IoT evolved from machine-to-machine ([M2M](https://internetofthingsagenda.techtarget.com/definition/machine-to-machine-M2M)) communication, i.e., machines connecting to each other via a network without human interaction. M2M refers to connecting a device to the cloud, managing it and collecting data.Connention like these are called neural network.This means the computers learns by doing it .It tries to maximize the outcome.

Taking M2M to the next level, IoT is a sensor network of billions of smart devices that connect people, systems and other applications to collect and share data. As its foundation, M2M offers the connectivity that enables IoT.

The internet of things is also a natural extension of [SCADA](https://whatis.techtarget.com/definition/SCADA-supervisory-control-and-data-acquisition) (supervisory control and data acquisition), a category of software application program for process control, the gathering of data in real time from remote locations to control equipment and conditions. SCADA systems include hardware and software components. The hardware gathers and feeds data into a computer that has SCADA software installed, where it is then processed and presented it in a timely manner. The evolution of SCADA is such that late-generation SCADA systems developed into first-generation IoT systems.

The concept of the IoT ecosystem, however, didn't really come into its own until the middle of 2010 when, in part, the government of China said it would make IoT a strategic priority in its five-year plan.

### How IoT works

An IoT ecosystem consists of web-enabled smart devices that use embedded processors, sensors and communication hardware to collect, send and act on data they acquire from their environments. [IoT devices](https://internetofthingsagenda.techtarget.com/definition/IoT-device) share the sensor data they collect by connecting to an IoT gateway or other edge device where data is either sent to the cloud to be analyzed or analyzed locally. Sometimes, these devices communicate with other related devices and act on the information they get from one another. The devices do most of the work without human intervention, although people can interact with the devices -- for instance, to set them up, give them instructions or access the data.

The connectivity, networking and communication protocols used with these web-enabled devices largely depend on the specific IoT applications deployed.