Gartner Identifies Three Megatrends That Will Drive Digital Business into the Next Decade

STAMFORD, Conn., August 15, 2017 — The emerging technologies on the Gartner Inc. “Hype Cycle for Emerging Technologies, 2017” reveal three distinct megatrends that will enable businesses to survive and thrive in the digital economy over the next five to 10 years. Artificial intelligence (AI) everywhere, transparently immersive experiences and digital platforms are the trends that will provide unrivaled intelligence, create profoundly new experiences 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, 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 Emerging Technologies Hype Cycle is unique among most Gartner Hype Cycles because it garners insights from more than 2,000 technologies into a succinct set of compelling emerging technologies and trends. 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).

“Enterprise architects who are focused on technology innovation must evaluate these high-level trends and the featured technologies, as well as the potential impact on their businesses,” said Mike J. Walker, research director at Gartner. “In addition to the potential impact on businesses, these trends provide a significant opportunity for enterprise architecture leaders to help senior business and IT leaders respond to the digital business opportunities and threats by creating signature-ready actionable and diagnostic deliverables that guide investment decisions.”

Figure 1. Hype Cycle for Emerging Technologies, 2017

Note: PaaS = platform as a service; UAVs = unmanned aerial vehicles
Source: Gartner (July 2017)

AI Everywhere
Artificial intelligence 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; these will enable organizations with AI technologies to harness data in order to adapt to new situations and solve problems that no one has ever encountered previously. Enterprises that are seeking leverage in this theme should consider the following technologies: Deep Learning, Deep Reinforcement Learning, Artificial General Intelligence, Autonomous Vehicles, Cognitive Computing, Commercial UAVs (Drones), Conversational User Interfaces, Enterprise Taxonomy and Ontology Management, Machine Learning, Smart Dust, Smart Robots and Smart Workspace. 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 in interacting with businesses and other people. Critical technologies to be considered include: 4D Printing, Augmented Reality (AR), Computer-Brain Interface, Connected Home, Human Augmentation, Nanotube Electronics, Virtual Reality (VR) and Volumetric Displays. Digital Platforms Emerging technologies require revolutionizing the enabling foundations that provide the volume of data needed, advanced compute power, and ubiquity-enabling ecosystems. The shift from compartmentalized technical infrastructure to ecosystem-enabling platforms is laying the foundations for entirely new business models that are forming the bridge between humans and technology. Key platform-enabling technologies to track include: 5G, Digital Twin, Edge Computing, Blockchain, IoT Platform, Neuromorphic Hardware, Quantum Computing, Serverless PaaS and Software-Defined Security. “When we view these themes together, we can see how the human-centric enabling technologies within transparently immersive experiences — such as smart workspace, connected home, augmented reality, virtual reality and the growing brain-computer interface — are becoming the edge technologies that are pulling the other trends along the Hype Cycle,” said Mr. Walker. “AI Everywhere” emerging technologies are moving rapidly through the Hype Cycle. Technologies such as deep learning, autonomous learning and cognitive computing are just crossing the peak, which shows that they are key enablers of technologies that create transparent and immersive experiences. Finally, digital platforms are rapidly moving up the Hype Cycle, illustrating the new IT realities that are possible by providing the underlining platforms that will fuel the future. Technologies such as Quantum Computing (climbing the Innovation Trigger) and Blockchain (having passed the peak) are poised to create the most transformative and dramatic impacts in the next five to 10 years. “These megatrends illustrate that the more organizations are able to make technology an integral part of employees’ experiences; and customers’ experiences, the more they will be able to connect their ecosystems to platforms in new and dynamic ways,” said Mr. Walker. Gartner clients can read more in the report “Hype Cycle for Emerging Technologies, 2017.” This research is part of the Gartner Trend Insight Report “2017 Hype Cycles Highlight Enterprise and Ecosystem Digital Disruptions.” With over 1,800 profiles of technologies, services and disciplines spanning over 100 Hype Cycles focused on a diversity of regions, industries and roles, this Trend Insight Report is designed to help CIOs and IT leaders respond to the opportunities and threats affecting their businesses, take the lead in technology-enabled business innovations and help their organizations define an effective digital business strategy.

Additional analysis on emerging trends will be presented during Gartner Symposium/ITxpo 2017, the world’s most important gathering of CIOs and senior IT executives. Follow news and updates from the events on Twitter using #GartnerSYM. Upcoming dates and locations for Gartner Symposium/ITxpo include: September 18-21, Cape Town, South Africa October 1-5, Orlando, Florida October 23-26, Sao Paulo, Brazil October
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