

Newsroom

Press Releases

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Gartner's 2016 Hype Cycle for Emerging Technologies Identifies Three Key Trends That Organizations Must Track to Gain Competitive Advantage

2016 Hype Cycle Special Report Distills Insight From More Than 2,000 Technologies

The technologies on Gartner Inc.'s Hype Cycle for Emerging Technologies, 2016 (<https://www.gartner.com/document/3383817>) reveal three distinct technology trends that are poised to be of the highest priority for organizations facing rapidly accelerating digital business innovation.

Transparently immersive experiences, the perceptual smart machine age, and the platform revolution are the three overarching technology trends that profoundly create new experiences with unrivaled intelligence and offer platforms that allow organizations to connect with new business ecosystems.

The Hype Cycle for Emerging Technologies report is the longest-running annual Gartner Hype Cycle (<https://www.gartner.com/en/research/methodologies/gartner-hype-cycle>), providing a cross-industry perspective on the technologies and trends that business strategists, chief innovation officers, R&D leaders, entrepreneurs, global market developers and emerging-technology teams should consider in developing emerging-technology portfolios.

"The Hype Cycle for Emerging Technologies is unique among most Hype Cycles because it distills insights from more than 2,000 technologies into a succinct set of must-know emerging technologies and trends that will have the single greatest impact on an organization's strategic planning," said Mike J. Walker (<https://www.gartner.com/analyst/49943>), research director at Gartner. "This Hype Cycle specifically focuses on the set of technologies that is showing promise in delivering a high degree of competitive advantage over the next five to 10 years." (see Figure 1)

Figure 1. Hype Cycle for Emerging Technologies, 2016



Source: Gartner (August 2016)

"To thrive in the digital economy, enterprise architects must continue to work with their CIOs and business leaders to proactively discover emerging technologies that will enable transformational business models for competitive advantage, maximize value through reduction of operating costs, and overcome legal and regulatory hurdles," said Mr. Walker. "This Hype Cycle provides a high-level view of important emerging trends that organizations must track, as well as the specific technologies that must be monitored."

Key Technology Trends

Transparently immersive experiences: Technology will continue to become more human-centric to the point where it will introduce transparency between people, businesses and things. This relationship will become much more entwined as the evolution of technology becomes more adaptive, contextual and fluid within the workplace, at home, and interacting with businesses and other people.

Critical technologies to be considered include *4D Printing*, *Brain-Computer Interface* (<https://www.gartner.com/it-glossary/computer-brain-interface/>), *Human Augmentation* (<https://www.gartner.com/it-glossary/human-augmentation/>), *Volumetric Displays* (<https://www.gartner.com/it-glossary/volumetric-displays/>), *Affective Computing* (<https://www.gartner.com/it-glossary/affective-computing/>), *Connected Home* (<https://www.gartner.com/it-glossary/connected-home/>), *Nanotube Electronics*, *Augmented Reality* (<https://www.gartner.com/it-glossary/augmented-reality-ar/>), *Virtual Reality* (<https://www.gartner.com/it-glossary/vr-virtual-reality/>) and *Gesture Control Devices* (<https://www.gartner.com/it-glossary/gesture-control/>).

The perceptual smart machine age: Smart machine technologies will be the most disruptive class of technologies over the next 10 years due to radical computational power, near-endless amounts of data, and unprecedented advances in deep neural networks that will allow organizations with smart machine technologies to harness data in order to adapt to new situations and solve problems that no one has encountered previously. Enterprises that are seeking leverage in this theme should consider the following technologies: *Smart Dust*, *Machine Learning*, *Virtual Personal Assistants* (<https://www.gartner.com/it-glossary/?s=virtual+assistant>), *Cognitive Expert Advisors*, *Smart Data Discovery*, *Smart Workspace*, *Conversational User Interfaces*, *Smart Robots*, *Commercial UAVs (Drones)*, *Autonomous Vehicles* (<https://www.gartner.com/it-glossary/autonomous-vehicles/>), *Natural-Language Question Answering*, *Personal Analytics*, *Enterprise Taxonomy and Ontology Management*, *Data Broker PaaS (dbrPaaS)*, and *Context Brokering*.

The platform revolution: Emerging technologies are revolutionizing the concepts of how platforms are defined and used. The shift from technical infrastructure to ecosystem-enabling platforms is laying the foundations for entirely new business models that are forming the bridge between humans and technology. Within these dynamic ecosystems, organizations must proactively understand and redefine their strategy to create platform-based business models, and to exploit internal and external algorithms in order to generate value. Key platform-enabling technologies to track include Neuromorphic Hardware, Quantum Computing, Blockchain, IoT Platform, Software-Defined Security and Software-Defined Anything (SDx).

"These trends illustrate that the more organizations are able to make technology an integral part of their employees', partners' and customers' experience, the more they will be able to connect their ecosystems to platforms in new and dynamic ways," said Mr. Walker. "Also, as smart machine technologies continue to evolve, they will become part of the human experience and the digital business ecosystem."

Gartner clients can read more in the report "Hype Cycle for Emerging Technologies, 2016" (<https://www.gartner.com/document/3383817>). This report is part of Gartner's Hype Cycle Special Report for 2016 (<https://www.gartner.com/technology/research/hype-cycles/>). This Special Report provides strategists and planners with an assessment of the market hype, maturity, business benefit and future direction of more than 2,000 technologies, grouped into 11 topic areas. Learn more in the complimentary webinar "Gartner Hype Cycles 2016: Major Trends and Emerging Technologies" (<https://www.gartner.com/webinar/3377422>).

Emerging technologies will be further discussed during Gartner Symposium/ITxpo 2016 (<https://www.gartner.com/technology/symposium/>), the world's most important gathering of CIOs and other senior IT executives. Follow news and updates on Twitter using #GartnerSYM (<https://twitter.com/search?q=%23GartnerSYM&src=typd>).

Dates and locations for Gartner Symposium/ITxpo 2016 events include:

September 26-28, Cape Town, South Africa (<http://www.gartner.co.za/page.asp?id=1>)

October 5-7, Tokyo, Japan (<https://www.gartner.com/en/conferences/apac/symposium-japan>)

October 16-20, Orlando, Florida (<https://www.gartner.com/us/symposium>)

October 24-27, Sao Paulo, Brazil (<https://www.gartner.com/en/conferences/la/symposium-brazil>)

October 24-27, Gold Coast, Australia (<https://www.gartner.com/en/conferences/apac/symposium-australia>)

November 6-10, Barcelona, Spain (<https://www.gartner.com/en/conferences/emea/symposium-spain>)

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