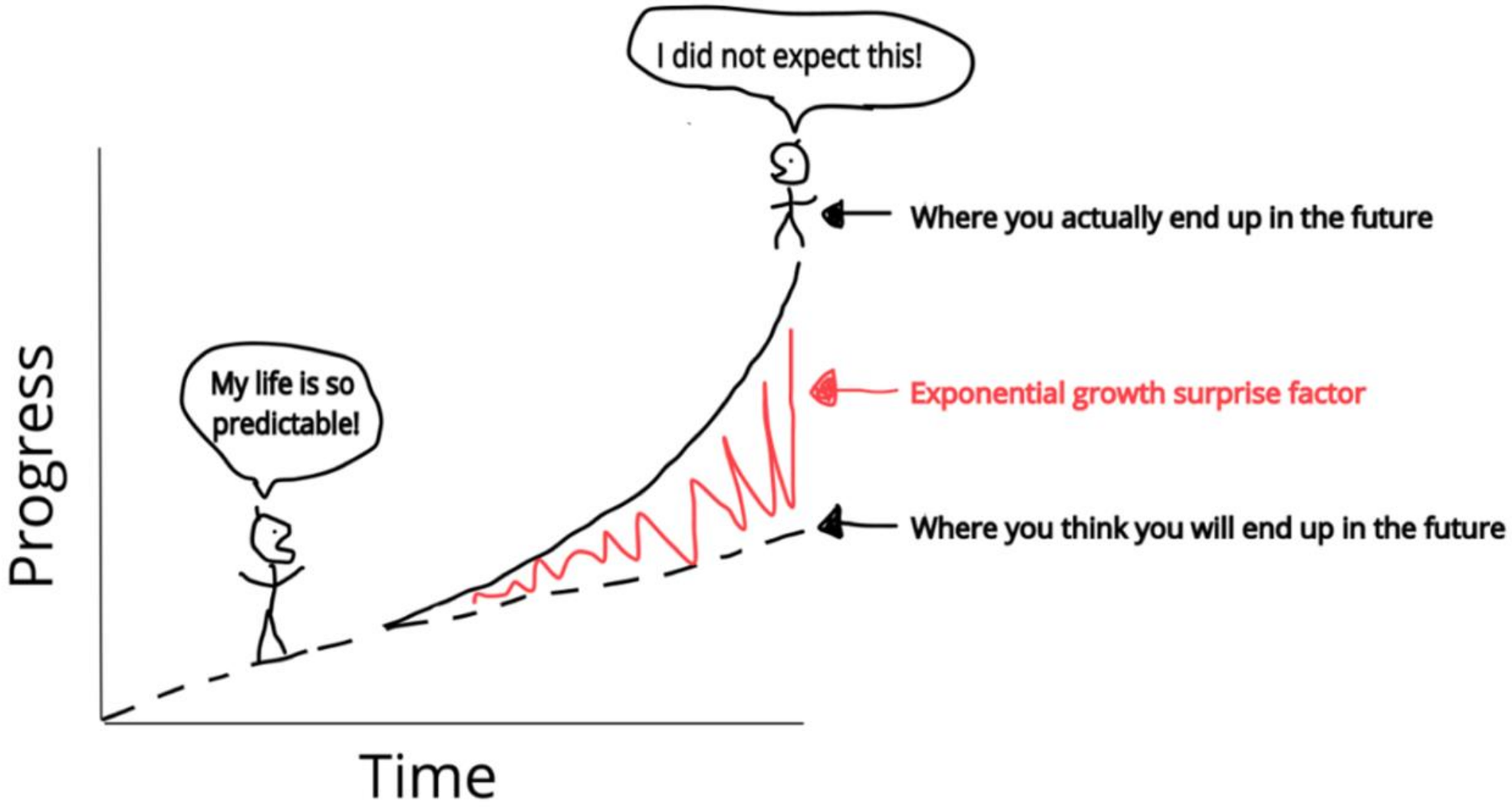
How to Prepare for Disruption

- Description: *COVID is accelerating the disruption of almost every industry we know. This session will look at business tips and technologies to help you navigate and manage that disruption while also teaching you how to engage your employees in cost cutting efforts to give your business the cash runway needed to return stronger.*

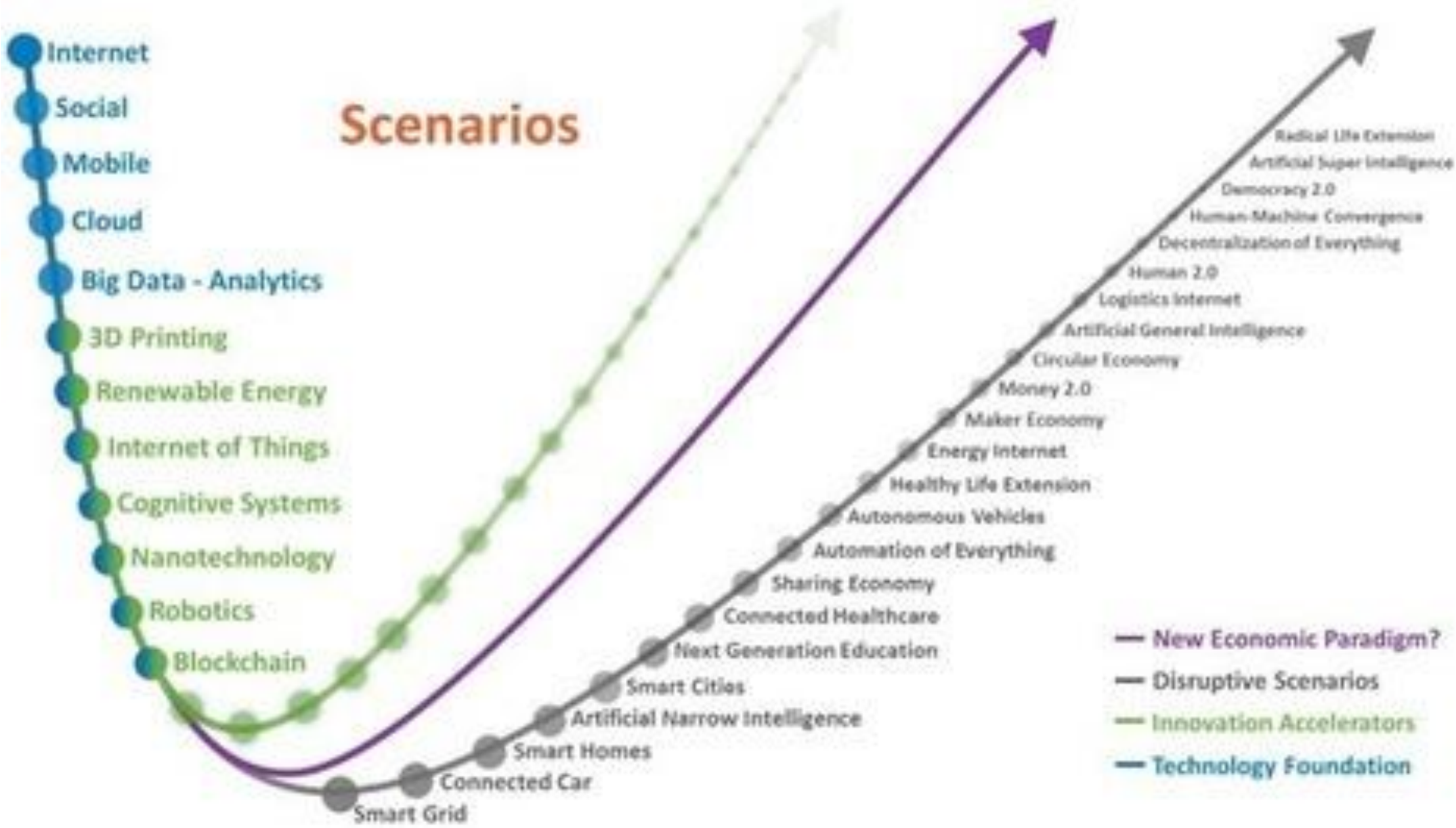
Tim Kelley Bio:

- Entrepreneur
- Traveler
- Professor
- Investor/Angel
- Central Bank Advisor
- Father Husband
- Native Phoenician

Technology – Linear vs Exponential



Technology

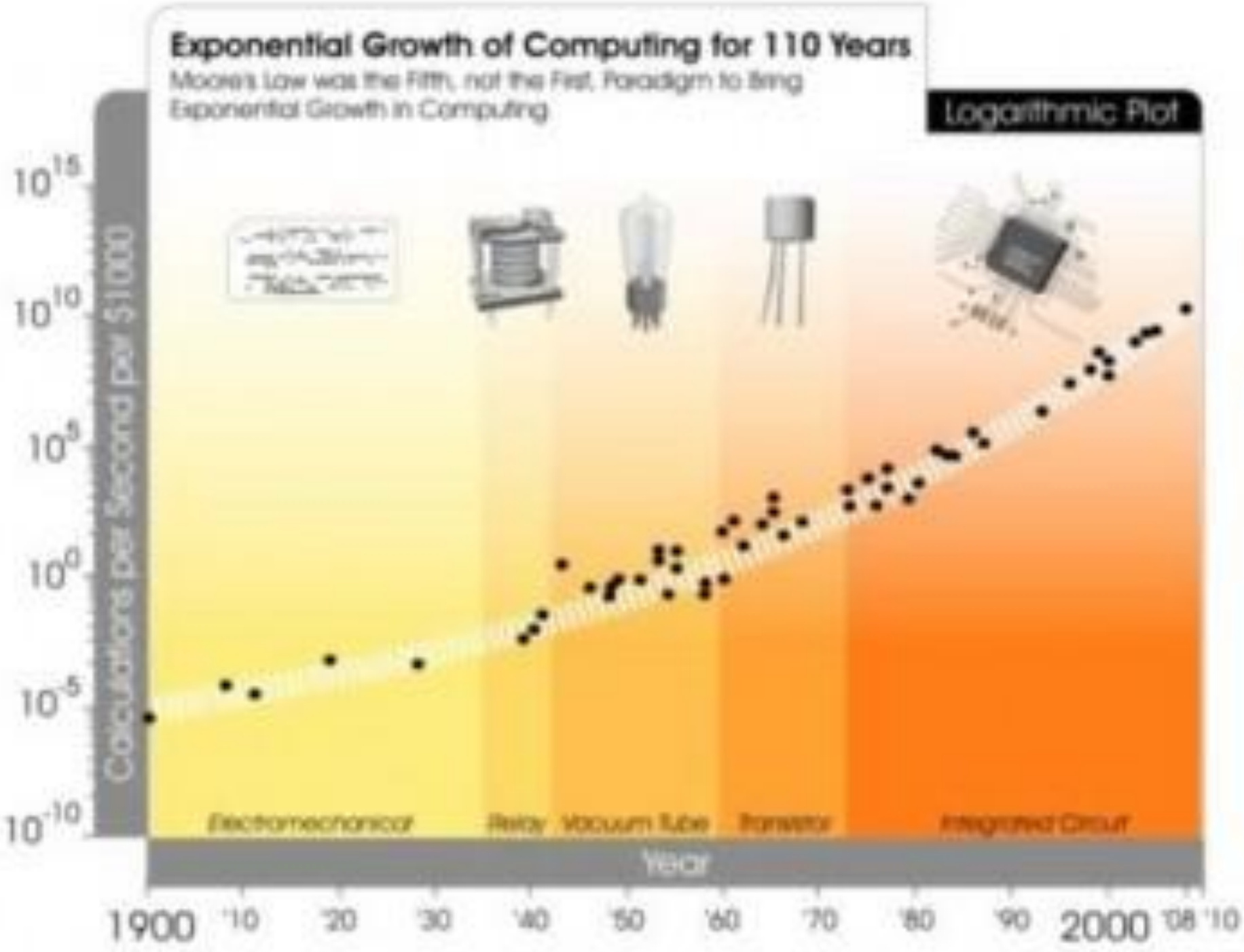

Scenarios
Internet
Social
Mobile
Cloud
Big Data - Analytics
3D Printing
Renewable Energy
Internet of Things
Cognitive Systems
Nanotechnology
Robotics
Blockchain
Smart Grid
Connected Car
Smart Homes
Artificial Narrow Intelligence
Smart Cities
Next Generation Education
Connected Healthcare
Sharing Economy
Automation of Everything
Autonomous Vehicles
Healthy Life Extension
Energy Internet
Maker Economy
Money 2.0
Circular Economy
Artificial General Intelligence
Logistics Internet
Human 2.0
Decentralization of Everything
Human-Machine Convergence
Democracy 2.0
Artificial Super Intelligence
Radical Life Extension
New Economic Paradigm?
Disruptive Scenarios
Innovation Accelerators
Technology Foundation

Innovation

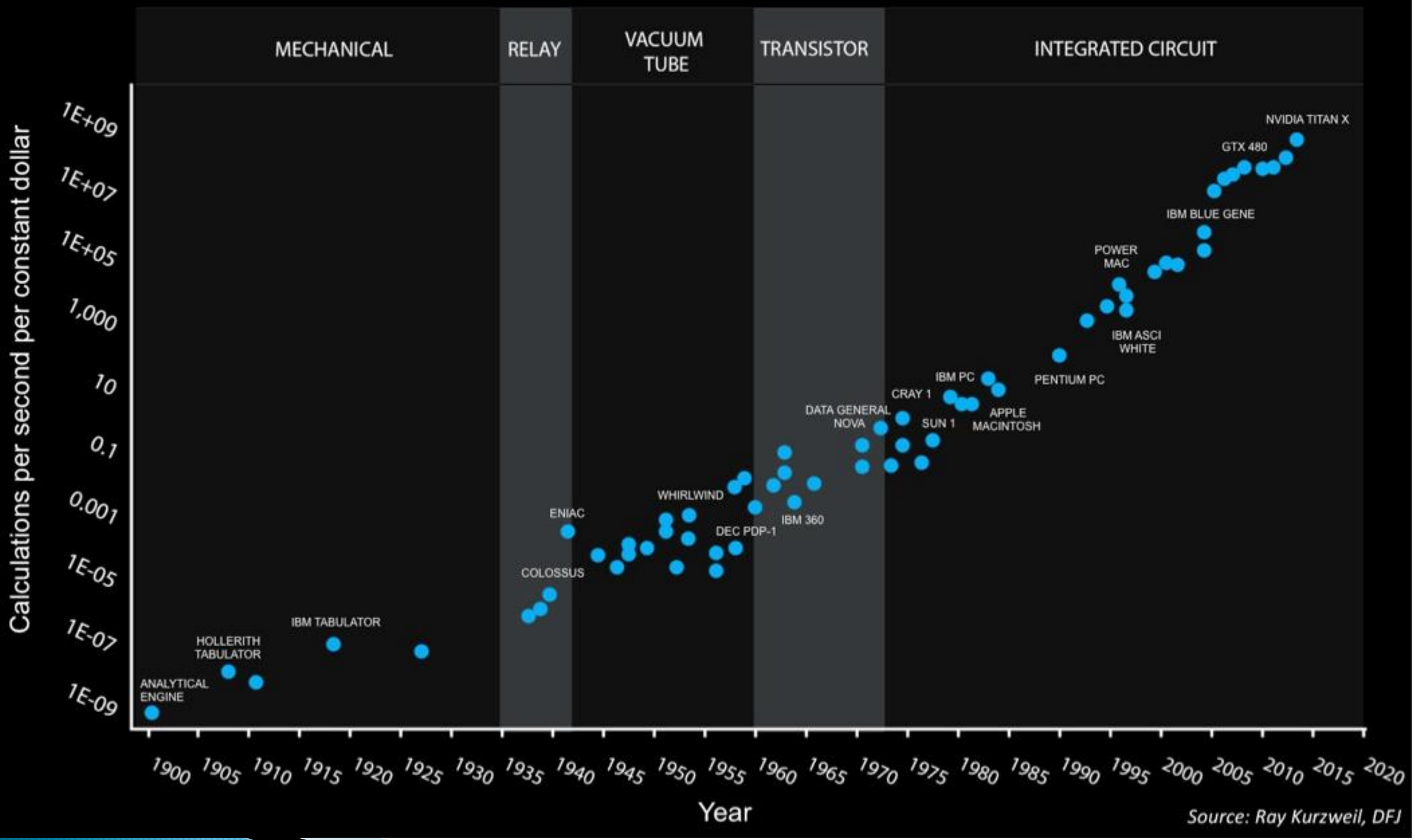
- Moore's Law: The number of integrated circuits on a transistor has been doubling every 12 to 24 months since 1965!
  - This trend continues and is called an **exponential curve.**

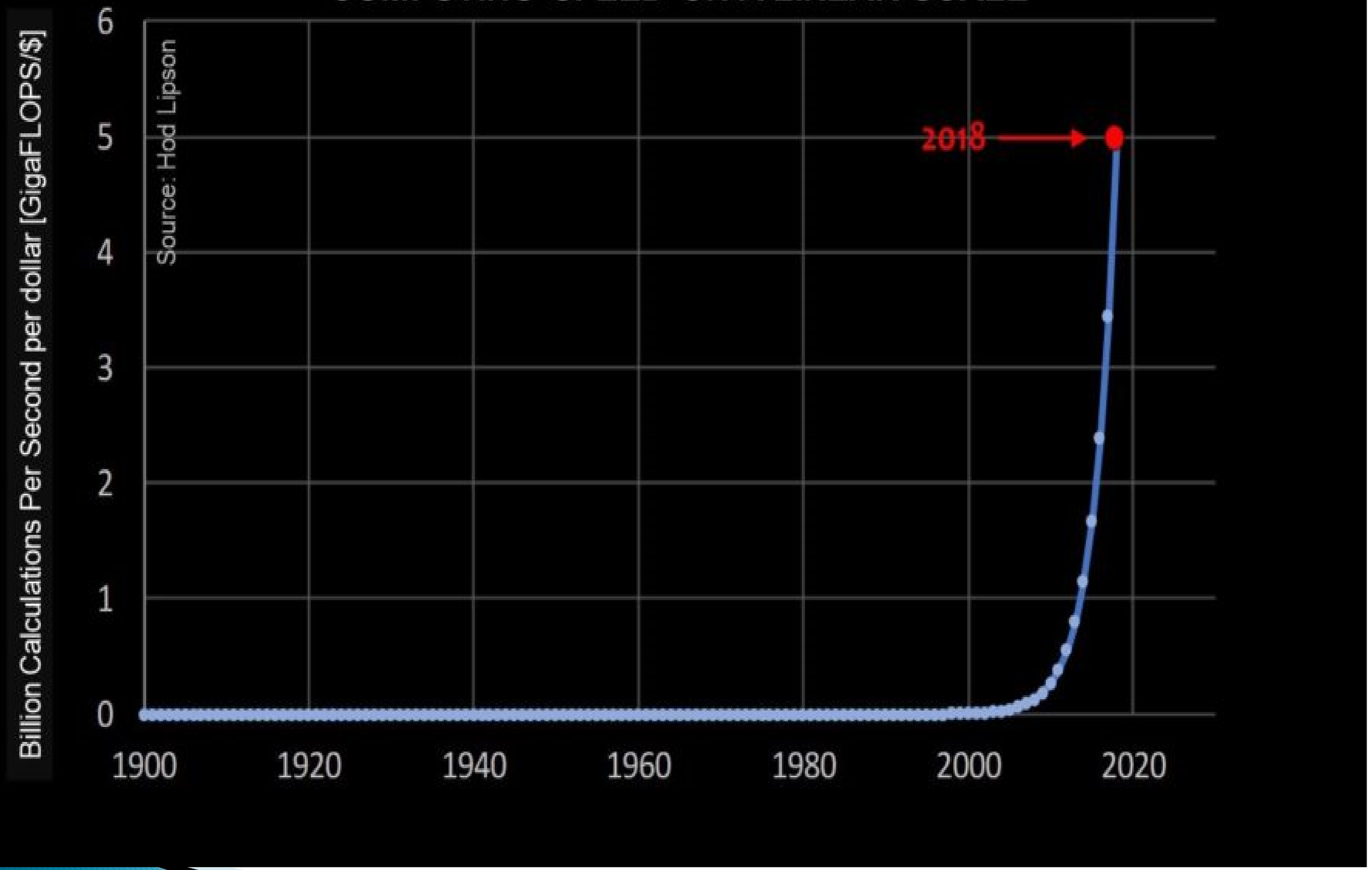
- Quantum Computing:
- Robotics / AI: https://www.youtube.com/watch?v=LikxFZZO2sk

Exponential Opportunity

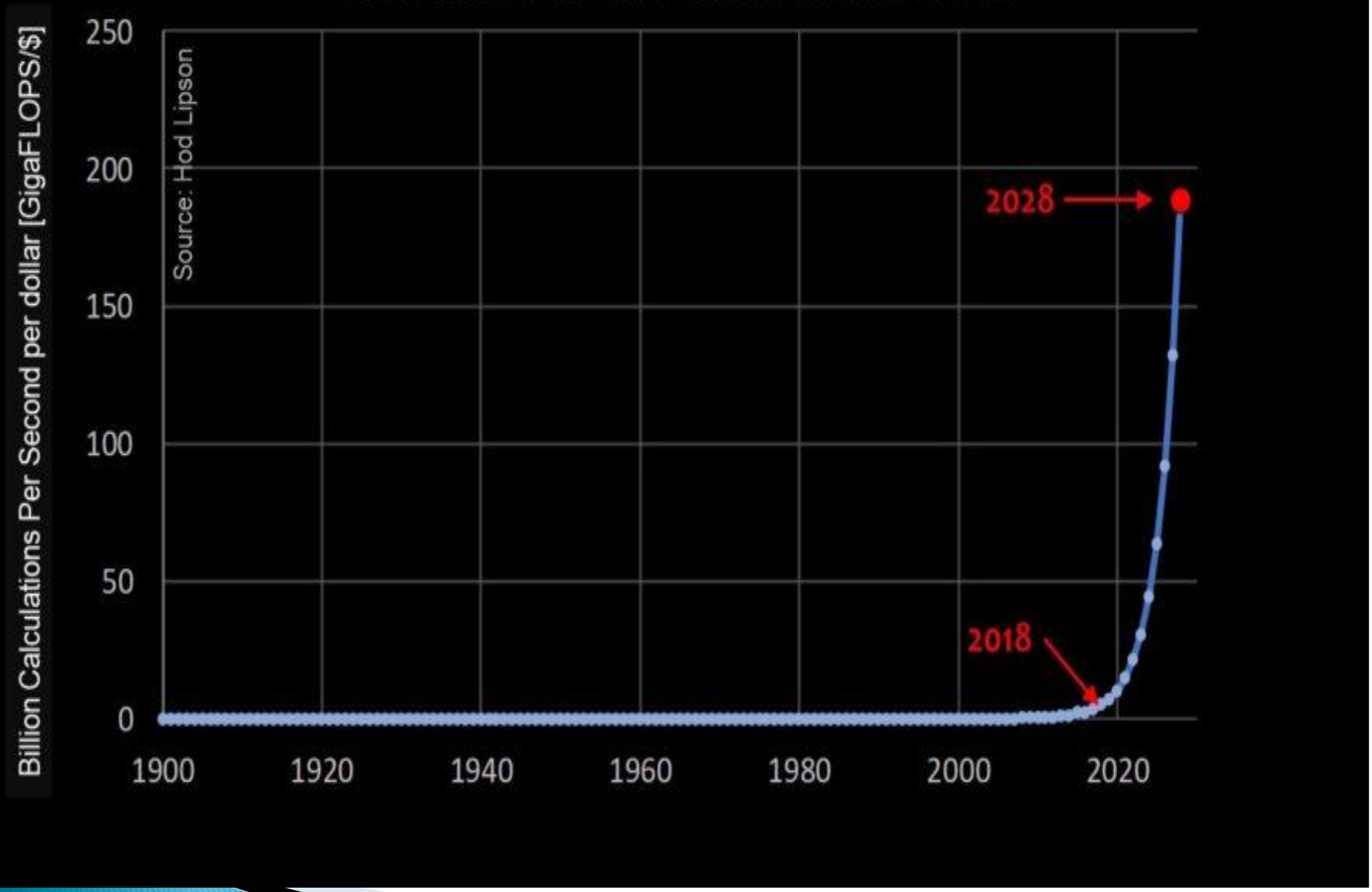


120 Years of Moore's Law




COMPUTING SPEED ON A LINEAR SCALE
Source: Hod Lipson
Billion Calculations Per Second per dollar [GigaFLOPS/$]
2018
6
5
4
3
2
1
0
1900
1920
1940
1960
1980
2000
2020

COMPUTING SPEED ON A LINEAR SCALE



“6Ds” – Exponential Framework

Democratize

Demonetize

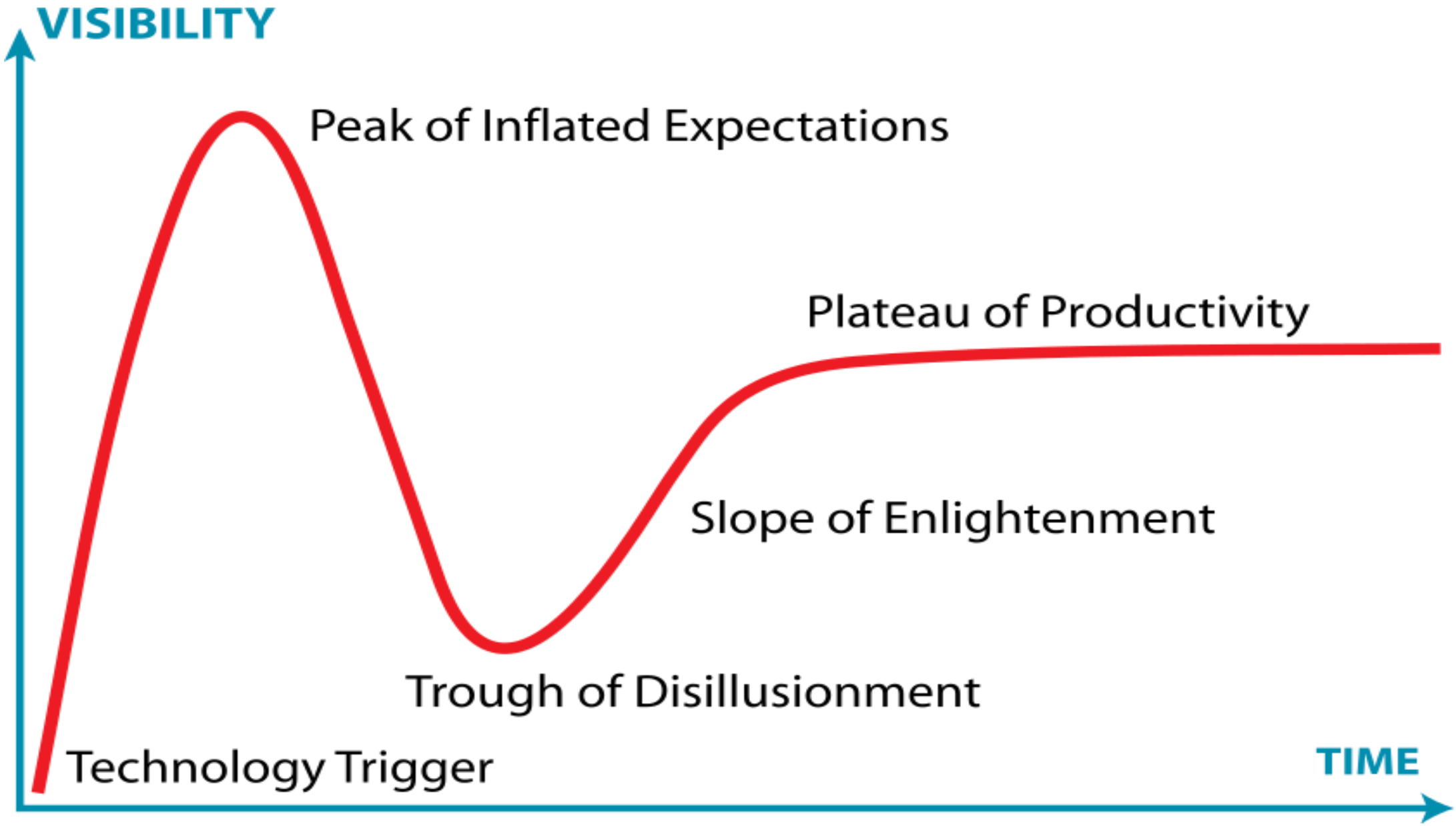
Dematerialize

Disruptive

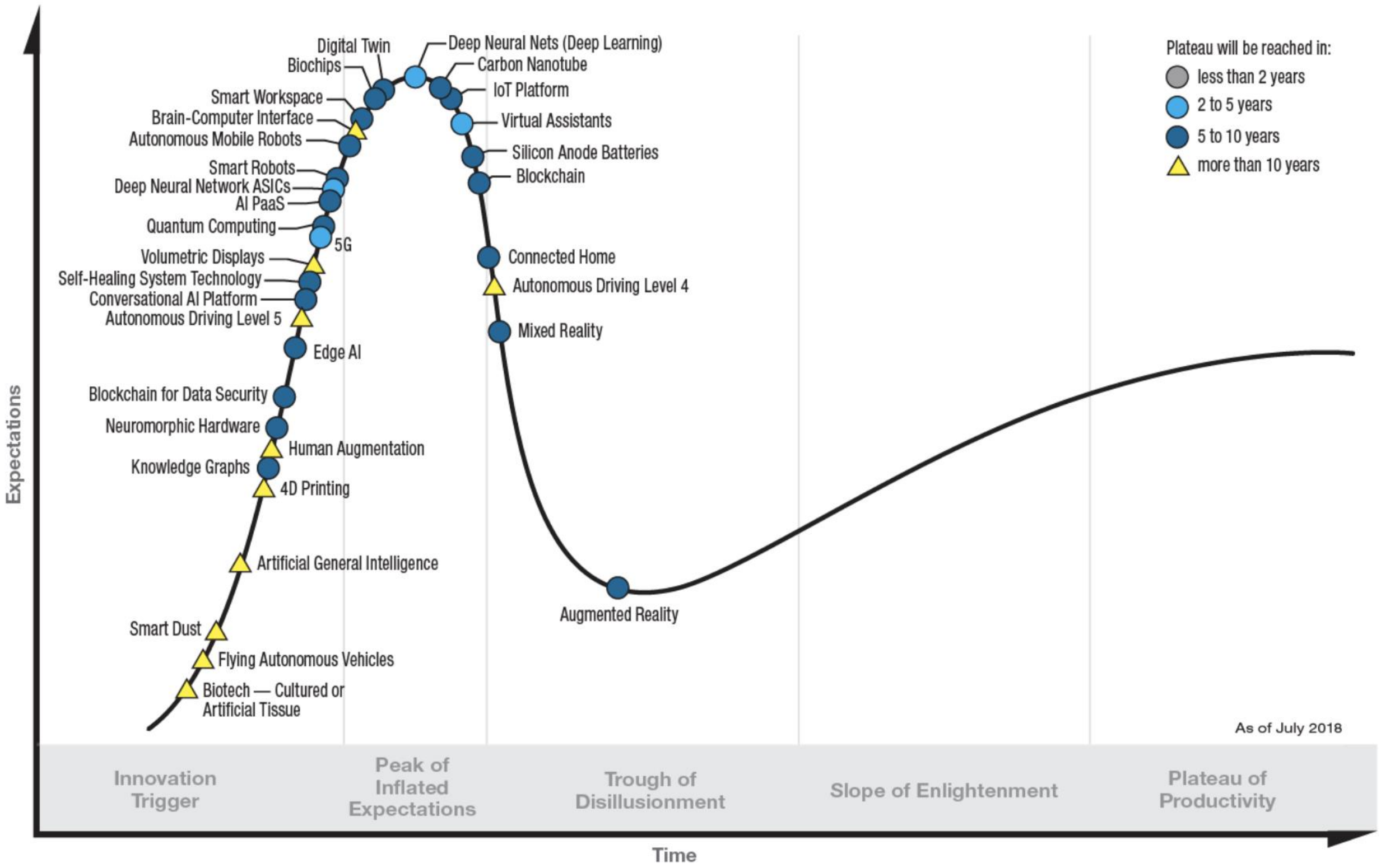
Digitized
(Information Tech)

Deceptive

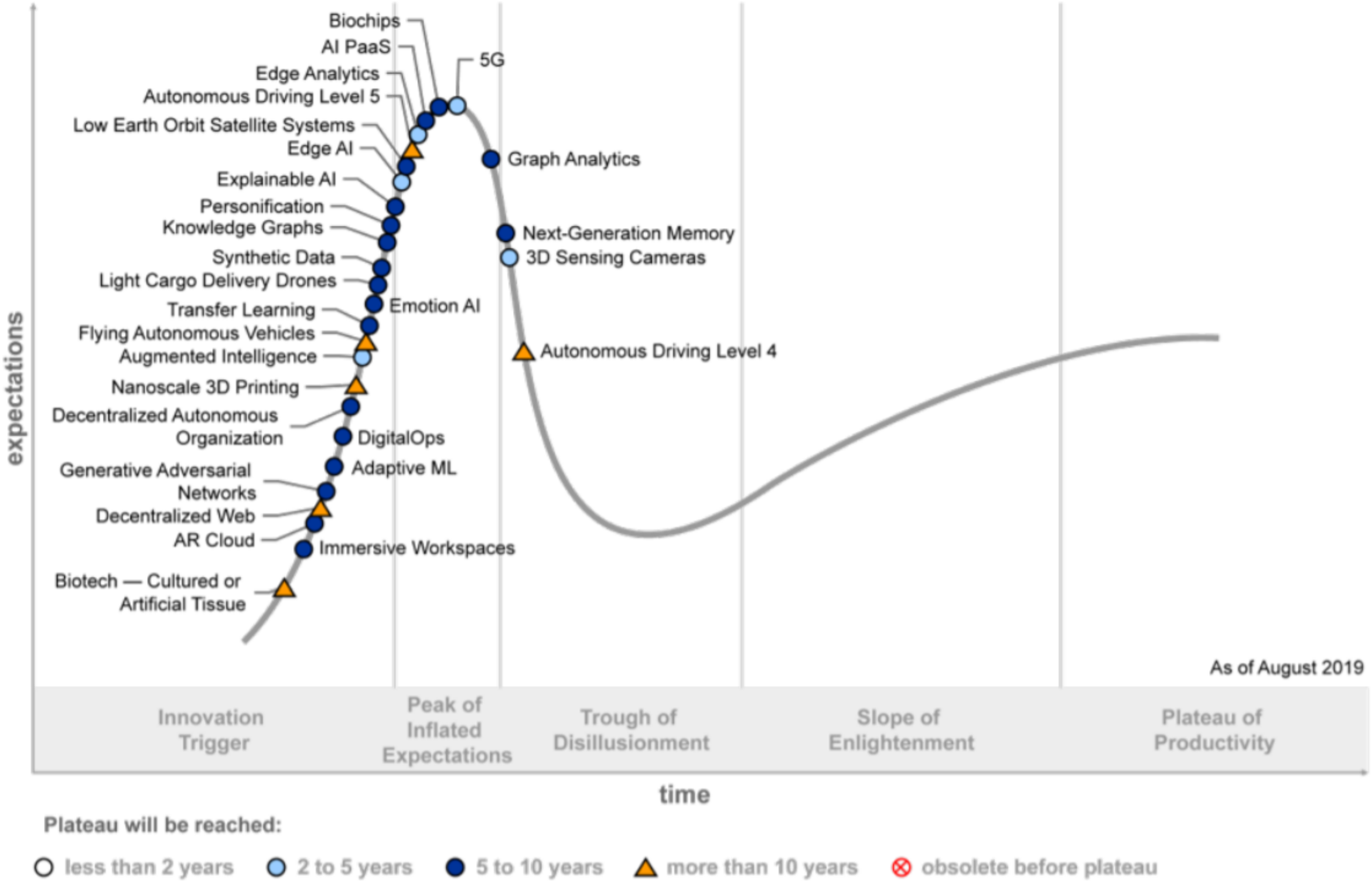
Digitize, Deceptive, Disruptive, Dematerialize, Demonetize, Democratize



Hype Cycle for Emerging Technologies, 2018



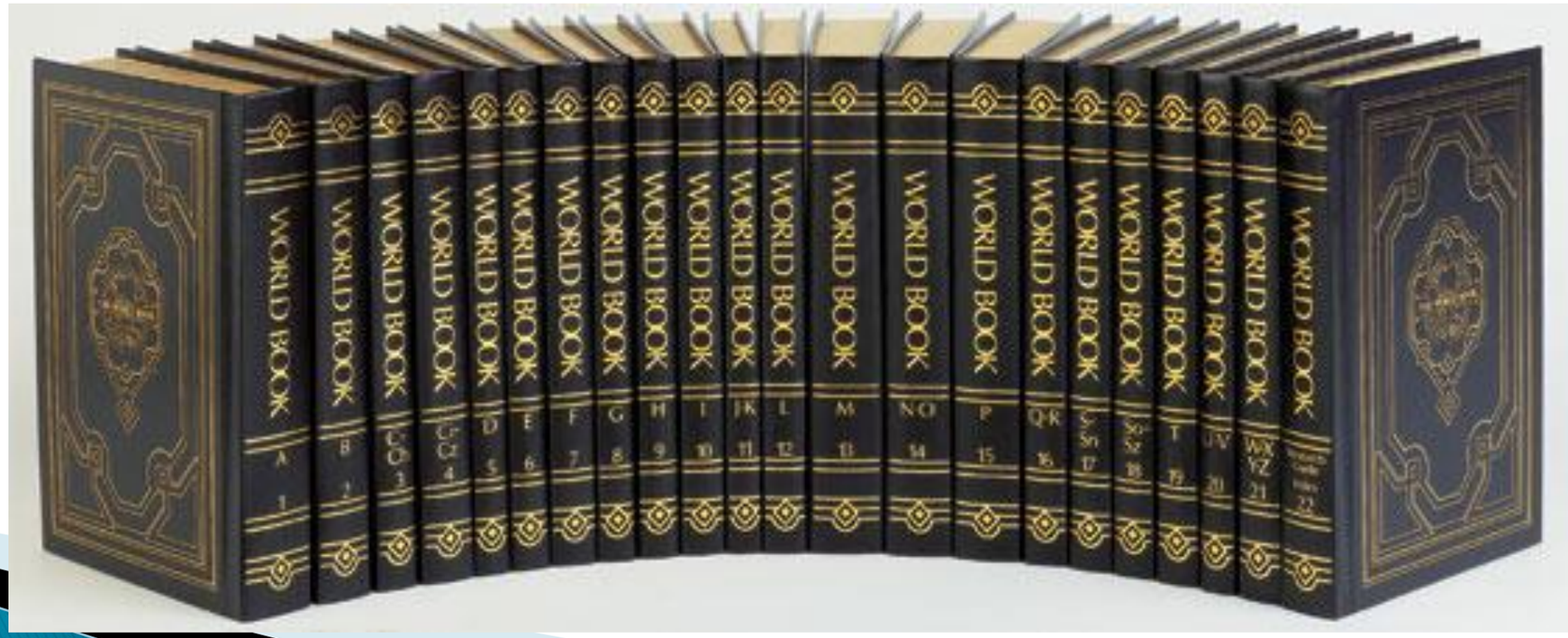
Hype Cycle for Emerging Technologies, 2019



Source: Gartner

Digitize

- Think of an Encyclopedia which cost hundreds or thousands of dollars!
  - Now a search on your mobile phone provides you with unlimited detail about any published topic.
  - The information was analog and is now digital and can be distributed to an unlimited number for zero marginal cost (free for each extra unit).



Digitize

- Think of long distance communications
  - Once analog phone lines were patched together by dozens of operators
  - Now we can skype call or use whats app video for free from anywhere!

Deceptive

- At this stage people have been exposed to a new technology but don't see the rapid impact that they expected.
  - People begin to lose faith that the technology will ever truly impact their life.
  - An example is a Digital Camera.
    - Invented by Kodak in the seventies it was ignored by Kodak leadership which thought that their business was paper and chemicals rather than facilitating people's documented memories.
    - Kodak went from a Multi-Billion dollar enterprise in 1996 with tens of thousands of employees to bankruptcy in 2012.

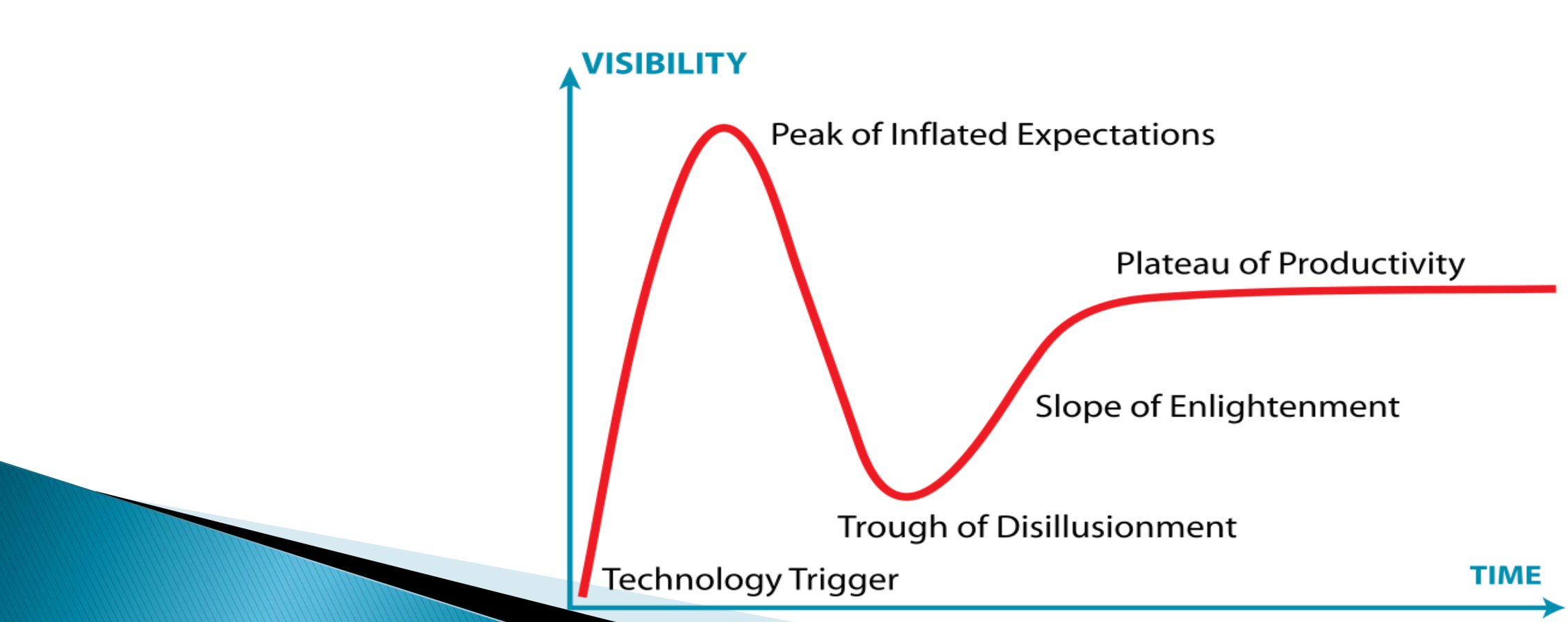
Disruptive

- Now think about Instagram:
  - Facilitating image sharing on mobile devices.
  - Company is formed in 2012
  - Sells to Facebook in 2014 for $1Billiion Dollars with only 14 employees after only 18 months of operation they had hundreds of millions of users!

Instagram

Disruptive

- This Gartner Hype Cycle applies to how we expect new technologies to change our lives.
- Think which technologies are at what stage in this cycle? 3D printing, Artificial intelligence, Robotics
- What if you could print a house or a car or furniture or human organs!
- This will tell you where the opportunities are!!!



Dematerialize

- The Encyclopedia has dematerialized into your phone.
- The Camera that used to cost hundreds or thousands of dollars has been dematerialized into your phone
- The post office is being dematerialized into email and chat
- Air BnB is dematerializing traditional hotels by offering an alternative that requires no capital. P20

Demonitize

- Costs come crashing down.
  - We no longer pay for Music, information, photos
  - More and more industries will be demonitized as time goes on.

Easter morning 1900: 5th Ave, New York City. Spot the automobile.

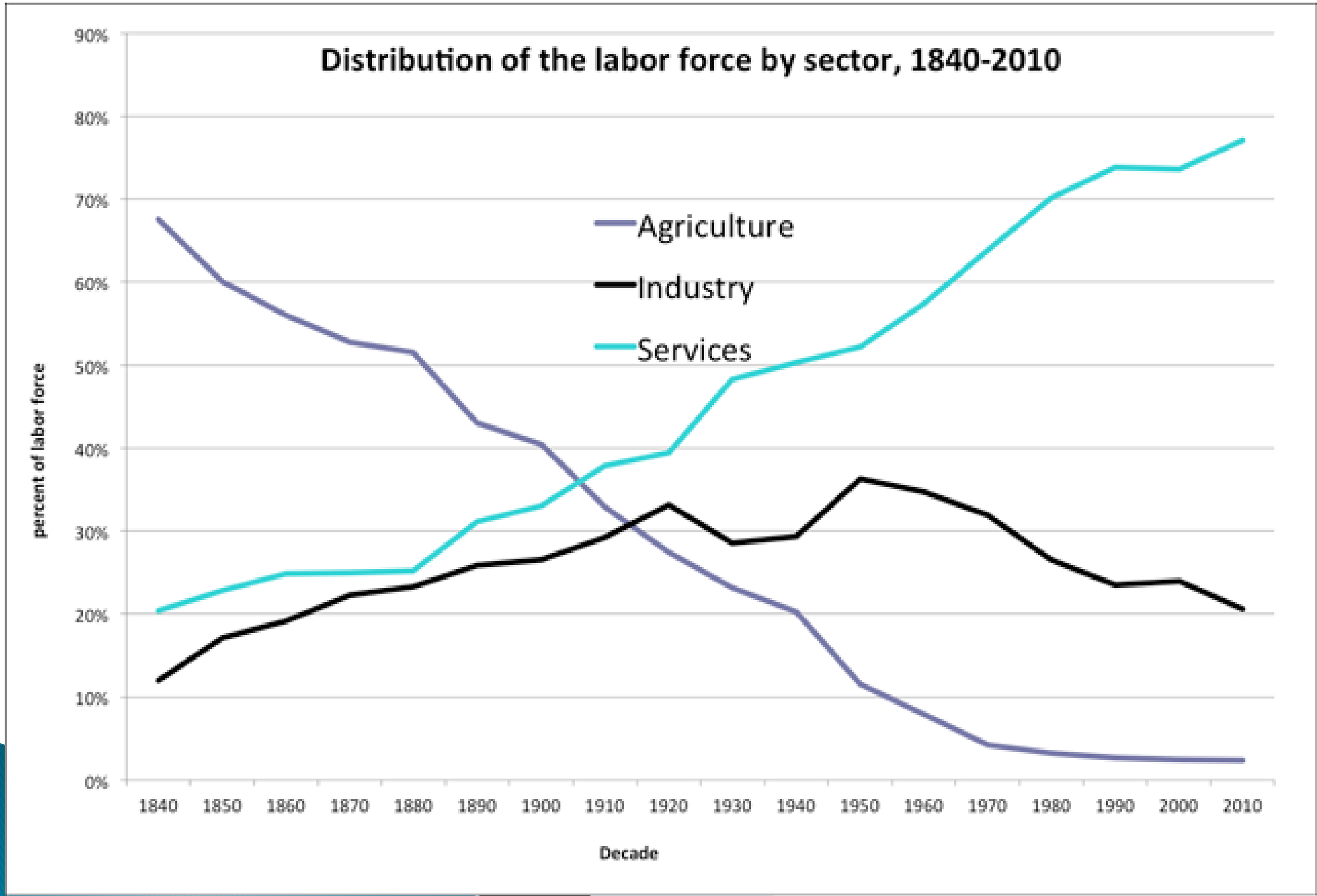
Source: US National Archives.

Easter morning 1913: 5th Ave, New York City. Spot the horse.

Source: George Grantham Bain Collection.

Democratize

- This simply means that it is now available to almost anyone any where.
- The technology will empower more and more people to do more things.
- Think about people designing new clothing or shoes and having 3D printers in your home or neighborhood to print it out almost immediately.


Distribution of the labor force by sector, 1840-2010
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
percent of labor force
Agriculture
Industry
Services
1840
1850
1860
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
Decade

Future Markets are Unknown

- How do we prepare our organizations to solve unknown problems rather than serve shrinking markets?

- How do we do the same for ourselves?

Tools for Employers

- When revenue shrinks how do we reorganize to do more with less?
  - Radical Transparency?
    - Most employees see how much money is taken in but they don't see the expenses or the risks.
    - Share the story of the organization to show the risks
    - Share the vision of the problem you solve
    - To what degree can you empower each employee to be responsible for the entire organization.