Gartner's Hype Cycle for Emerging Technologies, 2017 Adds 5G And Deep Learning For First Time

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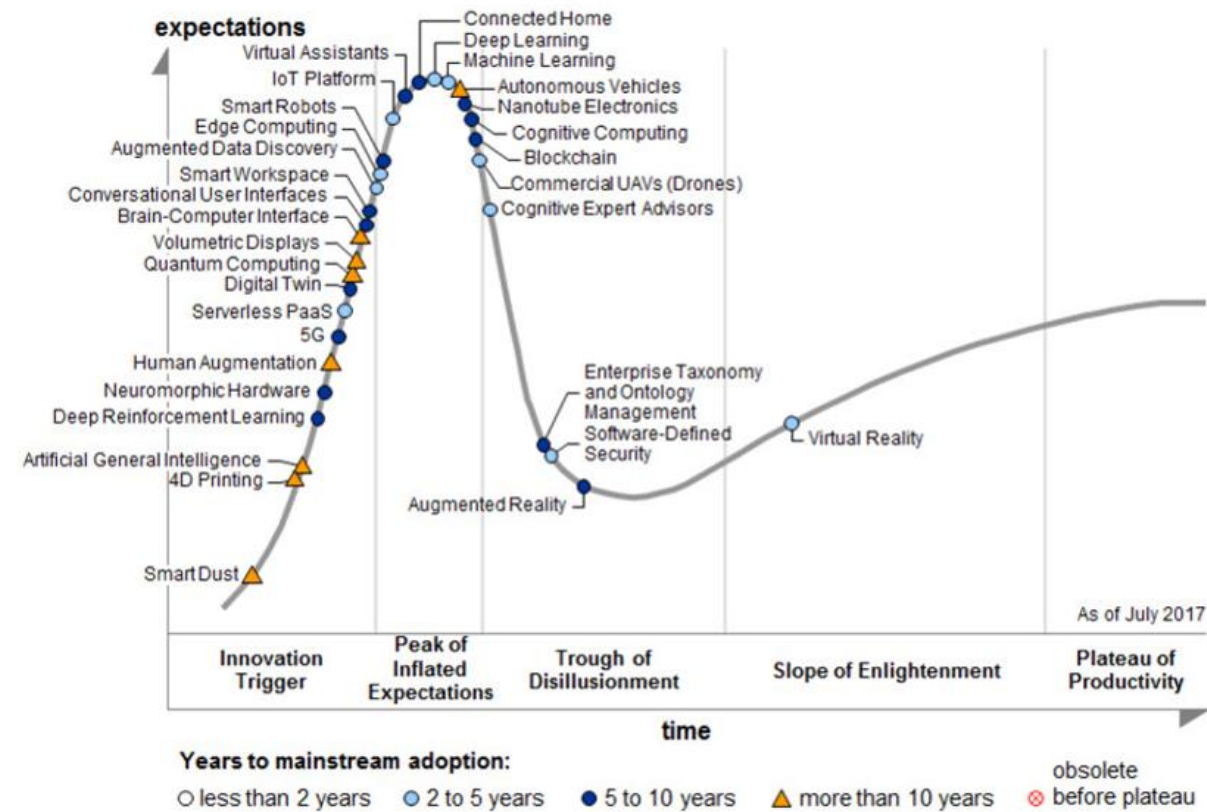
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The Hype Cycle for Emerging Technologies, 2017 provides insights gained from evaluations of more than 2,000 technologies the research and advisory firms tracks. From this large base of technologies, the technologies that show the most potential for delivering a competitive advantage over the next five to 10 years are included in the Hype Cycle.

The eight technologies added to the Hype Cycle this year include 5G, Artificial General Intelligence, Deep Learning, Deep Reinforcement Learning, Digital Twin, Edge Computing, Serverless PaaS and Cognitive Computing. Ten technologies not included in the hype cycle for 2017 include 802.11ax, Affective Computing, Context Brokering, Gesture Control Devices, Data Broker PaaS (dbrPaaS), Micro Data Centers, Natural-Language Question Answering, Personal Analytics, Smart Data Discovery and Virtual Personal Assistants.

The three most dominant trends include Artifical Intelligence (AI) Everywhere, Transparently Immersive Experiences, and Digital Platforms. Gartner believes that key platform-enabling technologies are 5G, Digital Twin, Edge Computing, Blockchain, IoT Platforms, Neuromorphic Hardware, Quantum Computing, Serverless PaaS and Software-Defined Security.

Hype Cycle for Emerging Technologies, 2017

Note: PaaS = platform as a service; UAVs = unmanned aerial vehicles

Source: Gartner (July 2017)

Source: Gartner Identifies Three Megatrends That Will Drive Digital Business Into the Next Decade August 15, 2017

Key takeaways from this year's Hype Cycle include the following:

- **Heavy R&D spending from Amazon, Apple, Baidu, Google, IBM, Microsoft, and Facebook is fueling a race for Deep Learning and Machine Learning patents today and will accelerate in the future** – The race is on for Intellectual Property (IP) in deep learning and machine learning today. The success of Amazon Alexa, Apple Siri, Google's Google Now, Microsoft's Cortana and others are making this area the top priority for R&D investment by these companies today. Gartner predicts deep-learning applications and tools will be a standard component in 80% of data scientists' tool boxes by 2018. Amazon Machine Learning is available on Amazon Web Services today, accessible here. Apple has also launched a Machine Learning Journal. Baidu Research provides a site full of useful information on their ongoing research and development as well. Google Research is one of the most comprehensive of all, with a wealth of publications and research results. IBM's AI and Cognitive Computing site can be found here. The Facebook Research site provides a wealth of information on 11 core technologies their R&D team is working on right now. Many of these sites also list open positions on their R&D teams.

- **5G adoption in the coming decade will bring significant gains for security, scalability, and speed of global cellular networks** – Gartner predicts that by 2020, 3% of network-based mobile communications service providers (CSPs) will launch 5G networks commercially. The Hype Cycle report mentions that from 2018 through 2022 organizations will most often utilize 5G to support IoT communications, high definition video and fixed wireless access. AT&T, NTT Docomo, Sprint USA, Telstra, T-Mobile, and Verizon have all announced plans to launch 5G services this year and next.

- **Artificial General Intelligence is going to become pervasive during the next decade, becoming the foundation of AI as a Service** – Gartner predicts that AI as a Service will be the enabling core technology

that leads to the convergence of AI Everywhere, Transparently Immersive Experiences and Digital Platforms. The research firm is also predicting 4D Printing, Autonomous Vehicles, Brain-Computer Interfaces, Human Augmentation, Quantum Computing, Smart Dust and Volumetric Displays will reach mainstream adoption.

Sources:

[Gartner Identifies Three Megatrends That Will Drive Digital Business Into the Next Decade](#)