

Disruptive technologies and their impacts

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Question 1

- What is disruptive technologies?

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Question 2

- What is the impact of disruptive technologies?

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1. WHAT ARE DISRUPTIVE TECHNOLOGIES?

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DISRUPTIVE TECHNOLOGIES

Originally defined by Prof. Clayton M. Christensen

“A new technology that unexpectedly displaces an established technology” (1995)

Ground-breaking product, service or technology that makes the existing ones obsolete

2003: Disruptive innovation



DISRUPTIVE TECHNOLOGIES

EXAMPLES

Personal Computer



E-mail



Cell phones



Social Media



DISRUPTIVE TECHNOLOGY

Are typically

- Cheaper
- Smaller
- Simpler, and
- More convenient to use
- Accessible to new users

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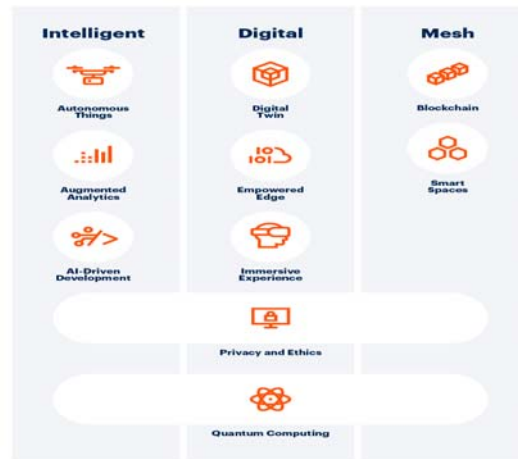
DISRUPTIVE TECHNOLOGIES 2019



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DISRUPTIVE TECHNOLOGIES 2019

Top 10 Strategic Technology Trends for 2019



Gartner, 2019

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2. WHAT IS THE IMPACT OF DISRUPTIVE TECHNOLOGIES?

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An Important Question...



Hey, this is new and exciting



Yeah, seen this all before

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Two Predictions...

"Books will soon be obsolete in the public schools. Scholars will be instructed through the eye. ... Our school system will be completely changed inside of ten years."



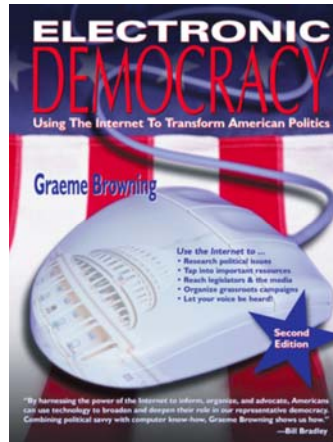
Thomas Edison - 1913

"In from three to eight years we will have a machine with the general intelligence of an average human being. I mean a machine that will be able to read Shakespeare, grease a car, play office politics, tell a joke, have a fight. At that point the machine will begin to educate itself with fantastic speed. In a few months it will be at genius level and a few months after that its powers will be incalculable."



Marvin Minsky - 1970

The Problem of Hyperbole

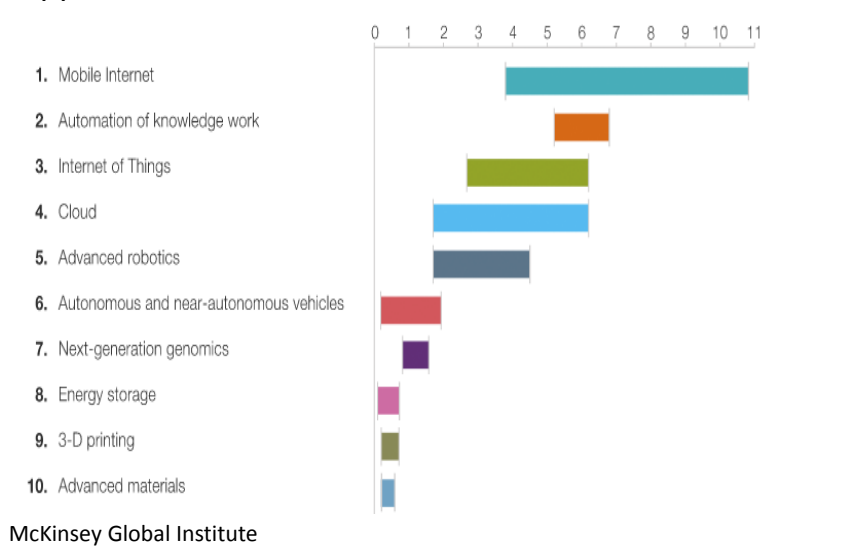


The mechanics of hyperbole in four easy steps:

1. *Pick a technology*
2. *Make a world-changing/ disrupting prediction*
3. *Cherry pick some case studies to 'prove' your point*
4. *Write a book.*

In particular - Disruptive technologies are no exception

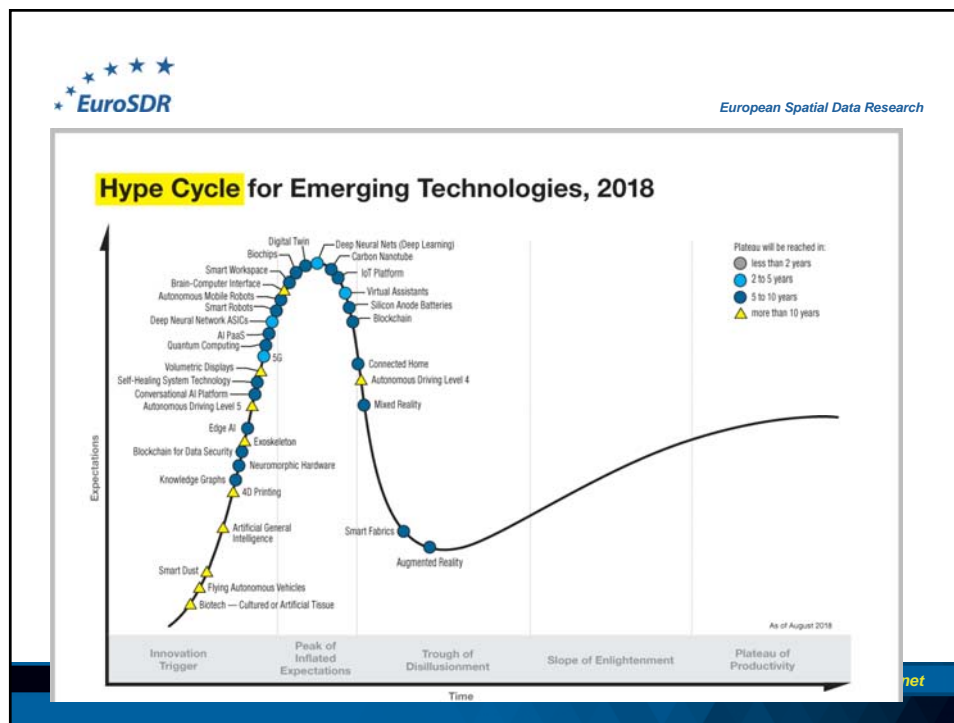
Estimated potential economic impact of technologies across sized applications in 2025, \$ trillion, annual

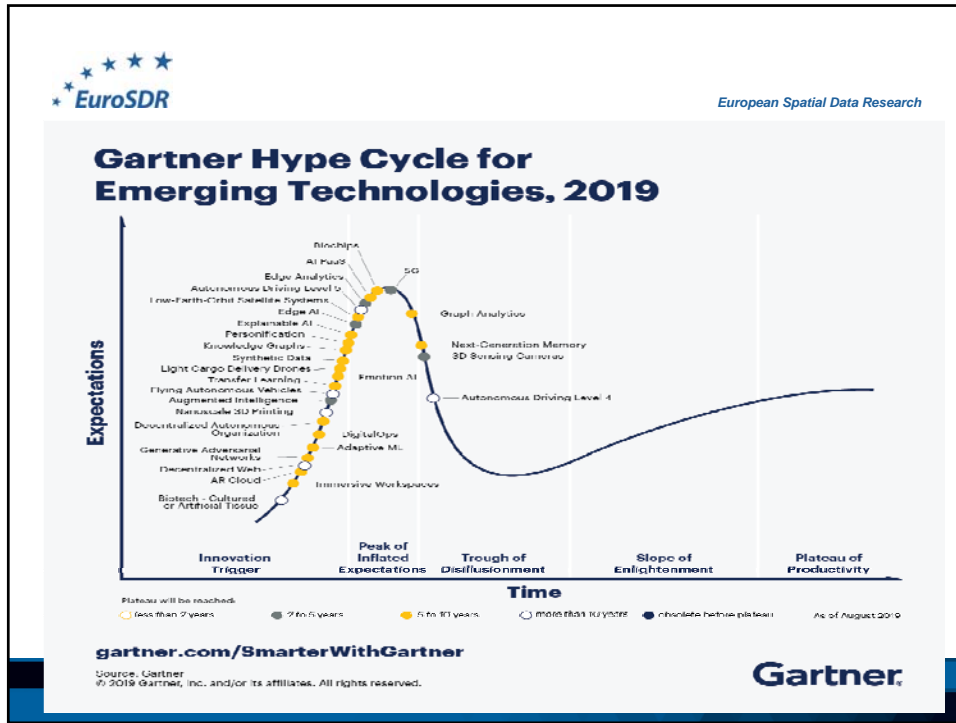


IMPACTS OF DISRUPTIVE TECHNOLOGIES

- **Implications for individuals and societies**
- **Implications for organisations**
 - Creates new products and services
 - Shifts surplus from producers to consumers!
 - Changes in organizational structures
- **Implications for Economies and Governments**
 - Poses new regulatory and legal challenges

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The Dark Side



Threats/risks include:

- Wrong investments
- Market loss
- De-anonymisation
- Unethical usage
- Citizens' privacy
- Discrimination
- Exclusion
- Illegal usage
- Misplaced trust and not least...
- Misguided public policies

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Take control of disruptive technology risks



EDUCATE

yourself about disruptive technology, terminology, innovations, and relevance to your company.



EXPAND

your network and foster collaboration through cross-functional teams and relationships and with outside experts.



PUSH

for investments in relevant data and analytics tools and skilled people to use them.



CONSIDER

the wider impacts — beyond cybersecurity — of disruptive technology on your company's risk profile.

Melissa Gale, 2017

Concluding Reflections



Yes, disruptive technologies are new and yes, they may turn out to be valuable

It would be wise not to expect miracles and radical changes

Need to think carefully about how you use a specific disruptive technology

One part of a much larger and more complex set of (data) issues

If you torture technologies long enough they will confess to anything

Thanks for your attention

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