

Moore4Medical



Enabling “Moore for Medical”

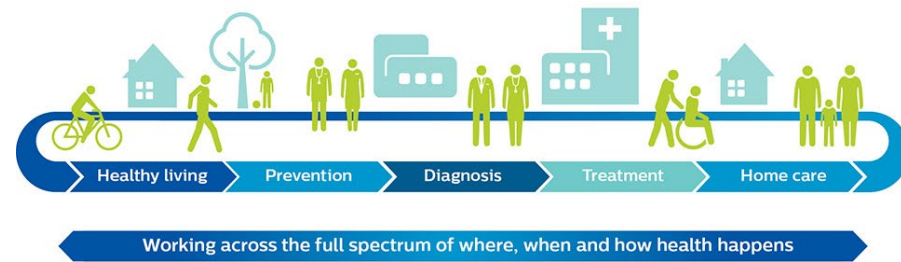
// “Open Technology Platforms
for Medical Devices” //



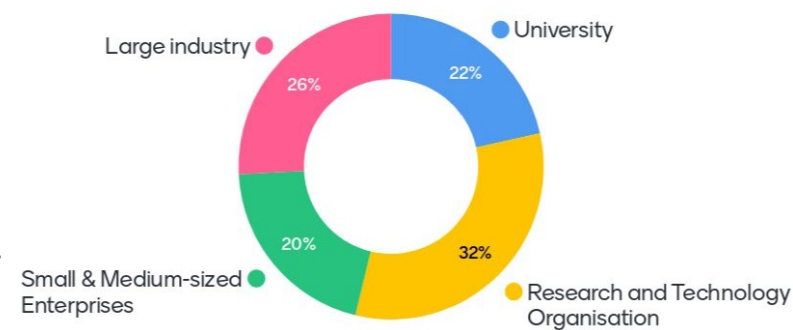
National Institute for R&D in Microtechnologies

Bogdan Fîrtat

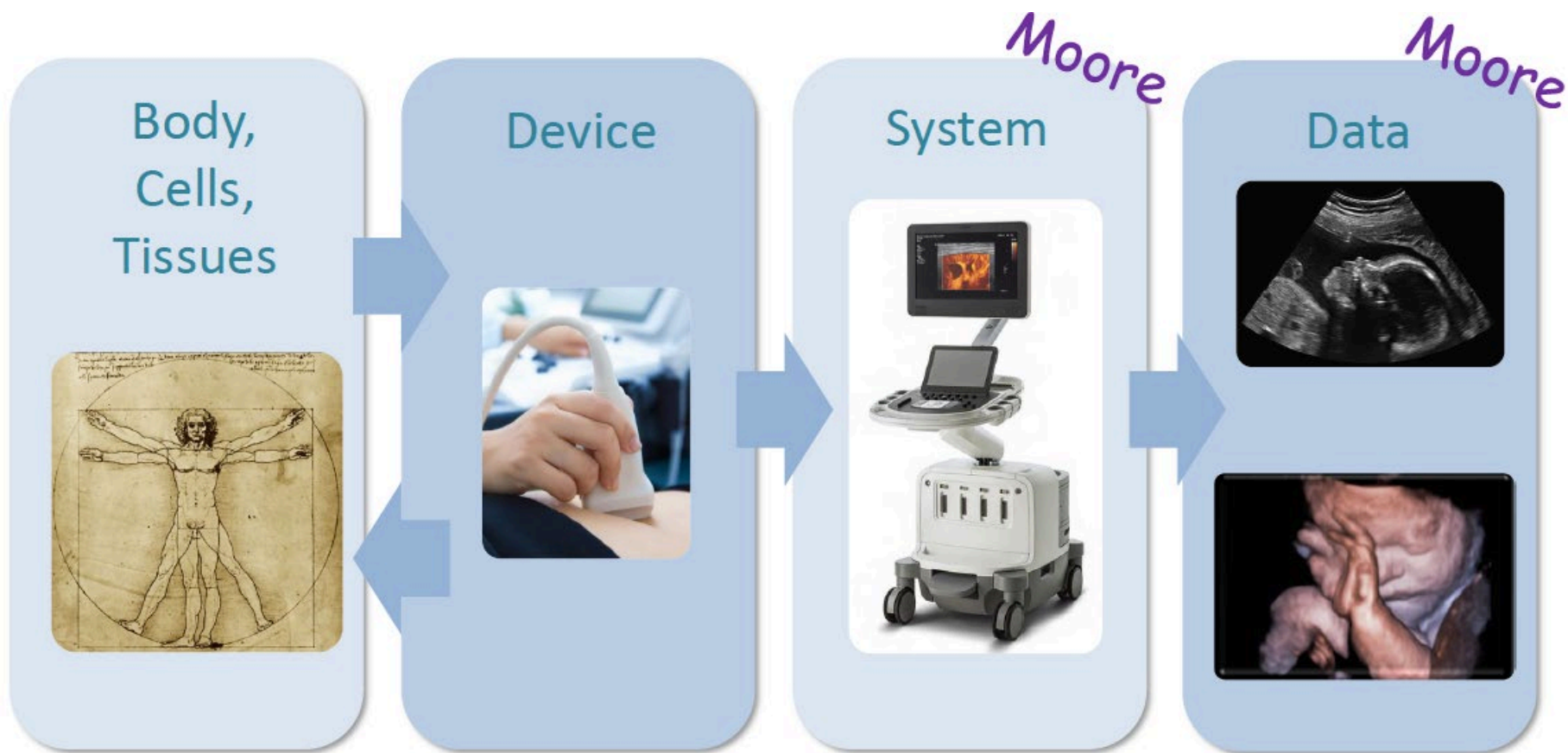
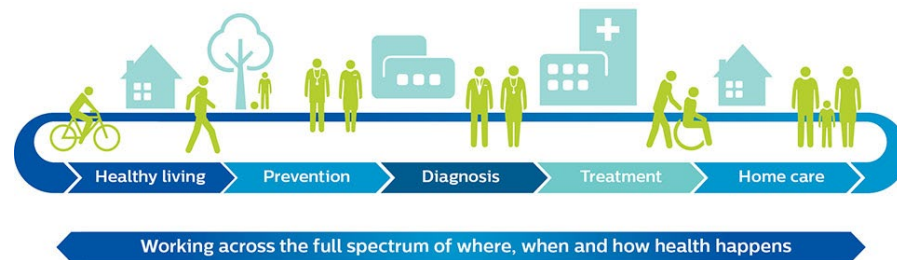
Moore4Medical will accelerate innovation in electronic medical devices.



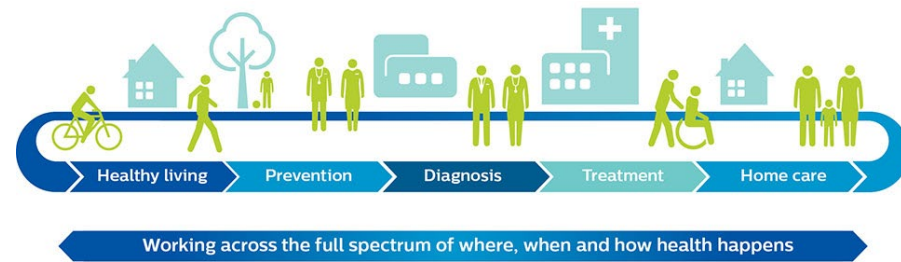
- The project addresses emerging medical applications and technologies that offer significant new opportunities for patients as well as for industry, including: **bioelectronic medicines, organ-on-chip, drug adherence monitoring, smart ultrasound, radiation free interventions and continuous monitoring.**
- The new technologies will help fighting the increasing cost of healthcare by: reducing the need for hospitalisation, helping to develop personalized therapies, and realising intelligent point-of-care diagnostic tools.
- **Moore4Medical** brings together 66 selected companies, universities and institutes from 12 countries who will develop open technology platforms for these emerging fields to help them bridge “the Valley of Death” in shorter time and at lower cost.



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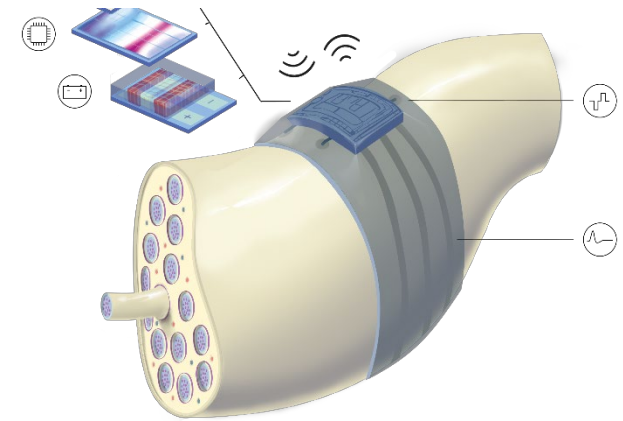


IMT-Bucharest's contribution within Moore4Medical

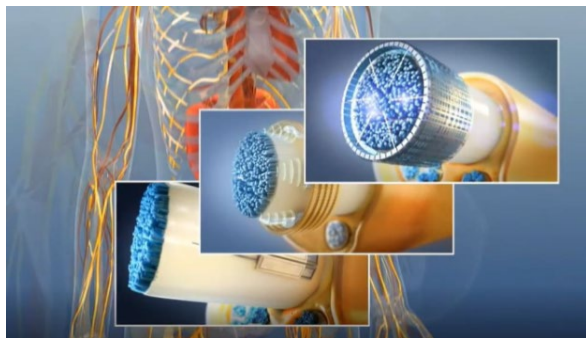


Implantable devices:

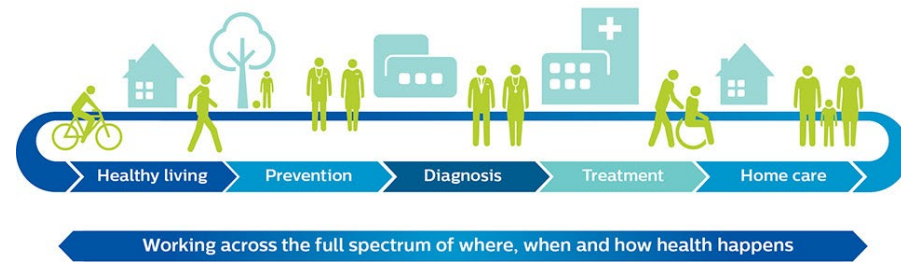
- Definition of system level specifications for ultrasound and inductive wireless links;
- Innovation track: peripheral nerve interfaces with increased spatial selectivity;
- Benchmarking of ultrasound and inductive wireless power transfer for implants;



IMT will contribute on piezoelectric MEMS packaging, assembly and biocompatible coatings of devices and to the benchmarking of ultrasound and inductive wireless power transfer using its modeling, and testing of wireless power transfer to implanted cuff electrodes; electrodes fabrication and integration, biocompatibility studies and stability tests.

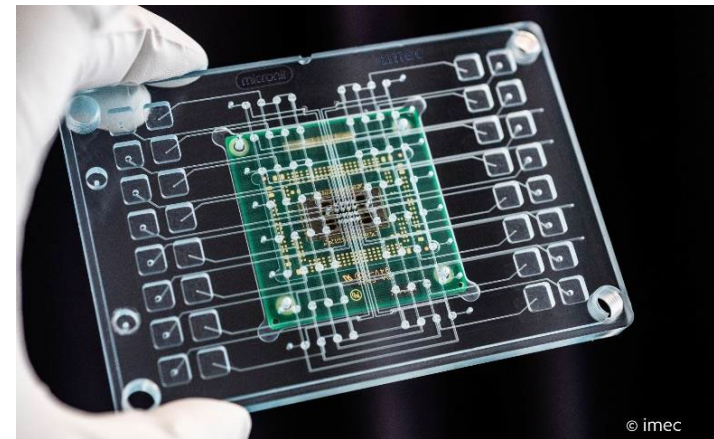
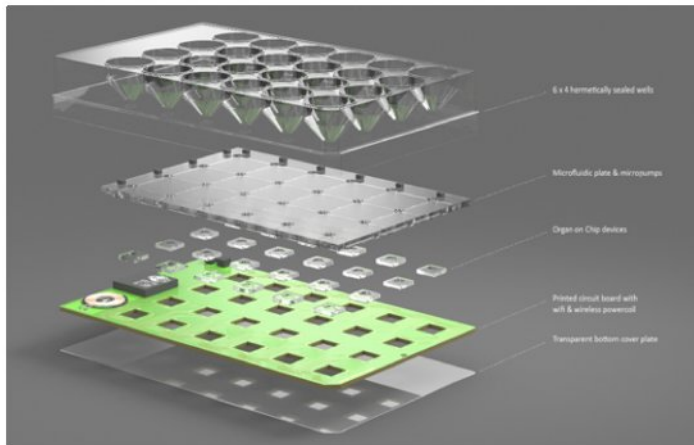


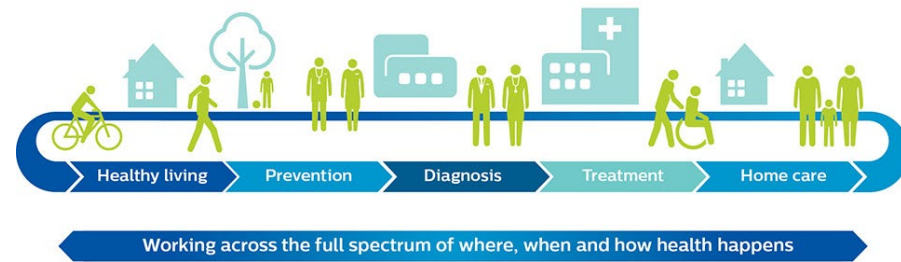
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Organ-on-chip:

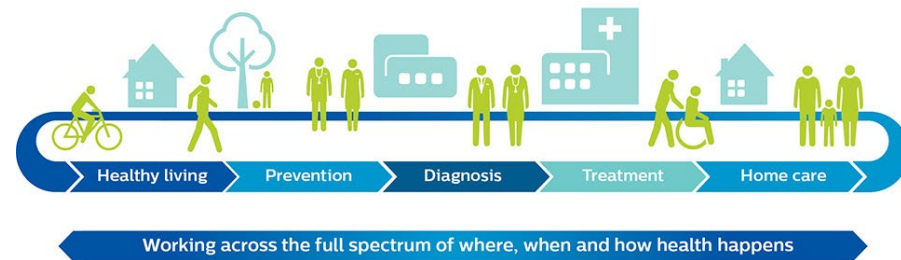
- General fluidic system modelling, for a first glance with relevant inputs to the initial specifications:
- In-depth microfluidic modelling and optimization: potential mixing issues, thorough analysis of the flow parameters (fluid velocity, flow rate, pressure), fluidic channels optimization (path and geometry).
- Multiwell plate, Sensors & modules: Contribution to design and optimization for the multiwell plate sensors on glass substrate, sensors fabrication.
- Validation: Validation of the analyses through measurements, potential recalibration of the simulation parameters.



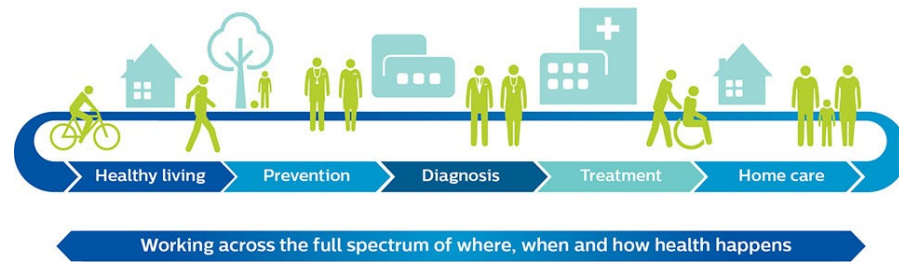


- **Romanian implementation of ECSEL projects**

- National financing through ESI (European Structural and Investment) Funds;
- No co-financing needed for public R&D institutions;
- Slower financing mechanisms, lower flexibility (usually required for participating in large European consortia);
- Two separate contracts are signed (one with ECSEL-JU, one with the National ESI Authorities).



- **CESMIN provided valuable support for the European and National contracting stages (the critical milestone for the project kick-off on our side)**
 - Activities correlation between the two contracts;
 - Transposing the implementation approach (from the work packages structure in ECSEL-JU to the national quarterly reporting system);
 - Preparing the budget according to the Romanian ESI restrictions and the forecast of the actual costs (further budgetary amendments are very difficult);
 - Valuable support for the first quarterly technical and financial reporting.



Thank you!

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<https://www.imt.ro>

<https://moore4medical.eu>