

# Chapter 1

## Assistive Technologies, Tools and Resources for the Access and Use of Information and Communication Technologies by People with Disabilities

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### ABSTRACT

*A person with disabilities can present difficulties in occupational performance. It is necessary to develop a set of resources, technological or otherwise, to offset these difficulties, and contribute to the integration of people with functional diversity in society. These resources are called support products or technology support, but do not eliminate the deficits, they can eliminate the limitation of the performance of persons with disabilities. Moreover, the Information Communication and Technologies (ICT) were formed as an alternative to personal empowerment of people with disabilities. To access and use of these new technologies are used to support specific products. In the market there is a diversity and variety of assistive technology, so it is necessary the classification and analysis of various products before the person can use it. The purpose of this chapter is to provide information about assistive technology, and specifically those directly related to ICT.*

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## INTRODUCTION

As individuals and members of a social community, people need to carry out a series of activities in order to maintain their habits and roles, as well as balance in different areas of performance.

On occasions, people may have either temporary or permanent disabilities that affect their abilities, as a result of one or more alterations in their functions and/or bodily structures (World Health Organization, 2001).

Spanish Law 39/2006 on the Promotion of Personal Autonomy and Attention for Persons in a Situation of Dependency defines the concept of autonomy as the ability to control, confront and adopt, on one's own initiative, personal decisions regarding how to live according to one's own standards and preferences, as well as to carry out the basic activities of daily life.

Two conclusions may be derived from this definition: the individual is an agent of their own personal actions (self-governance), and gradually acquires autonomy through their personal development.

Focusing on this meaning, functional deficit does not imply, in itself, any reduction in the person's degree of autonomy. This concept goes beyond bodily structures or functions, and belongs to the intellectual sphere of the individual, constituting the capacity for decision, awareness of oneself, and self-governance (ASEM Federation, 2008).

However, the presence of functional deficits may lead to limitations in a person's activity if they do not have the suitable resources available to overcome this situation. Finally, if society is not prepared to include persons with some type of limitation in its activities, due to the presence of a deficit, and does not develop or apply the necessary instruments to ensure their participation in a situation of equal opportunities, then a situation known as restriction in participation may occur (World Health Organization, 2001).

As a result of the appearance of this social restriction, the individual experiences a major reduction in their level of personal autonomy, understood as the ability to make decisions. In other words, the person has sufficient self-governance to choose or decide what they want to do (when, how, where, with whom), but the obstacles or impositions of the environment (whether these are physical, social, cultural, spiritual, virtual, temporal or even personal) constitute a genuine impediment to the full development and participation of the person.

Faced with this situation, there is a need to develop a series of resources – technological or otherwise – that make it possible to compensate for these difficulties, reduce the distance between exclusion and participation, and contribute towards the integration of persons with functional diversity into society as capable and self-governing citizens.

And so, from the second half of the twentieth century onwards, there has been a genuine technological revolution, leading to the development of different devices, tools, resources and solutions aimed at achieving this objective.

The term “Assistive Technology” was proposed in the Technology-Related Assistance for Individuals with Disabilities Act of 1988, although the concept, under a series of guises or none in particular, long predates this legislation (Sherer, 2001).

In order to achieve more independent functionality and to compensate limitations in activity caused by some type of deficit in bodily structures and/or functions, people with functional diversity require different types of assistance. This support is necessary in different personal spaces and surroundings, such as the home, school, workplace or leisure areas in the community.

A wide range of resources exists for promoting personal autonomy, and may involve assistance from a third person (a family member acting as a carer, or a paid personal assistant), a guide dog, or assistive technology (Sherer, 2001).

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