

2021 Thought Leader EHETEL Symposium
Session 7:
**Artificial Intelligence
for health: hitting
the reality wall**

1 December 2021 | 15:20 CET

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Digital Health & Care Solutions
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SCHOOL of MEDICINE
ARISTOTLE UNIVERSITY of THESSALONIKI

Focusing on the two must-haves:

data and people –

the experience of the CAPTAIN project

Panagiotis Bamidis

Director, Medical Physics and Digital Innovation LAB,

Professor, Medical Physics, Informatics, Medical Education

School of Medicine, Aristotle University of Thessaloniki, Greece

How it all started..



We live in a fast-ageing society.

Our vision:

turn the homes of older adults into a gentle coach within an empowering space capable of:

- 1) **transparently** comprehending what happens within it (without the user wearing anything) while the user simply interacts with the real world;
- 2) providing guidance in the most **transparent** manner, by projecting contextualised information wherever and whenever needed;
- 3) helping them to live independently and maintain their physical, cognitive, mental and social well-being.

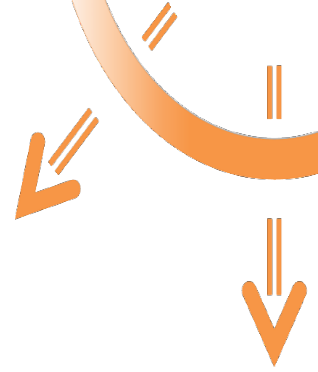




Our main goal was:

- To develop and validate radically new ICT based concepts and approaches for empowering and motivating people in need of guidance and care due to age related condition



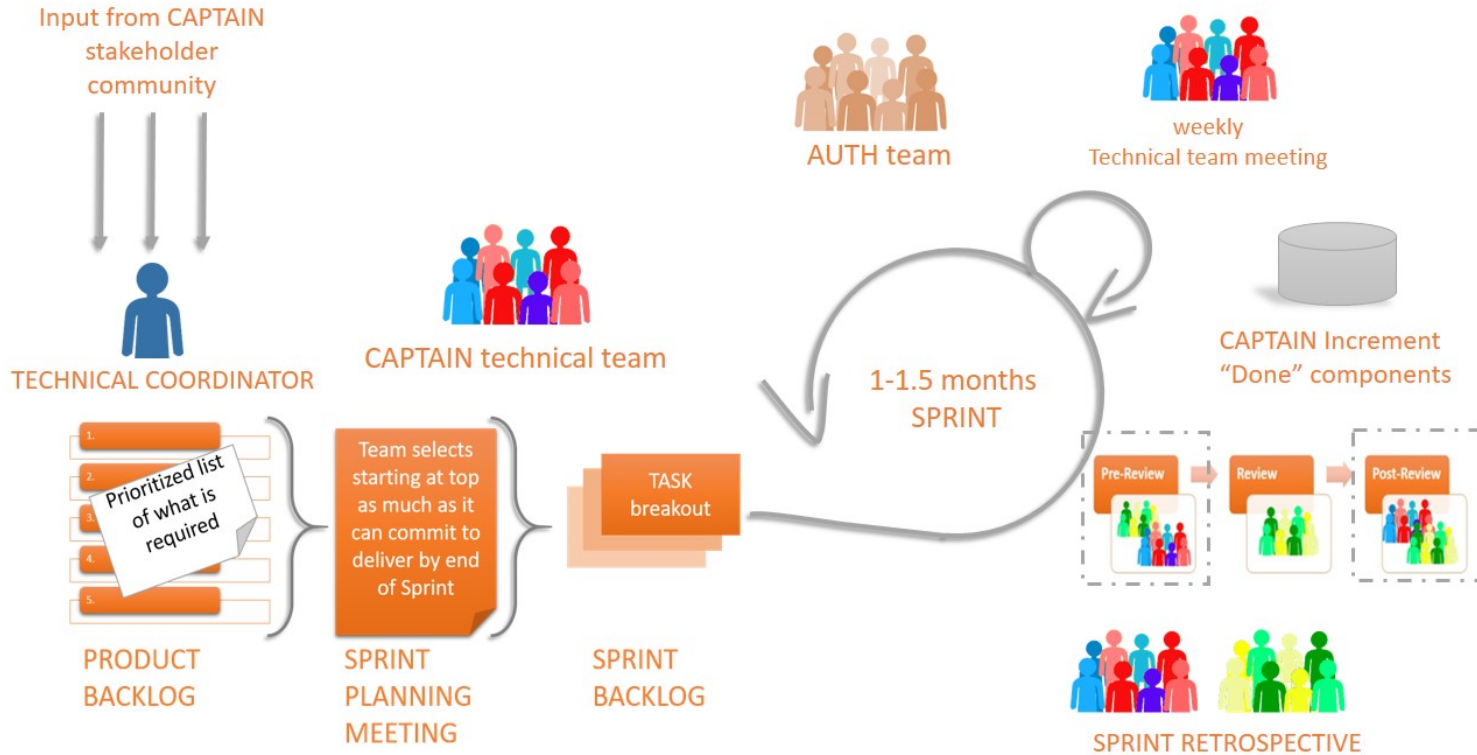


To maximize the impact:

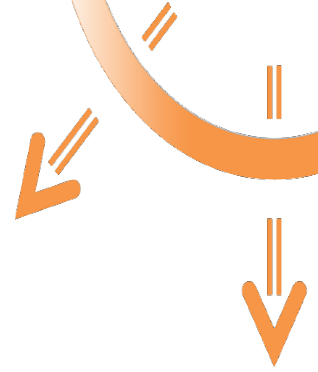
- The project stakeholders were the only official source of requirements
- Available technology and its constraints shaped the final CAPTAIN system
- The principle was to avoid designing something that nobody wants.
- The methodology introduced a structured way of listening to the stakeholders and transforming their feedback to implementation in order to maximize the impact



Modified version of SCRUM, Lean Startup and Design Thinking



Data vs Humans: what to avoid!



Not like this...



User Management services



Database and cloud APIs



Projection engine



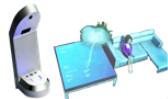
CAPTAIN system (as it was initially designed)

CAPTAIN MVP
Minimum Viable Product

Like this!



Virtual reality of the envisaged system



CAPTAIN Box



CAPTAIN Box and Satellite



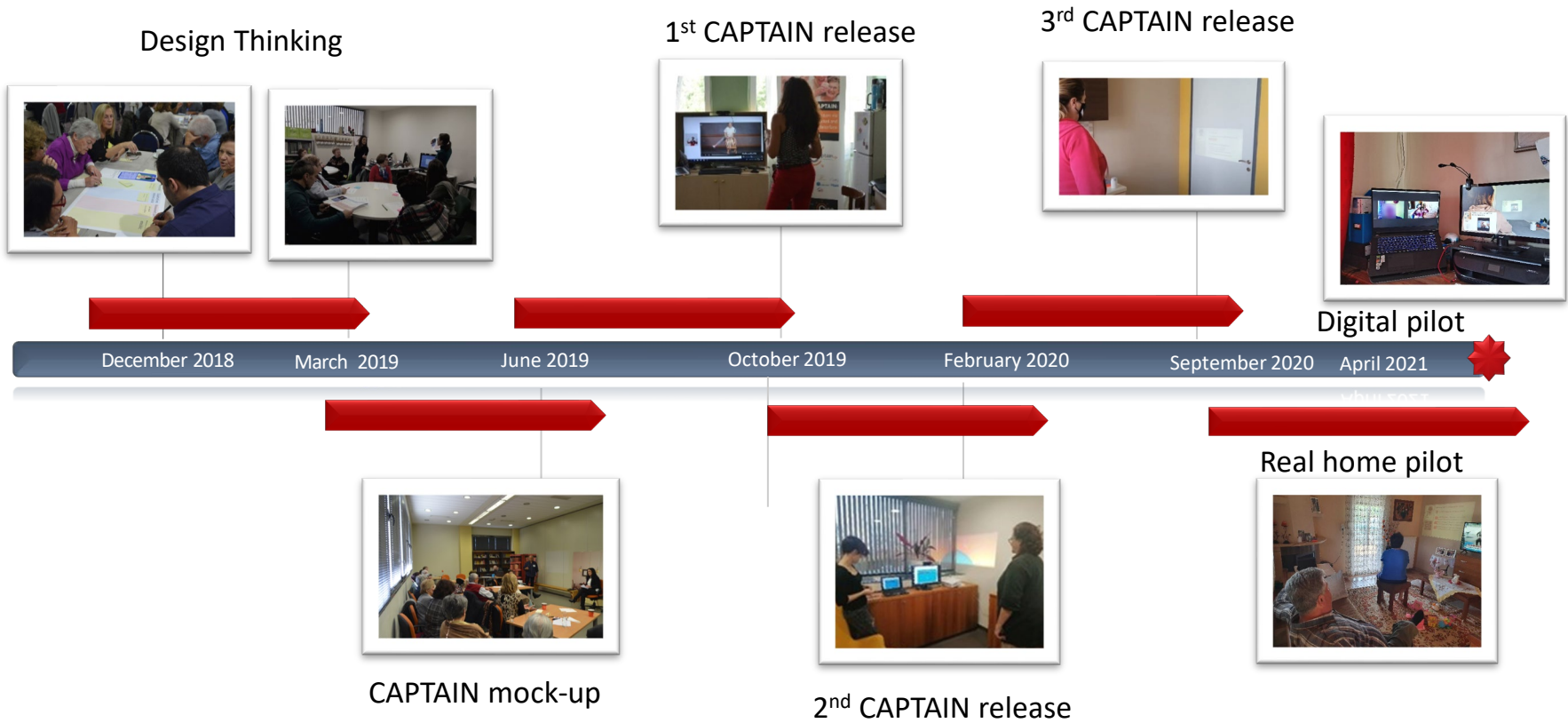
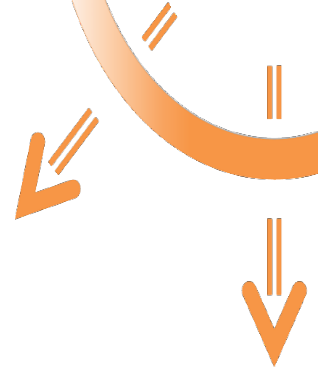
Coaching functionality

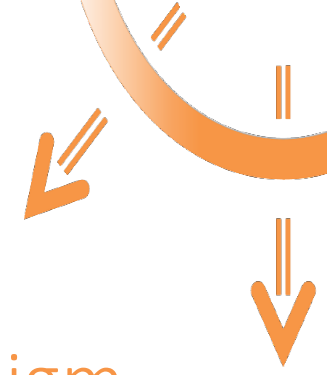


CAPTAIN system (as they want it)



User feedback throughout CAPTAIN





CAPTAIN Methodology as best practice paradigm

CAPTAIN
Methodology is a best practice paradigm of participatory design methodology of the Health and Wellbeing AOTF of the European Network of Living Labs



22 CAPTAIN was the "big winner" of the 2018 Living Lab Project Awards by ENoLL
May


By mantziad Comments

In the third edition of the **Living Lab Project Awards** voting, which was opened during the month of March, more than 1300 votes, from countries in South and North America, Africa, Europe, Asia and Australia, were received to highlight the best co-creation Living Lab project of the **European Network of Living Labs** (ENoLL) community for 2018.



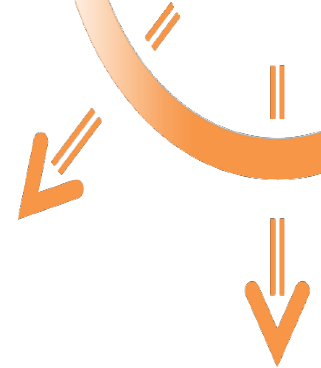
WE4AHA collaboration for personas creation (

The New PERSONA "DAPHNE"

Smart and Health Ageing through People Engaging in supporting Systems		 SHAPES
MEET DAPHNE		
Motto: Improve care giving skills in order to provide high quality and patient-oriented care to patients with Alzheimer's disease and related dementias (AD/RD)		
Name: Daphne	Economic situation: semi-affluent	
Country: Greece	Digital Literacy: moderate	
Age: 45	Health Literacy: high	
Area: suburbs of a big city	Affinity to technology: high	
Life Course: : working age adult		
General Description: Daphne is a 45-year-old nurse who works the last 6 years in a Nursing Home, in which a Daycare Center for patients with Alzheimer's disease and related dementias (AD/RD) is operating, in an urban area in Greece. Daphne is divorced and lives with her two underage children, 10-year-old daughter, Nefeli, and 7-year-old son Nikola, in the suburbs of Thessaloniki. She also takes care of her 70-year-old mother, who lives one flat downstairs, and suffers from early signs of dementia. Daphne's sister is visiting on the weekends to help with the care of their mother and any potential errands. Daphne does not have much free time, as she has to take care of many patients - her shifts may last up to 10 hours- while she suffers from severe backache and pain on both of her knees, due to long standing and improper lifting and transferring of patients. Daphne recently started having second thoughts on her overall performance as a nurse. In particular, she often feels that she lacks in professional readiness and that her care giving skills need improvement, while she is daily confronted with high-stress situations that make her be haunted by anxiety and fear of making a medical error. Additionally, sometimes she fails to appropriately communicate and understand emotions and inner affinity of patients, while she wishes she could better address common needs for AD/RD caregiving, but also better comprehend their unique caregiving needs. Indeed, while surfing on the internet, she found out that fellow		



CAPTAIN Stakeholders community





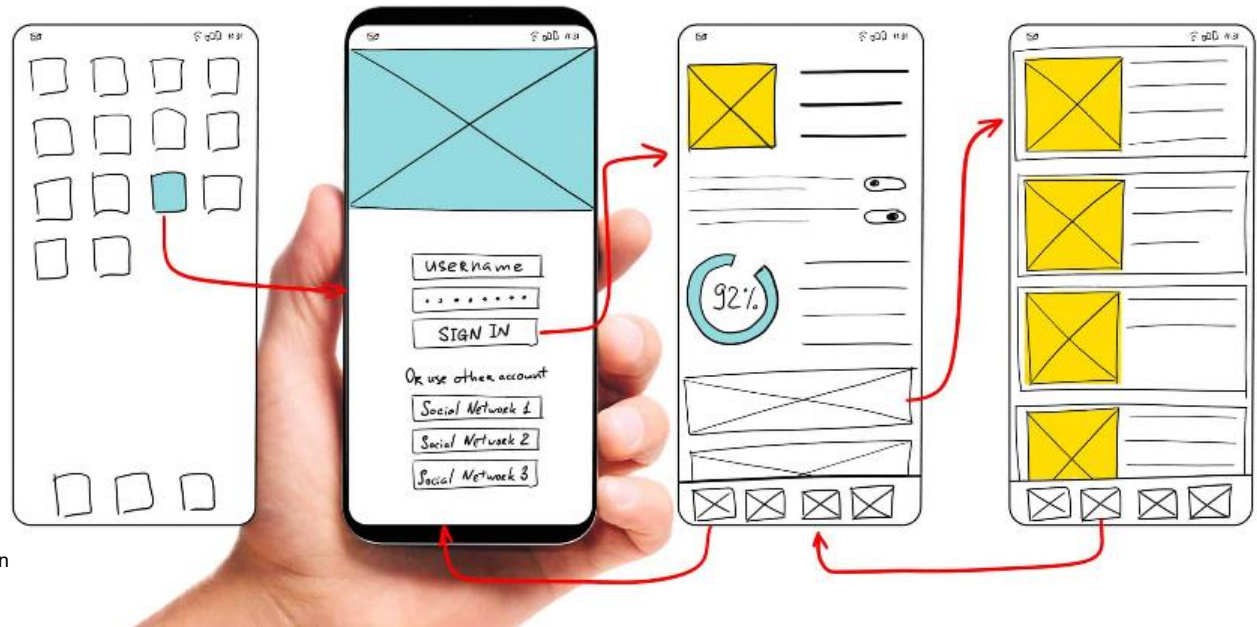
Problem turned into opportunity?

Improved UX for:

- Deployment
- 1st time installation
- Usage
- Simplified manuals



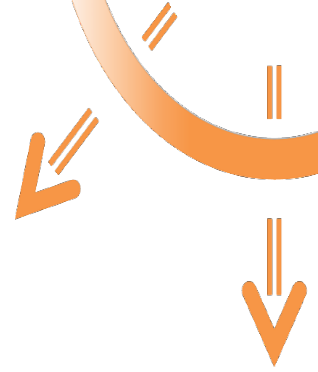
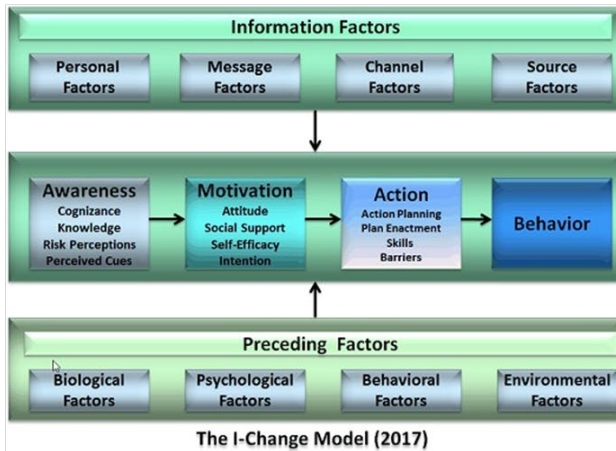
A project closer to a product



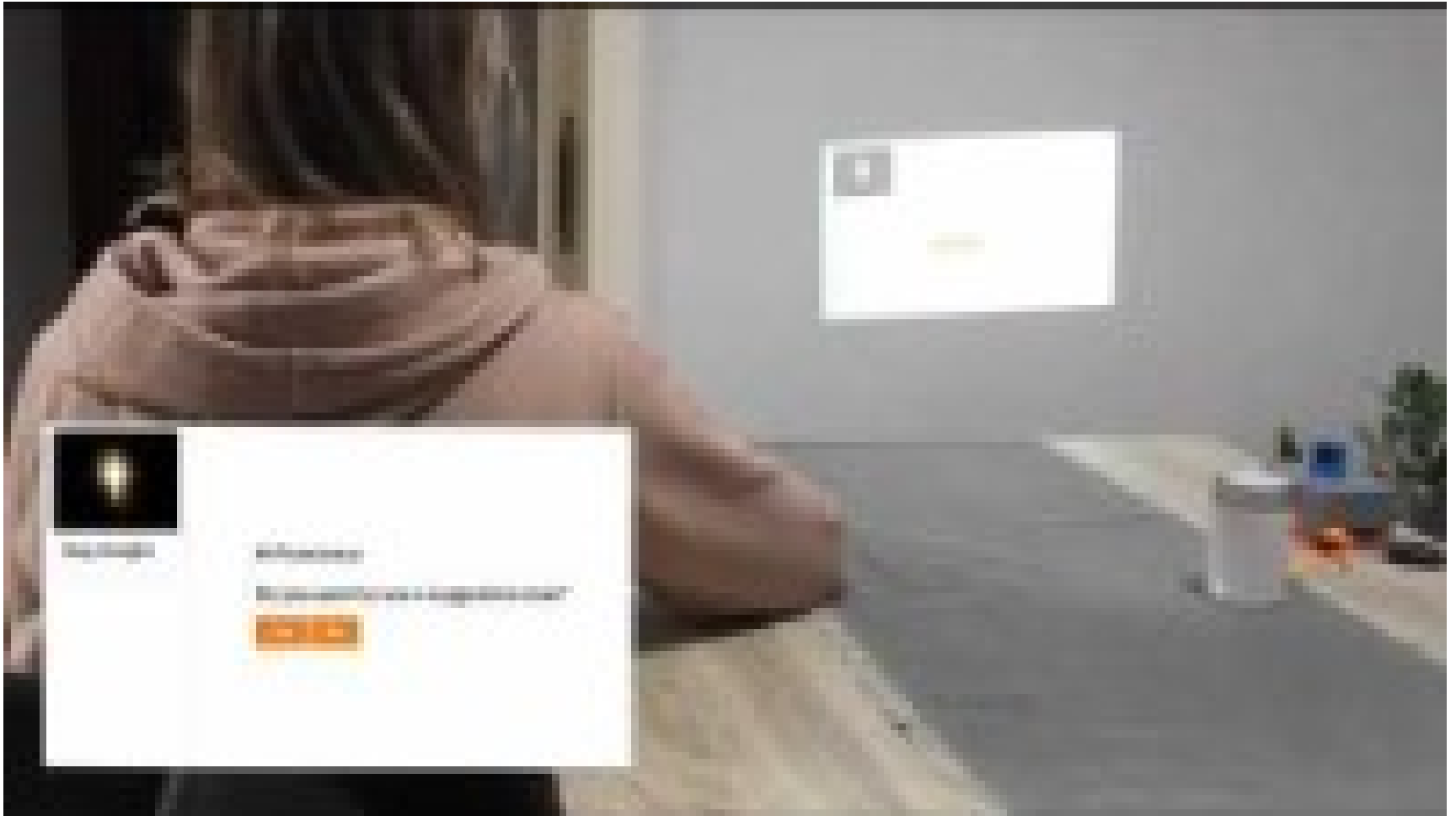
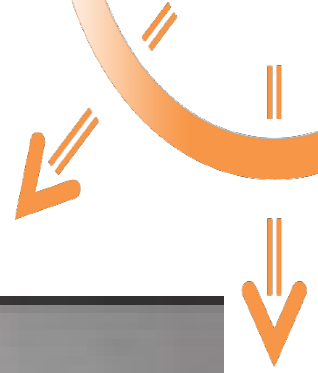
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769830



Context



Demo



Invitation by other projects to present

The slide features a header with logos for WITA core, socialm software & consulting, DigiFlak, DCU INNOVATION, NVISO, vicomtech, salumedia, Intras, and HoloCamp. Below the logos is the CAPTAIN logo, which consists of a stylized 'C' with arrows pointing outwards and the word 'captain' in lowercase. The main title is 'From a RIA project to a product' in orange, followed by 'The CAPTAIN story' in a larger orange font. Two coordinators are listed: Evdokimos Konstantinidis, CAPTAIN H2020 Technical Coordinator at WITA srl, Trento, Italy; and Panos Bamidis, CAPTAIN H2020 Project Coordinator at the Lab of Medical Physics, Aristotle University of Thessaloniki, Greece. At the bottom, there is a European Union flag logo and text stating: 'This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769830'.

- SAAM project
- NESTORE project
- TTO of AUTH



Liaison with other initiatives

Initialization of the PM-15 Coaching Alliance initiative



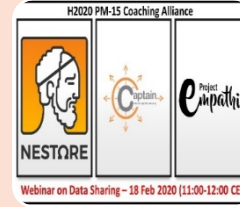
Sharing know-how, under a CAPTAIN's collaboration initiative



ACTIVAGE meets PM-15



Coaching Alliance joint booth



Webinar on data sharing in digital healthy ageing projects



PM-15 coaching alliance workshop on the impact of the COVID-19 pandemic



Joint publication on "Other Advanced Research Initiatives in Elderly Care and Fragility Prevention"



► Thessaloniki Active & Healthy Ageing Living Lab (Thess-AHALL)

Inter-connected **hub** of multiple actors (**quadruple helix**):

Academia/research centres

Industry (SMEs/funds): CAPTAIN Coach P.C.,
LLMCare

Civil Society (Patients/Professionals'
Associations, OKFN Greece)

Policymakers (Municipalities,
Regional/National Healthcare Authorities ->
hospitals, nursing homes, day care centres,
3rd/4th Health Districts)

European Partnerships:

ENoLL (effective member) & **H&W Task Force**
(leader)

EU CSI "Mental Health" (Co-Ordinator/Lead
city: Thessaloniki)

EIPonAHA (2* Ref. Site)



Thessaloniki Lead City: Mental Health & Well-Being



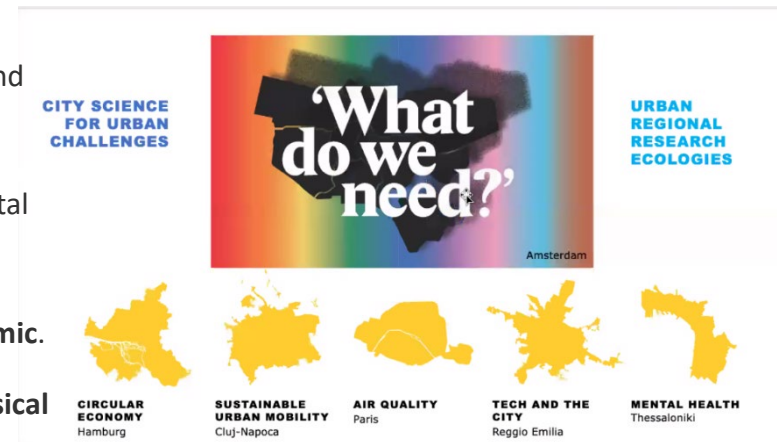
• Optimisation of **access to mental health and well-being infrastructures** in big and small Cities.

• **Methods, tools and data** to properly coordinate the provision of mental health and well-being and psychiatric/social care services in Cities.

• Engagement, **human-centred and co-creation processes** in cities addressing mental health and well-being

• Mental health and diversity needs in Cities **confronting COVID19 or other pandemic.**

• Effects of **social distancing and isolation due to quarantine in cognitive and physical capacity and brain functioning** (in vulnerable groups, general public, professionals) and the likely role of **assistive technologies.**



#CityScienceEU

<https://ec.europa.eu/jrc/communities/en/community/city-science-initiative>



▶ **THANK YOU**



⌐ <http://imedphys.med.auth.gr> iMedPhysAUTH



aha-livinglabs.com



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LLM Care Ecosystem & EIPonAHA 2* Reference Site

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