

Inhalte des Moduls

Vorlesung

Mittwoch, 11:30 Uhr über Zoom

Inhalte der Vorlesung:

- **Data Manipulation (Bullshit):** The Art of Skepticism in a Data Driven World
- **Data Handling:** Handling of Data in different scenarios
- **Data Privacy:** Protecting the Privacy & Integrity of Data
- **Data Driven Innovation:** Innovative Business & Applications
- **Project Management:** Managing Projects successfully
- **Business Systems:** Relevant Enterprise Software Systems
- **Emerging Technologies:** Implications of selected Technologies
- **Machine Learning I, II, III:** Overview of ML Techniques & Methods
- **ML & Robotics:** Current Developments & Implications

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Projektarbeit

Donnerstag, 13:15 Uhr über Zoom

Drei toolgestützte Datenanalysen selbstständig unter Anleitung durchführen und in Form einer **wissenschaftlichen Arbeit toolgestützt** dokumentieren.

- **Selbstlernkurse** über StudOn
- **digitales Tutorium** über Zoom

salesforce

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rapidminer

Anwendungen und Rahmenbedingungen von Data Science und Machine Learning in Unternehmen und in einer datengetriebenen Welt kennen und einschätzen lernen.



1. Bullshit with Data:
2. Personal Data Handling:
3. Protect Data:
4. Data Driven Innovation:
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Relevant Enterprise Software Systems
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Overview of ML Techniques & Methods
Current Developments & Implications

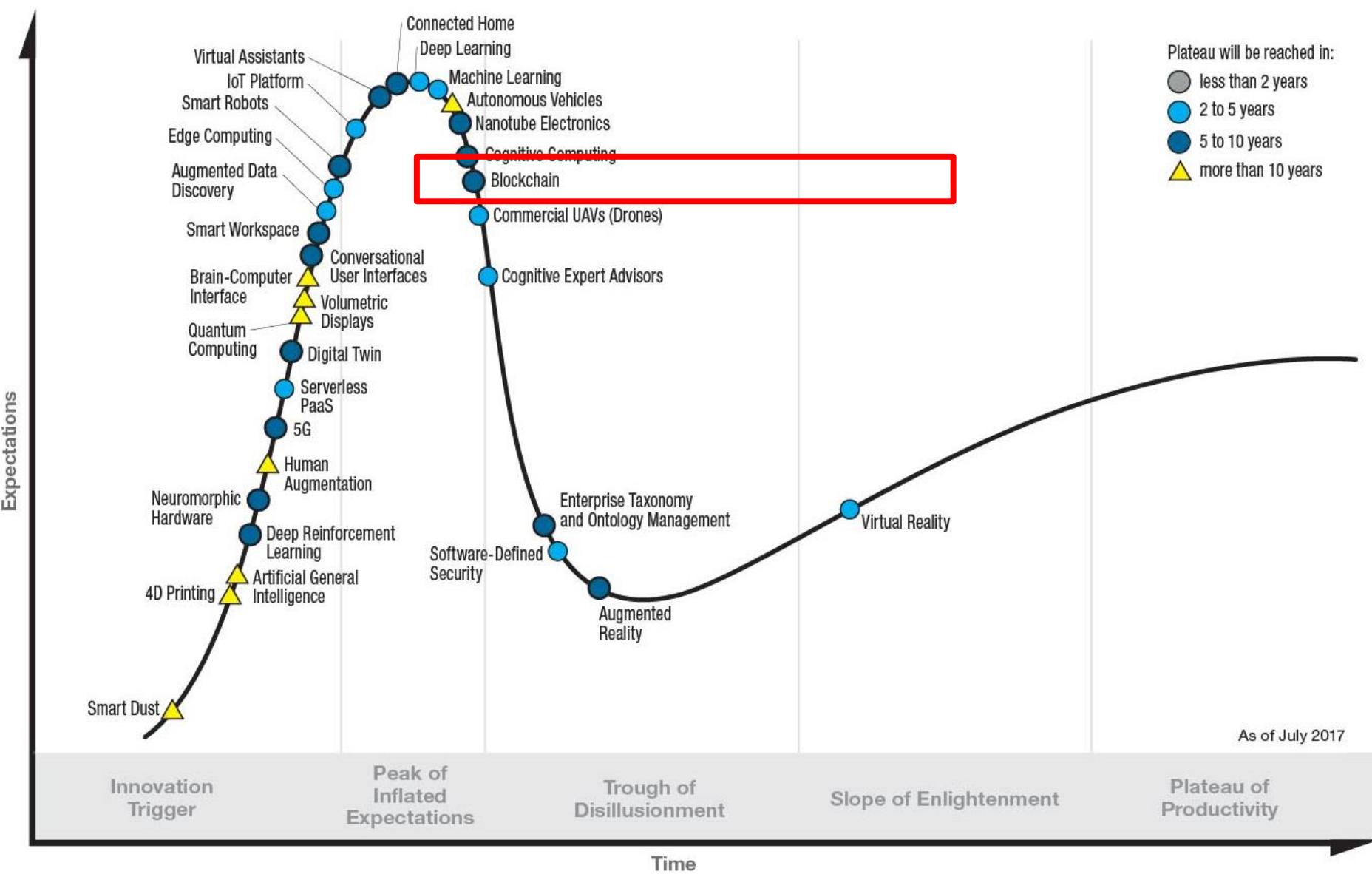
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Gartner Hype Cycle for Emerging Technologies, 2017



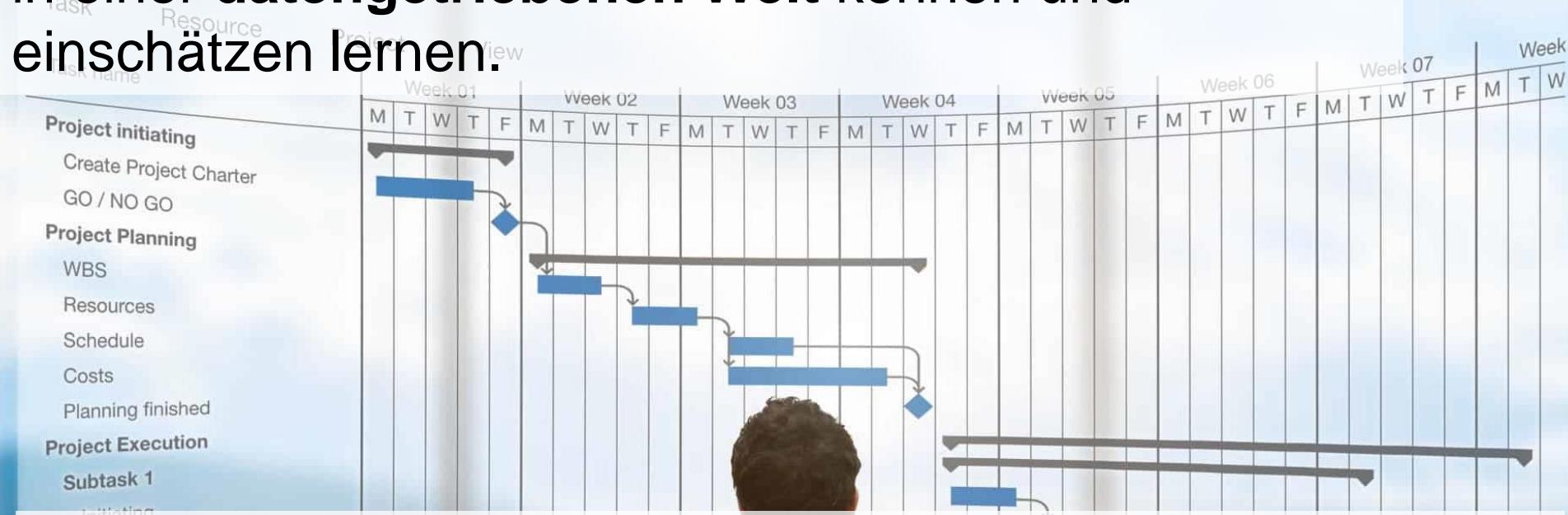
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7 Emerging Technologies

- Technologies of the Future & Business Implications?

Todays Content:

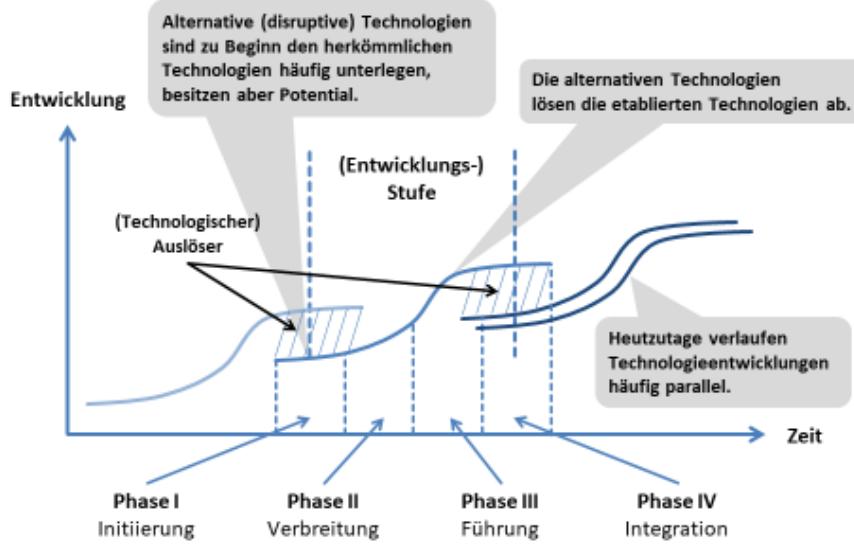
- 1. Motivation**
- 2. Basics of Managing Emerging Technologies**
- 3. Old School Tech-Management**
- 4. New School Tech-Management**
- 5. Business Impact of Drones**
- 6. Summary**



7 Emerging Technologies

- Technologies of the Future & Business Implications?
- (2) Basics of Managing Emerging Technologies

Techn. Entwicklungen erfolgen häufig in Stufen ...



Quelle: Richard Nolan, Harvard (1973)

Gartner Hype Cycle for Emerging Technologies, 2019



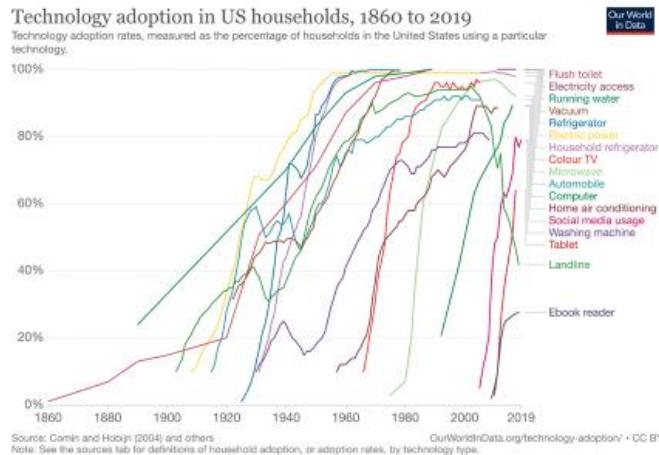
7 Emerging Technologies –

- Technologies of the Future & Business Implications?

(1) Motivation

Harvard Business Review, Nov. 2013:

The Pace of Technology Adoption is Speeding Up.



Information technology
and business are
becoming inextricably
interwoven. I don't think
anybody can talk
meaningfully about one
without talking about
the other.

bill gates
2

7 Emerging Technologies –

- Technologies of the Future & Business Implications?

(3) Old School TM: Scenario & Strategy Planning



Beispiel Leoni AG, Strategieplanung 2013-2025

Megatrends

Megatrends beeinflussen LEONI's Entscheidungen über zukünftige Aktivitäten, Endanwendungen und -märkte, Produkte und Regionen.

- Mobilität
- Globalisierung
- Umweltbewusstsein & Ressourcenknappheit
- Wachsende Bevölkerung & demografischer Wandel
- Industrialisierung & Automatisierung
- Digitalisierung

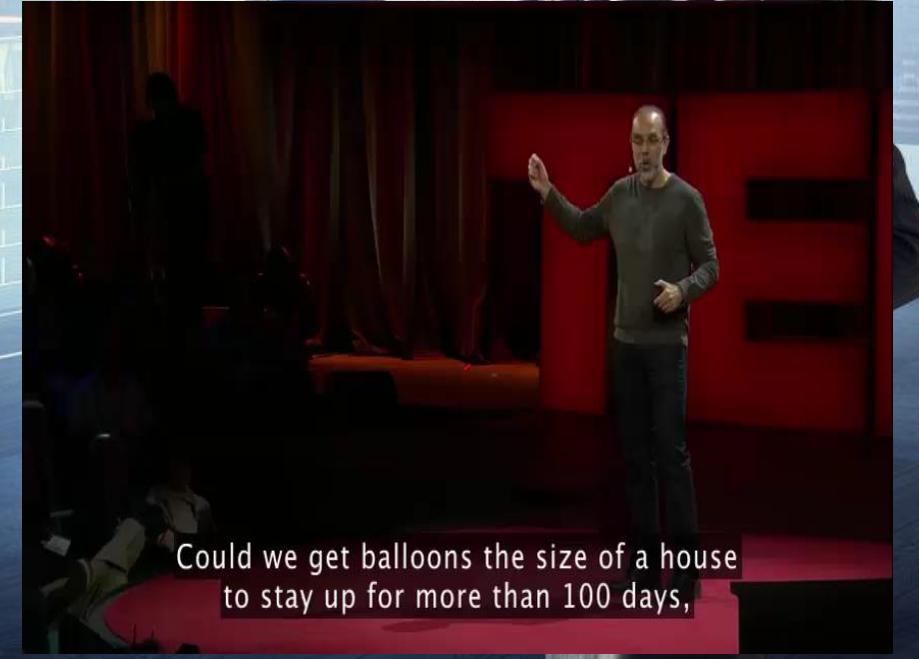
Ablösung von Strategie-Zielen und Strategie-Elementen aus Megatrends
Ein Vorgehen in 4 Schritten



7 Emerging Technologies

- Technologies of the Future & Business Implications?

(4) New School TM: Moonshot Thinking

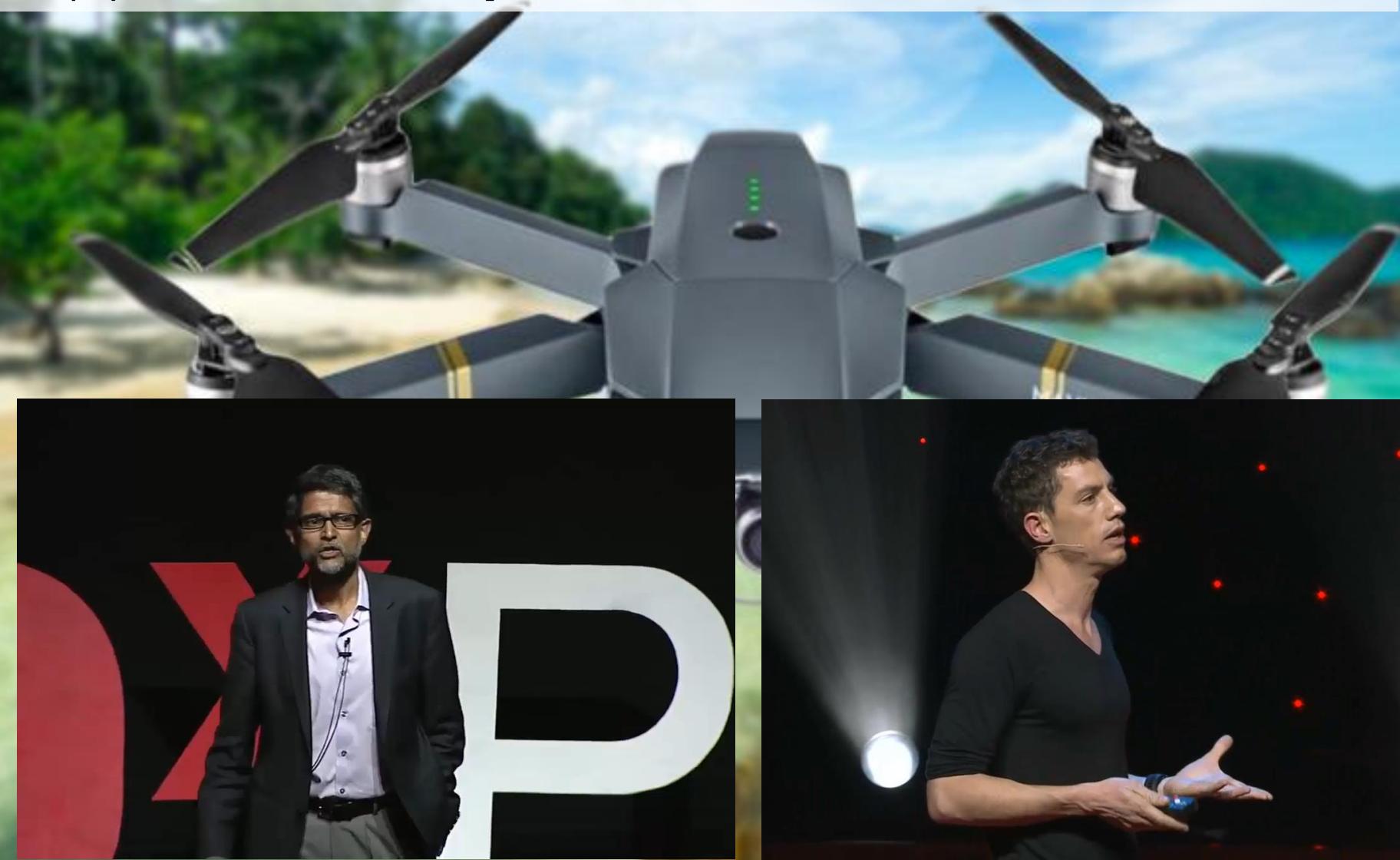


Could we get balloons the size of a house
to stay up for more than 100 days,

7 Emerging Technologies

- Technologies of the Future & Business Implications?

(5) Business Impact of Drones



7 Emerging Technologies

- Technologies of the Future & Business Implications?

(6) Summary

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- **Grundlagen des unternehmerischen Technologiemanagements**
- **Ausgewählte Beispiele für Technologiemanagement in Unternehmen**
- **Chancen und Herausforderungen im Technologiemanagement**
- Sich mit **innovativen Technologien** auseinandersetzen.

Anwendungen und Rahmenbedingungen von Data Science und Machine Learning in Unternehmen und in einer datengetriebenen Welt kennen und einschätzen lernen.



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2. Basics of Managing Emerging Technologies

Emerging technologies

From Wikipedia, the free encyclopedia

For specific emerging technologies, see the [List of emerging technologies](#)

Emerging technologies are [technologies](#) whose development, practical applications, or both are still largely unrealized, such that they are figuratively [emerging](#) into prominence from a background of nonexistence or obscurity. These technologies are [new](#), such as various applications of biotechnology including [gene therapy](#) (which date to circa 1990 but even today have large undeveloped potential). Emerging technologies are often perceived as capable of changing the [status quo](#).

Emerging technologies are characterized by radical novelty (in application even if not in origins), relatively fast growth, coherence, prominent impact, and uncertainty and ambiguity. In other words, an emerging technology can be defined as "a radically novel and relatively fast growing technology characterised by a certain degree of coherence persisting over time and with the potential to exert a considerable impact on the socio-economic domain(s) which is observed in terms of the composition of actors, institutions and patterns of interactions among those, along with the associated knowledge production processes. Its most prominent impact, however, lies in the future and so in the emergence phase is still somewhat uncertain and ambiguous."^[1]

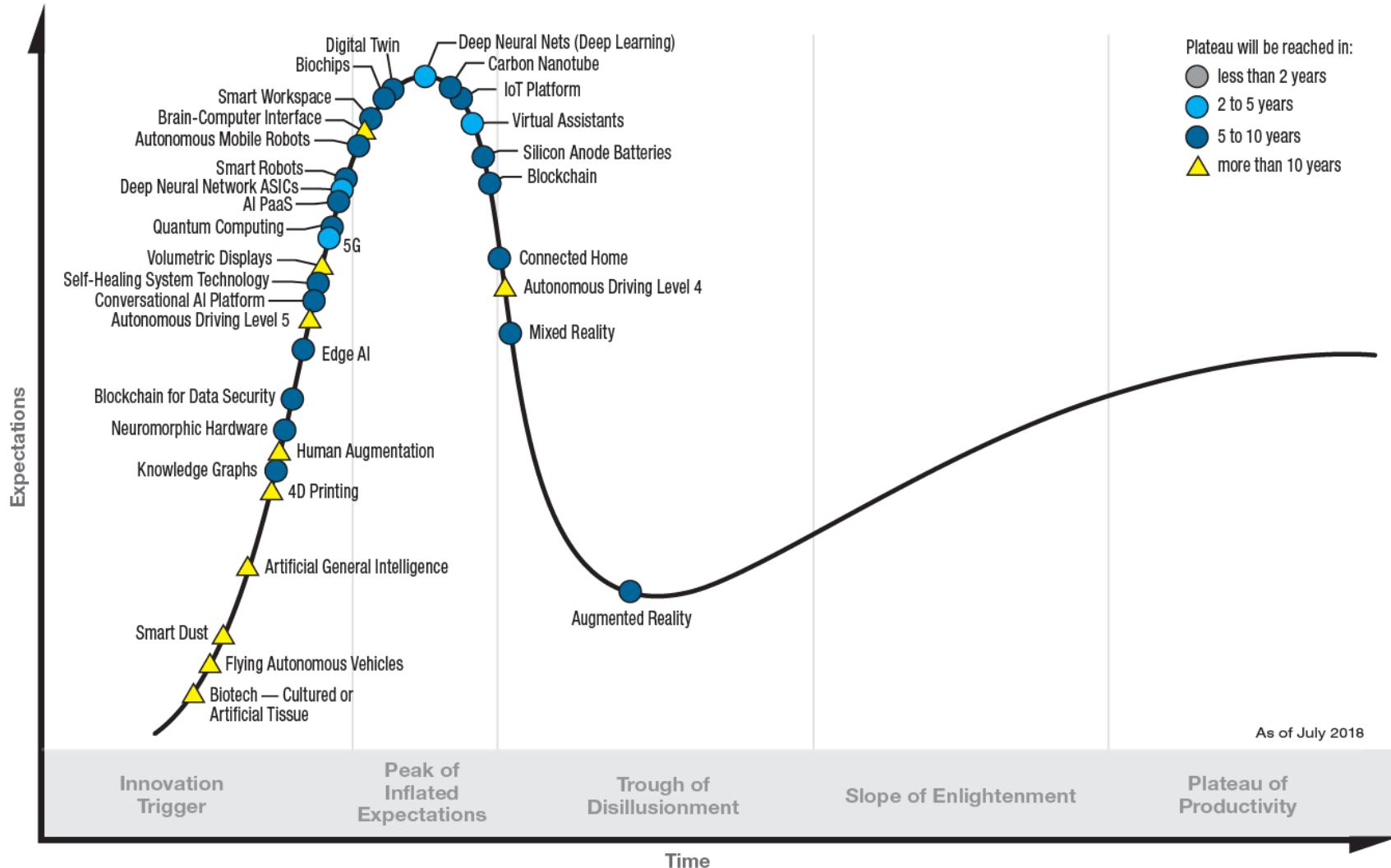
Emerging technologies include a variety of technologies such as [educational technology](#), [information technology](#), [nanotechnology](#), [biotechnology](#), [cognitive science](#), [psychotechnology](#), [robotics](#), and [artificial intelligence](#).^[note 1]

History of technology

- [By technological eras](#) [show]
- [By historical regions](#) [show]
- [By type of technology](#) [show]
- [Technology timelines](#) [show]
- [Article indices](#) [show]

V · T · E

Hype Cycle for Emerging Technologies, 2018



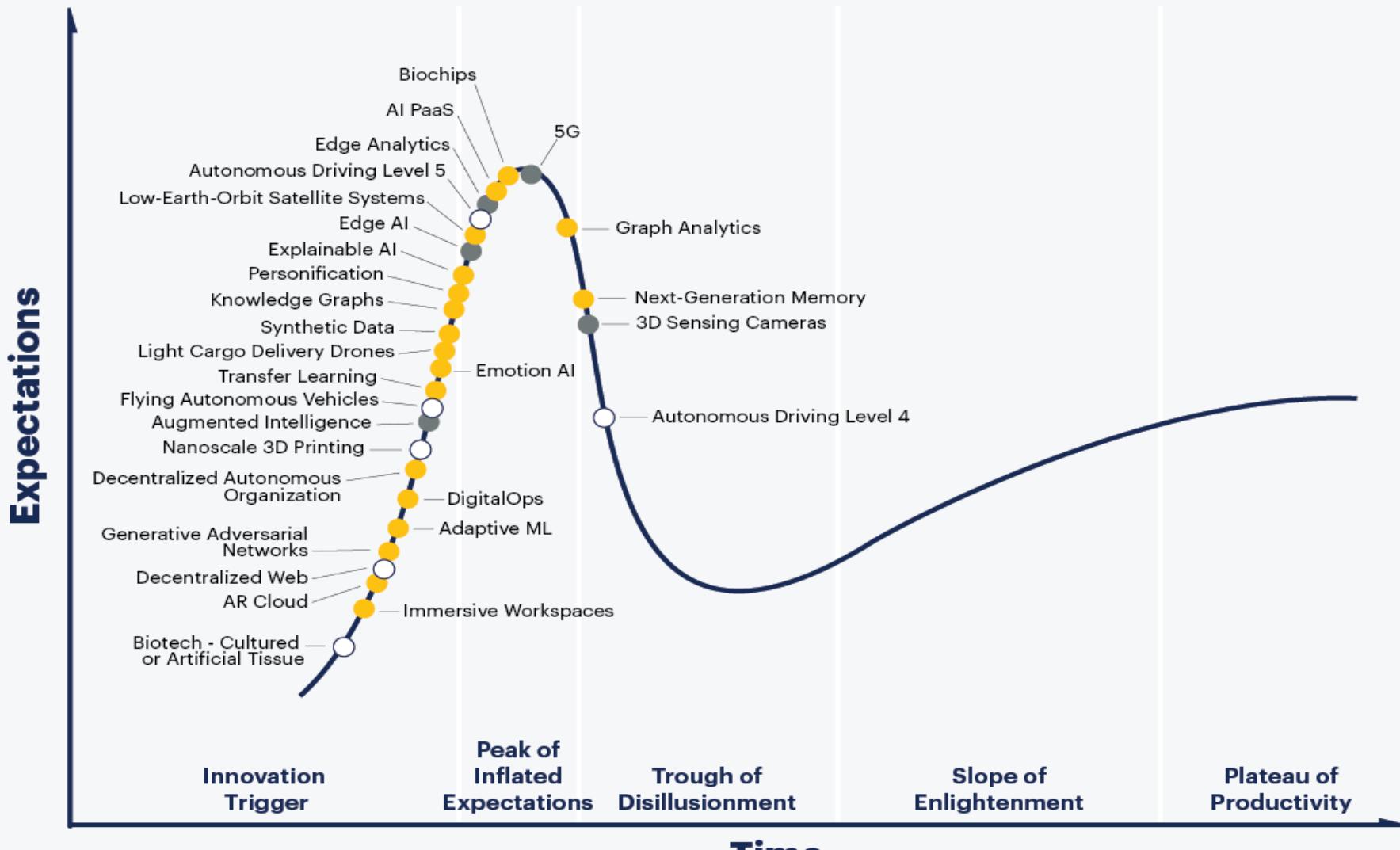
gartner.com/SmarterWithGartner

Source: Gartner (August 2018)

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Gartner Hype Cycle for Emerging Technologies, 2019



Plateau will be reached:

less than 2 years

2 to 5 years

5 to 10 years

more than 10 years

obsolete before plateau

As of August 2019

Hype Cycle for Emerging Technologies, 2020



gartner.com/SmarterWithGartner

Source: Gartner

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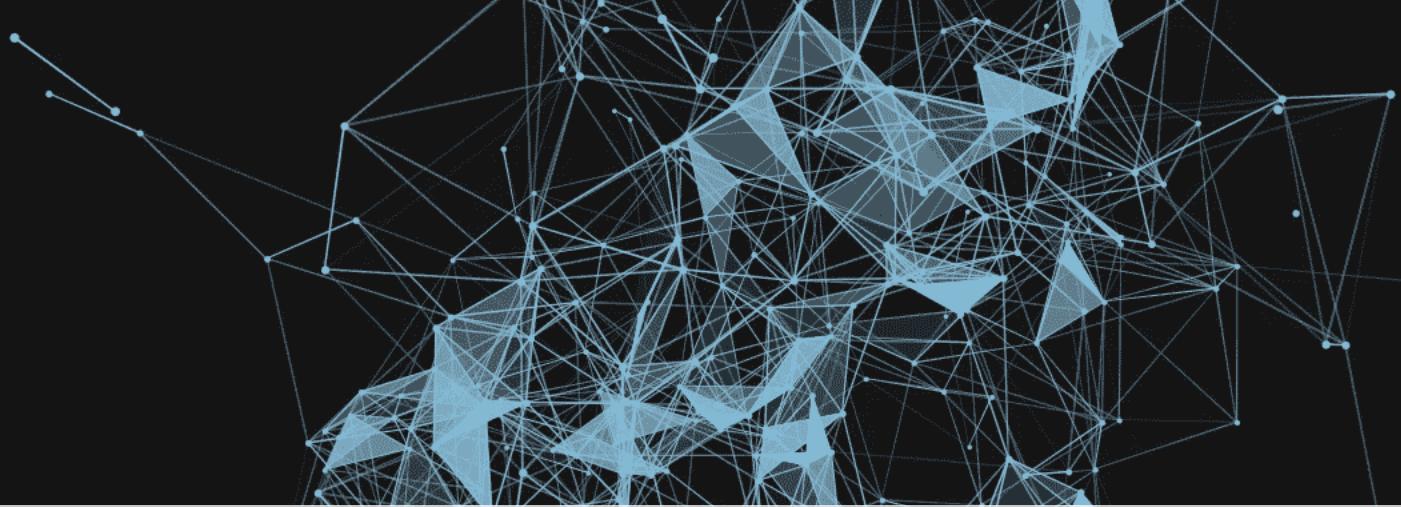
Michael Amberg

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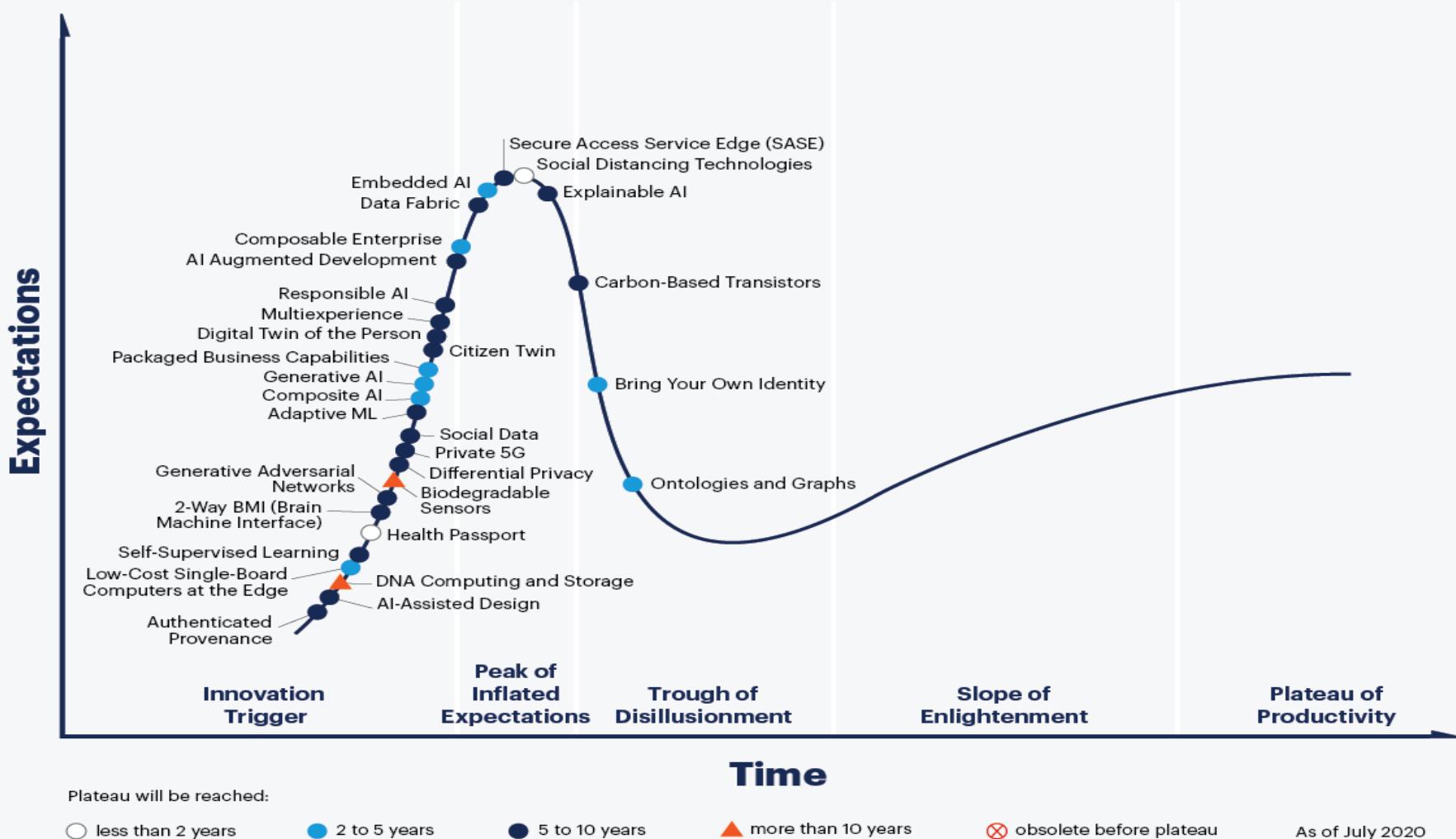
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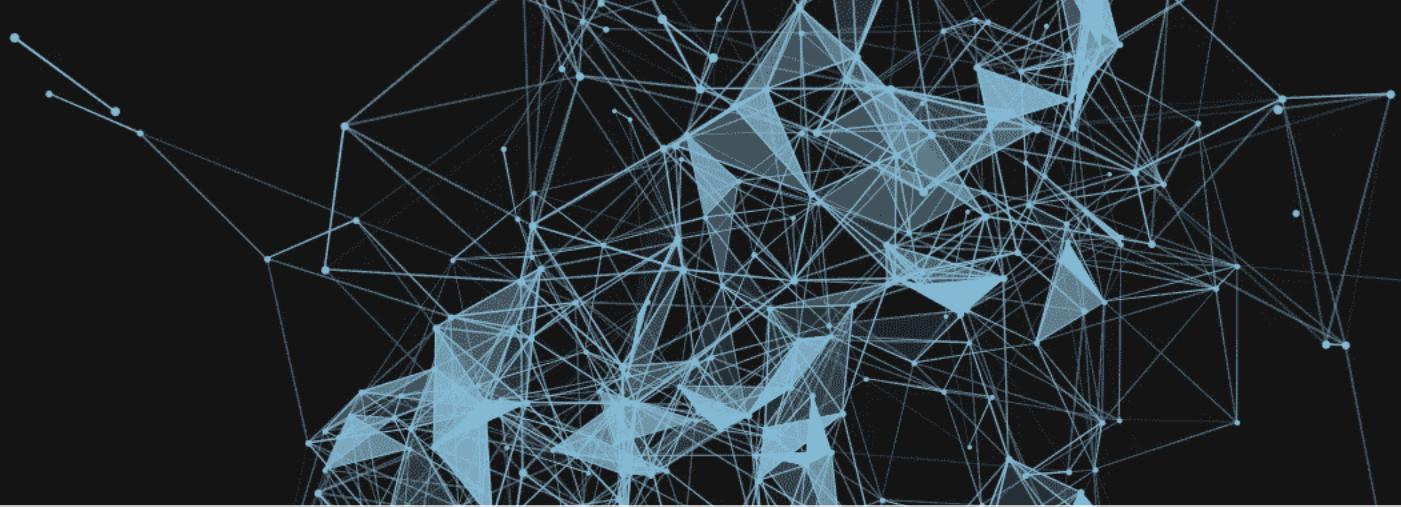
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