



# İSTANBUL PROJECT ACADEMY



MARMARA ÜNİVERSİTESİ  
İNNOVASYON VE TEKNOLOJİ  
TRANSFER UYGULAMA VE  
ARAŞTIRMA MERKEZİ





ISTANBUL  
PROJECT  
ACADEMY



İSTANBUL  
CHAMBER OF INDUSTRY



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# Horizon Europe Cluster 1: Health Brokerage Event



## Fields of Expertise:

Human-Centered Design; Artificial Intelligence;  
Cyber-Physical Systems

## Organisation Name:

Fraunhofer AICOS – Fraunhofer Research Center  
for Assistive Information and Communication  
Solutions

## Addressed Topic(s) & Call(s):

HORIZON-HLTH-2023-CARE-04-02  
HORIZON-HLTH-2023-IND-06-01  
HORIZON-HLTH-2023-IND-06-07  
HORIZON-HLTH-2024-STAYHLTH-01-05-two-stage





# Fraunhofer AICOS

Founded in 2009, Fraunhofer AICOS is a research center with significant activity in the Health Sector:

*Non exhaustive*

## Health Sector

AI-based technologies that allow **patients** to get access to early diagnostic and treatment and assist **clinicians** in their decision-making processes for **multiple medical conditions**:

- Cardiovascular diseases – Stroke, Heart Failure
- Cancer – Breast, Colorectal, Cervical, Skin
- Neurodegenerative diseases – Parkinson's, ALS, Alzheimer's (and other dementias)
- Ophthalmologic diseases – Glaucoma, Diabetic Retinopathy
- Rheumatic conditions
- Chronic pain

Mobile-based PROMs and passive sensing for chronic disease monitoring

ML/DL models using patient condition from telemonitoring and clinical data to evaluate disease progression

Mobile automatic image acquisition for macroscopic images of skin lesions

Computer vision and ML/DL knowledge for decision support systems (diagnosis, lesion risk)

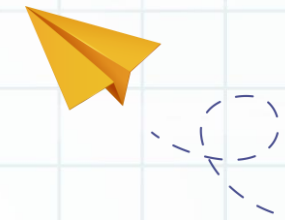
Multimodal usage of macroscopic images and structured data to build ML/DL algorithms

Explainable AI to assist healthcare professionals in image-guided diagnosis

Project examples: TAMI, CardioFollow.AI, Derm.AI, MpDS, AISym4Med (a Horizon Europe project coordinated by Fraunhofer AICOS).

# Specific interests and expertise

#	Topics	Main interests	Relevant expertise
1	<b>HORIZON-HLTH-2023-CARE-04-02:</b> Resilience and mental wellbeing of the health and care workforce	<ul style="list-style-type: none"> <li>• Longitudinal studies on the implementation of digital tools for ecological momentary assessment at work.</li> <li>• Integration of data from different sources and sensors using FHIR standards.</li> <li>• Security guidelines for the development of software medical devices.</li> <li>• Integration of AI algorithms in edge devices and sensors.</li> <li>• Facilitation of remote deployment of sensors and gateways.</li> </ul>	<ul style="list-style-type: none"> <li>• Development and testing of digital technology to promote mental health at work, especially in demanding working conditions (e.g., factory shopfloors).</li> <li>• Knowledge of FHIR standard development of mobile apps using kotlin, swift, java and flutter.</li> <li>• Integration of AI algorithms in edge devices.</li> <li>• Storage of sensitive data.</li> <li>• Expertise in hardware design and in the development of sensors together with firmware development for ARM architectures and others.</li> </ul>
2	<b>HORIZON-HLTH-2023-IND-06-01:</b> Supporting the uptake of innovative Health Technology Assessment (HTA) methodology and advancing HTA expertise	<ul style="list-style-type: none"> <li>• Taking part in Health Technology Assessment (HTA) case studies and training.</li> </ul>	<ul style="list-style-type: none"> <li>• Expertise in MedDev pre-certification and in clinical study design for HTA.</li> </ul>
3	<b>HORIZON-HLTH-2023-IND-06-07:</b> Development and harmonisation of methodologies for assessing digital health technologies in Europe		
4	<b>HORIZON-HLTH-2024-STAYHLTH-01-05-two-stage:</b> Personalised prevention of non-communicable diseases - addressing areas of unmet needs using multiple data sources	<ul style="list-style-type: none"> <li>• Longitudinal studies on the implementation of digital PROMs using personal devices.</li> <li>• Leveraging multimodality/multiple data sources and causal discovery to address data quality and/or address the longitudinal dimension of health conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• Development and testing of inclusive digital technology to support self-care and patient-reported outcomes.</li> <li>• Working with source data in the form of images, time series, tabular data and free text.</li> <li>• Multiple source data combination in ML models and causal discovery in ML.</li> <li>• Responsible/trustworthy AI technical tools and frameworks.</li> </ul>



# Contact details



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THANK YOU...



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