



IDIH

INTERNATIONAL COLLABORATION
DIGITAL TRANSFORMATION
HEALTHY AGEING

IDIH Stakeholders' Event

Digital Health for Active and Healthy Ageing. Addressing the Needs of Users

FEBRUARY 3, 2022

14.00 – 15.30 CET

DR. KRISTIN DALLINGER

PROJECT COORDINATOR



IDIH PROJECT FACT SHEET

AIM | Promote and increase international collaboration to advance digital health in the EU and key Strategic Partner Countries to support active and healthy ageing (AHA) through innovation



▶ **IDIH serves as a CATALYST for the INTERNATIONAL DIALOGUE in DIGITAL HEALTH for AHA**



IDIH has set-up a **Digital Health Transformation Forum**

gathering top-notch experts, executives and advocacy groups from the six regions (EU, CAN, US, JP, CN, KR)

4 Expert Groups

defined common priorities
identified opportunities

Preventive care



Integrated care



Independent and connected living



Inclusive living



Policy makers & **User associations**

are consulted to validate the findings.

to define a

ROADMAP for enhanced International Collaboration on Digital Health for AHA

February 3, 2022 | Agenda

IDIH Stakeholders' Event (public event)	
[CET]	Introduction and welcome by the IDIH Coordinator Kristin Dallinger, Steinbeil, IDIH Project Coordinator
14.00	Adopting assistive and digital technology for dementia friendly communities: Lessons from a national randomised controlled trial. Matthew Lariviere, Lecturer in Social Policy, School for Policy Studies, Faculty of Social Sciences and Law, University of Bristol, Chair and EU Representative, IDIH Global Expert Group on Inclusive Living.
14.15	The SoCaTel platform: digital co-creation from a human-centricity approach. Blanca Deusdad Ayala, Associate Professor, Dep. Anthropology, Philosophy and Social Work, Rovira I Virgili University, Tarragona
14.30	The users' perspective to tackle Social Isolation. A hinge strategy to create a user centric community system in which local councils and care providers are actors, not owners. Nanno van der Laan, CEO and founder, 112Motion.
14.45	The e-Vita project: EU-Japan Virtual Coach for Smart Ageing and its coordinator in Japan, the Smart Aging Research Center at Tohoku University. Lorenz Granrath, Specially Appointed Assistant Professor, Tohoku University, Smart Aging Research Center
15.00	Design and evaluation of age-friendly digital solutions. Addressing implementation and methodological challenges Jie Wang, Vice President of Smart Health Care and Home Care Branch of China Association of Gerontology and Geriatrics (S2HC-CAGG)
15.15	Open Discussion
15.30	Closure of the event

IDIH Stakeholder's Event:

Digital Health for Active and Healthy Ageing. Addressing the needs of users

February 3, 2022 (14.00 – 15.30 CET)



Adopting assistive and digital technology for dementia friendly communities: Lessons from a national randomised controlled trial

Dr Matthew Lariviere
Centre for Research in Health and Social Care
School for Policy Studies
University of Bristol



[@mattlariv](https://twitter.com/mattlariv)

matthew.lariviere@bristol.ac.uk

What makes a community “dementia friendly?”

“The Four Cornerstone Model” (Joseph Rowntree Foundation, 2012)

- Place (homes, other built environments, outdoors)
- People (what do people in the locality know about dementia?)
- Resources (how can locality’s support people with dementia – public services, businesses, shops, restaurants/cafes)
- Networks (how do different actors work together to support people with dementia)



De Hogewyk

How can we help people with dementia to live in their own homes and communities?

Assistive Technology and Telecare to maintain Independent Living At home for people with dementia (ATTILA)

What was ATTILA?

Pragmatic randomised controlled trial (Leroi et al., 2013; Howard et al., 2021)

Investigated effectiveness and cost-effectiveness of assistive technology and telecare (ATT) to delay people with dementia permanently moving into residential care

Participant received an ATT needs assessment followed by installation of indicated ATT (intervention; n=248) or an ATT assessment with restricted installation to smoke and carbon monoxide detectors and pendant alarms (control; n=247).

Participants followed up for 104 weeks.

Results

No significant difference between health and social care costs or societal costs between control and intervention.

No significant difference to delay permanent moves to residential care.

ATT not cost-effective.

Insights from trial

Fidelity of the intervention was low in terms of matching ATT assessment, recommendations and installation.

This, however, reflects current practice within adult social care in England.

How did people actually use ATT in their own homes?

**A Collaborative, COMMunity-based ethnography Of
people with Dementia and their carers using Assistive
technology & Telecare in England (ACCOMMODATE)**

What was ACCOMMODATE?

Embedded ethnography – qualitative approach to examine practices of people with dementia and caregivers with assistive technology and telecare in the national ATTILA trial (Lewis and Russell, 2011; Lariviere et al., 2021).

Observed practices of nine cases of people with dementia and family carers in their homes for six months per case (total 208 hours).

Analysis and Findings

Situational analysis of fieldnotes and transcripts,.

Identified three broad themes from cases that captured and evoked how participants' practices with assistive technologies and telecare (ATT) shaped care relations and spaces:

- **Placing care**
- **Replacing care**
- **Displacing care**

Placing care

The Smiths Case

We need to consider placement of technology in the wider context of peoples' lives – relationships, built environment, other humans and animals

How and where do we install technological interventions? To what effect on their 'successful' implementation? Placement matters.

Replacing care

- The Campbells case

- Caring as surveillance

- How should we distinguish between care, security and surveillance when we design future care technologies?

Displacing care

- The Drapers case
- Reconfigured and abandoned rooms in the home
- How should we design and implement care technologies that adapt to the changing spaces and places of care in later life for people with cognitive impairments?

Introduction of bed: Sitting room as bedroom

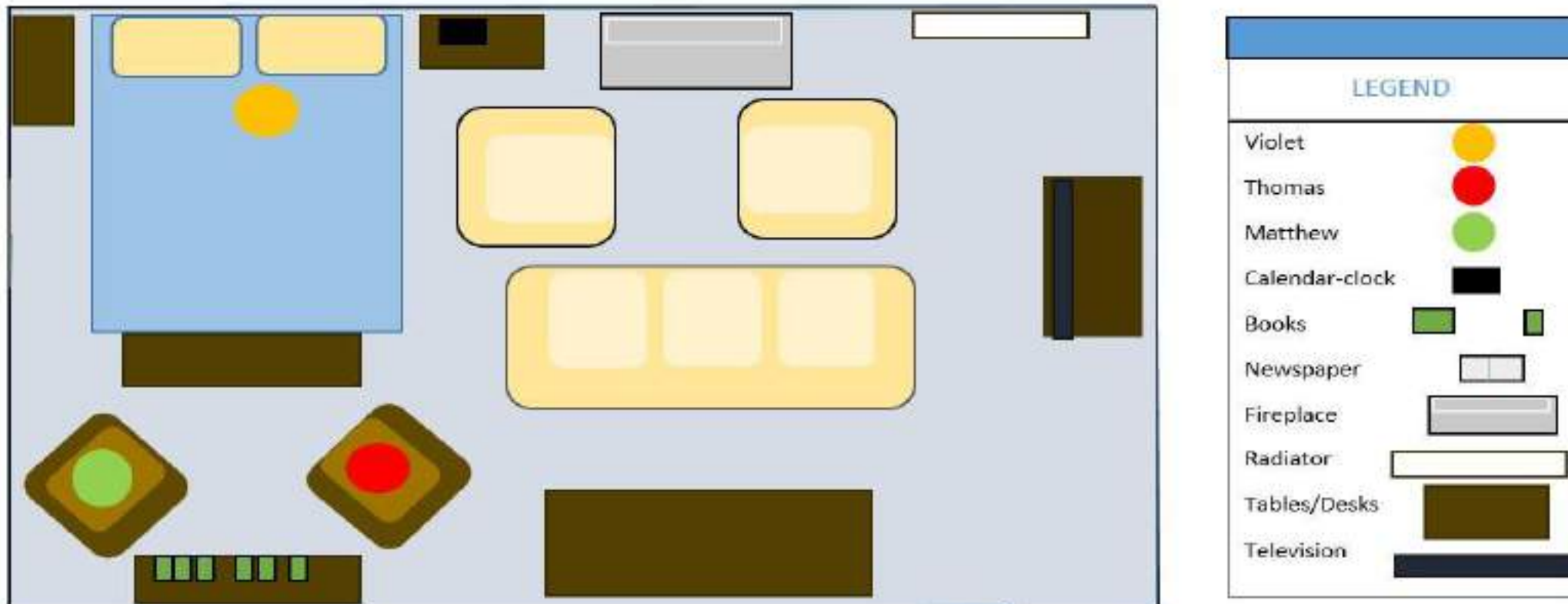


Fig. 1 Map of Violet Draper's sitting room from September 2015 visit

Introduction of commode: Sitting room as bathroom

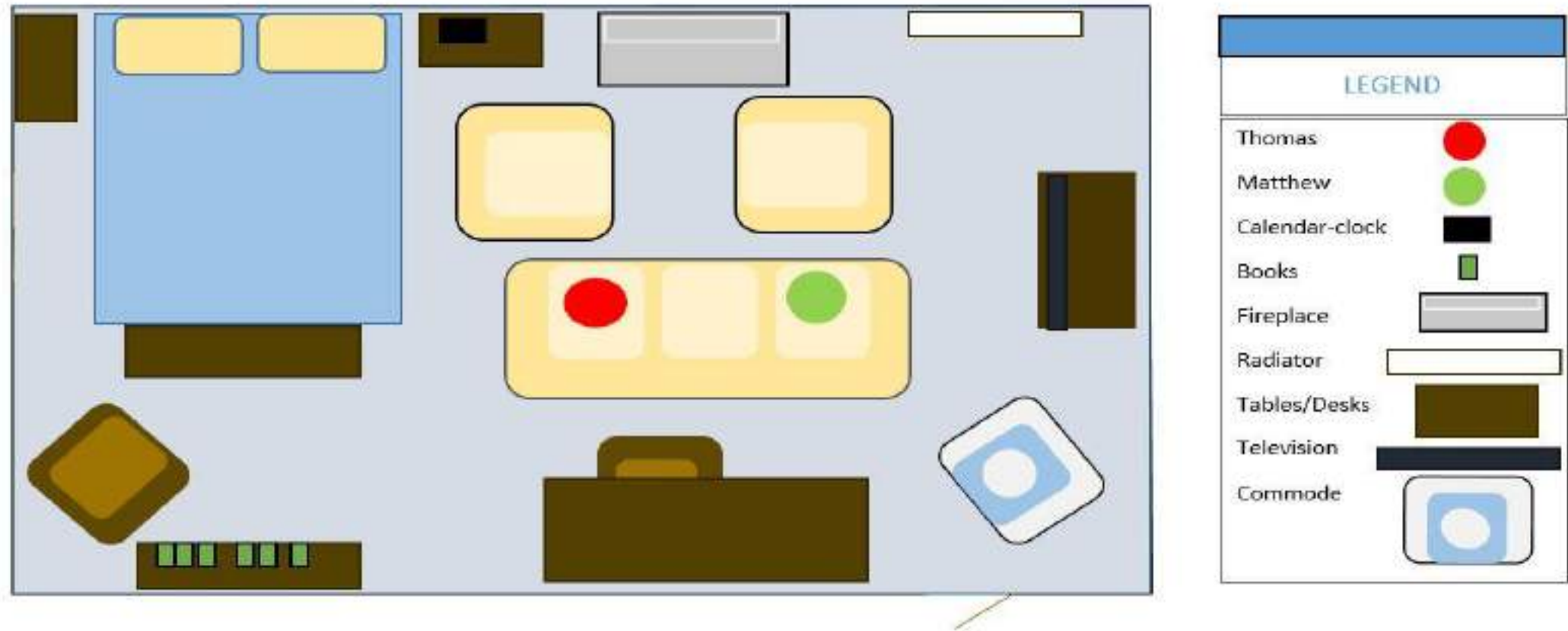


Fig. 2 Map of Violet Draper's sitting room from January 2016 visit

AT equipment-dominated: Sitting room as institution

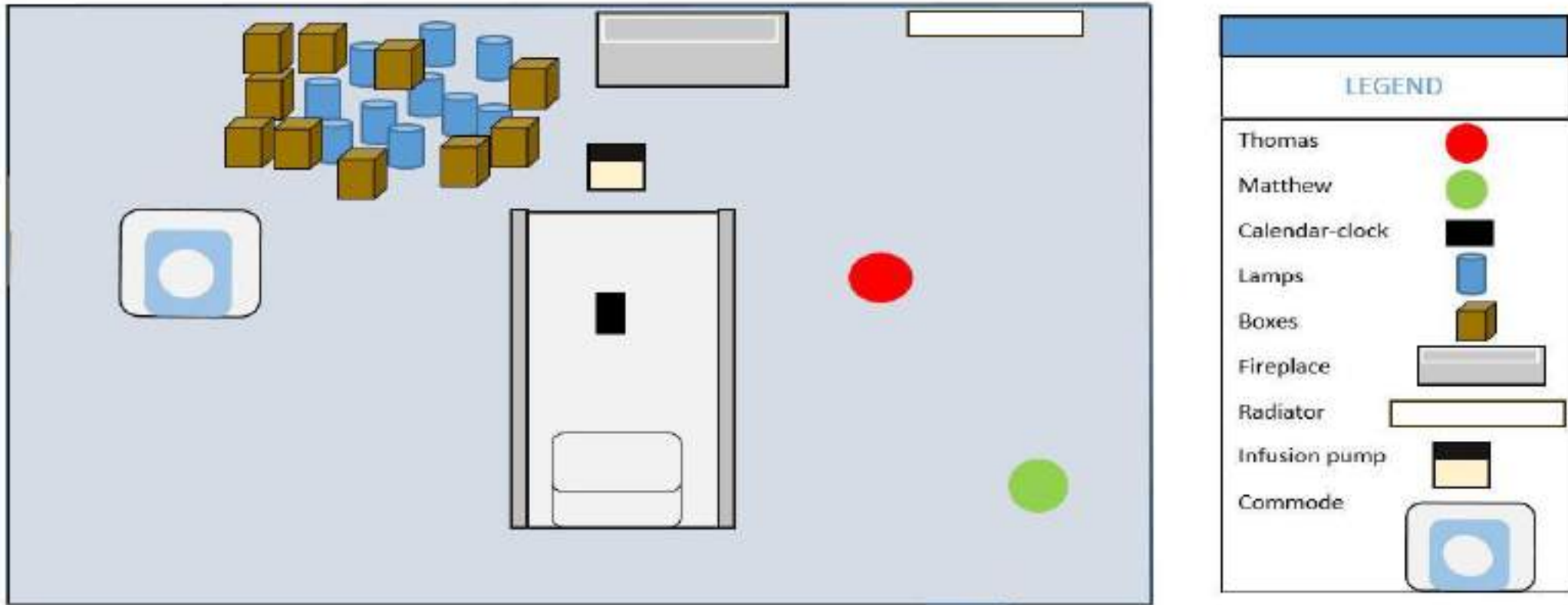


Fig. 3 Map of Violet Draper's sitting room from April 2016 visit

Care practices went from being co-located, face to face interactions to displaced and mediated through apps, screens.

Other care practices (e.g. personal care), which may have a greater impact on dignity and wellbeing, rendered invisible.

Carers reconfigured the home to meet shifting care needs of person with dementia. Participants had to continuously make ATT 'fit' in domestic places and routines.

Findings problematise 'living independently in the community'. Participants with dementia rarely left their homes due to carers' perception of risks and social isolation.

Many investigated technology (i.e., telecare systems) required people to be close to a base unit at home; risk-management of people with dementia through ATT may unintentionally confine them.

Current tech for people with dementia may disrupt people's sense of place, relationships, and ties to wider community.

Future technology needs to ensure that it attends to all aspects of the "The Four Cornerstone Model" (Joseph Rowntree Foundation, 2012).

Move beyond risk-management technology; explore how technology can enhance connections, not diminish them.

Thanks for your attention.

Dr Matthew Lariviere
Centre for Research in Health and Social Care
School for Policy Studies
University of Bristol



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matthew.lariviere@bristol.ac.uk

I would like to thank members of the ATTILA and ACCOMMODATE teams for their support with the study.

I gratefully acknowledge the National Institute of Health Research (UK) and the University of East Anglia for their support.



The SoCaTel platform: Digital co-creation from a human-centricity approach

IDIH's Stakeholders Event (on-line meeting)
February 3rd , 2022 (14.00h-15:30h CET)



COORD: Dr. Blanca Deusdad Ayala
Institution: URV



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant Agreement No 769975.





WHAT IS SOCATEL?

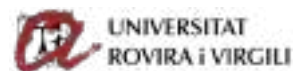
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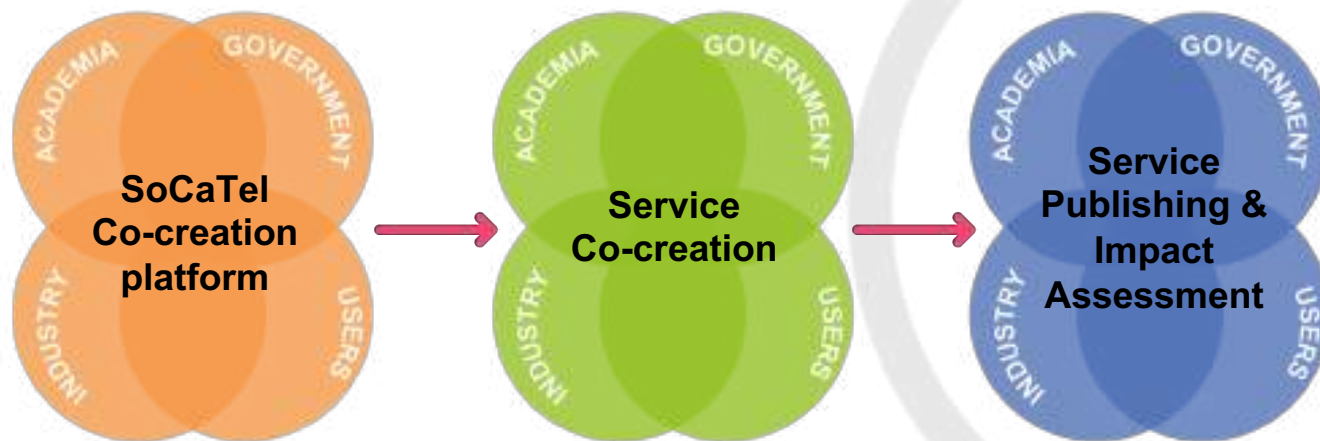
SOCATEL partners

SoCaTel partners

Members of the SoCaTel Project



What is SoCaTel?





WHAT IS SOCATEL's HUMAN-CENTRIC APPROACH?

4 pilot sites and twinning

Quadruple Helix
(Carayannis & Campbell, 2009)

SOCATEL
Co-creating for a better life

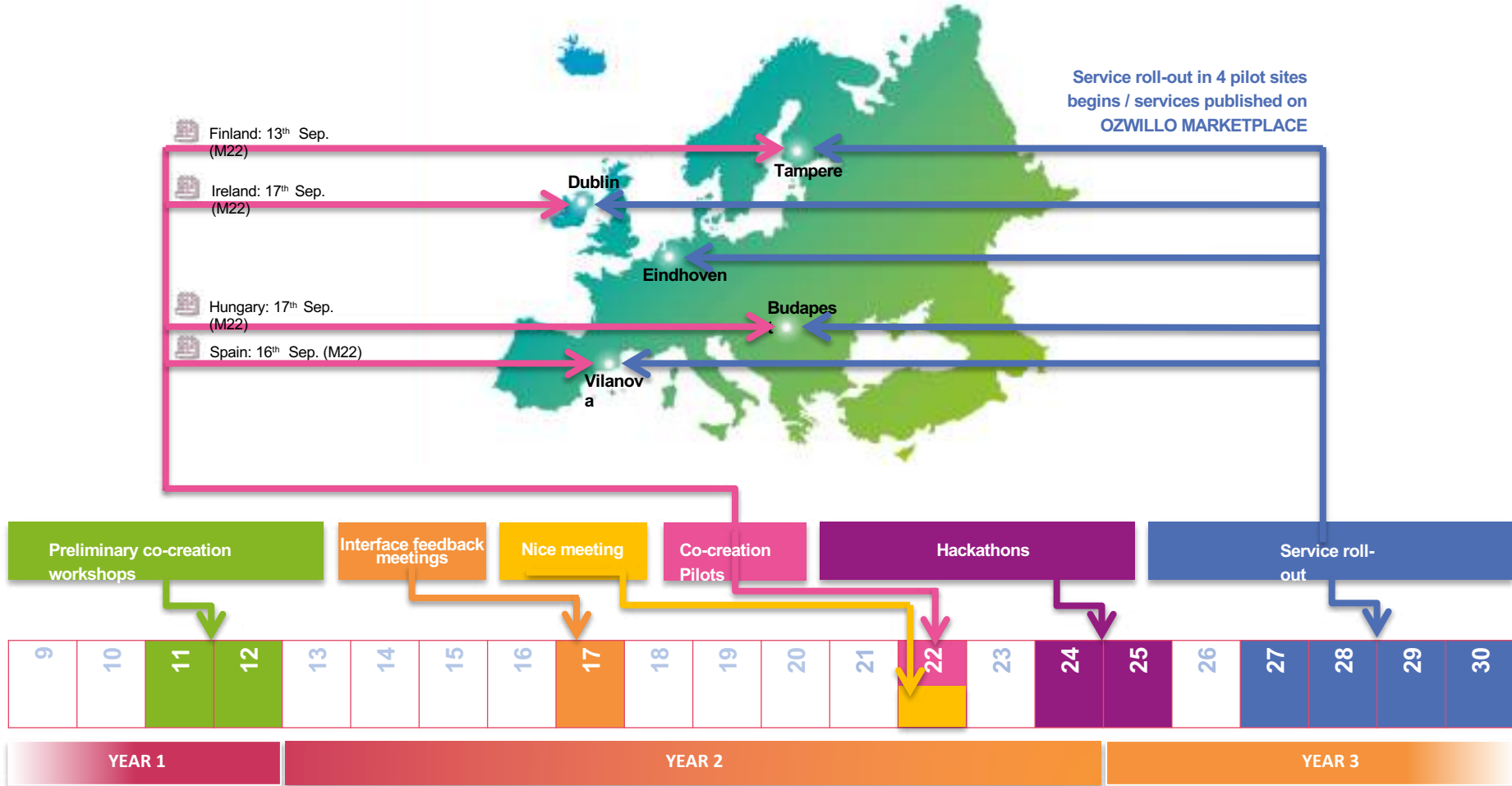


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UNIVERSITAT ROVIRA I VIRGILI

Methodology implemented



SoCaTel co-creation platform



SoCaTel added value in a context of pandemic

IDENTITY CARD

MODERATOR



Moderators are internally sourced or independently contracted by, and accountable to, platform proprietors. They have access to specialist accounts to facilitate their role function which is to moderate or control participants' online behaviour. Moderators are required to have technical, ICT and legal expertise in line with their role function and in order to provide assistance to participants however, the Moderator does not participate in online co-creation conversations.

Duties include:

- Verifying user profiles
- Liaising with the Facilitator
- Removing duplicate content
- Deleting content / messages
- Sending Spam warning messages
- Banning / unbanning users
- Permanently de-activating accounts

IDENTITY CARD

FACILITATOR



Facilitators are internally sourced or independently contracted by, and accountable to, platform proprietors. They have access to specialist accounts to support their role function which is to facilitate the online co-creation process. Facilitators are required to have extensive experience of co-creation methodologies and their online configuration, ICT and group facilitation skills, and a good working knowledge of topics submitted for co-creation for example Long Term Care care services. Ideally a Facilitator will have strong links to a wider network of relevant stakeholders including policy makers from which they can mobilise support. The facilitator is an active participant in online co-creation conversations and liaises closely with the Moderator to maintain online standards.

Duties include:

- Knowledge Base search / screen
- Signposting information on services
- Topic justification
- Inviting and encouraging active participation by multi-stakeholder group
- Supporting / clarifying / correcting co-creation processes and conversations
- Matching evidence to, and summarizing, ideas and comments
- Managing time frames and moving the process between steps
- Decision making as to overall fidelity of the co-creation structure, process, outcome
- Reporting inappropriate behaviour / content to Moderator

Twinning Programmes

Planning

Funding

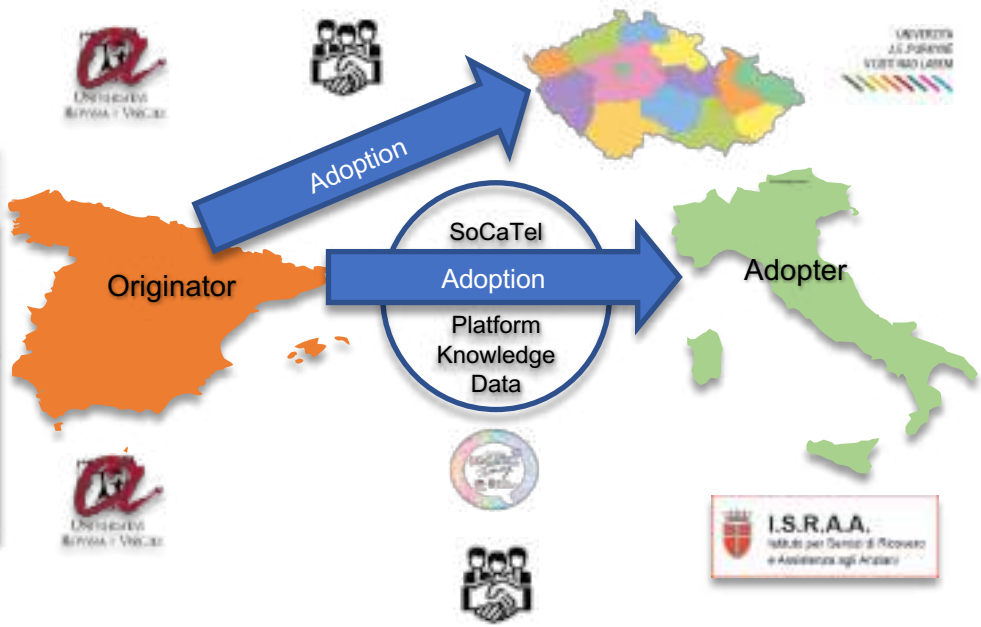
Deploy

Goal of Twinning: Support scaling-up of digital health and care solutions across Europe. Twinning includes transfer of knowledge, training, and digital skills, as well as partial or full adoption of the solution



Rovira I Virgili University

The URV a public University member of the Catalan Government. A modern public higher education institution with a widely providing teaching and research on the international stage



Innovation Center Usteckého Kraje

ICUK is a key systemic institution-building regional innovation ecosystem and directly contributes to the economic transformation for the Usti region

ISRAA

Public service provider based in the northeast of Italy. As a service provider for older adults, ISRAA intends to adopt the SoCaTel platform and create new LTC services





**TAKE A BROWSE ON
SoCaTel PLATFORM**



**WHO ARE THE
BENEFICIARIES OF THE
SOCATEL HUMAN-
CENTRIC APPROACH?**

Why the need for a SoCaTel platform?

- 🗨️ Current practices are not meeting all people's needs;
- 🗨️ The right tool to support a social service reform;
- 🗨️ SoCaTel's approach to digital co-creation benefits all stakeholders;
- 🗨️ Cost-efficient in long-term care services.



The benefits of using SoCaTel

The benefits of SOCATEL

- Inclusive:**
involving all stakeholders, especially service users
- Cost-efficient:**
digital co-creation eliminates the need for travel; targeted services co-created by stakeholders make better use of resources
- Open-source and modular:**
any organisation can adopt the entire platform or individual modules for free. Licence: APACHE 2.0 - github.com/SoCaTel
- Open access:**
most of SoCaTel's work process and outcomes are available to the public: www.socatel.eu/category/publications
- Compliant with data protection regulations:**
SoCaTel protects participants' privacy in full compliance with GDPR:
www.socatel.eu/wp-content/uploads/2020/04/SoCaTel-D7.5.pdf

Is your organisation interested in co-creation and/or the SOCATEL platform? Get started with these resources:

- Download the SoCaTel platform:** github.com/SoCaTel
Technical support and co-creation facilitator training (fee-based):
 - UP2SMART (www.up2smart.com/ / up2smart@gmail.com),
 - CyRIC (www.cyric.eu/ / info@cyric.eu)
 - or Ozwillo (www.ozwillo.com/ / contact@ozwillo.org).Companies dedicated to encouraging the uptake of SoCaTel by public administrations across Europe.
- Co-creation techniques (D1.3 Co-creation Manual):**
www.socatel.eu/wp-content/uploads/2020/10/SoCaTel-D1.3_Co-creation-manual.pdf
- Do's and don't's for co-creating on the SoCaTel platform:**
www.socatel.eu/wp-content/uploads/2021/06/D6-4.pdf
www.socatel.eu/wp-content/uploads/2021/06/D7.3.pdf
- Spread the word about digital co-creation within your networks:**
massive open online course: www.socatel.eu/mooc
- How to be a digital co-creation facilitator:**
www.socatel.eu/moderator-facilitator-2/





WHAT ARE SOCATEL'S LESSONS LEARNT?

WHAT ARE SoCaTeL'S LESSONS LEARNT?

- 🗨️ To build an 'ecosystem of stakeholders' community engagement and participation prior to co-creation and post-project;
- 🗨️ Stakeholders' participation in co-creation of LTC services ensures real citizens' needs are met in a cost/efficient way;
- 🗨️ Service suppliers, entrepreneurs and possible software developers should be engaged.
This could be incentivised: facilitator or local authorities (managers) finding synergies amongst local actors.





**WHAT IS SOCATEL ADDED
VALUE?**

SoCaTel added value in a context of pandemic

- The pandemic has put in evidence in all Europe the poor health and living conditions in nursing homes systems;
- Digital co-creation has become and can be crucial in a pandemic, as an easy way to connect with a large range of stakeholders;
- To solve new emerging needs in an agile and fast manner being able to co-create on-line long-term care services from home;
- Having the potential to create a ‘virtual community’.



For more information



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Rovira i Virgili University
(Tarragona, Spain)

Visit and contact us at www.socatel.eu

<https://www.socatel.eu/leaflets/>



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Co-creating for a better life



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socatel.cocreation



@socatelproject



www.socatel.eu

EncourAGE, The Community Health System that increases our citizens' Healthspan



*The users' perspective to tackle Social Isolation and inactivity.
A hinge strategy to create a user centric community system
in which local councils and care providers are actors, not owners !*

Nanno van der Laan
IDIH Stakeholders' Online Event on 3 February 2022:

Digital Health for Active and Healthy Ageing. Addressing the needs of users



Community care **EncourAGE behaviour change** Active Aging “How-to” [strategy] **Prevention** Fall detection
healthy life expectancy [HLE+5] user empowerment **Frail people** Health and Social care convergence **Social Isolation**



We're on a mission to prevent or break social isolation & tackle inactivity.

**We've developed a digital suite of products and services,
targeting the ageing market segments
with a range of PREVENTIVE care solutions aimed at improving quality of life of our citizens.**

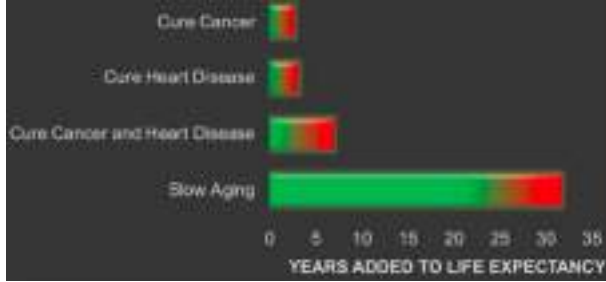
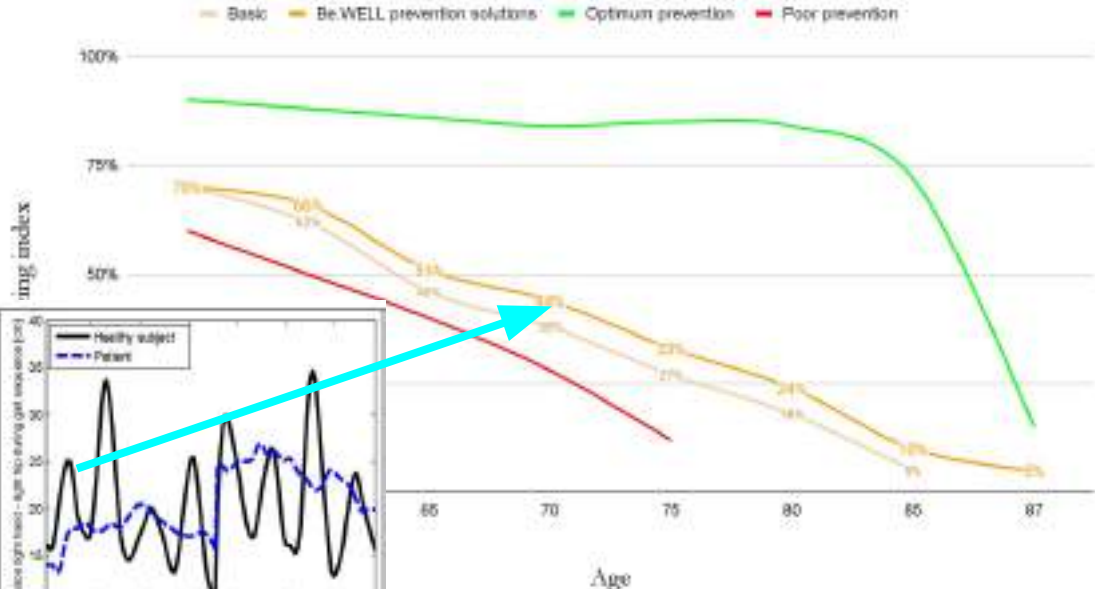


CareWatch | Voice App | SMS/messaging | Dashboard | Mobile Apps | Questionnaire Q&A | Drink**WELL** | Harmony Health: Decision support



Moving away from a mindset fixed on risks & disease management

indicative impact of Be.WELL preventive lifestyle on wellbeing



Goal is to **add five years to healthy life expectancy [HLE+5]**, aka provide extra years of a healthy life.

What must be done:

Slow ageing by improving the physical & mental capabilities of our citizens.

How to do this

Deploy and **foster open community systems**



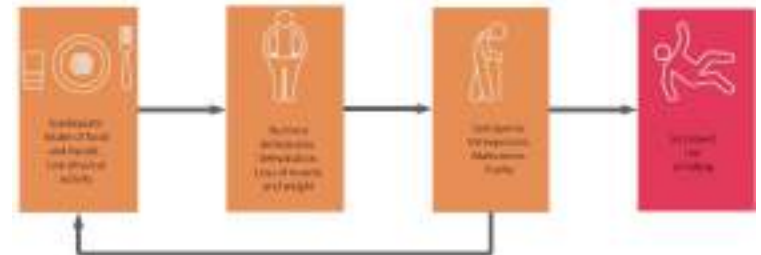
An integrated approach to reduce frailty (and ultimately lower the fall risks)



Interconnected solutions potentially offer the most effective means to slow aging & reduce frailty. But that's the IT/Tech perspective !

A **business process** modeling approach is a **must do** to create **efficient & successful** communities !

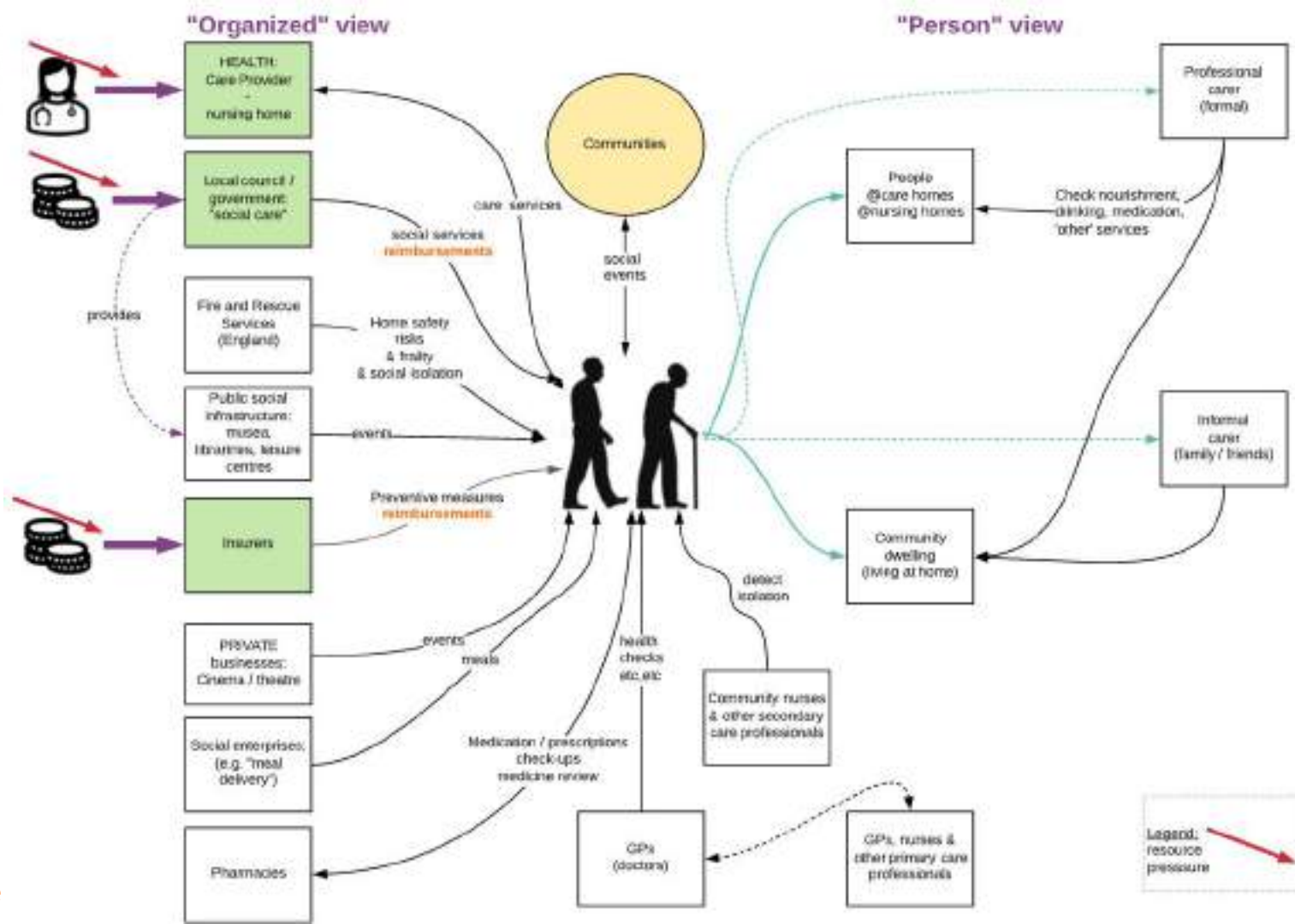
A new collaborative organization model is a **must have** to develop and run communities !



Business process re-engineering: a prerequisite to success

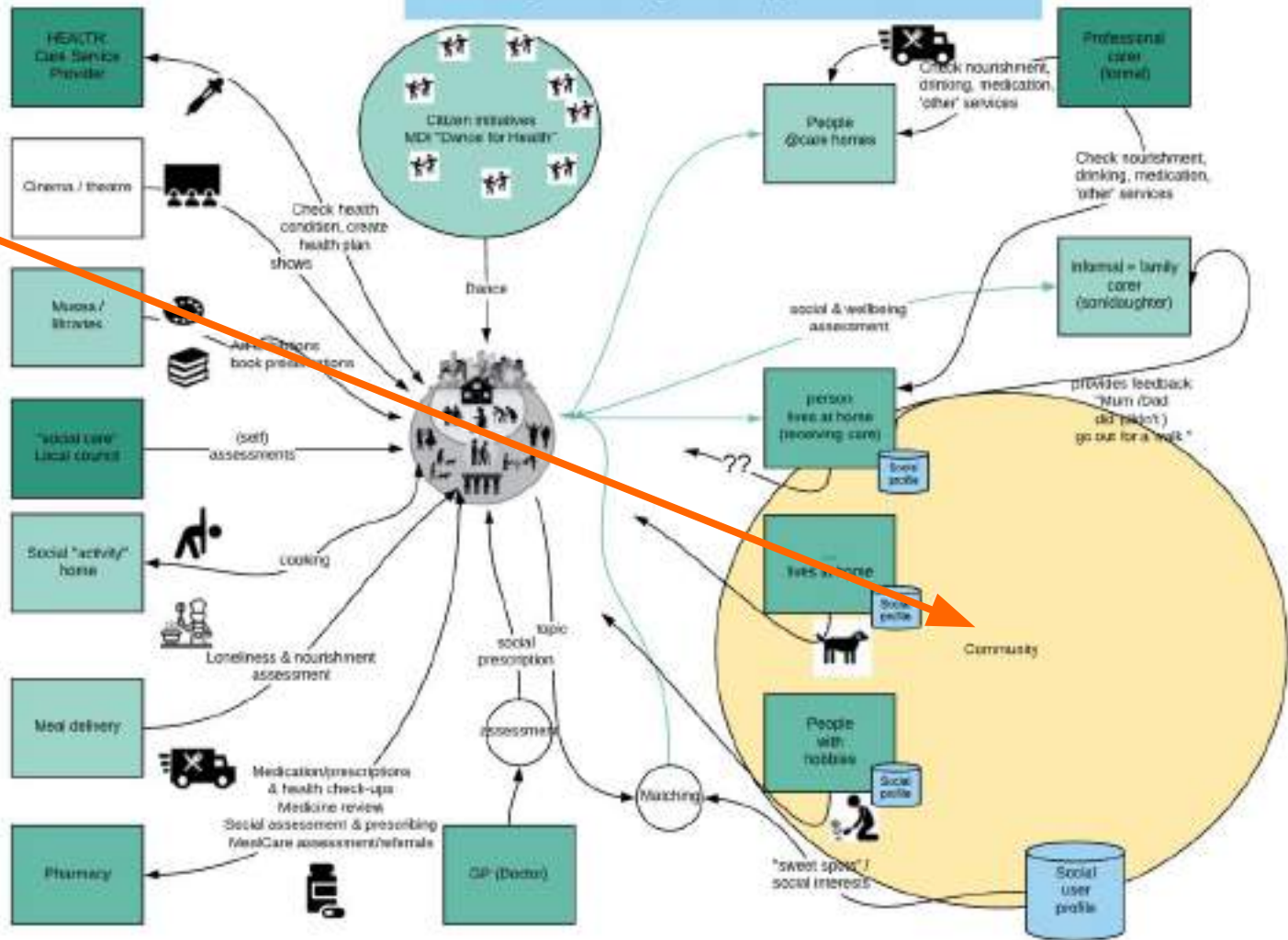
Technology, in the way we apply this in health- and social care, is by definition a solution [to a problem]; however for a system to be successful it needs to be efficient and it needs to be customer centered. Re-engineering of processes is unavoidable; but the results are very tangible benefits !

A 'simplified' High Level / context diagram



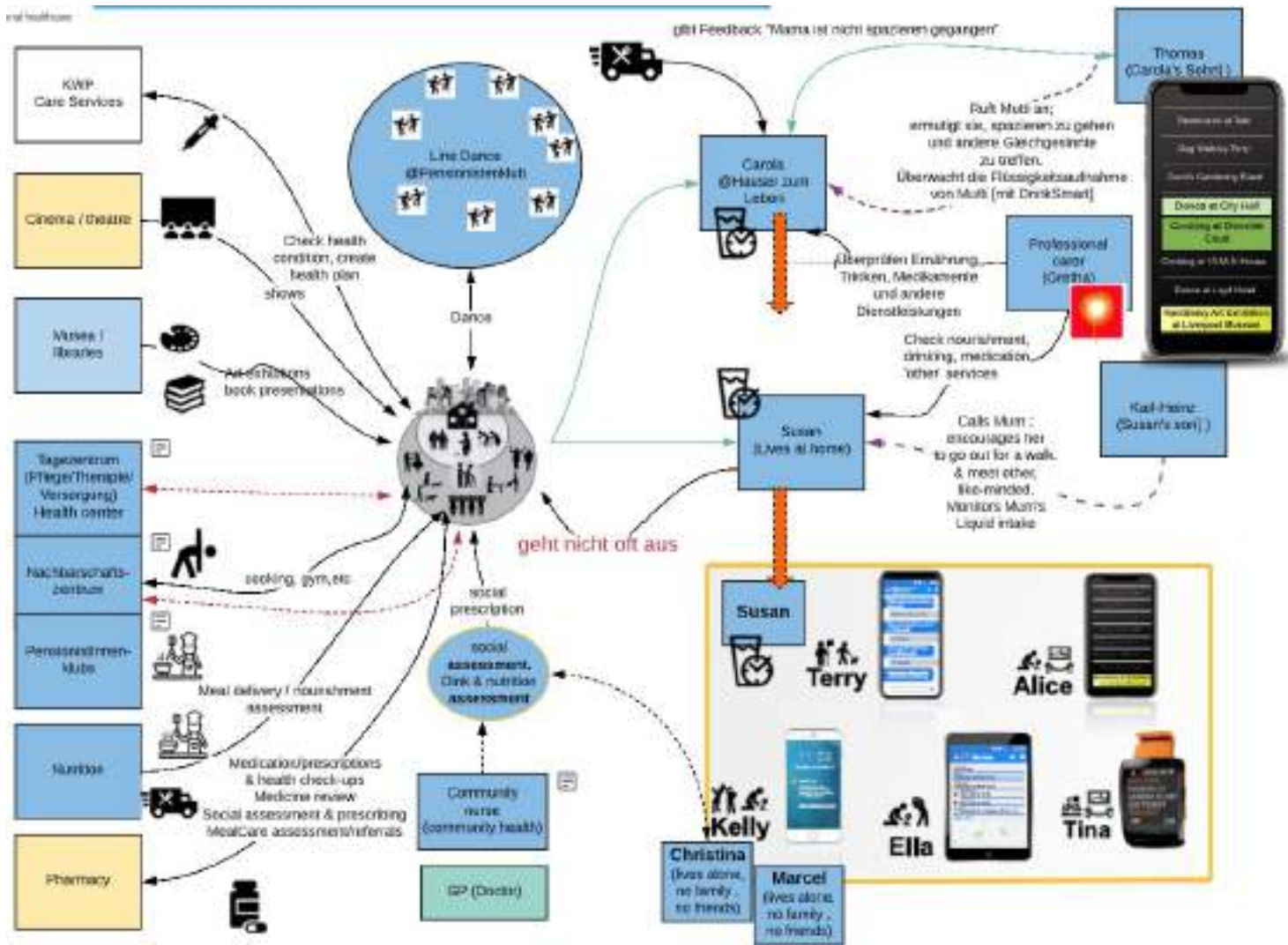
Establishing and enabling holistic approaches to health & care

'a typical community'



EncourAGE modeling exercise

The EncourAGE
 "sample" community
 implementation



A new organization model is required to develop communities

Establishing a **collaborative organization**, which is described in the **MSP[®]** methodology, facilitates the development and operation of Healthy Ageing communities.
It's an excellent guideline / framework to use.

[some] reasons to adopt a new organization model

Our common expertise applies to *established* organisations; however an “**ECOsystem**” type model requires a different, a collaborative organisation structure. Indicators are

- ❑ The existence of overlapping processes, the result of **established** organisational boundaries
- ❑ In case there is *insufficient*, or **not yet established**, *board-level* or **government or business** support
- ❑ Leadership is *weak* or is not **identified** yet or **properly defined**
- ❑ There are *unrealistic* expectations of the capacity and capability to change
- ❑ There is *inadequate* focus on benefits
- ❑ There is *no real* picture of the future capability
- ❑ The organizations *fail* to change the culture;
 - ❑ **which [culture]** has to change needs to be identified and addressed
- ❑ There is a *poorly defined* or poorly communicated vision
- ❑ There is *absent* or *not enough* engagement of stakeholders.

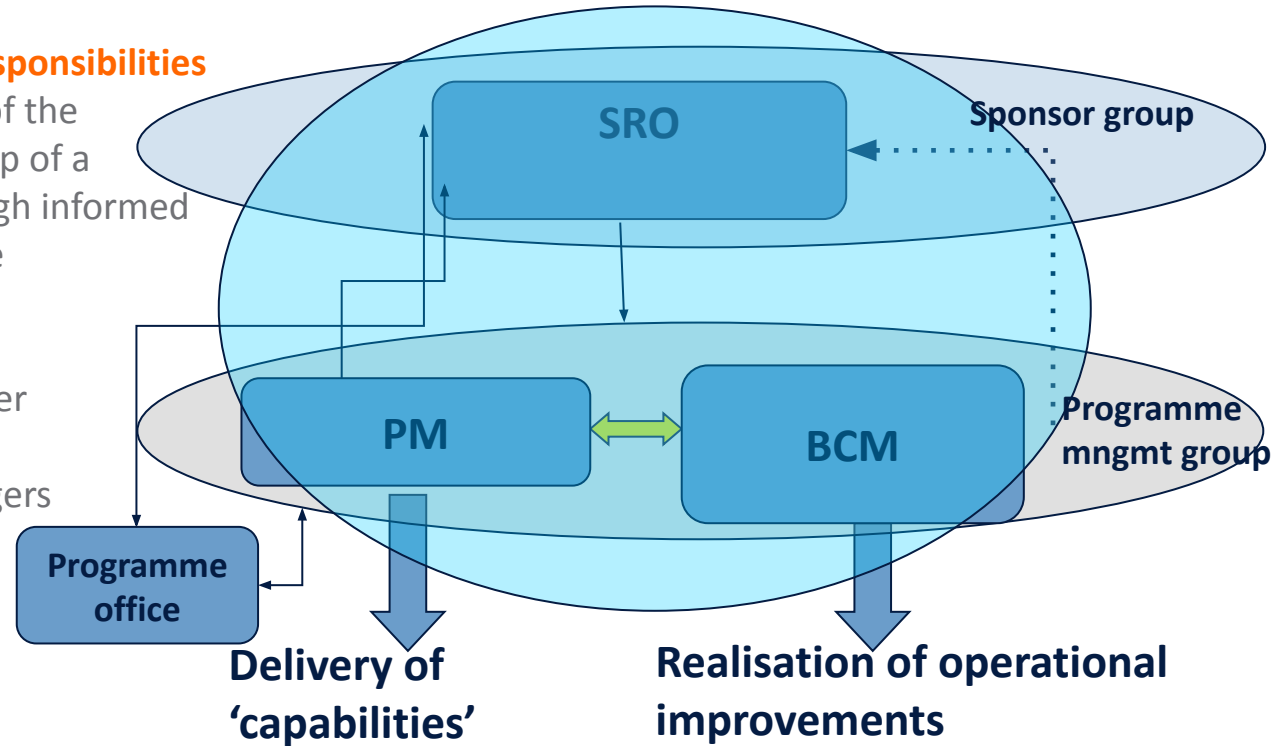
[MSP®] Program management structure

❑ **MSP defines the roles and responsibilities**

of all who need to form part of the leadership. Effective leadership of a programme is achieved through informed decision-making and a flexible management regime.

❑ **The key roles involved are:**

- ❑ SRO: Senior Responsible Owner
- ❑ SG: Sponsor Group
- ❑ BCM: Business Change Managers
- ❑ PM: Programme Manager
- ❑ PO: Program Office



SRO [Senior responsible owner]

Ultimately responsible for successful delivery of benefits.

Owner of the vision. Leadership & accountability. Funding & budget.

Overall governance. Interfaces with key stakeholders.

Program manager

Set up, manage and implement the program. Responsible for delivery of 'capabilities'

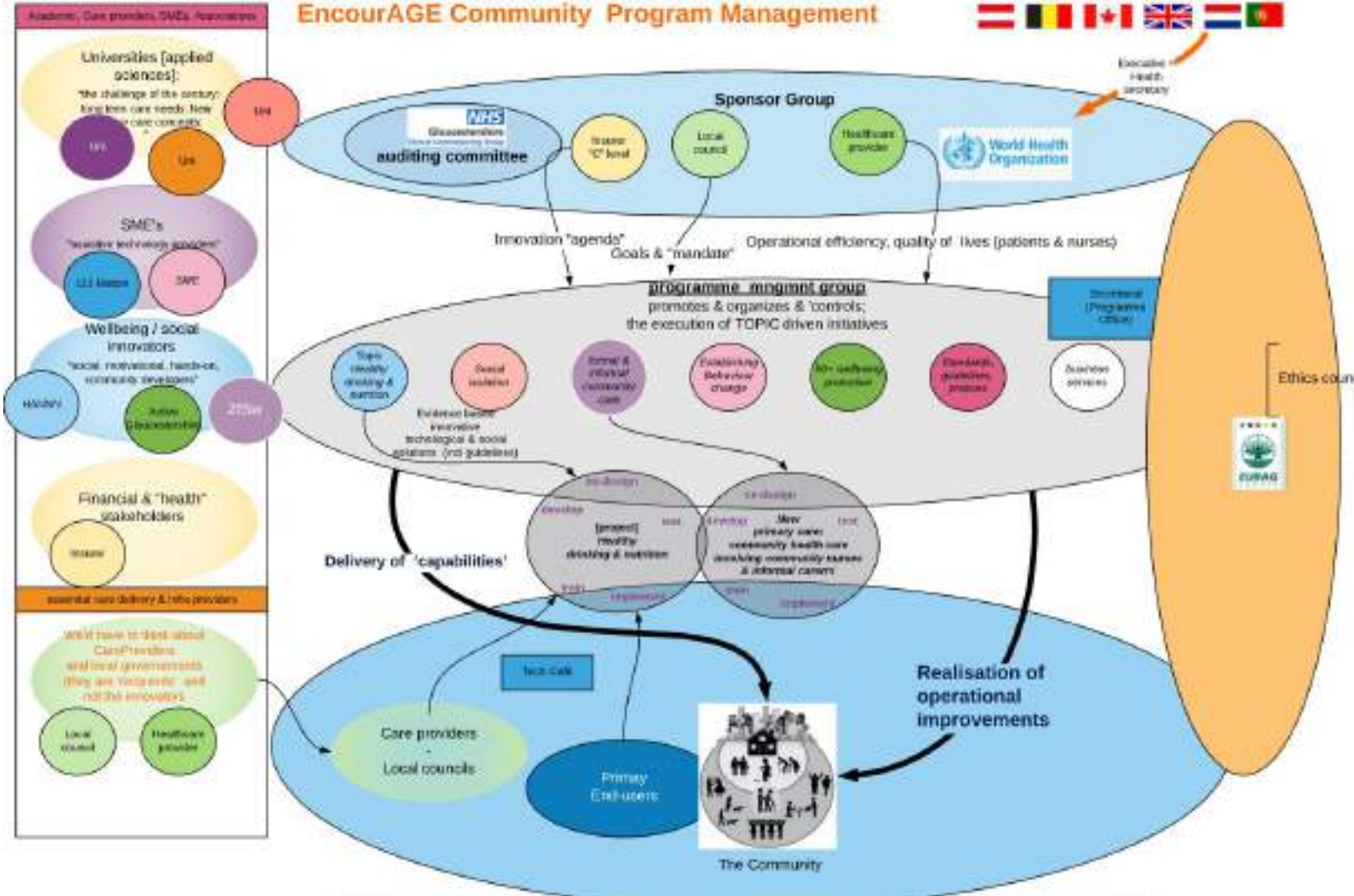
Business change manager (change agent)

Responsible for 'benefits' management, from identification to delivery and delivery, which ensures that improvements in the organization are 'embedded' (= main responsibility !).

EncourageAGE Community Program Management



Organizing & managing



EncourAGE provides the digital community infrastructure connecting elderly with carers, family and friends, councils and (local) businesses. It creates a new social, motivational, ECOsystem supporting everyday lives



We work with partners that have the vision, drive, energy, skills, endurance and belief in developing community type ECOsystems (looking beyond “point” solutions (like mobile apps))

With our partners, we

- ★ co-Design new, integrated, care services:
 - Tackle Hydration: Drink**WELL**
 - meal delivery => meal**CARE**
 - Pharmacy => Pharma**CARE**
- ★ stimulate social integrations
 - incorporating dance initiatives



Harmony Health, the "no-code" solution to develop and run digital health communities

HEALTH DECISION SUPPORT



REAL TIME MONITORING
ONE UNIFIED DASH-BOARD



ALERTS
SMS, WORKFLOW, E-MAIL

VOICE APPLICATIONS

Fully customizable, multi-lingual.



112Motion

Smarter Healthcare

Self-activated prevention and personal healthcare



Nanno van der Laan



More information:

[EncourAGE Community IT](#)

[112Motion website](#)

[CareWatch wearable](#)

[DrinkWELL - smart cup](#)



S · A · R · C ·
Smart-Aging Research Center

Dr. Lorenz Granrath

03.02.2022

**E-VITA (EU-Japan Virtual Coach
for Smart Aging) and SARC**



Content

1. Tohoku University: Smart Aging Research Center
2. EU-Japan Project E-VITA / Digital Twin for Aging

Tohoku University

Established in 1907

Ranked 1st place for Education in Japan

The Times Higher Education University
Rankings, Japan, 2020

79th in QS Global World Ranking of Universities

Designated National University

One of only 3 in Japan, together with the
University of Tokyo and Kyoto University



Administrative staff	5,756
Undergraduates	11,094
Postgraduates	7,704
International students	1,346

**10 Faculties, 15 Graduate Schools,
6 Research Institutes**

Tohoku University **'core values'**

Research-first

Open-door

Practice-oriented

**Ranked 1st
in patents in
2019**

Notable Alumni

Tanaka Koichi – Nobel Prize in Chemistry 2002

**Toyoda Kiichiro – Founder of Toyota Motor
Corporation**



Tohoku University Hospital, Medical Megabank Organization / Katahira Campus

Institute of Development, Aging and Cancer IDAC (&SARC)

Highlights through IDAC's history	
1941	Established under Tohoku Imperial University, with a research focus on TB
1993	Became the Institute of Aging Medicine
2006	Pursuing the research goal of "Smart Aging"
2010	Certified as an "Aging Medicine Research Center" by Ministry of Education, Culture, Sports and Technology
2011	Completion of the Smart Aging Research Center Building
2017	Creation of Smart Aging Research Center (SAIRC) within IDAC

"One of the most distinguished research institutes in the world regarding brain imaging, with advanced imaging facilities and large-scale brain databases"

Major Research Divisions and Centers	
Aging Science	Cancer Science
Brain Science	Cognitive Science
Cell Resource Center for Biological Research	
Pre-Clinical Research Center	
Environmental Response Center	
>> 27 departments	



Smart Aging Research Center

Dementia prevention research, to create a **dementia-free society**

Goal: clarify the development and aging of the brain for the purpose of preventing dementia and benefit society.

Achieve: Comprehensive Scientific Prevention Program
Elucidate and prevent the onset of dementia, enhance biological defense and immune response, using genomic medicine, omics research, lifestyle-assisted monitoring and daily life activities sensors, and human cohort studies (including across generations)

The **elderly cognitive intervention program** of IDAC can reduce medical expenses by more than 180 million yen per year per 1,000 people, a world-leading achievement



One of the **World's largest brain image database**, young ~ elderly

Research divisions

Biological Defense Systems	Biopredictive Medical Research
Developmental Cognitive Neuroscience	Socio-economimic Aging Research
Human Welfare Engineering	Planning and Development

Smart Aging College (Tokyo) - joined with **52 major companies** nationally, to bring results from science to society

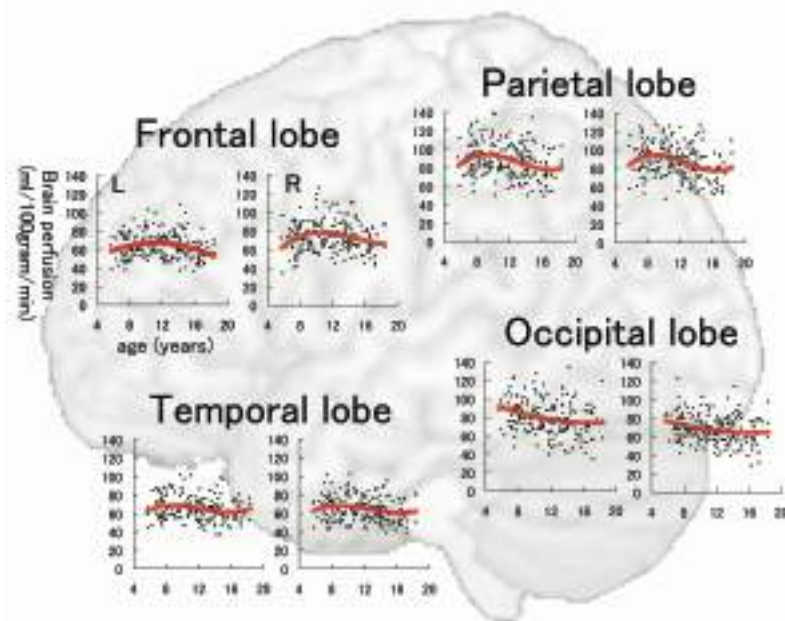
Major Awards Received

Development of Cognitive Intervention	Prof Kawashima: MEXT Award, 62 nd Kahoku Cultural Award, Minister Internal Affairs and Communication Award, 34 th Inoue Harushige Award
Cognitive Science	Prof Sugiura: MEXT Young Researcher Award
Technology development for early diagnosis of cognitive diseases	Prof Arai: Japan Society for Cognitive Diseases Award, American Society of Nuclear Medicine Molecular Imaging Society: Image of the Year
Large brain database	Prof Taki: Gold Award at Japan Radiological Society General Assembly ('08, '09)

Competence: human brain development study

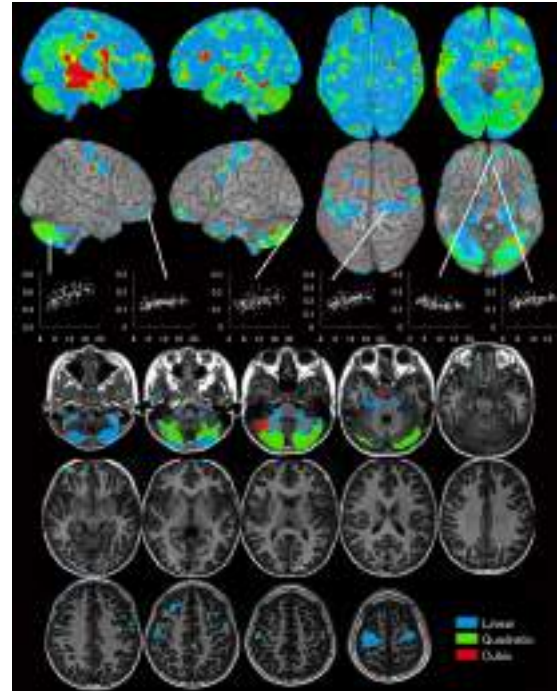
We revealed how the human brain develops & factors affecting brain development

Brain's physiology: correlation between brain perfusion and age in children



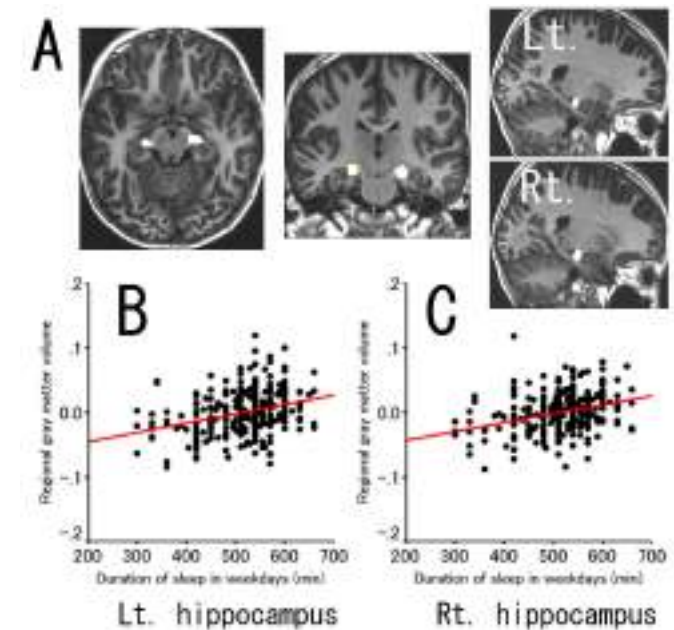
Taki, *et al*, Human Brain Mapping, 2011

Brain's cognitive resource: correlation between gray matter volume/age in children



Taki, *et al*, Human Brain Mapping, 2013a

Brain's memory: correlation between sleep duration and hippocampal volume

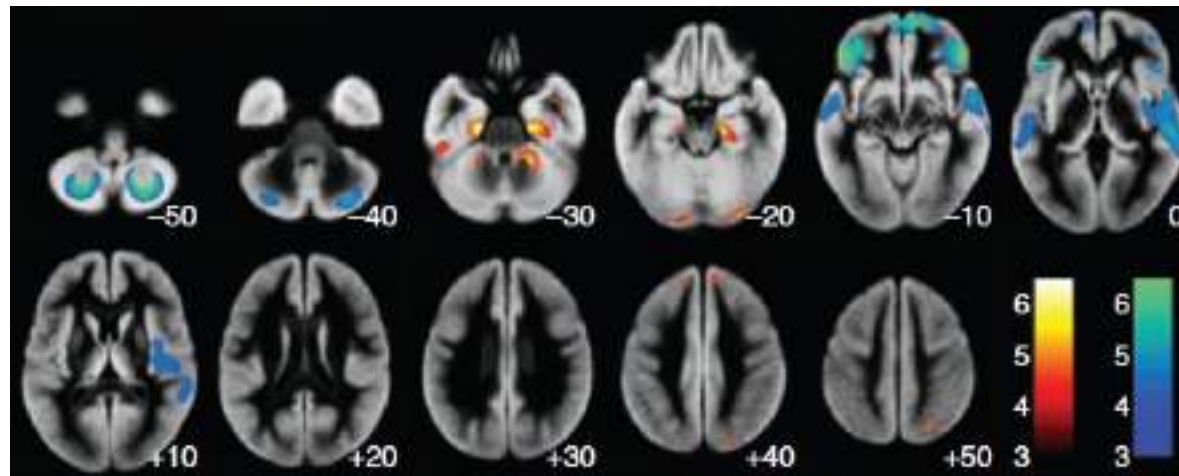


Taki *et al.*, NeuroImage, 2012

SARC competence: human brain study for dementia

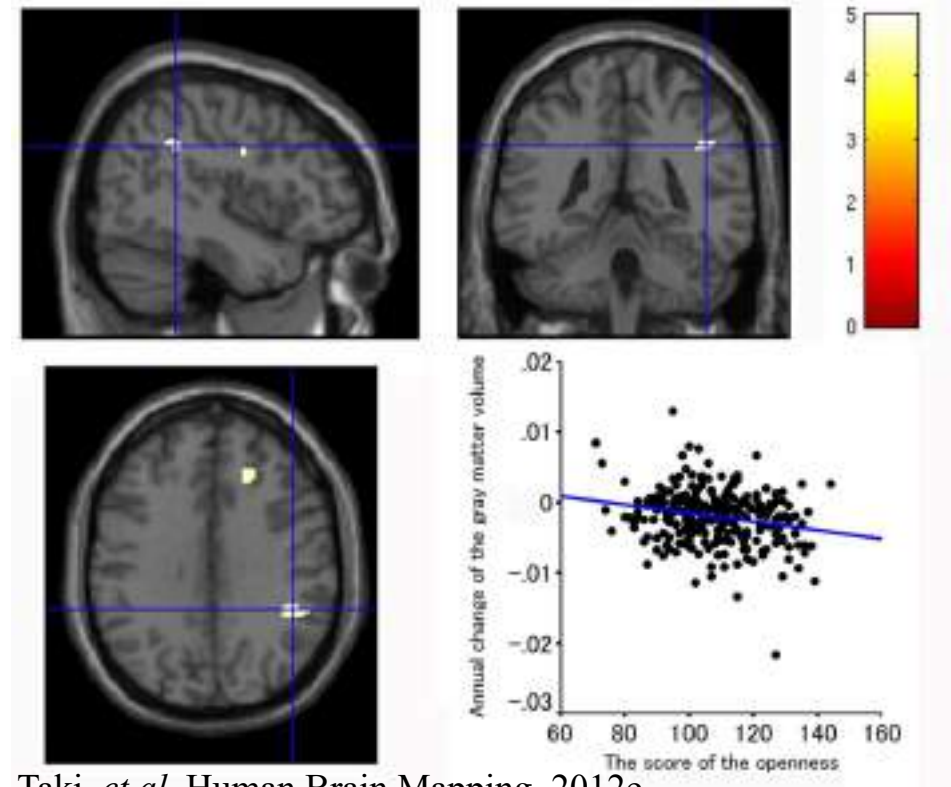
We have revealed how the human brain ages and **what factors affect brain aging.**

Correlation between gray matter volume and **body mass index**



Taki *et al.*, Obesity, 2008

Correlation between gray matter volume and **intellectual curiosity**



Taki, *et al.*, Human Brain Mapping, 2012e

Industry-academia collaboration activities



Cram School: collaborates with Tohoku University in order to gain better understanding how children's brains develop medically and scientifically.



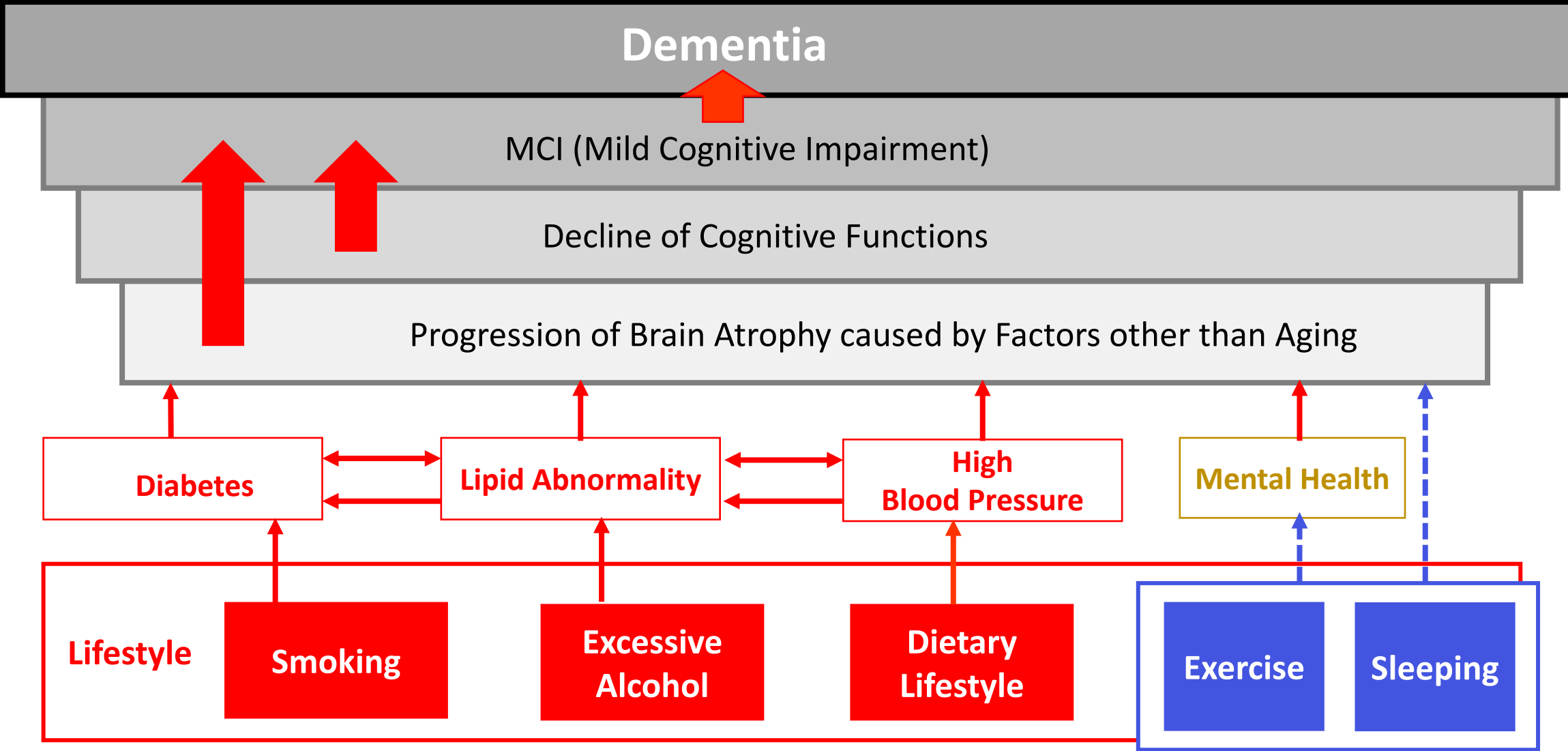
Robot Maker: test if pet-like robot LOVOT helps to maintain the cognitive function of older adults and improve the subjective well-being of children and their parents in early primary schools.

Cognitive function tests (memory, executive function, etc.) and 心 tests (subjective well-being, stress level, positive attitude, etc.) are done before and after intervention with intervention and non-intervention groups.



Tourism Company: has strengths in senior citizens and wants research on the correlation between travel and the prevention and suppression of dementia from a medical perspective, based on the hypothesis that there are changes in the brain before and after travel over a three year period.

Important: Lifestyle Improvement for Dementia Prevention



Content

1. Tohoku University: Smart Aging Research Center
2. EU-Japan Project E-VITA / Digital Twin for Aging

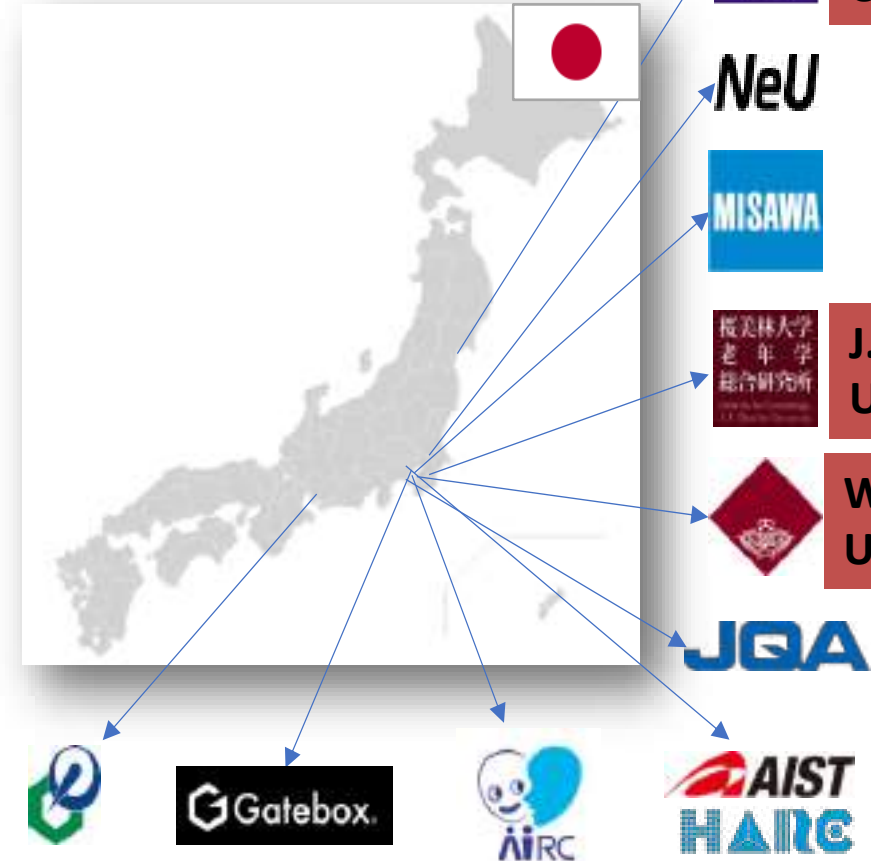
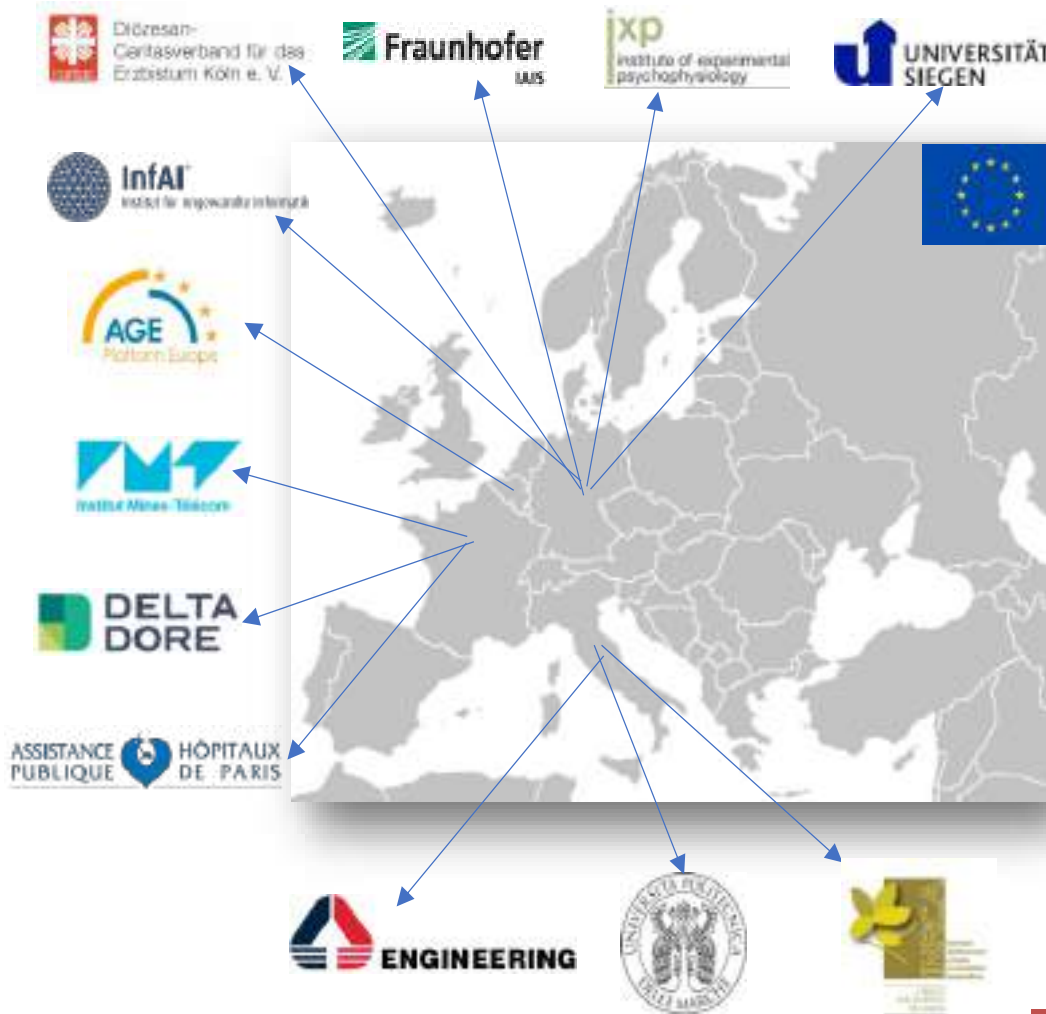


EU-JAPAN VIRTUAL COACH FOR SMART AGEING

Project Summary 2021-2023

A European (H2020) and Japanese (MIC) funded project
on Smart Living Support for the Ageing Society

EU-Japan Project e-VITA



National Center for Geriatrics and Gerontology

Project - Objectives

Socio-Technical System with Robots, Smart Devices and Trustworthy AI



- ▶ **Objective 1:** Develop a set of standards and norms for interoperability of advanced IoT, NLP and AI based smart living technology in Europe and Japan
- ▶ **Objective 2:** Develop an advanced intercultural virtual coach with seamless integration of smart living technologies, advanced AI and tailored dialogue interaction
- ▶ **Objective 3:** Enable smart living support and tailored AHA interventions for physical, cognitive, emotional, and social wellbeing of older adults in real-life settings in Europe & Japan
- ▶ **Objective 4:** Propose and design practice-based ICT tools to empower older adults to experience ageing as a positive process and meaningful period of life
- ▶ **Objective 5:** Conduct a proof of concept study to assess user acceptance in real-life environments from different countries and cultural backgrounds (EU/JP)
- ▶ **Objective 6:** Explore the feasibility of a new ecosystem for disruptive innovations of AHA coaching and incubation of SMEs and NGOs in Europe and Japan

Needs-based approach

Target variable well-being



Autonomy

»I can do what I want the way I want it«



Security

»I'm safe from threats and uncertainties«



Competence

»I'm good in what I do«



Stimulation

»I was experiencing new activities«



Relatedness

»I feel close to the people I care about«



Physicalness

»That my body was getting just what it needed«



Popularity

»I have impact on what others do«



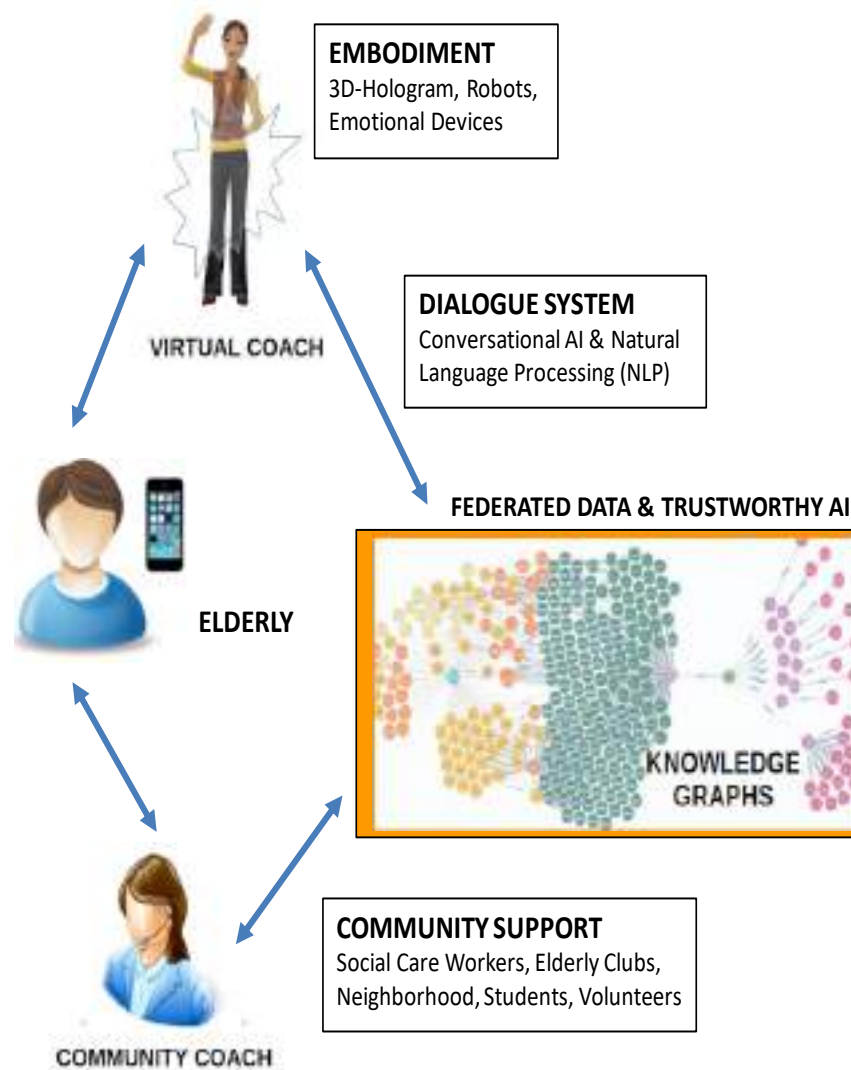
Meaning

»I feel a sense of deeper purpose in life«

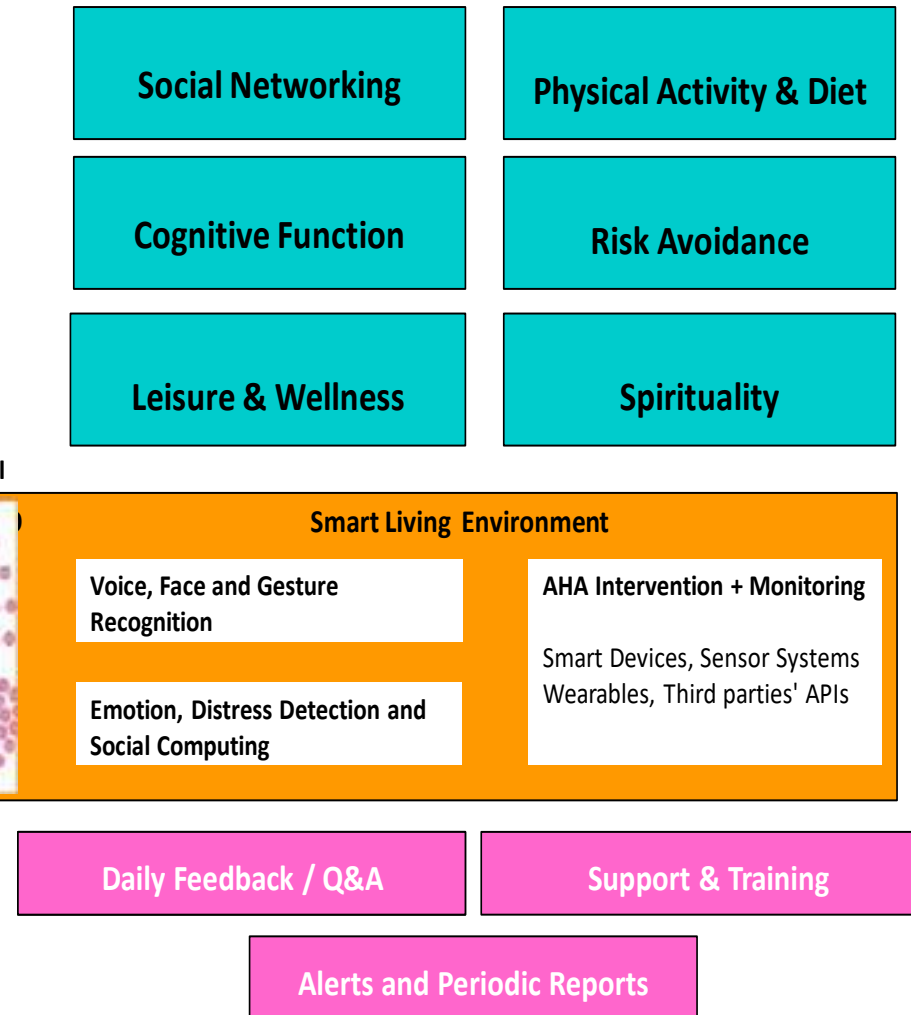
System Overview



USER, AGENTS & ACTORS

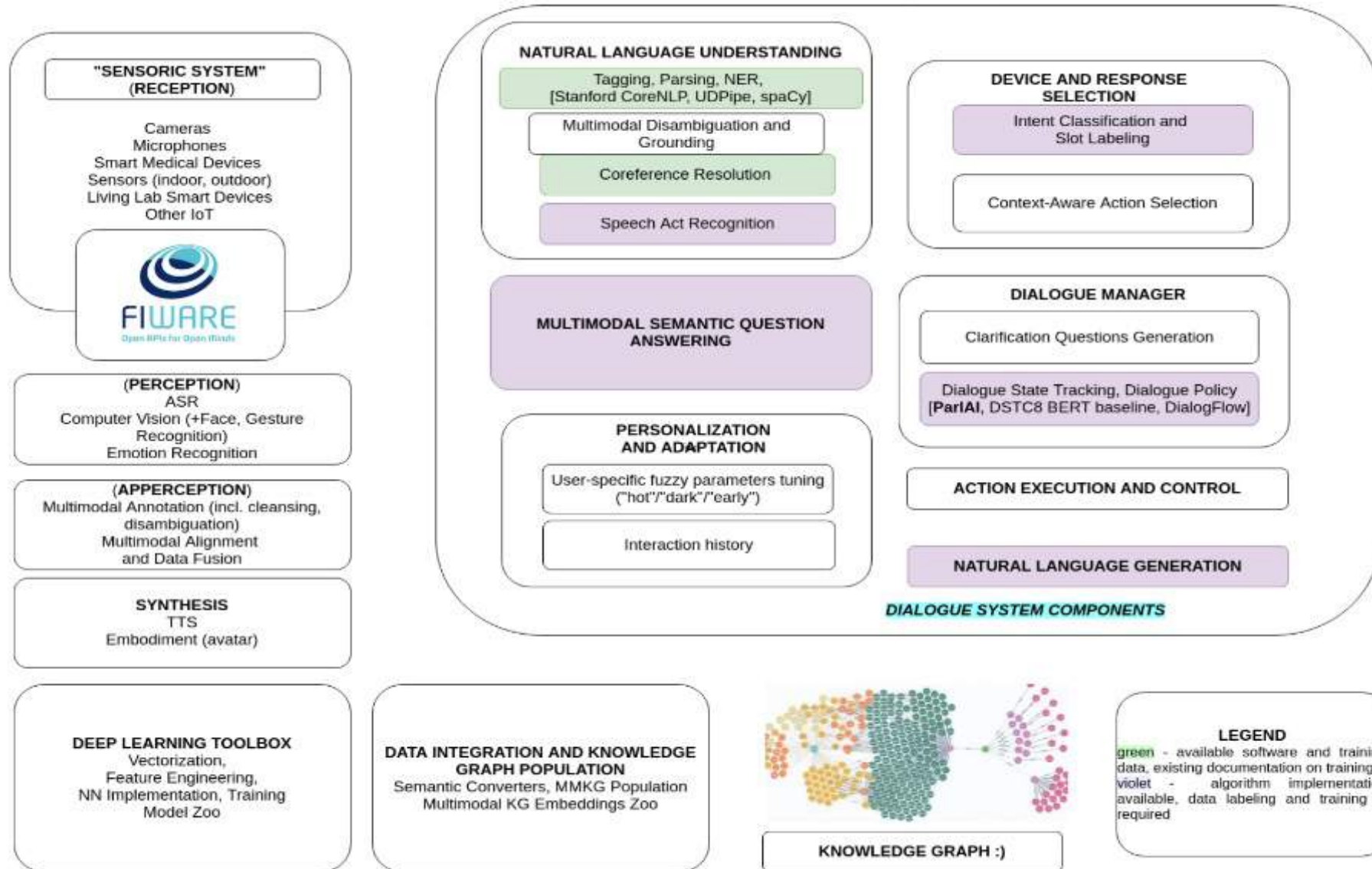


FUNCTIONALITY (AREAS OF SUPPORT)



Smart and Natural Interaction

Knowledge graphs, Conversational AI & Machine Learning

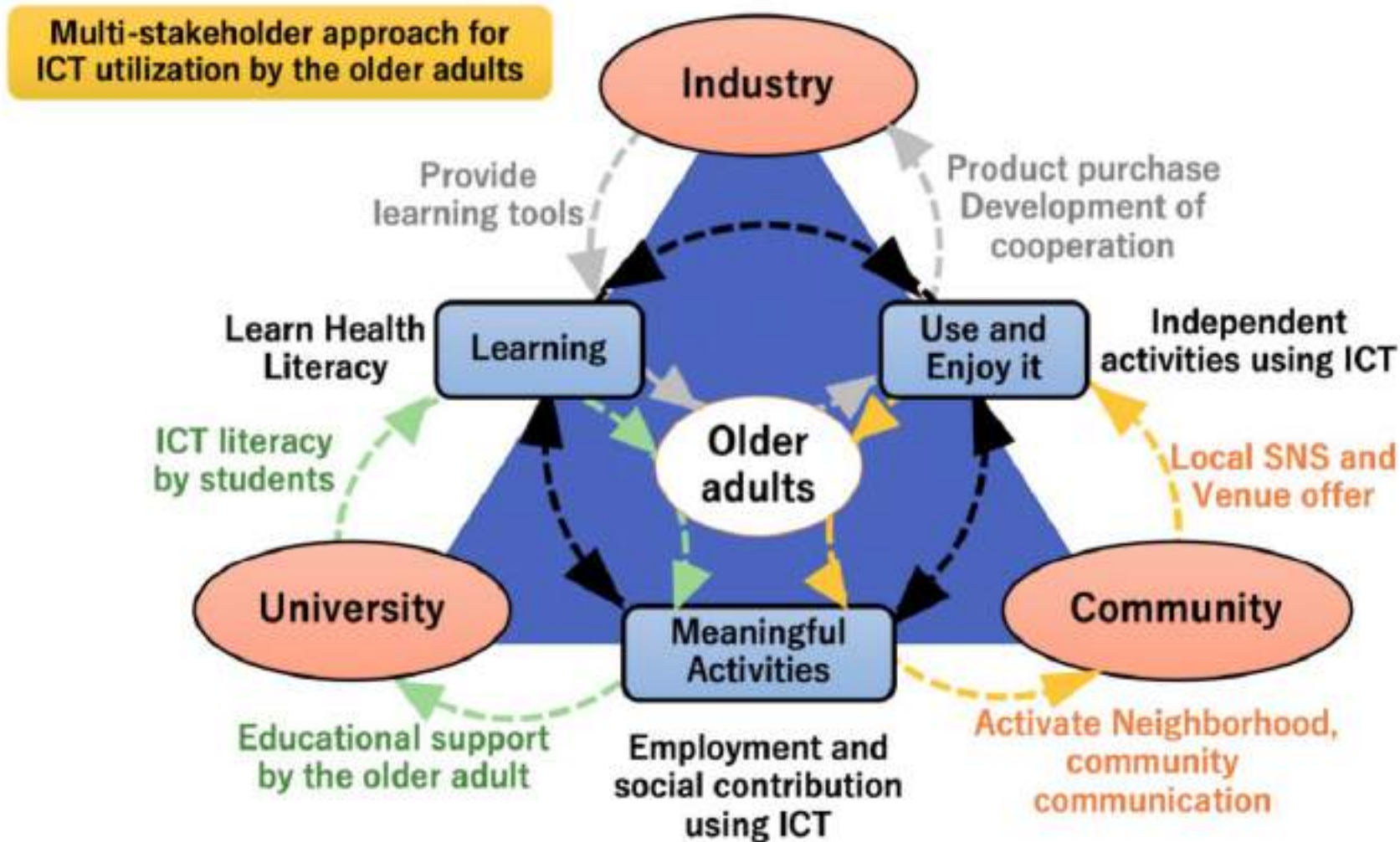


Intelligent Devices



Social Engagement

Local actors & communities



Project Impact

Societies, science, industry and health



- Independent living, and improved quality of life of older persons compared to the current State of the Art
- Usefulness and effectiveness of personalized recommendations and follow-up in terms of goals of preserving physical, cognitive, mental and social wellbeing for as long as possible
- Evidence of user-centred design and innovation, effective ways of human computer interaction, and user acceptance
- Fostering social participation and reducing social exclusion's risks of older adults
- Validation of non-obtrusive technology for physical, cognitive, social and mental wellbeing
- Strengthened international cooperation in research and innovation on Smart Living for AHA

Thank you very much!

Design and Evaluation of Age Friendly Digital Solutions

Addressing Implementation and Methodological Challenges

Jie Wang

Vice President of S2HC-CAGG

Outline

- 1. The Age Related Digital Divide**
- 2. The Initiatives in China**
- 3. Rethink 'Age Friendliness'**
- 4. A Framework**
- 5. Conclusions**

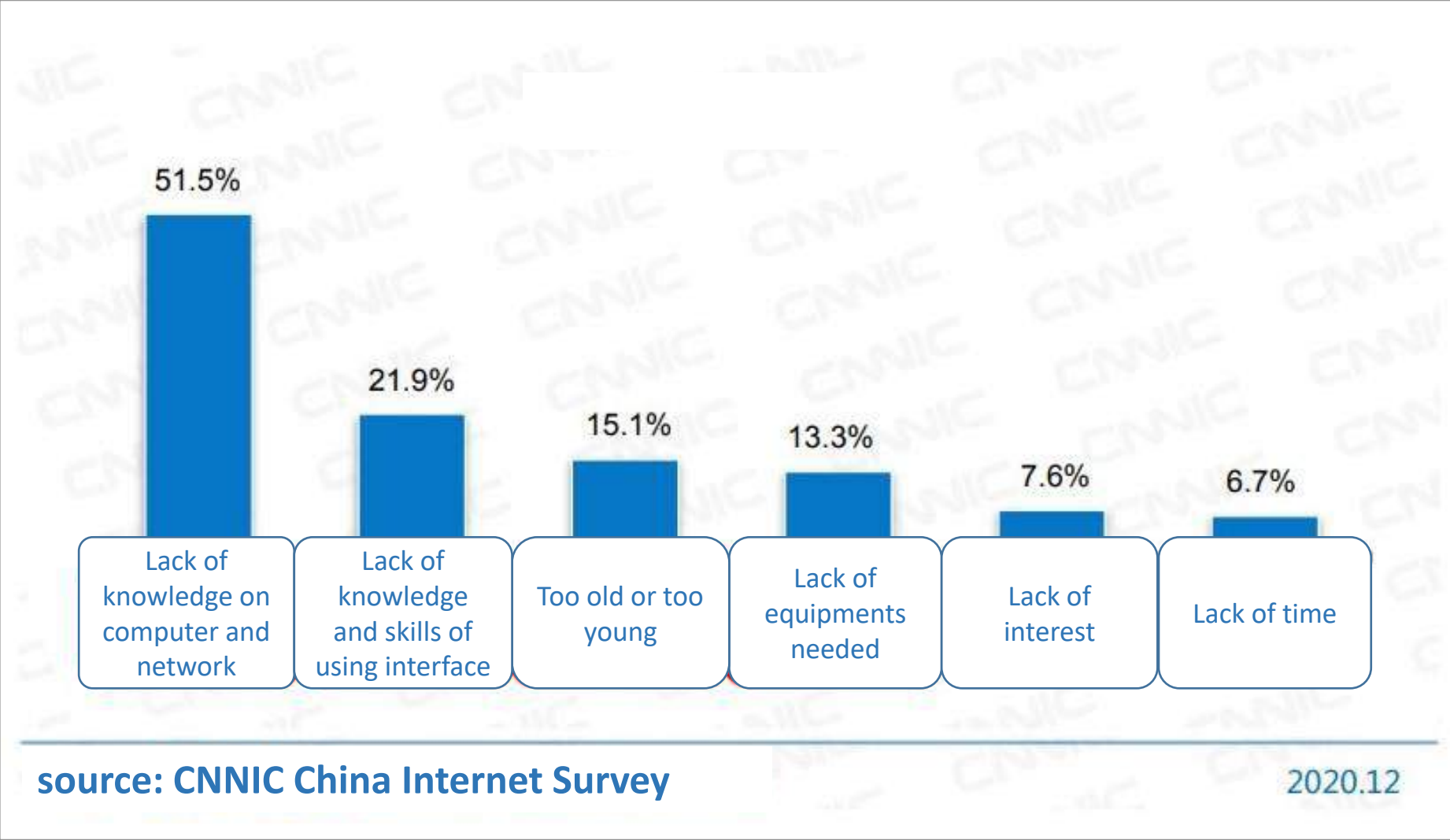
Age Related Digital Divide

The 47th CNNIC China Internet Survey

By December 2020, there were 416 mil. people not connected to Internet in China; **46%** of which were people of 60+ years old.

18.3% of the total population were 60+ years old

The reasons why people are not connected



Initiatives in China

Initiatives in China

State Council Decree:
Resolution to deal with
obstacles faced by
elderly while using
smart technologies

中华人民共和国中央人民政府
www.gov.cn

国务院 总理 新闻 政策 互动 服务 数据 国情 国家政务服务平台

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文号: 国办发〔2020〕45号
发文机关: 国务院办公厅
标题: 国务院办公厅印发关于切实解决老年人运用智能技术困难实施方案的通知
发文字号: 国办发〔2020〕45号
主题分类: 工业-交通(其他)
成文日期: 2020年11月18日
发布日期: 2020年11月18日

国务院
国务院办公厅印发关于切实解决老年人运用智能技术困难实施方案的通知
国办发〔2020〕45号

相关链接
* 国务院办公厅印发《关于切实解决老年人运用智能技术困难

MII Decree:
Action Plan for
Improving the Age
Friendliness and
Accessibility of Internet
Applications

中华人民共和国中央人民政府
www.gov.cn

国务院 总理 新闻 政策 互动 服务 数据 国情 国家政务服务平台

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标题: 工业和信息化部关于印发《互联网应用适老化及无障碍改造专项行动方案》的通知
发文机关: 工业和信息化部
发文字号: 工信部信管〔2020〕290号
主题分类: 工业-交通(其他)
成文日期: 2020年12月24日
发布日期: 2020年

工业和信息化部关于印发《互联网应用适老化及无障碍改造专项行动方案》的通知
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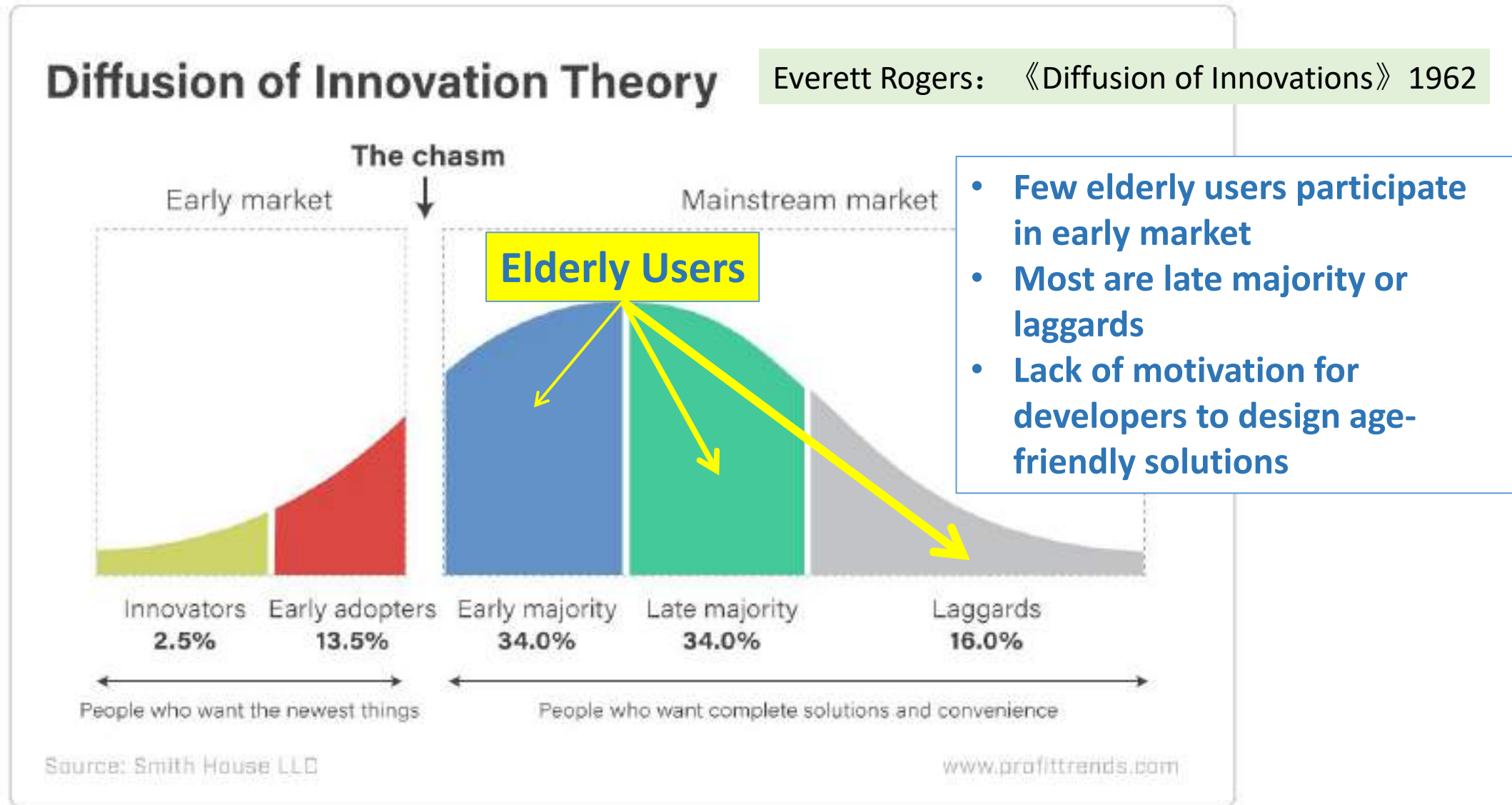
Initiatives in China

MII Decree:

- **Compliance Requirements:**
 1. # of registered users > 50 mil., Market share among top 5
 2. Six categories: news, social media, shopping, financial services, travel and healthcare
- **Total 43 APPs need to complete modifications to improve the age friendliness and accessibility**

Rethink Age Friendliness

Why is Age Friendliness Design Lacking



Negative Attitude Is a Big Part

1. Inconvenience

- unwanted calls, connection costs, mental effort to use mobile devices, discomfort of carrying the device all day, etc.

2. Complexity of features design

- camera and pictures management on mobile phones, numbers of options and settings on mobile devices, etc.

3. Security and reliability

- lack of trust with the use of personal data, positioning technology not functioning when in the need, etc.

4. Low computer self-efficacy

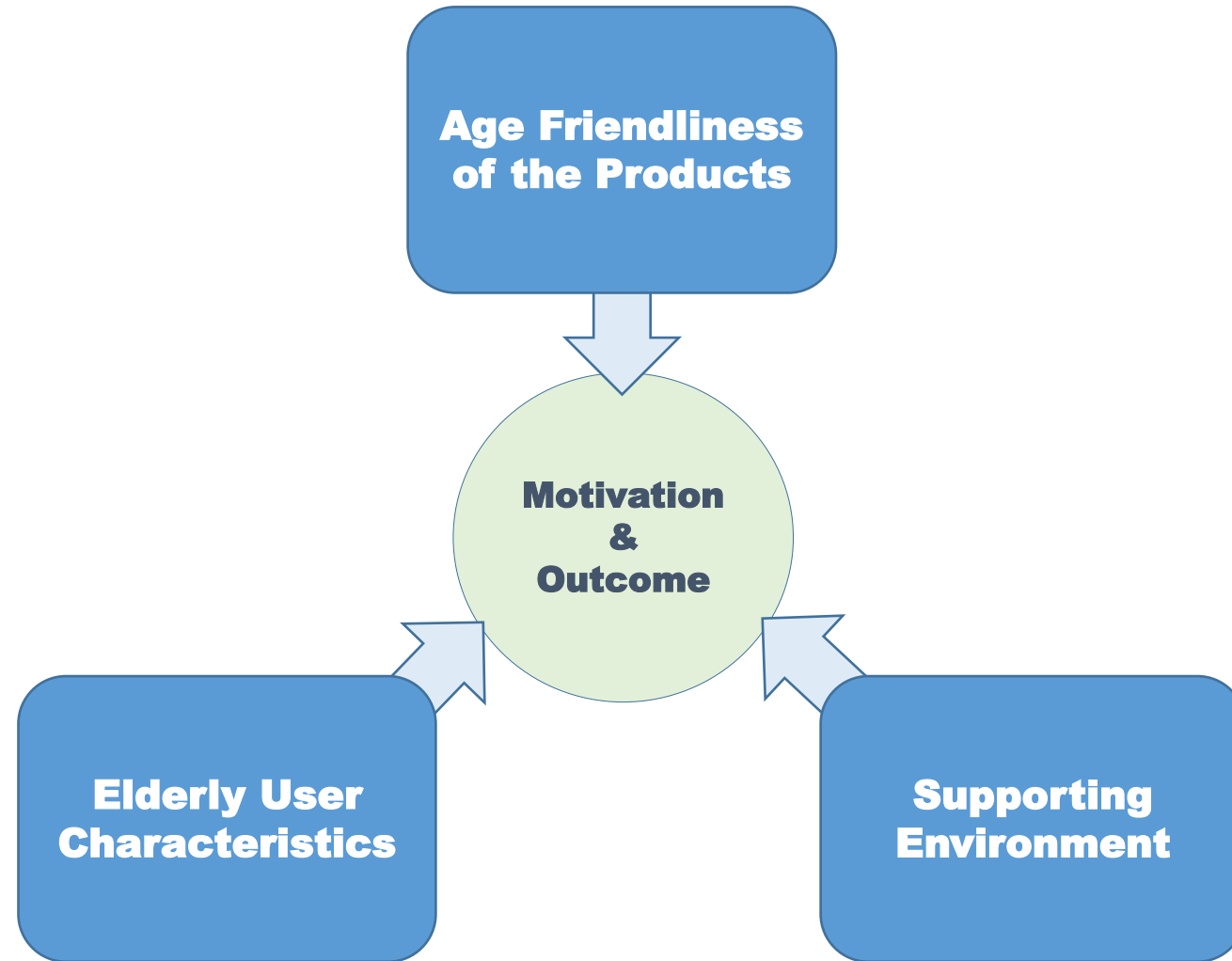
5. Performance anxiety connected with computer use

6. Ergonomic impediments

Gabriela Villalobos-Zúñiga , Mauro Cherubini; **“Not a Technology Person: Motivating Older Adults Toward the Use of Mobile Technology”**;

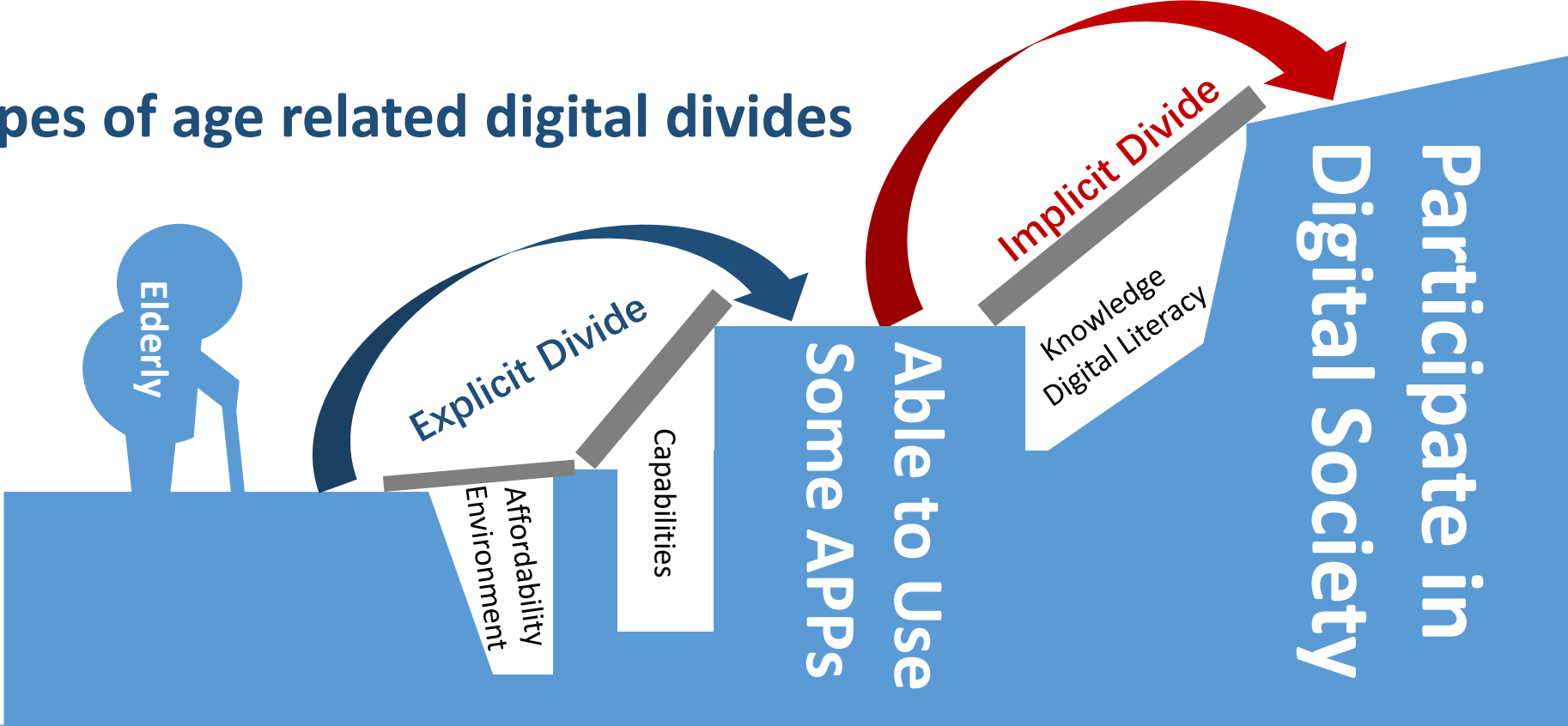
<https://www.researchgate.net/publication/318699817>

Three Major Factors Impacting Elderly Usage



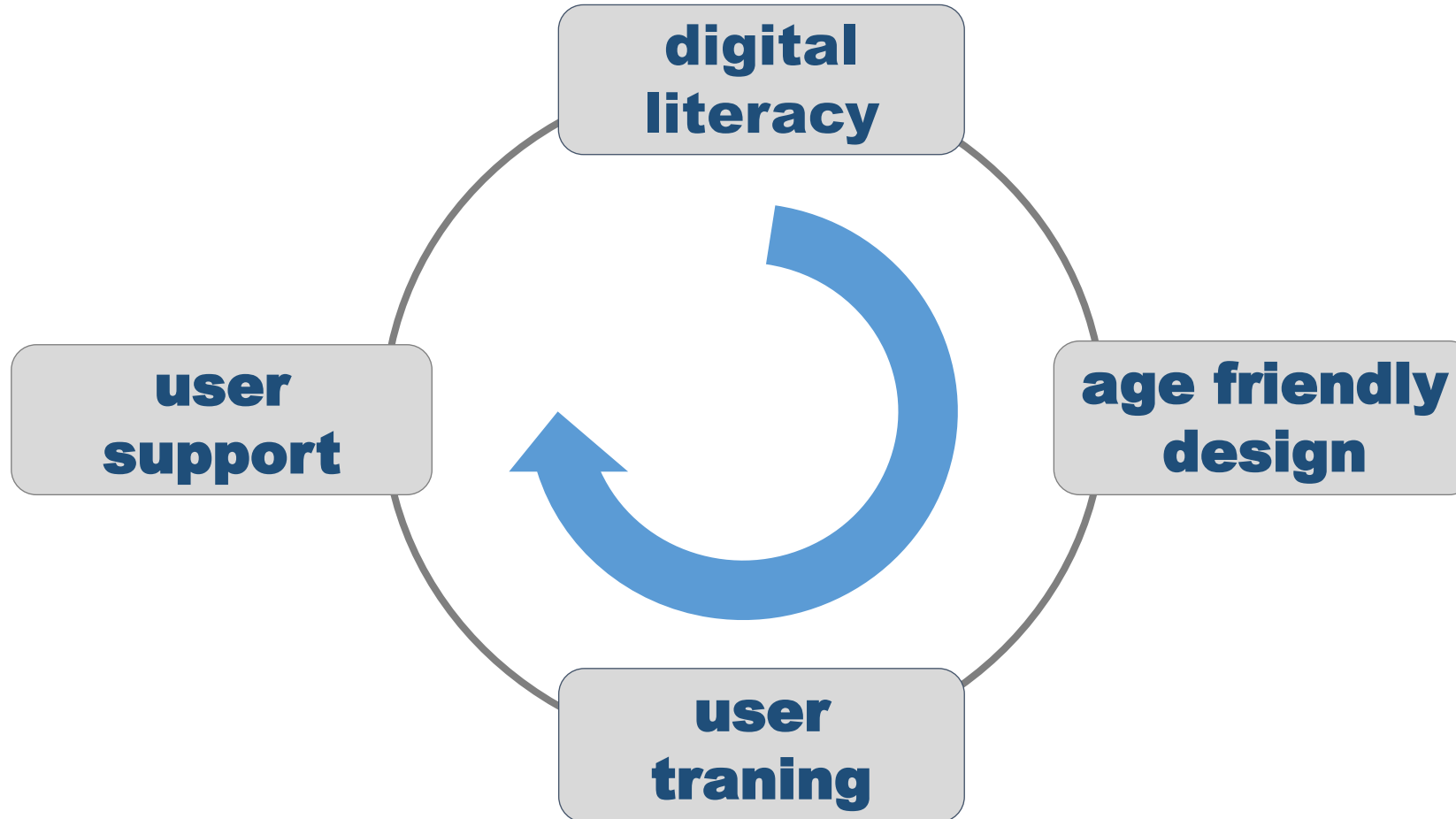
More on the Digital Divide

Two types of age related digital divides



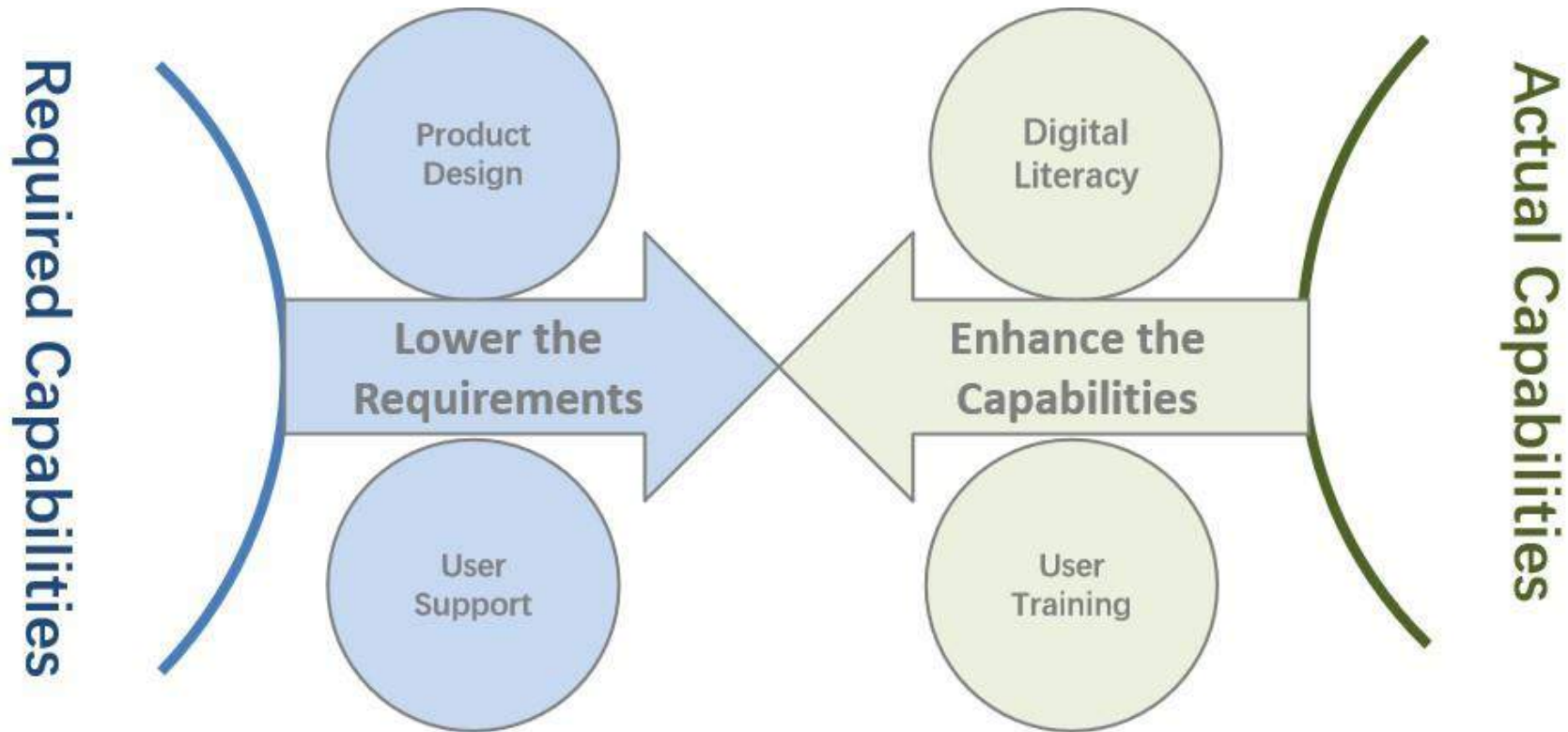
Need to maintain the capabilities and update the knowledge

Age Friendly Design is Far from Sufficient



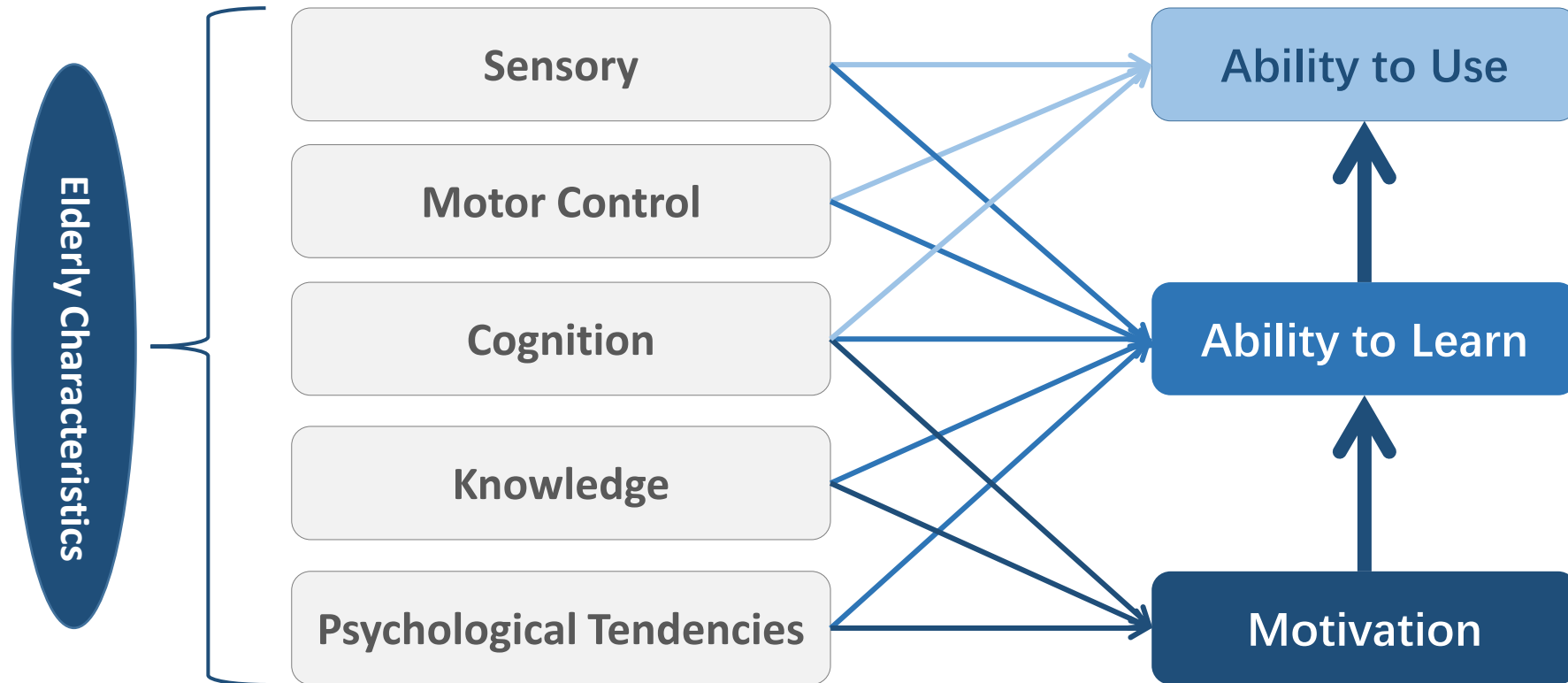
A Systematic Approach is Needed

Bridge the Gap



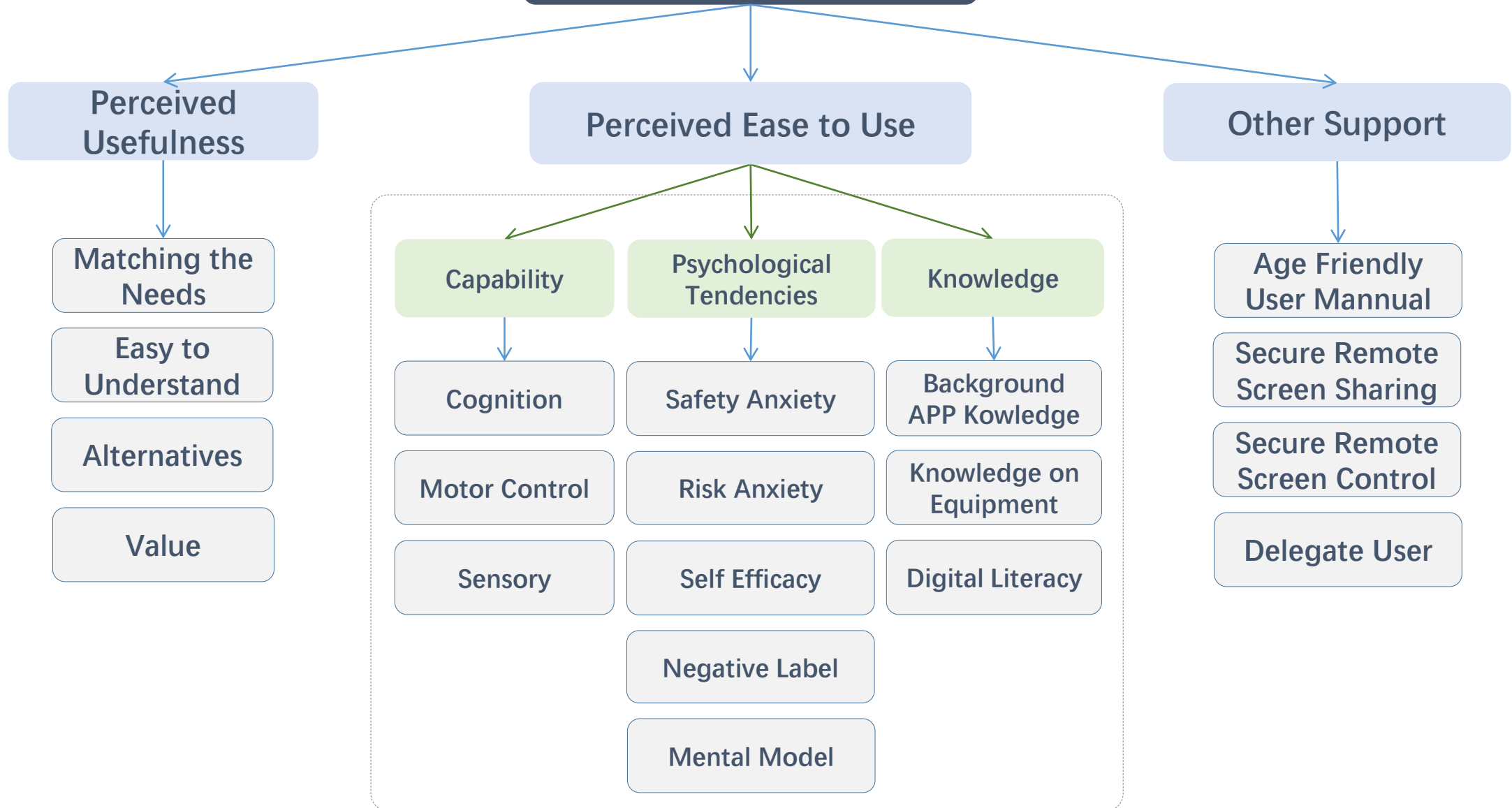
A Framework

A Framework: Age Friendly at Different Levels

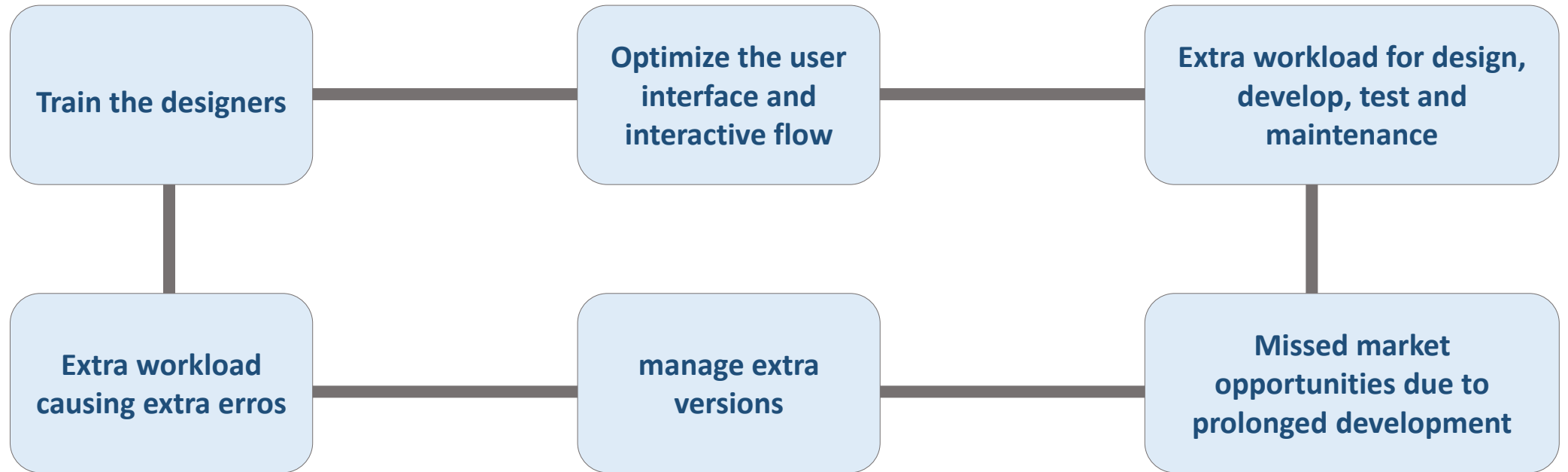


Large variations of the five characteristics result in diversified capabilities of the elderly.

Age Friendly Design

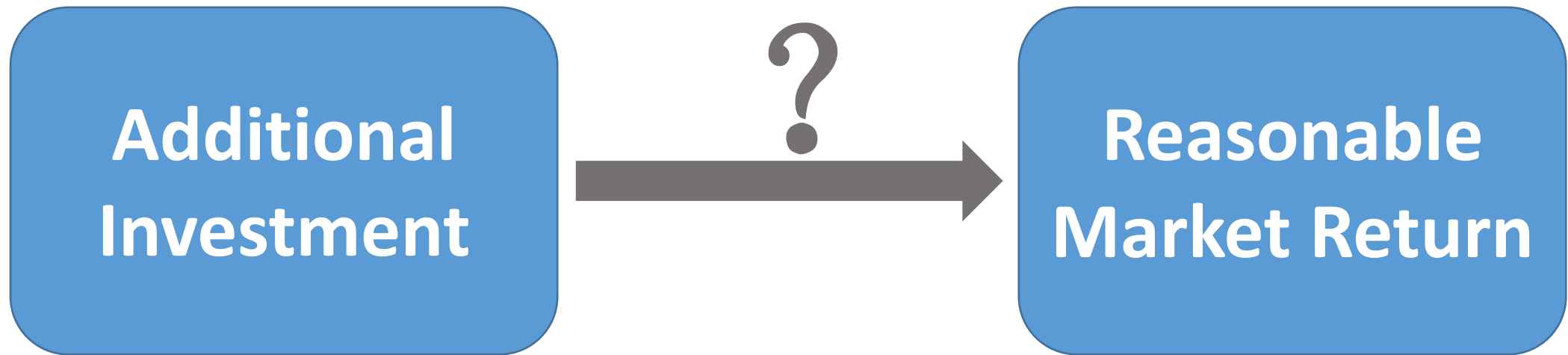


Cost of Age-Friendly Design



Can the extra investment be justified?

Is there a sensible business model?



The return is too small, too slow, too late!
Additional (non-commercial) drivers are needed.

Conclusions

- **Lack of Age Friendly Design Is A Long Term Problem**
- **Users' Lack of Knowledge IS Part of The Digital Divide**
- **Age Friendly Digital Solutions Go Beyond Product Design and Need A Systematic Approach**
- **Age Friendliness Need Drivers Outside the Market**

Thank You!

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