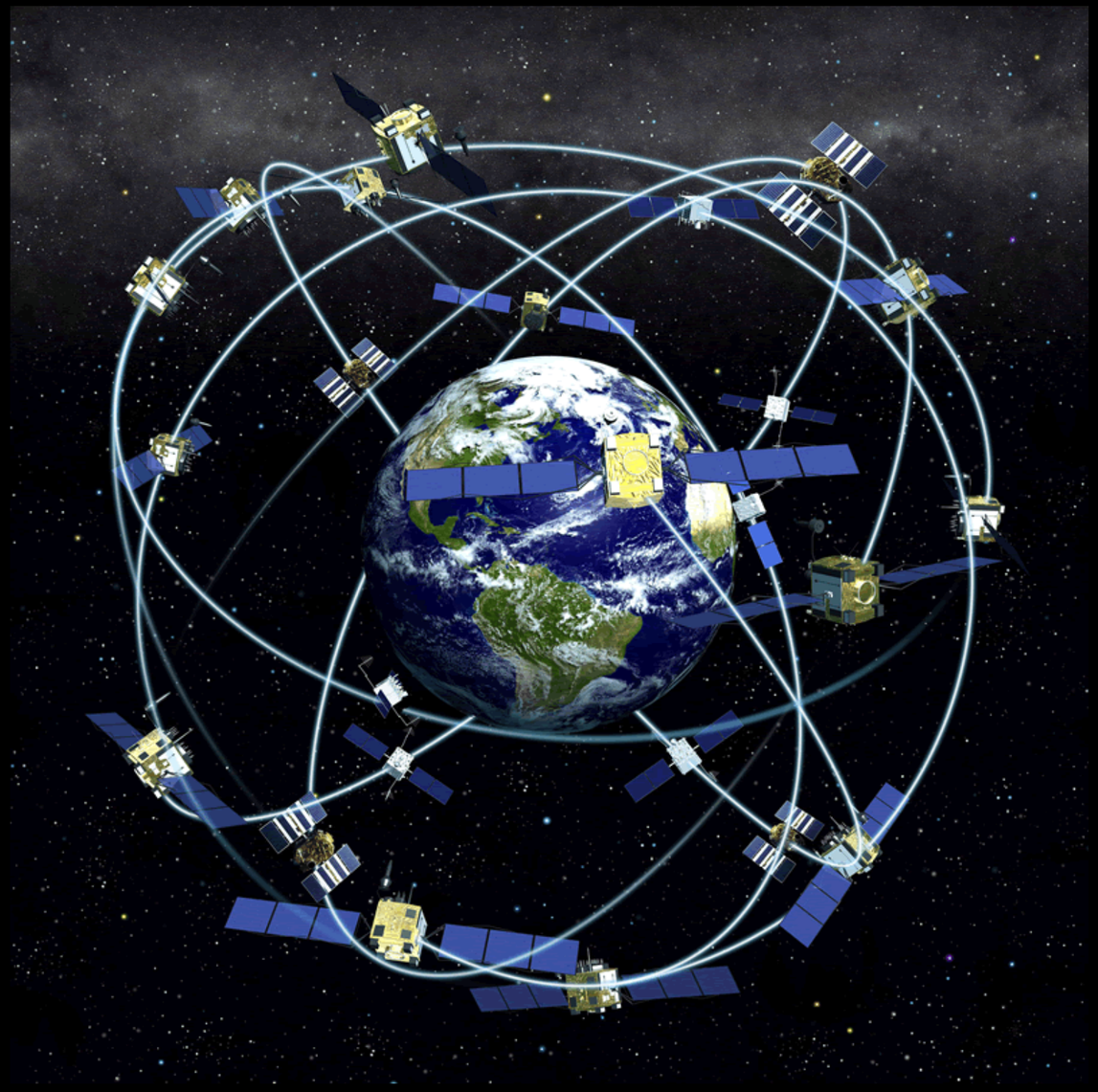
Digitize

Disrupt

Demonetize

Democratize

New
Breakthroughs



Emiliano, known to his friends as "EK", has a formal background in Number Theory and Philosophy but is better known for his groundbreaking work within the electronic security industry.

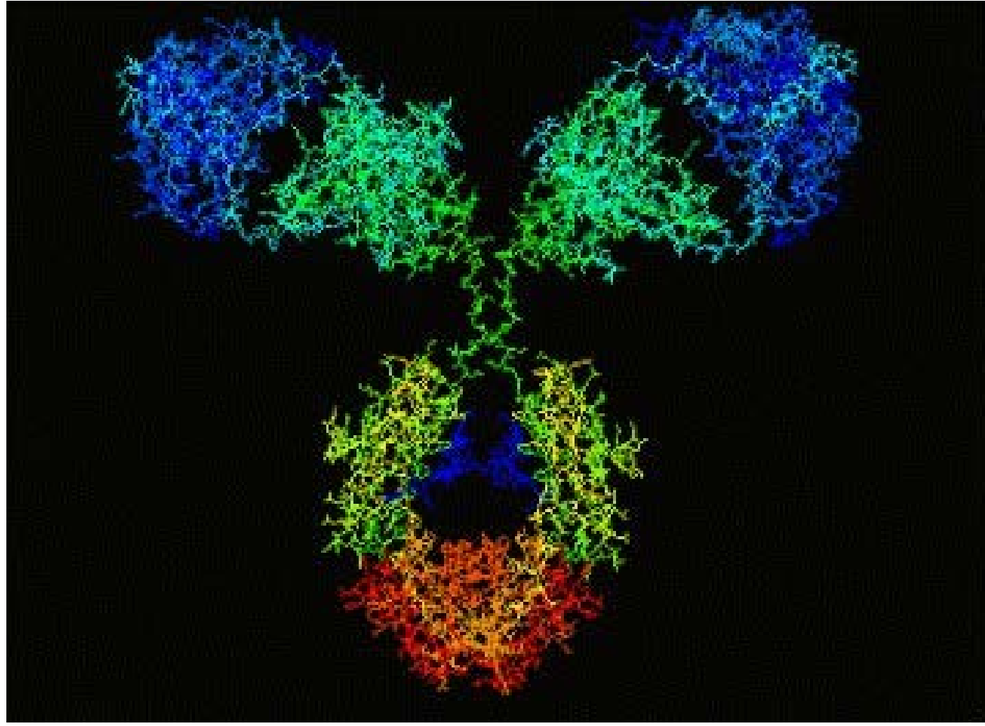
As a founder of Core Security Technologies, EK developed the first automated penetration testing software, earning the loyalty of clients such as Apple, Cisco, Homeland Security, NSA, NASA, Lockheed Martin, and DARPA.

EK's recent work as the Managing Director of Aconcagua Ventures has focused on increasing entrepreneurship, funding and innovation in South America.

CubeBug-2 (Manolito) and **Emiliano Kargieman** favorited 3h

Congrats!!!! #SingularityU alumn launches his second nanosatellite.. RT @earlkman: Manolito, aka @Cubebug2 is in orbit.

Quotient technology platform:
standing on the shoulders of giants



Historic event in human-antibody therapy:

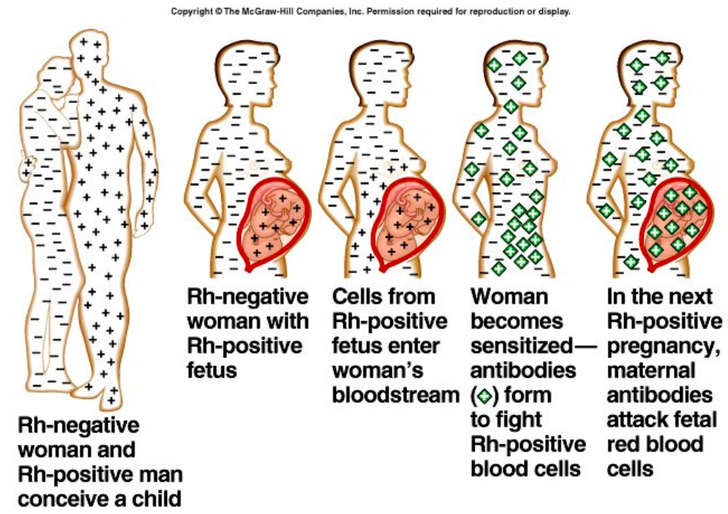
Dr. William Pollack – eminent immunologist, foremost authority on human antibodies

Inventor of RhoGam® – one of the most successful women's health products ever produced

Tens of millions of babies saved

Eradicated RH disease

Further invented first vaccine against Hepatitis B – human antibody based



Bitcoin

Network

Bitcoin Network

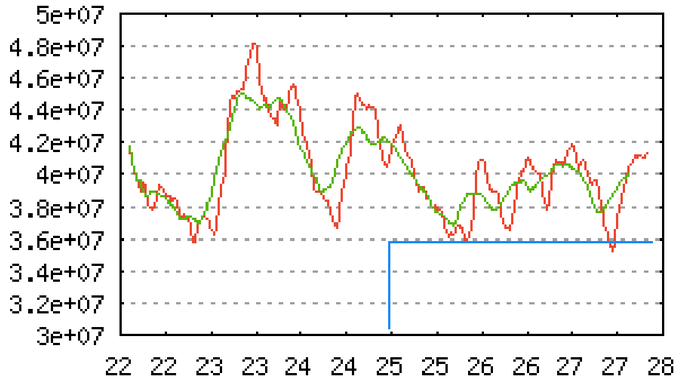
Economy

Total BTC	12,569,550 BTC
Market Cap based on latest prices	6,511,026,900 USD or 5,027,945,696 EUR or 20,526,075,150 PLN or 4,173,090,600 GBP
Transactions last 24h	70,980
Transactions avg. per hour	2957.50
Bitcoins sent last 24h	780,489.04 BTC
Bitcoins sent avg. per hour	32,520.38 BTC

Blocks

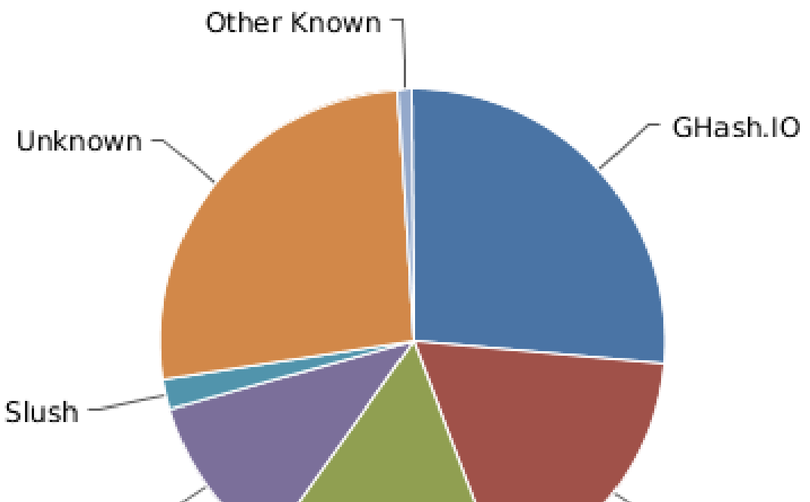
Count	292,781
Blocks last 24h	163
Blocks avg. per hour	6.79
Difficulty	5,006,860,589
Next Difficulty in 1555 blocks	5,246,869,694
Network Hashrate Terahashs/s	37558.56
Network Hashrate PetaFLOPS	476993.66

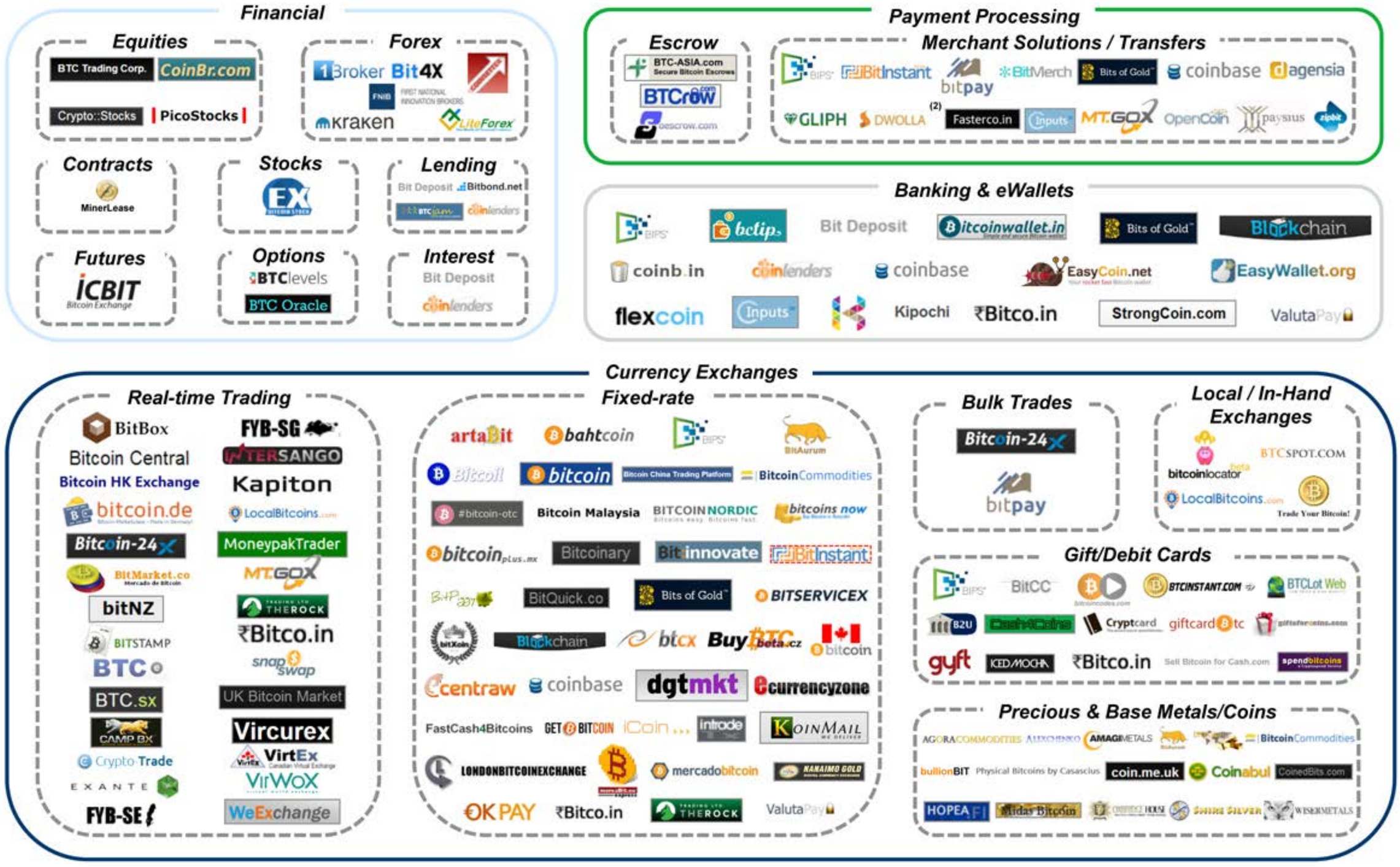
Network Hashrate



Source: http://bitcoin.sipa.be/

Hashrate Distribution

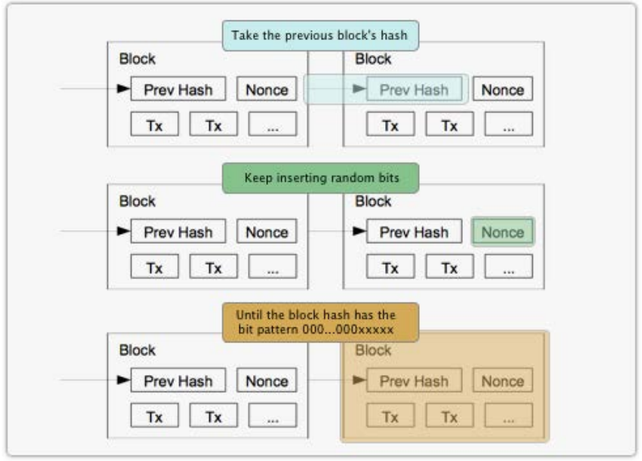


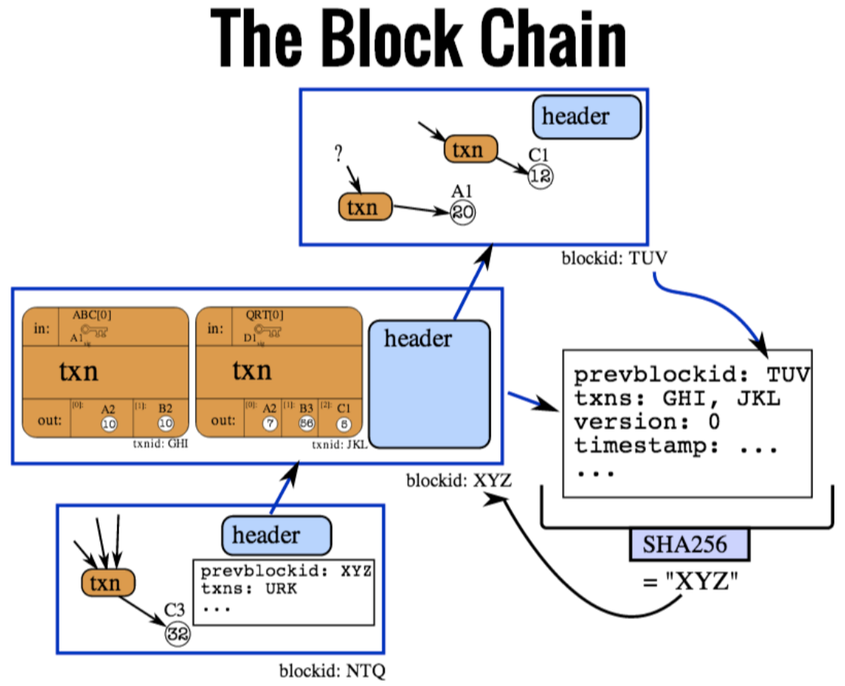

Financial
Equities
BTC Trading Corp.
CoinBr.com
Crypto::Stocks
PicoStocks
Forex
1Broker
Bit4X
FNIB
FIRST NATIONAL INNOVATION BROKERS
kraken
LiteForex
Contracts
MinerLease
Stocks
FX
Lending
Bit Deposit
Bitbond.net
BTCjam
cointenders
Futures
ICBIT
Bitcoin Exchange
Options
BTClevels
BTC Oracle
Interest
Bit Deposit
cointenders
Payment Processing
Escrow
BTC-ASIA.com
Secure Bitcoin Escrows
BTCroW
escrow.com
Merchant Solutions / Transfers
BIPS
BitInstant
bitpay
BitMerch
Bits of Gold
coinbase
dagensia
GLIPH
DWOLLA
(2)
Fasterco.in
Inputs
MT.GOX
OpenCoin
paysius
zipbit
Banking & eWallets
BIPS
bclip
Bit Deposit
itcoinwallet.in
Bits of Gold
Blockchain
coinb.in
cointenders
coinbase
EasyCoin.net
EasyWallet.org
flexcoin
Inputs
Kipochi
₹Bitco.in
StrongCoin.com
ValutaPay
Currency Exchanges
Real-time Trading
BitBox
Bitcoin Central
Bitcoin HK Exchange
bitcoin.de
Bitcoin-24
BitMarket.co
bitNZ
BITSTAMP
BTC
BTC.sx
CAMP BX
Crypto-Trade
EXANTE
FYB-SE
FYB-SG
INTERSANGO
Kapiton
LocalBitcoins.com
MoneypakTrader
MT.GOX
THEROCK
₹Bitco.in
snapswap
UK Bitcoin Market
Vircurex
VirtEx
VirWoX
WeExchange
Fixed-rate
artaBit
bahtcoin
BIPS
BitAurum
Bitcoil
bitcoin
Bitcoin China Trading Platform
BitcoinCommodities
#bitcoin-otc
Bitcoin Malaysia
BITCOINNORDIC
bitcoins now
bitcoin plus.mx
Bitcoinary
Bitinnovate
BitInstant
BitQuick.co
Bits of Gold
BITSERVICEX
bitXoin
Blockchain
btcx
BuyBTC beta.cz
bitcoin
centraw
coinbase
dgtmkt
currencyzone
FastCash4Bitcoins
GETBITCOIN
iCoin
introde
KOINMAIL
LONDONBITCOINEXCHANGE
mercadobitcoin
NANAIMO GOLD
OKPAY
₹Bitco.in
THEROCK
ValutaPay
Bulk Trades
Bitcoin-24
bitpay
Local / In-Hand Exchanges
BTCSPOT.COM
bitcoinlocator
LocalBitcoins.com
Trade Your Bitcoin!
Gift/Debit Cards
BIPS
BitCC
BTCINSTANT.COM
BTCLot Web
B2U
Cash4Coins
Cryptcard
giftcardbtc
gyft
KEEMOCHA
₹Bitco.in
Sell Bitcoin for Cash.com
spendbitcoins
Precious & Base Metals/Coins
AGORACOMMODITIES
AMAGIMETALS
BitcoinCommodities
bullionBIT
Physical Bitcoins by Casascius
coin.me.uk
Coinabul
CoinedBits.com
HOPEFI
Midas Bitcoin
SWISS SILVER
WISEMETALS

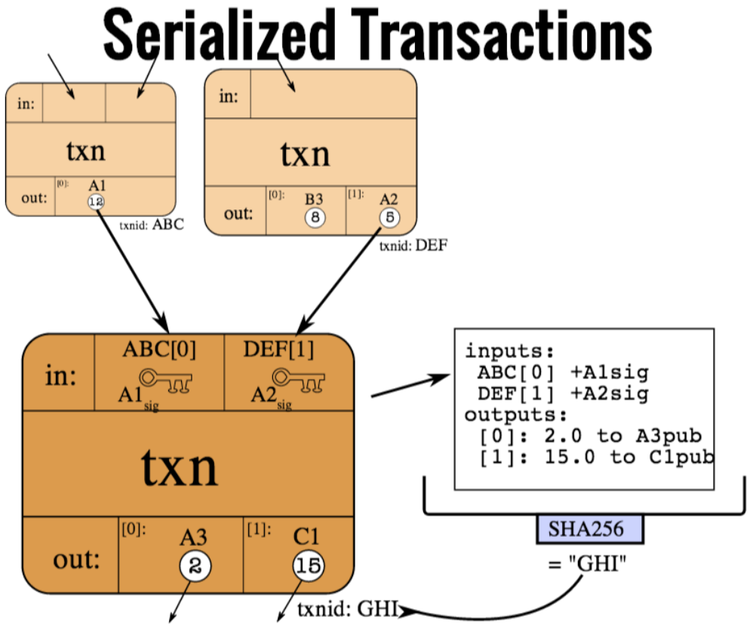
Bitcoin as currency

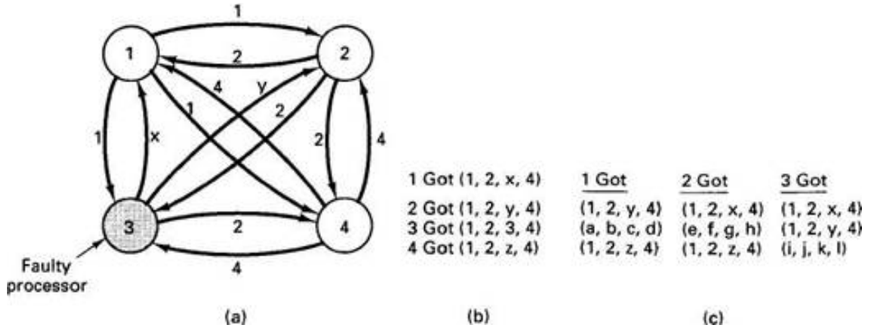
- Scarce ✓
- Divisible ✓
- Transportable ✓
- Recognizable ✓
- Fungible ✓
- Durable ✓

The Bitcoin Block Chain









http://bitly.com/bitcoinsalim2

Bitcoin Protocol - other uses

International payments

Contracts

Transaction logs

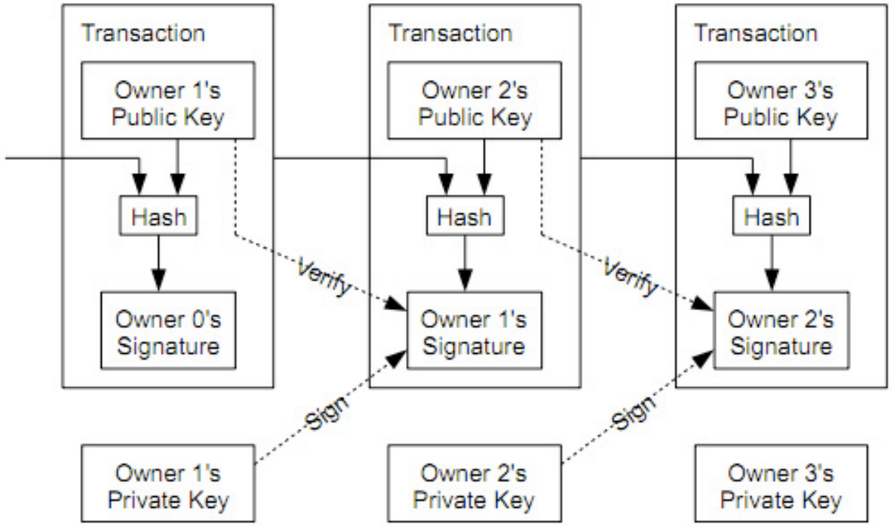
Voting systems

Micro-transactions

Registries

Multi-signatory contracts (joint savings, forex, trust funds)

DACs (Distributed Autonomous Corporations - Ethereum



Open Everything

Domain is Digitized

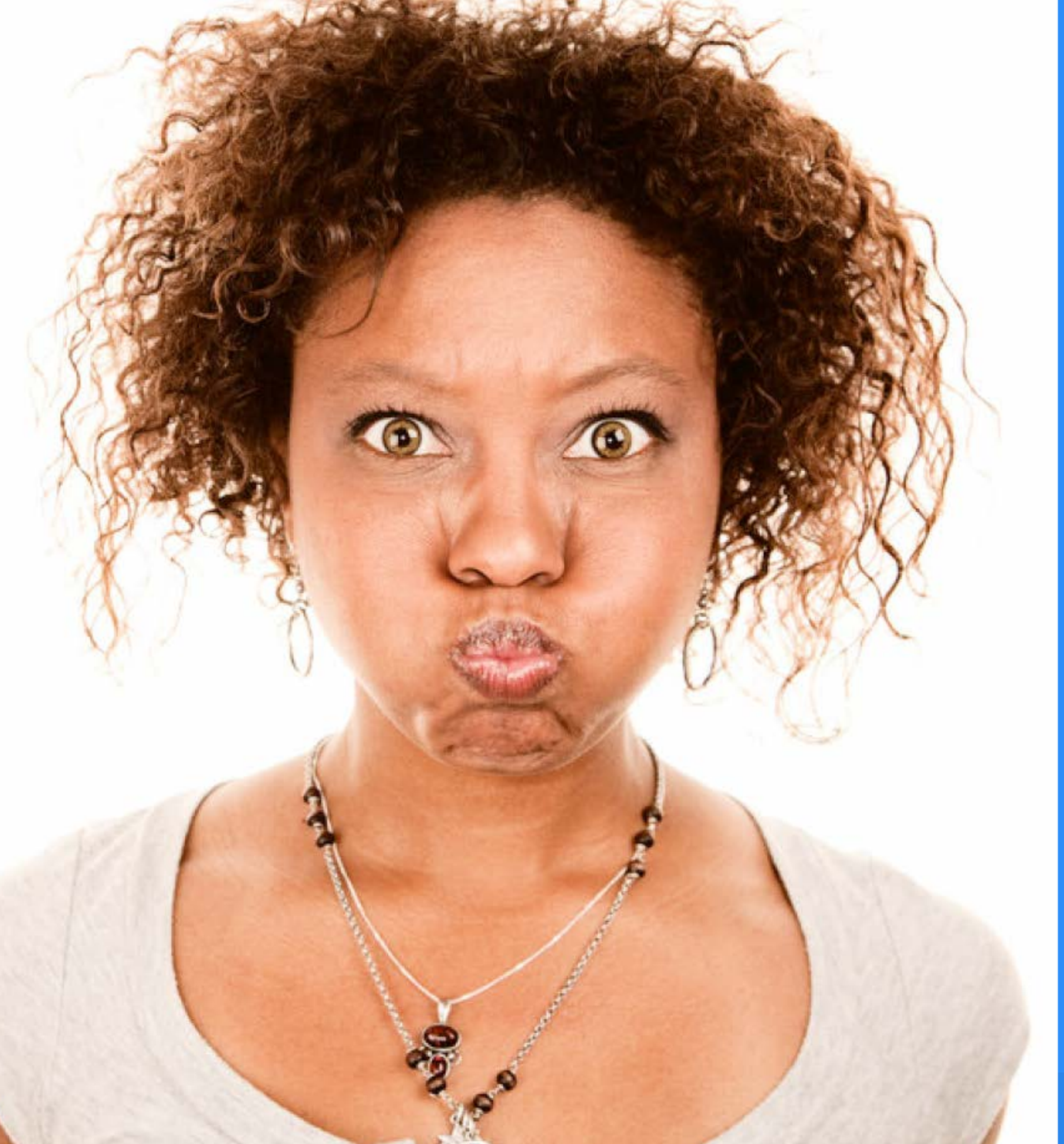
Costs Drop to Zero

Open Source Communities Form

Technologies Converge

New Products & Services

Existing Businesses Disrupted



What's Next?

Information Layers

Digitize

Disrupt

Demonetize

Democratize

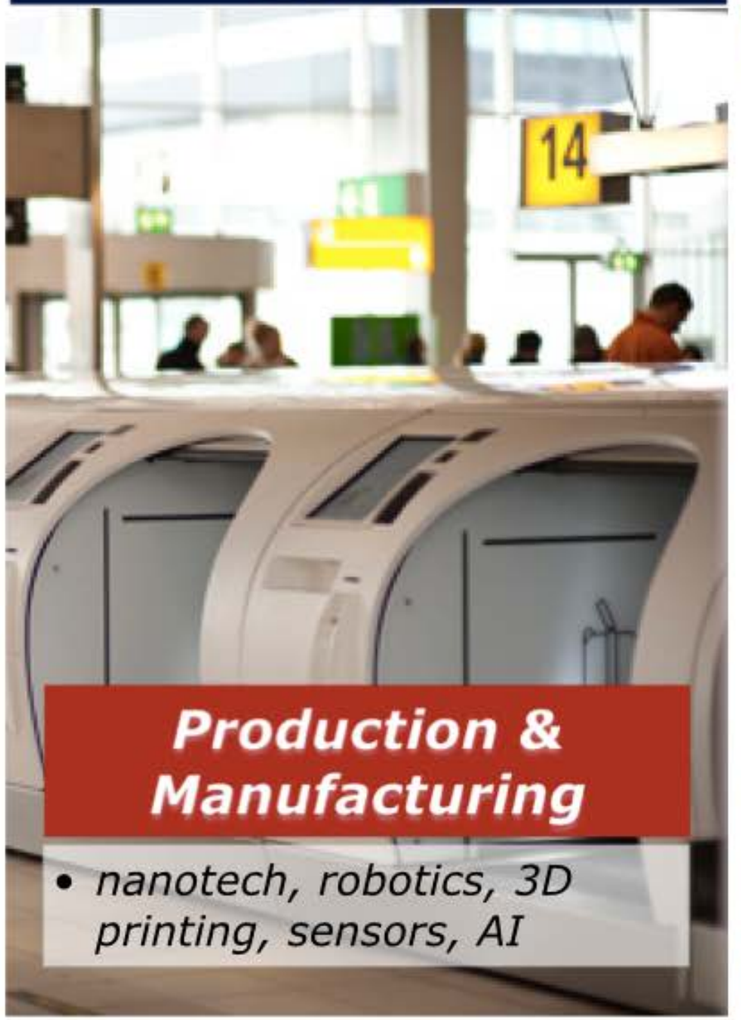
New
Breakthroughs

Past

Marketing, sales & service

- *social, mobile & online for front-end functions*

Present



Production & Manufacturing

- *nanotech, robotics, 3D printing, sensors, AI*

Future

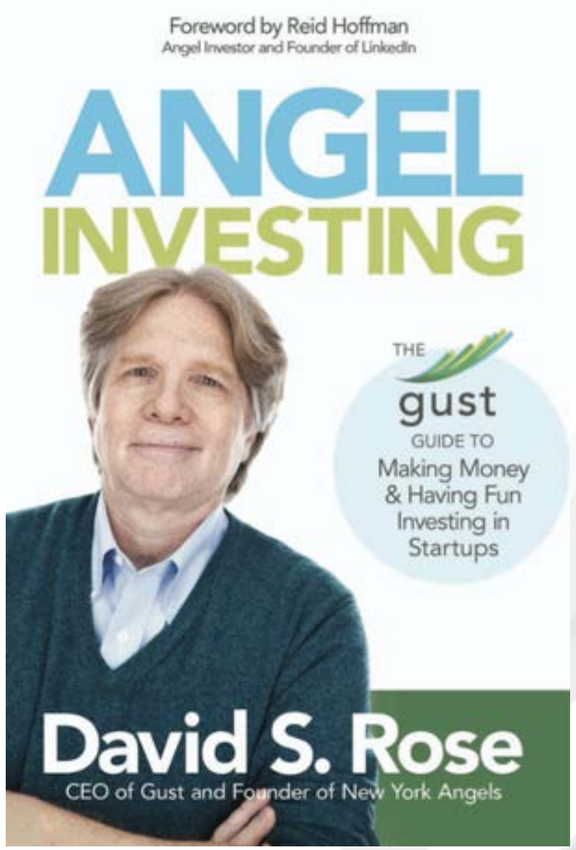
Innovation

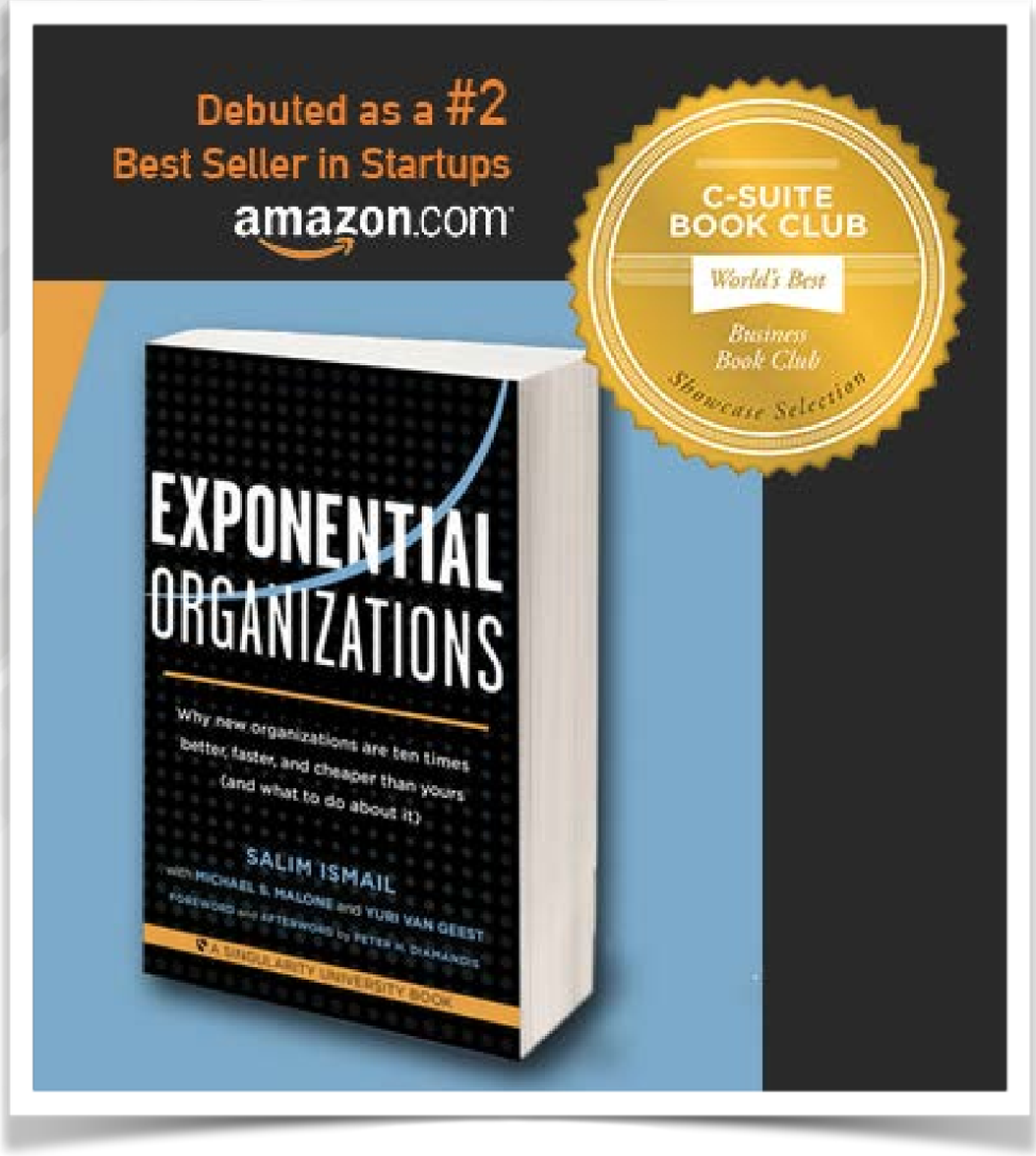
- *Crowdsourcing (leveraging the crowd), DIY*, P2P**, Crowd companies, AI*

source: Yuri van Geest

David Rose - Gust

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





Frost & Sullivan
2014 GIL Book of the Year

www.exponentialorgs.com

ExOs.. 10x better performance

Airbnb Hotels	90x more listings per employee
GitHub Software	109x more repositories per employee
Local Motors Automotive	1000x cheaper to produce new car model, 5-22x faster process for a car to produce (depending on vehicle)
Quirky Consumer Goods	10x faster product development (29 days vs 300 days)
Google Ventures Investments	2.5x more investments in early stage startups, 10x faster through design process
Valve Gaming	30x more market cap per employee
Tesla Automotive	30x more market cap per employee
Tangerine (formerly ING Direct Canada) Banking	7x more customers per employee, 4x more deposits per customer

Google

airbnb

VALVE

waze

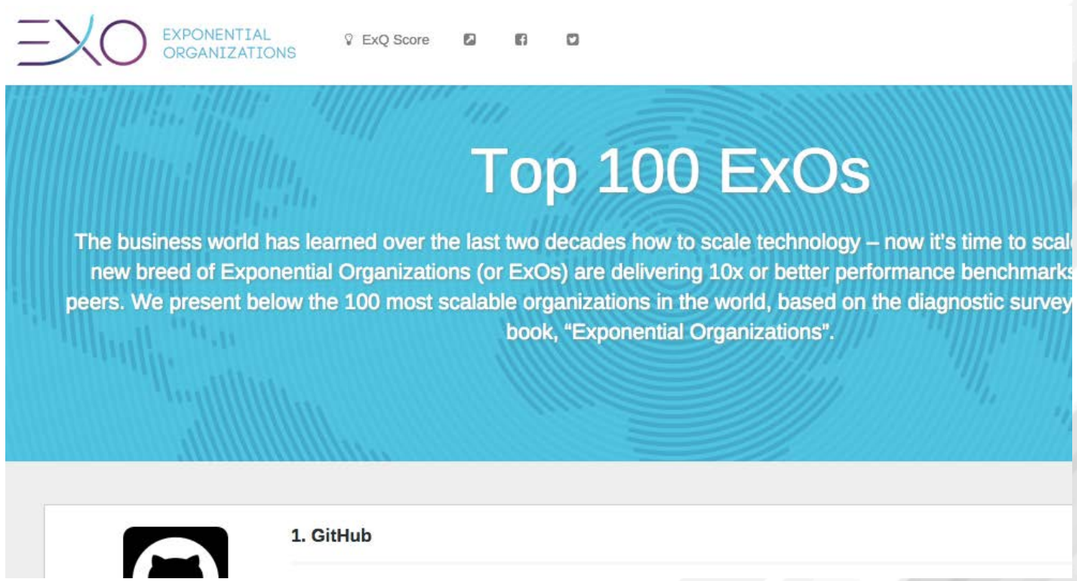
TESLA

GitHub

Quirky

UBER

NETFLIX



ted

// Started off as ‘just’ a conference

// Several thousand passionate attendees

// Exposed TED Talks on the web

- over a billion views

// Created TEDx events

- over 1200 in just a year

// Scaling the community

the ExO formula

ExO
=
MTP + SCALE + IDEAS

strong MTPs

"Radical breakthroughs for the benefits of humanity"

“Positively impact one billion people”

"Organize the world's information"

"Make invention accessible"

"Ideas worth spreading"

“Open Happiness”

Uniquely yours
Highly Aspirational
Neither narrow nor technology specific
Aimed at Heart & Mind
Declared with sincerity & confidence

why an MTP?

// Power of Pull – So Aspirational that a community forms

// Helps attract and retain talent

// Changes the organizational focus from internal politics to external impact

// Helps organize and keep focus during rapid growth

a weak purpose

Mission

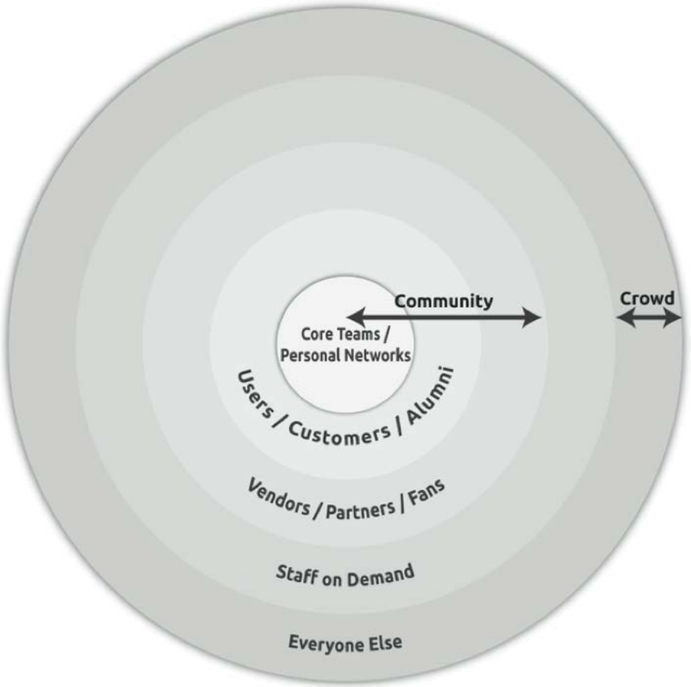
“Shape the future of the Internet by creating unprecedented value and opportunity for our customers, employees, investors, and ecosystem partners.”

Who? Cisco

“Connect everyone and everything, everywhere, always.”

S.C.A.L.E

External Attributes of an ExO



S – Staff on Demand

C – **Community & Crowd**

A – Algorithms

L – Leveraged Assets

E – Engagement

TED

KICKSTARTER

DIY DRONES

S.C.A.L.E

External Attributes of an ExO

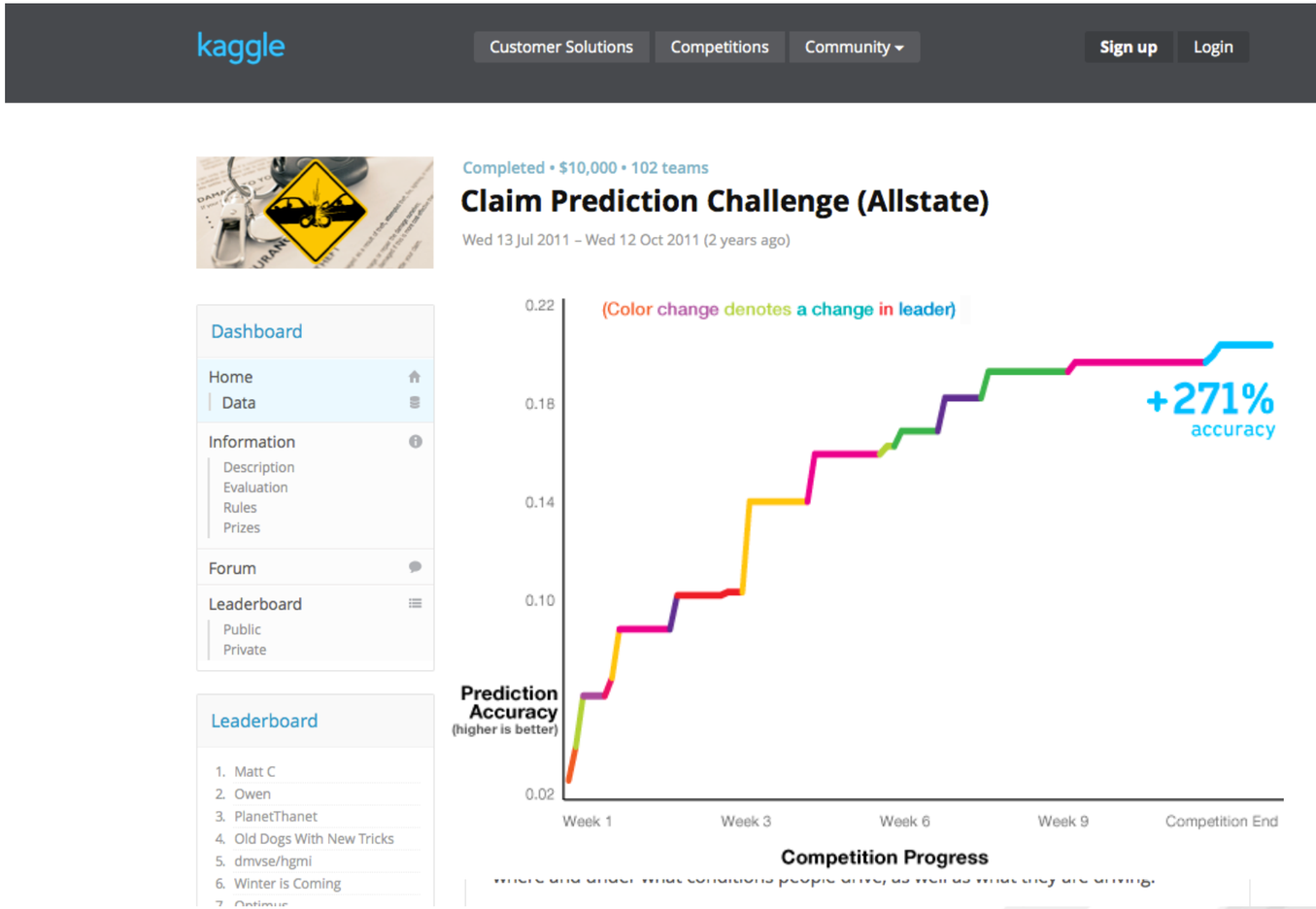
S – Staff on Demand

C – Community & Crowd

A – Algorithms

L – Leveraged Assets

E – **Engagement**



I.D.E.A.S

Internal Attributes of an ExO

I – Interface Processes

D – Dashboards

E – Experimentation

A – Autonomy

S – Social Technologies

Quirky

4 out of 10 = ExO

S – Staff on Demand

C – Community & Crowd

A – Algorithms

L – Leveraged Assets

E – Engagement

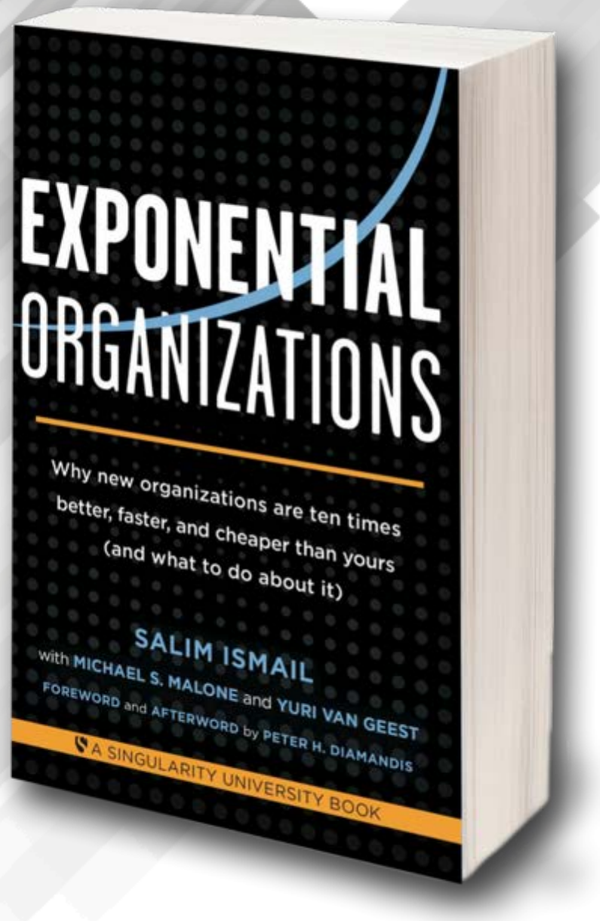
I – Interface Processes

D – Dashboards

E – Experimentation

A – Autonomy

S – Social Technologies



ExO Diagnostic Workshop

www.exponentialorgs.com/survey

1. To what extent do you use full time employees vs. on demand contractors? *

- ○ We only use full time employees
- ○ We use mostly full-time employees with some on-demand contractors in non-mission critical areas (e.g. IT, event production, etc.)
- ○ We use some on-demand contractors to augment mission critical areas (e.g. operations, production, HR, etc.)
- ○ We mostly use on-demand contractors in addition to a small full-time core team

Advice to large companies

Transform Leadership

- Education
- Board Managment
- Diversity
- Leadership Skills

ExO Lite

Disrupt [x]

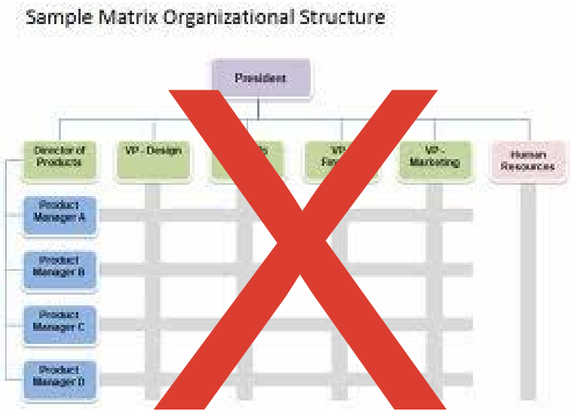
- Edge ExOs
- Black Ops
- Model Google [x]

Partner, Invest, Acquire ExOs

- Partner with
  - Incubators
  - Accelerators
  - Hackerspaces

Advice to large companies

- **Transform leadership (mindset, education)**
- Inspire ExOs at edges (via chg mkrs)
- Invest/Partner with adjacent ExOs
- Leverage or expose data
- Hire a ‘Black Ops’ team
- Set up a Google[X] equivalent



Advice to large companies

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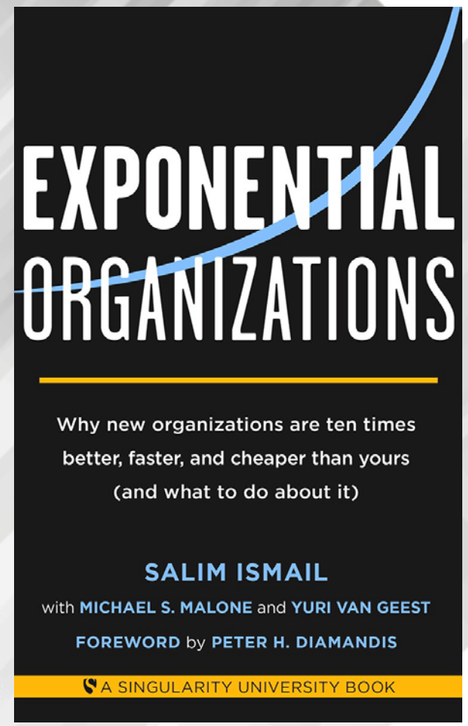


Valuation increase - 10 quarters

Company	Age (years)	2011 Valuation	2014 Valuation	Increase
Haier	30	$19 billion	$60 billion	3x
Valve	18	$1.5 billion	$4.5 billion	3x
Google	17	$150 billion	$400 billion	2.5x
Uber	7	$2 billion	$20 billion	10x
Airbnb	6	$2 billion	$10 billion	5x
Github	6	$500 million (est)	$7 billion	14x
Waze	6	$25 million	$1 billion (in 2013)	50x
Quirky	5	$50 million	$2 billion	40x

Worker's Compensation…

// Fewer 'workers' (e.g. autonomous cars)

// Not just labor jobs

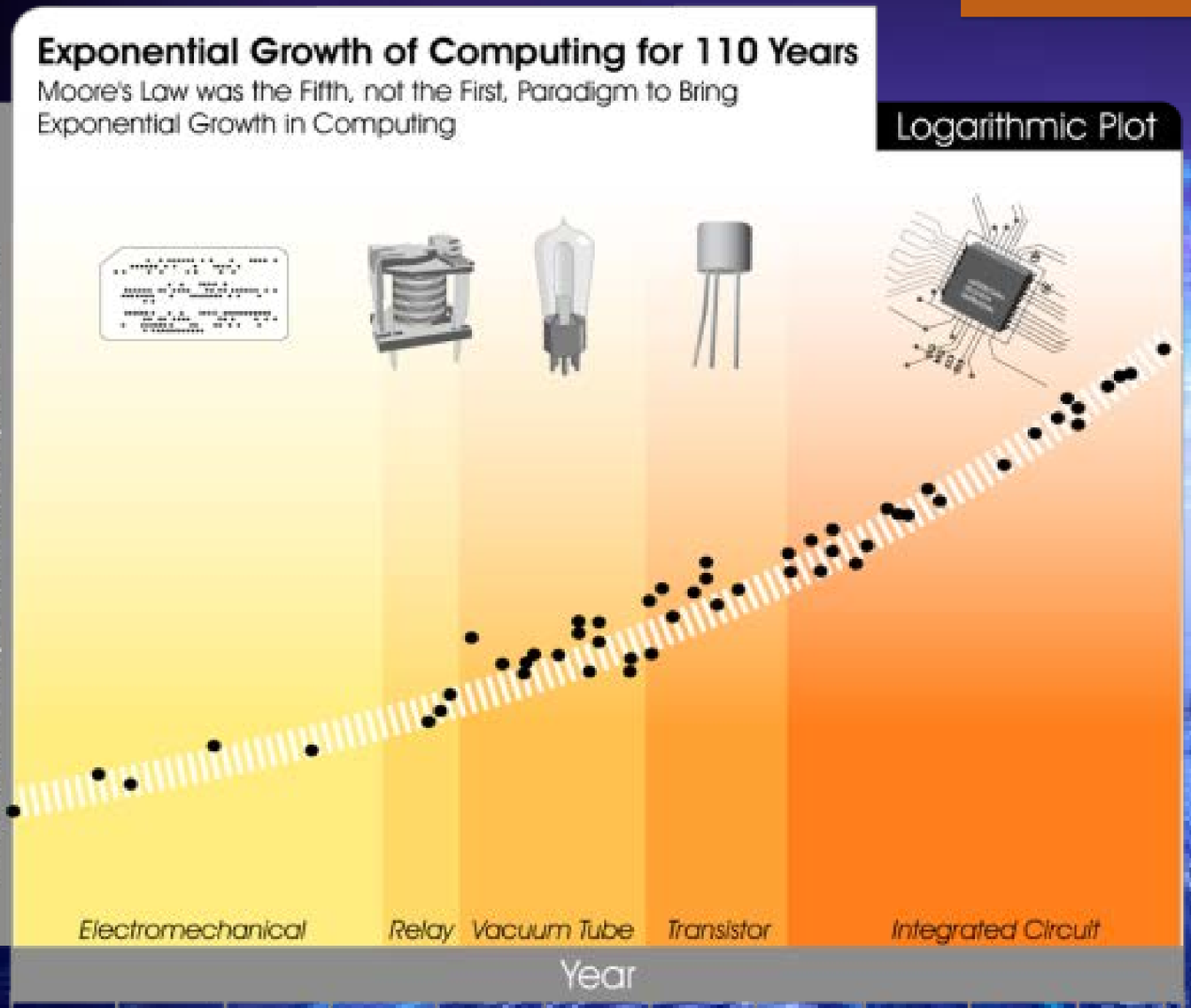
// Concept of 'jobs' will disappear

// Jobs >> Occupations

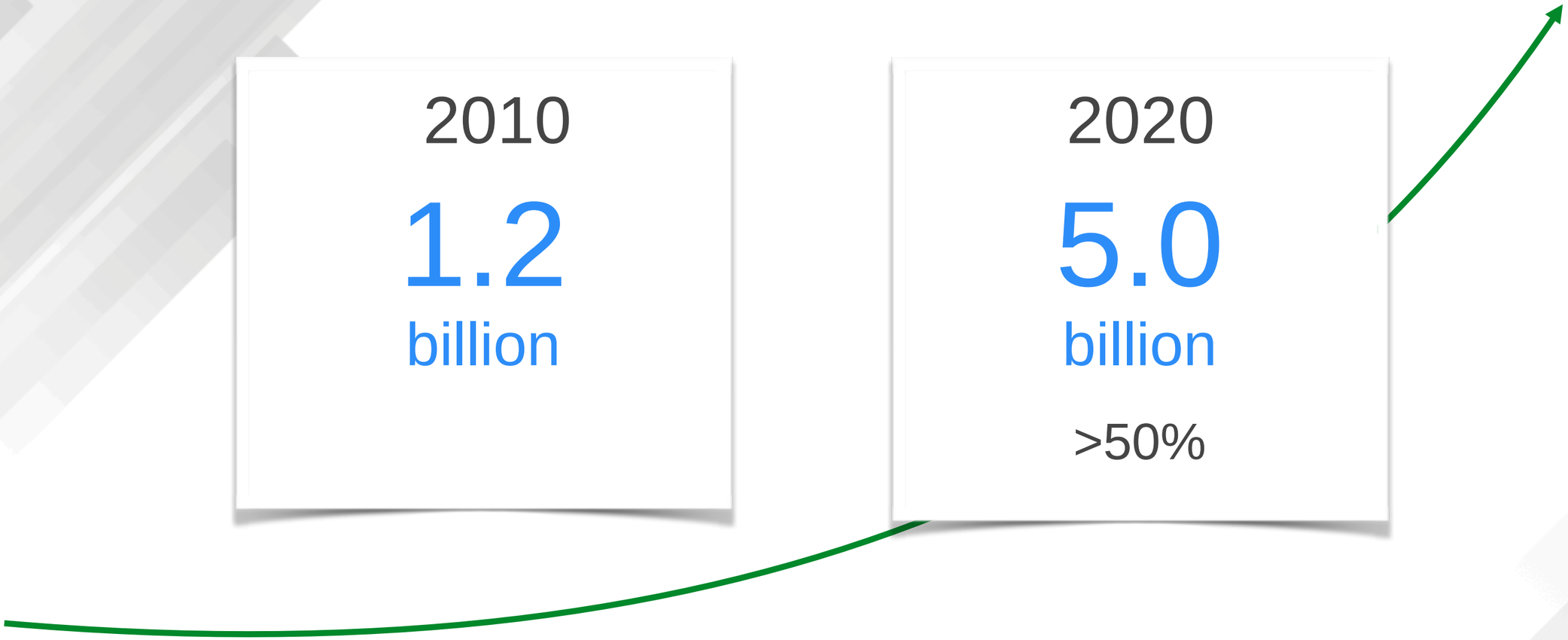
// Employee >> Contractor

// World going physical >> digital

Powered by progress in computing

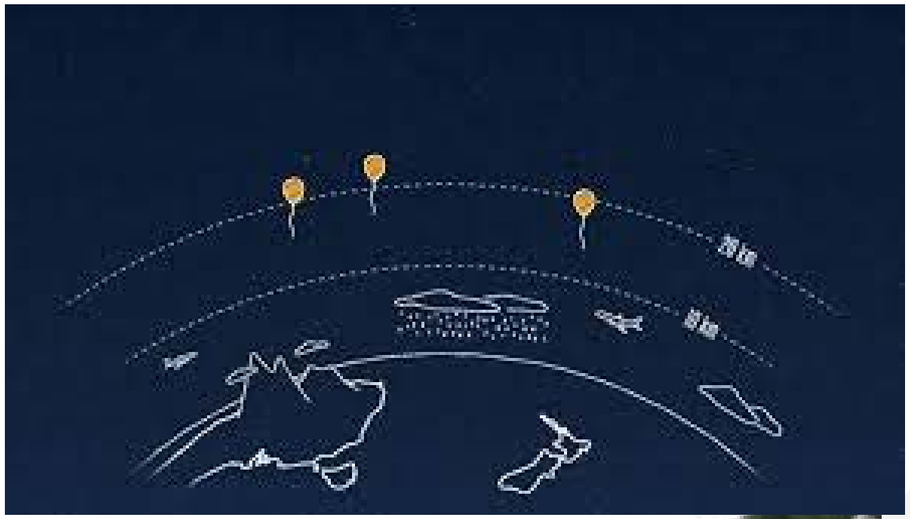


How many people are online?



Google Loon

CBS
THIS
MORNING
SATURDAY
GOOGLE BALLOONS
THOUSANDS WILL BEAM THE INTERNET ACROSS THE GLOBE

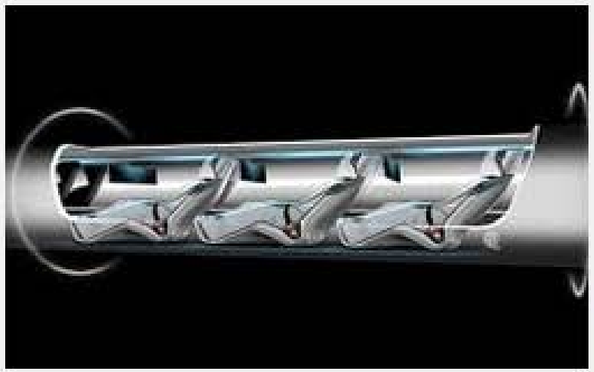


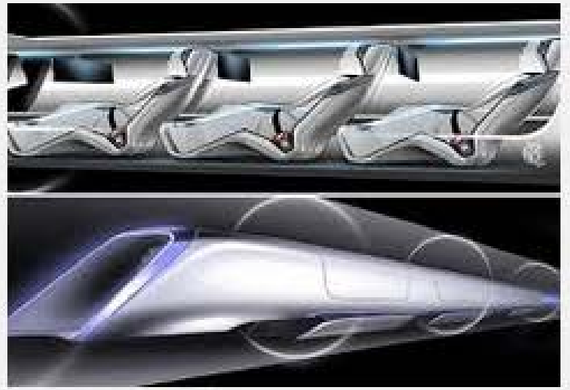
Hyperloop

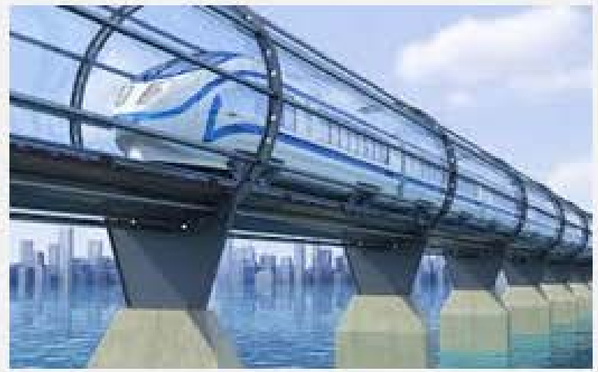
Tesla

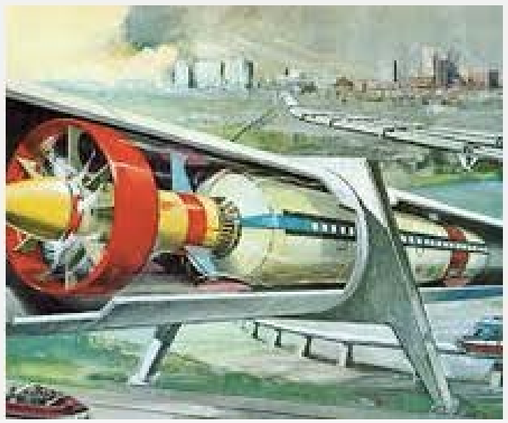
Concept

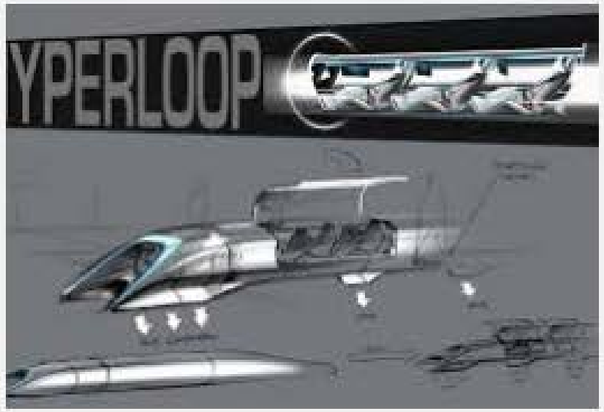
Map









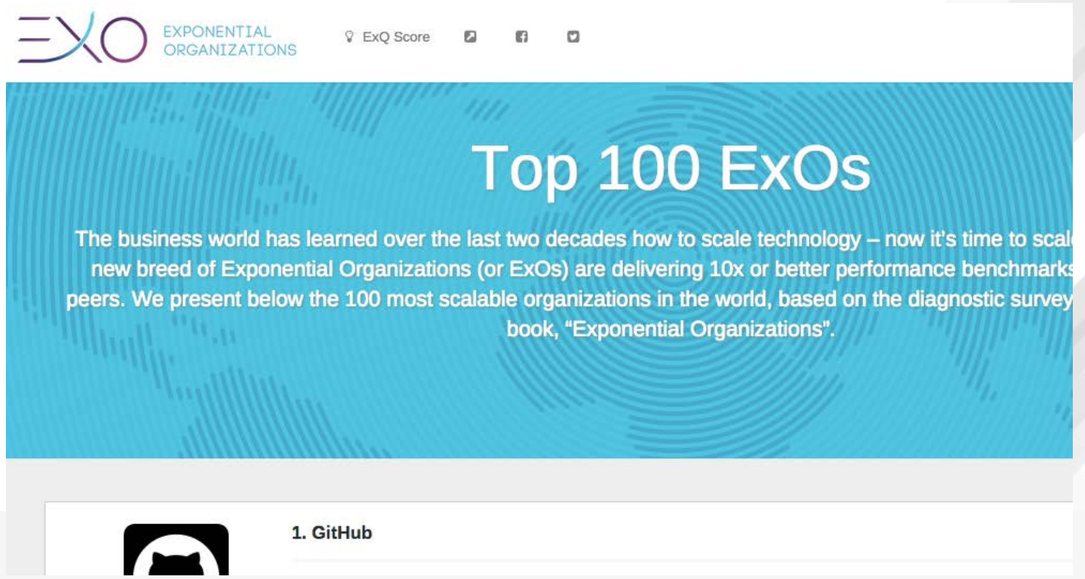


Discussion / Q&A

Takeaways

www.exponentialorgs.com/survey

www.bitly.com/exotop100



Car Wash - Buenos Aires