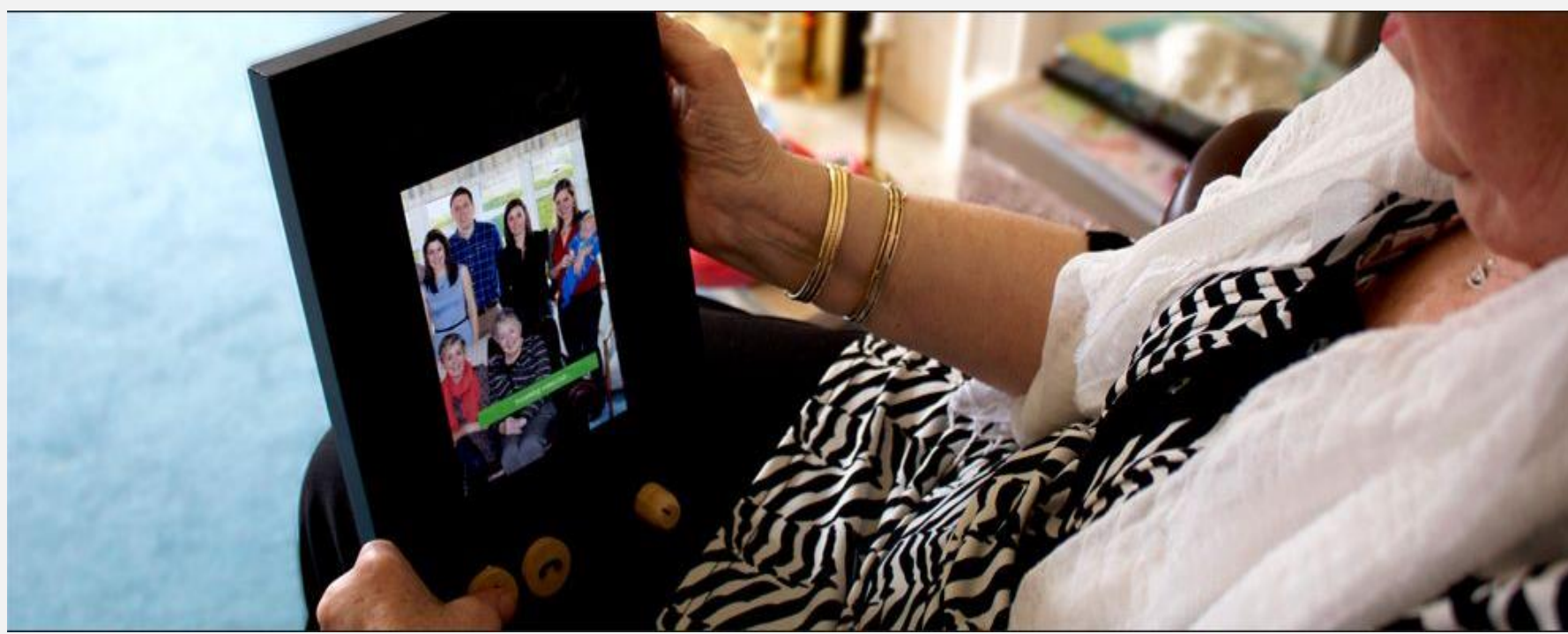
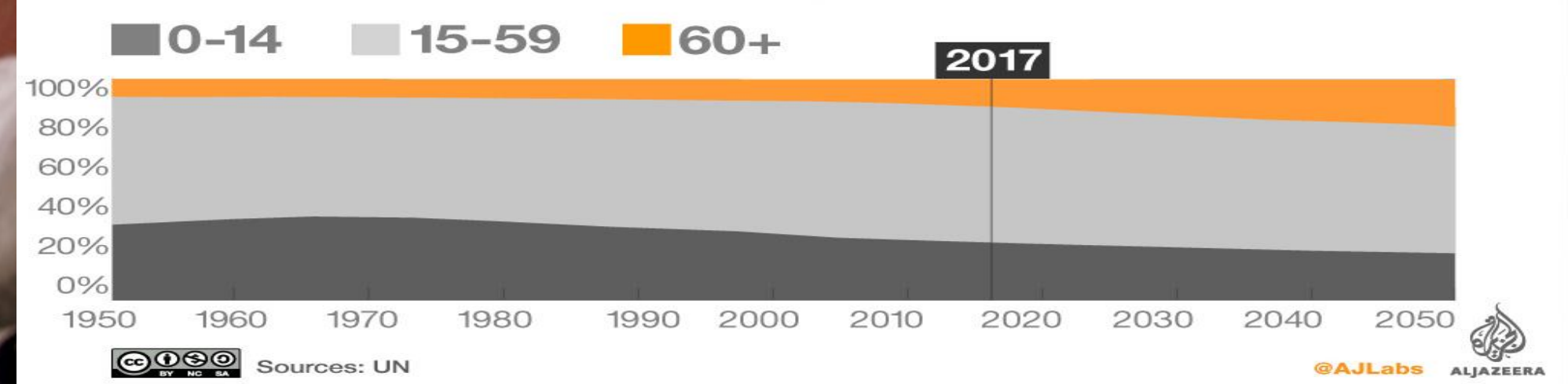


Countering the Effects of Age-Related Disability Through the Integration and Mainstreaming of Assistive and Enabling Technologies: Adversity and Opportunity



The world is getting older

In 1955, only 8% of the world population was older than 60 years, in 2015 this had risen to 12.3%. By 2050 this number will be 21.3%.



- According to the EUROSTAT website, in 2019, more than one fifth (20.3%) of the EU-27 population was aged 65 and over.
- The 'Employment, Social Affairs and Inclusion' website of the European Commission estimates that one-fifth of the population of the EU has some form of disability as of 2020.
- The potential of Assistive Technology (AT) to contribute to 'de-institutionalisation' in disability care for older persons and enhance independent living and autonomous decision-making is undeniably profound.
- This arguably assists modern societies to achieve greater compliance with contemporary international disability law and policy through psychosocial and technological symbiosis. The research intends to investigate and identify the challenges facing the mainstreaming of AT in the treatment of age-related disability.
- It also aims to develop a policy road-map for the intertwining of service-user leadership, universal design and the integration of AT in disability care for older persons.
- This project investigates the legal entitlements to access AT within the EU and assesses how AT is being provided and delivered in the care of elderly persons who suffer from age-related disabilities. There is a specific focus in this research on the extent to which AT is used for older persons with disabilities in contrast to other demographics.

Ethics guidelines for trustworthy AI

On 8 April 2019, the High-Level Expert Group on AI presented Ethics Guidelines for Trustworthy Artificial Intelligence. This followed the publication of the guidelines' first draft in December 2018 on which more than 500 comments were received through an open consultation.

According to the Guidelines, trustworthy AI should be:

- (1) lawful - respecting all applicable laws and regulations
- (2) ethical - respecting ethical principles and values
- (3) robust - both from a technical perspective while taking into account its social environment

A DEFINITION OF AI:

MAIN CAPABILITIES AND SCIENTIFIC DISCIPLINES

We start from the following definition of Artificial Intelligence (AI), as proposed within the European Commission's Communication on AI¹:

"Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals.

AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications)."

- Global demographic trends indicate a general slow-down in birth rates which, combined with climbing life-expectancy and improvements in longevity and healthcare, indicate a steady increase in the number of retired persons over the age of 65 in the medium to long-term. This is particularly evident in the countries of the EU-27.
- It is imperative that the general public is educated and informed of the necessity and benefits of AT which incorporates Artificial Intelligence (AI), and the advantages it can yield when integrated in care and support systems for older persons with disabilities.
- Furthermore, it is important that a high level of 'Trust', in the legal and general sense, is established within the general public regarding the incorporation of smart AT devices and AI into the care of persons with disabilities. Concerns over issues of privacy, safety, information security and personal welfare in the cyber age render the establishment of public trust in smart AI and AT devices for older persons a matter of great importance.
- Current liability regimes established under customary tort law within the member states of the EU-27 are increasingly unable to provide adequate legal recourse for a service user when addressing issues of 'fault' and 'damages or injury' incurred through the utility of smart AT or AI devices. The 2019 report by the independent 'Expert Group on Liability and New Technologies – New Technologies Formation', established by the European Commission, says 'To rectify this, certain adjustments need to be made to EU and national liability regimes'.

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