Chapter 10
Emerging Social and Legal Issues of the Internet of Things: A Case Study

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ABSTRACT

The advent of internet represents a revolution for the contemporary era, having brought about a striking series of changes in social, institutional, political, and economic life. This ongoing revolution has spread and absorbed within itself all the problems related to its own development. Objects become recognizable and acquire intelligence in that they are able to communicate data regarding themselves and also access other information aggregated by other devices. They are able to participate in a dialogue and interact among themselves within electronic communication networks without human intervention. All objects can acquire an active role thanks to connection with the web. The associated problems, which can no longer be ignored, draw attention above all to the lack of data control, which is to the vast extent of the data collected and more generally to the security of these data. This chapter has the aim of analyzing the ways in which European legislators, and consequently also Italian representatives, have intervened in order to stem the tide of emerging issues.

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THE 'INTERNET OF THINGS' MODEL

We begin to speak of the "Internet of Things (known as IoT)" in 1999, during a presentation at Procter & Gamble by Kevin Ashton, the British technological pioneer. In its first accepted meaning, IoT referred to those objects which, using banal tags, were identified unequivocally and then represented within the Web.

The first clear definition of IoT dated to 2009 when Ashton wrote: "*We need to empower computers with their means of gathering information so that they can see, hear and smell the world for themselves, in all its random glory. RFID and sensor technology enables computers to observe, identify and understand the world—without the limitations of human-entered data* (Ashton, 2009)".

A further definition is found in 2012, when a non-profit making research institute, Rand Europe, attempted to define IoT in research work for the European Commission. It is defined as: *"The Internet of Things (IoT) builds out from today's Internet by creating a pervasive and self-organizing network of connected, identifiable and addressable physical objects, enabling application development in key vertical sectors through the use of embedded chips, sensors, actuators, and low-cost miniaturization. The IoT is developing rapidly, challenging assumptions underlying the future Internet business, market, policy, and societal models. Connecting billions of objects to facilitate smarter living, the IoT may help us address global and societal challenges, making Europe a sustainable and inclusive economy. However, IoT-driven "smart meters", grids, homes, cities and transportation systems also raise some important issues that will need to be addressed* (Rand Europe, 2012)".

From these definitions it is possible to extrapolate the first vital data, that is, we can use the term IoT to refer to "intelligent objects". These include devices or sensors, computers, tablets, and smartphones, which have the privilege of connecting, communicating and transmitting information with or using each other through the Internet.

The paradigm which includes the intelligence of objects can be broken down into three directions (naturally the intelligent object must possess a capacity for connection in order to move the information collected at a local level towards remote applications, creating in this way a network of things):

1. Functionality of self-awareness identification, that is the possession of an unequivocal digital identification number (this is a basic functionality, present in all Internet of Things applications); localization, that is the capacity of objects to be aware of their position (this may occur in real time, or through elaboration of tracing information collected during the productive or logistic process); diagnosis of state, that is the capacity to monitor the object's internal