

Conclusions



NESTORE

Non-intrusive Empowering Solutions and Technologies for Older people to Retain Everyday life activity

Your *Pathway* to Wellbeing

February 25, 2021, 09:00-13:00 On line Event



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769643

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Wrap Up

Cinzia Mambretti – Fondazione Politecnico di Milano



Challenges

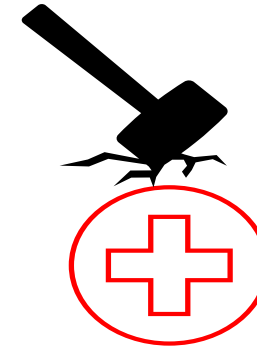
Ageing population across EU/worldwide:

- Decreasing birth rates
- Growing pressure on National Healthcare systems (chronic patients)
- Decreasing availability of healthcare professionals

Silver economy to develop:

- Products & services tailored for people as they age
- Digital innovation
- Exploit the collected data potential

Social responsibility



Live longer Live better

People empowerment toward healthy lifestyles



Opportunities

Change of paradigm

Behavioural change

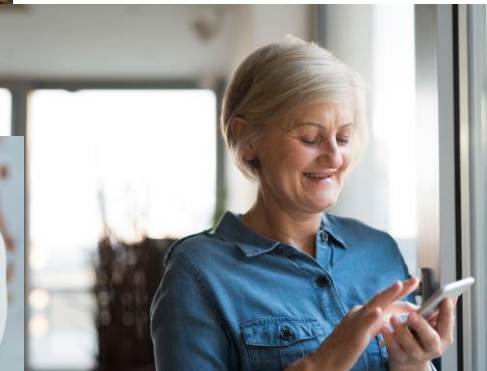
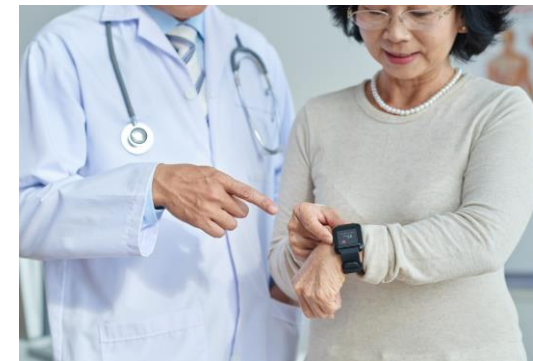
Empowerment

“ My life depends on me ...my wellbeing is my responsibility ”

“I care about myself, I take care of myself”

Prevention ...from early age

Cornerstone: Healthy lifestyle



Challenges

Users' acceptance of technology

Co-Design – Participatory design

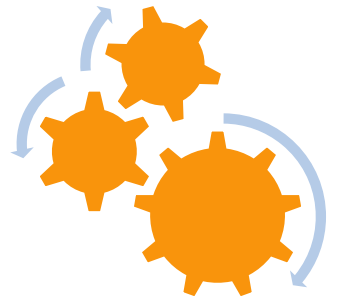
- Users (people aged 65+ in our case)
- User experts (Users but a step beyond using technology)
- Domain experts (physiologists, nutritionists, psychologists, ethics experts)
- Clinicians
- Designers
- Technologists
- Engineers
- UX designers
- Lawyers
- Data experts

Adoption

Fits My Life

Affordable

TRUST



Open Mind

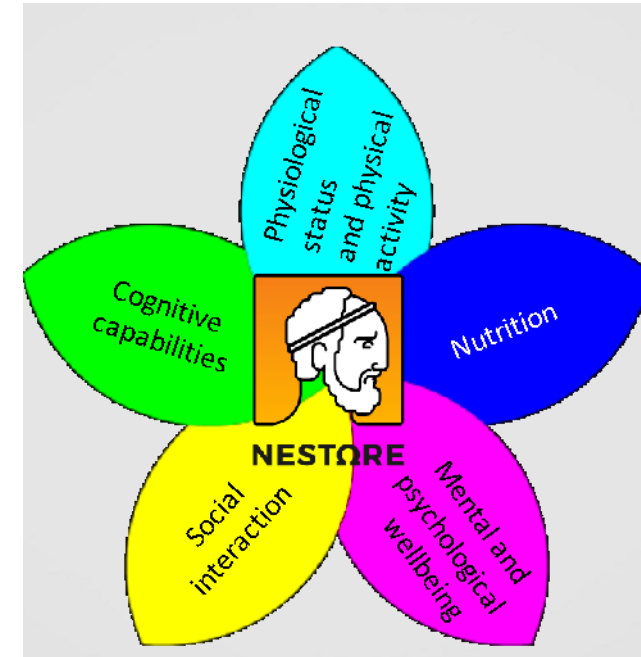
Cross-fertilization



From Design to NESTORE

- ❑ **Grounded in scientific validated multidisciplinary knowledge** provided by experts in each health domain
- ❑ **Co-designed** with users
- ❑ **Global user-centred multi-dimensional intervention**
- ❑ **Personalised** and driven by **user's data and preferences (pathways of interest)**
- ❑ **Real time** and **long-term** coaching service with modular targets
- ❑ **Friendly tangible interface** to deliver the intervention and to **support motivation**

Usability by Design



From Design to NESTORE

Technology for sensing, processing, interacting and dialoguing (Health Companion)

- **Data Portfolio**
- **Autogenerated data**
- **Structured & interoperable**
- **Privacy by design**
- **FAIR data**

Service models and business sustainability

Privacy by Design

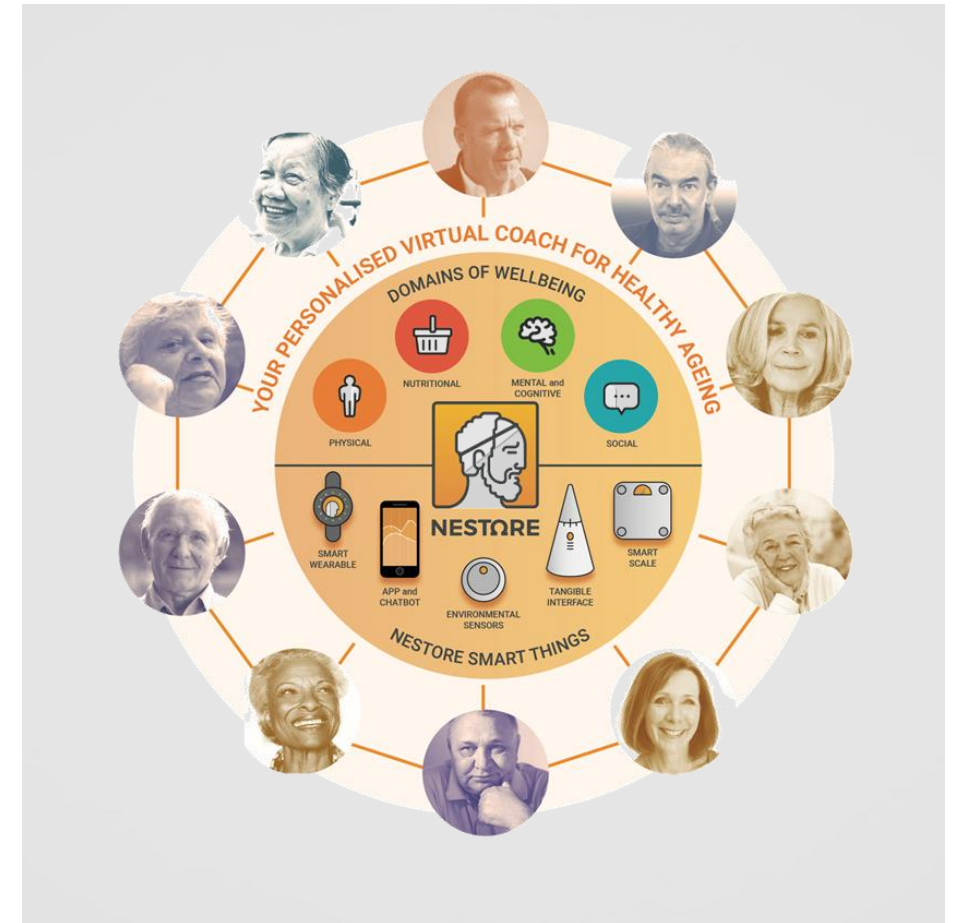


Responsible
Research and
Innovation
Open Science



Comprehensive approach

- Project organization, communication dissemination and exploitation, financial management
- Teamwork
- Open discussion and cross WP tables
- Data management
- GDPR and privacy
- Pilot organization: analogies and differences across European population in active healthy ageing
- Risk management (normal routine and pandemic emergency)
- Ethics
- Exploitation strategy leveraging on silver economy
- Policy recommendation



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Policy Recommendations

Ilenia Gheno – AGE Platform Europe



Technology

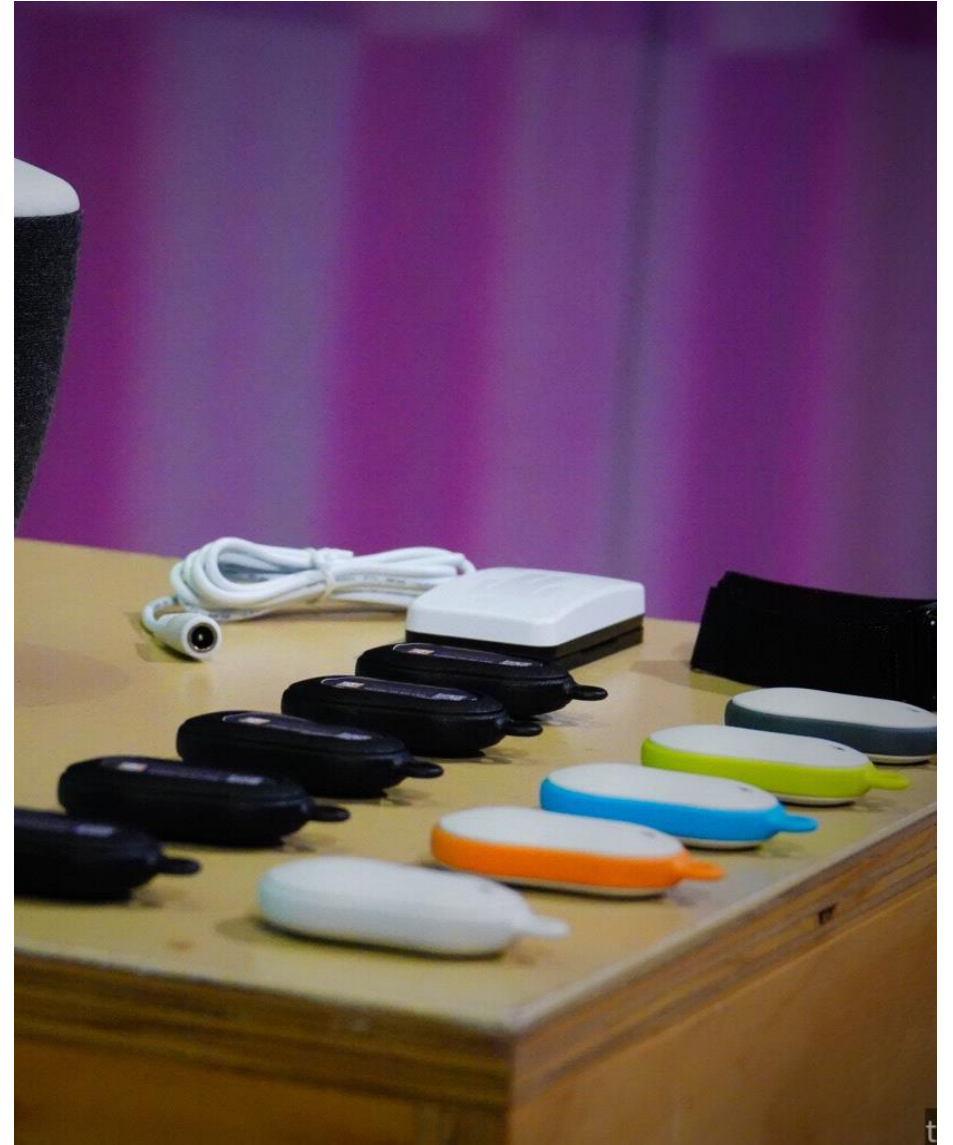
*« does not get tired, sick, fed up nor does it forget:
thus, it can act 24 hours a day to support humans,
professionals and patients,
with information and data »*

**But do our technology really benefit those
need it most ?**

Liz Mestheneos

Reflections on Older People in Relation to ICT-AI

ICT4AWE 2019



NESTORE



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25.02.2021

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« **Older people are the ultimate experts of their own lives** »
(World Health Organisation)

place
the
final
beneficiaries
at
the
center

Drawing: Herman Roozen, iAGE Final Conference, Assen 2014





place

the

final

beneficiaries

at

the

center

Ground research on **co-design and co-creation**

Wipe out **ageism** and **ageist assumptions**

Wipe out **age limits**

Drawing: Herman Roozen, iAGE Final Conference, Assen 2014



People who think positively about ageing have on average 7.5 years more in life expectancy
(World Health Organisation)





Make it work for all

- Accessibility, affordability and availability
- Health and digital literacy are sustained along the whole life-cycle and for all
- Communication is plain and friendly

Drawing: Herman Roozen, iAGE Final Conference, Assen 2014



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Conclusions

Giuseppe Andreoni – Politecnico di Milano



*"Life is an extraordinary travel,
getting older is sometimes an
Odyssey..."*

(Nobody but everybody)

« Elderly people are the
ultimate experts of their
own lives »

(WHO)

Definition of a new perspective of

Silver-Centered Design

&

Usability by Design

For

Technology – Services – Environments – Social events

Elderly could become a reliable and effective partner for taking an active role in all the phases of health management, not just and simply as end-users, i.e. people to take care of, a passive category.

Users and methodological perspective



Peng et al., *Habit Formation in Wearable Activity Tracker Use Among Older Adults: Qualitative Study* JMIR Mhealth Uhealth 2021;9(1):e22488 doi: 10.2196/22488

Lally et al. 2010
«Avg of 66 days to form and assume habits»

Promising pivotal role of the exploitation of personal interests as motivational triggers "pathways of interest".

Table 3. Summary of identified themes.

RQ ^a	Themes
RQ1: How did long-term users initiate the use of wearable activity trackers?	Meaningful initial start
RQ2: How did long-term users set goals?	Goal setting: start with a small goal and gradually increase
RQ3: What consistent contextual cues did long-term users use to form the habit of wearing wearable activity trackers?	Consistent cues: use time and locational cues to make it a routine
RQ4: How did long-term users engage in action planning and coping planning to support the continued use of wearable activity trackers?	<ul style="list-style-type: none"> Action planning: create contextual cues Action planning: use reminders Coping planning: anticipate problems and have a plan to deal with it Coping planning: mindset for managing unfulfillment and lapses Coping planning: try to have fun and try something new

This pandemic avoided to test these assumptions in our pilot

Users and methodological perspective

frontiers
in Psychology

PERSPECTIVE
published: 31 October 2018
doi: 10.3389/fpsyg.2018.02066



A P5 Approach to m-Health: Design Suggestions for Advanced Mobile Health Technology

<https://www.frontiersin.org/journals/psychology/>

Alessandra Gorini^{1,2*}, Ketti Mazzocco^{1,2}, Stefano Triberti^{1,2}, Valeria Sebrì^{1,2}, Lucrezia Savioni^{1,2} and Gabriella Pravettoni^{1,2}

Making health habitual:
the psychology of 'habit-formation'
and general practice
BritishJournalofGeneralPractice, December 2012

From 4P Medicine concept
(Preventive Predictive Personalized and Participatory)

To the new fifth P, the
Psychocognitive factor.



Users and technological perspective

In the EU, 87 percent of people aged 75 years and over have never been online (Eurostat, 2018), but..



NESTORE investigated the ***transition from native analogue society and digital native generation***

Technology for seniors is growing so quickly that by 2030, experts expect [aging tech to be a USD 30 billion market.](#)

This tech can help bridge the digital generation gap and allow for ***increased independence and a higher quality of life.***

Need for ICT infrastructures
Better interoperability
Secure data and privacy



Probably NESTORE has become an exploratory study because of COVID but it has contributed to scientific and social wisdom in :

- set the value of technology
- set the need for easy integration
- set the market positioning of several solutions
- set the possible Business Models
- Open the view of impact forecast of services
- Start the vision building in stakeholders

Users and impact/exploitation perspective





NESTORE in light of Words/Actions and EU recommendations

Healthy and active ageing is a *personal choice and responsibility*, but it depends heavily on the environment in which people live, work and socialise.

(Green Paper on Ageing, January 2021)



18. **Access for all to health services, long-term care, health promotion and disease prevention** is a policy orientation and governance approach which aims to put people and their wellbeing at the centre of public health systems. Essential elements of wellbeing that also address health inequalities and thus contribute to the economy and society itself, the Economy of Wellbeing underlines the mutually reinforcing nature of wellbeing and economic growth. Taking wellbeing into account in all policies is vitally important to the Union's economic growth, productivity, long-term fiscal sustainability and societal stability. **Addressing the social, commercial, economic and environmental determinants of health and the burden of non-communicable diseases**, taking into account risk factors such as poor or **unhealthy diets, physical inactivity**, and the harmful use of alcohol and tobacco. Fiscal measures can be used to guide consumption and behaviour.

19. **The continuous growth of health expenditure** is a challenge to national economies in all European countries. It is therefore crucial to **address the social, commercial, economic and environmental determinants of health and the burden of non-communicable diseases**, taking into account risk factors such as poor or **unhealthy diets, physical inactivity**, and the harmful use of alcohol and tobacco. Fiscal measures can be used to guide consumption and behaviour.

20. **People's wellbeing is a principal aim of the European Union. ...The creation of an environment that enables people to reach their full potential and to enjoy their fundamental rights** is a central component of the Economy of Wellbeing. At the same time, **sustainable and inclusive economic growth and resilience function as enablers for the wellbeing of people, societies and the planet.**

21. Technological developments, especially **digitalisation and artificial intelligence**, are **changing the way people's wellbeing can be promoted and how health and social services are delivered.** As well as to counter inequalities in access and outcomes.



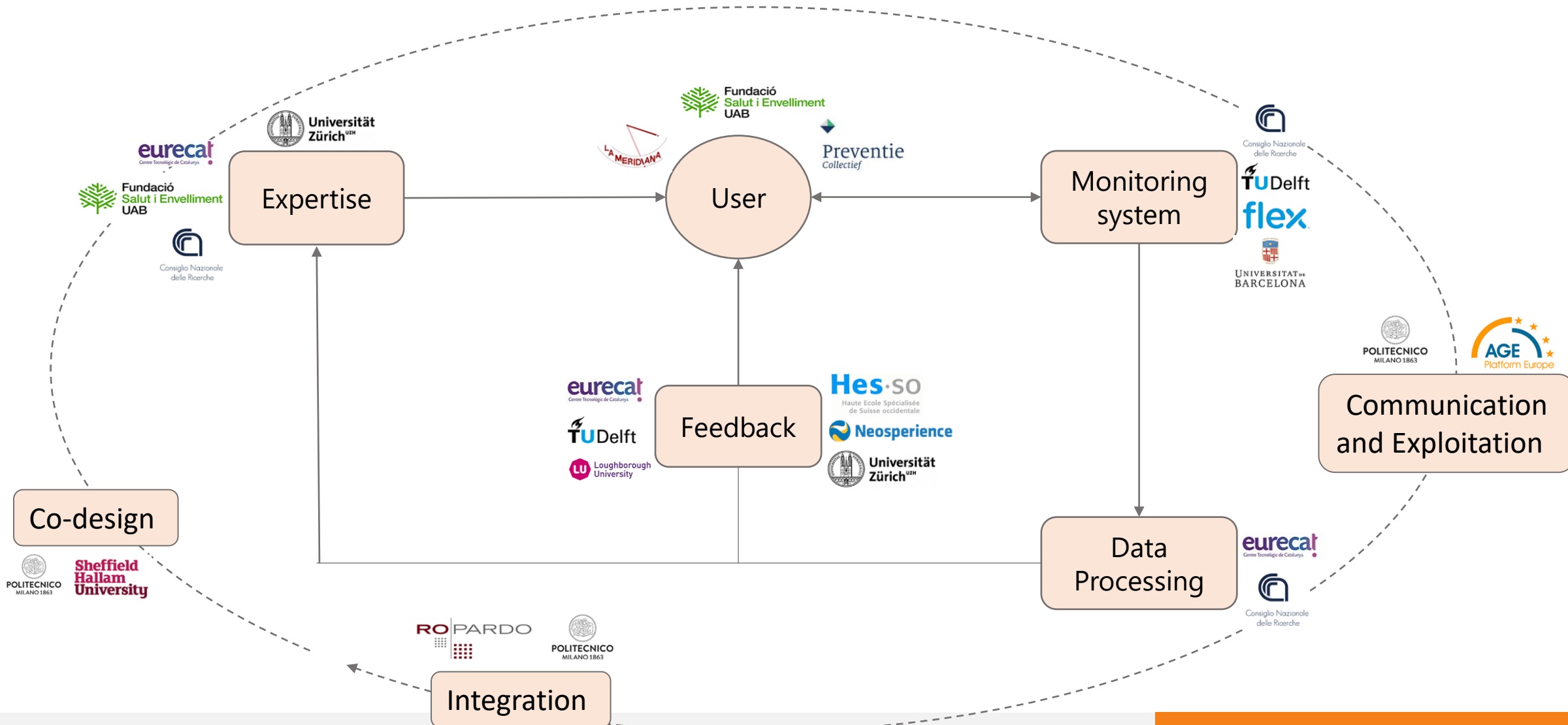
Brussels, 17 October 2019
(OR. en)

From:	Permanent Representatives Committee (Part 1)
To:	Council
Subject:	The Economy of Wellbeing - Draft Council Conclusions



A multidisciplinary team for a full success

Healthy Ageing Service



Conclusions

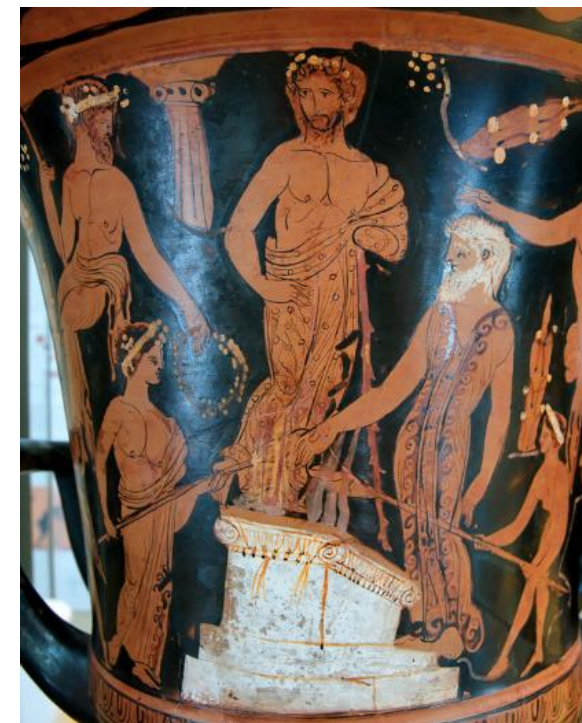
Like the ancient and wise anonymous king, through this project journey NESTORE aimed at:

Distributing and sharing knowledge and experiences across Europe

Testing new technologies

Creating an european teamwork among citizens (and not only researchers)

Collaborating for the definition of new services and policies



Thank you to all partners and participants for contributing to european science

Thank you for making me, us, you all partners of this extraordinary journey



Thank you from NESTORE!

Giuseppe Andreoni – Ilenia Gheno - Cinzia Mambretti

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