Evolution of IoT past, present

. The evolution of IoT started with the first connected network ARPANET. A coke vending machine at Carnegie Mellon University connected to the university ARPANET in 1982 WAS the first connected device.

When Tim Berners-Lee proposed the framework of world wide web in 1989, the way for internet of things was paved. In 1990 John Romkey connected a toaster to the internet and it could be switched on and off over it. In 1993 the Trojan Room Coffee Pot was built in the University of Cambridge computer laboratory. The images of the pot could be viewed online.

The term IoT was coined by Kevin Ashton, current director of Auto-ID Labs, MIT, in 1999. By 2004 it was part of the general vocabulary. The first IoT conference was held in March 2008 at Zurich. The same year, US National Intelligence Council listed it as one of the six disruptive civil technologies.

In 2011 Cisco Internet Business Solutions Group released a white paper in which it asserted that IoT can be said to be born between 2008 and 2009 when number of things connected to the internet was more than the number of people connected to it. In 2011 IoT was also included in Gartner Hype cycle for emerging Technologies.

A modern IoT system has three layers — physical layer, edge computing layer and application layer. The physical layer collects data. The edge computing layer processes it and prepares it for transmitting to the cloud servers. Application layer consists of applications that provide useful insights using the data. According to McKinsey, the economic value of IoT is expected to be USD 11.2 trillion by 2025.

Although IoT is being adopted by a variety of industries and businesses, there are multiple challenges in its adoption. Data is the key driver of any IoT system. Collecting only the required data is essential so that the business is not swamped by too much data. And then the data collected must be stored and transmitted in a secure way so that neither the users nor the IoT devices are compromised.

Many governments have woken up to the realization that IoT is fast becoming a part of every civilian's everyday existence. Across the globe security regulations are being drafted so that data privacy and security can be ensured.

The rapid growth of IoT has been supported by advancement in three Technologies — Cloud Computing, big data and artificial intelligence. The future of IoT seems promising. 5G is set to disrupt IoT in a big way by providing high speed transmission capabilities to existing as well as new IoT networks.

Amid rising security concerns, businesses will incorporate data privacy and security approach right from the design phase and implement it at multiple levels through the IoT architecture layers. In the coming decade, as more and more data are generated by the IoT systems, product companies would shift towards a services ecosystem. The team of IoT experts at TechAhead is adept at providing end-to-end development solutions like IoT consultancy, IoT product design, mobile app development, IoT dashboards and IoT testing.