

The **internet of things (IoT)** is the network of physical devices, vehicles, buildings and other items —[embedded](#) with [electronics](#), [software](#), [sensors](#), actuators, and [network connectivity](#) that enable these objects to collect and exchange data.^[1] In 2013 the Global Standards Initiative on Internet of Things (IoT-GSI) defined the IoT as "the infrastructure of the information society."^[2] The IoT allows objects to be sensed and controlled remotely across existing network infrastructure,^[3] creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit; when IoT is augmented with sensors and actuators, the technology becomes an instance of the more general class of [cyber-physical systems](#), which also encompasses technologies such as [smart grids](#), [smart homes](#), [intelligent transportation](#) and [smart cities](#). Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing [Internet](#) infrastructure. Experts estimate that the IoT will consist of almost 50 billion objects by 2020.^[10]

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