



# FIT-4-NMP

Strategic and targeted support  
to incentivise talented newcomers  
to NMP projects under Horizon Europe

## PROJECT DELIVERABLE

### D1.4 Updated list of talented newcomers

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# FIT-4-NMP

# UPDATED LIST OF TALANTED NEWCOMERS



December , 2022

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# FIT-4-NMP

**Updated list of newcomers  
talented in nanotechnologies, advanced materials and  
new manufacturing processes (NMP)**



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# FIT-4-NMP

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## INTRODUCTION

The FIT-4-NMP project is a support action funded by Horizon 2020 to increase the participation of talented newcomers from underrepresented regions in Horizon Europe research in nanotechnologies, advanced materials and new manufacturing processes (NMP) as compared to Horizon 2020.

In 2021, the FIT-4-NMP consortium implemented an extensive analytical study to identify and prioritise underrepresented regions in H2020 NMP research, i.e. regions with low participation in H2020 NMP projects but with untapped NMP potential. The analysis covered 44 countries – 27 EU Member States, the UK, and H2020 Associated Countries (AC) – and was implemented at a regional level (NUTS2 level or equivalent). Openly available data on H2020 projects funded under the NMP-relevant topics and confidential data on H2020 proposals submitted to the same topics were used to assess regions' project participations, proposal applications, organisation engagement, funding requested, etc. These data were supplemented by information concerning the regions' achievements in NMP research and strategic interest in NMP research and funding that were collected from different sources such as the Eurostat database, European Patent Office database, Smart Specialisation Platform, etc.

Based on this analysis's key outcomes and conclusions, the FIT-4-NMP consortium developed a pragmatic approach – combining policy considerations and data-driven considerations – to prepare a priority list of regions underrepresented in H2020 NMP research. Application of this approach resulted in the prioritisation of 92 regions underrepresented in H2020 NMP research – 47 regions from EU-13, 22 from EU-15 and 23 from Associated Countries\*.

The FIT-4-NMP support activities in these regions are focused on talented newcomers that are organisations – companies and especially SMEs, universities, research institutes or other organisations – that have not participated in the H2020 NMP projects but are considered promising innovators based on their R&D activities, projects, patents and/or innovations. Identifying and engaging talented newcomers is a continuous activity for the FIT-4-NMP consortium.

This deliverable presents an actual list of talented newcomers included in the FIT-4-NMP register based on their expression of interest in the FIT-4-NMP support measures.

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\* More details on the FIT-4-NMP region analysis and prioritisation of underrepresented regions are available in the project deliverable D1.1 "Report on underrepresented regions and talented newcomers in H2020 NMP research" available here: <https://www.docdroid.com/GUhaDdM/fit-4-nmp-deliverable-11-website-pdf>.



The newcomer identification and engagement activities will continue during the 3<sup>rd</sup> year of project implementation to support as many talented organisations as possible from the regions underrepresented in H2020 NMP research. An actual version of the FIT-4-NMP newcomer register is available at the FIT-4-NMP website and proposes many filtration options to find organisations from a particular NMP domain and/or subdomain: <https://www.fit-4-nmp.eu/newcomers-engaged>.

All organisations included in the FIT-4-NMP newcomer register are actively supported by the FIT-4-NMP consortium in their intention and attempts to join Horizon Europe NMP research and contribute to the European industry's sustainability and leadership. It should increase the number and quality of applications from underrepresented regions identified as the primary constraints to efficient participation in H2020 NMP research.



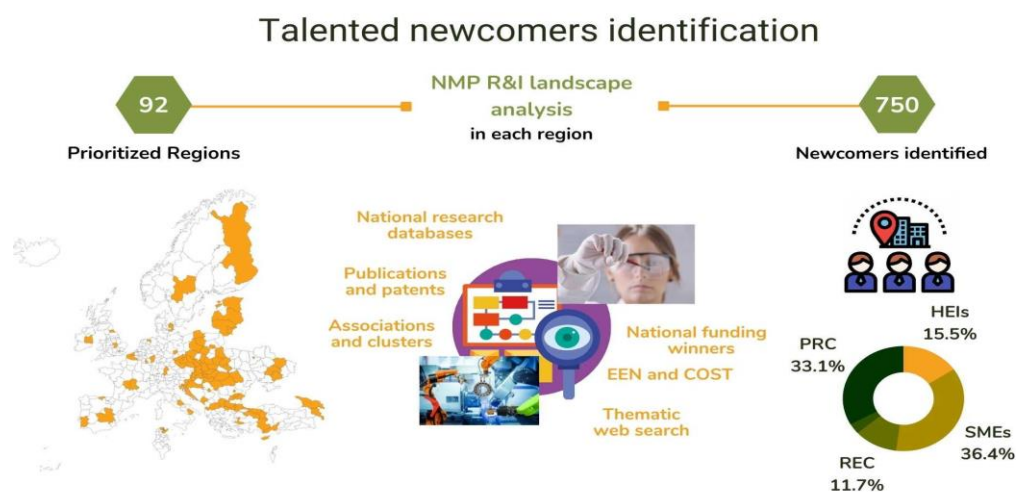
## TALENTED NEWCOMERS FROM UNDERREPRESENTED REGIONS

Activities on identification and engagement of talented newcomers started immediately after the selection of regions underrepresented in H2020 NMP research. To identify talented newcomers, the FIT-4-NMP partners used their knowledge and collaboration experience as well as analysed various sources of information about NMP research and innovations, individual actors and professional communities (the list below is non-exhaustive):

- International/national/regional databases and reports on NMP research, development and innovations
- National/regional NMP-relevant funding applicants and winners
- Members of NMP-relevant associations, clusters, communities, etc.
- EEN SME database, EU Innovation Radar data, NMP-relevant COST actions participants
- NMP publication and patent registers
- Professional news and media resources

For each case, the NMP experts within the FIT-4-NMP consortium partners made qualitative assessments of a) the amount/degree of NMP competencies of the potential talented newcomers and b) the amount/degree of motivation of the potential talented newcomers to participate in Horizon Europe NMP projects.

During April-June 2021, 750+ organisations – that meet the FIT-4-NMP definition of talented newcomers – from all 92 prioritised underrepresented regions were identified as a result of a desktop exercise. Most of these organisations are companies (33.1%) and SMEs (36.4%). However, there were also many universities and research organisations identified from EU-13 and Associated countries; some of them have a previous positive experience in FP7 NMP projects but have not succeeded with H2020 NMP applications.



Updated list of newcomers talented in nanotechnologies, advanced materials and new manufacturing processes (NMP)



The FIT-4-NMP partners have directly contacted all the identified organisations to inform them about the FIT-4-NMP opportunities and support. The organisations have been invited to complete the FIT-4-NMP Newcomer Identification Form (NIF) with information about the organisations' NMP-relevant business and R&D activities, national and international projects. Completing an NIF is also treated as an organisation's expression of interest in FIT-4-NMP's support and upcoming activities for talented newcomers.

Another way is an analysis and further engagement (if relevant) of the FIT-4-NMP event's participants. During the second half of 2021 and 2022, the FIT-4-NMP team organised and held many open trainings and information sessions. These events were proactively promoted at the national level by the FIT-4-NMP partners and collaborators. Participants registered were carefully analysed to see if their organisations meet the FIT-4-NMP talented newcomer definition. Those who passed the check were invited to join the FIT-4NMP talented newcomer pool.

Also, the active promotion of the FIT-4-NMP project and relevant events, support activities and services capture the attention of relevant organisations and they expressed their interest in completing the registration from the FIT-4-NMP website.

Table 1 below presents an updated list of talented newcomers identified and engaged in the FIT-4-NMP support environment as of December 2022. It demonstrates 167 organisations – including 78 companies, 35 universities, 52 research institutions and 2 cluster – from 52 regions and 27 countries. 96 engaged talented newcomers (57%) are from EU-13, 60 organisations (36%) and only 11 organisations (7%) are from EU-15 regions.

It is worth noting that the FIT-4-NMP partners have tried their best to ensure talented newcomer engagement from all underrepresented regions. For example, all the Cluster 4 NCPs were individually contacted to communicate the project's goals and activities and seek help in identifying talented newcomers in their countries. Despite this and other focused activities, not all regions are covered at the moment of this report preparation.

In 2023, the FIT-4-NMP team will continue with the newcomer identification and engagement activities to support as many talented organisations as possible from the regions underrepresented in H2020 NMP research. An actual version of the FIT-4-NMP newcomer register is available at the FIT-4-NMP website: <https://www.fit-4-nmp.eu/newcomers-engaged>.

Table 1 – Updated list of talented newcomers (listed alphabetically)

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
1	RO	RO12	1 Decembrie 1918 University of Alba Iulia	HES	Investigations on the metal corrosion mechanism; Metal electrodeposition studies using electrochemical techniques (electrochemical impedance spectroscopy, polarisation curves, voltammetry, chronoamperometry etc.); Testing new methods for the removal of the heavy metals from wastewaters; Material simulation and modelling; Big data analytics and Artificial Intelligence, Computer Vision Applications; Intelligent energy-saving solutions in urban mobility.
2	PL	PL91	Air Force Institute of Technology	REC	Composites manufacturing and structural health monitoring by non-destructive testing of structures and objects.
3	SK	SK02	Alexander Dubcek University of Trencin – Faculty of Industrial Technologies in Puchov	HES	Research and development of metals, polymers, silicate materials and textiles, combined with the focus on computational modelling and simulation, environmental engineering and industrial design.
4	LT	LT01	Altechna Coatings	PRC	Develop and provide complex technological solutions and custom designs for laser optics and optomechanical assemblies for serial production. Possesses in-depth knowledge on dielectric coatings and optical designs to ensure high peak levels of power or reduce the weight of commercial products.
5	LU	LU00	Amer-Sil S.A.	PRC	Design and produce high-performance micro-porous polymer/silica separators and gauntlets for all types of industrial lead acid batteries.
6	LU	LU00	Anisoprint Sarl	PRC	Hardware startup producing Carbon Fiber 3D Printers that allow to manufacture carbon reinforced plastic parts that can substitute metal ones in

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
					aerospace and engineering areas along with cutting costs and increasing productivity.
7	RO	RO32	Apel Laser SRL	PRC	Lasers and laser-based systems manufacturer; non-conventional laser machine manufacturing process. Thin films deposition and nanosensing.
8	LU	LU00	Artec3D	PRC	3D scanning solutions, Computer Vision and Machine Learning, Robotics
9	CZ	CZ06	Atomtrace	PRC	Fast and easy, high-resolution, high-sensitivity 2D or 3D mapping of chemical content. Surface mapping and detection of thin layers. Depth profiling and detection of thin layers.
10	CZ	CZ05	ATREA s.r.o.	PRC	Wide research of potential materials for different kinds of our products with cooperation with external subjects. Internal research and development of whole new units in terms of thermodynamics, acoustics and instrumental systems. On-going investment to advanced production technologies connected to other departments.
11	LV	LV00	Autentica, Ltd.	PRC	The core areas are digitalisation, automation and robotics, with accumulated capabilities from complex information system implementation projects for energy, telecommunications, finance, transport and logistics industries. Involved in a number of initiatives to create new offering in areas of digital authorisation and signing, mass decision making automation, 3D printing, robotising.
12	UA	UA20	B. Verkin Institute for Low Temperature Physics and	REC	Nanophysics and nanotechnologies, superconducting resonator, quantum and cryocrystals; nanostructured superconductors; quantum sensors.

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
			Engineering of the National Academy of Sciences of Ukraine		
13	LT	LT01	BATTEC, UAB	PRC	The only manufacturer of industrial lead-acid batteries in Lithuania and one of the first to produce lithium batteries and energy storage systems. Actively participate in battery technology development processes and have patented the innovative technology to produce lead-acid battery items for stationary energy systems.
14	RO	RO32	BEIA	PRC	BEIA has implemented and integrated IoT telemetry applications in the field of smart industry (predictive maintenance, quality inspection, HVAC, light, smart power plugs, location-Rjbased services using beacons, digital signage using ePaper); smart energy (materials and sensors for hydrogen, redox flow batteries, etc.); smart health (materials and sensors for particulate matters, gases, etc.)
15	PL	PL81	Bialystok University of Technology	REC	The activity of the Faculty of Engineering Management, and in particular the Department of Production Management, is related to new manufacturing processes, including (i) design and development of new products, (ii) - organisation and control of production, (iii) technology management, (iv) innovation processes; (v) production process management, (vi) Lean Management, (vii) service quality management.
16	TR	TR51	Bilkent University – Nanotechnology	REC	Photonic crystals, plasmonic and left-handed materials, electromagnetism, photonic crystals and metamaterials.

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
			Research Center (NANOTAM)		
17	SK	SK01	Bizzcom s.r.o.	PRC	Possess strength and R&I expertise in the fields of (i) Virtual Reality: ALPHA software solution for virtual and augmented reality environments enables the processing of 3D construction models into VR / AR environments and approving 3D machine design, machine ergonomics, machine layout within the production hall and other functions; (ii) Augmented Reality: GAMMA software solution for the augmented reality environment enables to display production or service data from the machine to the AR environment; (iii) Modular solutions development: modular solution for BIZZCELL (industrial cells); (iv) Microelectronics: development of memristor-based neuromorphic solutions with best in class energy and material efficiency, high reliability and lifetime improvements, and security designs.
18	LV	LV00	Bluette, Ltd.	PRC	Development and advancement of new projects in practically oriented research programs (including NMP). Legal and administrative support to projects. Intellectual property activities - patenting and licensing. Participation in international business exhibitions, forums, and markets. Planning of marketing activities. Promotion of collaboration between Latvian researchers and representatives of the business environment.



#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
19	TR	TR41	Bursa Uludağ Üniversitesi Teknoloji Transfer Ofisi A.Ş	HES	Nanotechnologies, advanced materials and new manufacturing processes; Next generation polymer supercapacitor (energy storage), self-renewable electrolytes for fuel cells, self-healing materials and recyclable high-strength and very light composites, Micro Electromechanical Systems (MEMS), Nano Electromechanical Systems (NEMS), MEMS Inertial Sensors, Accelerometers and Digitizers, Real Time Monitoring Systems, etc.
20	EE	EE00	CAFA Tech OU	PRC	Drone delivery, Computer Vision solutions for supporting Police and Rescue operations, 3D mapping, delivery of IoT sensors to temporary positions, Infrastructure inspection, etc.
21	UA	UA20	Carboline	PRC	Customised, small-batch and mass production of small and medium-sized composite structures (up to 2 m) using such technologies as RTM/VRTM, pultrusion and prepreg layup. Serial production of special-purpose military and civil UAVs, wide range of radio-controlled gliders and sailplanes.
22	LU	LU00	Carbon Process and Plant Engineering S.A.	PRC	The KOMBISORBON® process for the removal of Mercury, Cadmium and Dioxins from gaseous media, and the SULFACID® process for the conversion of Sox (Sulphur oxides) into H <sub>2</sub> SO <sub>4</sub> (Sulphuric acid).
23	CZ	CZ01	CARDAM s.r.o.	PRC	Additive technologies (polymer, metals, and other materials such as waxes or composite materials). Advanced mathematical simulations and computations with own software tool with which different multi-physics tasks can be combined. We focus on fast impact events such as gunshot, where we combine mechanical stresses, thermal stresses, gas flow, topological optimisation for 3D printing, casting, or for light weighting parts (ground

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
					tooling). We also develop digitalisation strategies for companies and optimise production.
24	SK	SK01	Centre for Advanced Materials Application, Slovak Academy of Sciences	REC	Material sciences and new technology developments based on surface and interface modification in the following application areas: (1) Energy storage, (2) Advanced nanomaterials and (3) Materials for biomedicine. Specific focus on battery technology research.
25	LU	LU00	ChemChain	PRC	ChemChain has developed a distributed blockchain platform for industry to create, publish and share digital product passports, enabling traceability of materials and products in the supply chain
26	LU	LU00	Cleancarb sarl	PRC	Energy storage, battery pack applications, development of materials for lithium batteries, supercapacitors, fuel cells and solar panels of the future. Research on materials for storage of carbon dioxide and other gases for propulsion systems and carbon footprint reduction.
27	CZ	CZ05	Clutex - klastr technické textilie, z.s.	OTH	Cluster focused on nanotechnology in textiles, (multi)functional textiles, personal protective textiles, design of customised textile structures, biotechnology and bio-based resources. Represents 36 members.
28	CZ	CZ01	Czech Rocket Society z. s.	OTH	First fully-functional liquid-fueled engine built by student society ever in the Czech Republic to be built in the upcoming years. Also working in the field of reliable and safe solid rocket motors.
29	MD	MD00	D. Gitsu Institute of Electronic Engineering and Nanotechnologies	HES	Basic and applied research in the field of solid-state electronics, in particular, at the nano-dimensional scale; materials engineering, electronic structures and devices. Development of multifunctional nanomaterials based on metal

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
					nanoparticles and metal oxides—nanozymes—that are mimetics of natural enzymes for the detection and degradation of persistent organic pollutants (POPs)
30	TR	TR41	Dogu Pres	PRC	Manufacturing of fine blanked parts (shims, washer and covers, flanges and plates) and precision-machined parts (rotors and housing, spacers, valves and nozzles, pump and injector bodies) for automotive industry. Industry 4.0.
31	UA	UA26	E.O. Paton Electric Welding Institute of the National Academy of Sciences of Ukraine	REC	Advanced technologies in welding and material joining. Strength, reliability and longevity of welded structures. Surfacing, coating deposition and surface treatment technologies. Technical diagnostics and non-destructive testing. Automation of welding and related technologies. Nano-structural systems, nanotechnologies and nanomaterials.
32	CZ	CZ01	Eaton European Innovation Center	PRC	Electrical, hydraulic and mechanical engineering to develop innovations in the fields of vehicle powertrains, industrial automation, power distribution, hydraulics, electronics and IT.
33	SI	SI03	ECHO Instruments d.o.o.	PRC	Worldwide supplier of high-quality innovative instruments for industry, pharmacy, biotechnology, biology, medicine, and ecology, including gas, fluz and oxygen analysers, gas mixing devices, custom design instruments
34	PL	PL91	Electronic Software Control Systems Sp. z o.o.	PRC	Electronic devices manufacturing from recycled materials. Will to replace ABS, plastic packages, plans to build Printed Circuit Board factory with recovery metal materials like gold, copper etc. Interested in collaboration on silicon recycling.

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
35	TN	TN01	Enameled technology industry	PRC	Manufacturing of enamelling tanks, metal structures and parts. R&D on uniform and controlled deposits of enamel over flat metal surfaces using spray coating to show the feasibility of the enamel coating process in industrial scale, to improve the ability to control costs and product quality, solve environmental issues, limiting scrap and raw materials.
36	LV	LV00	Energi, Ltd.	PRC	Energy audits of buildings, companies and processes. Engineering consultations, research and work on the sustainability calculations, such as Scope 3 Calculation, LCA (Life Cycle Assessment) and overall EDP (Environmental product declaration). The company is a part of the Cleantech cluster and Latvian Association of Heating Companies.
37	TR	TR41	ENTEKNO	PRC	Production of inorganic powder materials, modification of powder surfaces, production of specific materials, composite materials production and development, improvement of physical, chemical and thermochemical properties of materials, nano materials synthesis and development.
38	TR	TR10	Enwair Energy Technologies Corp.	PRC	Lithium-rich NMC cathodes, silicon anodes, conductive/flexible polymers, self-healing anodes - all processes starting from active material development and synthesis, preparation of electrodes to preparation and testing of coin-cell and pouch-cell.
39	SI	SI03	Faculty of Polymer Technology (FTPO)	HES	Preparation and characterisation of polymer nanocomposites with graphene oxide, carbon nanotube, clay and carbon black; bio-based materials; biomass products.

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
40	RO	RO11	FibreX Co Srl	PRC	Producer of wide range of fibre glass products for industrial and domestic use. Experienced in plastic thermoforming, composite moulds production, GRP products manufacturing in hand lay-up and spray as well as CAM/CAD mould making for the composite industry. Produces more than 40,000 products per year, made from different resins, with glass fibres reinforcement.
41	SK	SK01	FIRST WELDING COMPANY, Inc.	PRC	Modern technologies for welding, cutting and surface treatment of materials using laser, electron beam, arc sources and plasma.
42	LU	LU00	Flawless Photonics Sarl	PRC	Pioneering the manufacturing and supply chain of next-generation optical fibers from space known as SpaceFiber™
43	TR	TR62	Gramis Plastic Industry	PRC	Manufacturer of polyethylene granules, packages, gloves with the use of recycled material. Interested to be an end-user in projects related to industry circularity, industrial symbiosis, advanced manufacturing, digital solutions for industry, energy efficiency, environmental protection, renewable energy.
44	RO	RO12	Guhring Srl	PRC	The world's leading manufacturers of precision tools. More than a century of expertise in cutting tool manufacturing, combined with powerful R&D resources ensured high productivity, excellent economic efficiency and optimal machining results of the company's products.
45	TR	TR42	HKTM	PRC	Motion and Control Systems, Robotic Systems, hydromechanics systems, automation systems, Factory Automation.
46	LV	LV00	Hymet Thermal Interfaces, Ltd.	PRC	A deep-tech start up, specialising in heat-spreading thermal interface materials (which are meta-materials) for cooling high powered, complex and

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
					compact electronics. Focuses on battery thermal management applications, however has also interest on power electronics applications.
47	CY	CY00	Hystore Tech, Ltd.	PRC	Production and characterisation of metal hydrides, hydrogen storage units and systems, materials production and testing, hydrogen production by water electrolysis, utilising renewable energy sources such as photovoltaics and wind-turbines, metal hydride-based air conditioning systems (heat and cool), training on hydrogen storage materials, water purification/treatment.
48	RO	RO32	ICPE SA	PRC	Special electric Machines, Robotics, Additive manufacturing, Smart materials, Circular economy, E-mobility, Space, Industry 4.0, Renewable Energy, Industrial automation, Electric Apparatus, Special electric Cables
49	UA	UA26	Igor Sikorsky Kyiv Polytechnic Institute - Metal Physics Department	HES	Advanced materials, diffusion and structural phase transitions in micro-, meso- and nanoscaled materials and systems, as well as the development of technologies for new materials creation with predefined advanced properties.
50	GE	GE00	Ilia State University	HES	Structural and electronic properties of low-dimensional systems, nanostructures and atomic clusters. Computer modelling of boron nitride nanostructures and low-dimensional boron systems, their electronic and scale-dependent structural properties.
51	TR	TR10	infoTRON	PRC	Product Design and Development technologies such as Industrial Design, Mechanical Design, Engineering, 3D Printing, Reverse Engineering, Product Lifecycle Management, and also Simulation and Virtual Reality.

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52	LT	LT02	Inobiostar	PRC	An early-stage start-up with the aim to create and develop deep tech innovations towards clean seas. Inobiostar's new brand product is InnoAerogel – sustainable, highly efficient, biodegradable and reusable waste-paper based material – sorbent for aquatic oil spills clean-up.
53	AM	AM00	Institute for Physical Research of National Academy of Sciences of Armenia	REC	Optical nanocells, magnetometers and sensors based on alkali metal vapors, stabilisation of laser radiation frequency; writing, transmission and readout of optical information, quantum key distribution, protocols, cryptography, repeaters, formation of molecular BECs); writing 2D and 3D structures in photorefractive materials with non-diffracting laser beams for optical information & radiation control); new approaches for developing compact, energy-efficient & multiwavelength lasers; development and growth of functionalised laser and scintillating crystals; development of thin film structures for microelectronics and laser technology; development of ZnO-based semiconductor elements and structures for optically transparent electronics; development of memristive elements; etc.
54	UA	UA26	Institute for Problem of Strength of the National Academy of Sciences of Ukraine	REC	Investigation of vibration characteristics of materials and structural elements, Surface hardening techniques for aeronautical engineering components: Vacuum thermocyclic nitriding in plasma; PVD.
55	UA	UA26	Institute for Problems of Materials Science of	REC	Department of composite materials of IPMS NASU has great experience in the development of functional and structural polymer-based composites

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			the National Academy of Sciences of Ukraine		reinforced by high strength carbon, aramide, glass fibers and technologies of their production.
56	UA	UA20	Institute for Scintillation Materials of the National Academy of Sciences of Ukraine	REC	Materials science of scintillation and luminescent materials; fundamental research of radiation interaction with matter; development technologies and nano-technologies for production of scintillation detectors and devices on their base.
57	MD	MD00	Institute of Applied Physics	REC	Fundamental and applied research in physics and physico-chemistry of condensed matter: crystalline, noncrystalline and nanostructured materials; electronics and quantum optics, design of high technologies and multifunctional electronic, optoelectronic and photonic devices. Theoretical study of quantum technologies in artificial or real atomic and opto/nanomechanical systems, respectively. Investigation of quantum coherence or quantum interference, quantum inseparability and control of quantum dissipations.
58	SK	SK01	Institute of Construction and Architecture, Slovak Academy of Sciences	REC	Modelling of multi-physical phenomena in composite materials, development of advanced multiscale continuum mathematical-physical models, development of advanced computational methods for smart materials, complex research of silicate composites, development of advanced inorganic binders based on multicomponent cements containing admixtures, geopolymers and phosphate ceramics binders.



#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
59	LV	LV00	Institute of Electronics and Computer Science	REC	Advanced manufacturing - sensors and sensor systems, IoT, I-IoT, robotics, Artificial Intelligence, Machine Learning, Computer vision, signal and image processing, automation, mobile agents, wearables, communication technologies, data acquisition, fusion, edge and cloud computing, ROS, embedded systems, FPGA, SoC, embedded intelligence, etc.
60	UA	UA26	Institute of General and Inorganic Chemistry of the National Academy of Sciences of Ukraine	REC	Nanochemistry, nanomaterials, science-intensive nanotechnologies of functional inorganic substances, materials, and coatings.
61	UA	UA26	Institute of Macromolecular Chemistry of the National Academy of Sciences of Ukraine	REC	Synthesis, characterisation and application of synthetic polymers, polymer composites and nanostructured materials. Polymer chemistry, physicochemistry of polymer composites, technology of functional polymers, composites and polymers for biomedical applications, polymers of special applications, polymer blends, IPNs, polymer nanocomposites, bio-based polymers, biodegradable polymers, polymer recycling.
62	CZ	CZ01	Institute of Macromolecular Chemistry, Czech Academy of Sciences	REC	Biodegradable starch-based and polyurethane materials; electrically conductive polymer composites; nanocomposites based on layered 2D nanofillers; nanostructured biobased hydrogels.
63	SK	SK01	Institute of Materials and Machine	REC	Research of new materials (composites, metallic foams, PM materials, intermetallics) and manufacturing technologies (gas pressure infiltration,

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			Mechanics, Slovak Academy of Sciences		diffusion bonding, powder metallurgy, directional solidification, additive manufacturing, metal foaming).
64	PL	PL41	Institute of Molecular Physics, Polish Academy of Sciences	REC	Research of simple and multifunctional dielectric materials in solid and liquid phases and advanced materials for molecular electronics, experimental and theoretical research of magnetic materials (both solid and thin layers) and organic multifunctional materials, research on metamaterials with properties resulting from their structure.
65	HR	HR04	Institute of Physics	REC	Atomic and molecular physics, solid state physics, surface physics, and plasma physics.
66	UA	UA26	Institute of Pulse Processes and Technologies of the National Academy of Sciences of Ukraine	REC	Applied materials science, the development of scientific bases for the method of porous materials structure change and processes of powerful electric current pulses interaction with condensed matter. Powder metallurgy, preparation of initial powder and consolidation of powders.
67	UA	UA26	International Center for Electron Beam Technologies of E.O.Paton Electric Welding Institute	REC	Production of modern materials and coatings on the surface of inorganic and organic substances. Production of metal-organic composites by electron beam deposition of directed steam flow of various metals on the surface of organic matrices of plant origin
68	RO	RO32	International Centre of Biodynamics	REC	Development of smart functional materials for biosensing, nanomaterials-based electrochemical sensors, catalytic nano- and micro-motors, template-

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
					assisted, electrochemical synthesis of hybrid (e.g., polymeric and metal) nanorods.
69	UA	UA04	Iron and Steel Institute of Z.I.Nekrasov, National Academy of Sciences of Ukraine	REC	Fundamental and applied research in the field of metallurgy of metals and alloys.
70	HR	HR03	Istrian University of Applied Sciences	HES	Research on advanced nanocomposite materials, study of the influence of CNT on thermal properties, development of cost effective and industrial scale technologies for the production of nanocomposites, testing and optimisation of materials and process parameters as well as the verification of the nanocomposite performance in pilot line settings
71	LV	LV00	Jekabpils PMK	PRC	Construction services provider, construction material and product manufacturer. R&D in polymer concrete and hydro isolation materials. The research is focused on optimisation of ingredients of polymer concrete as well as production technology with the focus on waste and cost reduction (substitution of a fresh polymer with a plastic-waste).
72	UA	UA20	JSC FED	PRC	Leading enterprises in Ukraine that specialises in development, production, maintenance and repair of aerospace and general engineering units. Actively implement Industry4.0 components in production processes.
74	UA	UA26	Junior Academy of Sciences of Ukraine	HES	An educational system that provides organisation and coordination of students' research activities

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
75	UA	UA13	Karpenko Physico-Mechanical Institute of the National Academy of Science of Ukraine	REC	Department of Hydrogen Technologies and Alternative Energy Materials has experience in the field of metal hydride materials science and hydrogen technologies. Previous work has involved research on new Mg-based hydrogen storage materials, metal hydride electrodes for Ni-MH batteries, and more recently on research of materials for hydrogen generation to supply Fuell Cells (FC).
75	RO	RO21	KATTY FASHION SRL	PRC	Optimisation, automatisisation and digitalisation of processes in the clothing industry as a step-by-step transition to a larger circular business model in fashion garments production that maximises the use of all its resources and exploits advanced manufacturing techniques
76	LV	LV00	KEPP EU, Ltd.	PRC	Development of alternative technology for production of semiconductor silicon rods mostly for power rectifiers, with target to organise production of Si Single crystal by FZ method with diameter 300 mm (12”) comparing to current 8” as theoretical maximum by known technology.
77	UA	UA09	King Danylo University	HES	Applied research in the area of energy (renewable, energy-efficiency, energy management), applied research in materials characterisation of steels (yield strength, impact toughness etc), measurement of the quality of natural gas, participation in the 1st Ukrainian hydrogen project.
78	TR	TR42	Kordsa	PRC	Kordsa operates in 4 continents in 13 facilities with 2 R&D centers. The R&D Center in İstanbul at Composite Technologies Center of Excellence (CTCE) develops innovative composite technologies for aerospace, automotive, marine, construction, sports & leisure markets and industrial applications. The

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					R&D center in İzmit develops new products, processes and technologies for tire reinforcement, construction reinforcement, thin film & flexible electronics and compounding.
79	UA	UA26	L.V. Pisarzhevskii Institute of Physical Chemistry of the National Academy of Sciences of Ukraine	REC	Fundamental and applied studies in heterogeneous catalysis, including the synthesis of the catalysts, their characterisation, and methods for determining catalytic properties. The main interest in applying for this specific topic is expertise in the methods of synthesis of novel catalysts and apparatus for providing hydrogenation/dehydrogenation reactions.
80	FR	FRE1	Labkicosmos	PRC	Developer of cost-effective molecules for organic electronics such as OLEDs
81	PL	PL91	LINETECH SA	PRC	Design of a simulator using VR and AR technology, dron system to optimise visual inspection procedure. Research on robotic systems and drones to optimise and speed up visual inspections, RFID solutions in warehouses.
82	UA	UA26	LLC "Additive Laser Technologies of Ukraine"	PRC	The manufacturer of modern systems for selective laser melting of metal powder (3D printers) designed to create metal products of any shape in the additive manufacturing process known as Powder Bed Fusion (laser melting of metal powder in an inert environment), as well as auxiliary equipment.
83	UA	UA26	LLC "TEKHNKA INNOVACIJ"	PRC	Producer of single crystal growing furnaces.
84	PL	PL91	Łukasiewicz - ORGMASZ	REC	Assessment, selection and ranking of technologies, including (i) analysis of impact, (ii) providing recommendations for selecting available or developing new technologies that best meet the identified objective, (ii) conducting public consultations, (iv) forecasting technological development in a selected area,

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					creating scenarios for the development of selected technologies and assessing the possible effects of their implementation.
85	PL	PL91	Łukasiewicz Research Network - Automotive Industry Institute	REC	R&D activities related to waste streams and biomass conversion into hydrocarbon streams, new application for green hydrogen, use of algae, components homologation and certification (mostly for automotive sector), production of biogas, upgrading, LCA analysis
86	PL	PL91	Lukasiewicz Research Network - Institute for Sustainable Technologies	REC	Systems engineering, tribology, surface layer engineering, operating fluids, diagnostics, mechanics, bionics, metrology, computer science. Modelling processes and structures of knowledge transformation and technology transfer to the economy. Methods of optimising production and operation processes. Development of systems for rationalising the use of material and energy resources. Methods and devices for supporting quality systems in production and operation processes.
87	PL	PL91	Lukasiewicz Research Network - Institute of Aviation	REC	Provides solutions in the field of composite technologies, including thermoplastic composites; composite structure design, manufacturing, processes quality control and non-destructive testing; qualification tests of composite materials, composite structure repair technologies, etc. Also, provides a wide range of services on material and structural testing, including but not limited to composites.
88	PL	PL51	Łukasiewicz Research Network - Institute of	REC	Organic synthesis and technology, synthesis of biobased resins, as well as resins properties modifications, renewable raw-materials processing technologies, homo- and heterogenic catalysis, polymers and plastics

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			Heavy Organic Synthesis		technology and chemistry and their modification and processing, surfactants and household chemistry, chemical analyses, chemical engineering, environmental protection and wastes utilisation.
89	PL	PL41	Lukasiewicz Research Network - Poznan Institute of Technology	REC	With a focus on a digital transformation, the Institute provides a full range of design and research services in the fields of analysis and design of digital products within the user-centred design; business and system analysis; designing IT systems and digital services; coordination of digital product development works and maintenance of IT systems at the business and technical level; applied and application Informatics for testing the applications of smart digital technologies.
90	UA	UA09	Lutsk National Technical University	HES	Development of technologies for processing machinery waste, technology of production of biocomposite and environmentally friendly materials. R&D in the field of Tools and Techniques of IoT for Automated Management Systems and Smart Industry 4.0 Technologies. R&D in new materials - polymer composites, ceramics, biocomposite and powder materials, protective coatings, etc. Strategic environmental assessment of facilities, territories, programs.
91	UA	UA13	Lviv Polytechnic National University, Department of Electronic Engineering	HES	Studying and development of new structures, elements and devices of electronic and photon engineering. Highly integrated micropower low-voltage devices with minimal power consumption for portable electronics are developed. Organic electronics devices based on organic semiconductor

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					materials are created. The investigation of the interaction of photon fluxes with micro- and nanostructures.
92	CZ	CZ05	MEMBRAIN s.r.o.	PRC	Research, engineering and technology company that focuses mainly on membrane processes. The main processes are Electrodialysis for desalination and concentration of different liquids, Electrodeionization for producing ultrapure water and Diffusion Dialysis for recycling used acids. Furthermore, we focus on biogas processing and bioCNG production in gas membrane separation.
93	TR	TR51	METU MEMS Centre	PRC	Microsensors and components, including piezoresistive and capacitive pressure sensors, low-cost CMOS infrared detectors, accelerometers, gyroscopes, humidity sensors, temperature sensors, frost sensors, micro power generators, and various RF MEMS components.
94	TN	TN01	MFCPOLE	OTH	Mfcpole is a competitiveness cluster whose main mission is development of a growth ecosystem and implementation of the smart specialisation strategy in the fields of Textile & Clothing. Mfcpole also has the mission of developing, managing and leading a new generation of multi-sector industrial parks that comply with international and environmental standards and provide services that meet the needs of investors.
95	IE	IE06	MNA INNOVATION LIMITED	PRC	Design and manufacturing of freeform components and structured functional surfaces on a variety of materials for medical devices, bio-implants, optics, ICT, energy, etc. Precision and ultra-precision machining capabilities for high



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					quality moulds for applications such as microfluidic chips and optical components, ultra-precision metrology and process chain development.
96	MA	MA00	Moroccan Foundation for Advanced Science	REC	New materials for thermal energy storage. Recycling of waste for the development of pavers. Valorisation of natural resources, in particular clays, for the development of materials dedicated to wastewater treatment and seawater pre-treatment, etc.
97	CZ	CZ01	Nano Power a.s.	PRC	Battery systems development (including BMS & cooling) according to the customer's needs – incl. R&D of the battery box, assembling, commissioning. LTO battery system for fuel cell (hydrogen) applications. Battery box development according to norms needed (R100, R10 – road standards, IEC 62928 – railway standard)
98	RO	RO12	NANOM MEMS SRL	PRC	Technologies: Thick and thin film; Photolithography; Microarray (DNA and protein); Micro and nanofluidics; Micro and nanosystems; Supercritical fluid processing; Laser processing. Materials: Thick and thin film inks; Ceramic components; Metallic powders; Carbon components; Conducting polymers; Micro and nanofibers
99	UA	UA20	National Aerospace University "KhAI"	HES	Technologies and equipment for Cold spraying of protective and restorative coatings and plasma-ion coatings. Gas-Detonation and HVOF Spraying of Powder Coatings.  Innovative methods and processes of composite structures manufacturing: hybrid joining technologies, optimised automated lay-up of large composite structures, manufacturing of smart composite structures with integrated

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					sensors and metal parts, composite structures with increased thermal and electric conductivity.
100	RO	RO32	National Institute for Laser, Plasma and Radiation Physics	REC	Functional coatings, new materials as thin films and nanostructures for applications in sensors, clean energy generation; characterisation. Laser material processing; Thin films and heterostructures growth by laser-based techniques, i.e. radiofrequency assisted pulsed laser deposition (RF-PLD), matrix assisted pulsed laser evaporation (MAPLE), first demonstration of functional surface acoustic wave sensors coated by laser-induced forward transfer (LIFT).
101	RO	RO32	National Institute for R&D in Electrical Engineering ICPE-CA	REC	Advanced materials, systems and applications in electrical engineering - 3d graphene photovoltaic cells, processing of polymeric materials, nanostructured materials.
102	RO	RO32	National Institute for R&D in Informatics - ICI Bucharest	REC	Proven experience in modelling and optimising complex systems with applications in industry and economics as well as Industry4.0 components such as artificial intelligence (machine learning, deep learning); cloud computing; advanced management and analysis of large data (BigData); etc.
103	RO	RO11	National Institute for R&D of Isotopic and Molecular Technologies	REC	Composite nanostructures with controlled properties for medical applications. Nanostructured materials for environmental applications. Functionalised hybrid nanostructures for applications in pharmaceutical industry and cosmetics. Composite nanostructures.
104	EE	EE00	National Institute of Chemical Physics and	REC	Development and safety assessment of nanotechnology-based materials, including antimicrobial, metal-chitosan nanocomposites, development of

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			Biophysics - Laboratory of Environmental Toxicology		water purification systems and new industry-relevant nanomaterials for different applications.
105	RO	RO32	National Institute of Materials Physics	REC	Advanced materials for micro-, opto- and nanoelectronics applications and sensors for health, security and environment applications: films and multi-layered structures with nanocrystals embedded in dielectric matrices photosensitive in short-wave infrared range (SWIR), with ferroelectric and charge storage properties. 2D-TMD based materials and heterojunctions with electro-optic properties for health and environment applications - development of demonstrators up to TRL 5.
106	RO	RO21	National Institute of R&D for Technical Physics	REC	Research, development, and innovation activities in the field of: (i) materials with new structures (e.g., amorphous, nanocrystalline) and unique physical properties; (ii) devices and equipment based on such materials; (iii) new material preparation methods and new techniques for their characterisation; (iv) new methods for electrical and magnetic separation; (v) targeted materials and devices for specific applications in engineering, medicine, and biotechnology.
107	RO	RO32	National Institute of Research and Development in Mechatronics and	REC	Advanced material-based technologies in health applications; Additive Manufacturing Applications; Laser-based microprocessing; technologies for processing and use of new materials; Analysis of tribosystems specific to cutting and micro-cutting of metallic and non-metallic materials based on hard and extra-hard composite structures; Structural and operational

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			Measurement Technique		characterisation of wear-resistant coatings; Tribological characterisation of materials used in mechanical and bio-medical applications
108	RO	RO32	National R&D Institute for Non-ferrous and Rare Metals – IMNR	REC	Coatings/thin films: thin films deposition by thermal evaporation e-beam PVD, by RF-magnetron sputtering; Advanced materials: thermodynamic and kinetic evaluation of processes for obtaining metal-based materials; high-entropy alloys elaboration; synthesis of ceramic and inorganic-organic hybrid nanopowders; synthesis of ceramic and composite powders; powder processing: sintered products, morphology control, heat treatment in air, controlled atmosphere (argon), vacuum; Exploitation of secondary resources: oxidation-reduction processes, recovery of non-ferrous metals from scrap metal, manufacture of non-ferrous alloys using secondary resources. Materials characterisation: chemical analysis; physico – structural characterisation; study of material's thermal behaviour
109	RO	RO32	National Research Development Institute for Textiles and Leather	REC	Eco-nano-materials; Thermoplastic polymer and nano/micro particle-based fireproof protection sole for firefighters; Hybrid composite materials with thermoplastic matrices; New nanostructured polymeric composites.
110	PL	PL22	Noma Resins Sp. z o.o.	PRC	Production of raw materials for composites manufacturing processes. We deliver solutions (mainly resins and semi-finished products) for various composite producers, including composite rebars, marine industry, sportswear and more. We also offer R&D services (development of new materials,

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					composite characterisation and more) and technological assistance and implementation of new production lines.
111	UA	UA13	Novinano	PRC	Deep-technology company delivering novel techniques for restructuring surfaces using femtosecond laser technology. The company's technologies allow changing optical and physical characteristics of materials with the femtosecond laser system and industrial scanner. The application fields are healthcare, aerospace, agriculture, and other sectors.
112	TR	TR10	Ozyegin University	HES	Additive manufacturing, artificial intelligence, optimisation of industrial production by robotic applications, human-robot collaboration, digitalisation of design processes, Industry 4.0, industrial 6G, quantum technologies, material science.
113	CZ	CZ07	Palacký University Olomouc – Czech Advanced Technology and Research Institute (CATRIN)	HES	Interdisciplinary research in the field of emerging nanotechnologies, biotechnologies and biomedicine with the aim to develop new technologies for clean energy and sustainable environment.
114	PL	PL91	PERPROT	PRC	Expert in the field of design, development and production of electronic and optoelectronic devices and systems. We operate in the areas of security, control of industrial devices, radio communication, sensors and measuring devices.

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115	RO	RO21	"Petru Poni" Institute of Macromolecular Chemistry	REC	Research focused on polymers and polymer materials science include bionanoconjugates and biopolymers; polyaddition and photochemistry; polycondensation and thermostable polymers; functional polymers; natural polymers, bioactive and biocompatible materials; inorganic polymers; electroactive polymers and plasmochemistry; physical chemistry of polymers; physics of polymers and polymeric materials.
116	SK	SK01	Polymer Institute, Slovak Academy of Sciences	REC	Electrically conductive composites and nanocomposites, sensors for determining deformation, multifunctional composites, stable hybrid electrodes, materials for 3D printing, new types of nanofibers prepared by electrospinning, synthesis of inorganic (nano) particles and hybrids, preparation of nanofiber materials, computer simulations, surfaces modifications, structural transitions.
117	AL	AL02	Polytechnic University of Tirana	HES	Faculty of Mechanical Engineering covers research areas in the fields of energy, materials, production and textiles.
118	RO	RO32	Renault Technologie Roumanie	PRC	Designing and improving vehicles and adapting engines and powertrains. Electric car components, batteries, autonomous self-powered sensors, clean energy sources, smart factory.
119	RO	RO11	Research Institute for Analytical Instrumentation ICIA	REC	Synthesis and characterisation of (nano)materials with applications in conventional and modern technologies; behavior of (nano)materials in simulated physiological media; the fate and behaviour of nanomaterials in surface and groundwaters; testing of virgin and spent (nano)catalysts

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					containing precious metals; obtaining advance materials capitalising local natural resources (zeolites)
120	CZ	CZ06	Research Institute for Building Materials	REC	Inorganic composite materials tailored for special applications. Advanced materials for safety and security purposes. Materials resistant to blast, bullets and vehicles. Utilisation of secondary raw materials and creation of environmentally friendly materials and products. Smart solutions for cement and lime production companies, producers of prefabricated elements made from fibre-cement matrix. Services of specialised laboratories of analytical and physical chemistry. Evaluation of negative impact on environment and biological attack to building materials and structures.
121	RO	RO32	RODAX IMPEX SRL	PRC	Design of packaging equipment: extensible packaging equipment, packaging equipment with heat-shrinkable and heat-insulating foil for any type of product. Technologies: high precision lathe, hydraulic press, guillotine, bending machine, rolling machine, polishing machine, electric welding machine, argon welding machine, plasma cutting machine.
122	RO	RO32	ROMANIAN STANDARDS ASSOCIATION - ASRO	PRC	Coordination of national and facilitation of international standardisation activities related to NMP, development of standards or other standardisation documents (like CWA).
123	RO	RO32	Romelgen S.R.L.	PRC	Distribution and manufacturing of temperature sensors as well as gas control and measurement systems, including controllers for humidity and pressure in enclosed spaces. Moreover, Romelgen provides a series devices and services for machining and soldering.

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124	CZ	CZ06	Roplass s.r.o.	PRC	R&D of hi-tech sources of atmospheric electrical plasmas for value-added both low- and hi-end applications in the field of surface science towards automotive, textile, films, paper, glass industry. Our state-of-the-art plasma sources provides rapid and low-cost surface treatment of various materials and nanomaterials, significantly enhancing surface properties as wettability as well as optoelectronics properties as sheet resistance and band gap.
125	RO	RO12	ROSEAL S.A.	PRC	Technologies for micro-pilot scale production for various nanomaterials, like magnetic nanoparticles, magnetic nanoparticle clusters, magnetic nanofluids, nano-micro structured composite magnetisable fluids.
126	PL	PL71	S.Z.T.K. "TAPS" - Maciej Kowalski	PRC	GFRP system for production of seat components, compatible with idea of circular and clean industries (increased biodegradability, reduced production waste, eco-friendly raw materials).
127	SK	SK02	SEMIKRON, s.r.o.	PRC	Manufacturer of power electronic modules and systems primarily in the medium output range (approx. 2 kW up to 10 MW), power semiconductor modules, soldering/sintering processes.
128	MA	MA00	Sidi Mohamed Ben Abdellah University, Faculty of Sciences and Technologies	HES	Synthesis of hybrid/multifunctional or nanostructured materials. Challenges focus on the application of functional materials in different fields, including photocatalysis, electronics, optics, energy and environment, according to green chemistry and green engineering concepts, the eco-efficiency, industrial ecology and sustainable processes from an environment and economic point of view.



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129	RO	RO32	SOCIETATEA DE INGINERIE SISTEME SIS SA	PRC	Strong practical experience in process control and manufacturing systems, expertise in process analysis and advanced control, safety design, asset management and maintenance instrumentation, control strategy implementation, IoT smart sensors and actuators, communication networks.
130	LT	LT01	Sprana LTD	PRC	Process Analytical Instrumentation creators with a main focus on nitrogen industry, including green ammonia energy sector.
131	UA	UA13	SRC "Electron-Carat"	PRC	Fabrication of innovative materials and development of new technologies used in micro- and radio-electronics. Areas of development include optoelectronic devices (e.g. microchip lasers, solar cell packages, AO modulators, EO modulators), acoustic and optoelectronics (e.g. gallium arsenide epitaxial structures, active elements for electro-optical Q-switches, cadmium tungstate single crystals), microelectronics (e.g. silicon single crystals and wafers), and magnetoelectronics (e.g. Hall sensors based on gallium arsenide heterostructures).
132	AM	AM00	State educational establishment of higher professional education Russian-Armenian (Slavonic) University	HES	The Department of General Physics and Quantum Nanostructures of the Institute of Engineering and Physics is making investigations of different optical, magnetic and thermodynamic properties of quantum nanostructures.
133	PL	PL41	STER Sp. z o.o.	PRC	Ultralight seats for busses and trams made of composites based on polymers, Ultralight seat for rail made of aluminium alloy

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134	CZ	CZ01	SVÚM Testing s.r.o.	PRC	Testing materials, especially metals, non-ferrous metals, composites and plastics. Static and dynamic tests for the railway or automotive industry, creep tests for the aviation industry, metallographic laboratory services, optical and electron microscopy, non-destructive testing of materials. Tests at low and high temperatures up to 1,000°C, fatigue tests of materials and thermomechanical testing.
135	TR	TR10	SYGTECH (STRATEJIK YENILIKCI GIRISIMLER ARGE)	PRC	Fatigue sensor technology that senses material fatigue with no need of battery and ability to work for 10's of years at a given location. Trying to adapt technology to sensing fatigue in composites. Solar energy technology that has potential to generate high temperatures for industrial applications, an enabler for material processing and industrial applications that require heat and can be used for solar rejuvenation/charging of depleted Boron cartridges.
136	HU	HU22	Széchenyi István University - Logistics and Forwarding Department	REC	Research on the field of adaptive on-demand storage location assignment algorithms, adaptive production line feeding systems, computer simulation-based logistics system development.
137	EE	EE00	Tallinn University of Technology	HES	AI in many fields, virtual and augmented reality, autonomous things, connected vehicles, digital twins, smart factories, geolocation sensors, visual image recognition, etc. For example, TalTech is involved in the development of an urban mobility hub with the aim of reduction of the carbon footprint -

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					Co2 emission watcher, urban noise monitor, and electric vehicle charging spots recommender.
138	UA	UA26	Taras Shevchenko National University of Kyiv	HES	Spintron devices for detecting and collecting energy of microwave signals, Corrugated Magnetic Nanoshells, functional nanomaterials. Faculty of Chemistry conducts research on branched polymers, pH and thermosensitive nanosystems for biomedical application
139	RO	RO21	Technical University "Gheorghe Asachi" of Iasi	HES	The university is focused on research in the following fields: (a) materials, micro and nanotechnologies, incl. nano-electronics, integrated micro-nano-systems, electrotechnical materials characterisation, sensors based on micro and nano-technologies and applications, nanoparticles, nanostructured materials, biomaterials, new micro and nano-fluids for thermal transfer, functional textiles, textiles with embedded sensors, textiles with controlled mechanical properties, electro-spinning technologies, etc.; (b) modern measurement systems incl. sensors and transducers, virtual instrumentation, etc; (c) electromagnetic and biomedical measurements and applications.
140	DK	DK02	Technical University of Denmark - Department of Photonics Engineering	HES	Research on fabrication of surface nanostructures on implant material (i.e. Titanium) for antimicrobial effect and better osseointegration performance (patent application in PCT phase, a spin-out (Adina Technologies Aps) established). Research on nanostructured semiconductor optoelectronic devices (i.e. LEDs) for higher device efficiency.

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141	MD	MD00	Technical University of Moldova	HES	Research in nanotechnologies and advanced materials is carried out within two scientific centers: National Center Materials Study and Testing and Center for Nanotechnologies and Nanosensors.
142	PL	PL82	THE BATTERIES SP ZOO	PRC	Cost effective and scalable approach to solid-state thin-film rechargeable batteries using vacuum evaporation enhanced by high-density plasma. Developing a new type of plasma evaporation vacuum manufacturing equipment.
143	UA	UA26	The Gas Institute of the National Academy of Sciences of Ukraine	PRC	Increasing of natural gas and alternative heat carriers' effectiveness use as basis for new energy- and resource saving technologies creation. Research in applied combustion theory, thermodynamic, interface heat- and mass exchange and new heat- and technological processes and equipment development on this basis. Nanotechnologies and nanomaterials. R&D in production and use of nanofluids to increase the safety and efficiency of power equipment.
144	RO	RO12	Transilvania University of Brasov	HES	Development, optimisation and testing of novel materials and systems for solar energy conversion to thermal energy (coloured solar-thermal collectors) and to electrical energy (thin film photovoltaics). Novel photocatalytic materials based on metal oxide semiconductor thin films.
145	LT	LT02	UAB "Nanoversa"	PRC	Start-up company commercialising the outcomes of the nanophotonics-related research results of the Kaunas University of Technology. Offers a deposition system and related consumables for the nano and microparticle templated deposition from colloidal solutions into well-defined patterns. The

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					capillarity-assisted particle assembly (CAPA) is a nearly 100% yield deposition method based on the self-assembly process but at the same time having nanolithography-defined particle positioning accuracy. The company is also proposing colloids. Monodisperse silver and gold nanoparticles can be synthesised using chemical synthesis routes. Pristine surface nanoparticles made by the photophysical process, namely target laser ablation in liquid, are also proposed. The company has experience in the design and realisation of photonic structures and metasurfaces, that can be used as laser beam splitters, surface-enhanced Raman spectroscopy (SERS) substrates, and nanolasers.
146	LT	LT02	UAB Albametrics	PRC	Development of medical device, mostly the hardware. Prototyping for hardware solutions and 3D printing service.
147	LT	LT01	UAB Corner Case Technologies	PRC	Specialise in building modern, intuitive, cloud-ready applications and systems using both proven and cutting-edge technologies. Company works on projects of all sizes from PoC and MVP to globally scalable Enterprise Solutions
148	UA	UA26	Ukrainian Research Institute of Aviation Technology (UKRRIAT)	PRC	Involved in aircraft and other Hi-Tech industries for more than 50 years with a main activities focused on development of manufacturing processes for aircraft production, especially for realisation of high-loaded metal-metal and metal-composites joints; development of hand-held tools for execution of the manufacturing processes; applied research in the area of aviation materials behaviour; development of standards for aircraft and other hi-tech industries.

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149	RS	RS11	University of Belgrade - Department of Microelectronic Technologies	REC	MEMS sensors and devices; Intelligent devices; Graphene based sensors; Microfluidics; Plasmonics; Solar cells; Novel materials for MEMS/NEMS and printing and related sensors; Microbial Fuel Cells; Modelling; Polymers; Microwave sensors, filters and antennas; AFM characterisation of materials, MEMS/NEMS components, bacteria and nanoemulsions for drug delivery
150	BA	BA00	University of East Sarajevo	HES	Production of composites filled with pure metal powders; Electrochemical deposition and dissolution of metals and alloys; Electrochemical deposition of metal powders; Synthesis and characterisation of smart nanocomposite materials.
151	MK	MK00	University of Information Science and Technology "St. Paul The Apostle"	HES	Higher educational institution in the field of information science and technology, IoT base solutions for digital manufacturing transformation, sustainable management and treatment of bio-wastes by using biofuels production methods
152	HR	HR03	University of Rijeka	REC	Centre for Micro- and Nanosciences and Technologies conducts research in micro and nano sciences and nanotechnologies, synthesis and characterisation of advanced materials (Thin Films, Colloids, Polyelectrolyte, novel materials based on photoactive ceramic thin films with controllable inorganic film thickness and well-defined porous structures), Modelling and simulation of materials.  Faculty of Engineering conducts fundamental and interdisciplinary research in mechanical engineering, naval architecture, electrical engineering and computer science, particularly in nanotechnologies, advanced materials and

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					production technologies using progressive methodologies, experimentations and applications.
153	BA	BA00	University of Sarajevo	HES	Advanced and secure network communications, 5G, application to Industry 4.0, quantum key distribution, quantum cryptography
154	AL	AL02	University of Tirana	HES	Our research studies are orientated towards nanomaterials, biosensors and their application. The most important achievements consist on: (i) Chemo-resistors for Hg detection (100 nm width; 42 nm thickness), thinner gold layer results in higher sensitivity. The system for calibration of sensors for mercury vapour is developed (ii) Carbon nanotube (CNT) epoxy composite electrode are used for antibiotic determination. (iii) Modified screen-printed electrodes for determination of amino acids, histamine and heavy metals are developed. (iv) Carbon paste electrodes (CPE), modified with enzyme, plant tissue, nanomaterials are used for determination of phenolic compound and heavy metals; (v) Characterisations of raw material derived from natural sand and possible applications based on its adsorbitive and catalytic properties.
155	TN	TN01	University of Tunis El Manar, Faculty of Science of Tunis	HES	Leading Tunisian University in Chemistry and Physics
156	HR	HR04	University of Zagreb – Faculty of Mechanical Engineering and Naval Architecture	HES	Polymer materials and polymer processing, advanced additive manufacturing, wood-plastic composite materials.

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157	SK	SK03	University of Žilina – Research Centre	REC	Testing and evaluation of degradation mechanisms (corrosion, fatigue); surface and volume analyses; surface treatments of modern and light alloys mainly applicable in the automotive industry.
158	RO	RO32	University POLITEHNICA of Bucharest -	HES	Center for Surface Science and Nanotechnology Synthesises a large range of advanced nanomaterials, including carbon-based nanomaterials, metal and alloy nanostructures, oxide nanopowders, etc. involving different techniques such as: pulse laser deposition (PLD), electrochemical synthesis, etc.; morphological, structural and electronic characterisation in real space and 3D at atomic and nanometric scale; design and macro-, micro-, nano-sensors and nano-device prototypes using nanoparticles and nano-objects. Dept. of Analytical Chemistry and Environmental Engineering of the Faculty of Applied Chemistry and Materials Science conducts research on analytical methods and applications in environmental chemistry; modern methods for water and soil analysis, carbon nanomaterials applied in environmental analytical chemistry
159	HU	HU11	V-Chiller	PRC	New refrigeration technology, 20X faster than vapor compression, High efficiency, Coefficient of performance (COP) 2, totally eco-friendly (zero GWP /ODP)
160	UA	UA26	V. Lashkaryov Institute of Semiconductor Physics of the National	HES	Interaction of electromagnetic radiation with matter, optics and photoelectronics of semiconductors, semiconductor materials science, physics of low-dimensional structures, opto-, micro- and nanoelectronic



#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
			Academy of Sciences of Ukraine		
161	UA	UA26	V. Mamutov Institute of Economic and Legal Research of the National Academy of Sciences of Ukraine	REC	The main topics of research are: concept of legal support for sustainable development of bioenergy; Institutionalisation of the virtual assets market in the context of globalisation; Digital transformation; Development of priority development territories in the conditions of armed conflict: assessment of efficiency and effectiveness; Economic and legal means of secondary resource use in energy; Legal model of "green" energy transformation of Ukraine in the conditions of post-war economic recovery.
162	UA	UA09	Vasyl Stefanyk Precarpathian National University	REC	Department of Physics and Chemistry of Solids develops new materials and nanomaterials for renewable energy (thermoelectricity, photoelectricity). Materials and devices for energy storage (carbon nanostructures and ultrafine oxide materials for electrochemical capacitors and supercapacitors). Inorganic composite sorbents based on metal oxides and magnetic ferrite spinels. Department of Materials Science and new technologies synthesises and investigates functional nanomaterials with an emphasis on electrode materials (microporous carbon, reduced graphene oxide, and reduced graphene oxide / metal oxide-based composite materials). Our strengths are the excellent use of XRD, Mössbauer spectroscopy, XRF, nitrogen adsorption porosimetry, impedance spectroscopy, electrochemical methods.
163	IT	ITF1	Ventiseidieci srl	PRC	Research and development of new solutions in the fields of advanced materials (patented material made by microcapsules of natural polymers)

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
					containing a magnetophoretic ink, patented nanocarriers), advanced manufacturing (nanomaterials, mechatronics and photonics)
164	CZ	CZ05	VÚTS, a.s.	REC	Research, development and manufacture of machinery and equipment for the processing industry (machining, textile, printing, food, packing and medical engineering). Automation, development, design and construction of special single-purpose machinery, manipulators, conveyors and testing equipment, especially, for the suppliers in the automotive industry. Offer complex set of services from the research and development, design processing to the implementation of a complete technological unit. Institute disposes of own production capacities for prototyping and small series production of machine parts, machinery and equipment.
165	LT	LT02	Vytautas Magnus University Agriculture Academy	HES	Main research activities relevant to NMP are creation of new construction materials and their adaptation to environmental conditions. The main market sector is civil engineering.
166	LV	LV00	Wileg, Ltd.	PRC	Active in energy efficiency and novel renewable energy sectors. Development of innovative road building materials (elastic cobblestones for pavements made from recycled rubber composite) and wave energy (linear electric generator for wave energy systems).
167	AM	AM00	Yerevan State University	HES	Faculty of Chemistry is specialised in the synthesis and characterisation of organic low molar mass as well as polymeric materials. The equipment for characterisation of materials, including the NMR, spectrometers FTIR ATR, UV spectrometer, elemental analysis apparatus, liquid chromatography,

#	Country	Region	Org. name	Org. type	Brief description of R&D and business focus
					luminescence spectrometer, and conductivity measurement apparatus are available at the Faculty.



## CONCLUSIONS

All organisations included in the FIT-4-NMP newcomer register are supported by the FIT-4-NMP consortium in their intention and attempts to join Horizon Europe NMP research and to contribute to the sustainability and leadership of the European industry. The mid-term support indicators achieved during the first FIT-4-NMP project period (January 2021 – June 2022) included:

- 1 innovation workshop with Top Innovator held, focusing on 8 NMP-related calls and involving 15 talented newcomers
- 3 on-line trainings for EC calls participation were held for 278 participants in total
- 2 technology transfer trainings held for newcomers' representatives
- 17 travel grants awarded to newcomers to participate in events

Also, 34 proposals involving talented newcomers were supported by the FIT-4-NMP partners, including:

- 8 RIA/IA proposals were submitted under the Horizon Europe Pillar 2 Cluster 4 “Digital, Industry and Space”. Among them, 2 proposals were successfully evaluated and selected for funding, and 4 proposals are under evaluation at the moment of this report preparation.
- 26 proposals were submitted to NMP-relevant calls, including Horizon Europe MSCA DN, RISE Widening, Twinning, ERA-Chairs, COST, M-ERA.NET. Among them, 12 proposals successfully evaluated and selected for funding and 4 proposals are under evaluation at the moment of this report preparation.

Find the FIT-4-NMP success stories at the project website: <https://www.fit-4-nmp.eu/project-results>.

We expect that support of identified and engaged talented newcomers will further increase the number and quality of applications from underrepresented regions as the primary constraints to efficient participation in H2020 NMP research.





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