



# Towards the Next Digital Agenda for Europe

## The implications of a hyperconnected society

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# Towards the next Digital Agenda for Europe

- New EP, new Commission, a time for reflection
- Thinking about a new DA means looking to the future
- CEPS Digital Forum is ideally placed to do this and is planning a series of seminars to explore this future
- First seminar looks at the concept of a hyperconnected society
- Seminars over the coming months will discuss issues including:
  - Future content and services
  - Building the infrastructure of the future
  - Identity, trust, security and privacy
  - Prospects for a digital single market

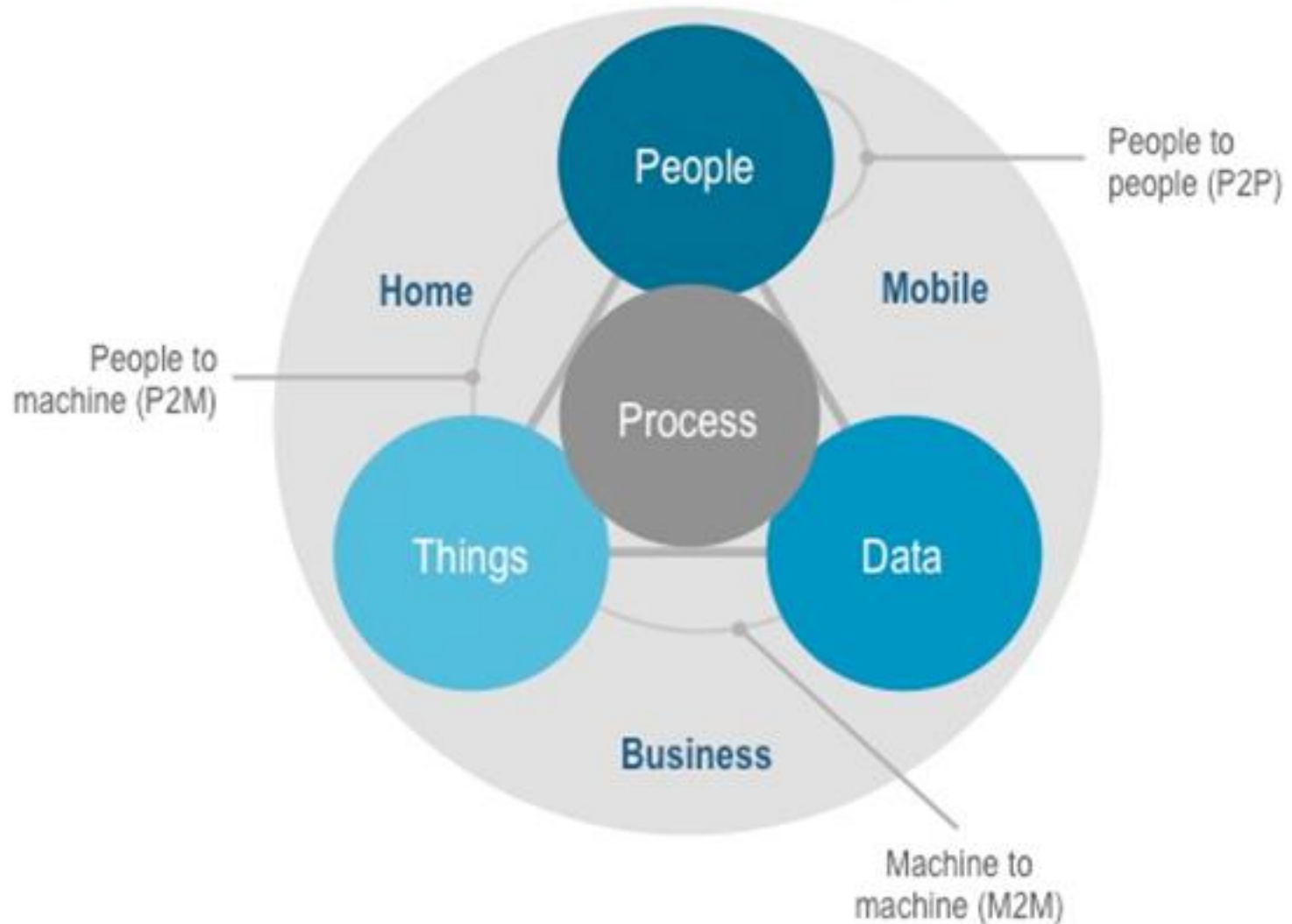
## Agenda for today

- Introduction – Colin Blackman
- Privacy in a hyperconnected society – Ian Brown
- Business opportunities in a hyperconnected world – Peter Harrop
- Being human in a hyperconnected society – Nicole Dewandre

# What do we mean by a hyperconnected society?

- Ubiquity, embeddedness, always on
- The internet akin to electricity
- Global, immersive, invisible, ambient networked computing environment
- Internet of Things + Internet of People = Internet of Everything

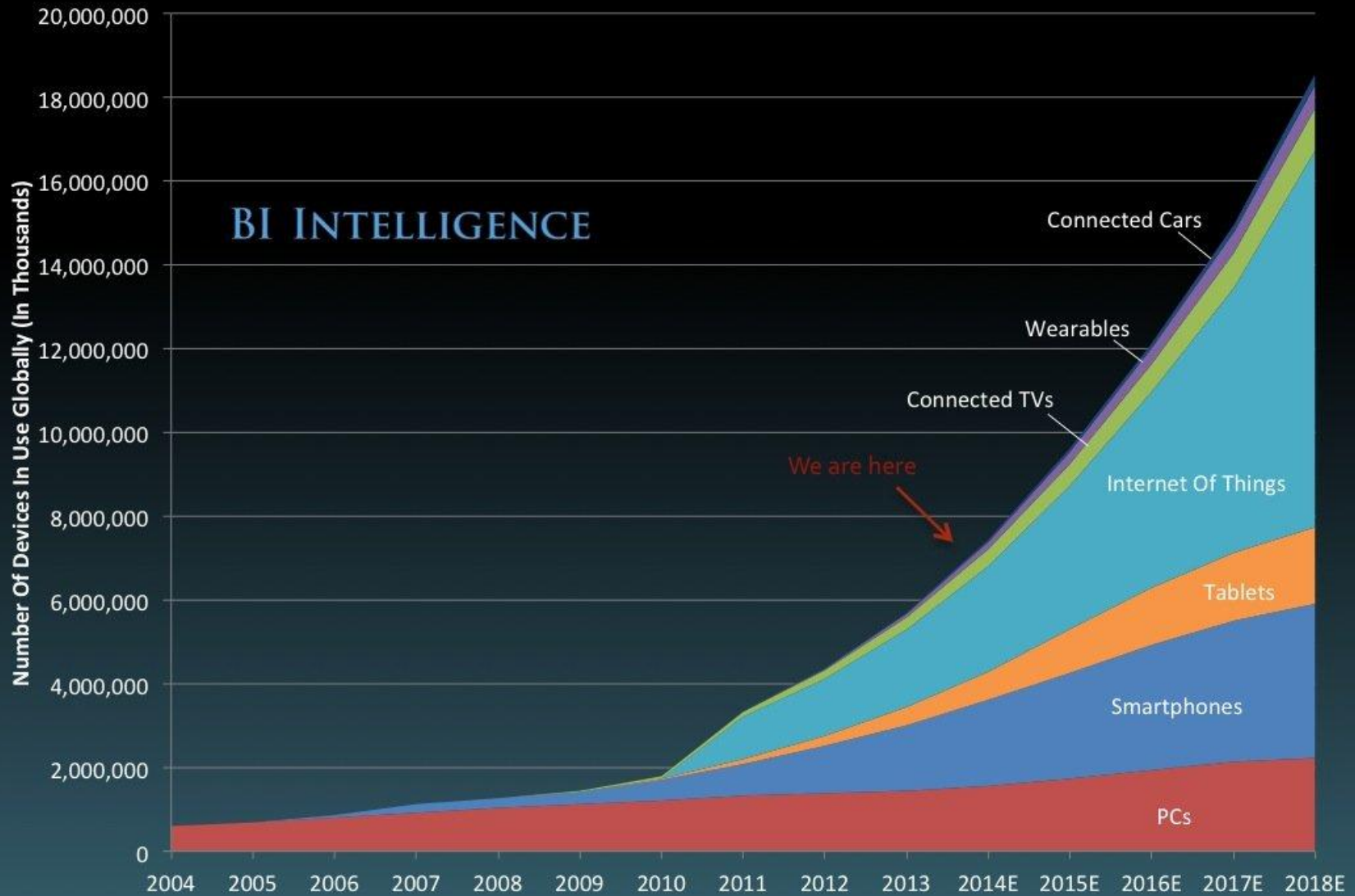
# Internet of Everything



Source: Cisco, Internet of Everything.

# Everything!

## The Internet Of Everything



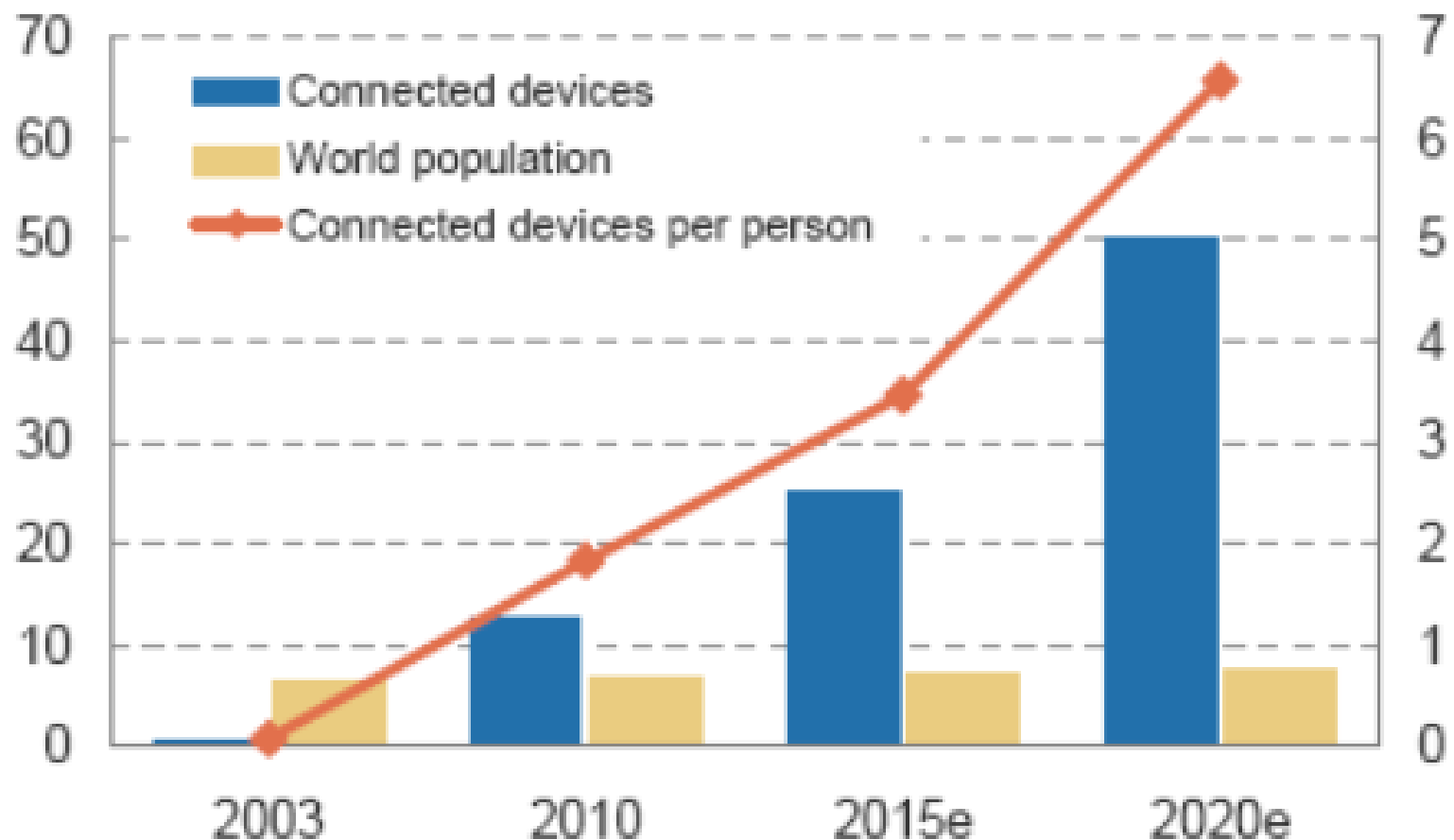
Source: BI Intelligence Estimates

BUSINESS  
INSIDER

# The Number of Internet Connected Devices Surpassed the Global Population in 2010

Internet Connected  
Devices / People (bn)

Devices per Person



Source: Company data, Morgan Stanley Research

# What could all this be worth?

## What is the Value at Stake?

**\$14.4 TRILLION\***

## What Fuels Internet of Everything Value At Stake?



**Asset  
Utilization  
\$2.5 T**



**Employee  
Productivity  
\$2.5 T**



**Supply Chain/  
Logistics  
\$2.7 T**



**Customer  
Experience  
\$3.7 T**



**Innovation  
\$3.0 T**

**The Internet of Everything has the potential to grow global corporate profits by 21% in aggregate by 2022.**



## Findings from *Digital Life in 2025* survey

Most experts believe there will be:

- A global, immersive, invisible, ambient networked computing environment built through the continued proliferation of smart sensors, cameras, software, databases, and massive data centers in a world-spanning information fabric known as the Internet of Things.
- “Augmented reality” enhancements to the real-world input that people perceive through the use of portable/wearable/implantable technologies.
- Disruption of business models established in the 20th century (most notably impacting finance, entertainment, publishers of all sorts, and education).
- Tagging, databasing, and intelligent analytical mapping of the physical and social realms.

Source: Pew Internet/Elon University, *Digital Life in 2025*, March 2014

## The Internet of Things will be evident in:

- Bodies
- Homes
- Communities
- Goods and services
- Environment

## Some other possible examples:

- Subcutaneous sensors or chips that provide patients' real-time vital signs to self-trackers and medical providers.
- Remote control apps that allow users' phones to monitor and adjust household activities from pre-heating the oven to running a bath to alerting users via apps or texts when too much moisture or heat or .
- Smart cities where ubiquitous sensors and GPS readouts allow for vastly smoother flows of traffic.
- Sensored roadways, buildings, bridges, dams and other parts of infrastructure that give regular readings on their state of wear and tear and provide alerts when repairs or upgrades are needed.
- Vastly improved productivity in manufacturing at every stage, as supply chain logistics are coordinated.
- Smart appliances working with smart electric grids that run themselves or perform their chores after peak loads subside.

## What do “experts” believe:

- Infrastructure and adoption of the Internet of Things will substantially progress in the next decade.
- Many believe there will be clear advantages as that happens.
- Some believe it will happen, but disagree that the benefits will be great or outweigh the problems.
- A modest minority flatly disagree and many see a mixed picture, where the technology advances that add to life also create problems.
- Even most of those who worry about the trend towards the Internet of Things do not challenge the notion that more objects, appliances, cars, and other parts of the environment will be connected.



"When wireless is perfectly applied the whole earth will be converted into a huge brain, which in fact it is, all things being particles of a real and rhythmic whole.....and the instruments through which we shall be able to do this will be amazingly simple compared with our present telephone. A man will be able to carry one in his vest pocket."

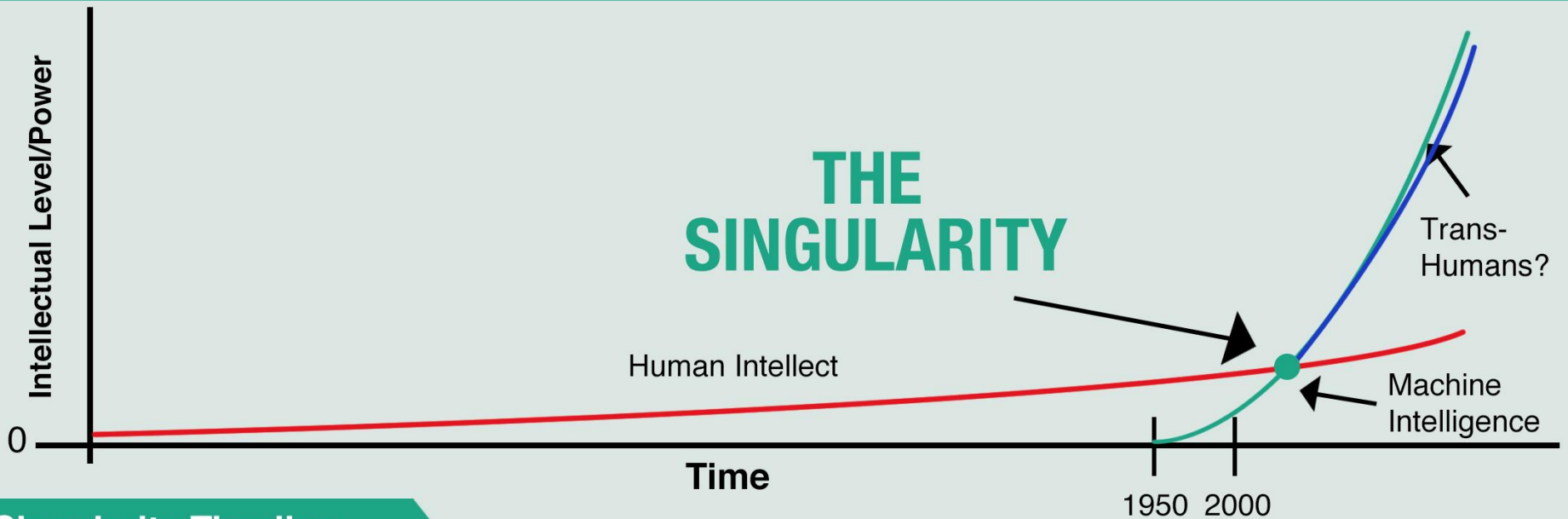
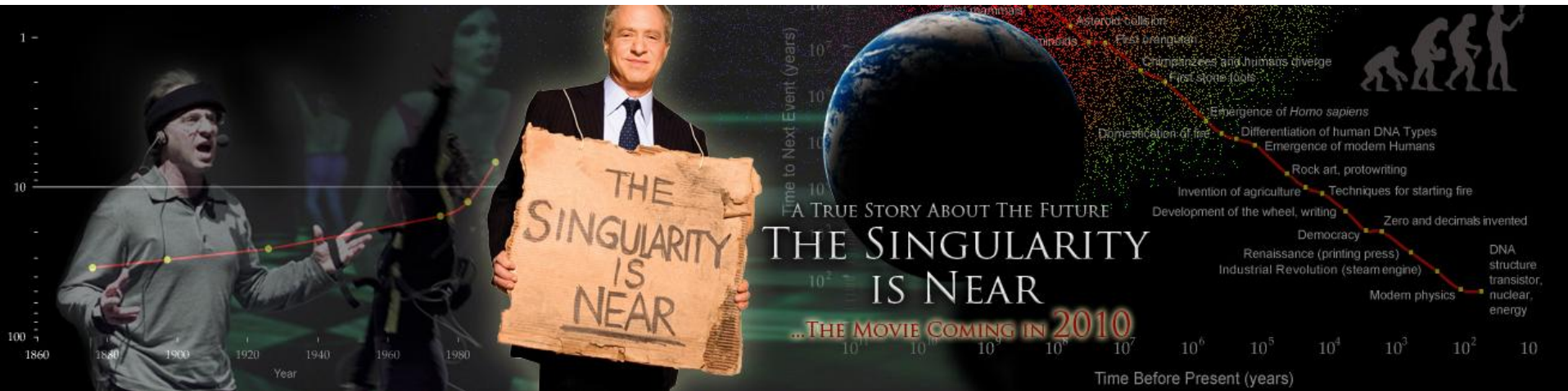
Nikola Tesla, Interview, *Colliers* magazine, 1926

"....by means of electric media, we set up a dynamic by which all previous technologies -- including cities -- will be translated into information systems"

Marshall McLuhan, *Understanding Media*, 1964



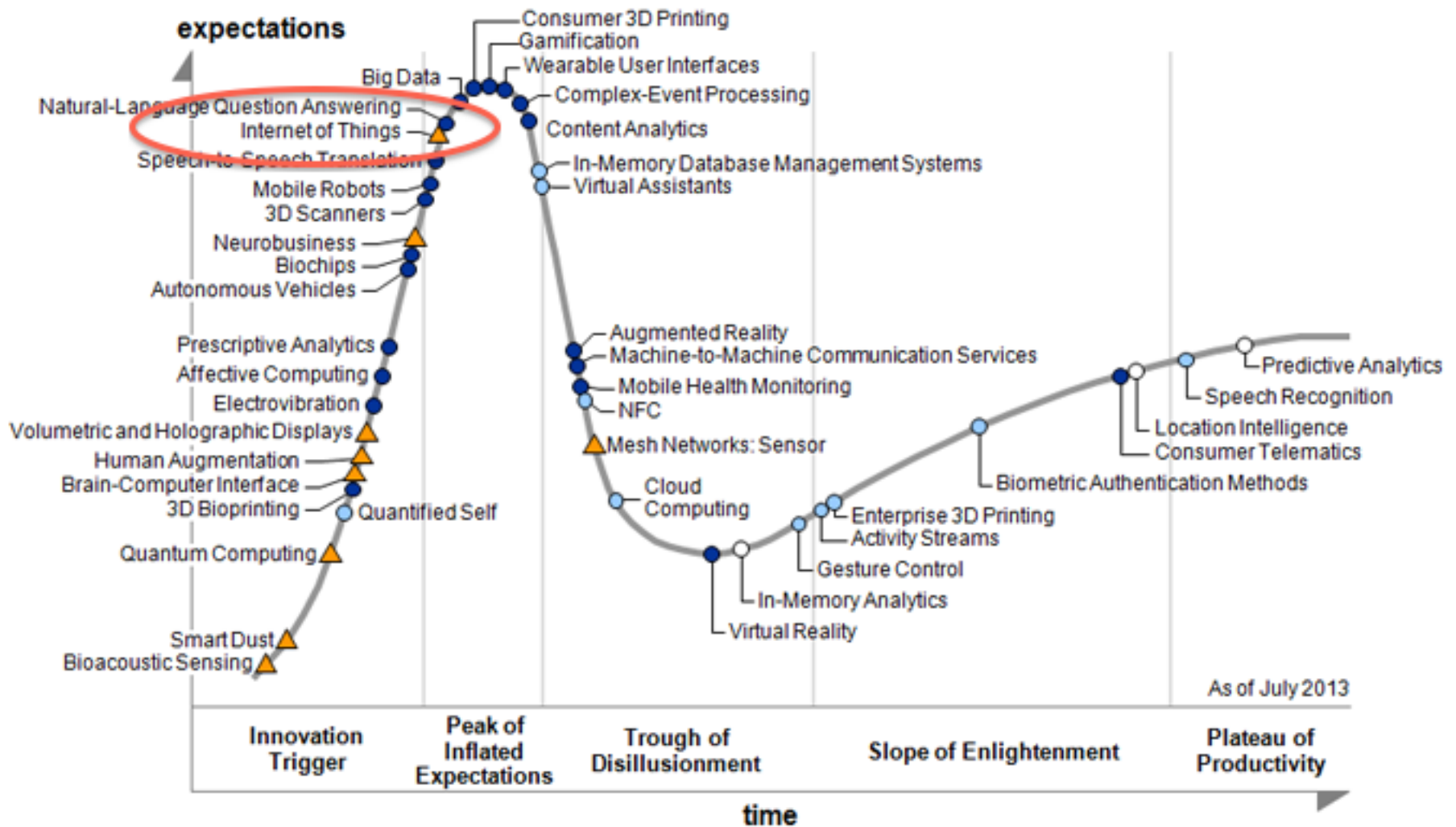
# Is "The Singularity" really near?



## Singularity Timeline

Rise in human intellect could be driven by integrating with machines in the future

# Hype Cycle for the Internet of Things, 2013



What could be the consequences?

- Optimistic – economic and social progress?
- The death of privacy?
- New digital divides?
- A world where things won't work and nobody knows how to fix them?
- Or is just all hype?