

Main vision, mission, objectives and approach of the AI4HF project



AI4HF

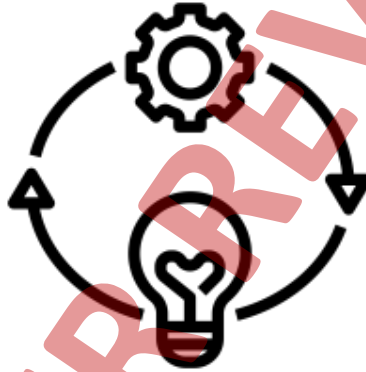
Trustworthy Artificial Intelligence
for Personalised Risk Assessment
in Chronic Heart Failure



AI4HF is funded by the European Union's Horizon
Research and Innovation Programme under Grant
Agreement No. 101080430

Vision

Cardiovascular diseases remain the main cause of mortality worldwide; in particular, **heart failure (HF) poses complex challenges in clinical practice**, as it is associated with a significant variability in aetiologies, manifestations, and risks, and diverging disease progression. Clinical risks of HF can vary from reduced cardiac function and regular hospitalisations, all the way to cardiac arrhythmias and death.



There is a need for a personalised medicine approach to tailor developed risk assessment models to personal HF patient's risk profiles to optimise clinical outcomes.

Artificial intelligence (AI) solutions trained from multi-source cardiovascular data have the potential to dissect the precise patient characteristics and predict likely trajectories at an early stage.

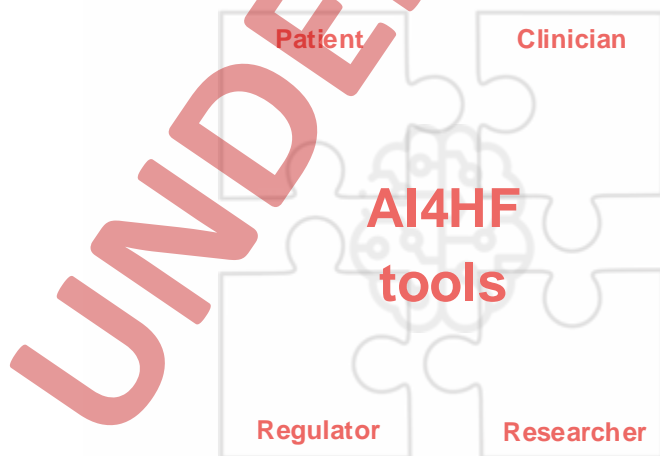
However, existing AI solutions remain a far distance from clinical adoption due to a key limitation: their trustworthiness and acceptance by cardiologists and patients have not been achieved.

Mission

AI4HF will develop a comprehensive and standardised framework for trustworthy and ethical AI development and evaluation.

The AI4HF solutions will build on a unique set of big data repositories, trustworthy AI methods and computational tools in cardiology. The technology will enable to dissect precise characteristics of HF patients to predict clinical outcomes in early disease stages to enable timely and personalised care.

Multi-stakeholder evaluation and validation of AI4HF solutions will be performed in eight clinical centres world-wide. The AI4HF solutions should be trusted, approved, and deployed in the real world AI4HF solutions for the benefit of patients, cardiologists, physicians, care providers, and society at large.

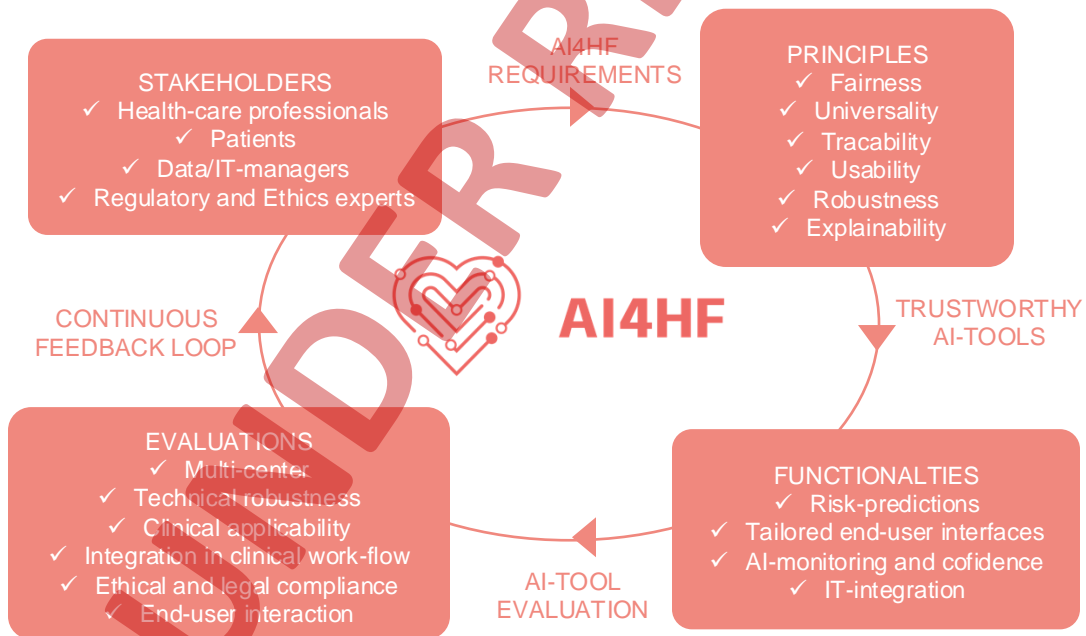


Objective and approach

The ambitious aim of the AI4HF project is, together with patients and healthcare professionals, to co-design, develop, evaluate and exploit an integrative and trustworthy AI-model for tailoring the management of HF.

The largest-ever dataset of heart failure patients across Europe, South America and Africa will be harnessed to develop and evaluate AI4HF tools to ensure application across populations, clinical settings and ethnic groups.

All project partners collaborate and work in a multidisciplinary framework to achieve this ambitious aim:





AI4HF

Trustworthy Artificial Intelligence
for Personalised Risk Assessment
in Chronic Heart Failure



fighting heart disease
and stroke
european heart network



CERTH
CENTRE FOR
RESEARCH & TECHNOLOGY
HELLAS



SRDC SOFTWARE
RESEARCH & DEVELOPMENT
CONSULTANCY



**Barcelona
Supercomputing
Center**
Centro Nacional de Supercomputación



ESC
European Society
of Cardiology



UNIVERSITY OF
OXFORD



AI4HF is funded by the European Union's Horizon
Research and Innovation Programme under Grant
Agreement No. 101080430