Navigating the European Landscape of Ageing and ICT: Policy, Governance, and the Role of Ethics

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1. Introduction

Ageing and the use of Information and Communication Technologies (ICT) are two defining trends of our times. On the one hand, an ageing society is regarded in Europe as an indisputable part of social dynamics: by 2050, estimates predict that the elderly will account for 16 percent of the global population. Across EU Member States, the population aged 65 and over will continuously increase from currently 86 million to 141 million by 2050. According to Eurostat, the rise in the share of older persons will, in turn, lead to an increased burden on those of working age to provide for the social expenditure required by the ageing population for a range of related services (Eurostat 2010). On the other hand, ICT developments are pushing technological boundaries, redefining our social environments and the way we live: intelligent machines, monitoring systems and implants are increasingly likely to take on, at least in part, the process of care, support and even companionship.

In the European Union, Ageing and Technology, ICT and Ageing, or ICT for older persons[1] is seen as a growing market sector in its own right; it is also addressed as part of the larger portfolio of policies associated with ageing policy such as social security, employment, health care policy, etc. Within this broader context, ICT developments are portrayed as a hopeful promise with the potential to cut age-related health costs, improve caring services, and stimulate the social and economic contribution of the elderly to society.

1 | In this paper, these expressions are used interchangeably. For a discussion on terminology see VALUE AGEING (2013).

Technological innovations for ageing are reminiscent not just of technical choices; they are also mediated by supporting beliefs and values. Initiatives promoting Ambient Assisted Living, or ICT for living independently shake value frameworks and what we consider a good old age, good care conditions, personal autonomy, independence, and human dignity. In 2007, when the Action Plan 'Ageing Well in the Information Society' was adopted, the EU Commission acknowledged this, warning that "when ethical concerns are not addressed properly, they lead to a rejection [or low uptake] of technology solutions" (European Commission 2007a: 46, see also 2007b). Since then, the EU has made use of its control over research funds to stimulate substantial research about the ethical implications of technologies and ageing.

This chapter draws from the findings of an EU funded project in this area of research, the IAPP Marie S. Curie Action VALUE AGEING (VA). VA's main aim was promoting interdisciplinary and inter-sectorial research on the question of the "incorporation of fundamental values in ICT for Ageing" (VALUE AGEING, 2010-2014).[2] This contribution does not discuss values or how specific ICTs impact on the freedom, autonomy, or dignity of older persons.[3] This chapter purports to shed light on whether and how values are taken into consideration in the EU policy making with regard to ageing and technology (A&T).

In a first section, we offer a brief history of the EU information society policy with regard to older persons. In writing this review, we have been interested in the emergence of A&T as part of the evolving relationships between technology developments, demographic change, and societal dynamics. We focus on the content of those policies and the successive framings that they mobilise (ageing well, active ageing, healthy ageing, etc.) as affecting research and technology developments.

The second part looks at EU policy on A&T from a different perspective: the perspective of governance, narrowly defined as the actors, configurations and procedures available at EU level to expose and address ethical questions

2 | *VALUE AGEING: Incorporating European Fundamental Values into ICT for Ageing: A Vital Political, Ethical, Technological, and Industrial Challenge* is an European Commission FP7-funded Marie Curie Industry-Academia Partnerships and Pathways Action (Grant agreement no.: 251686; 2010 – 2014). The project aimed at fostering co-operation between non-commercial and commercial entities on a joint research project about the incorporation of fundamental values in Information-Communication Technologies (ICT) for ageing. www.value-ageing.eu

3 | Interested readers will find projects deliverables at www.value-ageing.eu.

with respect to ICT and ageing. This section draws on a constructive framework for the consideration of ethical values in technological development strategies and policies (Stahl 2011). Such a framework is based on three areas or nodes, seen by its proponents as ensuring a balanced mixture for collective decisions in the area of ICT: 1) regulatory framework, 2) expertise, and 3) participation of stakeholders. With the aid of an analytical map, the paper outlines actors, their interest in ageing and ICT, and the relations between each other, in these three areas.

2. The EU Information Society Policy with Regard to Older Persons

This section describes the instalment of a policy on Ageing and Technology in the EU, from a historical narrative perspective. For the recent and short period under consideration – i.e. 20-25 years (from the 1990s to the present day) –we see the emergence of an information society policy with regard to the elderly as part of a context that evolves over time. Three distinct periods can be observed. Table 1 summarises the main EU policy landmarks with respect to ICT and ageing.

The Big Nineties

The early nineties have been momentous historical times for Europe and the European Community/European Union (EU).[4] The Maastricht Treaty (1992-1993) marked the completion of the process of economic integration (initiated in 1986 with the Single European Act) and paved the way to the European Union. This period also observed the launching of the policy plans for the USA information superhighways, in 1992, and of Europe's information society, a year later (Mantovani/DeHert 2010). In the history of the EU, initial plans for an information society appeared in December 1993 with the European Commission's *White Paper strategy for growth and occupation* (European Commission 1993; Henten/Skouby/Falch 1996). After the White Paper, a roundtable of industrialists

4 | Before the Maastricht Treaty entered into force (1993) unfolding the process of European political integration (the Union), there was no 'EU' properly speaking, but the European Economic Community (EEC) or EC. Nonetheless, we refer to the EU to avoid confusion.

Table 1: Main EU Policies in the Area of ICT and Ageing (adapted from VALUE AGEING, D7.1, 2013, p.9).

	Bangemann & Blankert reports	The Lisbon Agenda	i2010: A European Information Society for Growth & Employment	The Riga Declaration	Action Plan on ICT and Ageing	Digital Agenda	European Innovation Partnership on Active & Healthy Ageing
Date	The 1990s	2000	2005	2006	2007	2010	2012
Time Horizon	n/a	2010	2010	2010		2020	2020
Description	The EU way to info society emerges as combination of economic driver and social and ethical inhibitors.	Refocused the Agenda on actions to promote economic growth and sustainable development.	Promoted the positive contribution that ICT can make to the economy and society, and emphasises ICT as a driver for inclusion and quality of life.	Promoted the use of ICT for an inclusive society.	Designed to create a significant effort in developing and deploying user-friendly ICT for the older population, and supporting policy that addresses the challenges of ageing.	Maximise the potential of ICT and define the enabling role that ICT plays in the delivery of smart, sustainable and inclusive growth. Ehealth and mhealth applications	Increase the average healthy lifespan of Europeans by 2 years by 2020, improve health and quality of life of older people, improve the sustainability and efficiency of care systems, and create growth and market opportunities for businesses.
Primary Focus	IT development and social implications of ICT	Economic Growth, Employment	Economic Growth & ICT	ICT	ICT & Ageing	ICT & Economic Growth	Ageing
Relevance to Ageing & ICT	No reference to ageing, but long-term implications of the two tier approach plus 'ethics'	ICT associated to socio-economic objectives and policies	Reference to Ageing & ICT for growth	Inclusion, digital divide, vulnerable groups	Economy also addressed in relation to ICT	Reference to Ageing	Reference to active and healthy ageing as a priority action area

released the Bangemann report, named after Martin Bangemann, commissioner of DG Enterprise and industry (Bangemann report 1994). The report underlined the potential of ICTs, a "new industrial revolution", releasing "unlimited potential for acquiring knowledge, innovation and creativity" (p. 5 and 9), and "energise every economic sector" (p.17). Endorsed by the European Council at its meeting in Corfu, the report became the 'Action Plan on Europe's Way to the Information Society' (APEWIS) (European Commission 1994). The role and the intervention of public policy were mainly oriented towards guaranteeing the conditions for a free market in ICT: "the market will drive [...]; the prime task of government is to safeguard competitive forces", states the report (p. 9).

Three years later, in 1997, the EU Commission appointed a high level group of experts to address the social aspects of the burgeoning information society (Blankert report 1997). The Blankert report warned that ICT could engender a "harmonisation by erosion of Europe's social standards" (p. 52), in particular in the field of employment and occupation. The experts took a clear stance against the expectation – which was emphatically underlined in the Bangemann report – that "knowledge, innovation, and creativity" would be flowing automatically from the "new industrial revolution". "Within an increasingly transparent information society", the group retorts, "social and regional cohesion could be undermined through a progressive erosion of the many diversified European welfare systems" (p 52).

Active Ageing, E-inclusion, and ICT for Ageing well

It is safe to say that ageing as a social phenomenon (Durkheim 1938; Searle 1995) became a matter of policy concern after the industrial revolution and the slow instalment of welfare states (de Beauvoir 1970; Laslett 1991). In the EU, ageing became a policy matter in 1999, when the Commission licenced communication 221 'Towards a Europe of All Ages'. Drafted as EU contribution to the UN International Year of Older Persons celebrated in that year, communication 221 warned that "[t]he European population will soon stop growing in size. It will then gradually start decreasing, though at different times and speeds in different countries and regions […]. Soon our societies will have a much larger proportion of older persons and a smaller working age population" (European Commission 1999:7). The same document made a call to "prepare for longer, more active and better lives, working longer, retiring more gradually and seizing the opportunities for active contributions after retirement. "These are the best ways", continues the Commission, "to secure

the maximum degree of self-reliance and self-determination through old age. This is true even in the face of fading faculties and growing dependency." After 1999, the active citizenship vision suggested by the Commission in this communication quickly gained visibility as a broader international trend: active ageing (see table 1 below). In the year 2000, the informal but influential intergovernmental forum, G8, released the Turin Charter on active ageing. The objective of the Charter was "to facilitate and support the participation of older people in economic and social life", "contribute to the goals of economic growth", and to make use "of their skills, talents and experience", including through improvements in ICT skills, "with the aim of bridging the digital divide" (paragraph I and VII, G8 Turin Charter; G8 2000).

In line with the G8, and other international bodies such as the OECD (1998) and the WHO (2002), the European Employment Strategy (EES) included as priority action the "promotion of active ageing" (EU Council 2003: Section 4. Promote development of human capital and lifelong learning). The EES, the EU policy seeking to create more and better jobs, was followed by a series of initiatives encouraging "flexicurity", accommodation of working conditions, long life training, vocational training, and flexible forms of organisation at work (European Commission 2005, 2006).

As for the information society, in 2000 the European summit in Lisbon launched the renowned plans for a "knowledge-based economy and society" (EU Council 2000: section I. paragraph 5). The Lisbon agenda envisaged an association of research and technology developments with health, education, work, and, importantly, active citizenry policies (European Commission 1999a).

After the mid-term review of the Lisbon agenda, in 2006, the inter-ministerial Declaration of Riga (Ministerial Declaration of Riga 2006) unveiled the process of *e-inclusion* (European Commission 2007). *E-inclusion* is a policy of the EU and member states designated primarily to stem the inequalities in access to technologies prevailing in groups deemed to be, for different reasons, excluded from reaping the benefits of the information society. The targeted groups included people living in rural areas, marginalised youth, migrants, persons with disabilities, and older persons.

In line with the conclusions of the Latvian summit, in 2007, the Action Plan 'Ageing well in the information society' was adopted (European Commission 2007b). The Action Plan went beyond accessibility and inclusion, targeting the concrete realities in which people age – and which could be supported by ICT: "ageing well at work"; "ageing well in the community"; and "ageing well at home" (European Commission 2007b). As a result, one

could argue that, at first, ageing was connected chiefly to the employment strategy and goals of the EU; subsequently, the inclusion aspect came into play, leading to EU to focus, by means of the aforementioned action plan, on these three streams of ageing well in the information society.

ICT for Active and Healthy Ageing

The successor of the Lisbon strategy, Europe 2020, was provided with a renewed and enriched Digital Agenda (European Commission 2010). Contextual conditions had significantly changed since Lisbon. Demographic ageing is now recognised as a mega–trend alongside energy and climate change (Beblavy/Maselli/Veselkova 2014). After peaking in the nineties, a "systemic crisis" (Trichet 2010) of financial markets' economy threatens welfare states. In the EU, national governments are encouraged by the Commission to curb age-related expenditure, including health care, reform pre-retirement and pension schemes (EPC 2009, 2012; Natali/Vanhercke 2013: 253). As a consequence of the increase in life expectancy and low fertility rates, the fastest growing ageing group is the aged 80+, the oldest old (Eurostat 2010).

On the technology side, cloud computing, social networks, wearable sensors, are increasing in number and are becoming more personalised (Hood/Flores 2012). Industry has acquired the capacity to purposely develop or adapt existing products to cater for the identified needs of users, to reduce hospital stays and the degree of surgical intervention, and to enable self-care at home (Llewellyn/Chaix-Viros 2008). Against this backdrop, at the end of 2011, a European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) was launched (European Commission 2011).

The European Innovation Partnership on Active and Healthy Ageing (EIP on AHA)

Part of Europe 2020, European Innovation Partnerships (EIPs) aim at disseminating innovation through better framework conditions for commercialisation of new solutions in the areas of raw materials, water, smart cities, agriculture, and ageing. Specifically, the objective of the EIP on Active and Healthy Ageing (AHA) is to improve the quality of life of older people: its

motto and broad political vision is "to add two healthy life years to the average healthy life span of European citizens" by 2020.[5]

The EIP on AHA develops along two main avenues, reference sites and cooperation on thematic areas. Reference sites are regions, cities, or integrated hospitals/care organisations that implement a comprehensive, innovation based approach to active and healthy ageing and can give concrete evidence and illustrations of their impact on the ground.[6] The second avenue, cooperation on thematic areas, is organised around six action groups delving on, e.g., prescription and adherence to treatment, personalised health management, fall prevention, prevention of functional decline and frailty, etc.

A High Level Steering Group coordinates the EIP on AHA. It includes the European Commission (DG responsible for information society and health and consumer rights), national and regional authorities, industry, professionals, elderly and patient organisations, and other interest groups (European Commission 2011).

As submitted in the first expert assessment of the EIPs, "EIPs should be leveraged as 'outriders', first movers, able to test ideas, generate feedback, and scale opportunities to address societal challenges" (European Commission 2014: 9). In other words, the key success indicator of the EIP is, rather than the number of actions or activities adopted, the "capacity to drive large scale change" (European Commission 2014: 9).

The EIP on AHA marks a shift in the EU policy on ICT and ageing. At first focused on active ageing at work; after 2007 portrayed as a hopeful promise to support living independently at home, at work, and in the community (e-inclusion); with the 2012 EIP on AHA, the EU policy on ageing and technology embraces health. The association between health and ageing is clearly expressed in its resounding objective, "to add two healthy life years to the average healthy life span of European citizens". In addition, the partnership emphasises the role of national, regional and local stakeholders, which are seen as best placed to demonstrate the benefits of ICT for active and healthy ageing.

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5 | Research indicates that the objective is out of reach due to persistent inequalities in access to health care across Member States (Jagger et al. 2013).

6 | As of July 2013, out of 56 candidate sites that applied, 32 were awarded the title of 'European Reference Site'.

Normative Framings of Ageing and Technology

In the historical review we have encountered expressions such as "ageing well", "active ageing", "active and healthy ageing", in the Action Plan of 2007, in the G8 meeting of 2000, and in the EIP on AHA in 2011, respectively. In order to enrich the understanding of the policy strategy of the EU, this sub-section provides a list of different framings of ageing developed by scholars in gerontology, here presented not in chronological order, but in a manner so as to highlight their contrasting characteristics. This plurality of meanings attributed to the elderly suggests that old age itself does not carry a fixed meaning, but that alternative meanings have been coined. Even if the role of technology is explicitly mentioned only under "ageing well", all definitions can be seen as framings of ageing and technology (A&T). We here discuss these framings individually and provide a summary in Table 2.

Successful Ageing

The concept of successful ageing or "optimal ageing" is credited to Baltes & Baltes (1990), who claimed that success or optimal ageing requires a mixture of "selection, optimisation and compensation" (Baltes/Baltes 1990: 2). The example they gave is that of a famous pianist who, getting older, selects what to play, rehearses selectively, and plays "tricks" to compensate declining dexterity (Baltes 1997). In 1997, Rowe and Kahn provided a definition of successful ageing premised on the retention of functional capacities (Rowe/Kahn 1997: 433). This definition has been criticised for placing too much emphasis on the physical, functional health of people, as a completely disease-free older age is unrealistic for most individuals (Bowling/Dieppe 2005).

Productive Ageing

Coined in 1985 by American gerontologists Butler and Gleason (1985), productive ageing draws the attention to the contribution and the value of older persons in society and in the economy. Within the frame of this definition, both positive connotations of continuous engagement and more functionalist visions of later life are represented. More recent research in this area by Kaye, Butler & Webster (2003) has recognised sense of purpose in work activities in later life as central.

Active Ageing

Sponsored in international forums and organisations such as the G8 (2000), mentioned earlier, developed and systematised in seven principles by the English gerontologist Alan Walker (Walker 2002, 2009), active ageing was introduced first as an incentive for adults to remain in the workforce for longer (European Commission 2005a). It was subsequently adapted to convey a more inclusive message, placing the rights of older persons at its centre (Moulaert/Paris 2013). As of the end of 2014, an Active Ageing Index provides a set of benchmarks to measure 'the untapped potential' of seniors across the 27 EU Member States and beyond (Karpinska/Dykstra 2014: 2).

Healthy Ageing

The term "healthy ageing" was promoted by the World Health Organisation as early as 1980 (Davey/Glasgow 2006). Originally informed by medical views on the incidence of chronic diseases and physical functional capacities, later definitions underline behavioural and social factors of healthy ageing (Kaplan/Strawbridge 1994). One of the definitions refers to it as "the increase the number of healthy life-years (HLYs) lived without or with minimal functional limitation, disability or disease" (Robine/Mathers/Bone/Romieu 1993: 13). This framing has gained importance further to advancements in medical health technologies.

Active and Healthy Ageing

Arguably a decisive impulse to the emergence of the term "active and healthy ageing" was given by bio- and health gerontology studies (Fried/et al. 2001; Lafontaine 2009). This field of research investigates the physical mechanisms, notably the diseases that trigger physical changes in old age (Masoro 2006). A contemporary biogerontologist from the UK, Aubrey de Grey, is so convinced that ageing should be seen as a disease that he researches the possibility to "address ageing just as effectively as we address many diseases today" (De Grey 2006:66). This avenue of research has met with the criticism of Roger Scruton, de Grey's countryman and historian. Scruton retorts that to equate old age to a disease is tantamount to turning all healthy people in unhealthy subjects by default. The next step is the creation of a health "thought police": "If you pursue a life of risk-taking and defiance the thought-police will track you down. For a population of docile and loveless geriatrics is the telos of the welfare state",

he scorns (Scruton 2012: 434). These diverging views spring to mind reading the motto or objective of the EIP on AHA, mentioned earlier. In essence, the partnership on active and healthy ageing seeks to maximise opportunities for health in old age (European Commission 2011: 11-13). The goal "to add two healthy life years to the average healthy life span of European citizens" (that we could associate with de Grey's view of old age as a disease) taunts the question suggested by Scruton: if it is possible to add two healthy life years to the average healthy life span of European citizens, why should we do it?

Ageing Well

Over the last few decades, there has been a great increase in publications, particularly in popular media, magazines, books, television, etc. over what constitutes a good old life. In the academic literature, the term ageing well evokes social models of quality of life (QoL). Bowling (2005) describes them as investigating the positive characters of what compounds to a good life: morale, satisfaction, happiness, well being, pleasure, social well being. These topics do not resonate in the EU policy discourse on ageing well (Commission of the European Communities, 2007a) , which is less focussed on well-being, pleasure, happiness and satisfaction than it is on the visions of an active and productive old age at work, in the community, and at home. However**,** the Action Plan on ageing well devotes attention to the societal and ethical implications of using ICT to age well. In this document, we find a caveat stating that "when ethical concerns are ignored or not fully taken into account by the technology developed, they lead to a rejection by the older person and his informal carers and then constitute a barrier to market uptake" (European Commission 2007a, p. 7). The same document advises that users should also have the right "to overrule or switch off the technology" and "to opt out completely from using the services, should they so wish". Such rights", it continues, "must be built into the services" (European Commission 2007a, para. 5.3.4.).

As anticipated, the plurality of framings suggests that old age itself does not carry a fixed meaning, but that alternative meanings have been coined. Out of this plurality, the "active ageing" narrative echoes in particular with the EU social and economic policy agenda on ageing societies. For our research on ageing and technology, the "ageing well" definition can be seen as an early framing. In it, we find the idea that using technology to age well must coexist with the recognition that some may opt out completely, and that they should be free to do so. After all, using assistive technologies services, to mention one appli-

cation of ICT for ageing, means delegating at least a part of the process of care to a machine or to a third persons who is not present. Some may prefer not to.

The mediating, humble tone that we register in 2007 wanes in the other framing that is immediately relevant for our discussion. The objective that, in the year 2012, crowns the EIP on Active and healthy ageing takes for granted only the positive narratives of living longer lives active and healthy with ICT. Unlike ageing well, the active and healthy ageing is, as such, potentially divisive. The pace of technological advancements; the increasing number of older persons; the social and economic questions posed by demographic ageing (e.g., on resource allocation, justice between generations, care, etc.); the elevation of narratives of non conformity to the norm of ageing and deterioration, all these factors suggest that the spat between de Grey and Scruton construed above may be not too far off the tables of decision makers.

Table 2: Framings of Ageing – an Overview

FRAMING	DESCRIPTION
Successful Ageing	*A mixture of selection, optimisation and compensation skills* (Baltes/Baltes 1990) *Low probability of disease and disease-related disability, high cognitive and physical functional capacity, and active engagement with life* (Rowe /Kahn 1997)
Productive Ageing	*The ability of older individuals to take part in paid workforce or volunteer activities, to maintain the family and themselves as independently as possible, without assistance from others (Butler/Gleason 1985)* *Any activity by an older individual that produces goods and services, or develops the capacity to produce them, whether they are paid for or not (Bass/Caro/Chen 1993)*
Active Ageing	*A political concept which seeks to optimise opportunities for older adults regarding their participation in society according to their desires and capabilities (Walker 2002; 2009)*
Healthy Ageing	*The increase the number of healthy life-years (HLYs) lived without or with minimal functional limitation, disability or disease (Kaplan/Strawbridge 1994)*
Active and Healthy Ageing	*To maximise opportunities for health, participation and security in order to enhance quality of life in an ageing population (European Commission 2011)*
Ageing well	*Ageing well at work or active ageing at work: staying active and productive for longer, with better quality of work and work-life balance with the help of easy-to-access ICT, innovative practices for adaptable, flexible workplaces, ICT skills and competencies and ICT enhanced learning (resp. e-skills and e-learning).* *Ageing well in the community: staying socially active and creative, through ICT solutions for social networking, as well as access to public and commercial services, thus improving quality of life and reducing social isolation (one of the main problems of older people in rural, scarcely populated areas, as well as urban areas with limited family support)* *Ageing well at home: enjoying a healthier and higher quality of daily life for longer, assisted by technology, while maintaining a high degree of independence, autonomy and dignity (European Commission 2007a, 2007b)*

3. Ethics in the European Governance of Ageing and Technology: A Mapping Exercise

In a seminal article of 1994, American gerontologist Harry Moody depicted "four scenarios for an aging society":[7] in the four scenarios, societies make choices concerning technology developments to invest in medical treatments to reimburse, eligibility and access to regenerative medicine, the limits of individual autonomy, as in cases of planned death decisions, etc. These choices, Moody warns, do not appeal only to procedural theories of justice or to bureaucratic decisions about the allocation of resources. Choices like these presuppose specific ideas about the meaning of later life: "Certain ideas about meaning and value – for example quality of life, successful ageing, or intergenerational solidarity", states Moody, "are intrinsically problematic because they involve difficult philosophical questions about the purpose of human life" (Moody 1994: 59). "Public policy", he contends, "can and must take seriously a variety of different ideas about a good old age" (Moody 1994, ibid.). Taking seriously a variety of different ideas about a good old age is a sensible recommendation, also in the area of A&T. As already pointed out by Winner in 1980, "artefacts have politics", which means that technological devices and systems contain possibilities for different ways of ordering human activities, of exclusion or inclusion (Winner 1980, p.134).[8]

7 | The first scenario, prolongation of morbidity, relies on medicine and scientific developments to enable older persons to live longer as unencumbered as possible by old age diseases. The second scenario, compression of morbidity, presupposes an ongoing and carefully designed programme of health control to postpone any disease or chronic illnesses, until just before death. The third scenario, prolongevity, presupposes investments in the genetic potential of higher maximum life span; the fourth scenario is based on the assumption that the meaning of old age lies with the finitude of life, accepted not just as an individual choice, but as 'a matter of collective policy'.

8 | One of the many examples offered relates to the bridges built over the parkways linking Long Island and New York. Winner remarks that many overpasses are extraordinarily low. The reason for this is that they were built to specifications that would discourage the presence of buses, a means of transport normally used by poor people and Afro-Americans. This is an example of social-class bias and race-based exclusion embodied in artefacts.

Starting from these premises, the second part of this contribution looks at European governance on A&T, narrowly defined as the actor configurations and procedures available in the EU to expose and address ethical questions and views on A&T. To identify the procedures available in the EU where ethics of ICT and ageing can be exposed and addressed, the concept of the EU-ETICA project is used here. This project asked how values are considered in research and technology developments policy (Stahl 2011; ETICA 2010). In particular, ETICA highlighted the role of policy in creating the "infrastructure for the development of responsibility" (Stahl 2011: 152). Such a framework, according to Stahl and his colleagues, needs to be provided and must cover at least the three main areas of policy activity: 1) regulatory framework, 2) ethics observatory, and 3) stakeholders' involvement and participation (Stahl 2011; ETICA 2010[9]).

In our interpretation of ETICA's recommendations in light of the specific issues at hand (Value Ageing 2013), the *regulatory framework* encompasses the international and European bodies setting rules, technical codes, standards, etc., that contribute to set the conditions for ICT for Ageing to develop and be deployed in living settings. The recommendation on '*ethics observatory*' points at the role of experts. The role of knowledgeable and recognised experts is increasingly important in a context of institutionalised social roles and structures, specialisation of knowledge and rapid techno-scientific developments. In the area of research concerned with ethical issues in ICT for ageing, expert papers and position statements provide guideposts for collective reflection and debate around ethical dilemmas. *Stakeholder involvement* refers to civil society and other stakeholders prepared to engage on a content level with the policy community as well as with the technical community (Stahl 2011). In the area of ageing and ICT, forums for stakeholders' involvement are important to reflect the concerns and expectations that the elderly have towards technological solutions purposefully developed for their benefit. The following section contemplates how stakeholders in the sphere of the EU concur to shape the direction of a European policy on ageing and technology. In the first section, we have referred almost exclusively to acts of the Commission.

9 | The ETICA project was a research project on "Ethical Issues of Emerging ICT Applications" funded by the European Commission under the 7th Framework Programme (GA 230318). It ran from April 2009 to May 2011. ETICA's main objective was to identify ethical issues of emerging technologies and their potential application areas in order to analyse and evaluate ethical issues arising from these. See http://www.etica-project.eu.

Mapping the Actors and Networks relevant to A&T Policy in the EU

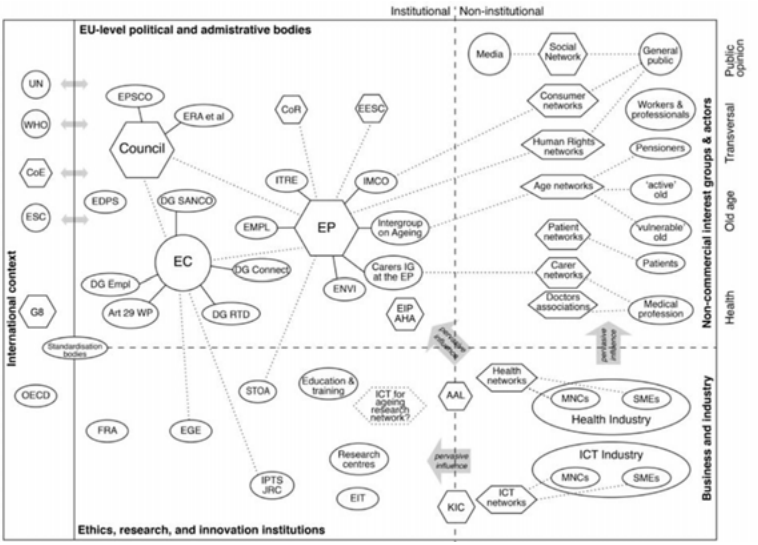
The following map presents an analytical map of the main stakeholders involved in the process of policy development in relation to ICT for ageing, at EU level. The field denotes a relational space that encompasses private and public, European, and international actors and networks. As for any schematic representation, the map does not seek to be exhaustive.
The map is composed of the following main elements:

- The policy-making environment, sub-divided into areas, accommodates for the specialisation of actors according to function and/or interest;
- Policy actors (individual entities or compounded groups), represented by circles.
- Formal and/or informal networks, represented by hexagons, in which actors are involved to pursue interests and contribute to policy formulation. These can also be formal sittings where multiple views are represented, e.g. in the case of the European Parliament (EP).
- Each actor is linked to one or more networks. Solid lines represent links to working groups or departments, established by/in the central node. Dashed lines represent the most relevant formal and informal interactions. These links are indicative of what has been identified as major ties, rather than exhaustive. The filled arrows (e.g. from industry to other areas) represent pervasive forms of influence that cannot be mapped within this scope.

In the following, we discuss selected elements of the governance space of ICT and ageing that are of particular relevance to the incorporation of ethical concerns, with specific reference to the analytical categories offered by Stahl (2011).[10]

10 | Deliverable D7.1 of the VALUE AGEING project offers a full description of the individual actors represented in this map (VALUE AGEING 2013).

Figure 1: Actors and Networks involved in A&T Policy in the EU (adapted from VALUE AGEING, 2013: 24)



List of acronyms for Figure 1:
AAL: Ambient Assisted Living
CoE: Council of Europe
CoR: Committee of the Regions
DG CONNECT: Directorate General for Communications Networks, Content and Technology
DG EMPLO: Directorate General for Employment and Social Affairs
DG RTD: Directorate General for Research and Innovation
DG SANCO: Directorate General for Health and Consumers.
EC: European Commission
EDPS: European Data Protection Supervisor
EESC: European Economic and Social Committee
EGE: European Group on Ethics in Science and New Technologies
EIP AHA: European Innovation Partnership on Active and Healthy Ageing
EIT: European Institute of Innovation and Technology
EMPL: Committee on Employment and Social Affairs
ENVI: Committee on the Environment, Public Health and Food Safety.
EP: European Parliament
EPSCO: Employment, Social Policy, Health and Consumer Affairs Council
EIP on AHA: European Innovation Partnership on Active and Healthy Ageing
ERA: European Research Area
ESC: European Social Charter
FRA: European Agency for Fundamental Rights
G8: Group of Eight
IMCO: Committee on Internal Market and Consumer Protection
IPTS-JRC: Institute for Prospective Technological Studies Joint Research Centre
ITRE: Committee on Industry, Research and Energy
KIC: Knowledge and Innovation Community
MNCs: Multinational Corporations
OECD: Organisation for Economic Co-operation and Development
SMEs: Small and Medium Enterprises
STOA: Science and Technology Options Assessment
UN: United Nations
WHO: World Health Organization

Regulation, Expertise and Stakeholder Participation in the European Governance of Ageing and Technology

Having mapped the actors and their respective networks, we now turn to discuss the most important actors, their interest in ageing and ICT, and their relation between each other in the three areas of governance mentioned in the previous section.

Regulatory Capacity

As discussed earlier, active ageing originates in the international context of the G8 of 2000, which licensed the 'Turin Charter: Towards Active Ageing' (G8 2000). DG EMPLO took an active part in the Turin meeting. A dashed line in the map represents this relevant, informal, tie. Another dashed line links the EU Commission, notably DG SANCO, to the World Health Organisation (WHO) and its framework on active ageing (WHO 2002). A filled arrow, representing a pervasive form of influence that cannot easily be reduced to inter-agencies communication, connects the United Nations (UN) and the EU areas. As mentioned earlier, active ageing combines a "live longer-work longer" agenda with a more inclusive message, based on equality in access to ICT. In particular, the 2002 United Nations Madrid Action Plan (MIPAA) and the UN Economic Council of Europe (UNECE)'s Regional Implementation Strategy (MIPAA/RIS 2002) emphasised the need for fair and equitable access to technology.

Formally, the EU agenda on A&T policy is based on action plans (2007), joint initiatives (AAL), and partnerships (the EIP on AHA) (Value Ageing 2013; Mantovani/De Hert 2010). The Commission, through its Directorates-General (DGs), plays a major role in setting the agenda for these initiatives, as these pertain to the Union's shared competence in research and technology developments (Articles 179-190, TFEU 2009). In this field, the Commission has the power to launch policy initiatives in agreement with the Council of the European Union (EU Council). In December 2012, the Employment, Social Policy, Health and Consumer Affairs Council (EPSCO), adopted a resolution backing the Commission agenda on active ageing and endorsed a list of nineteen 'Guiding Principles for Active Ageing and Solidarity between Generations', a checklist for national authorities and other stakeholders on how to promote active ageing (Council of the European Union 2012).

The European Parliament (EP) plays an important co-decision role in A&T policy. A number of European Parliament committees are particularly

active in this area: the ITRE Committee (Committee on Industry, Research and Energy) followed the Ambient Assisted Living (AAL) initiative and dealt with information exclusion in the past; the ENVI Committee (Committee on the Environment, Public Health and Food Safety) was in charge of the EIP on AHA of behalf of the EP. Outside the formal decision making process, the EP includes 'inter-groups', i.e., informal forums for MEPs and civil society organisations (CSOs) on crosscutting themes and specific issues. In the field of ageing, important forums are the Intergroup on Ageing and Intergenerational Solidarity and the Carers Interest Group.

In addition, two advisory bodies, the European Economic and Social Council (EESC) and the Committee of the Regions (CoR) are active in outreach activities that involve regional and local authorities, the latter, and in providing advice and input from socio-economic operators and local authorities, the former (EESC 2012). Recently, in partnership with AGE Platform Europe (see below), the CoR played an active role in the activities organised during the 2012, the 'European Year for Active Ageing and Solidarity between Generations.'

Expertise

The European Group on Ethics in Science and New Technologies (EGE), the former Group of Advisers on the Ethical Implications of Biotechnology (GAEIB), is established under the presidency of the Commission (Plomer 2008). EGE's mandate is broadly defined as to cover all areas of the application of science and technology, including ethical oversight in the allocation of funding to research activities under the Framework 7 programme and under H2020 (Commission Decision 2005/383/EC and 2010/1/). When research and technology developments raise ethical concerns, the European Commission can, at its discretion, ask for an opinion of the fifteen experts group; EGE can also act on its own initiative issuing 'Opinions towards the Commission'. In any case, opinions have the status of non-binding ethical advice.

EGE has not issued any comprehensive opinion covering A&T. In its Opinion 26 of 2012 on the Ethics of Information and Communication Technologies, EGE underlined that "older people tend to face other obstacles such as cost, skills, disability access and attitude, as well as lack of awareness and understanding" (European Commission 2012: 50). There are other reports that are relevant to the elderly in the information society: in addition to Opinion 26, Opinion 20 of 16 March 2005 on ethical aspects of ICT Implants in the Human Body is important (European Commission 2012).

A relation similar to that linking EGE with the European Commission exists between STOA, the Science and Technology Options Assessment office, and the European Parliament. STOA's task is to provide MEPs with advice and information on technology development (European Parliament, 2012) and its research is often carried out in partnership with external experts (European Parliament, n.d.). The work of STOA is, however, less influential as compared to that of EGE in terms of the number of reports compiled, activities organised (e.g. seminars, consultations, newsletters), contacts with national ethical bodies, and visibility.

Since 2007, when the "ageing well" action plan was adopted, the EU commission has funded research about the ethical, social and psychological implications of technologies for ageing (SENIOR project, 2008). The primary objective of these projects has been the creation of appropriate framework conditions conducive to the uptake of ICT for ageing. "When ethical concerns are not addressed properly", warned the Commission in the 2007 Ageing Well in the Information Society Action Plan, "they lead to a rejection or low uptake of technology solutions" (European Commission 2007a: 46 and 2007b). Among its activities, the Institute for Prospective Technological Studies Joint Research Centre (IPTS-JRC) in Seville focused on the economics of ICT for long-term care and on training and educations in e-skills (Cabrera/Malanowski 2009). Similarly, the European Institute of Innovation and Technology (EIT), through its Knowledge and Innovation Community (KIC) on innovation for healthy living and active ageing (created in 2014), aims at fostering cooperation between research centres, industries, and private and public actors interested in adopting technological solutions for ageing societies.

Participation of Stakeholders

The EU, and in particular the European Commission, has a long track record of practice in involving a wide range of stakeholders to discuss key issues and to share ideas. EU officials, in particular Commission officials, meet routinely with representatives from industry, trade unions and academia trying to agree on a joint course of action. The EU's relations with stakeholders is often criticised for who gets included and who does not, and who sets the agenda (Kutay 2014; Cooke/Kothari 2002; McLean 2011).

Our research indicates that business and industry have a prominent role in networks such as Ambient Assisted Living (AAL) and the European Institute of Innovation and Technology (EIT) Knowledge and Innovation Com-

munity (KIC), mentioned earlier. Large industry representatives also appear to be significantly involved in drafting EU level policies (Europa 2013).

'Non-commercial interest groups and actors' include groups corresponding to generic categories, such as consumer networks, age networks, patient networks, carer networks, and professional associations. For reasons of space, we can only point to the marginal role of older persons' associations and carers in the field of A&T. To our knowledge, AGE Platform Europe[11] is the only organisation that plays an active role in the context of A&T. AGE Secretariat is part of the high level steering committee of the EIP on AHA, and its members are consulted and reactive in issuing opinions and providing advice to the Commission in areas such as accessibility and remote monitoring systems for long-term care.

4. Conclusion – *Questa e Quella*. The Need of more Attention to Subsidiarity?

This chapter originated in a research project funded by the EU, VALUE AGEING, in charge of studying the incorporation of European fundamental values in ICT for older persons or ageing and technology. The chapter has provided a historical review of EU policies on A&T, and directed attention to the main normative framings of ageing, their diversity and main advocates. These reviews led to a consideration of the actors and networks contributing to shape EU policies in this area – literally through the elaboration of a "map". The mapping exercise put into perspective three areas of EU governance as providing different avenues for collective decisions in the area of technology developments and research: regulatory capacity, expertise, and participation of stakeholders. We expect this map to provide useful reference and tool for the positioning of decision-making in this area.

The chapter has showed that the European Union is active in developing policies that attempt to combine technology, innovation and new ways of cooperation in the context of ageing societies. EU actors, committees and projects are also active in addressing the ethical questions and considerations that emerge from the encounter of technology and ageing. As the regulatory

11 | As stated on their web-site, AGE Platform Europe is a European network of more than 150 organisations of and for people aged 50+ representing directly over 40 million older people in Europe. http://www.age-platform.eu/about-age.

and expertise sections suggest, the EU Commission currently plays a central role in A&T policy; it also seems to play a large role in framing the questions that should or should not attract ethical consideration.

One of the questions that arise at the end of this contribution wholly centred on the EU level is whether ethical considerations in A&T –the question could be extended to other areas where the EU intervenes such as biotechnology (Tallacchini 2009) – pertain to the supranational domain. This would justify the pro-activeness of the Commission over member states and local communities. For the European Group on Ethics and New Technologies (EGE), mentioned earlier, cultural differences can coexist with a common core of fundamental values, enshrined in the EU Charter of Fundamental rights. According to others, for instance, Tallacchini, "ethics and cultural values are regulated on the national level and follow the principle of subsidiarity" (Tallacchini 2009, p.288). The national level and the principle of subsidiarity have been beyond the scope of this chapter – which has chiefly dealt with actors and processes involved at European level. There is an opportunity for further research in this direction. Indeed, there is arguably an urgent need to hear and learn from practices and experiences from the local level.

The analytical review offered in this contribution suggests that old age is adroitly construed as a risk. The consequences and associated uncertainties of ageing, so to speak, come with the suggestion that there are boundaries to an active life, which are seen as a risk to be overcome or mitigated. The eventuality of ageing – which is, in fact, a certainty, but more a matter of timing and qualification – is painted in dim colours that, we are being told, technology could help address through more control (e.g. via lifestyle changes) and precautionary measures. But, if advances in technology and science are portrayed as a hopeful promise, they do not automatically entail commensurate gains in the effective policy responses to complex social, economic and health problems which also occur in ageing (Jasanoff 2009). In this contribution, regulatory capacity, expertise, and participation of stakeholders have been introduced as the three legs of a governance approach that, far from being a solution, draw attention to the fact that framings and policy decisions on technology developments, however benevolently introduced, presuppose different ideas of later life – that should themselves be open for discussion and co-construction (particularly in their associated normative aspects). The coexistence of regulatory capacity, expertise and participation provides, in theory, a space for recursively (re-)considering and (re-)negotiating ethically-informed decisions in a domain characterised by the double uncertainties of prospective technological change (ICT) and emerg-

ing socio-cultural values (related to ageing societies). In practice, however, there are limitations inherent to the approach put forward by the EU that invites us to mobilise the national, regional, and local levels (subsidiarity).

One relevant limit of the current EU approach is linked to the representation of older persons. Representation quite literally refers to play on stage, to be an actor playing a role. Those who represent, e.g., interest groups, parliamentary groups, etc., may hold different views than those whom they represent. While official representatives are powerful players with privileged access to forums of decision-making and contestation, many social actors lack this access and power. Out of these social actors, furthermore, the frail or the poor are the least represented because they currently exercise very little political clout and agency. Citing the example of nursing homes in the United States during the 1950s, anthropologist Athena McLean (2011) reminds us that in the past policy solutions for ageing problems "have often been driven by the interests of the most powerful stakeholders over the wishes of the vulnerable persons who are most directly affected by the solutions" (McLean 2011: 323). "Today", she continues, "the e-solution that has been embraced to promote digital access and independent living of older persons has similarly been crafted mainly by stakeholders in positions of power" (McLean 2011: 323). In order to mend the representation asymmetry, the EU policy on ageing and technology should open the door to practices and experiences springing from the interactions of laymen elderly with technology. The reference sites and the action groups promoted by the EIP on AHA can be saluted as a positive development in the right direction. It remains to be seen whether these experiences will be able to critically address the legitimacy and ethical acceptability of political objectives of today's EU active and healthy ageing agenda.

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