

Handbook of Smart Homes, Health Care and Well-Being

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Abstrak

Smart homes, home automation and ambient-assisted living are terms used to describe technological systems that enrich our living environment and provide means to support care, facilitate well-being and improve comfort. This handbook provides an overview of the domain from the perspective of health care and technology. In Part 1, we set out to describe the demographic changes in society, including ageing, and diseases and impairments which lead to the needs for technological solutions. In Part 2, we describe the technological solutions, ranging from sensor-based networks, components, to communication protocols that are used in the design of smart homes. We also deal with biomedical features which can be measured, and services that can be delivered to end-users as well as the use of social robots. In Part 3, we present best practices in the field. These best practices mainly focus on existing projects in Europe, the USA and Asia, in which people receive help through dedicated technological solutions being part of the continuum of the home environment and care. In Part 4, we describe the preconditions to successful ambient-assisted living, including policies, the roles of professionals and organisational needs, design aspects and human factors, the needs of users, laws, business cases, and education.