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ISTANBUL DEVELOPMENT AGENCY

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İTÜ NOVA TEKNOLOJİ TRANSFER OFİSİ

TTO Boğaziçi Üniversitesi Teknoloji Transfer Ofisi A.Ş.

İSTANBULTTO TEKNOLOJİ TRANSFER OFİSİ

KOÇ ÜNİVERSİTESİ

MİTTO MARMARA ÜNİVERSİTESİ İNOVASYON VE TEKNOLOJİ TRANSFER UYGULAMA VE ARAŞTIRMA MERKEZİ

YTÜ YILDIZ TEKNOPARK

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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

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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).

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Specific interests and expertise

#	Topics	Main interests	Relevant expertise
1	**HORIZON-HLTH-2023-CARE-04-02:** Resilience and mental wellbeing of the health and care workforce	• Longitudinal studies on the implementation of digital tools for ecological momentary assessment at work. • Integration of data from different sources and sensors using FHIR standards. • Security guidelines for the development of software medical devices. • Integration of AI algorithms in edge devices and sensors. • Facilitation of remote deployment of sensors and gateways.	• Development and testing of digital technology to promote mental health at work, especially in demanding working conditions (e.g., factory shopfloors). • Knowledge of FHIR standard development of mobile apps using kotlin, swift, java and flutter. • Integration of AI algorithms in edge devices. • Storage of sensitive data. • Expertise in hardware design and in the development of sensors together with firmware development for ARM architectures and others.
2	**HORIZON-HLTH-2023-IND-06-01:** Supporting the uptake of innovative Health Technology Assessment (HTA) methodology and advancing HTA expertise	• Taking part in Health Technology Assessment (HTA) case studies and training.	• Expertise in MedDev pre-certification and in clinical study design for HTA.
3	**HORIZON-HLTH-2023-IND-06-07:** Development and harmonisation of methodologies for assessing digital health technologies in Europe		
4	**HORIZON-HLTH-2024-STAYHLTH-01-05-two-stage:** Personalised prevention of non-communicable diseases - addressing areas of unmet needs using multiple data sources	• Longitudinal studies on the implementation of digital PROMs using personal devices. • Leveraging multimodality/multiple data sources and causal discovery to address data quality and/or address the longitudinal dimension of health conditions.	• Development and testing of inclusive digital technology to support self-care and patient-reported outcomes. • Working with source data in the form of images, time series, tabular data and free text. • Multiple source data combination in ML models and causal discovery in ML. • Responsible/trustworthy AI technical tools and frameworks.

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THANK YOU...