

PIANOFORTE

General Assembly meeting

05-06 December 2023

Budapest - Mercure Budapest Castle Hill

Presentation of the projects proposed to GA for selection within the 1st Open Call

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department head

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National Center for Public Health and Pharmacy (NNK)

Budapest, Hungary

The project

Optimizing Benefit/Risk Ratio in Breast Cancer Diagnosis and Radiotherapy: Identifying Molecular, Cellular and Imaging Signatures of Breast Cancer Heterogeneity to Improve Personalized Therapeutic Strategies for Synergistic Treatment Combinations

IMAGEOMICS

Answering Topic 2 of PIANOFORTE 1st Open Call: Individualised diagnostic and therapeutic procedures with regard to optimisation of the benefit/risk ratio.



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The team

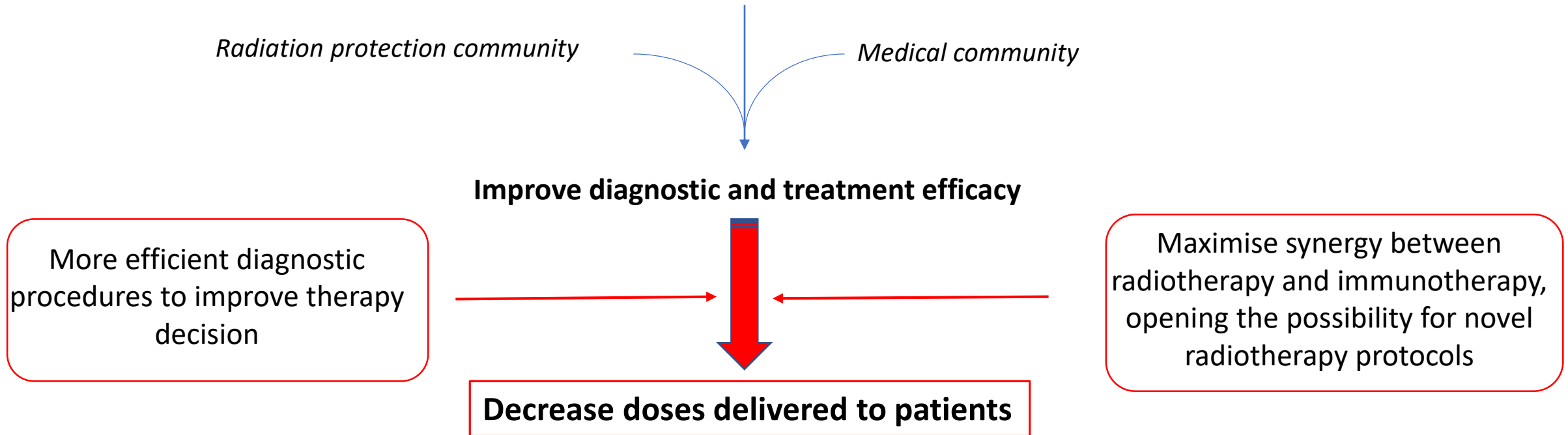
1. National Center for Public Health and Pharmacy (NNK), Hungary, PIANOFORTE POM
– coordinator: **Géza Sáfrány**
2. Otto von Guericke University (OvGU), Germany, PIANOFORTE AE
3. University of Pavia (UNIPV), Italy, PIANOFORTE AE
4. Barcelona Institute for Global Health (ISGlobal), Spain, AE, non-PIANOFORTE member
5. European Alliance For Medical Radiation Protection Research (EURAMED) PIANOFORTE POM (for OvGU)
– administrative partner
6. Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA) PIANOFORTE POM (for UNIPV)
– administrative partner
7. Centro De Investigaciones Energeticas, Medioambientales Y Tecnologicas (CIEMAT) PIANOFORTE POM (for ISGlobal)
– administrative partner



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The problem and the solution proposed by IMAGEOMICS

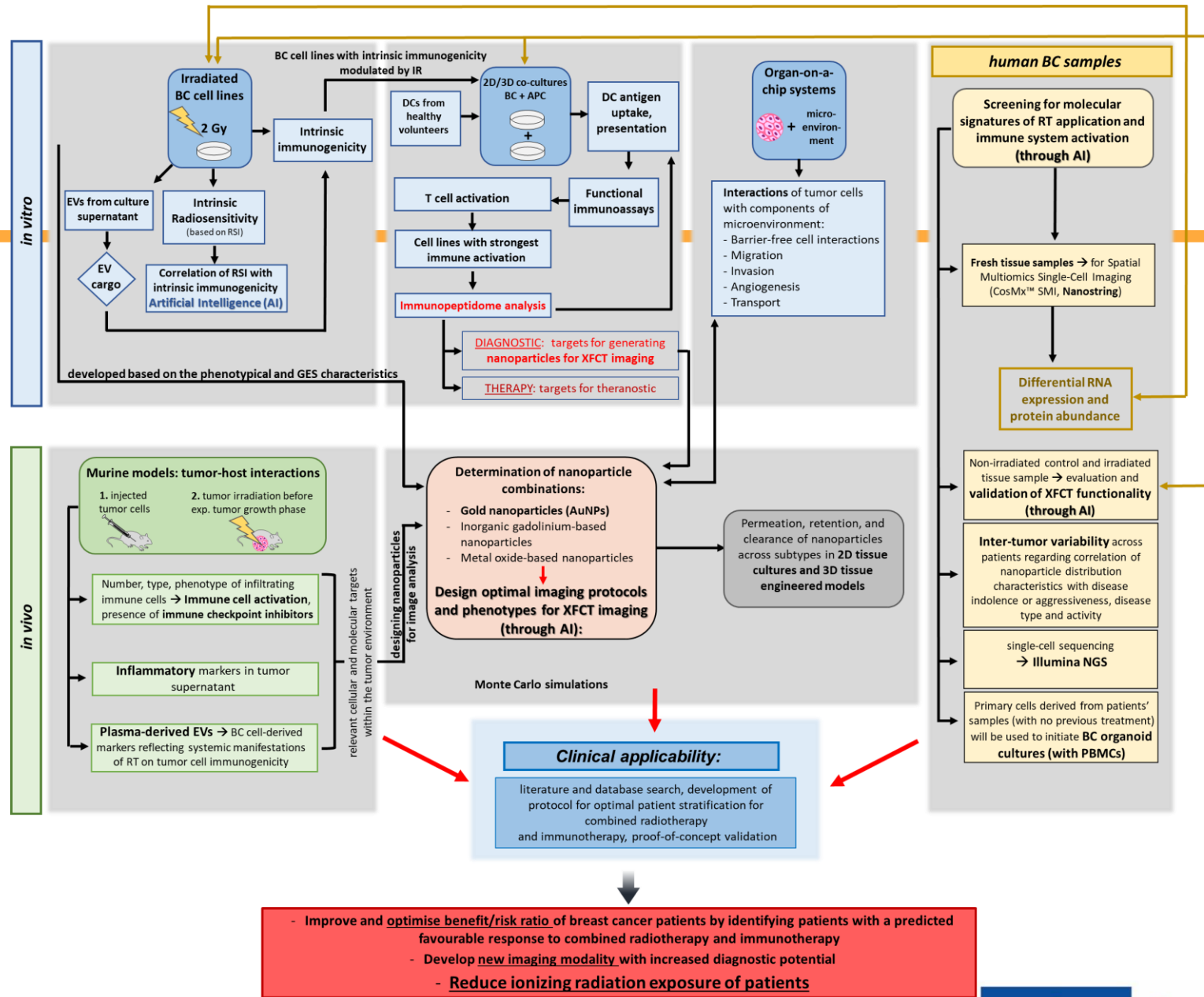
Increasing ionizing radiation doses by the general population due to medical diagnostic and therapeutic interventions



The objectives

- Investigate how RT influences immunogenic heterogeneity of BC cells of different molecular subtypes using in vitro and in vivo approaches
- Test the applicability of nanoparticles for X ray fluorescence computed tomography (XFCT) to be used for the detection of BC heterogeneity
- Identify local and systemic signatures that predict patient benefit from combined RT and immunotherapy and test their clinical applicability
- Integrate data retrieved from experimental models and human studies with epidemiological data to build up a protocol for optimal patient stratification

The model



The structure

5 workpackages:

WP1: Investigating the effect of radiotherapy on the phenotype, gene expression signatures, and secretory profile of BC cell lines in vitro. (Lead: NNK, partners: UniPV, OvGU)

WP2 Investigating the impact of RT on the interaction between BC cells, immune cells and other components of the tumor stroma using in vitro and in vivo-mimicking approaches (Lead: OvGU, participants: NNK UniPV)

WP3: Screening for molecular signatures of RT application and immune system activation in human BC samples (Lead: UniPv, partners: NNK, OvGU, ISGlobal)

WP 4 Clinical applicability and long-term follow-up studies of patients – proof of concept (lead: ISglobal, partners: all partners)

WP5: Coordination, dissemination and E&T strategy, data management plan (lead: NNK, participants: all partners)



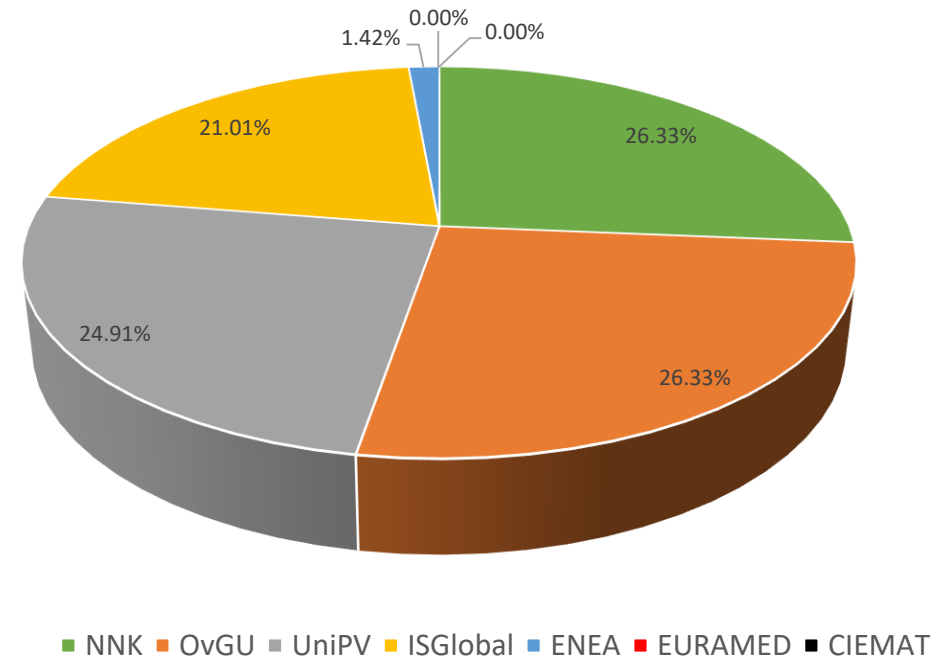
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The budget

Total budget: € 1 405 230,00

Requested EU funding: € 885 294,90

Distribution of budget among partners:



THANK YOU FOR YOUR ATTENTION!

