TOP 10 Strategic Technology Trends for 2018

Source: Gartner

1. Artificial Intelligence Foundation: Today's AI is narrowly focused and the best use cases are those that consist of focused machine learning solutions put against specific tasks. The recommended approach is to evaluate scenarios in which AI could drive specific business value and consider experimenting with one or two of those with the highest impact.

2. Intelligent Apps and Analytics: Augmented analytics enable users to spend more time acting on insights. The coming years will see virtually every app, application and service incorporate some level of AI. Some will be obvious intelligent apps that couldn't exist without AI and machine learning while others will be unobtrusive users of AI that provide intelligence behind the scenes. Intelligent apps can create a new intelligent intermediary layer between people and systems.

3. Intelligent Things: Swarms of intelligent things will work together. Intelligent things are physical things that go beyond the execution of rigid programming models and exploit AI to deliver advanced behaviors that interact more naturally with their surroundings and with people. AI is driving advances for such things as autonomous vehicles, robots and drones, and delivering enhanced capability to many existing things, such as IoT-connected consumer and industrial systems.

4. Digital Twins: Digital twins will be linked to other digital entities. A digital twin is a digital representation of a real-world entity or system. The implementation of a digital twin is an encapsulated software object or model that mirrors a unique physical object. Data from multiple digital twins can be aggregated for a view across a number of real-world entities. By 2020, Gartner estimates there will be more than 20 billion connected sensors and endpoints and digital twins will exist for potentially billions of things.

5. Cloud to the Edge: Edge computing brings distributed computing into the cloud style by drawing from the concepts of mesh networking and distributed processing. Edge computing describes a computing topology in which information processing and content collection and delivery are placed closer to the sources and sinks of information. Edge computing keeps the traffic and processing local, with the goal being to reduce traffic and latency.

6. Conversational Platforms: Integration with third-party services will further increase usefulness. Conversational platforms will drive the next big paradigm shift in how humans interact with the digital world. There will be a shift in models from technology-literate people to people-literate technology and the burden of translating intent will move from the user to the computer. The system takes a question or command from the user in natural language. It responds by executing a function, presenting content or asking for additional input.

7. Immersive Experiences: VR, AR and MR can help increase productivity. VR and AR are separate but related technologies while mixed reality (MR) extends both approaches to incorporate the physical world in a more robust way. The visual aspect of the experience is important, but so are other sensory models, such as touch and sound. This is particularly so with MR in which the user may interact with digital and real-world objects while maintaining a presence in the physical world. Interest and excitement are high, resulting in multiple, novelty VR applications. According to Gartner, many provide no real business value, other than in advanced entertainment, such as video games and 360-degree spherical videos. For businesses, this means that the market is chaotic.

8. Blockchain: Blockchain offers significant potential long-term benefits despite its challenges. Blockchain is evolving from a digital currency infrastructure into a platform for digital transformation. Blockchain technologies offer a radical departure from the current centralized transaction and record-keeping mechanisms and can serve as a foundation of disruptive digital business for both established enterprises and startups. Gartner contends blockchain will transform the exchange of value, much as http/html transformed the exchange of web-based information.

9. Event-Driven Model: Events will become more important in the intelligent digital mesh. Businesses are always sensing, and ready to exploit, new digital business moments. Business events, such as the completion of a purchase order, call for specific business actions. The most significant business moments have implications for multiple parties and they can be detected more quickly and analyzed in greater detail by using event brokers, the IoT, cloud computing.

10. Continuous Adaptive Risk and Trust: Barriers must come down between security and applications teams, according to Gartner. The intelligent digital mesh and related digital technology platforms and application architectures create an ever-more-complex world for security. Meanwhile, the continuing evolution of the "hacker industry" and its use of increasingly sophisticated tools — including the same advanced technologies available to enterprises — significantly raise the threat potential. A shift to a continuous adaptive risk and trust assessment (CARTA) strategic approach is required. CARTA will enable real-time, risk- and trust-based decision making with adaptive responses.