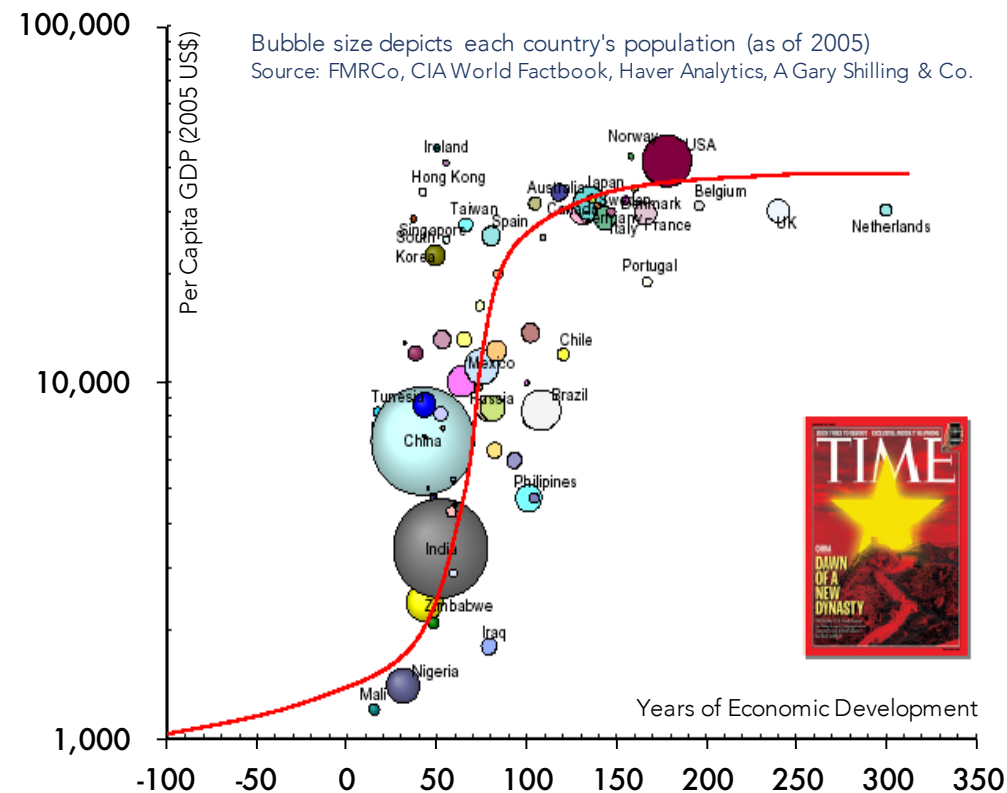


Global Macro

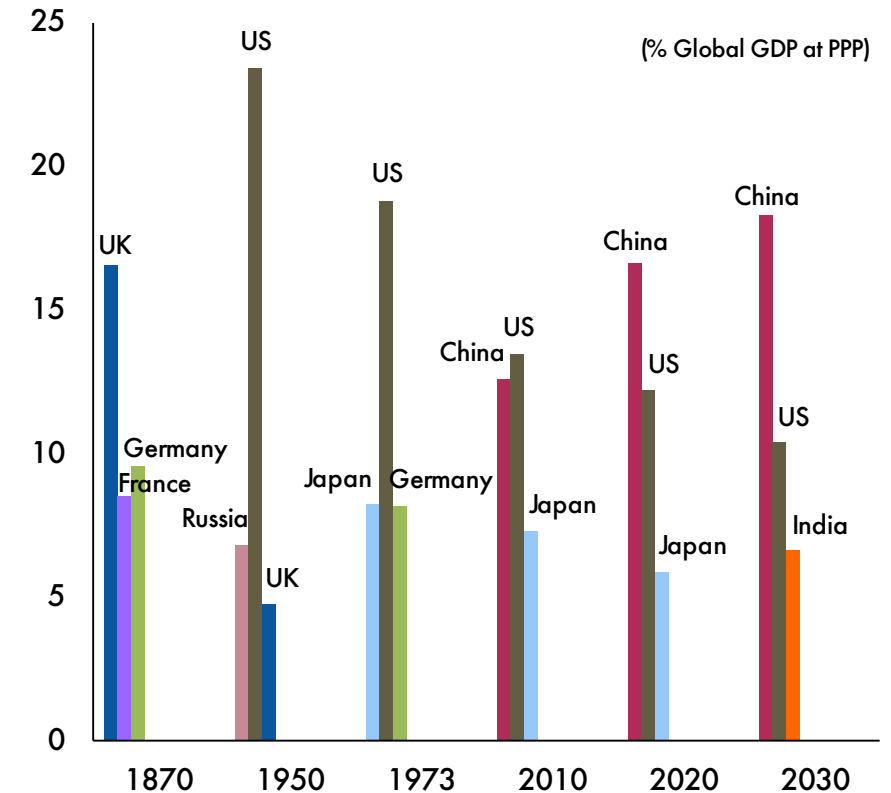
Countries going through life cycles

The Global S-Curve: Population



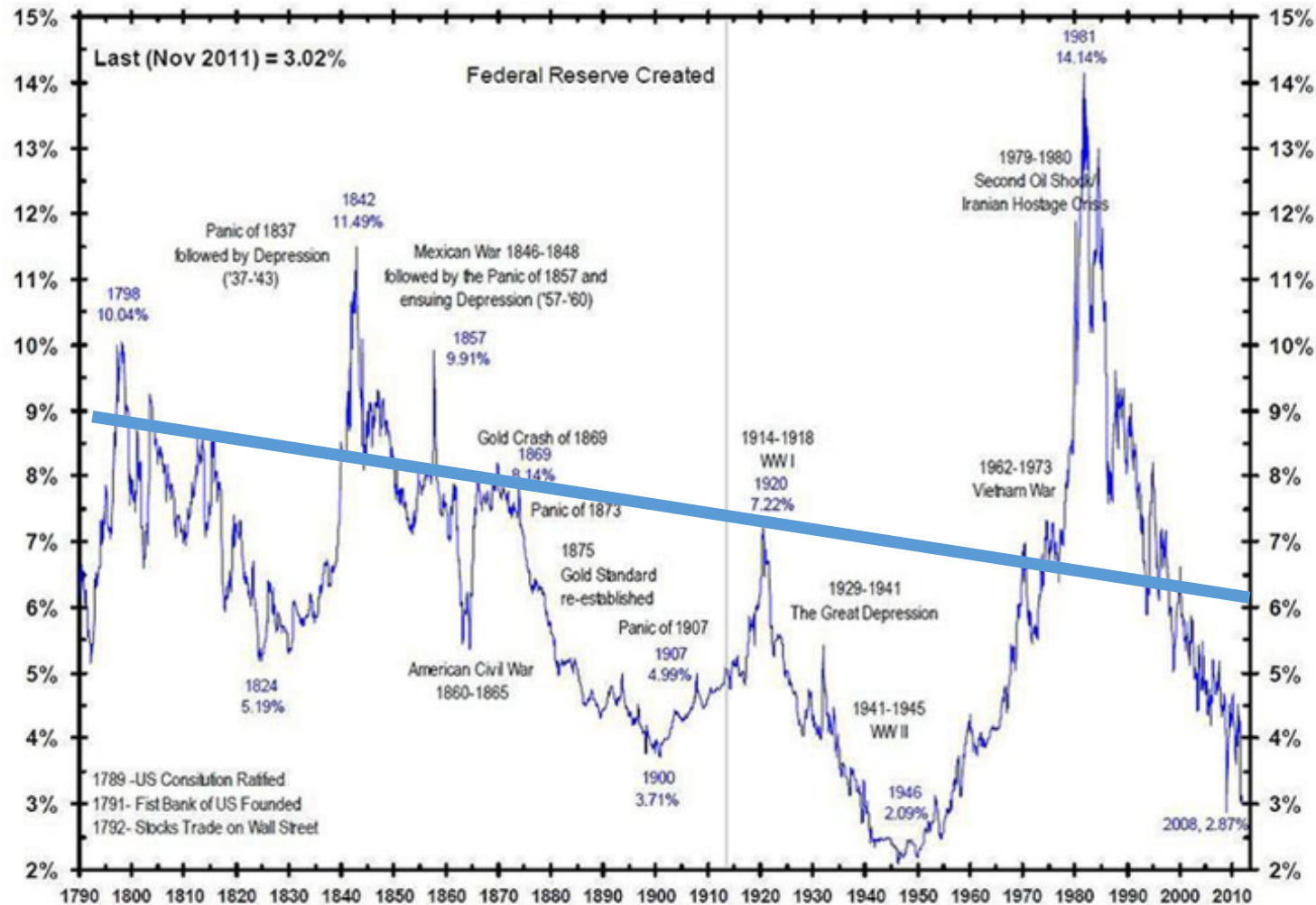
Source: United Nations: The World Economy – Historical Statistics; Garry Shilling

The World's Strongest Economies: 1870-2030



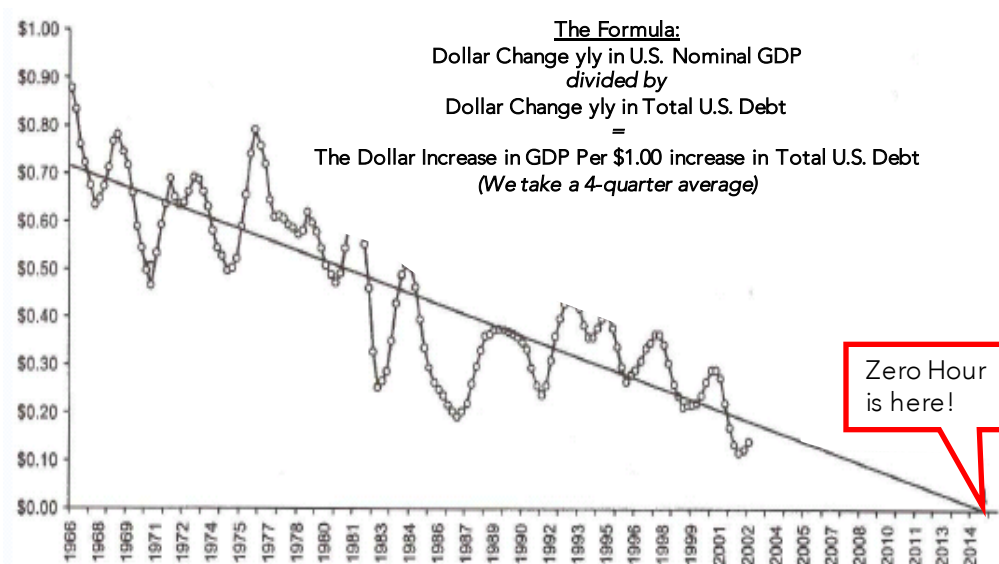
The Developed world is plateauing/declining; China & India regaining their historical (pre-1870) eminence

Horrific implications when interest rates rise...



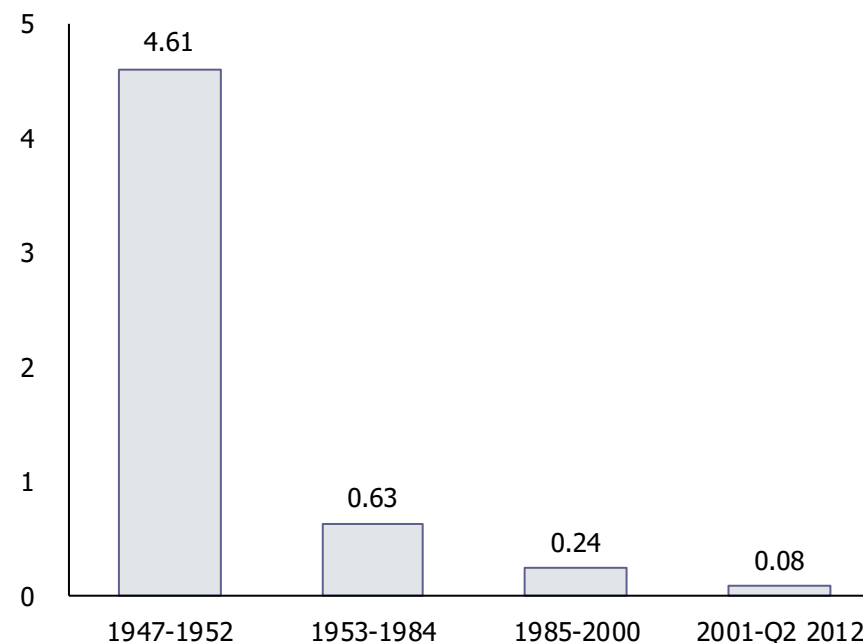
... 'printing' money is no solution

The Diminishing Impact of Debt growth on the Economy, 1966-2015
(The Dollar Increase in Nominal GDP per \$1.00 Increase in Total U.S. Debt)
The trend line intersects \$0 when new debt has zero effect on GDP



2000-2007: Nominal GDP Growth: +\$4.2 trillion
Total Credit Market Debt: +\$21.3 trillion

United States Increase in Real GDP per Dollar of Incremental Debt

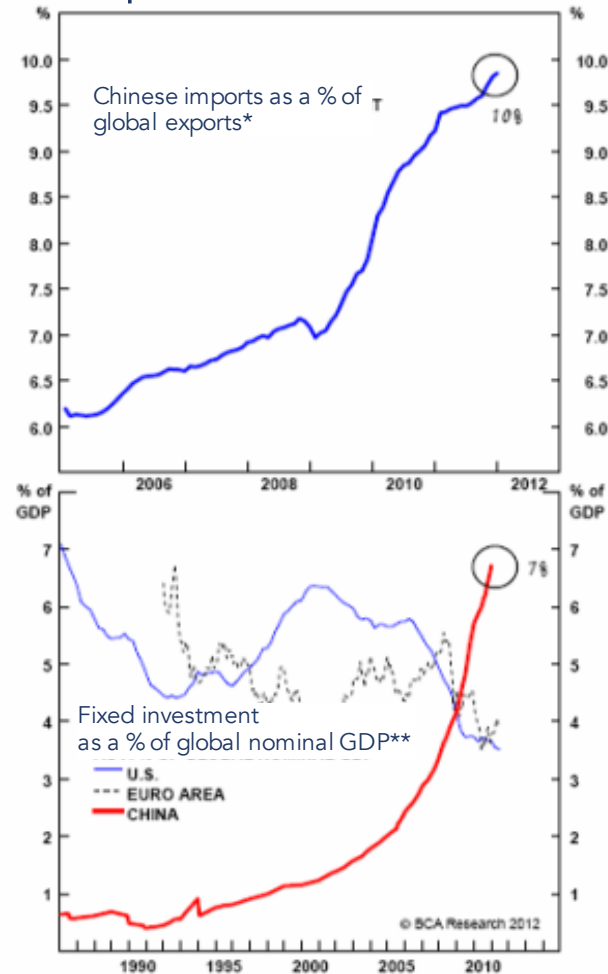


Source: Ned Davis Research; US Federal Reserve; Bloomberg.

"Zero hour" - When \$1 of new debt has no incremental positive effect on U.S. GDP growth

What about China?

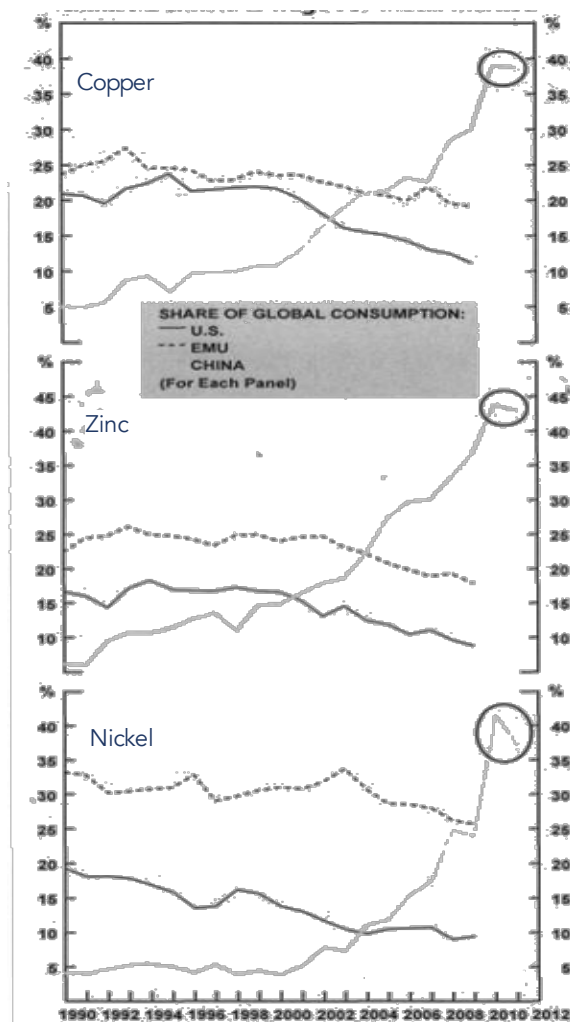
Chinese Imports Are Very Important For Global Trade



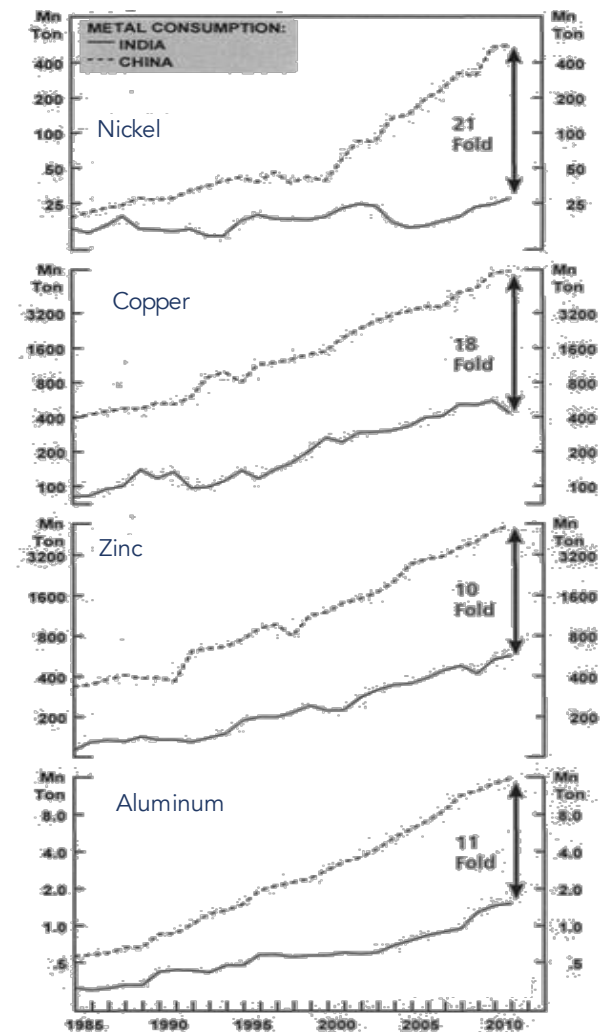
*shown as a 12mth moving average

**Source: World Bank

China as % of World demand

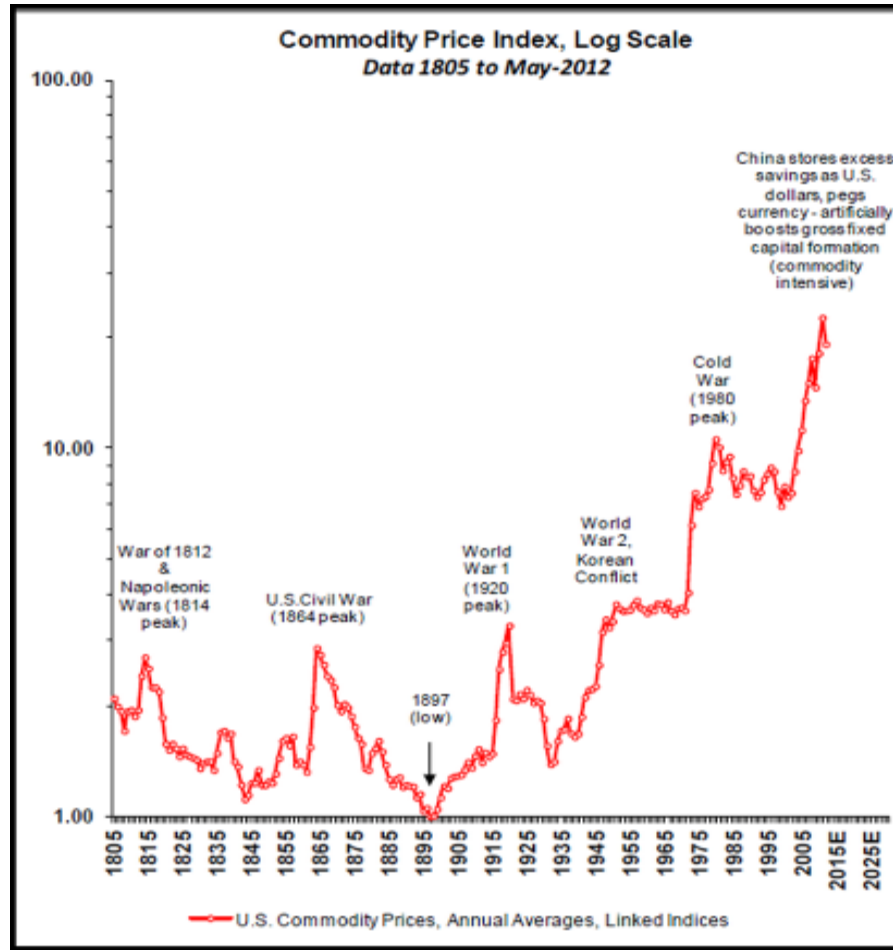


Chinese vs Indian demand



China drove commodity mania

Incremental demand from China and expansionary monetary policies drove commodity prices higher



Source: Barry Bannister, Stifel Nicolaus

China's current share of world commodity consumption

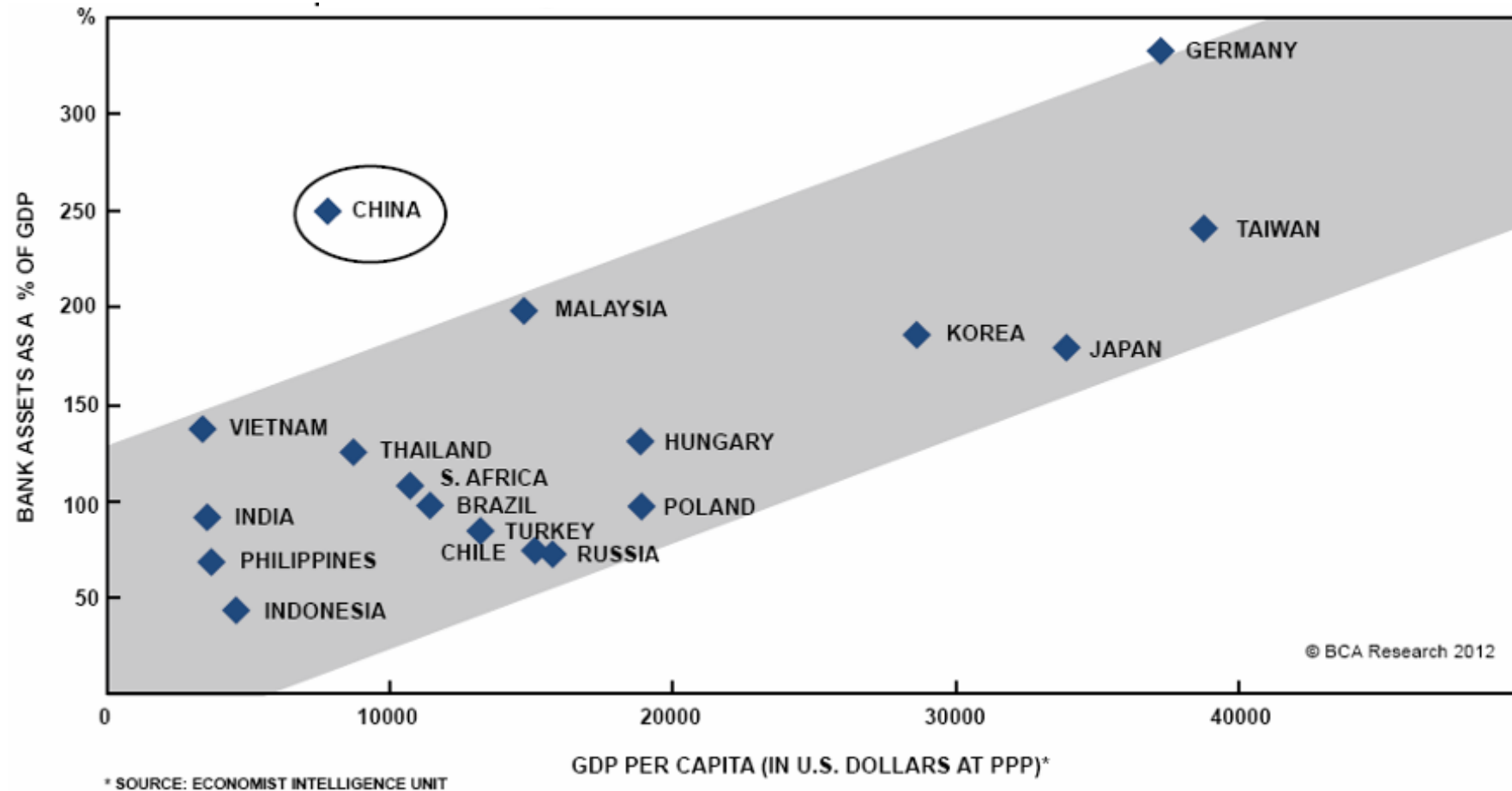
Commodity	China % of World
Cement	53.2
Iron Ore	47.7
Coal	46.9
Pigs	46.4
Steel	45.4
Lead	44.6
Zinc	41.3
Aluminum	40.6
Copper	38.9
Eggs	37.2
Nickel	36.3
Rice	28.1
Soybeans	24.6
Wheat	16.6
Chickens	15.6
Oil	10.3
Cattle	9.5

Understand China

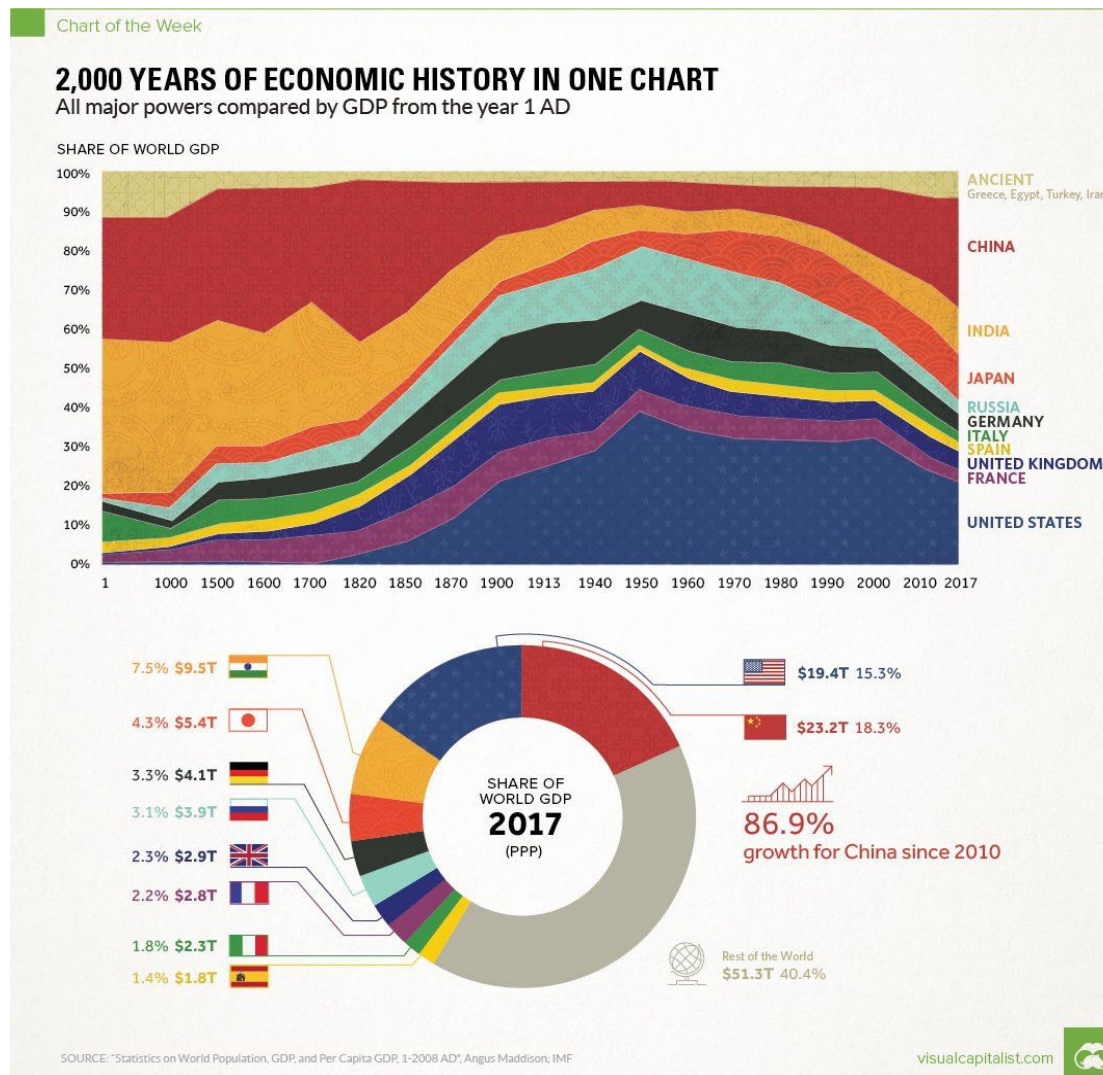
- Chinese GDP is broadly 40% Consumption, 40% investments, 40% exports...
- Nobody questions a 40% 'Savings/profit/surplus' in an over-invested economy
 - ❑ 20% of GDP is construction – of which 12% is residential construction
 - ❑ Local govts depend on land sales for 70% of revenues, facilitating infra/realty "equity"
 - ❑ Infrastructure spend is 12% of GDP – financed by state owned banks
 - ❑ Banks constantly re-capitalized to finance ghost cities/ excessive infrastructure – where is the economic return on capital? Lending classified as quasi/sovereign, so no provisioning required!
 - ❑ Broad Money > 4x of GDP + large shadow banking system
- Impressive physical infrastructure & industrial complexes, huge exports (yuan strength) & land sales (fiscal strength) are disguising lack of economic returns.

Is the Emperor naked?

Income Per Capita And Leverage: China Is An Outlier



India went from >30% to <3% of Global GDP



Source: IMF estimates, Visual Capitalist

Strong Growth since Liberalization in 1991

Indicators	1991	2019
GDP (\$ billion)	275	2,970
Country rank by GDP	16	7
GDP per capita, \$	320	2,200
Exports (\$ billion)	18	330
Imports (\$ billion)	24	514
Market cap of BSE 100 (\$ billion)	45	1,500
Foreign exchange reserves (\$ billion)	1	425
FX reserves in weeks of imports	2	43
Gross national savings (previous year)	23%	29%
Total investment (pervious year)	26%	32%
Population below poverty line	45%	22%

Source: Enam Holdings, Bloomberg, Axis Capital, CapitalLine

Young Educated Workforce

903

Number of Universities

49,061

Number of Colleges

General Courses (Mn)		Specialised Courses (Mn)	
Arts	10.04	Engineering	4.25
Commerce	4.47	IT / CS	0.94
Science	5.50	Management	1.23
Education	2.00	Medical	1.24
Social Science	1.55	Law	0.37
		Others	1.07
Total	23.60		9.10

Total: 32.66 MN

**Gross Enrolment
Ratio in Higher
Education in India
is 26%**

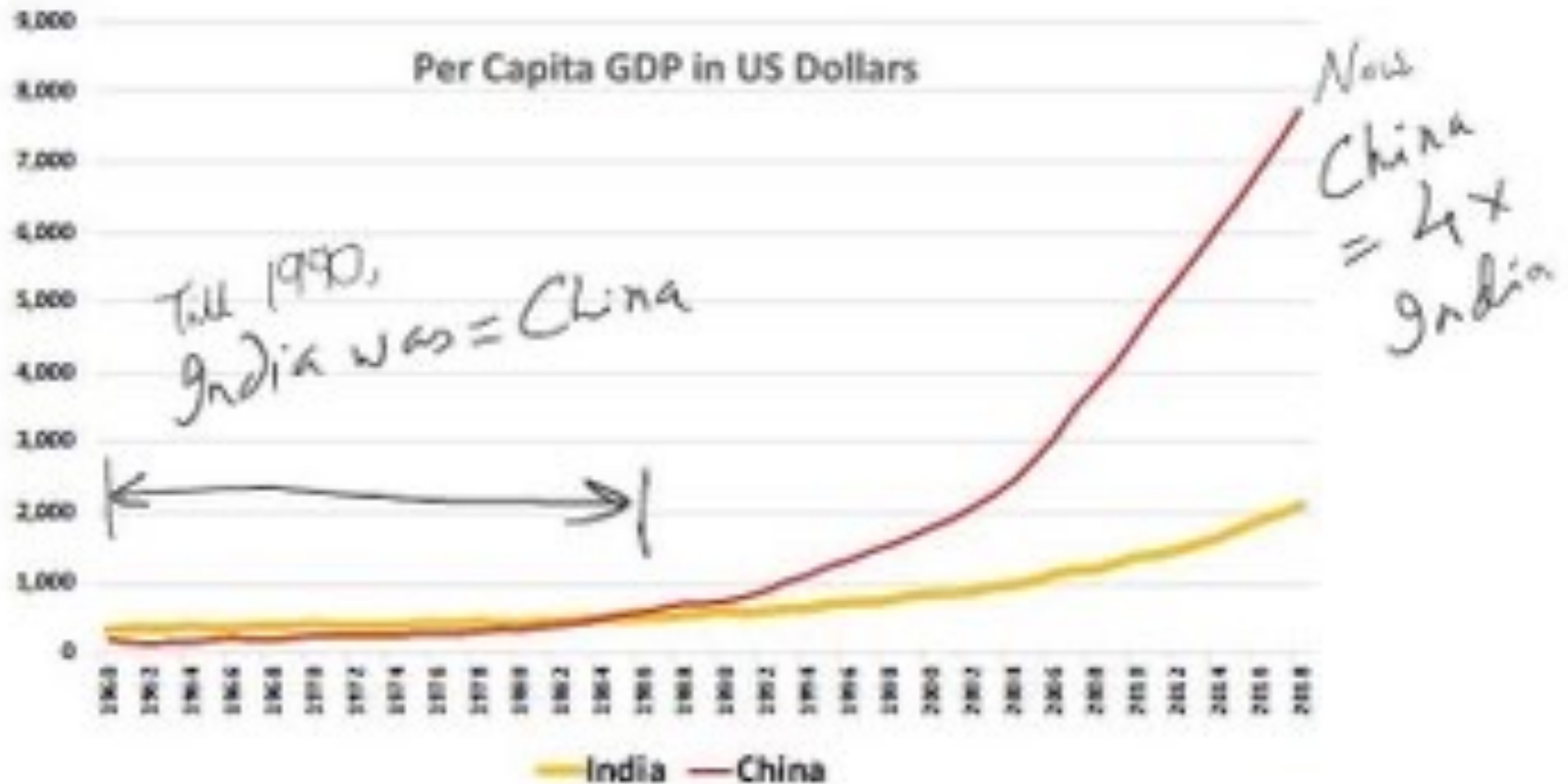
**500 Mn
population
in 5-24 age bracket**

**Enrolment in
professional courses
grew at 20% CAGR**

**Pvt Institutions
account for 78%
institutions & 67% of
enrolment**

Lots of institutions and graduates, but lack of quality... and opportunities.

Lost opportunity & falling further behind



Praying for Weak Oil and Strong Foreign Inflows

Current Account (% of GDP)	FY19	FY20
Exports	11	12
Imports	17	18
Oil Imports	5	5
Non-oil Imports	13	13
Total Trade Balance	-6	-6
Invisibles		
Software	3	3
Remittances	2	2
Invisible Outflows	-1	-1
Total Invisibles	4	4
Current Account Balance	-2.2	-2.3

Assuming oil is \$70/bbl in FY20

Capital Account (% of GDP)	FY19	FY20
FDI	1	1
Portfolio Investors	0	0
Capital Inflows	1	2
Loans	0	0
Banking Capital	1	1
Other Capital	1	0
Capital Account Balance	2.2	2.7

Current Account Deficit Funded by Capital Inflows

Trade Deficit of 6% is manageable only if energy prices are contained and remains offset by steady Invisibles.

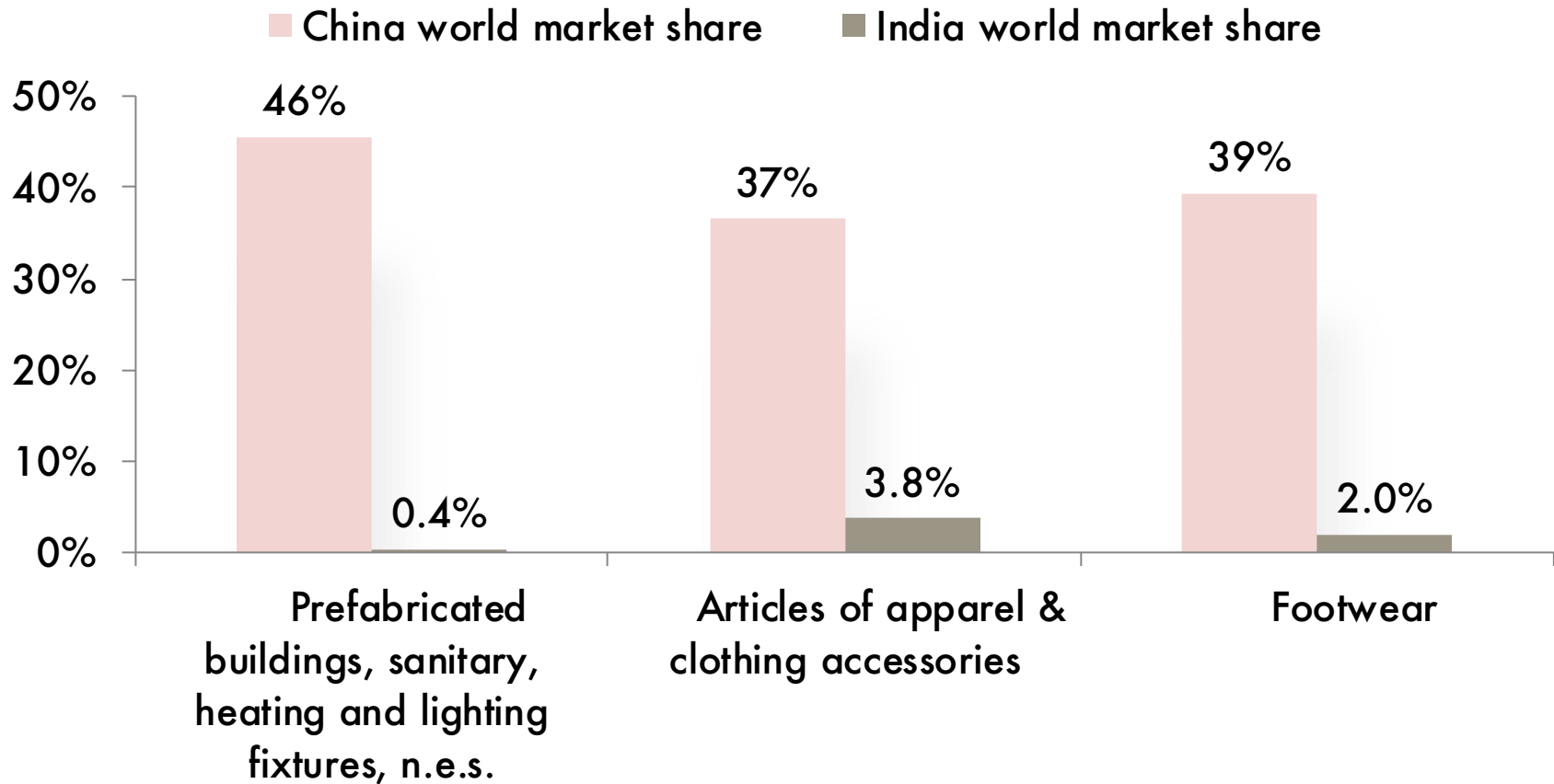
Crying need for encouraging sectors such as Tourism, creating SEZs, port infrastructure, labour reforms etc.

Capital flows have been weak and need to recover to 2%+ to be able to offset the Current Account Deficit.

FDI + FPI has remained at levels of 1-1.5% since a decade.

India needs to find structural answers on exports, tourism and FDI inflows in order to weather global liquidity shocks and cope with rapidly rising energy prices

Indians producers lack **scale** and **branding**



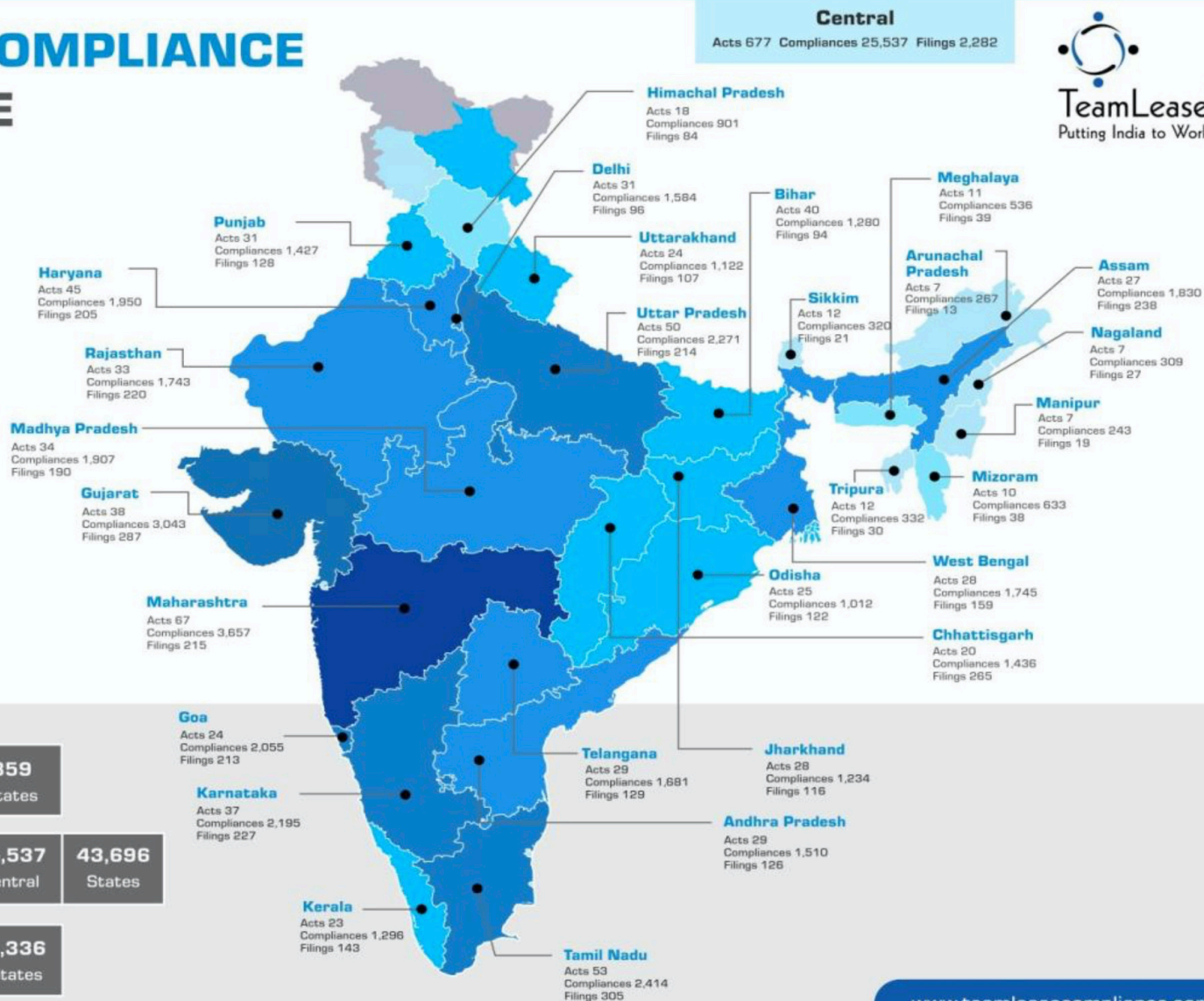
Need strong balance sheets and a supportive business environment

India vs China requires deep structural reform

Map of the World's Manufacturing Output



INDIA'S COMPLIANCE UNIVERSE



www.teamleasecompliance.com

1,536
ACTS

677
Central

859
States

69,233
COMPLIANCES

25,537
Central

43,696
States

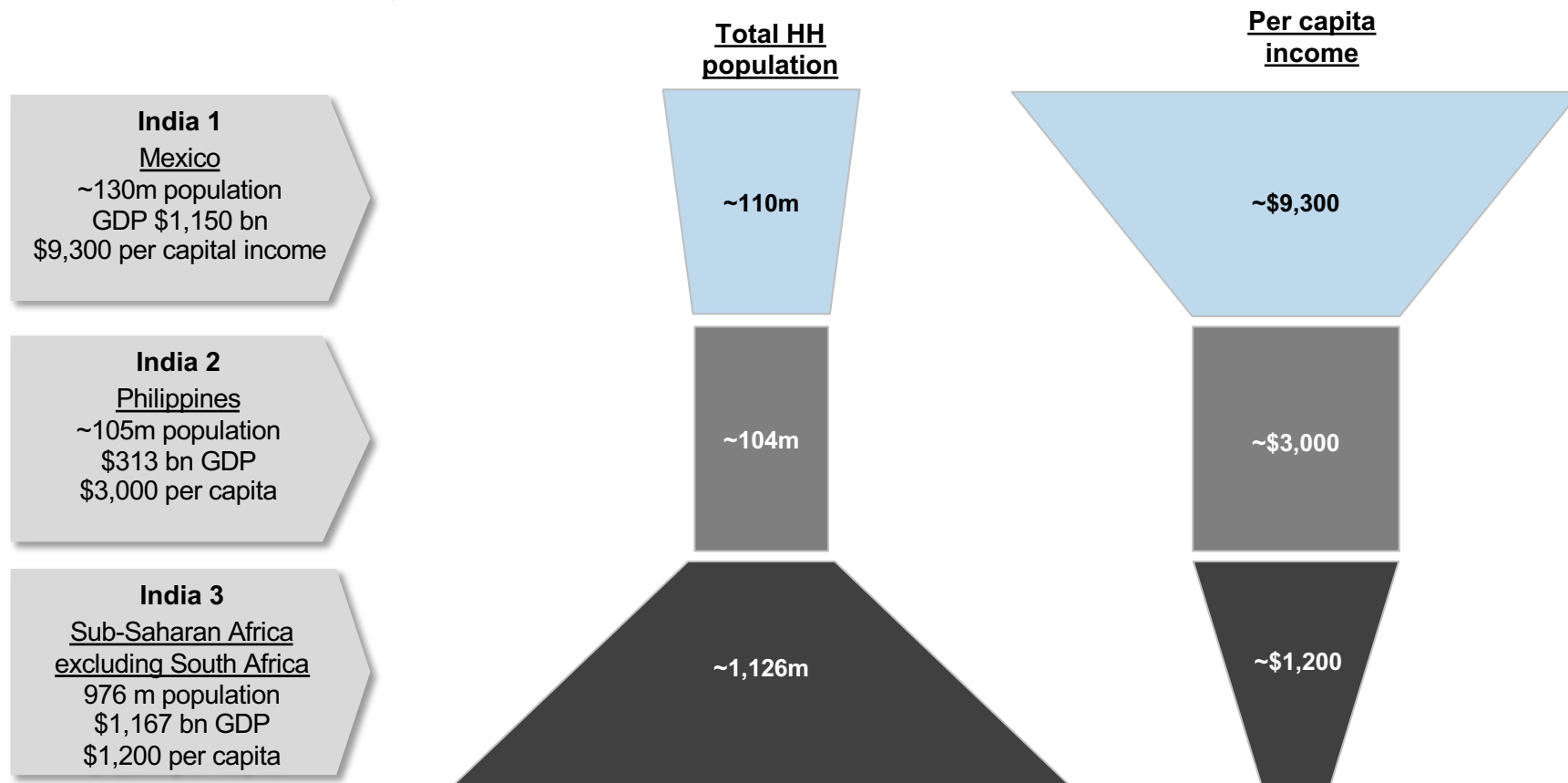
6,618
FILINGS

2,282
Central

4,336
States

The Three India's

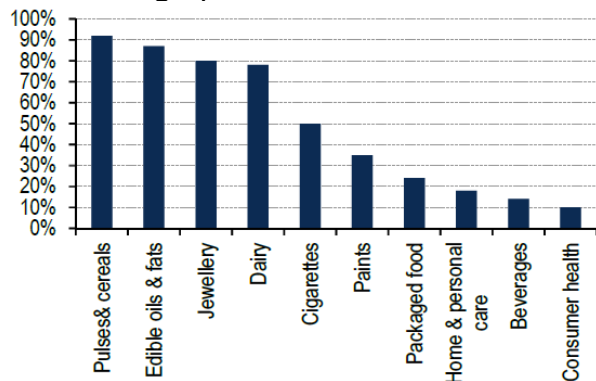
- India comprises a few middle income “Mexicans”, a few in-service “Filipinos”, and almost entirely of “Africans”



Source: Kuntal Shah – “India: Wealth Creation Story”, 2019

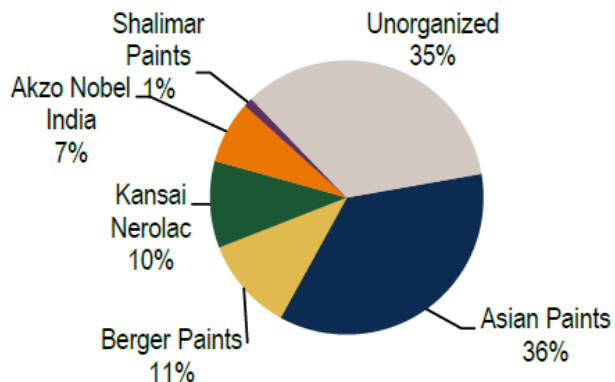
India enterprises prefer being “unorganised”

- 10-80% of Products are **Unbranded** – depending on the product category



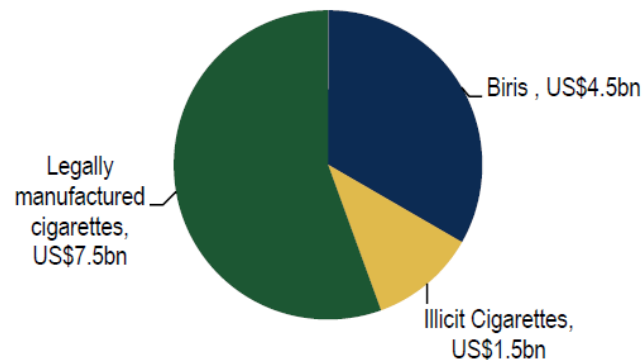
Source: BofA Merrill Lynch Global Research

- ~35% of Paints market remains Unorganized

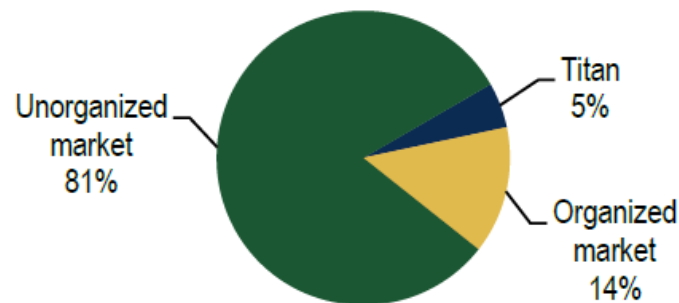


Source: BofA Merrill Lynch Global Research Estimates

- Market size of taxed and untaxed smoking goods almost similar at ~\$7 billion



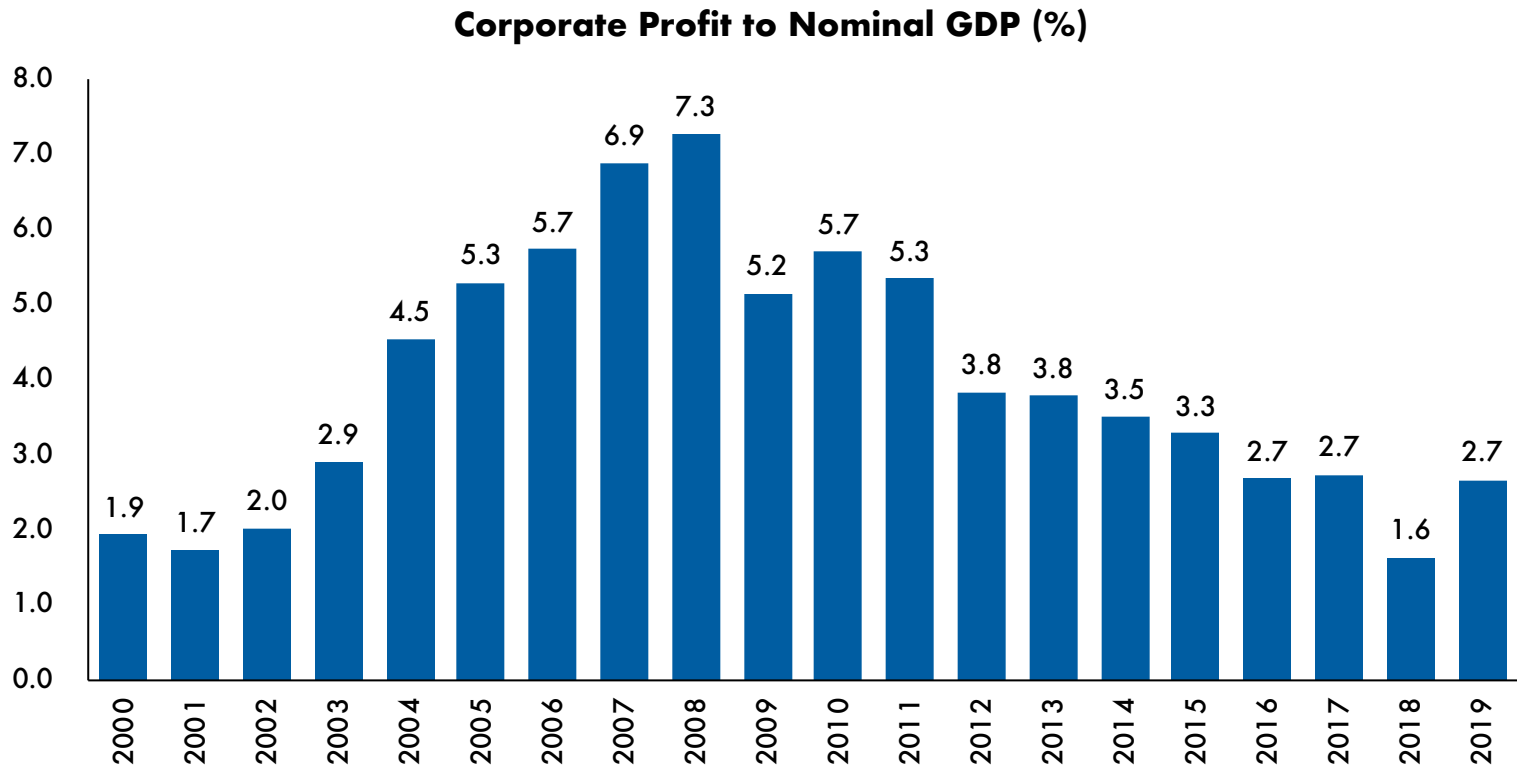
- Jewellery similarly has a large Unorganized segment



Reality of life is not understood



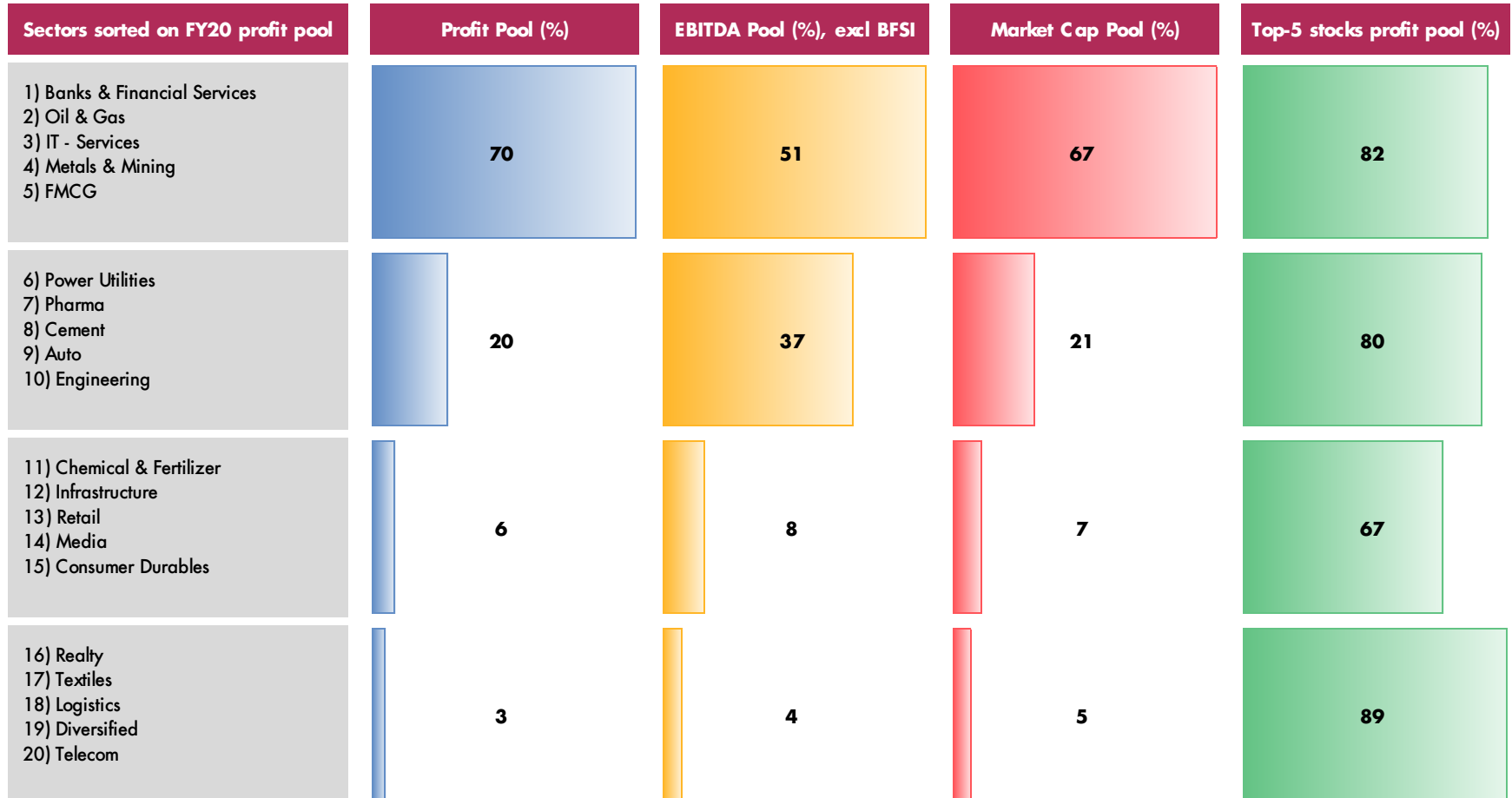
Corporate Profits have collapsed



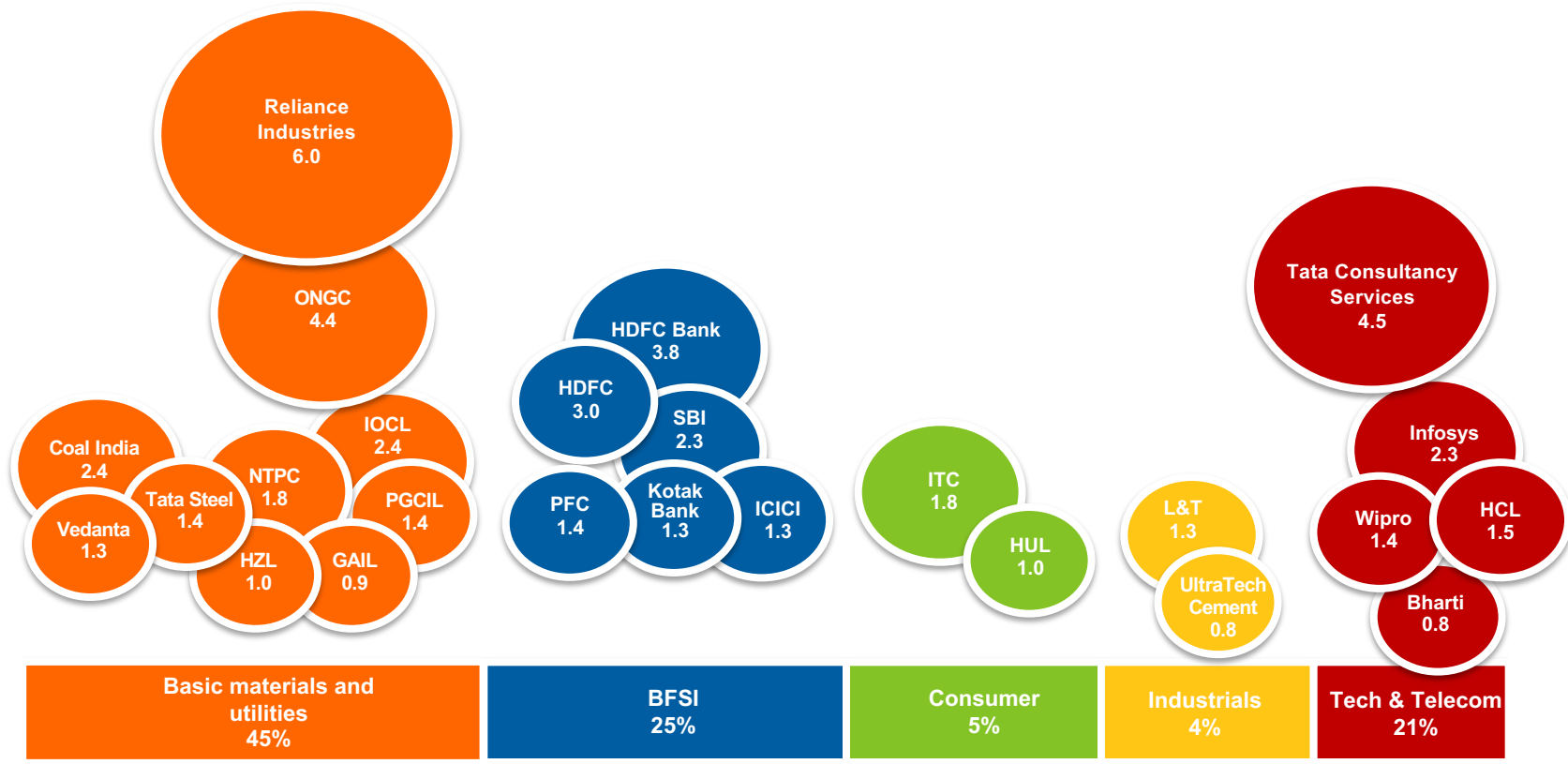
Source: CMIE PROWESS

Oppressive tax rates and stagnant purchasing power lead to a profit drought

5 sectors = 70% of profits, and top 5 players account for 80% of sector profits!



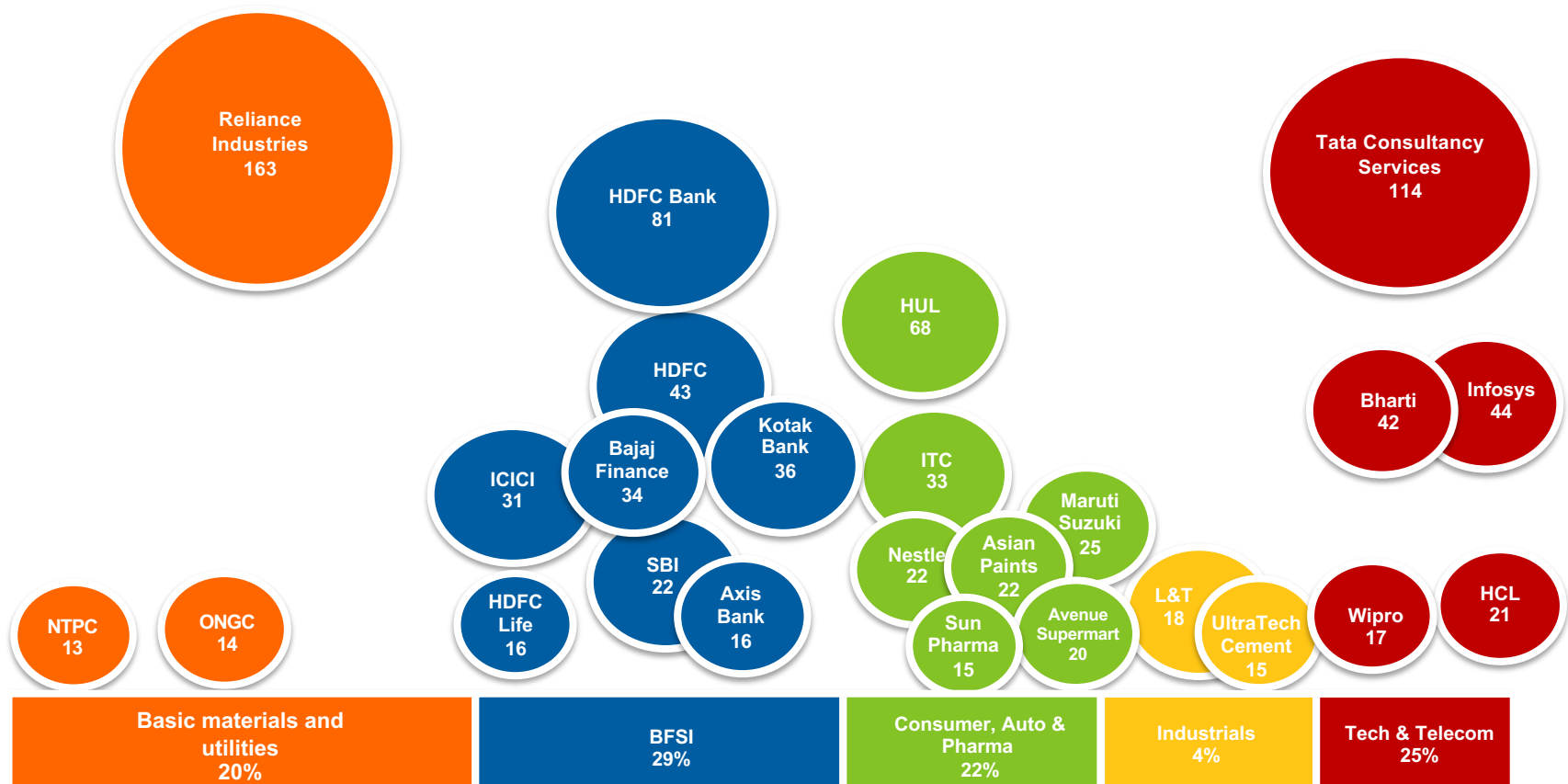
Top 25 Companies by PAT (US\$bn)



Materials, BFSI and IT still dominant in cash flows and profits

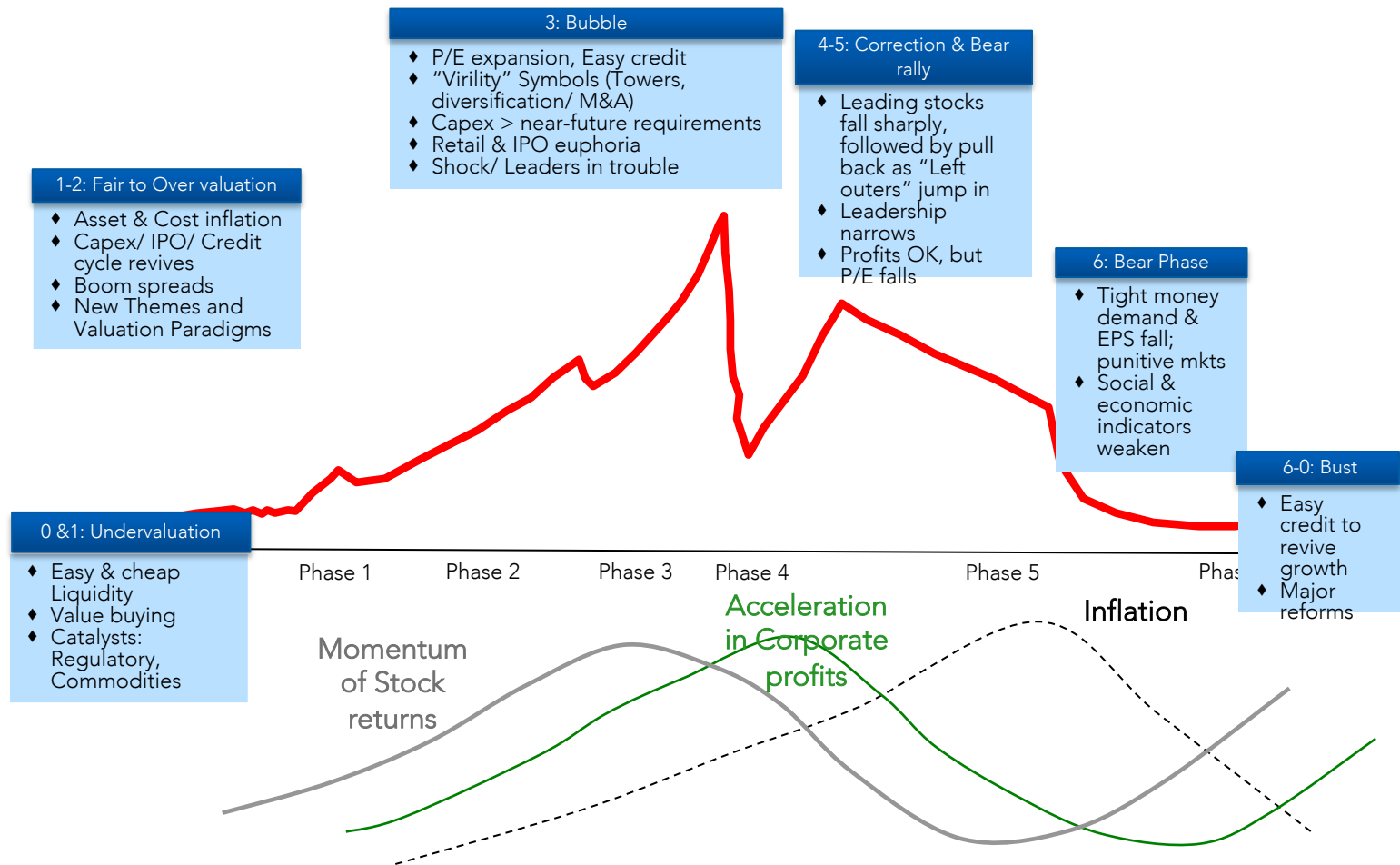
Source: Axis Capital, Bloomberg, CapitalLine

Top 25 Companies by Market Cap (US\$bn)



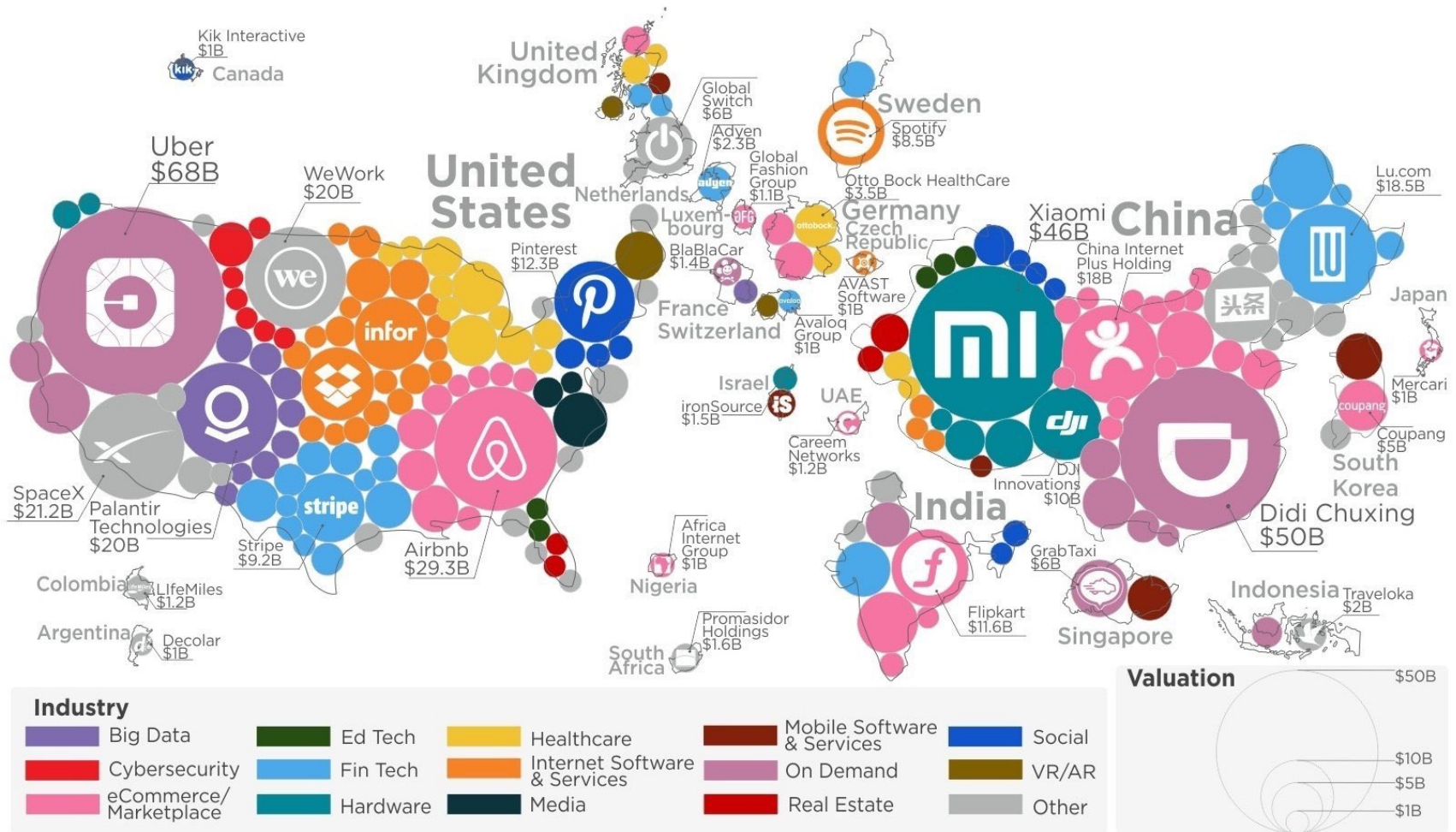
Consumer stocks have mktcap, low profits... Materials/Energy the opposite!

Market & Economic Cycles suspended by QE



Source: Market Cycle Phases: Marc Faber – "Tomorrow's Gold"

Looking ahead: India rising in the Tech World



Article & Sources:

<https://howmuch.net/articles/the-worlds-unicorn-companies-2017>
<https://www.cbinsights.com/research-unicorn-companies>

Source: CB Insights

howmuch.net

India is producing Unicorns rapidly

- India is #4 on the list of global private companies with valuations of over USD 1bn, or “unicorns”
 - 9 out of top 10 unicorns in India are in the online-consumer space
- India has 4 out of 18 global private companies with valuation of over USD 10bn, or “decacorns”
 - Current: Flipkart, PayTM, Oyo, Ola
 - Potential to produce 5 more in the next 2-3 years



India's 30+ unicorns have created \$80bn in value, and expected to grow to 100+ by 2025

Do CEOs shine in 40s-50s as Wealth Creators?

Decade 1991 - 2001

Company Name	Promoter Name	Age in 1991	Curr Mcap (USD bn)	Price - CAGR (%)		
				FY90-00	FY00-10	FY10-19
H D F C Bank	Aditya Puri	41	95,656	68	22	20
Infosys	Narayan Murthy	45	41,775	146	9	9
Wipro	Azim Premji	46	19,086	109	(3)	5
Zee Entertainment	Subhash Chandra	41	3,760	85	(13)	13

Decade 2001 - 2011

Company Name	Promoter Name	Age in 2001	Curr Mcap (USD bn)	Price - CAGR (%)		
				FY90-00	FY00-10	FY10-19
Reliance Industries	Mukesh Ambani	44	138,210	25	24	10
Kotak Mahindra Bank	Uday Kotak	42	43,781		42	22
Bharti Airtel	Sunil Mittal	44	32,916		42	1
Sun Pharmaceutical	Dilip Shanghvi	45	14,578	52	27	10
Titan Industries	Bhaskar Bhat	46	14,399	0	36	29
Mahindra & Mahindra	Anand Mahindra	46	9,117	21	21	9
J S W Steel	Sajjan Jindal	42	8,544	(14)	75	9
Motherson Sumi	Vivek Chand Saigal	45	5,693	10	43	25

Decade 2011 - 2019

Company Name	Promoter Name	Age in 2011	Curr Mcap (USD bn)	Price - CAGR (%)		
				FY90-00	FY00-10	FY10-19
TCS	N. Chandrasekaran	49	107,935	-	17	18
Bajaj Finance	Sanjiv Bajaj	42	33,314	(25)	26	58
Avenue Supermarts Ltd	RK Damani	52	15,976	-	-	52
Eicher Motors Ltd	Siddhartha Lal	45	8,233	-	32	41
Excel Shroff Group	Jai Shroff	49	6,282	27	42	22
Havells India	Anil Gupta	44	5,820	24	45	29
Page Industries Ltd	Sunder Genomal	56	3,425	-	39	41

Source: Axis Capital, Bloomberg, CapitaLine

Some themes for 2020s

- **Financialisation of Savings:**

- Continued beneficiaries are private sector banks, insurance companies, mutual funds, mortgage and consumer finance companies

- **Privatisation Beneficiaries:**

- As the government withdraws from “monopolistic” sectors, natural oligopolies could emerge in sectors ranging from telecom to energy/mining to ports/airports to government services

- **Platform Plays**

- As the population urbanizes, key beneficiaries will be platform plays in healthcare, education, e-commerce, etc.

- **Discretionary Consumption**

- As incomes and per capital GDP rises, discretionary spends on durables, travel, media and experiences (eg big fat Indian weddings) will burgeon

Summary

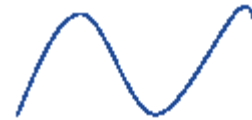
- India- the “Sone ki Chidiya” missed the industrial revolution and its share of global GDP went from >30% to <3%, accompanied with loss of its sovereignty.
- Since the economic reforms of 1991, GDP has expanded >10x and Market Cap >30x
- India is now among the world’s top 5 economies. Its agricultural and industrial base makes it a leading producer of most commodities.
- It is recognized as the last major emerging market that, within the coming decade, has the opportunity to catapult to the 3rd ranked economy in the world.
- The Indian government has implemented a number of major reforms that include GST, RERA, IBC, as well as major social inclusion measures and EoDB indicators. However, the need for even deeper rooted reforms in a slowing global economy awash with liquidity is an unprecedented opportunity.
- A number of reform measures to optimise land, labour, capital, enterprise, governance and technology have been articulated by numerous experts. Awaited eagerly.
- Global and Indian investors continue to value entrepreneurs and businesses that can demonstrate large potential for growth in earnings, with governance

You, the Investor

Think of Cycles!

Nature is cyclical, not linear!

- Life Cycles
- Business Cycles /Boom-Bust
- Seasonality
- Innovation /Schumpeter
- Market Cycles



Impermanence in Markets

- Like weather cycles, day/night cycles, understood there are also investment cycles and cycles in companies
- Waves revert to mean, stay equanimous. X Greed/Envy/ Fear/Anger
- Gives an ability to be confident of the future, because of the sense of history that cycles bring
- Hence no permanent bear market, no permanent bull market

Investment is a Lonely Art

- Investment is lonely
- Don't agonize when people disagree with you
- As long as you accept questions, criticisms or suggestions in the right spirit you are going through a building process
- Collective brainstorming helps us get better all the time

Don't Swing in Valuation Approaches

BEAR MARKET

BULL MARKET

BUBBLE MARKET



Focus on the size of the win

- Nemishbhai is always focused on the size of the win
- Frequency vs. Magnitude, Activity vs. Achievement
- Likes to take bets only at good odds which tend to give him disproportionate returns
- It makes him the most unique

Can a company earn profit equal to today's market cap?

- Can a company earn profit equal to its market cap
- Whether or not it happens is secondary, but the thinking should be in that direction
- It requires research, understanding, and intense study

“Invert, always invert.”

- How large can the profits of this company get?
- Need to understand scenarios and sensitivities of most companies
- I feel more confident when prices go down provided I have thought through most scenarios for the company
- I learned the complete opposite in business school > Beta is bad

Reading Annual Reports to the last decimal point

- Regular follow up on companies is important
- Fine art to stripping the Balance Sheet down to the Last Decimal Point
- Reading EVERY single note to accounts
- The need for financial rigor and discipline cannot be overemphasized

Decompose | Decompose | Decompose

Sectors	Large Cap	Medium Cap	Small Cap	Total
FMCG				
Pharma				
Banks				
IT				
Telecom				
Media				
Engg				
Autos				
Commodities				
Total				

Decompose | THEN | Consolidate

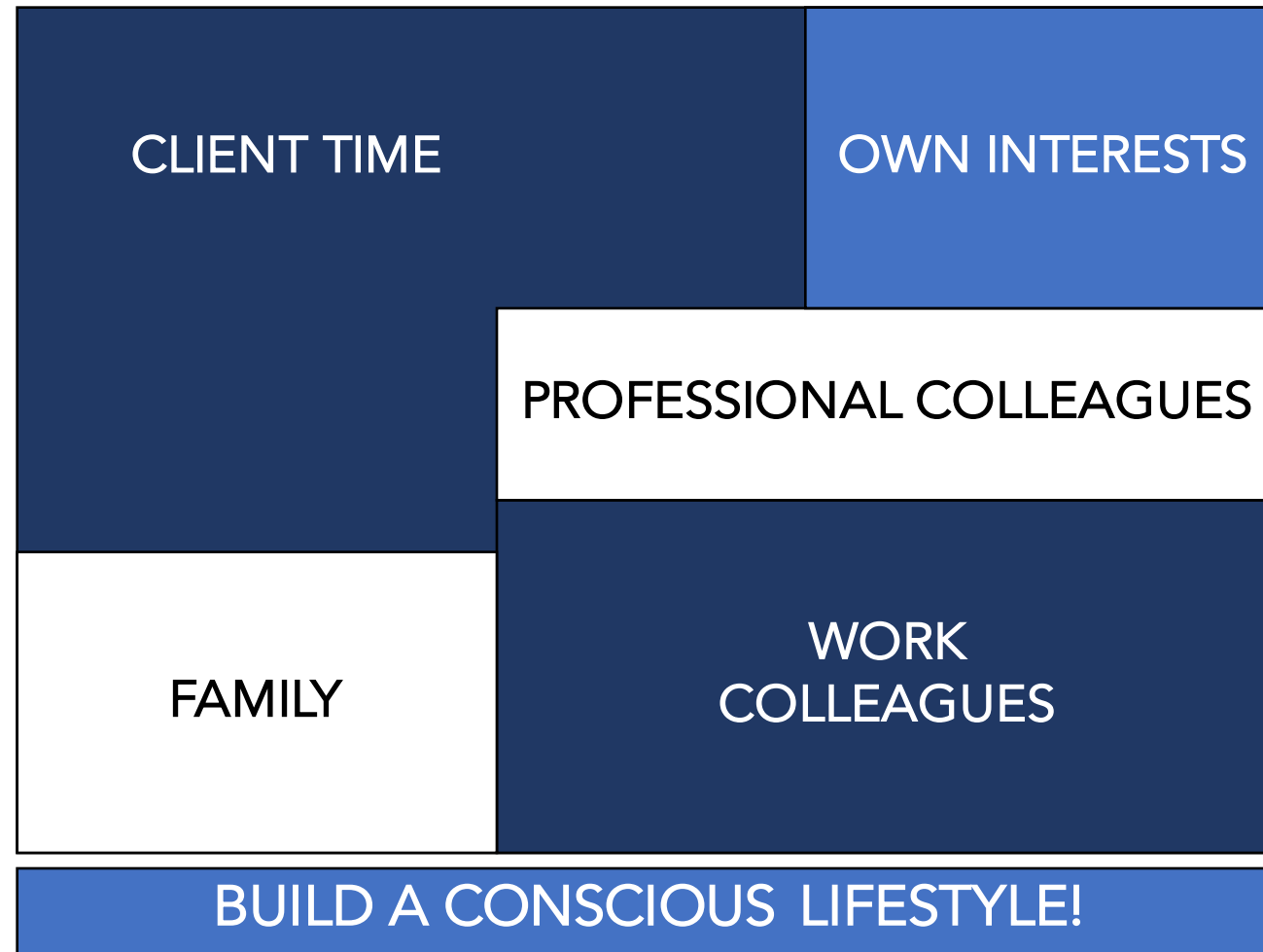
- A good investor is a good businessman and vice versa

Aggregate Portfolio Metrics							
Sales	OPIDT	PAT	DIV	NW	Debt	Net Blk	Wkg Cap

OPM %	Sales / NBIK	Wkg Cap/ Sales	ROI	ROE

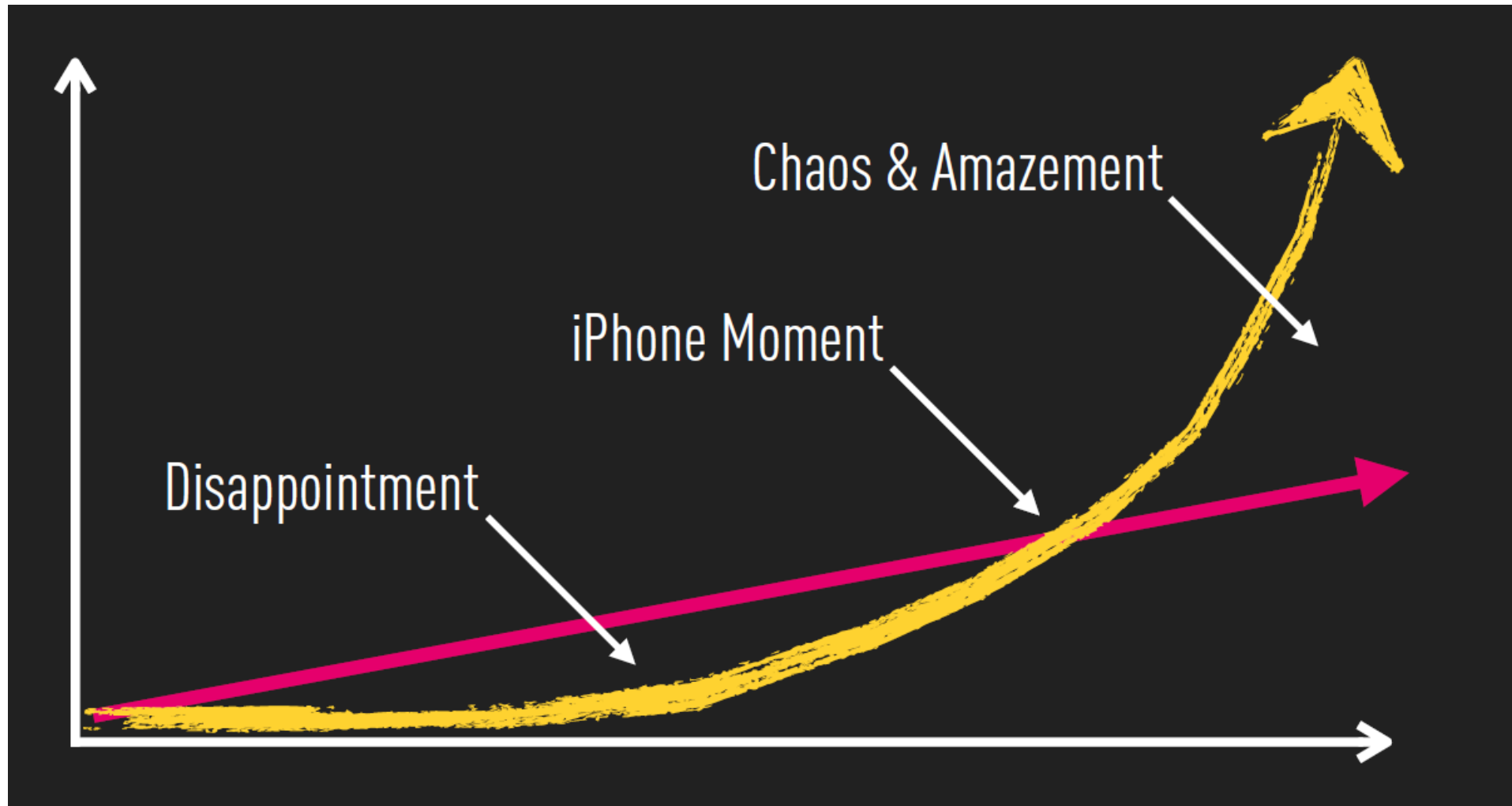
Div y/d	P/BV	EV/EBIDTA	P/E	PE/G

How is your Portfolio Tilted?



Technology Disruption

What is Disruption?

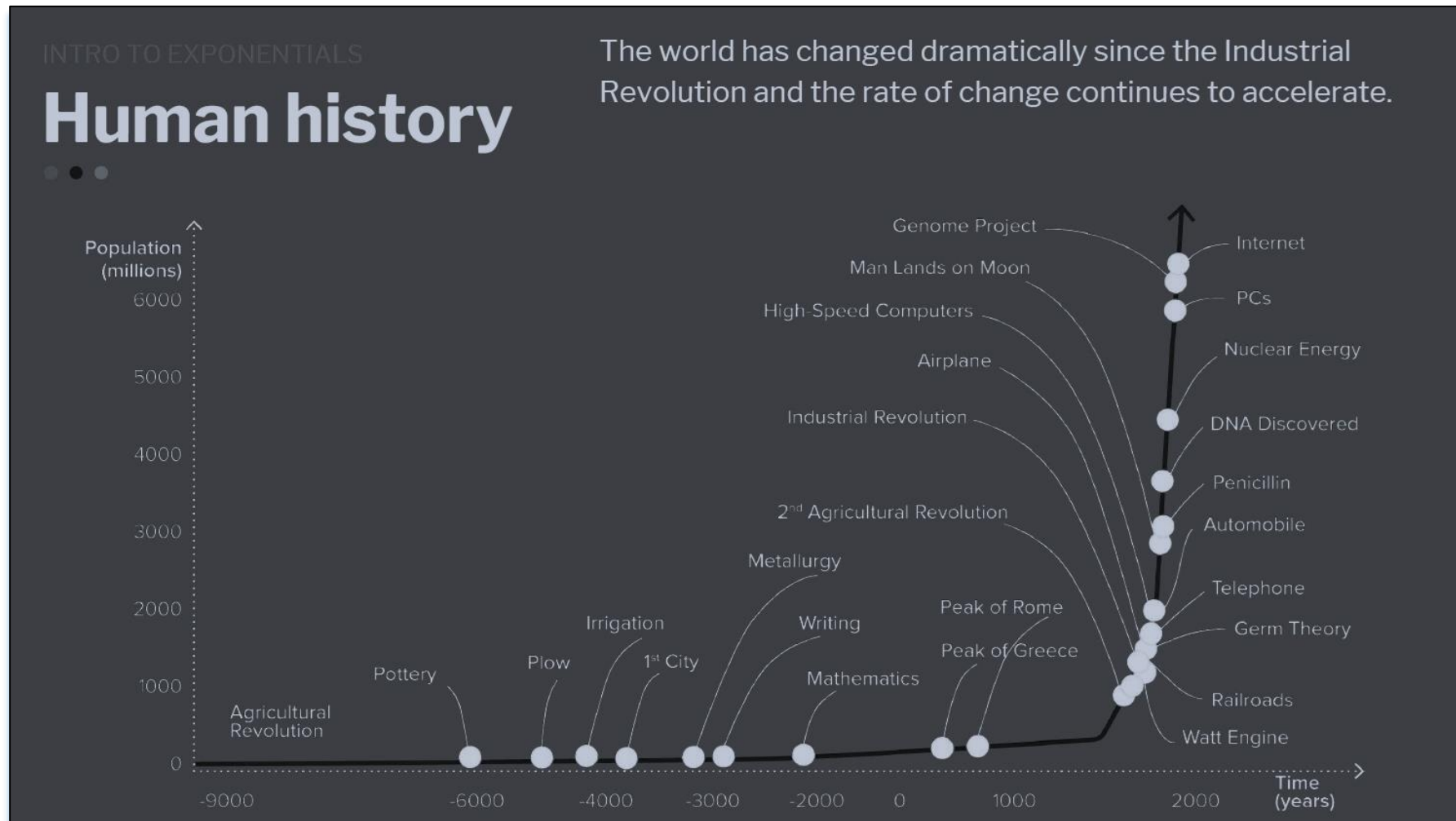


Technological change is exponential

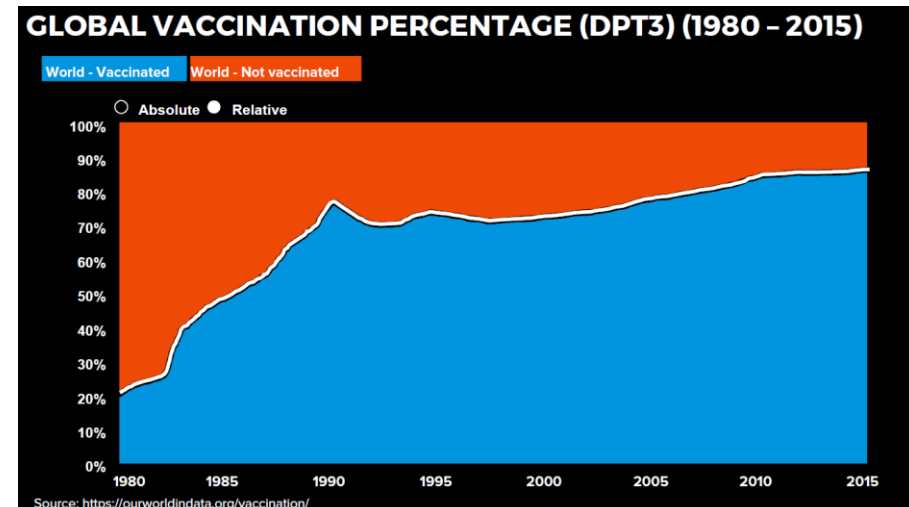
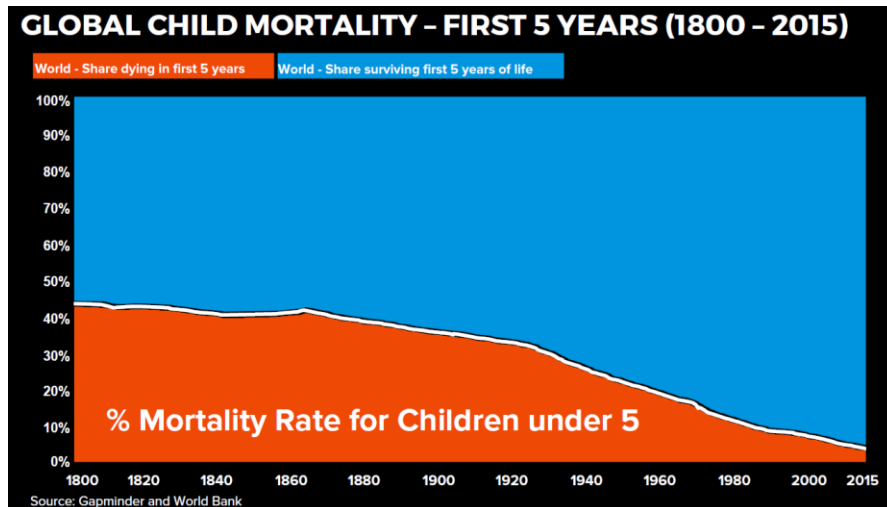
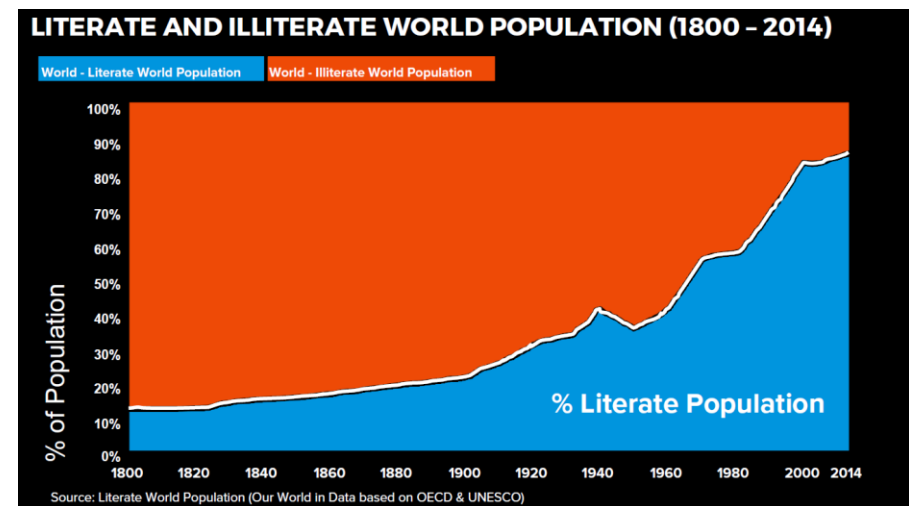
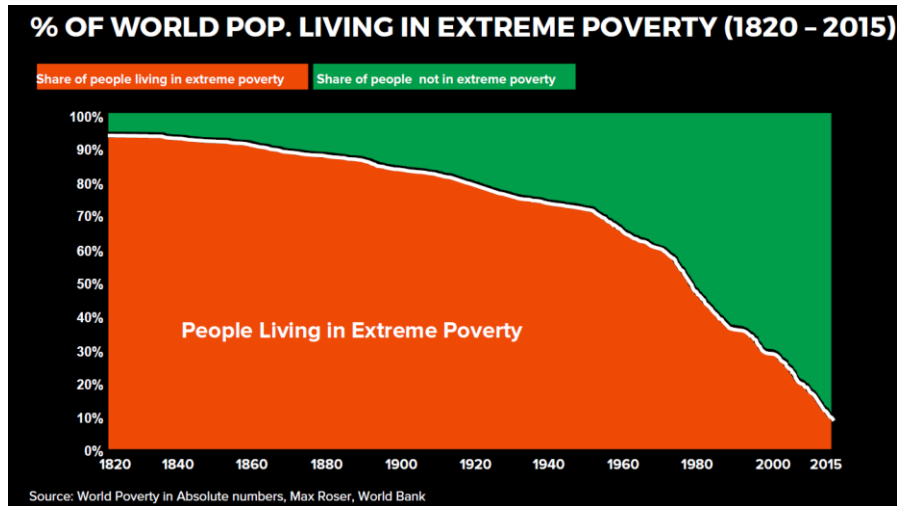


We all know about the magic of compounding... apply this on a LOG SCALE

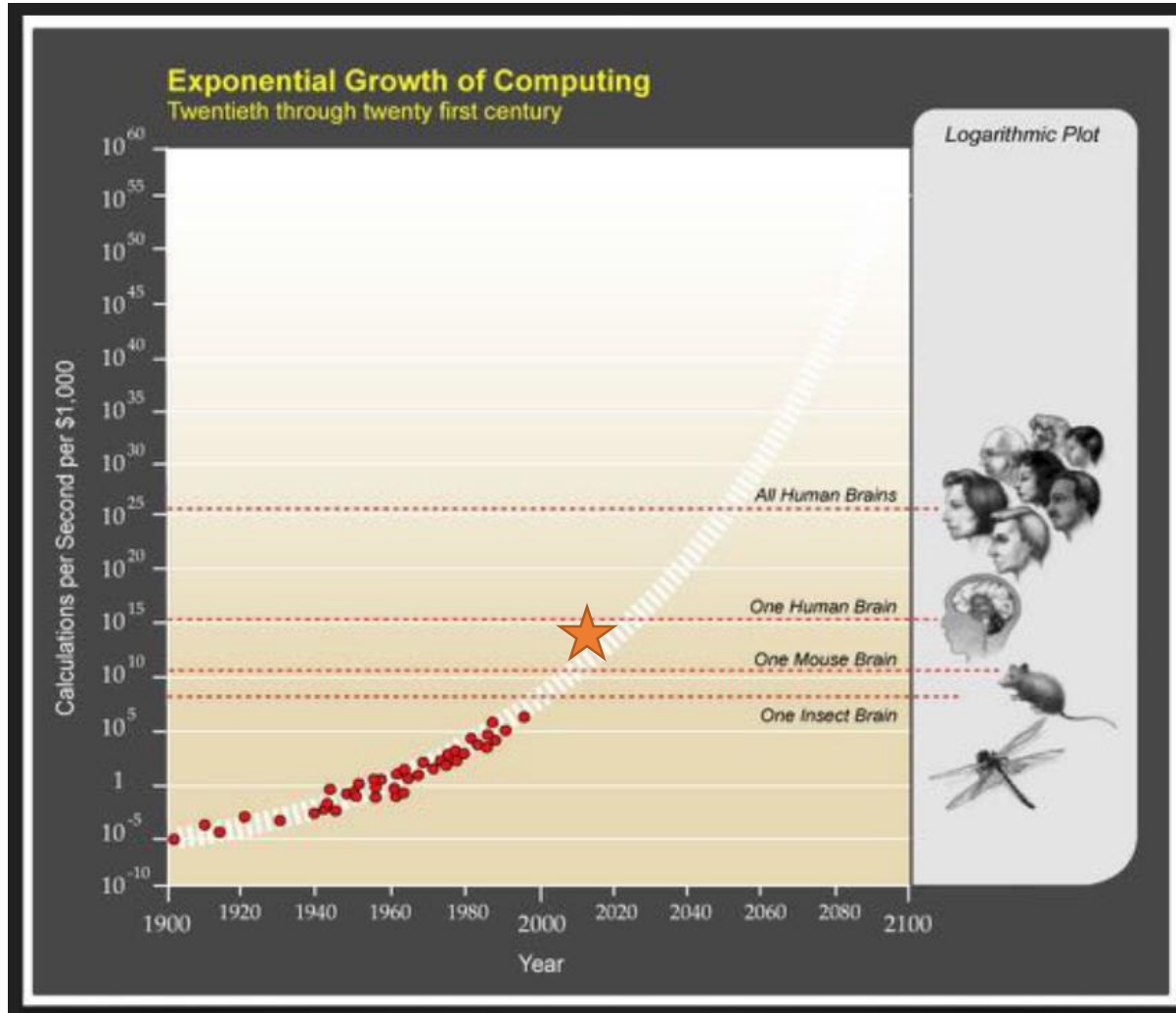
Disruption has gone exponential



We live in exponential times



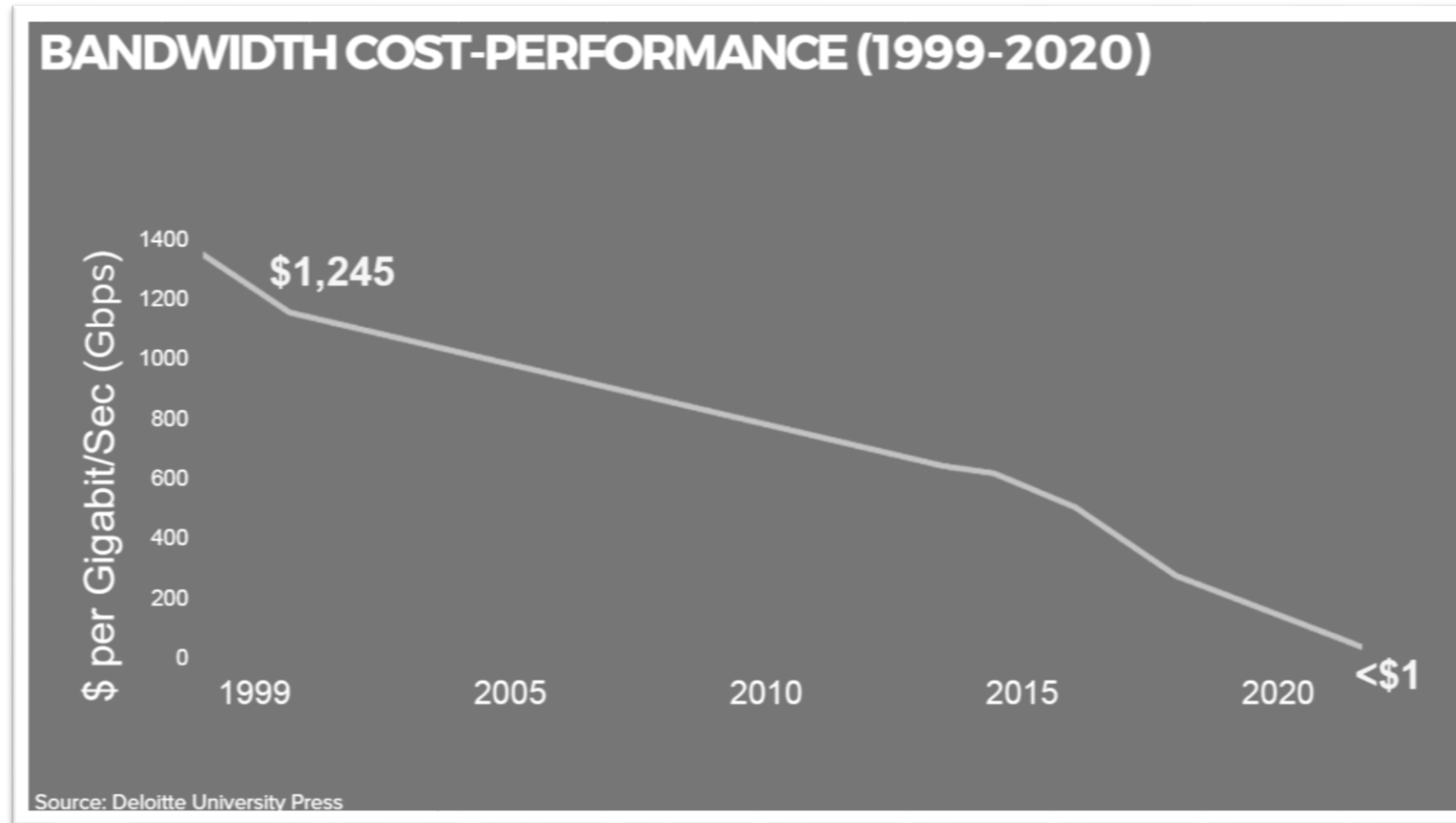
Computing power has gone exponential



Computers already
beating humans at
Chess, AlphaGo

AI and Machine
Learning already
allowing algorithms,
digital assistants to
make human
intervention redundant.

Bandwidth costs have collapsed



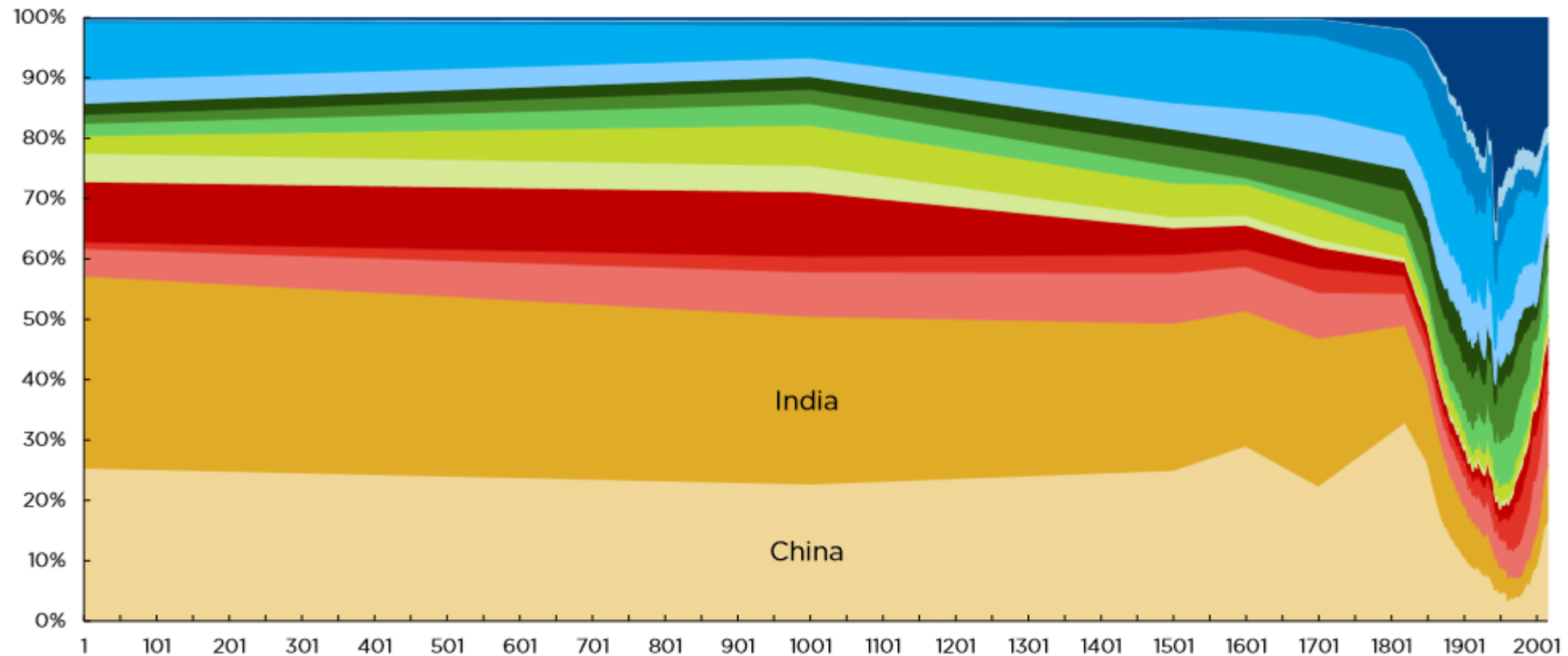
A child in Africa with a smart phone has access to as much information as the President of the USA had in 1998!

In 10 years, it's predicted that 40% of the Fortune 500 companies will no longer exist as things that were once scarce become abundant

A reminder: What missing a big trend can do...

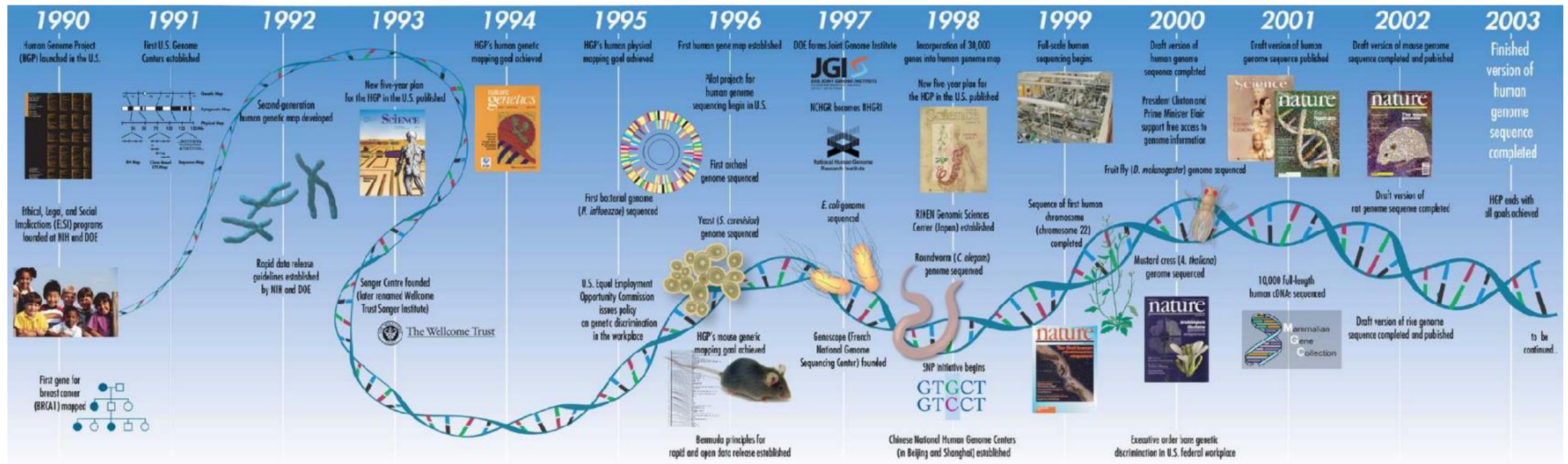
19th Century Industrial Revolution. India goes from ~25% to <2%

Share of World GDP (%), 1-2016 CE

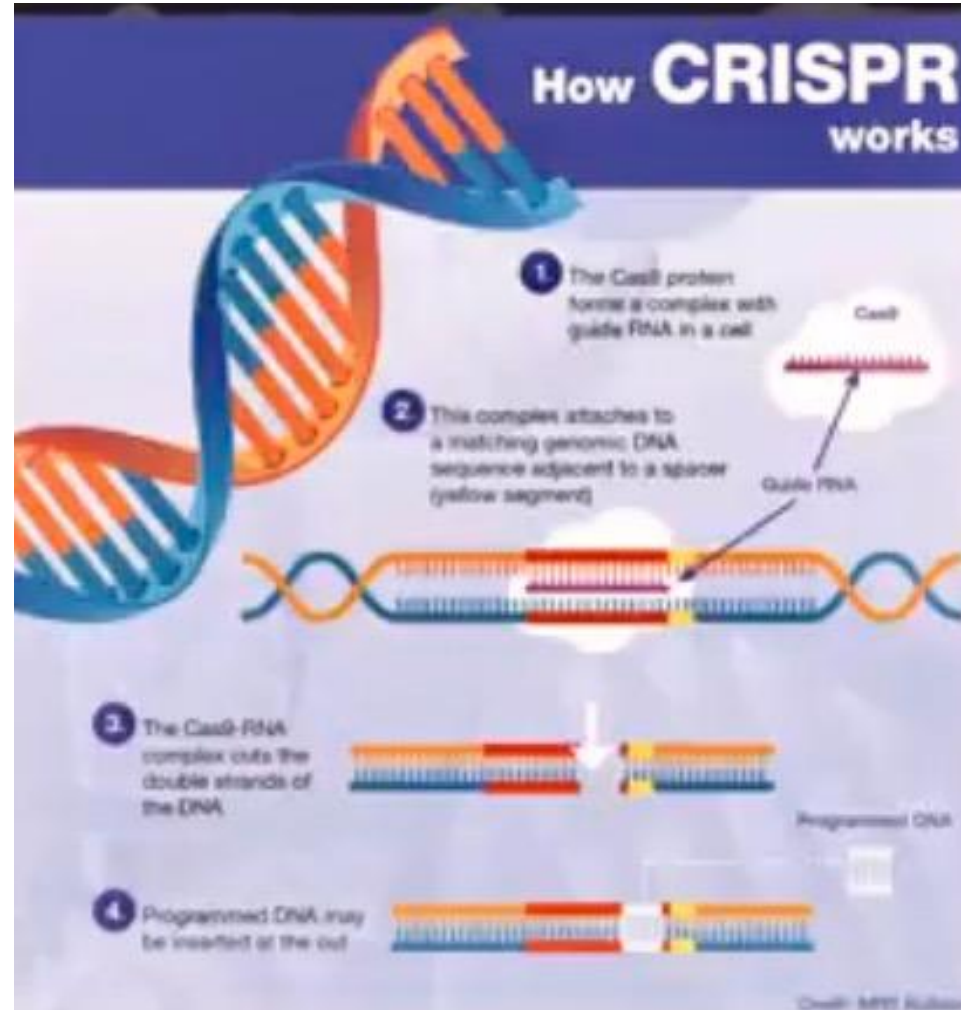
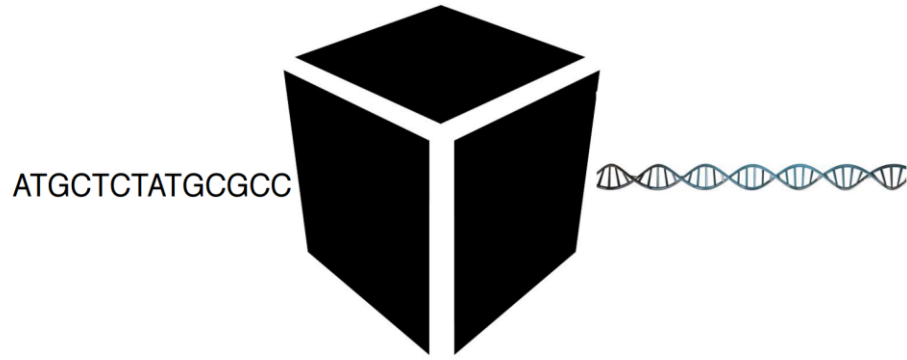


Disruption in life sciences

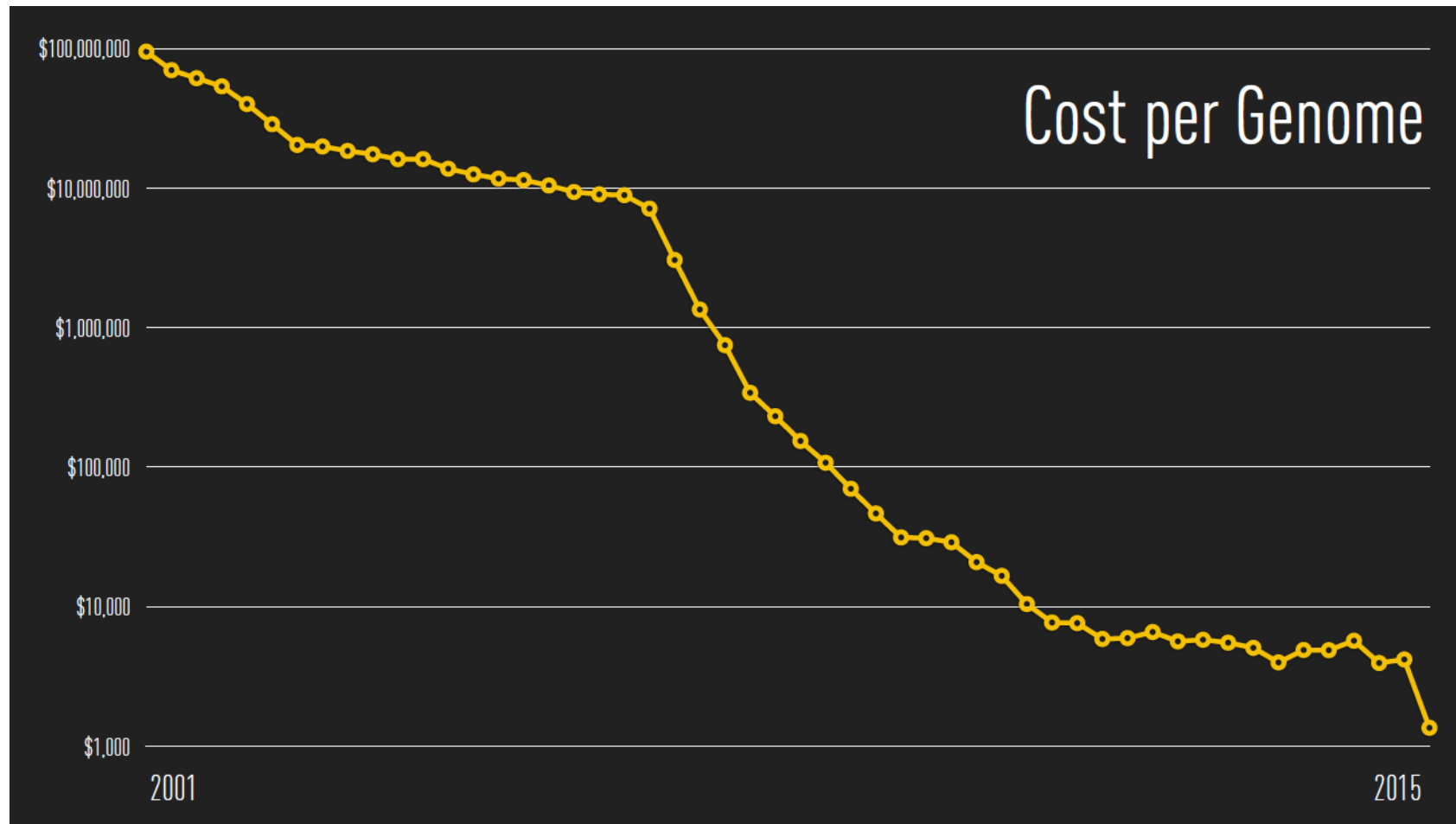
Digital Biology is going exponential



Digital Biology

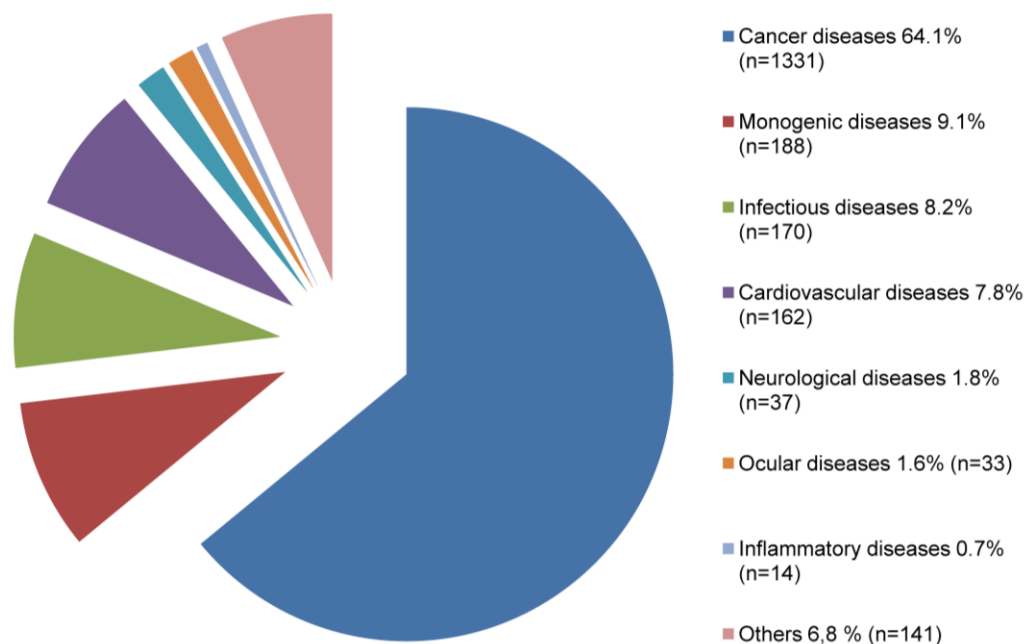


Cost of DNA Sequencing



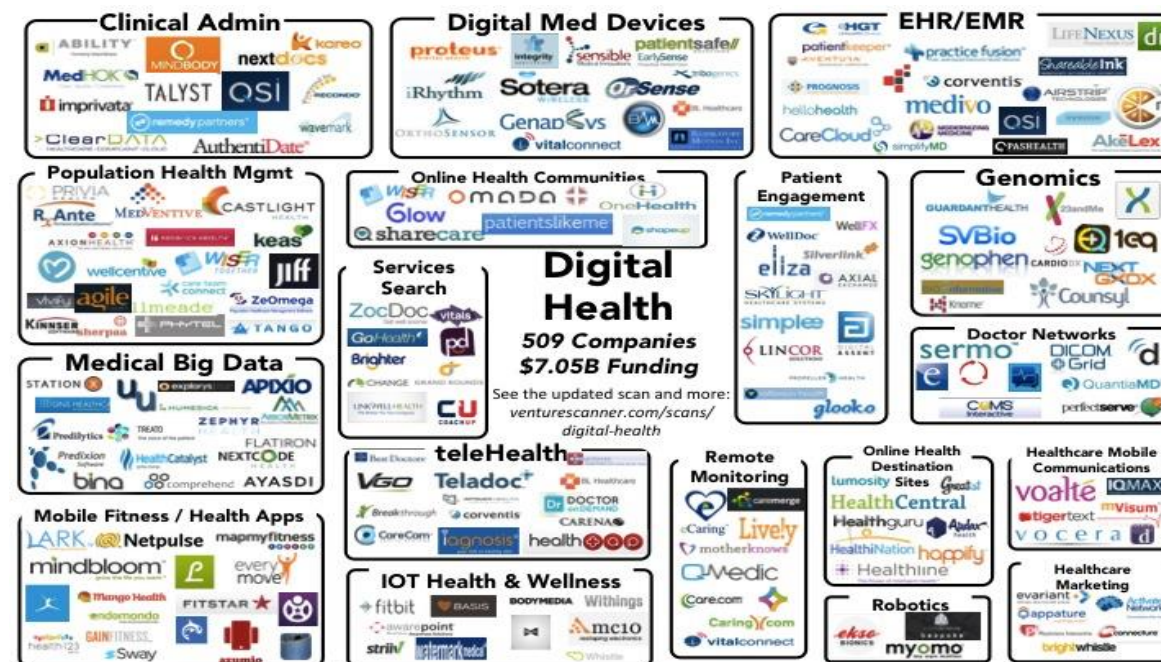
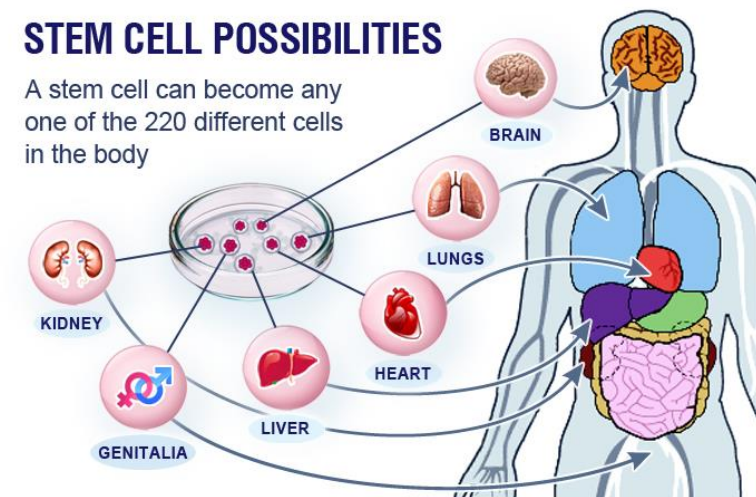
Healthcare being disrupted

Indications addressed by gene therapy clinical trials



STEM CELL POSSIBILITIES

A stem cell can become any one of the 220 different cells in the body



Venture Scanner

Energy

Energy

1 Day of Humanity's Energy Use =

Energy

10 Seconds of Sunlight

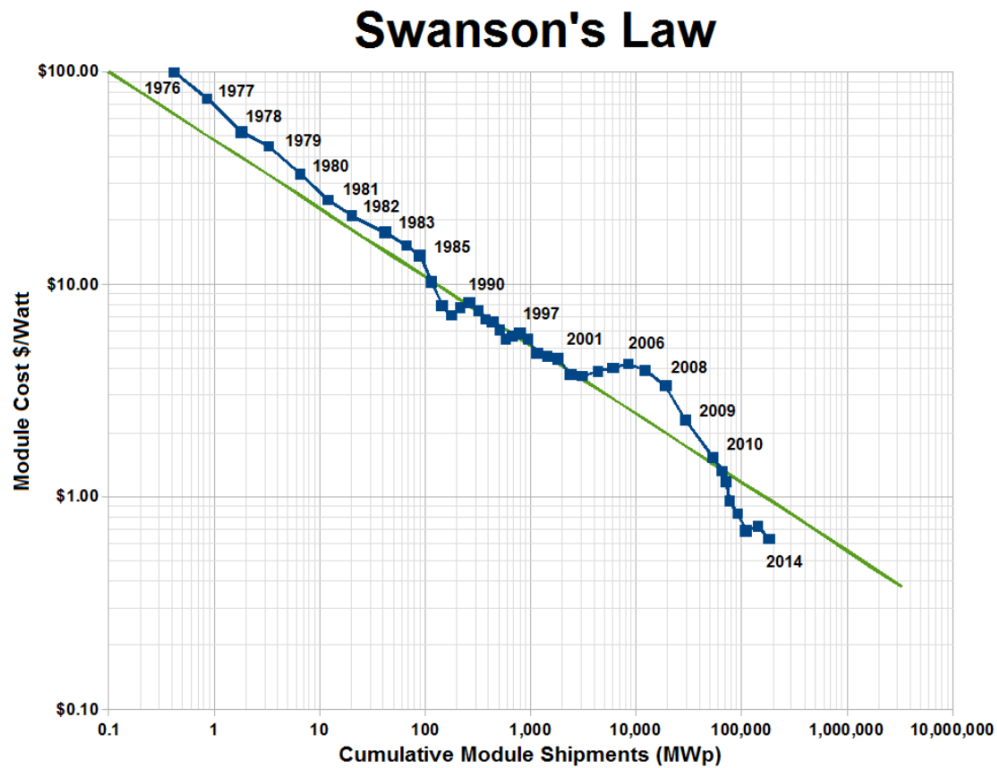
Energy

1 Year of Humanity's Energy Use =

Energy

1 Hour of Sunlight

Solar Energy



Photovoltaic Cell

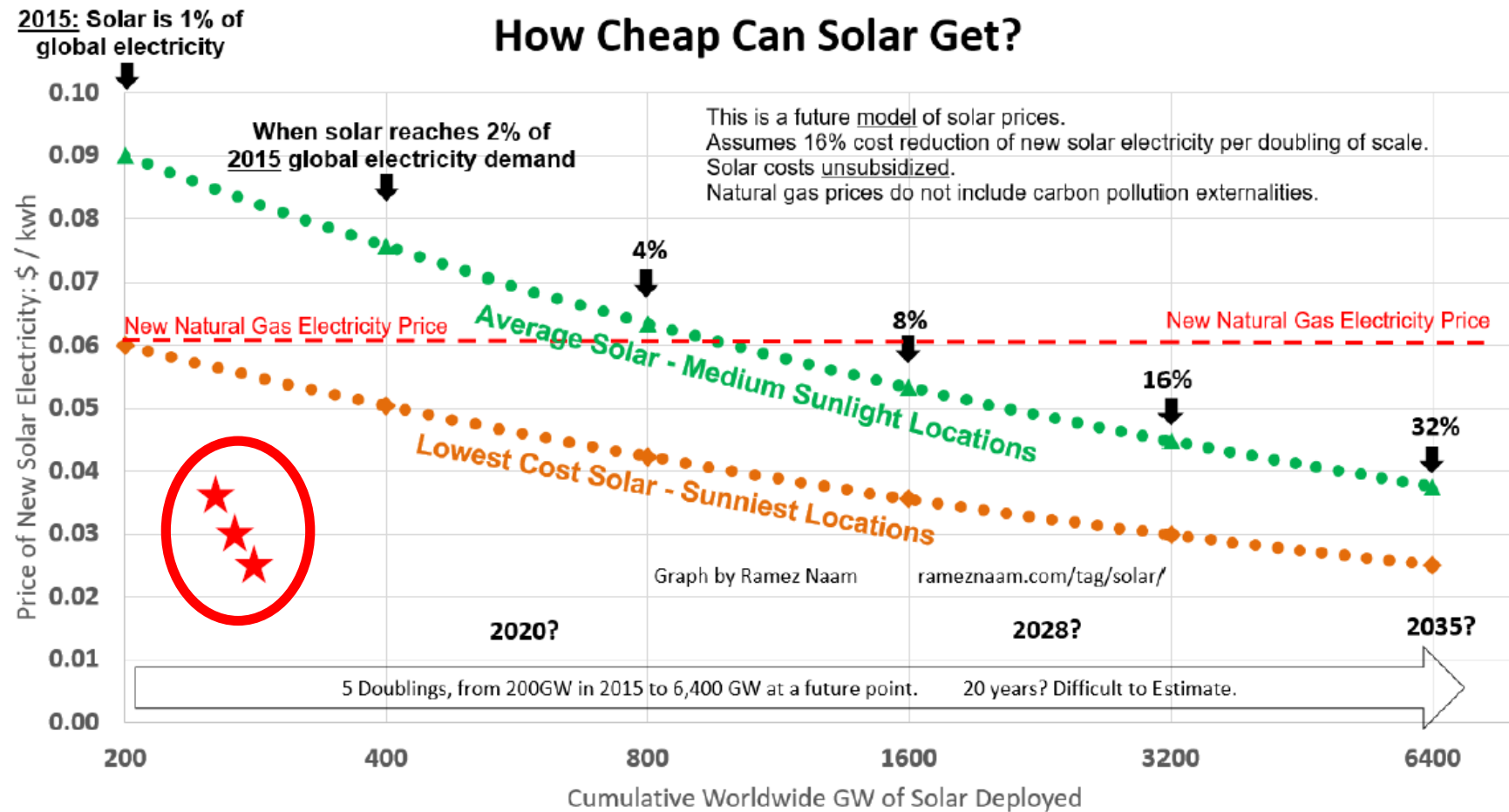
1977: **\$76.67**

1987: **\$10**

2015: **\$0.30**

2016: **\$0.03**

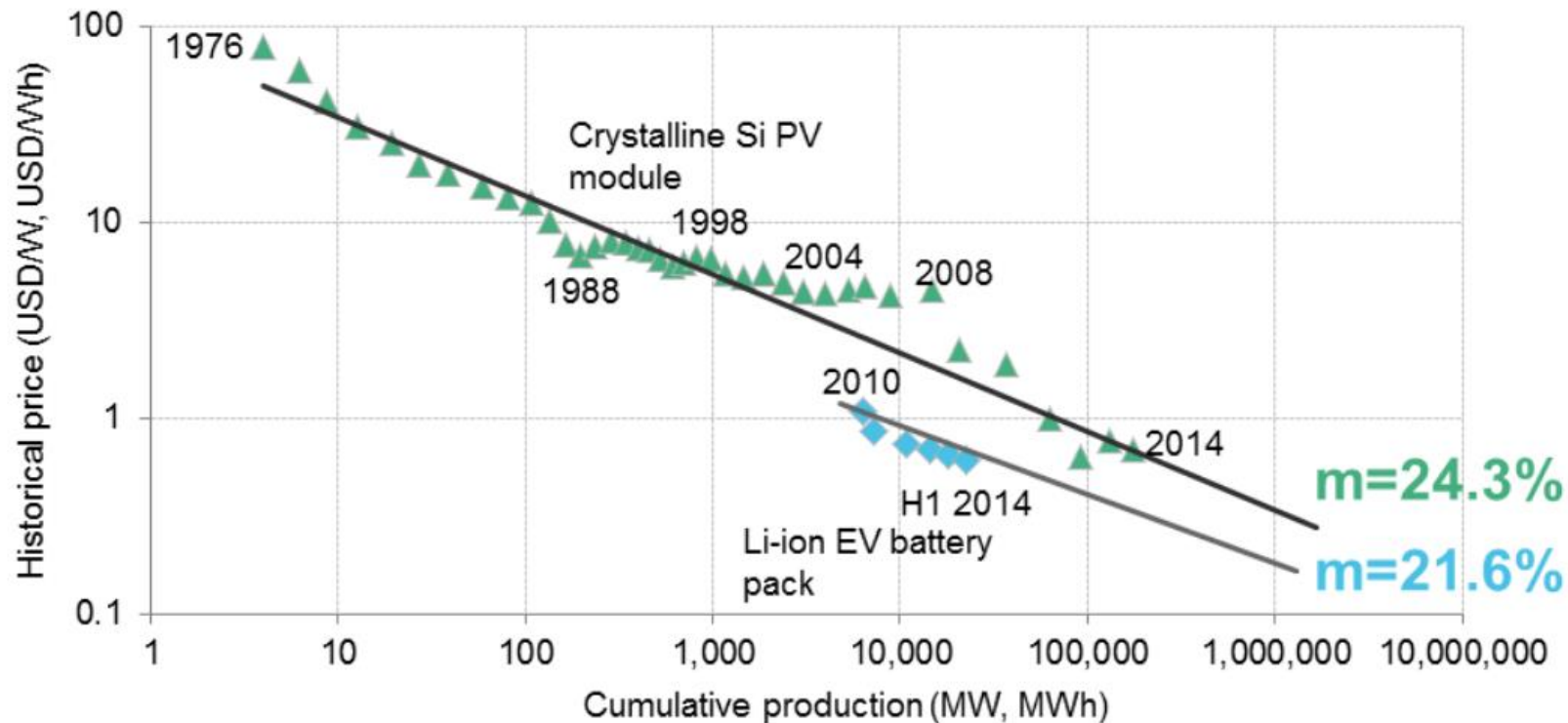
Solar Energy



Batteries to follow Solar's Cost Curve

LITHIUM-ION EV BATTERY EXPERIENCE CURVE COMPARED WITH SOLAR PV EXPERIENCE CURVE

Bloomberg
NEW ENERGY FINANCE



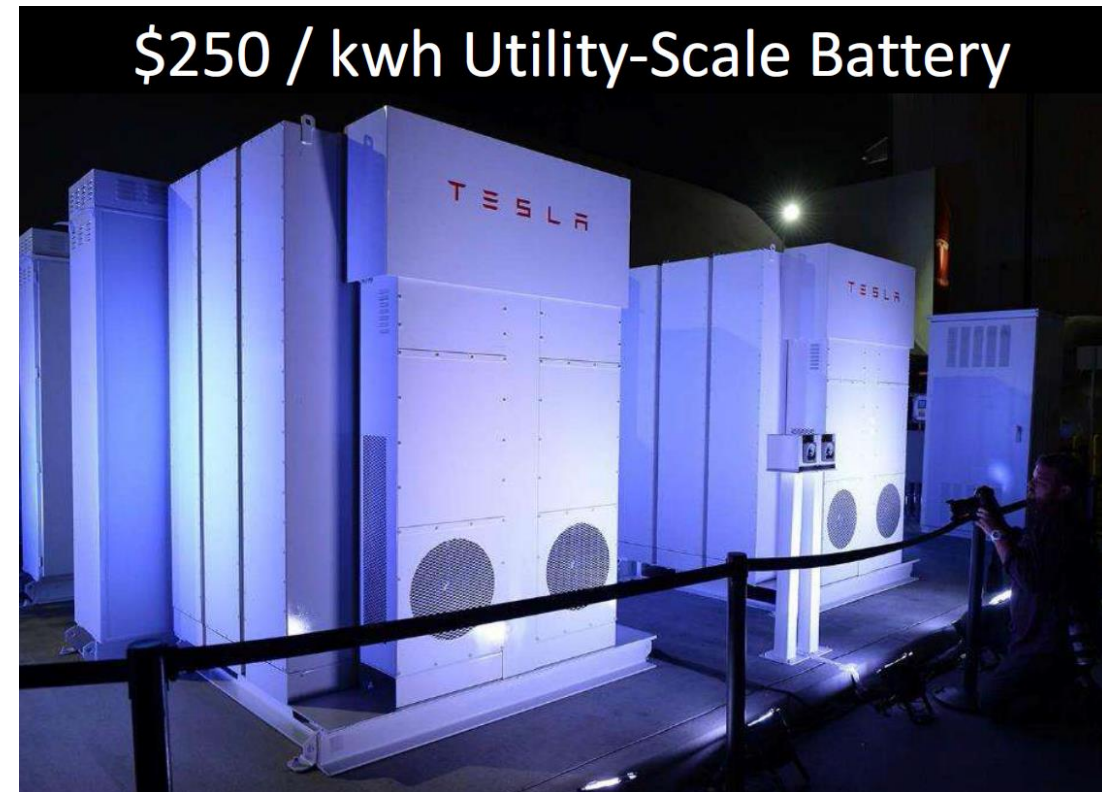
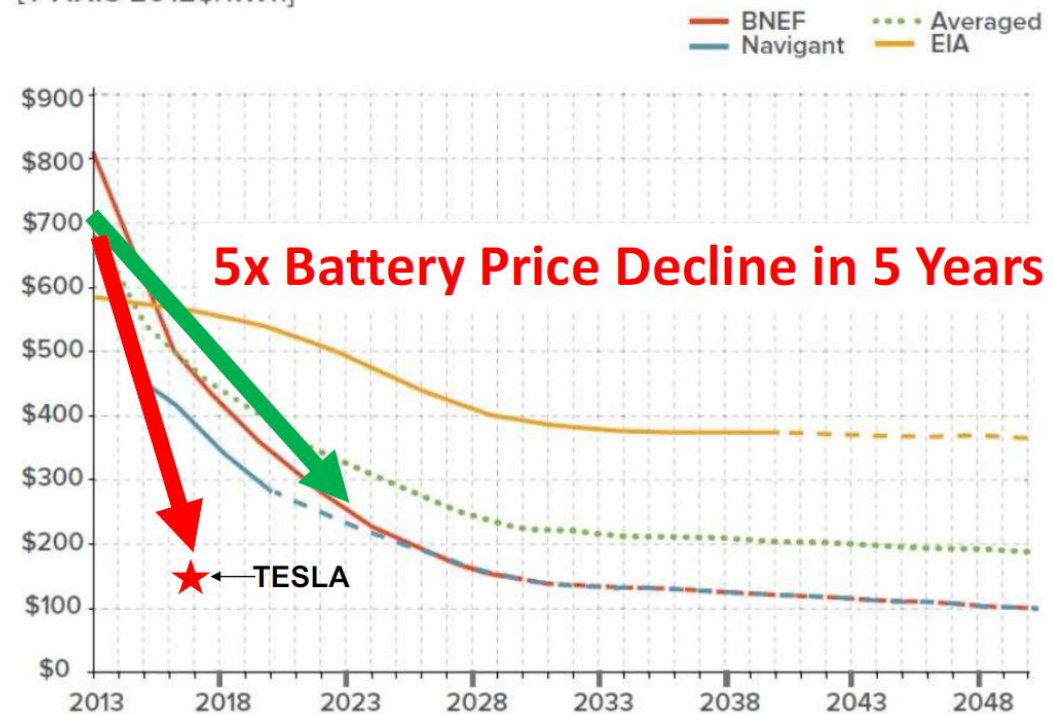
Note: Prices are in real (2014) USD.

Source: Bloomberg New Energy Finance, Maycock, Battery University, MIT

Energy

BATTERY PRICE PROJECTIONS

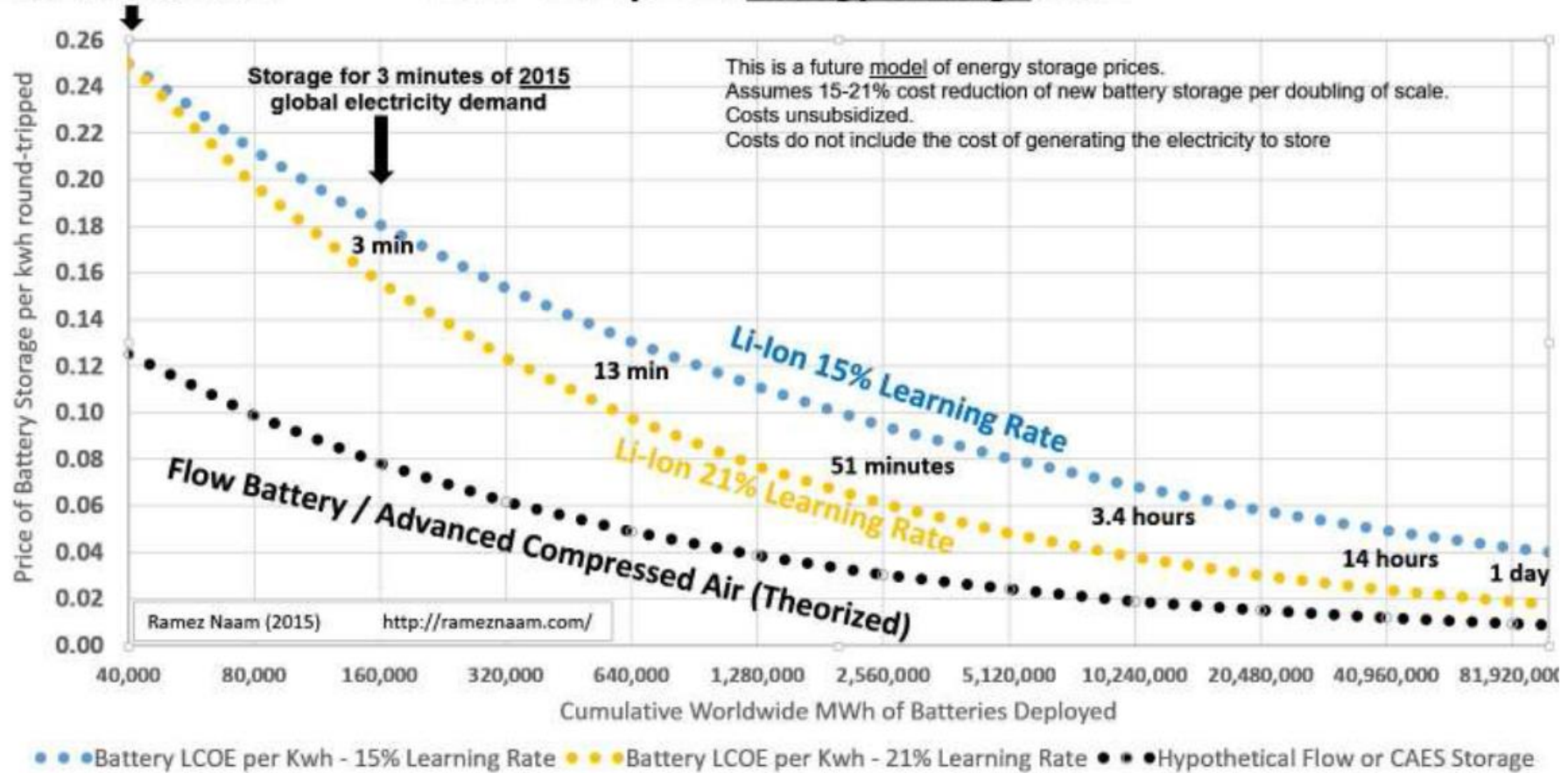
[Y-AXIS 2012\$/kWh]



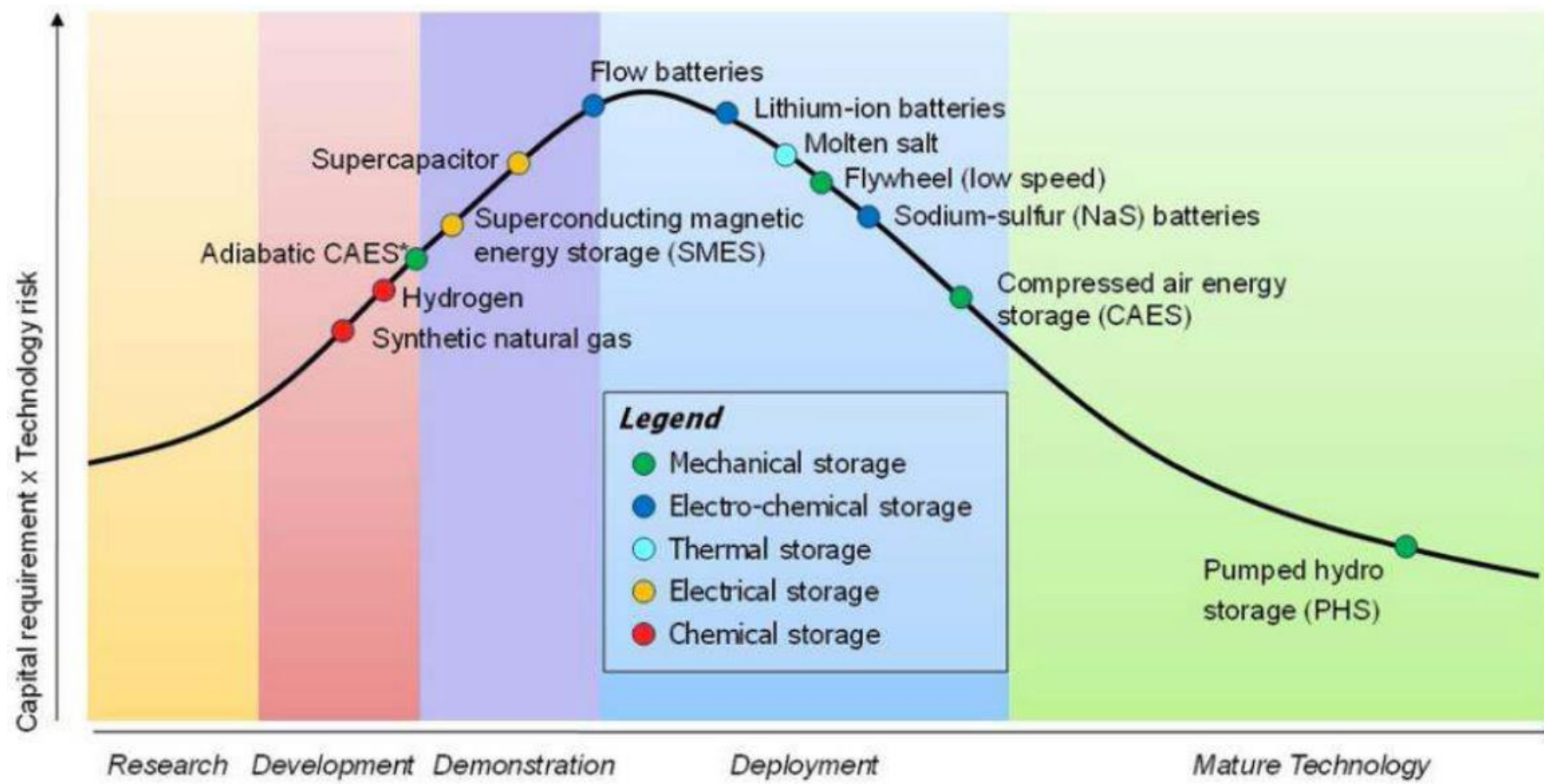
Energy

2015: Store <1 Minute of World Electricity Demand

How Cheap Can Energy Storage Get?

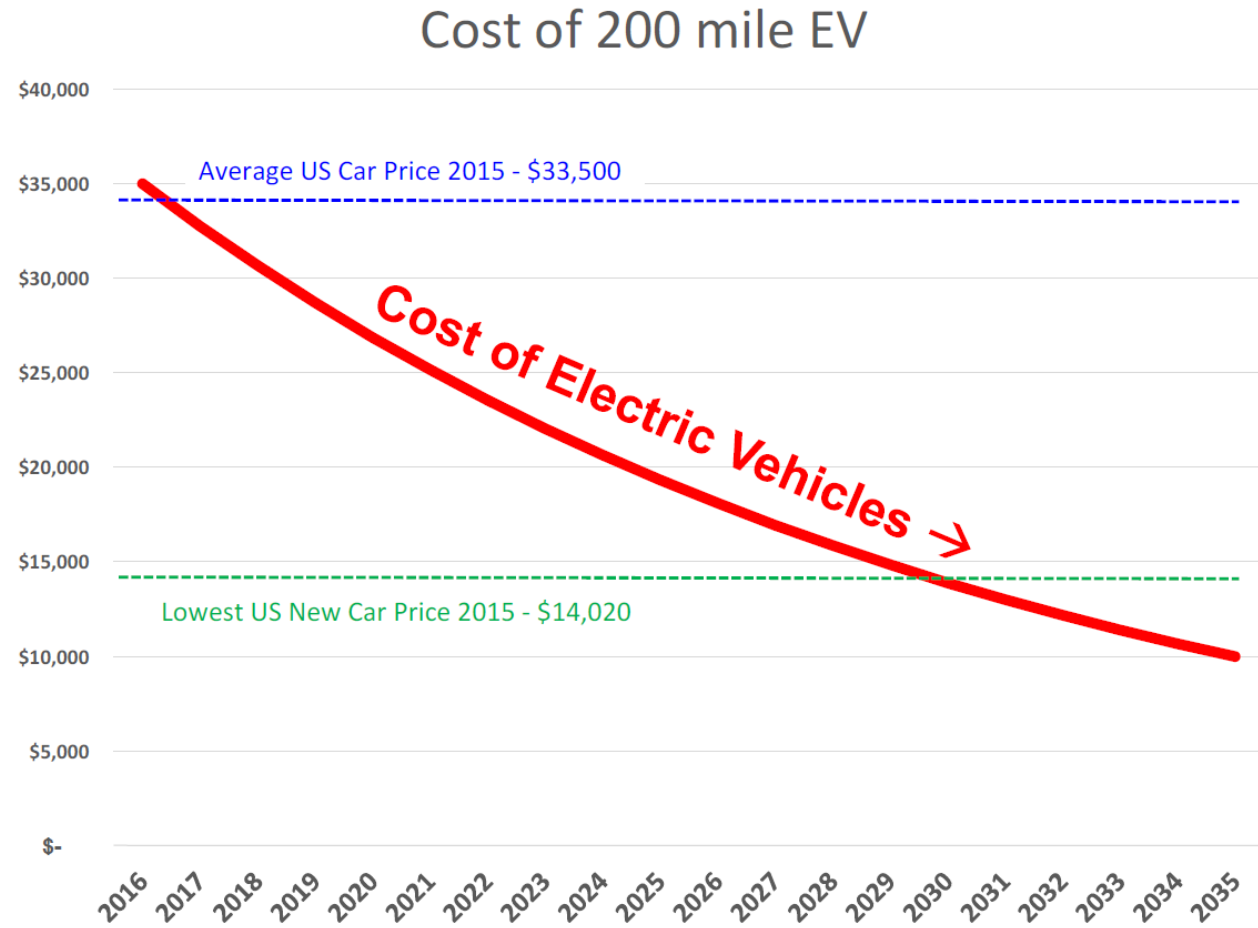


Many other Storage Technologies are coming



Electric & Self Driving Vehicles

EV's disruption: faster than you think



Autonomous Driving: Cameras + AI + Sensors



Internet of Things & Sensors

IOT – Third Wave Effects



First Wave:
Scarce resource.
Usage rationed.



Second Wave:
One-to-one usage.



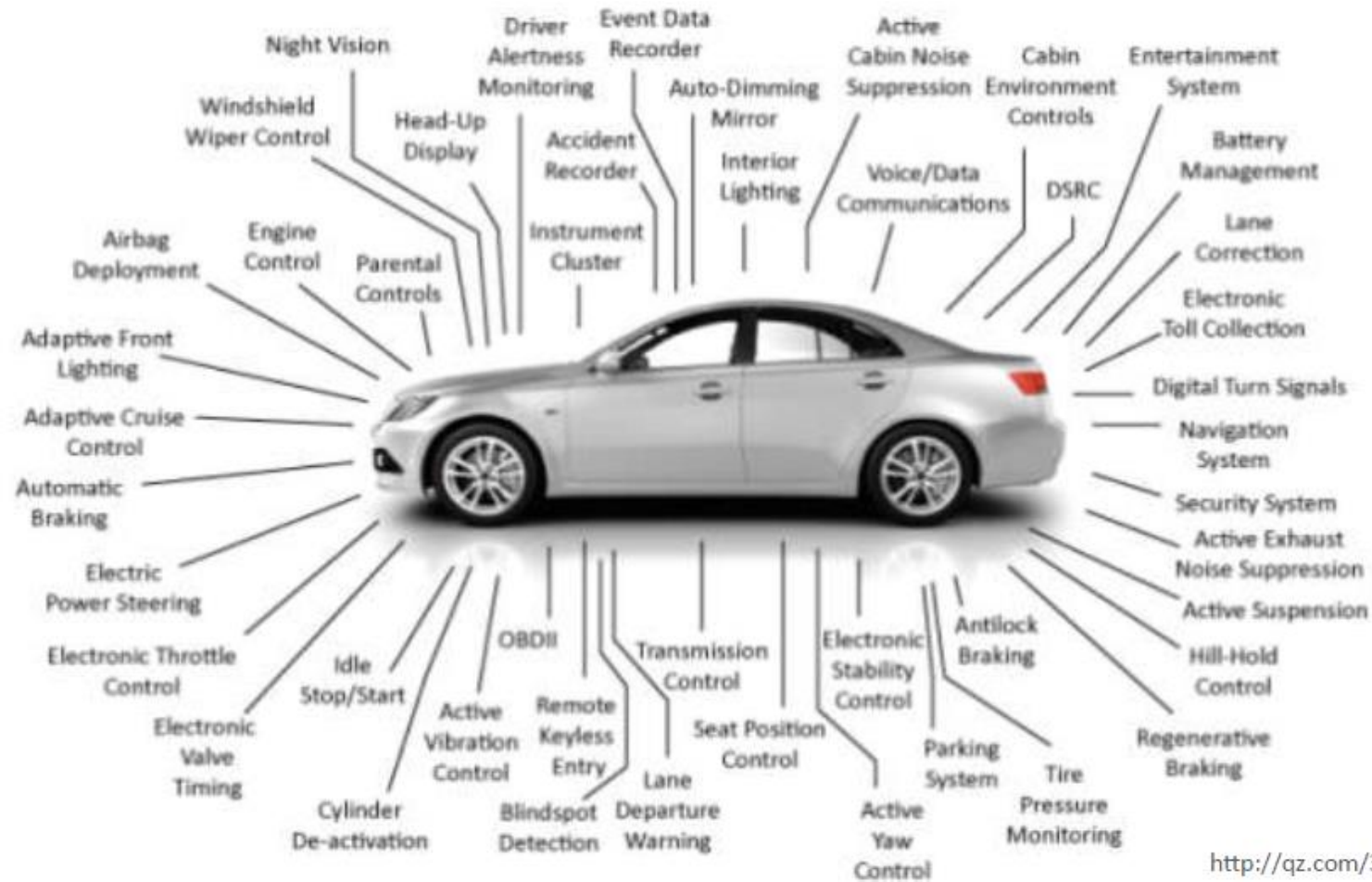
Third Wave:
Everywhere.
Virtually free.

Sensor Explosion

- The list of available sensors is enormous...and growing

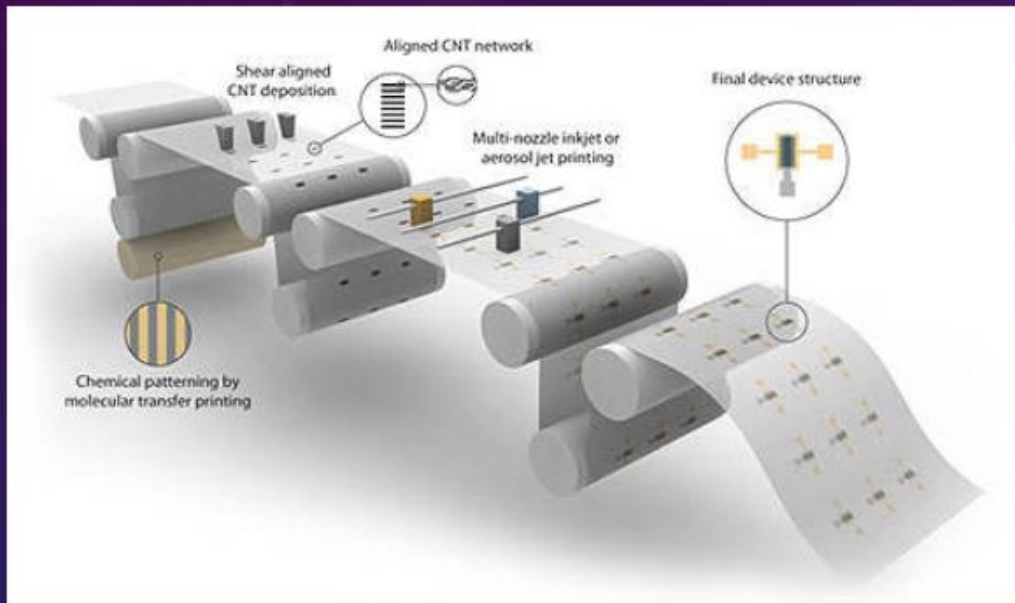


Sensing a Revolution: Cars

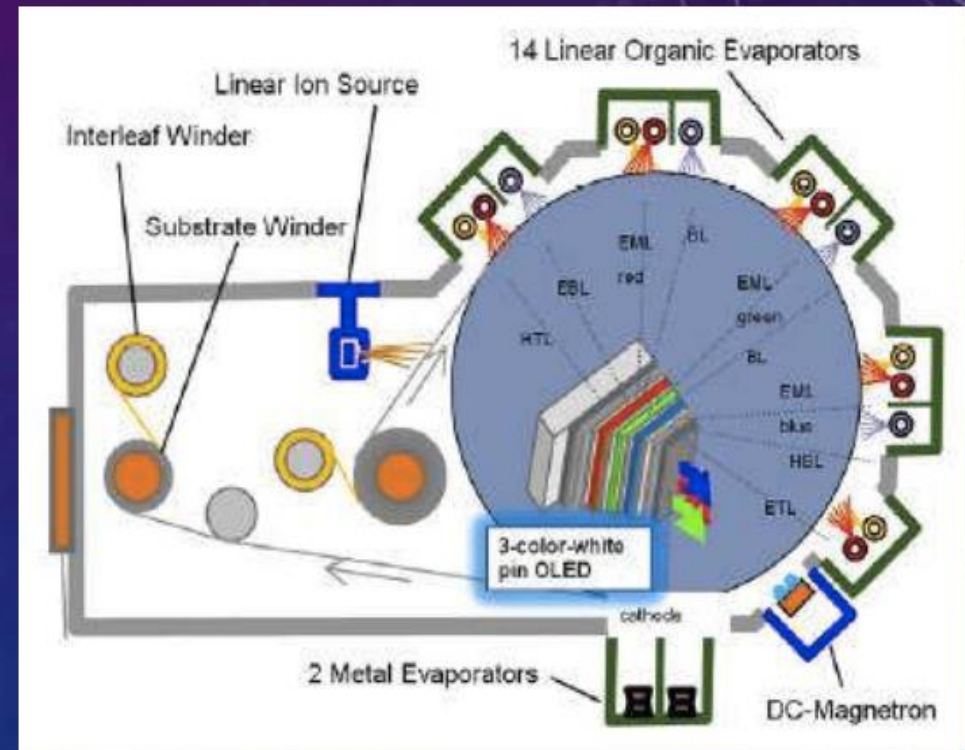


<http://qz.com/327326>

Sensing a Revolution: Manufacturing



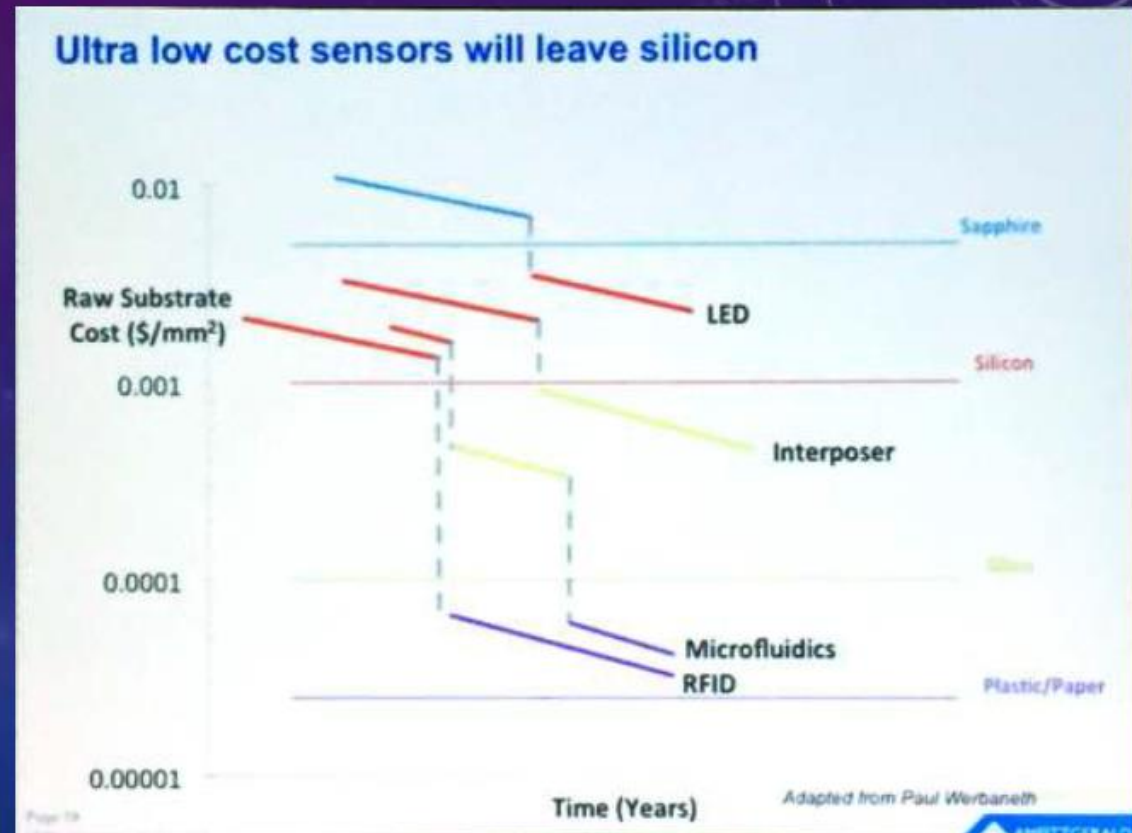
Ink Jet printed electronics



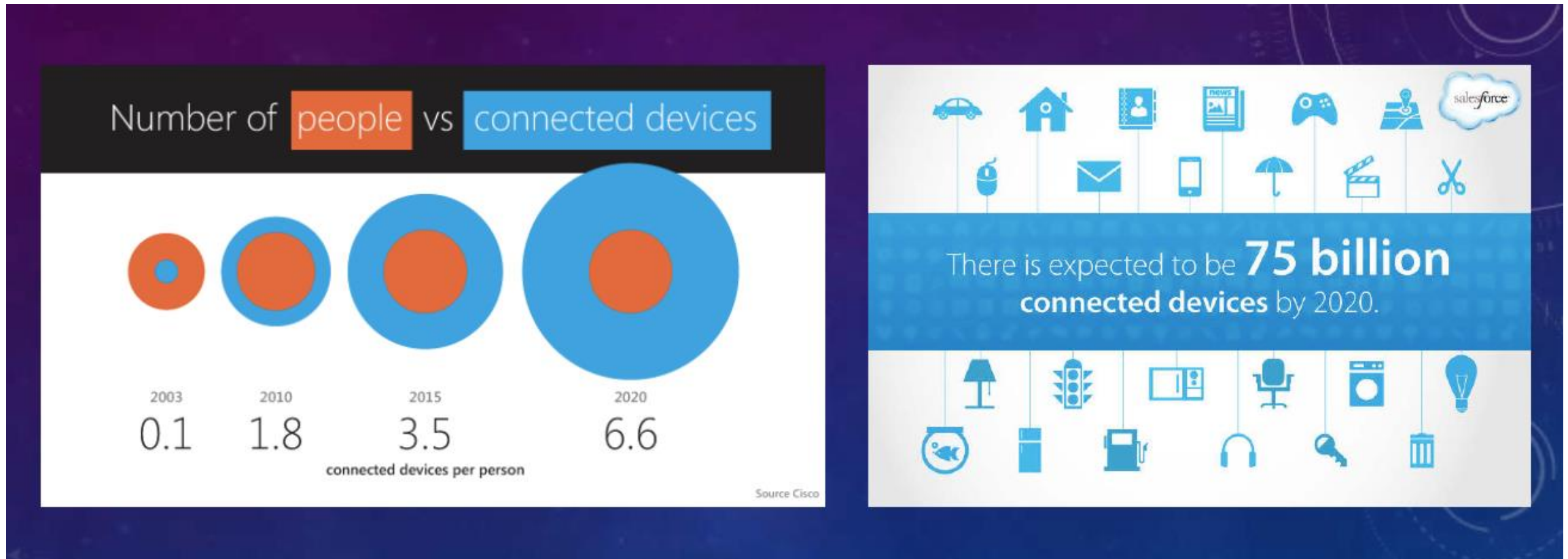
OLED evaporators

Sensors going exponential

- Silicon is dominant for performance, but not cost
- Major efforts for Paper/Plastic substrates
- Requires new manufacturing infrastructure

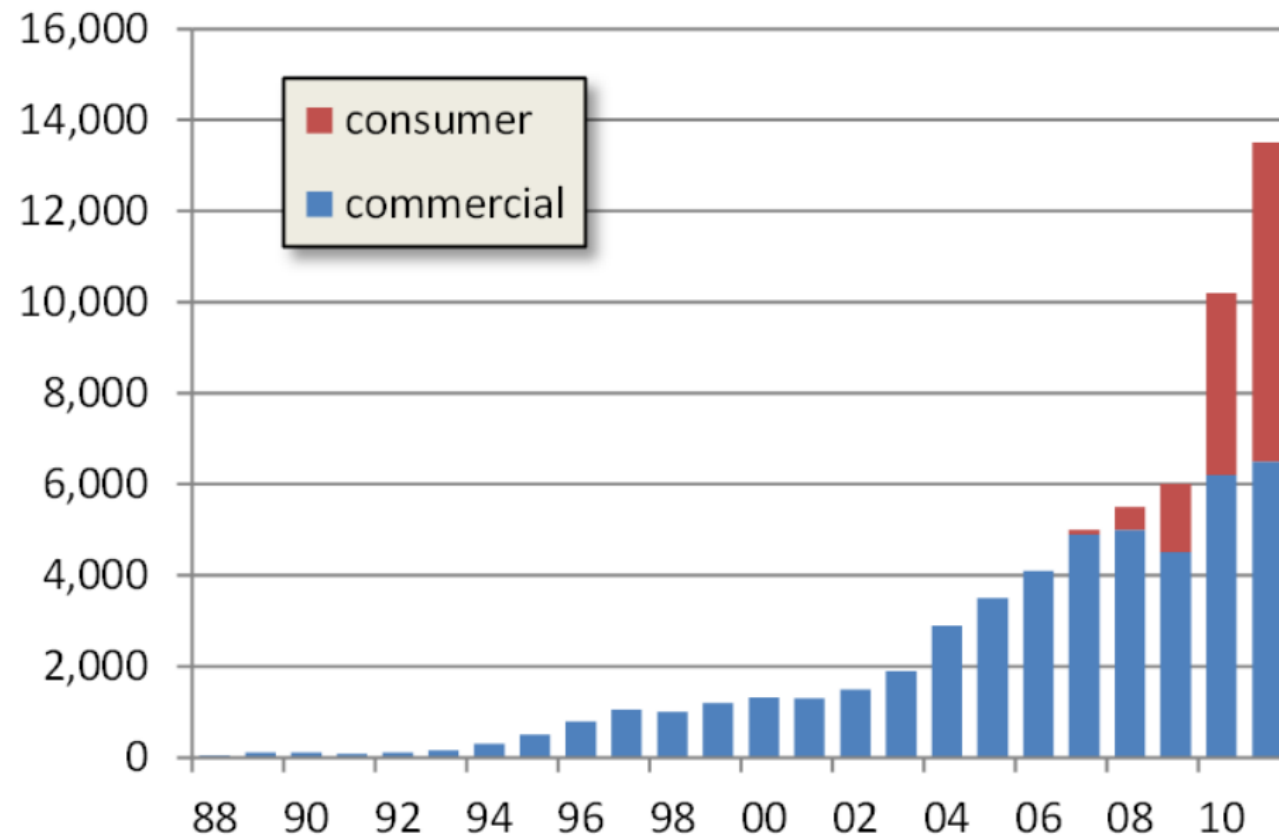


Connected Devices = Exponential Growth

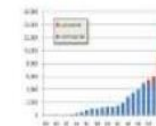


Digital Manufacturing/ 3D Printing

Digital Manufacturing



Data: Wohlers report

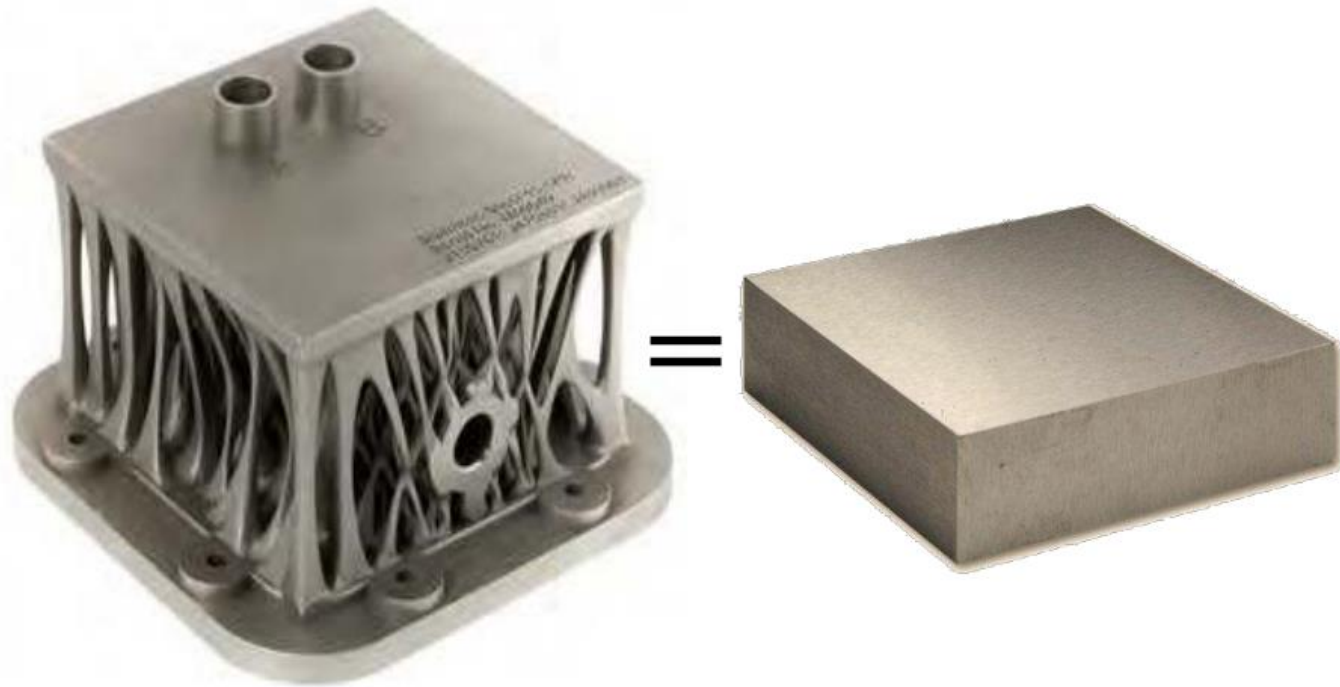


2014



2015

Disruption 1: Complexity is free



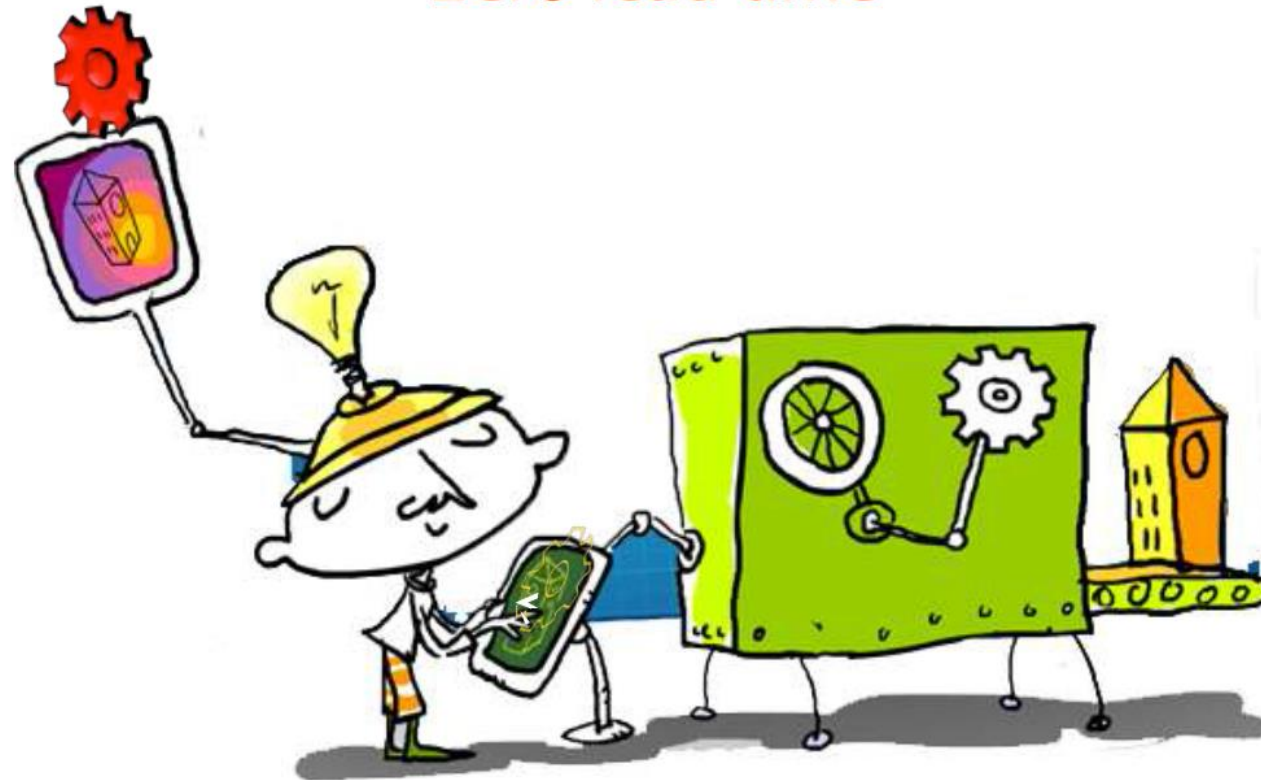


Disruption
No assembly required



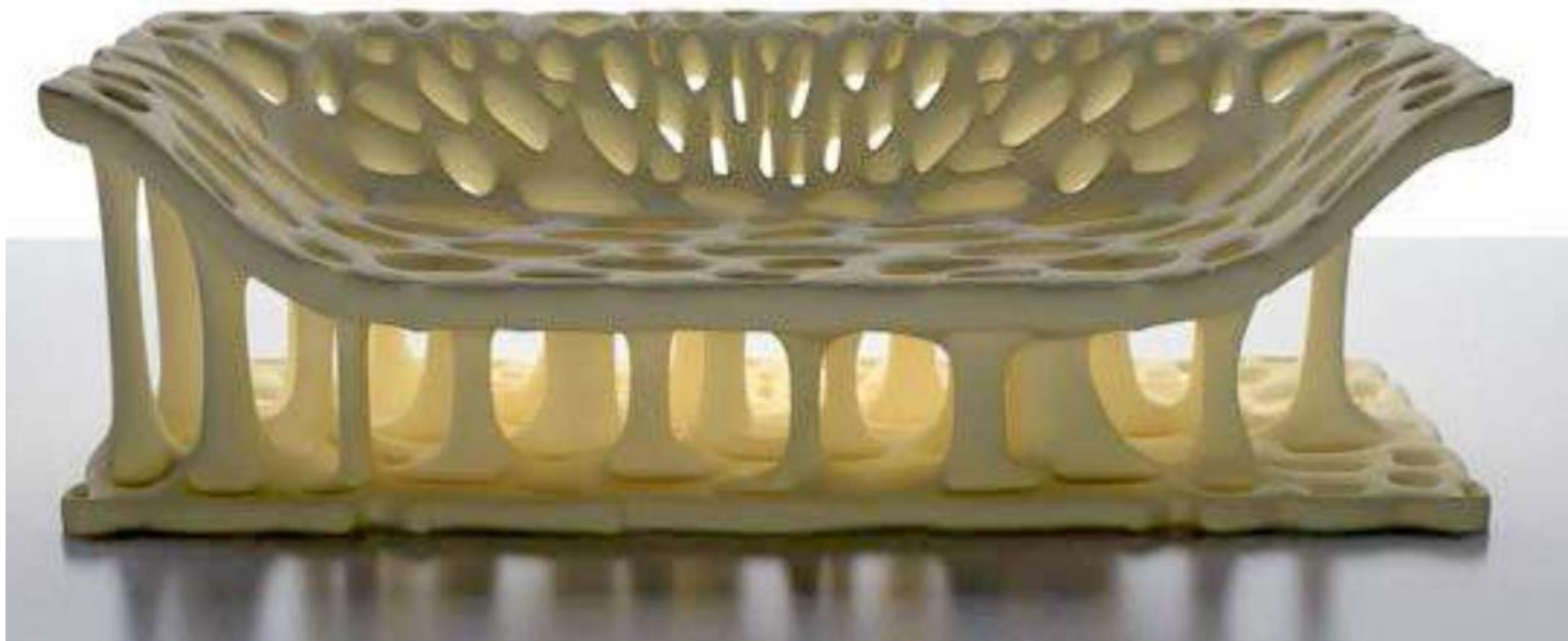
Disruption

Zero lead time



Disruption

Zero constraints



Disruption 8:
Less waste by-product

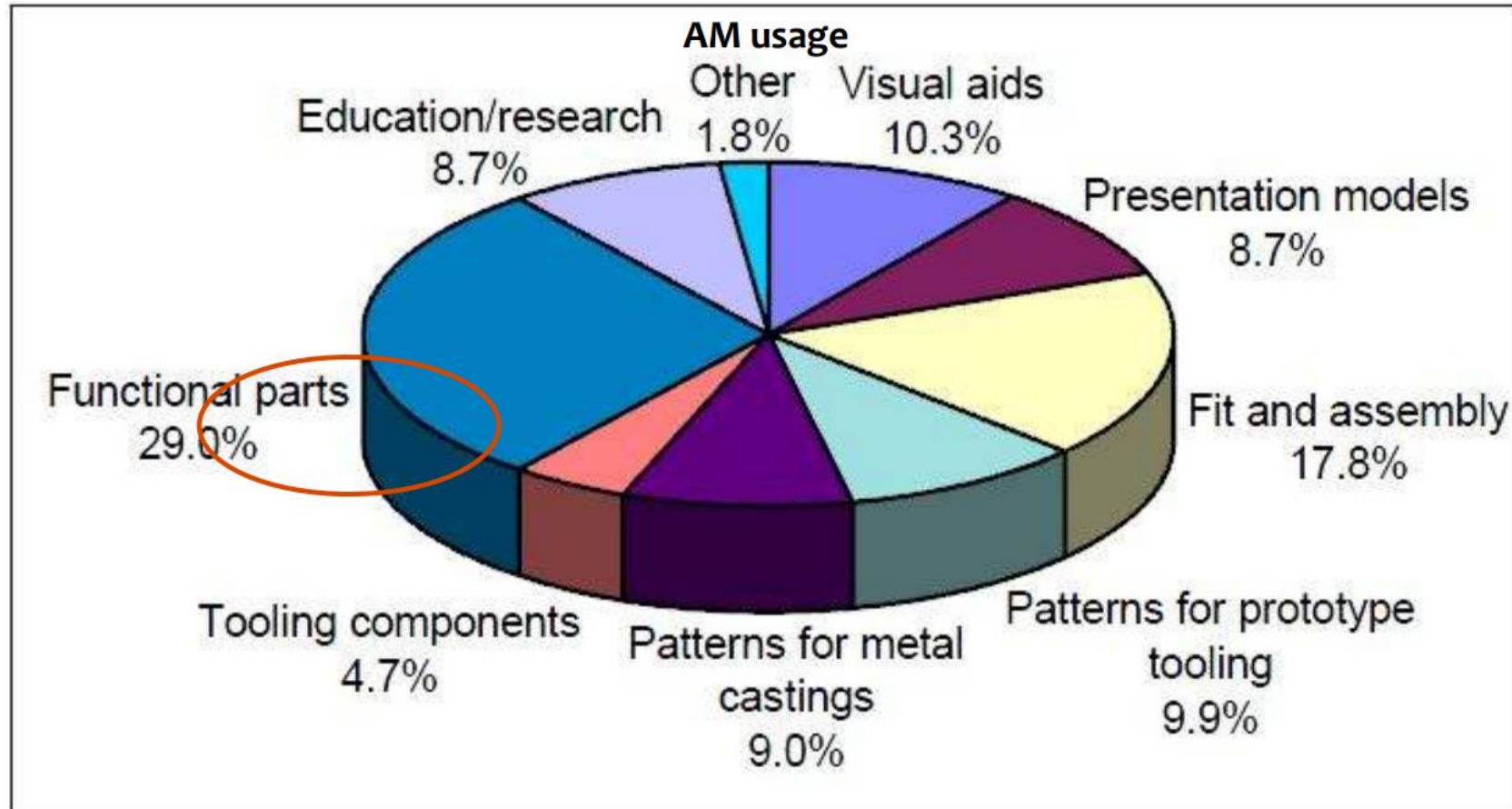


Disruption Zero skill manufacturing



Image: Glen Bull, UVA

Digital Manufacturing

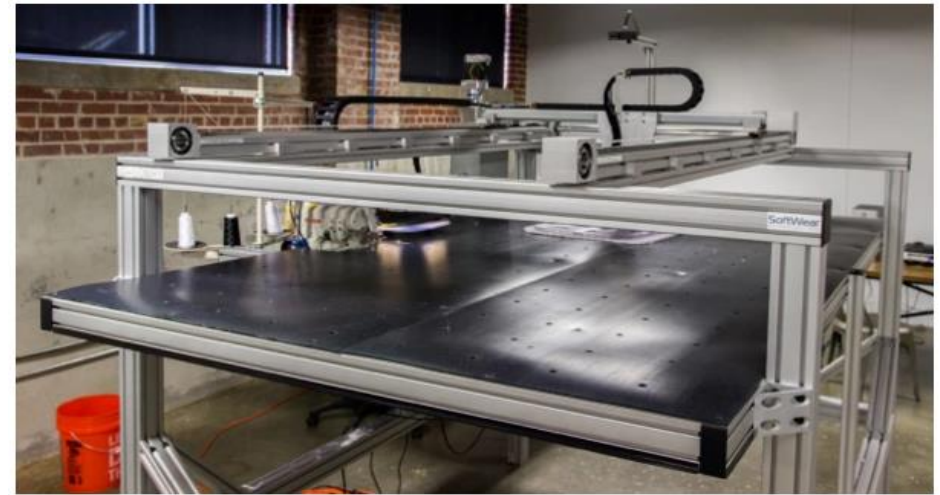


Source: Wohlers Report 2015

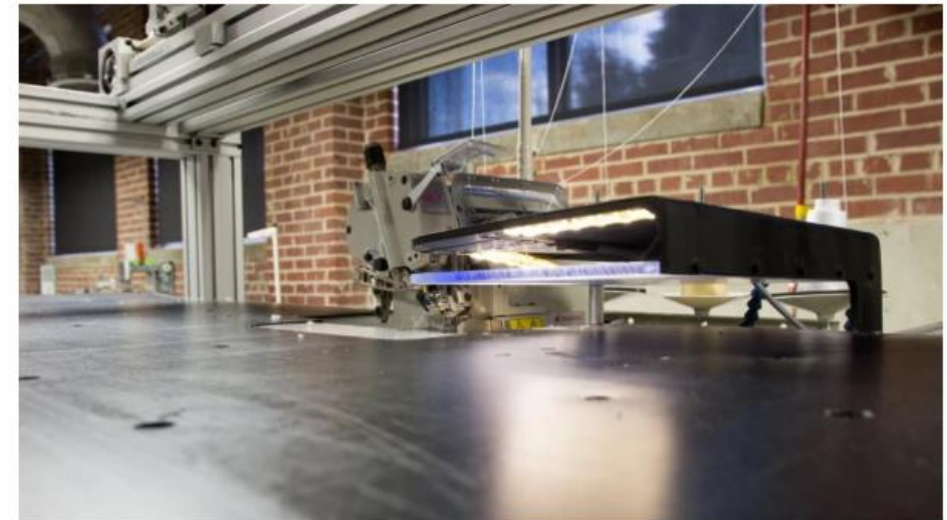
<https://www.fastcompany.com/40454692/this-t-shirt-sewing-robot-could-radically-shift-the-apparel-industry>

This T-Shirt Sewing Robot Could Radically Shift The Apparel Industry

In a soon-to-open Arkansas factory, 21 production lines manned by the Sewbot will be capable of making 1.2 million T-shirts a year—and the ripple effects will soon be felt in garment factories in the developing world.

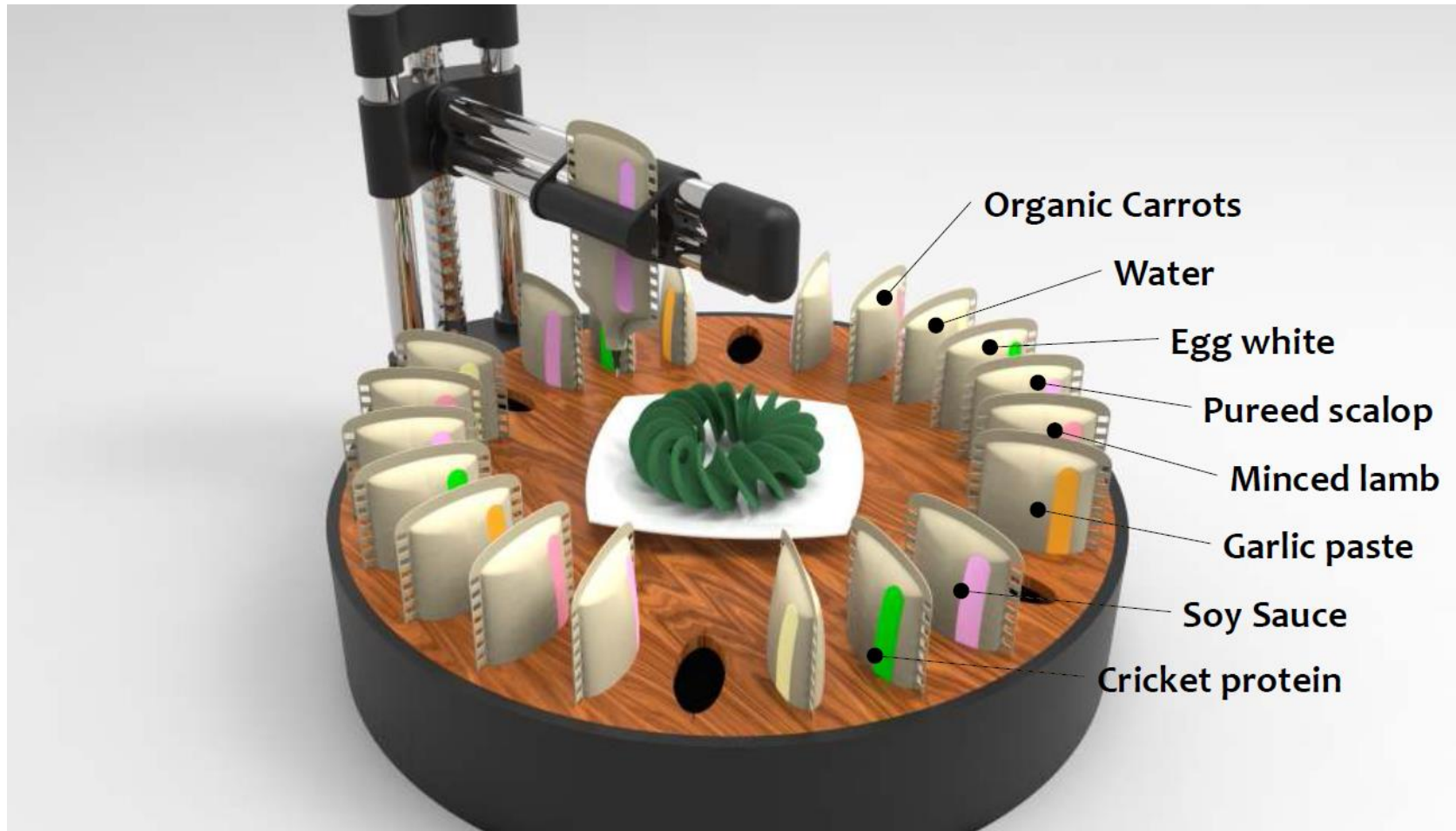


"What we did was approach it and look at it from how a seamstress actually operates." [Photo: courtesy SoftWear Automation]



"People buy 11 billion T-shirts a year. That's an interesting market where automation makes sense, where our robots make sense, because our robots produce a very high volume of product." [Photo: courtesy SoftWear Automation]

Digitally Manufactured breakfast?

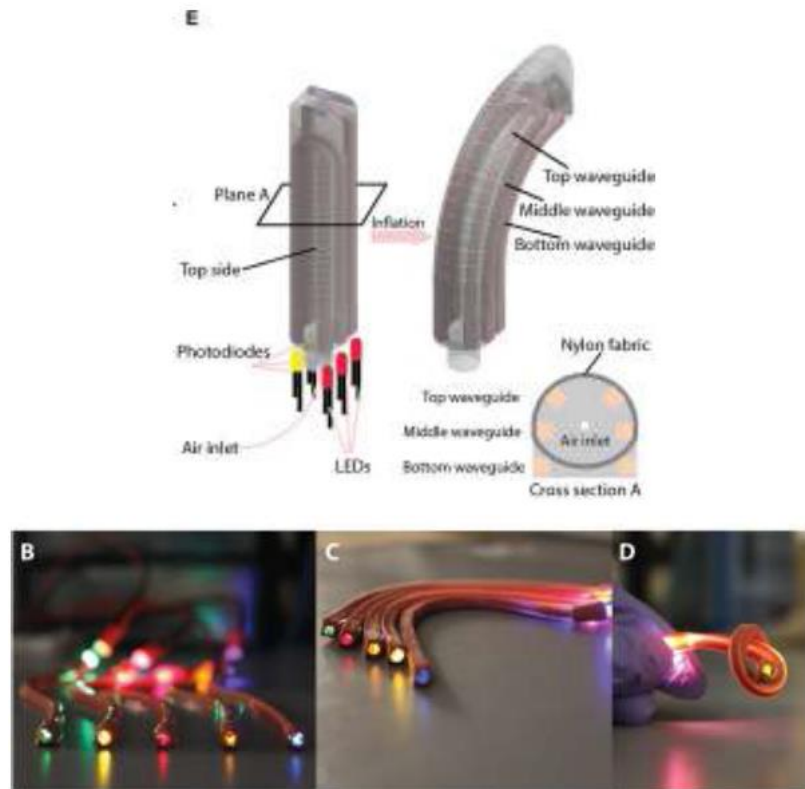


Robotics (AI + Cameras + sensors)

Robots as we imagine them



Object Recognition for Soft Robots



Robots will soon be everywhere ...



Robots will do more **on their own**, without the need for human intervention

Augmented and Virtual Reality

Virtual & Augmented Reality is here

Virtual Reality HMDs



Augmented Reality HMDs

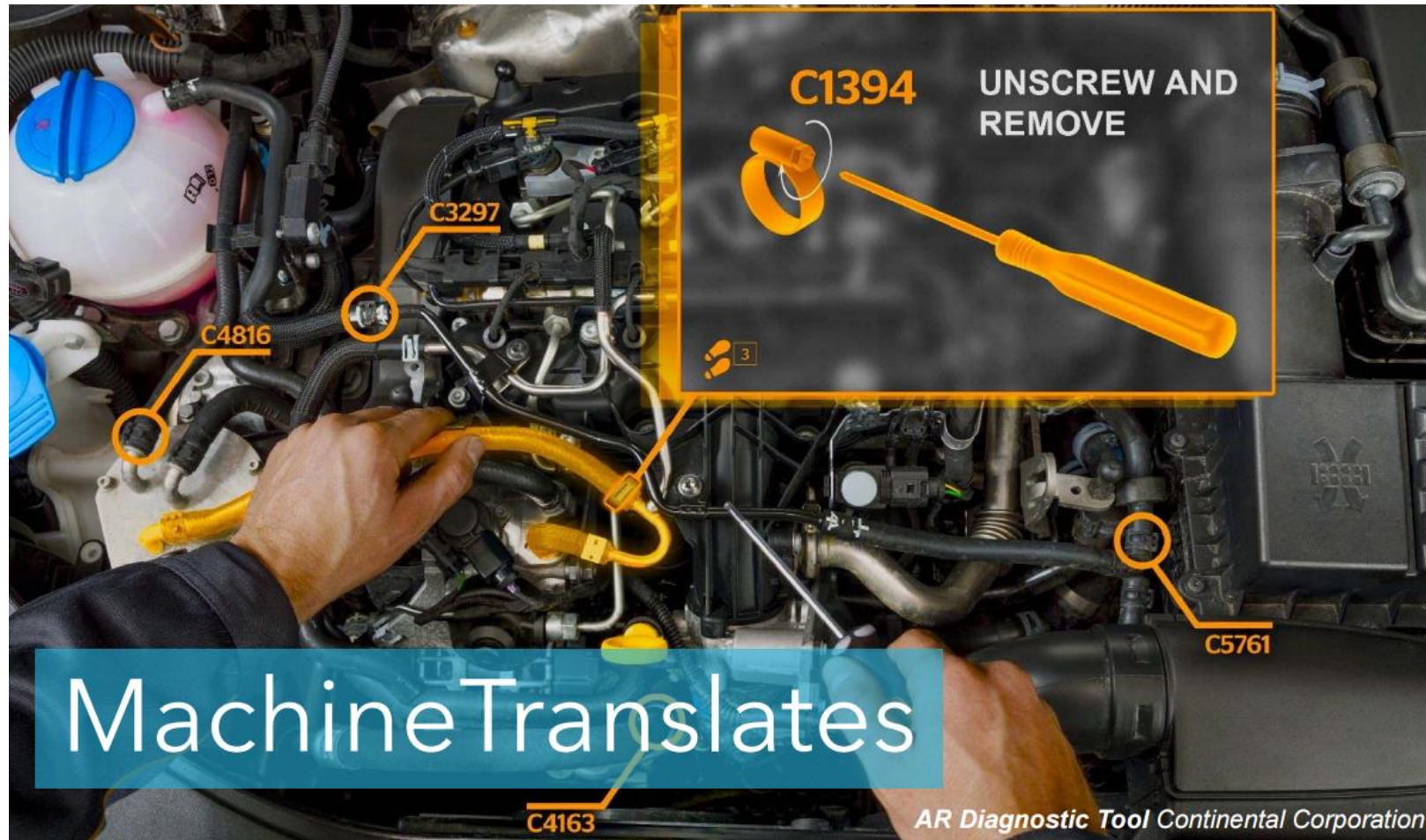
Reality is not-so-exciting...



Virtual Reality



Google Glass AR headset



Gaming/AR is the future of technology

I like video games. In fact, that's what got me into software engineering when I was a kid. I wanted to make money so I could buy a better computer so I could play better video games.

- Elon Musk, CEO Tesla & SpaceX, 10/16

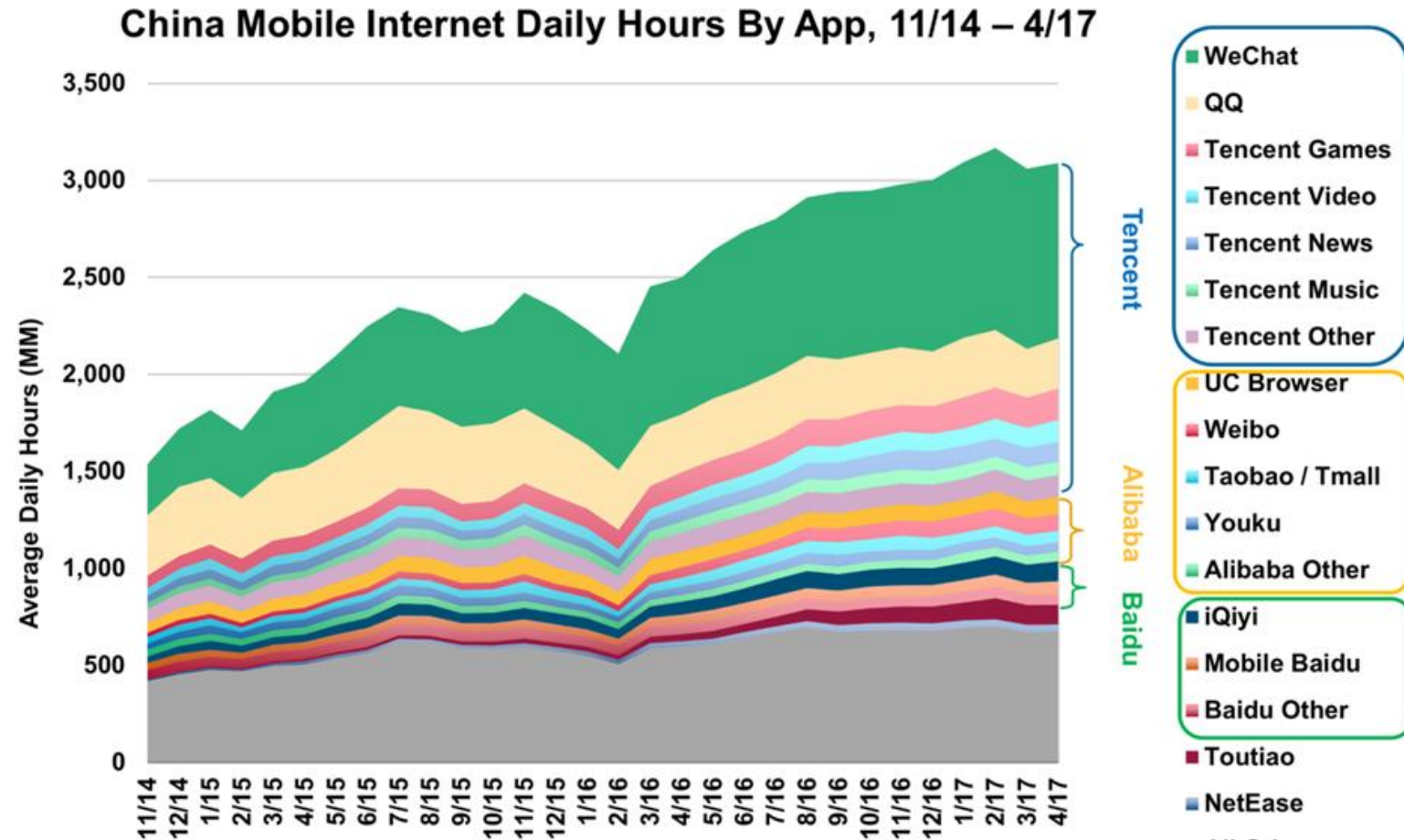
As a child I played a lot of Avalon Hill board games. And each board game is actually a complex set of rules and circumstances... So it was actually in fact my childhood gaming — for being able to build a model of what a game was — that was essentially the fundamental thing that informs my strategic sense.

- Reid Hoffman, Co-Founder of LinkedIn, 8/15


I do think this dynamic around kids growing up, building games, and playing games, is an important one because I think this is how a lot of kids get into programming. I definitely wouldn't have gotten into programming if I hadn't played games.

- Mark Zuckerberg, CEO Facebook, 5/15

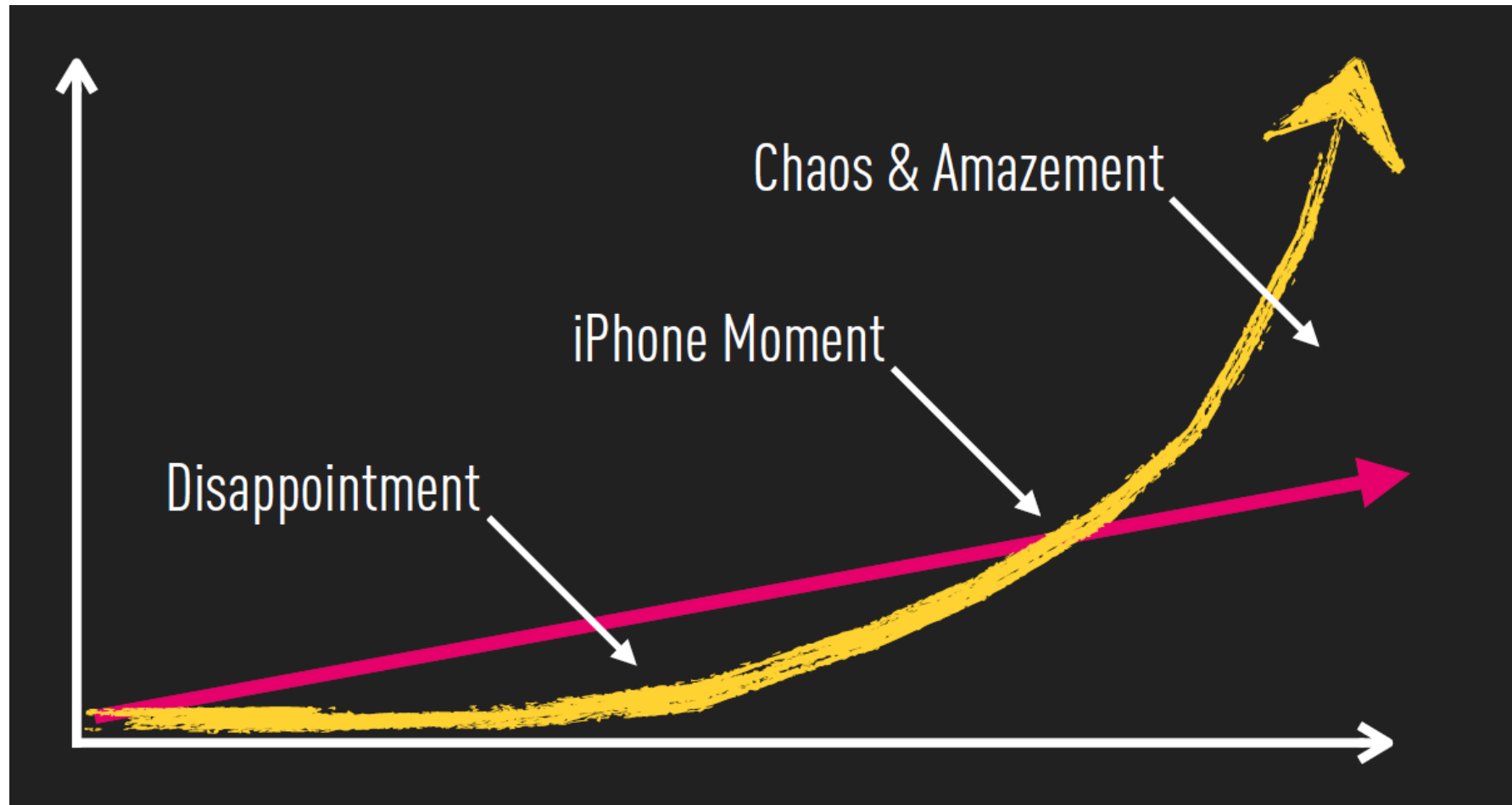
China Mobile = Games + eCommerce



Chinese Financial Services Platforms

	Payment	Wealth Management	Financing	Insurance	Credit Rating / History
Ant Financial	 支付宝 ALIPAY 451MM Annual Active Users ¹	 余额宝 YUE BAO >300MM Cumulative Users ²	 蚂蚁花呗 ANT CREDIT PAY 蚂蚁借呗 ANT CASH NOW 蚂蚁小贷 ANT MICRO LOAN >100MM Cumulative Consumer Finance Users ³ , >5MM Cumulative SME Borrowers ⁴	 蚂蚁保险服务 Ant Insurance Service 380MM Cumulative Users ⁵	 芝麻信用 ZHIMA CREDIT 130MM Cumulative Users ⁶
Tencent	 WeChat Pay >600MM MAU ⁷	 腾讯理财通 >80MM Cumulative Users ⁸	 微粒贷 >30MM Cumulative Users ⁹		 腾讯信用
JD Finance	 京东支付 JD Pay 119MM Annual Active Users ¹⁰	 小金库 JD Golden Wallet >20MM Cumulative Users ¹¹	 白条 Credit Pay 金条 Cash Loan 京保贝 JD Bao Bei >30MM Cumulative Users ¹¹	 保险 京东金融 JD Finance Insurance 168MM Cumulative Users ¹¹	 小白信用 JD credit >35MM Cumulative Users ¹¹

What will you disrupt?

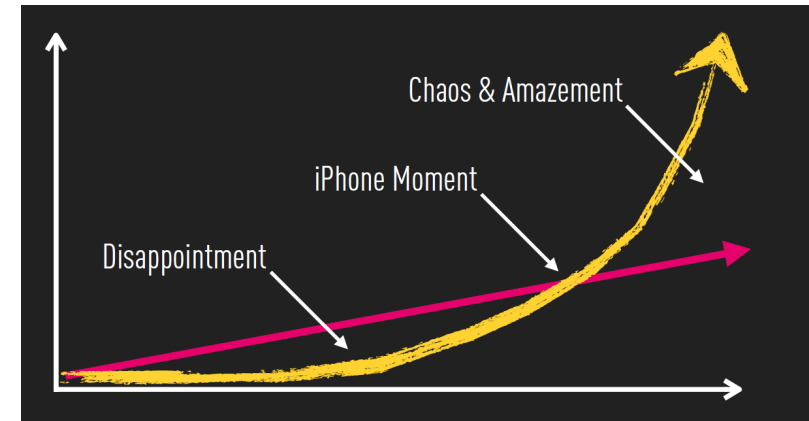


Tobacco: Heat not Burn tech is here



Success in Japan – menthol flavour market
Regulators find it less harmful
Energy costs/ Upfront costs ?

JUUL acquired for ~ USD 38 billion!
(revenues of ~ USD 2 billion)



Questions

**"He who knows all the
answers has not been
asked all the questions."
– Confucius**

