A Centre for New Methods in Computational Diagnostics and Personalised Therapy

This EU H2020 ‘Teaming for Excellence’ project develops a Business Case to establish in Poland a European centre of excellence for computational medicine.

Objectives
- **Health**: Development of new computation-based solutions for diagnostics and therapy in daily healthcare.
- **Technology**: Systematic involvement of regional biomed businesses, specialising in technologies and services for personalised medicine, in high-profile research projects and clinical adoption of their outcome.
- **People**: Development of education initiatives to train knowledge workers with the skills in data analytics, simulation, and HPC/Big Data, to respond to the growing demand for skilled workforce in medical devices and bio-engineering.
- **Science**: Strong advancement of algorithms, models and technologies involved in personalised medicine, including design of holistic, replicable, generic framework for simulation-based Decision Support Systems (DSS) creation.

Impacts
- **Personalising therapy**
- **Managing multi-morbidity**
- **Optimising complex pathways**
- **Reframing rural telemedicine**
- **Reducing innovation costs**
- **Improving quality of life**
- **Democratising healthcare**

Methodology
- **Collaboration**: Modellers + Healthcare Professionals → Identify in silico opportunities
- **Biomedical modelling community**
- **Innovation**: New in silico solutions for diagnostics and therapy in daily healthcare
- **Opportunity**: disease or condition of high society impact → promising simulation model
- **Clinical DSS Creation process**
- **Outcome**: product → exploitation strategy
- **Research funding**
- **Business partners (both SMEs and LieĮs)**
- **Train: mainly LieĮs Services: SMEs, spin-off, IOIs**

International Consortium and Environment

National and Regional Opportunities
- **Poland**, and in particular **Kraków**, are well positioned to play a key role in computational medicine:
  - **Krakow scientific community** educates large numbers of medical and IT professionals, and routinely engages in interdisciplinary research with Europe’s world-leading in silico research community.
  - There are many research hospitals in and around the city.
  - The life science companies have entered a phase of rapid growth.

The project is coordinated by Polish National Centre for Research and Development, and **Malopolska** (Kraków) region authorities are strongly involved in, to achieve adequate alignment of the Centre’s goal with national and regional specialisations and development strategies.

Human Resources: Key to Success
- **International committees and management**: excellence in talent acquisition
  - **Int. Scientific Committee**: Chair: Marco Vicoceco
    - 13 members (UK, IT, DE, NL, US, PL)
    - Selects top candidates
  - **Foundation Council**: 5 reps of 36 partners (UK, DE, PL)
    - Concludes employment contracts
  - **Search Committee**: 6 members (UK, DE, PL)
    - Access to quality candidates
  - **Centre’s Management**: Led by Scientific Affairs Director Marian Bubak

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