





CESMIN - Support Center for European cooperation in MIcro- Nanotechnologies - enabler for EU scientific cooperation -







National Institute for R&D in Microtechnologies - IMT Bucharest is running the project "Support Center for European Cooperation in Micro-Nanotehnologies (CESMIN)", with a duration of 38 months 16.04.2020 - 15.06.2023.

CESMIN project is proposing to offer consultancy services, with help of experts team having extended experience in EU projects, with the goal to facilitate the access to European funds. The support from CESMIN project will consists in: - Identification of European calls in micro nanotechnology area; - assistance in proposal elaboration; - partners identification;

- Appropriate calls, financing sources;
- Technical feasibility evaluation; IPR issues, impact.







PROJECT OBJECTIVES

- Increasing the participation in R&DI European programmes (Horizon 2020, HORIZON Europe) of IMT and other public or private organisations from Romania, in the field of micro nanotechnologies applied in various domains (ICT, NMBP, Space, Security, Defense, Environment, Bio-Medical applications, Health care etc)
 - ☐ Searching, screening and selection of open calls related to micro nanotechnologies in Horizon 2020 and other existing or future European calls and make these calls available to Romanian interested organisations.
 - ☐ Individual assistance for Romanian Organisations interested and asking for support in proposals submission under European programmes
 - ☐ Increasing the number of submitted proposals with Romanian participation in EU Programmes
 - ☐ Transforming CESMIN in a major enabler of Romanian participation in European programmes in the area of Sensors, Systems integration, Nanoelectronics, Photonics, etc for a large type of applications.





IMPACT of **CESMIN** implementation

Supporting the Romanian Organisations to work in large European Consortia will have impact in: reducing the Romanian gaps in attracting European R&DI funds, improving research and innovation indicators; helping SMEs to become visible at European level and to cooperate for gaining new markets; contributing to economical impact and citizens quality of life; helping the technical progress and technology alignment with EU Organisations.







The TEAM

Carmen Aura MOLDOVAN
Raluca MÜLLER
Miron Adrian DINESCU
Dana Mihaela CRISTEA
Mircea DRAGOMAN
Mihaela KUSKO
Gabriel MOAGĂR - POLADIAN
Alexandru MÜLLER
Dan NECULOIU
Bogdan FÎRTAT
Ionica MIREŞTEANU
Elena STĂNILĂ
Claudia Mădălina ROMAN





Expected RESULTS

- Building the community
- Creating a Network of EU Organisations
- Data base of possible partners
- Sharing information and knowledge
- Successful applications in EU programmes
- Connecting people
- Large Dissemination
- Large impact (technological, scientific, economic, social)





Who can benefit

The project is open to all public or private Romanian Organisations (RTOs, Universities, Companies) interested in developing applications based on Micro-Nanoelectronics, Photonics, Nanotechnology (three KETs).



Interested in cooperation? Contact us on cesmin@imt.ro.





Succes stories

Moore 4 Medical
FIT -4 NMBP
14th Projects submitted with CESMIN help

Moore4Medical

Enabling "Moore for Medical"

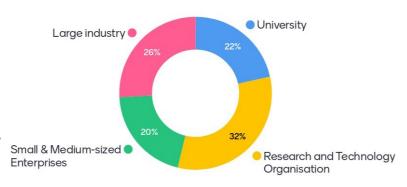
// "Open Technology Platforms for Medical Devices" //



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 Small & Medium-sized Enterprises"
 Death" in shorter time and at lower cost.





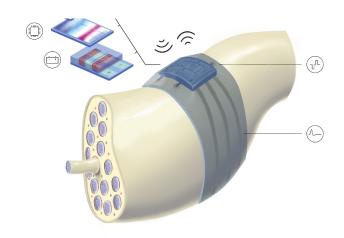
IMT-Bucharest's contribution within Moore4Medical



Working across the full spectrum of where, when and how health happens

Implantable devices:

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

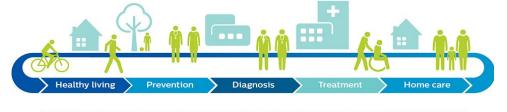




IMT will contribute on piezoelectric MEMS packaging, assembly and biocompatible coatings of devices and to the benchmarking of ultrasound and inductive wireless power transfer using its modeling, and testing of wireless power transfer to implanted cuff electrodes; electrodes fabrication and integration,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



IMT-Bucharest's contribution within Moore4Medical



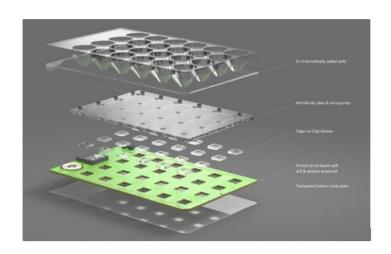
Working across the full spectrum of where, when and how health happens

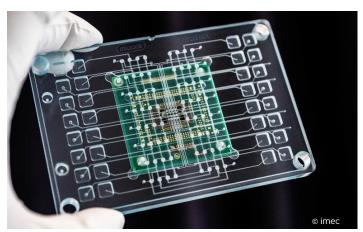
Organ-on-chip:

- 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.











Strategic and targeted support to incentivise talented newcomers to NMBP projects under Horizon Europe (FIT-4-NMBP)

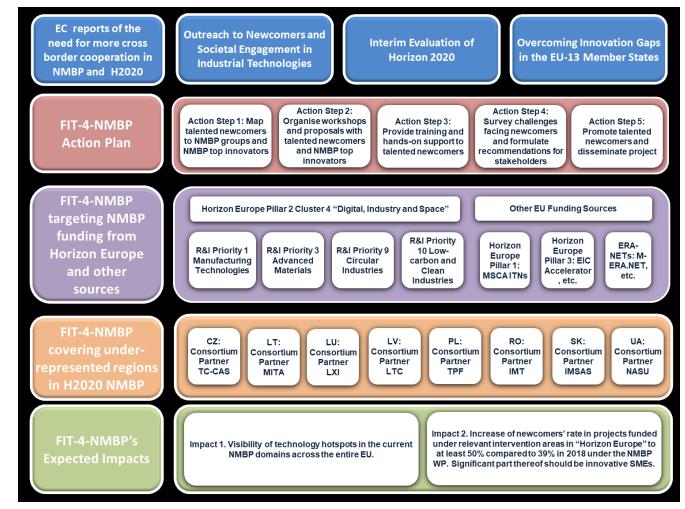
The FIT-4-NMBP project's overall objective is to increase the participation of *talented newcomers* from *underrepresented regions* in NMBP projects in Horizon Europe, as compared to Horizon 2020. Talented newcomers are promising innovation organisations – especially SMEs – that have not participated in H2020 NMBP projects. Meanwhile, underrepresented regions are regions in EU-13 Member States (e.g. Bratislava region, Dzukija, etc.), EU-15 Member States (e.g. Calabria, Luxembourg region, etc.) and Associated Countries (e.g. Kyiv region, etc.) with a low participation in NMBP projects in Horizon 2020. The increase in participation of the talented newcomers will be brought about by connecting them with *NMBP hotspots*, where important NMBP innovations are demonstrated, as well as networking them with prolific NMBP innovators or so-called *NMBP Top Innovators*.

The FIT-4-NMBP project will take **strategic and targeted approaches** to achieve this overall objective. From a **strategic perspective**, following the recommendation of the Horizon 2020 Advisory Group on NMBP1, FIT-4-NMBP will survey talented newcomers and experts responsible for regional and national R&I policy, in order to understand the precise reasons for non-participation of newcomers in NMBP projects. In turn, best practices will be identified and policy measures formulated and communicated to relevant stakeholders: talented newcomers; regional/national authorities responsible for R&I policy; local innovation and technology transfer nodes; and the EC.



FIT-4-NMBP Concept









"HORIZON EUROPE"







Cluster 4 DIGITAL INDUSTRY and SPACE **Key Digital Technologies (KDT)**

Electronic and photonic (light based technologies) components, and the software that defines how they work as part of a system, are the Key Digital Technologies. The overarching objective of the KDT partnership is to support the digital transformation of all sectors of the economy and society, make it work for Europe and address the <u>European Green Deal</u>.

By 2030, EU leadership in KDT will reinforce industrial strongholds having seized emerging opportunities to establish technological sovereignty and boost competitiveness.

The EU aims to be climate neutral in 2050. We proposed a **European Climate Law** to turn this political commitment into a legal obligation.

Reaching this target will require action by all sectors of our economy, including investing in environmentally-friendly technologies supporting industry to innovate rolling out cleaner, cheaper and healthier forms of private and public transport decarbonising the energy sector ensuring buildings are more energy efficient working with international partners to improve global environmental standards.





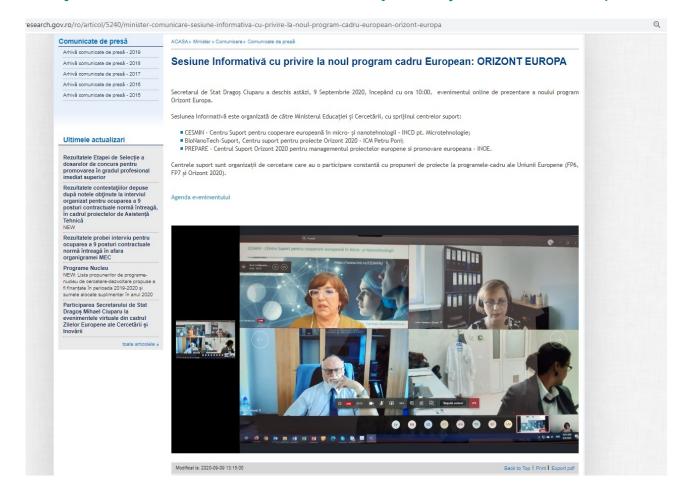
KEY Enabling technologies ensuring European leadership and autonomy

- **4.1 Manufacturing Technologies**
- **4.2 Key Digital Technologies**
- 4.3 Advanced Materials
- 4.4 Emerging Enabling Technologies
- 4.5 Artificial Intelligence and Robotics
- 4.6 Next Generation Internet
- 4.7 Advanced Computing and Big Data
- 4.8 A globally competitive space sector reinforcing EU sovereignty
- II. Accelerating economic and societal transitions
- 4.9 Circular Industries
- 4.10 Low-carbon and Clean Industries
- 4.11 New services from Space for the EU society and economy





HORIZON EUROPE – Communication Session in cooperation with the Ministry of Education and Research (9th September 2020)







CONCLUSIONS

- IMT has the necessary expertise and the capability to apply and win EU Projects
- CESMIN will be the right tool for increasing the number and quality of applications





THANK YOU!

carmen.moldovan@imt.ro cesmin@imt.ro