# Global Innovation Forum on Active and Healthy Ageing 5 December 2016, Brussels

# **Report of Outcomes**





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#### 1. Introduction

The Global Innovation Forum on Active and Healthy Ageing was held on December 5<sup>th</sup>, 2016 in Brussels, Belgium. The European Commission together with the Government of Japan (Ministry of Internal Affairs and Communications, MIC) organized the Global Cooperation event that was dedicated to discussing strategies to strengthen international collaboration on innovation for active and healthy ageing and the global Silver economy. It was built on the conclusions of the G7 ICT ministers meeting in April 2016 in Japan and ongoing cooperation of the EU with the UN, WHO, OECD and G7 countries.



The 2016 Global Innovation Summit was designed to harness the transformative power of innovation, identify key opportunities for Global cooperation and initiate concrete actions to be pursued. It was divided into 4 sessions:

- (1) The first session was "Ageing Societies: A global challenge and shared opportunity." In this session, speakers focused on Scene-setter with an outlook of changing demographics and their economic and social impact. They also elaborated on how international collaboration on the exchange of best innovation practices can accelerate deployment of digital innovation globally.
- (2) The second session was a roundtable discussion on the topic "Global scaling of innovative solutions."
- (3) The third session had the title: From "challenge to opportunity" through Digital Innovation. This session delivered to the audience some examples from regions across the globe on how digital innovation has helped impact the quality of life of the ageing population, enhanced the sustainability of health care systems, and stimulated the Silver Economy. (4) The last session was "Exploring Global Cooperation Opportunities". This session gave ideas for possible global cooperation in innovation for Active and Healthy Ageing as well as Global Cooperation in Research and Innovation on Active and Healthy Ageing (European Commission/MIC) Metrics and Tools for socio-economic impact assessment.

# 2. Opening Session

In the open session, Mr. Peter Wintlev-Jensen from the European Commission emphasized the cooperation and strengthening of relations between the EU and other countries (especially with Japan) in the promotion of ICT usage to innovate new Healthy Ageing activities amidst rapid demographic changes. In his opening message, he introduced Ms. Gail Kent (Acting Deputy Director General, European Commission, Directorate General for Communication Networks, Content, and Technology) and Mr. Sakamoto (former Vice Minister, Ministry of Inernal Affairs and Communications, Japan) to make opening statements.

In her speech, Ms. Kent mentioned that in Europe and other regions in the world, many countries face serious challenges operating sustainable healthcare systems and providing high-quality healthcare to



their ageing populations. Some countries face slow economic growth and experience increasing financial obstacles to continuing the provision of the current level of healthcare to citizens. To address these challenges, we have only one option: to innovate. Innovate in the way to provide services, innovate in the way we cooperate in the future. She emphasized that digital innovation is a critical factor to transform demographic changes in opportunities for Europe and other countries. She believes that digital qualifications and transformation can bring a much needed revolution in health and care provision in an aging society, eg through integrated care and the application of Internet of Things, services in robotic, e-Health, Big data, and analytics, 5G mobile and other solutions to address the issue.

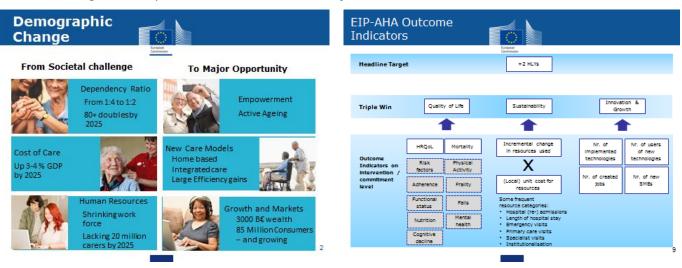
Mr. Sakamoto, a representative of the Japanese government as Ex-Vice Minister of MIC, noted the challenges that the Japanese economy faces in terms of an ageing population in which 27 percent of citizens are elderly. The number will increase to 40 percent in 2050. He mentioned in Japan now, the emerging technologies such as IoT, Big Data, e-Health, and robotics have been applied to address the ageing society. Based on the data on the ageing society in Japan, he noted that it is important to create a win-win model for both individuals and society. Japan also creates a smart, comprehensive strategy with the goal of transforming into a new social system, including through expanding global cooperation to respond to a super ageing society.

He emphasized the outcomes from the G7 ICT meeting and other meetings which were held in Japan. There are a lot of policies that have been issued between Japan and the EU. In particular, Japan and the EU are responsible for presenting a concrete solution model to the world because both Japan and the EU are facing the ageing issue. He also listed the recent cooperative projects between Japan and the EU on the ageing issue, such as ICT robotics, joint research and development on active and healthy ageing. He believes that, in the near future, Japan and the EU will have a strong relationship to deal with ageing issues and cooperate to promote ICT applications in the field of healthy ageing.



# 3. Session 1: "Ageing Societies" A global challenge and shared-opportunity

The goal of the session was to discuss the global challenges and opportunities arising from Demographic Change and the benefits of developing further global cooperation in innovation for active and healthy ageing. Following the opening statements, session one started with a presentation from Mr. Miguel Gonzalez-Sancho (European Commission). In his presentation, he focused on the demographic change as a societal challenge and a major opportunity. He noted that there are some key approaches to healthy ageing such as prevention, well-being, social interaction/inclusion, assisted living, mobility, personalised healthcare, and safety and security. He also proposed integrated care, a system focused on combining health, social and informal care which works most effectively where primary care providers work as members of interdisciplinary teams that can customise services required by the patient and prevent them from falling through the cracks. Every provider is accountable for the patient's full journey with a strong focus on positive outcomes rather than just interventions.



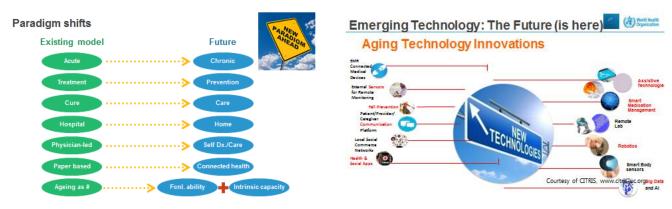
There is increased collaboration, communication, and integration across the spectrum of health care providers and services that patients encounter. Integrated care is about everyone in the system working together, sharing their expertise and helping to strengthen partnerships so that care can be organized around the patient. For a long term of research areas toward 2020, they will focus on (1) open service platforms, (2) service robotics within the smart living environment, (3) early risk detection and intervention linked to ageing, and (4) advanced ICT for integrated care. For the EIP-AHA outcome, he mentioned that HrQoL and Mortality are primary indicators (i.e. general enough to be relevant across all Action Groups of the EIP on AHA, but also sufficiently specific and sensitive to capture the impact of particular interventions within each Action Group). The outcome indicators on intervention/commitment level are secondary indicators which include (1) risk factors, (2) Physical activity, (3) Adherence, (4) Frailty, (5) Functional status, (6) Falls, (7) Nutrition, (8) Mental health, and (9) Cognitive decline.

Mr. Loic Garcon (WHO) gave the outcomes from G7 health ministers meeting in Kobe by issuing 3 key factors: (1) global health architecture, (2) Antimicrobial Resistance and research, and (3) Universal health coverage and healthy/active ageing (Comprehensive services for older people; transformation and innovation agenda). He also mentioned a paradigm shift from existing model to future model.

In the healthy ageing, he also noted that the WHO identifies four priority areas for action: (1) Improving measurement, monitoring, and understanding, (2) Aligning health services to the older populations they now serve, (3) Developing systems of long-term care, and (4) Creating age-friendly environments. In his presentation, he also gave some challenges and

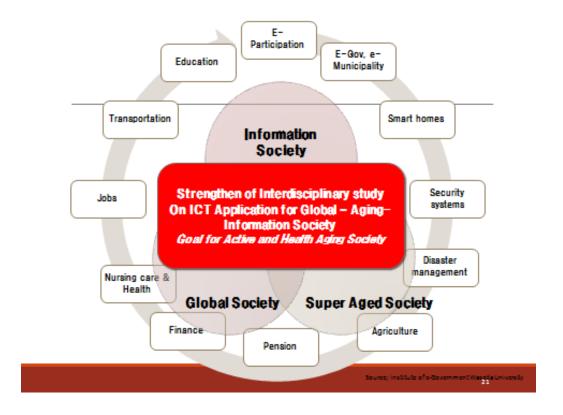


opportunities for innovation such as lack of a framework for the technological ecosystem; Wide variety of countries; Social, economic, and cultural contexts; Need to engage the user; Need for new evaluation/assessment methods and regulatory approaches; Affordability (inequities are increasing); Adaptation (reverse innovation); and Multiple morbidities, need for social connectivity.



Professor Iwasaki (Waseda University) reviewed the current situation of the "super-ageing society" in Japan by issuing figure including data and projections from 1960 to 2030. Based on the data, Japan ranks in the first position in the world in terms of super-ageing societies. In her research, she showed 5 ICT drivers that will shape the future workforce: (1) Rise in smart devices and systems, (2) Advances in computational systems such as sensors and processing power, (3) New multimedia technology, (4) The continuing evolution of social media, and (5) Globally connected world.

Prof. Iwasaki also showed some projects which have been applied by Japan to help elderly people, such as social media for the ageing, life-long education, robot suit hybrid assistive limb for well-being and also the development of ICT-employed robots for practical use. She offered six solutions for developing a smarter ageing-friendly society: (1) Inclusive society, (2) Establishment of Academic Consortium for Age-Friendly Society, (3) Innovation for ICT application and New technology, (4) Employment, (5) Transformation to Aging Society, and (6) Support for SDG-related to Aging Society.



#### Questions and Answers

Session one closed with some questions from the audience. Q1: For WHO to give a perspective about the observations made and the concrete results and best practices shared for an ageing population. Q2: how the speakers suggested other countries improve and manage education of stakeholders to be able to adopt innovation. Q3: to Prof. Iwasaki about the implications of the conference in Kyoto with China, and the last question was about prevention of health problems and what education should be for in the future.

To reply to the first question, Mr. Garcon gave some practical examples on applying mobile technologies to reduce the digital divide. He also mentioned the case study from the UK to apply machine learning and AI to utilize big data. Professor Iwasaki summarized some outcomes from the conference in Kyoto. At the conference, Japan showed practices of using ICT technologies such as IoT and robotics, and she focused on the empowerment and ICT support to human resources. Mr. Gonzalez-Sancho replied to the last question from a policymaker's point of view by highlighting the need for continuous investment in new skills and education as a prerequisite for progress.

# 4. Session 2: Global Scaling of Innovative Solutions

The aim of the session is to get perspectives from industry around the world on the potential of scalable global markets and identification of barriers and drivers for global cooperation in innovation for active and healthy ageing. Starting the second session, Ms. Nicole (COCIR Secretary General) gave a presentation from an industry perspective. She mentioned that demographic transition to an ageing society combined with the increasing burden of chronic diseases and the growing complexity of physical and mental health comorbidities require a transformational change in the funding, design and delivery of health and care systems.

Digital health and the principles underpinning integrated care must be part of that transformation. She noted that digital innovation can support health and social care systems in their transformative journey by giving a better quality care to citizens, delivering more efficient health and social care, and also improving population health. According to her presentation, policy, economic models and financing, as well as enabling framework, are three common responses for ageing societies.



# Digital innovation and transformation

 Digital innovation can support health and social care systems in their transformation journey



She emphasized that an enabling framework is a very important factor because developing health data governance frameworks to clarify and streamline the processes to manage the use of health data,

including access, quality, security of information, as well as the consequences of misuse.

Professor Obi summarized some projects on e-Ageing ICT applications for Ageing Societies under the umbrella of APEC and Japan-EU forum on Silver ICT. Professor Obi reviewed the whole global silver market through 2050. Upon reviewing the data, professor Obi mentioned the transformation to a digital economy via the smart silver community.

# Solutions for Ageing Issues

- Renewal of urban infrastructure for Ageing community
- Training for new jobs and support on SME business as inclusiveness for Older Persons
- Mutual assistance of the neighbors in community for home care
- · Senior Citizen/consumer centric approach to promote active quality of life
- New working styles such as telework and flexible time work for Older persons to make ideal work=life balance
- Building Silver –friendly smart city with historical convergence of Ageing and Information societies
- Reform on national health/long term care insurance program
- E-Mobility Automated driving car and E-Life with online shop

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Based on this conclusion, Professor Obi raised a series of recommendations and trends for innovation solutions: (1) Emerging technologies-IOT/AI/M2M applications for Hospitals and Medical institutions as well as residents and nursing homes for promoting disease prevention to reduce huge healthcare expenses by global networks, (2) Speedy Establishment of Global Standards for deploying Silver

technology and service Innovation which will grow to 22 Trillion Euro in 2050 in the global market, (3) Transforming Smart Silver Digital cities for sharp urbanization in Aging society, (4) IOT/ AI/M2M applications for creating resilient, secure and safe communities, (5) G7 (Summit) coalition for Setting new agendas for cultivating and marketing huge potential ageing Asia population as 2/3 of the world's silver market in 2050, (6) Creating new job opportunities for talented senior people with a diversity of employment system in care service with ICT usage from a global perspective, (7) Joint R&D and marketing innovation of care robots, large-scale digital solutions, and (8) EU Blueprint [Digital Transformation of Health and care for Ageing Society] in DSM. Professor Obi also emphasized that he is very keen on the EU blueprint for digital transformation of health and care as an approach to have a common vision between demand and supply stakeholders.



# Smartphone: A Global Technology



- Global diffusion
- Rapid (less than 10 years)
- Highly personal
- Enabling platform to connect patient, provider, caregiver, and community



To conclude the session, Mr. Michael Birt from the Academy for Healthy Longevity gave a presentation on his take on human ageing. He emphasized that chronological age increasingly is irrelevant to classify the needs of people as they get older and that indeed people develop into a much more inhomogeneous group in terms of needs and capabilities as they age. He advocated to use the health adjusted life expectancy as a key indicator when looking at public health systems and new metrics for social connectedness and healthy longevity. In particular mobile technology such as smartphones and mobile connections can be better utilized as ways to connect people and promote longer, healthier lives and improved social and technological connections will increase health and longevity.

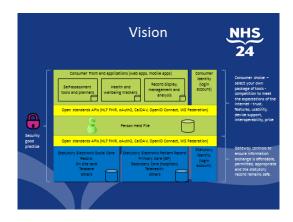
# Questions and Answers

Session two closed with some questions from the audience concerning the importance of interoperability of technology and data, the use of retired health workers as an indispensable resource in the future, the need for metrics for active life years and how to better reward innovation and prevention.

The panel responded that interoperability indeed for some time has been a core activity but that further progress is still needed, in particular concerning semantic interoperability of the many diverse source of health and care related data. Using the retired work force as a resource in indeed a relevant solution to some of the bottlenecks on the labor market, but there are still a number of obstacles to be addressed, such as pension and flexible retirement rules. Metrics is also still in the early days but work is ongoing (such as the MAFEIP framework presented in the later session, where global cooperation can be an important approach to progress. Finally the panel agreed that further progress is need in health and care systems to more systematically reward innovation and prevention.

### 5. Session 3: From "Challenge to Opportunity" through Digital Innovation

The goal of the session is to stimulate a wider discussion about the lessons learned from bringing innovation into play at scale to address the challenges of ageing populations and creating new opportunities. In this session, speakers focused on the way to change from a challenge to opportunity by applying digital innovation.





#### It's about services

- We need around a 35% improvement in the productivity of health and care services.
- Move to co-production leverages informal care, voluntary care, ...
- Mixed economy: public, private, voluntary, ...
- · Linkage makes things more achievable



George Crooks from NHS24 and Prof. Stewart Anderson from the Digital Health Institute in Edinburgh presented the innovation approach to health in Scotland, which is focused on people with focus on health, care, and wellbeing by proposing the 6C model (Choice, Control, Connectedness, Collaborations, Contributions, and Communities). They also mentioned that it was developed as part of a UK/SG Dallas Innovation competition, and sought to change the way people interact with health & care services and empower them to take greater responsibility and ownership of their health and wellbeing. It supports the roll-out of technologies and services at scale, to create a consumer market and provide wider health and societal benefits, and Co-design process with users, caretakers, industry, academia, health & care practitioners.



Mr. Andy Shakeshaft (Associate Director, Innovation Agency) declared their aims and objectives in the Northwest Coast of England are to spread innovation at pace and scale across NHS, to promote and integrate the strengths of higher education, the NHS, industry, third sector, to improve health of individuals and communities, bring investment to the Northwest Coast, and create jobs for local people. He also referred to some projects such as Teleswallowing (it is an innovative use of telemedicine. Speech and Language Therapists can rapidly and accurately assess a care home resident's ability to swallow remotely, via video, and has proved a highly efficient clinical tool in Blackpool Teaching Hospitals). He emphasized that the anticipated results of this project is to improve response time to referrals, and quality of service for patients and care homes.

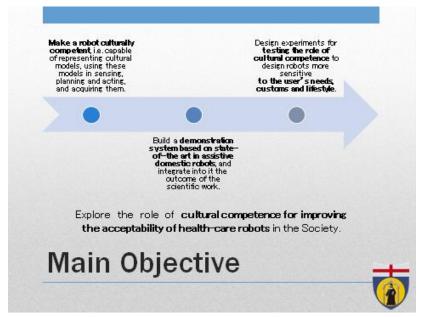


Mr. Katayama, president of CIAJ Japan explained the case of Japan regarding the development of ICT as solutions for an ageing society. He picked some projects up from Panasonic for using monitoring system with facial recognition, Fujitsu for watching over elderly persons and patients in smart homes, NTT Docomo and Omron for blood pressure management, and NEC for applications of AI technology. He

addressed the idea that new values driven by ICT can contribute to healthy and active aging which leads to savings in social and welfare expenditure, as well as decreases the burden both for the nursing care recipients and providers when such care is needed.

# 6. Session 4: Exploring Global Cooperation Opportunities

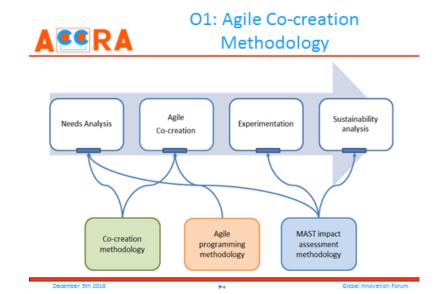
In this session, speakers presented ideas for possible global cooperation in innovation for active and healthy ageing. This session included four presentations from Italy, Japan, Denmark, and Belgium. The first presentation regarding the CARESSES project focused on culturally aware robots and environmental



sensor systems for elderly support.

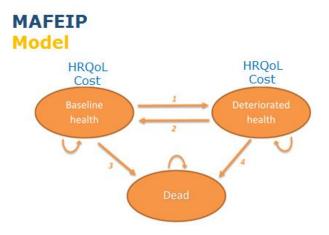
The idea is to consider personal robots that are physically identical, but we make them act and communicate in different ways to match the culture, customs, and etiquette of the person they are assisting. The main objectives are to (1) make a robot culturally competent, (2) Design experiments for testing the role of cultural competence to design robots more sensitive to the user's needs, customs and lifestyle, and (3) Build a demonstration system based on state-of-the-art assistive domestic robots, and integrate into it the outcome of the scientific work. The presentation also took Japan as a case study by researching the culture-aware verbal/non-verbal interaction and building iHouse (a smart home) as a solution for helping to age.

The ACCRA project jointly funded by EU and MIC presented ICT robotics-based solutions for active and healthy ageing at home or in care facilities. The concept is based on agile co-creation methodology



to allow users have a strong influence in the design and features of the products and services expected to assist them, an assessment framework, and platform based on mobility applications, daily life applications, and socialization applications for building a network.

Mr. Christian Boehler gave a presentation on the Monitoring and Assessment Framework for the European Innovation Partnership on Active and Healthy Ageing called the MAFEIP model. This model allows synthesizing the best information currently available from multiple sources for health and care technology evaluation, enables an early (pre-market) assessment of a technology, helps inform decisions about the future design, development or evaluation of a technology, and to estimate its overall market potential even at an early stage of the product lifecycle, and it is an evolving platform with gradually expanding features.



Besides that, Mr. Peterson (region of southern Denmark) proposed a regional business development strategy and action plan based on three key factors: sustainable energy, health and social innovation, and the experience economy. Ha also presented the strong strategic advantage of being recognised as an leading Innovation Reference Site within the European Innovation Partnership on Active and Healthy



Ageing. This allows the region to find strategic partners for cooperation and attracting industry to the region. This European concept could also usefully be applied in other regions of the world as a way of accelerating partnerships on digital innovation in Active and Healthy Ageing.



# 7. Closing Session

This session was a summary, follow-up and discussion of next steps by the EU, Japan, and the upcoming G7 Italian Presidency. Mr. Mario Calderini, adviser to the Minister of education, university and research, Italy, mentioned two cooperative projects: the first one is in regards to the EU-US on e-Health to create an e-health framework and DG Connect. The second one is to improve the skills of the workforce. He believed that we should continue to cooperate in academia to implement and update the roadmap. He also summarized the project between the EU and the U.S. The next step is to spread and give an opportunity to technology companies.

In this session, professor Obi also asked for funding for the Japanese group when applying for a new project. He also raised questions for Mr. Petersen (region of southern Denmark) and Mr. John Farrell whether they would like to seek global partners and cooperate with other organizations. For the U.S., professor Obi would like to know whether they can cooperate more globally, including Japan, U.S., and EU working together on this global issue.



In reply to Professor Obi's questions, Mr. Petersen answered that Japan and the EU continue to

deepen relationships by providing more funds to cooperate. For the global partnership with the project from Denmark, Mr. Petersen welcomes all partners from Japan or other regions to join for development to make it a global issue.

#### Closing statements

Mr. Giancarlo Ruscitti, representative of the Puglia Region, Italy made a statement regarding future activities of innovation related to active and healthy ageing under the Italian G7 presidency during 2017.. It is the intention to have a follow-up event concerning this topic, where the discussions at the Innovation can be taken forward, including concrete suggestions for further global cooperation. He emphasized that he aims to improve the relationship between Japan and the EU regarding digital innovation for ageing activities.

To conclude, Ms. Linda Corugedu-Croneberg (Director, EU, Directorate General for communications networks, content, and Technology) and Mr. Kohei Yoshida (Director, Ministry of Interior and Communications, Japan) summarized the activities between Japan and EU on active and healthy ageing. Ms. Linda noted that there were clear ideas from G7 meeting in Japan and also in the EU-Japan joint research cooperation on ICT for ageing well. The EU has a strong relationship with the US and Japan. She mentioned that the discussion from all sessions on that day confirmed that we have a win-win situation for everyone. The speakers shared and learned a lot of knowledge, experiences, and practices for the audience. The discussions from the forum should be further explored, such as establishing Reference Sites of proven innovation in other world regions, sharing repositories of proven innvaotion practices, working on common innovation metrics and R&D cooperation.. The EU 2020 program is open for international cooperation, a number of relevant areas from this forum will be considered. We also discussed new technologies such as robotics, and Japan is one prominent leader in adopting new technologies. She thanked all speakers for excellent presentations and discussions. She hopes the EU and Japan will maintain a strong relationship on active and healthy ageing. Mr. Yoshida concluded by expressing appreciation to all speakers and participants, especially to Professor Obi and Professor Iwasaki for their excellent efforts for Japan on an ageing society.

The following outcomes are expected: (1) Mobilized stakeholders and policymakers to support delivery of actions agreed as part of the shared vision (Blueprint on Digital Transformation of health and care), (2) Clearly identified growth areas enabled by cross-portfolio policy actions, leading to scaling up digital innovation for active and healthy ageing in Europe, and (3) Further impetus to G7/Global cooperation in the field of digital innovation for active and healthy ageing and the Silver Economy.

Annex 1: Agenda of Global Innovation Forum on Active and Healthy Ageing

8:00 9:00	Welcome Coffee and Registration
	OPENING STATEMENTS AND WELCOME
9:00 9:20	Gail Kent  Acting Deputy Director General, European Commission, Directorate General for Communications  Networks, Content and Technology (DG CNECT)
	Yasuo Sakamoto
	former Vice Minister, Ministry of Internal Affairs and Communications, Japan
	"Ageing Societies" – A global challenge and shared- opportunity
9:20 10:30	Scene-setter on the outlook of changing demographics and their economic and social impact. Proposals on how international collaboration on exchange of best practices can accelerate deployment of digital innovation globally.  Panel discussion  Miguel Gonzalez-Sancho (European Commission)
	Loic Garcon (WHO)  Prof.Naoko Iwasaki (Waseda University, Japan)
	Robyn Tamblyn (Canadian Institutes of Health Services and Policy Research)
10:30 11:00	Coffee Break
11:00 12:00	From "challenge to opportunity" through Digital Innovation  Examples from regions across the globe on how digital innovation has helped impact the quality of life of the ageing population, enhanced health and care systems sustainability and stimulated the Silver Economy.

	- Case Study Scotland  George Crooks (NHS24), Stewart Anderson (Digital Health Institute, Scotland)  -Case Study England, Andrew Shakeshaft (Innovation Agency North West Coast)
	cuse study England, Andrew Shakeshaje (innovation Agency North West coust)
	- Case Study Japan, Yasuyoshi Katayama,
	(President, Communication and Information Network Industry Association, Japan)
12:00 13:30	Lunch Break
	Global scaling of innovative solutions
	Roundtable discussion
13:30	- Nicole Denjoy (COCIR , Belgium)
14:30	
	- Prof. Toshio Obi (Waseda University and Adviser to Communication and
	Information Network Industry Association, Japan)
	- Michael Birt (Personal Connected Health Alliance, United States)
14:30 15:00	Coffee Break
	Exploring Global Cooperation Opportunities
	Presentation of ideas for possible global cooperation
	in innovation for Active and Healthy Ageing
15:00	- Global Cooperation in Research and Innovation on Active and Healthy
16:30	Ageing (European Commission/MIC)
	- Metrics and Tools for socio-economic impact assessment
	Christian Boehler (former PI of the MAFEIP tool at DG-JRC IPTS)
	- Reference Sites for AHA Innovation
	Karsten Uno Petersen (Southern Denmark Region)/John Farrell, RSCN)

	- Interoperability for Emergency Health Records
	Antonio Dai Pra (US mission to the EU)
	CLOSING SESSION
	Summary, Follow-up and next steps by EU, Japan and the upcoming G7 Italian Presidency
	Statement by Italian G7 presidency representatives
	Mario Calderini,
16:30	adviser to the Minister of education, university and research, Italy
17:00	Giancarlo Ruscitti, Puglia Region, Italy
	Closing statements by
	Linda Corugedo Steneberg (Director, European Commission,
	Directorate General for Communications Networks, Content and Technology, DG CNECT)
	Kohei Yoshida (Director, Ministry of Internal Affairs and Communications, Japan)
17:00	Networking Reception hosted by
18:30	Ministry of Internal Affairs and Communications, Japan