



Annex no. 3 – Areas of Competence

Smart specialisation sector – AGRI-FOOD & WOOD INDUSTRY

Sectoral innovation ecosystem				
Areas of competence in academic studies and research ¹			Regional entrepreneurial environment ²	North-East RIS3 specialisation niches (intervention area)
University / Research centres	Faculty	Area of specialisation (Bachelor, Master, PhD)		
"Ion Ionescu de la Brad" University of Agricultural Sciences and Veterinary Medicine, Iasi	Faculty of Agriculture	<ul style="list-style-type: none"> • Agronomy • Biology • Food Engineering • Engineering and Management in Agriculture and Rural Development 	<p>Catalyst organisations</p> <ul style="list-style-type: none"> • EURONEST IT&C Hub Regional Innovative Cluster • ICONIC Interactive Cluster <p>Active companies in the area (e.g. NACE codes): 2811 Manufacture of engines and turbines 2830 Manufacture of agricultural and forestry machinery for agriculture and logging 7112 Engineering activities and related technical consultancy 7219 Research and development in other natural sciences and engineering</p>	<p>1. Smart farming (agriculture 4.0, use of IoT, construction of machinery, plant and equipment for agriculture and food industry)</p>
	Faculty of Horticulture	<ul style="list-style-type: none"> • Horticulture • Biotechnologies • Environmental Engineering 		
	Faculty of Animal Sciences	<ul style="list-style-type: none"> • Food Engineering • Engineering and Management in Agriculture and Rural Development • Animal Sciences 		
	Faculty of Veterinary Medicine	<ul style="list-style-type: none"> • Veterinary Medicine 		
"Gheorghe Asachi" Technical University,	Faculty of Automatic	<ul style="list-style-type: none"> • Systems Engineering 	<p>Catalyst organisations</p> <ul style="list-style-type: none"> • "AGRO FERMA" Cluster for Agriculture and Animal Sciences • MONTPESA Association for Tourism Development 	<p>2. Use of agricultural products for non-food purposes</p>

¹ Decision No 299/2020 approving the classification of domains and specialisations/programmes of university studies and the structure of higher education institutions for the academic year 2020-2021

² The NACE codes referred to are illustrative and not exhaustive

Iasi	Control & Computer Engineering	<ul style="list-style-type: none"> • Computers and Information Technology 	<p>Active companies in the area (e.g. NACE codes): 1320 Weaving of textiles 1413 Manufacture of other wearing apparel (except underwear) 1520 Manufacture of footwear 1629 Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials 2042 Manufacture of perfumes and cosmetics 3832 Recovery of sorted recyclable materials 4120 Construction of residential and non-residential buildings</p>	
	Faculty of Machine Manufacturing & Industrial Management	<ul style="list-style-type: none"> • Industrial Engineering • Mechanical Engineering • Engineering and Management 		
	Faculty of Mechanical Engineering	<ul style="list-style-type: none"> • Automotive Engineering • Mechanical Engineering • Mechatronics and Robotics 		
	Faculty of Information Technology	<ul style="list-style-type: none"> • Computer Science 		
	“Cristofor Simionescu” Faculty of Chemical Engineering & Environmental Protection	<ul style="list-style-type: none"> • Environmental Engineering • Chemical Engineering 		
	Faculty of Electronics, Telecommunications & Information Technology	<ul style="list-style-type: none"> • Electronic Engineering, Telecommunications and Information Technologies 		
	Faculty of Hydrotechnics, Geodesy & Environmental Engineering	<ul style="list-style-type: none"> • Environmental Engineering 		
	Faculty of Biology	<ul style="list-style-type: none"> • Biology • Environmental Science 		
“Alexandru Ioan Cuza” University, Iasi	Faculty of Chemistry	<ul style="list-style-type: none"> • Chemistry 	<p>Active companies in the area (e.g. NACE codes): 0130 Cultivation of plants for propagation 0150 Mixed farming 0164 Seed preparation 1091 Manufacture of prepared feeds for farm animals 7219 Research and development in other natural sciences and engineering</p>	<p>3. Environmental impact of agriculture (no-till technology, production of environmentally friendly inputs, agro-biodiversity conservation, organic farming)</p>
	Faculty of Economics and Business Administration	<ul style="list-style-type: none"> • Business Administration • Economics and International 		
			<p>Catalyst organisations</p> <ul style="list-style-type: none"> • Local Action Groups in the North-East Region (45 LAG) • Union of National Branch of Cooperatives in the Plant Sector (UNCSV) • Convivia Association • “Ținutul Zimbrului” Association • “Mai Bine” Association 	
			<p>Active companies in the area (e.g. NACE codes): 0130 Cultivation of plants for propagation 0150 Mixed farming 0164 Seed preparation 1091 Manufacture of prepared feeds for farm animals 7219 Research and development in other natural sciences and engineering</p>	
			<p>Catalyst organisations</p> <ul style="list-style-type: none"> • BioNEst Organic Agriculture Cluster • “Produce în Bucovina” Association 	<p>4. Biosecurity and food safety (safe and healthy foods , traceability and food quality control , marketing</p>

"Ștefan cel Mare" University, Suceava	Faculty of Geography and Geology	Affairs	• "Dor de Verde" Association	and regional local identity, developing short chains, biosecurity, traceability and quality control of food and bio-pharmaceutical packaging)
	Faculty of Computer Science	• Marketing	Active companies in the area (e.g. NACE codes): 1011 Processing and preserving of meat 1039 Processing and preserving of fruit and vegetables n.e.c. 1086 Manufacture of homogenised food preparations and dietetic food 1089 Manufacture of other food products n.e.c.	
"Vasile Alecsandri" University, Bacau	Faculty of Food Engineering	• Environmental Science	Catalyst organisations • Romanian Foresters Association (ASFOR) • League of Romanian Agricultural Producers' Associations (LAPAR) • Breasla Constructorilor Ieșeni Cluster • Carpathian Furniture Cluster • Danube Furniture Cluster Active companies in the area (e.g. NACE codes): 0210 Silviculture and other forestry activities 0230 Gathering of wild growing non-wood products	5. Forestry sector and wood industry (precision, geo-spatial and geo-computing management technologies for forest management, adaptation of forest species to climate change, eco-efficiency in exploitation of forest resources, sustainable management of disease and pest)
	Faculty of Electrical Engineering and Computer Science	• Computer Science		
	Faculty of Mechanical Engineering, Mechatronics and Management	• Food Engineering • Computers and Information Technology • Systems Engineering • Electronic Engineering, Telecommunications and Information Technologies		
	Faculty of Forestry	• Industrial Engineering • Mechanical Engineering • Mechatronics and Robotics • Forestry • Environmental Science		
	Faculty of Engineering	• Computers and Information Technology • Environmental Engineering • Food Engineering • Chemical Engineering • Industrial Engineering • Mechanical Engineering		

	<p>Faculty of Sciences</p> <p>Faculty of Economic Sciences</p>	<ul style="list-style-type: none"> • Engineering and Management in Agriculture and Rural Development • Mechatronics and Robotics • Biology • Computer Science • Marketing 		
The Romanian Academy, Iasi Branch, Gh. Zane Institute of Economic and Social Research, Rural Economy Department		Fundamental and applied research in the domain of economic sciences (macroeconomics, microeconomics, rural economics)		
“Mihai Cristea” Vegetal Genetic Resources Bank of Suceava		Safe conservation of plant biodiversity relevant for agriculture and food from all sexually propagated species		
Iasi Research-Development Station for Aquaculture and Aquatic Ecology		Fundamental and applied research to preserve the quality of the aquatic environment in fishing facilities and public waters, to modernise fishing technologies and to develop effective fish feed recipes.		
The Romanian Academy - “Petru Poni” Institute of Macromolecular Chemistry, Iasi		Research on supramolecular chemistry— biologically inspired systems dedicated to medical applications or environmental protection, (including university doctoral studies through the Romanian Academy School of Advanced Studies)		
The Romanian Academy – Centre of Mountain Economy (CE-MONT), of the “Costin C. Kiritescu” National Institute for Economic Research		Fundamental and applied research in areas specific to mountainous areas (increase in productivity of mountain farms, facilities for the valorisation of mountain products,		

	security and food safety)		
“Marin Drăcea” National Institute for Research and Development in Forestry – Câmpulung Moldovenesc Branch	Research — development and experimentation activities for the sustainable development of the forestry sector, increasing its economic competitiveness and quality of life.		

Smart specialisation sector – TEXTILES

Sectoral innovation ecosystem				
Areas of competence in academic studies and research ³			Regional entrepreneurial environment ⁴	North-East RIS3 specialisation niches (intervention area)
University / Research centres	Faculty	Area of specialisation (Bachelor, Master, PhD)		
"Gheorghe Asachi" Technical University, Iasi	Faculty of Industrial Design and Business Management	<ul style="list-style-type: none"> Industrial Engineering Chemical Engineering Engineering and Management 	<p>Catalyst organisations</p> <ul style="list-style-type: none"> ASTRICO North East Cluster "Mai Bine" Association Reginnova NE Association FEPAIUS (Employers' Federation of Textiles, Clothing and Leather) "Alături de Voi" Foundation Romania Association of Hemp Farmers and Processors "Harmony and Hope" Association <p>Active companies in the area (e.g. NACE codes):</p> <p>1310 Preparation and spinning of textile fibres</p> <p>1320 Weaving of textiles</p> <p>1330 Finishing of textiles</p> <p>1413 Manufacture of other wearing apparel (except underwear)</p> <p>1414 Manufacture of underwear</p> <p>1439 Manufacture of other knitted and crocheted apparel</p> <p>7120 Technical testing and analysis activities</p>	<p>1. High-tech processes & applications in textiles (Eco-design of manufacturing processes, zero-waste textile processes and technologies etc.)</p>
	"Cristofor Simionescu" Faculty of Chemical Engineering & Environmental Protection	<ul style="list-style-type: none"> Chemical Engineering Engineering and Management 		
	Faculty of Automatic Control & Computer Engineering	<ul style="list-style-type: none"> Systems Engineering 		
"Al. I. Cuza" University, Iasi	Faculty of Chemistry	<ul style="list-style-type: none"> Chemistry 		
"Ștefan cel Mare" University, Suceava	Faculty of Electrical Engineering and Computer Science	<ul style="list-style-type: none"> Systems Engineering (B, M) 		

³ Decision No 299/2020 approving the classification of fields and specialisations/programmes of university studies and the structure of higher education institutions for the academic year 2020-2021

⁴ The NACE codes referred to are illustrative and not exhaustive

<p>“Vasile Alecsandri” University, Bacau</p>	<p>Faculty of Engineering</p>	<ul style="list-style-type: none"> • Chemical Engineering (B) • Industrial Engineering(B, M) 		
<p>“George Enescu” National University of Arts, Iasi</p>	<p>Faculty of Visual Arts and Design</p>	<ul style="list-style-type: none"> • Visual Arts (B, M) 		
<p>The Romanian Academy, “Petru Poni” Institute of Macromolecular Chemistry , Iasi (including university doctoral studies through the Romanian Academy School of Advanced Studies)</p> <p>National Institute of Research and Development for Technical Physics</p> <p>FIBRESIN Institute for Research and Technological Engineering</p>			<p>Catalyst organisations ASTRICO North East Cluster “Mai Bine” Association Reginnova NE Association FEPAIUS (Employers’ Federation of Textiles, Clothing and Leather) "Alături de Voi" Foundation Romania Association of Hemp Farmers and Processors</p> <p>Active companies in the area (e.g. NACE codes): 1320 Weaving of textiles 1392 Manufacture of made-up textile articles (except apparel and underwear) 1396 Manufacture of technical and industrial textiles 1412 Manufacture of workwear 1413 Manufacture of other wearing apparel (except underwear) 1439 Manufacture of other knitted and crocheted apparel 1712 Manufacture of paper and paperboard 3250 Manufacture of medical and dental appliances and instruments 7120 Technical testing and analysis activities 1520 Manufacture of footwear</p>	<p>2. Technical and functional textiles (medical textiles, indoor smart textiles, protective textiles, footwear materials)</p>
			<p>Catalyst organisations ASTRICO North East Cluster “Mai Bine” Association Reginnova NE Association</p> <p>Active companies in the area (e.g. NACE codes):</p>	<p>3. Digital fashion (new business models, consumer-retailer relationship, design) (smart design, Digital textiles printing)</p>

	1413 Manufacture of other wearing apparel (except underwear) 1414 Manufacture of underwear 1439 Manufacture of other knitted and crocheted apparel 5829 Other software publishing 6201 Custom software development activities (customer-oriented software) 7410 Specialised design activities	
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Smart specialisation sector – IT&C

Sectoral innovation ecosystem				
Areas of competence in academic studies and research ⁵			Regional entrepreneurial environment ⁶	North-East RIS3 specialisation niches (intervention area)
University / Research centres	Faculty	Area of specialisation (Bachelor, Master, PhD)		
"Gheorghe Asachi" Technical University, Iasi	Automatic Control & Computer Engineering	<ul style="list-style-type: none"> • Systems Engineering • Computers and Information Technology 	Catalyst organisations <ul style="list-style-type: none"> • TEHNOPOLIS Science Park • Imago-Mol Cluster • Iconic Cluster • EURONEST IT&C Hub Regional Innovative Cluster Active companies in the area (e.g. NACE codes): <ul style="list-style-type: none"> 7219 Research and development in other natural sciences and engineering 2611 Manufacture of electronic components (modules) 2612 Manufacture of other electronic components 2620 Manufacture of computers and peripheral equipment 2630 Manufacture of communication equipment 2640 Manufacture of consumer electronics 	1. Industrial modernisation (Industry 4.0, Digitised textile technologies, Industrial design, Automation, robotisation, mass custom solutions)
	Faculty of Electronics, Telecommunications & Information Technology	<ul style="list-style-type: none"> • Electronic Engineering, Telecommunications and Information Technologies 		
"Alexandru Ioan Cuza" University, Iasi	Faculty of Electrical Engineering, Energy and Applied Informatics	<ul style="list-style-type: none"> • Electric Engineering • Energy Engineering • Engineering and Management 	Active companies in the area (e.g. NACE codes): <ul style="list-style-type: none"> 8020 Security systems service activities 6203 Computer facilities management activities 6209 Other information technology and computer service activities 	2. Cybersecurity
	Faculty of Mechanical Engineering	<ul style="list-style-type: none"> • Mechatronics and Robotics 		
	"G.M.Cantacuzino" Faculty of Architecture	<ul style="list-style-type: none"> • Architecture (B) 		
	Faculty of Computer Science	<ul style="list-style-type: none"> • Computer Science 		
	Faculty of Economics			

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⁶ The NACE codes referred to are illustrative and not exhaustive

<p>“Stefan cel Mare” University, Suceava</p>	<p>and Business Administration</p>	<ul style="list-style-type: none"> • Cybernetics, Statistics and Economical Informatics 	<p>6311 Data processing, hosting and related activities</p>	<p>3. Traceability and Big Data (Artificial Intelligence, machine learning)</p>
	<p>Faculty of Physics</p> <p>Faculty of Mathematics</p> <p>Faculty of Electrical Engineering and Computer Science</p>	<ul style="list-style-type: none"> • Applied Engineering Sciences (B) • Mathematics • Computers and Information Technology (B, M) • Systems Engineering(B,M) • Electronic Engineering, Telecommunications and Information Technologies (B,M) 	<p>Catalyst organisations TEHNOPOLIS Science Park Imago-Mol Cluster Iconic Cluster EURONEST IT&C Hub Regional Innovative Cluster</p> <p>Active companies in the area (e.g. NACE codes): 6202 Computer consultancy activities 6203 Computer facilities management activities 6209 Other information technology and computer service activities 6311 Data processing, hosting and related activities 6312 Web portals activities</p>	
<p>“Vasile Alecsandri” University, Bacau</p>	<p>Faculty of Mechanical Engineering, Mechatronics and Management</p>	<ul style="list-style-type: none"> • Mechatronics and Robotics(B,M) 	<p>Catalyst organisations “Dor de Verde” Association Slow Travel Association Romania Romanian Association for Smart City and Mobility APARS - Association for Entrepreneurship and Social Responsibility</p> <p>Active companies in the area (e.g. NACE codes): 4321 Electrical installation work 6110 Wired telecommunications activities 6120 Wireless telecommunications activities (satellite only) 6130 Satellite telecommunications activities 6190 Other telecommunications activities</p>	<p>4. Smart City & Smart Village (Urban mobility , Digitalisation of public administration, IT&C solutions and applications for public services and utilities)</p>
	<p>Faculty of Engineering</p> <p>Faculty of Sciences</p>	<ul style="list-style-type: none"> • Computers and Information Technology(B,M) • Computer Science (B, M) 		

<p>The Romanian Academy - Institute of Computer Science</p> <p>The Romanian Academy - “Petru Poni” Institute of Macromolecular Chemistry , Iasi</p>	<p>Catalyst organisations TEHNOPOLIS Science Park Iconic Cluster EURONEST IT&C Hub Regional Innovative Cluster</p> <p>Active companies in the area (e.g. NACE codes): 2620 Manufacture of computers and peripheral equipment 5821 Publishing of computer games 5829 Other software publishing 6201 Custom software development activities (customer-oriented software) 6202 Computer consultancy activities 6203 Computer facilities management activities 6209 Other information technology and computer service activities</p>	<p>5. Development of new IT&C products hardware & software and test solutions (e.g. Education based on IT&C solutions, Gamification of education, IT&C in automotive industry)</p>
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Smart specialisation sector – HEALTH

Sectoral innovation ecosystem				
Areas of competence in academic studies and research ⁷			Regional entrepreneurial environment ⁸	North-East RIS3 specialisation niches (intervention area)
University / Research centres	Faculty	Area of specialisation (Bachelor, Master, PhD)		
"Grigore T. Popa" University of Medicine & Pharmacy, Iasi	Faculty of Medicine	• Health	Catalyst organisations <ul style="list-style-type: none"> BioNEst Cluster Iasi BioROne Cluster IMAGO-MOL – North-East Regional Innovative Cluster for Structural and Molecular Imaging Active companies in the area (e.g. NACE codes): 2053 Manufacture of essential oils 2110 Manufacture of basic pharmaceutical products 2120 Manufacture of pharmaceutical preparations 7211 Research and experimental development on Biotechnology	1. Medical & pharmaceutical biotechnologies (Personalised therapies, new active substances, advanced testing materials, nanobiotechnologies, advanced materials, regenerative medicine)
	Faculty of Dental Medicine	• Health		
"APOLLONIA" University, Iasi	Faculty of Pharmacy	• Health	Catalyst organisations <ul style="list-style-type: none"> BioROne Cluster IMAGO-MOL - North-East Regional Innovative Cluster for Structural and Molecular Imaging Create Change Association Active companies in the area (e.g. NACE codes):	2. Precision medicine (devices, technologies, tools and methods for diagnosis, treatment and prognosis, interdisciplinary support for care, interrelationship of micro-organisms with the environment, animals and humans)
	Faculty of Medical Bioengineering	• Health • Applied Engineering Sciences • Health		
"Gheorghe Asachi" Technical University, Iasi	"Cristofor Simionescu" Faculty of Chemical Engineering & Environmental Protection	• Chemical Engineering	Active companies in the area (e.g. NACE codes):	2. Precision medicine (devices, technologies, tools and methods for diagnosis, treatment and prognosis, interdisciplinary support for care, interrelationship of micro-organisms with the environment, animals and humans)
	Automatic Control & Computer Engineering	• Systems Engineering		

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⁸ The NACE codes referred to are illustrative and not exhaustive

<p>“Ion Ionescu de la Brad” University of Agricultural Sciences and Veterinary Medicine, Iasi</p>	<p>Faculty of Veterinary Medicine</p>	<ul style="list-style-type: none"> • Veterinary Medicine 	<p>2651 Manufacture of instruments and appliances for measuring, testing and navigation 2660 Manufacture of irradiation, electromedical and electrotherapeutic equipment 3250 Manufacture of medical and dental appliances and instruments 8610 Hospital care activities</p>	
<p>“Alexandru Ioan Cuza” University, Iasi</p>	<p>Faculty of Biology Faculty of Chemistry Faculty of Physics Faculty of Computer Science</p>	<ul style="list-style-type: none"> • Biology • Chemistry • Physics (medical physics) • Computer Science 	<p>Catalyst organisations</p> <ul style="list-style-type: none"> • BioROne Cluster • IMAGO-MOL - North-East Regional Innovative Cluster for Structural and Molecular Imaging • Create Change Association <p>Active companies in the area (e.g. NACE codes): 2651 Manufacture of instruments and appliances for measuring, testing and navigation 3250 Manufacture of medical and dental appliances and instruments 7211 Research and experimental development on Biotechnology 8610 Hospital care activities</p>	<p>3. Prevention medicine (medical devices, technologies, tools and prevention methods, advanced systems and therapies to improve quality of life)</p>
<p>“Vasile Alecsandri” University, Bacau</p>	<p>Faculty of Engineering Faculty of Sciences</p>	<ul style="list-style-type: none"> • Chemical Engineering • Biology 		
<p>“Ștefan cel</p>	<p>Faculty of Physical Education</p>	<ul style="list-style-type: none"> • Health 		

<p>Mare” University, Suceava</p>	<p>and Sports</p>		<p>Catalyst organisations</p> <ul style="list-style-type: none"> • EURONEST IT&C Cluster • Digital Innovation Zone - digital innovation hub • IMAGO-MOL - North-East Regional Innovative Cluster for Structural and Molecular Imaging <p>Active companies in the area (e.g. NACE codes):</p> <p>2651 Manufacture of instruments and appliances for measuring, testing and navigation</p> <p>2660 Manufacture of irradiation, electromedical and electrotherapeutic equipment</p> <p>6201 Custom software development activities (customer-oriented software)</p> <p>6202 Computer consultancy activities</p>	<p>4. e-Health (e-competence, IT&C solutions in disease prevention, diagnosis and management , AI in medicine, custom imaging)</p>
<p>The Romanian Academy, “Petru Poni” Institute of Macromolecular Chemistry, Iasi (including university doctoral studies through the Romanian Academy School of Advanced Studies)</p> <p>BioNanoTech Research Center, “Petru Poni” Institute of Macromolecular Chemistry, Iasi</p> <p>The Romanian Academy - Biomedical Research Center</p> <p>INCDSB (The National Institute of Research and Development for Biological Sciences) București - Iasi Branch - Institute of Biological Research, Iasi</p> <p>CEMEX - Center for Advanced Research and Development in Experimental Medicine, “Grigore T. Popa” University of Medicine & Pharmacy, Iasi</p> <p>Regional Institute of Oncology</p> <p>Research and Development Centre of SC Antibiotice SA</p> <p>Clinical Studies Center of SC Antibiotice SA</p> <p>Center for Research and Processing of Medicinal Plants PLANTAVOREL S.A</p>			<p>Catalyst organisations</p> <ul style="list-style-type: none"> • BioNEst Cluster Iasi • BioROne Cluster • IMAGO-MOL - North-East Regional Innovative Cluster for Structural and Molecular Imaging <p>Active companies in the area (e.g. NACE codes):</p> <p>7211 Research and experimental development on Biotechnology</p> <p>7500 Veterinary activities</p> <p>8690 Other human health activities</p>	<p>5. Biosecurity (veterinary medicine - human medicine collaboration: Antibiotic resistance, research on antimicrobial agents, zoonoses, emerging diseases, innovative prevention methods — plasma and Paw)</p>

Smart specialisation sector– TOURISM

Sectoral innovation ecosystem				
Areas of competence in academic studies and research ⁹			Regional entrepreneurial environment	North-East RIS3 specialisation niches (intervention area)
University / Research centres	Faculty	Area of specialisation (Bachelor, Master, PhD)		
“Alexandru Ioan Cuza” University, Iasi	Faculty of Economics and Business Administration	<ul style="list-style-type: none"> Economy of Commerce, Tourism and Services 	Catalyst organisations <ul style="list-style-type: none"> EURONEST IT&C Hub Regional Innovative Cluster ICONIC Interactive Cluster Active companies in the area (e.g. NACE codes): <ul style="list-style-type: none"> 5829 Other software publishing 6201 Custom software development activities (customer-oriented software) 6202 Computer consultancy activities 6311 Data processing, hosting and related activities 	1. IT&C solutions for tourism
	Faculty of Geography and Geology	<ul style="list-style-type: none"> Geography of Tourism Tourism and Regional Development 		
	Faculty of Physical Education and Sports	<ul style="list-style-type: none"> Sport and Physical Education Kinetic Therapy 		
	Faculty of Computer Science	<ul style="list-style-type: none"> Computer Science 		
“Ștefan cel Mare” University, Suceava	Faculty of Physical Education and Sports	<ul style="list-style-type: none"> Sport and Physical Education Kinetic Therapy Health 	Catalyst organisations <ul style="list-style-type: none"> “Valea Ozanei” Association for tourism promotion and development, Vânători, Neamț Bucovina Association for tourism, Suceava “Ținutul Neamțului” Clusterul Mountain Area Agency ANTREC (National Association of Rural, Ecological and Cultural Tourism) Neamț “Țara Dornelor” Ecotourism 	2. Marketing and creative promotion
	Faculty of Electrical Engineering and Computer Science	<ul style="list-style-type: none"> Electronic Engineering, Telecommunications and Information Technologies 		
	Faculty of History & Geography	<ul style="list-style-type: none"> Geography (Geography of Tourism) History International Relations and European 		

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<p>“Gheorghe Asachi” Technical University, Iasi</p>	<p>Faculty of Forestry</p>	<p>Studies</p> <ul style="list-style-type: none"> • Forestry • Environmental science 	<p>Association</p> <ul style="list-style-type: none"> • NEOKOOLT Interdisciplinary Association • Association of Popular Craftsmen from Neamț County, Tg. Neamț • "Nemțeanca"Craftsmen's Association • National Association of Travel Agencies in the North East Region <p>Active companies in the area (e.g. NACE codes): 1811 Printing of newspapers 5812 Publishing of directories, compendia, mailing lists and similar activities 7311 Advertising agencies activities 7911 Travel agency activities</p>	<p>3. Healthy lifestyle tourism (Balneary tourism, medical recovery, nutrition and dietetics, accessible tourism)</p>
	<p>Faculty of Economic Sciences & Public Administration</p> <p>Automatic Control & Computer Engineering</p> <p>Faculty of Electronics, Telecommunications & Information Technology</p>	<ul style="list-style-type: none"> • Economy of Commerce, Tourism and Services • Computers and Information Technology • Electronic Engineering, Telecommunications and Information Technologies 	<p>Catalyst organisations</p> <ul style="list-style-type: none"> • “Bucovina” Association for Tourism, Suceava • “Valea Ozanei” Association for tourism promotion and development, Vânători, Neamț • “Ținutul Neamțului” Cluster • Mountain Area Agency • ANTREC (National Association of Rural, Ecological and Cultural Tourism) Neamț • “Tara Dornelor” Ecotourism Association • NEOKOOLT Interdisciplinary Association • Association of Popular Craftsmen from Neamț County, Tg. Neamț • "Nemțeanca"Craftsmen's Association • National Association of Travel Agencies in the North East Region • Romanian Mountain Forum, Neamț 	
<p>“Ion Ionescu de la Brad” University of Agricultural Sciences and Veterinary Medicine, Iasi</p>	<p>Faculty of Agriculture</p>	<ul style="list-style-type: none"> • Engineering and Management in Agriculture and Rural Development 		
<p>“Vasile Alecsandri” University, Bacau</p>	<p>Faculty of Movement, Sports and Health Sciences</p> <p>Faculty of Engineering</p>	<ul style="list-style-type: none"> • Sport and Physical Education • Kinetic Therapy • Computers and Information Technology • Environmental Engineering (Sustainable rural development engineering) 		

<p>“Grigore T. Popa” University of Medicine & Pharmacy, Iasi</p> <p>“George Bacovia” University, Bacau</p> <p>“George Enescu” National University of Arts, Iasi</p> <p>Centre of Mountain Economy “CE-Mont”</p>	<p>Faculty of Sciences</p> <p>Faculty of Medicine</p>	<ul style="list-style-type: none"> • Computer Science • Nutrition and Dietetics Balneo-physiotherapy 	<p>Branch</p> <ul style="list-style-type: none"> • MONTPESA Association for Tourism Development <p>Active companies in the area (e.g. NACE codes): 5510 Hotels and similar accommodation 5530 Camping grounds, recreational vehicle parks and trailer parks 5590 Other accommodation 5621 Event catering activities</p>	
	<p>Faculty of Economic, Legal and Administrative Studies</p> <p>Faculty of Visual Arts and Design</p>	<ul style="list-style-type: none"> • Business Administration (Economy of Commerce, Tourism and Services) • Visual Arts • Design • Economy of the mountain area 	<p>Catalyst organisations</p> <ul style="list-style-type: none"> • “Bucovina” Association for Tourism, Suceava • “Valea Ozanei” Association for tourism promotion and development, Vânători, Neamț • “Ținutul Neamțului” Cluster • Mountain Area Agency • ANTREC (National Association of Rural, Ecological and Cultural Tourism) Neamț • “Tara Dornelor” Ecotourism Association • NEOKOOLT Interdisciplinary Association • Association of Popular Craftsmen from Neamț County, Tg. Neamț • "Nemțeanca" Craftsmen's Association • National Association of Travel Agencies in the North East Region • Romanian Mountain Forum, Neamț Branch • BUCK Hunting and Sport Fishing Association, Vatra Dornei • Bukovina Alpenverein 	<p>4. Eco-tourism (adventure tourism, genuine experience, culinary tourism, agro-tourism, smart vilages)</p>

			<ul style="list-style-type: none"> • MONTPESA Association for Tourism Development <p>Active companies in the area (e.g. NACE codes): 5530 Camping grounds, recreational vehicle parks and trailer parks 7711 Renting and leasing of cars and light motor vehicles</p>	
			<p>Catalyst organisations</p> <ul style="list-style-type: none"> • National Association of Travel Agencies in the North East Region • “Bucovina” Association for Tourism, Suceava <p>Active companies in the area (e.g. NACE codes): 4910 Passenger rail transport, interurban 5110 Passenger air transport 5510 Hotels and similar accommodation 5610 Restaurants 5630 Bars and other beverage serving activities 7711 Renting and leasing of cars and light motor vehicles</p>	5. Business tourism (Meetings, Incentives, Conferences and Exhibitions-MICE; Bleisure)
			<p>Catalyst organisations</p> <ul style="list-style-type: none"> • National Association of Travel Agencies in the North East Region • “Bucovina” Association for Tourism, Suceava • NEOKOOLT Interdisciplinary Association • Botoşani Creation Center • “Carmen Saeculare” Center for Culture and Arts • “George Apostu” Culture Center, Bacau • “Valea Ozanei” Association for tourism promotion and development, Vânători, 	6. Cultural tourism (innovative applications and products)

			<p>Neamț</p> <p>Active companies in the area (e.g. NACE codes):</p> <p>5510 Hotels and similar accommodation</p> <p>9001 Performing arts (shows)</p> <p>9102 Museums activities</p>	
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Smart specialisation sector– ENERGY

Sectoral innovation ecosystem				
Areas of competence in academic studies and research ¹⁰			Regional entrepreneurial environment ¹¹	North-East RIS3 specialisation niches (intervention area)
University / Research centres	Faculty	Area of specialisation (Bachelor, Master, PhD)		
"Gheorghe Asachi" Technical University, Iasi	Faculty of Chemical Engineering and Environmental Protection	<ul style="list-style-type: none"> • Environmental Engineering 	<p>Catalyst organisations</p> <ul style="list-style-type: none"> • Renew Cluster • "Breasla Constructorilor Ieşeni" Cluster • RoGBC - Romania Green Building Council - RoGBC Moldova Branch • FNGAL - Federation of Local Action Groups in Romania • Corona Foundation <p>Active companies in the area (e.g. NACE codes):</p> <p>1629 Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials</p> <p>3511 Production of electricity</p> <p>3512 Transmission of electricity</p> <p>3513 Distribution of electricity</p> <p>7211 Research and experimental development on Biotechnology</p> <p>7219 Research and development in other natural sciences and engineering</p>	<p>1. Alternative energy sources (use of alternative sources, recovery of by-products and waste, biogas recovery, hydrogen production technologies)</p>
	Faculty of Electrical Engineering, Energy and Applied Informatics	<ul style="list-style-type: none"> • Electric Engineering • Energy Engineering 		
	Faculty of Electronics, Telecommunications & Information Technology	<ul style="list-style-type: none"> • Electronic Engineering, Telecommunications and Information Technologies 		
	Faculty of Mechanical Engineering	<ul style="list-style-type: none"> • Mechanical Engineering • Mechatronics and Robotics 		
	Faculty of Hydrotechnics, Geodesy & Environmental Engineering	<ul style="list-style-type: none"> • Civil Engineering • Environmental Engineering 		
	Faculty of Civil Engineering and Building Services	<ul style="list-style-type: none"> • Civil Engineering • Installation Engineering 		

¹⁰ Decision No 299/2020 approving the classification of domains and specialisations/programmes of university studies and the structure of higher education institutions for the academic year 2020-2021

¹¹ The NACE codes referred to are illustrative and not exhaustive

“Alexandru Ioan Cuza” University, Iasi	Automatic Control & Computer Engineering	<ul style="list-style-type: none"> • Systems Engineering • Computers and Information Technology 	Catalyst organisations <ul style="list-style-type: none"> • Renew Cluster • “Breasla Constructorilor Ieşeni” Cluster • RoGBC - Romania Green Building Council - RoGBC Moldova Branch • FNGAL - Federation of Local Action Groups in Romania • Corona Foundation Active companies in the area (e.g. NACE codes): 2711 Manufacture of electric motors, generators and transformers 2712 Manufacture of electricity distribution and control apparatus 2611 Manufacture of electronic components (modules) 2651 Manufacture of instruments and appliances for measuring, testing and navigation 3512 Transmission of electricity 3513 Distribution of electricity	2. Energy efficiency (smart factoring, energy efficiency in buildings and public institutions, energy storage, energy-saving solutions)
	Faculty of Computer Science Faculty of Physics	<ul style="list-style-type: none"> • Computer Science • Physics 		
“Ştefan cel Mare” University, Suceava	Faculty of Electrical Engineering and Computer Science	<ul style="list-style-type: none"> • Systems Engineering • Electric Engineering • Electronic Engineering, Telecommunications and Information Technologies • Energy Engineering 		
	Faculty of Forestry	<ul style="list-style-type: none"> • Forestry • Environmental Science 		
“Vasile Alecsandri” University, Bacau	Faculty of Engineering	<ul style="list-style-type: none"> • Environmental Engineering • Energy Engineering 		
	Faculty of Agriculture Faculty of Horticulture	<ul style="list-style-type: none"> • Agronomy • Environmental Engineering 		

Medicine, Iasi				
<p>INCERC - Iasi Branch - National Institute for Research and Development in Constructions, Urban Planning and Sustainable Spatial Development</p> <p>Efficient and Sustainable Energy Research Platform - ENERED, "Gheorghe Asachi" Technical University, Iasi</p> <p>Centre of excellence for research and professional training in the area of design, simulation, industrial management and life cycle, "Vasile Alecsandri" University, Bacau</p> <p>Energetics, Mechatronics and Computer Sciences Research Centre, "Vasile Alecsandri" University, Bacau</p> <p>The Romanian Academy - "Petru Poni" Institute of Macromolecular Chemistry, Iasi (including university doctoral studies through the Romanian Academy School of Advanced Studies)</p>				

Smart specialisation sector – ENVIRONMENT

Sectoral innovation ecosystem				
Areas of competence in academic studies and research ¹²			Regional entrepreneurial environment ¹³	North-East RIS3 specialisation niches (intervention area)
University / Research centres	Faculty	Area of specialisation (Bachelor, Master, PhD)		
“Gheorghe Asachi” Technical University, Iasi	“Cristofor Simionescu” Faculty of Chemical Engineering & Environmental Protection	• Environmental Engineering	Catalyst organisations <ul style="list-style-type: none"> • Renew Cluster • ADI - County Intercommunity Development Associations • EURONEST Intercommunity Development Associations • FNGAL - Federation of Local Action Groups in Romania Active companies in the area (e.g. NACE codes): <ul style="list-style-type: none"> 2223 Manufacture of builders’ ware of plastic 2651 Manufacture of instruments and appliances for measuring, testing and navigation 3600 Water collection, treatment and supply 3700 Waste water collection and treatment 6201 Custom software development activities (customer-oriented software) 7211 Research and experimental development on Biotechnology 7219 Research and development in other 	1. Water (consumption efficiency, water treatment / purification, water recovery / recirculation / reuse, monitoring and control, sludge treatment and recovery)
	Faculty of Hydrotechnics, Geodesy & Environmental Engineering	• Civil Engineering • Environmental Engineering		
	Faculty of Material Science & Engineering	• Material Engineering		
	Faculty of Civil Engineering & Building Services	• Civil Engineering • Installation Engineering		
	Faculty of Automatic Control & Computer Engineering	• Systems Engineering		
“Alexandru Ioan Cuza” University, Iasi	Faculty of Biology	• Environmental Science		
	Faculty of Chemistry	• Chemistry		
	Faculty of Geography and Geology	• Environmental Science		

¹² Decision No 299/2020 approving the classification of domains and specialisations/programmes of university studies and the structure of higher education institutions for the academic year 2020-2021

¹³ The NACE codes referred to are illustrative and not exhaustive

<p>“Ion Ionescu de la Brad” University of Agricultural Sciences and Veterinary Medicine, Iasi</p> <p>“Ștefan cel Mare” University, Suceava</p> <p>“Vasile Alecsandri” University, Bacau</p>	Faculty of Agriculture	• Food Engineering	natural sciences and engineering	
	Faculty of Horticulture	• Environmental Engineering		
	Faculty of Food Engineering	• Food Engineering		
	Faculty of Forestry	• Environmental Science		
	Faculty of Engineering	• Environmental Engineering		
			<p>Catalyst organisations</p> <ul style="list-style-type: none"> • Renew Cluster • ADI - County Intercommunity Development Associations <p>Active companies in the area (e.g. NACE codes): 2651 Manufacture of instruments and appliances for measuring, testing and navigation 6201 Custom software development activities (customer-oriented software) 7211 Research and experimental development on Biotechnology 7219 Research and development in other natural sciences and engineering</p>	<p>2. Air (air quality assessment, solutions to mediate the effects of pollution, air quality monitoring)</p>

			<p>Catalyst organisations</p> <ul style="list-style-type: none"> • ADI - County Intercommunity Development Associations • "Mai bine" Association • CIVICA Association • RoRec Iasi Association <p>Active companies in the area (e.g. NACE codes):</p> <p>3821 Treatment and disposal of non-hazardous waste</p> <p>3822 Treatment and disposal of hazardous waste</p> <p>3831 Dismantling (disassembly) of end-of-life machinery and equipment for material recovery</p> <p>3832 Recovery of sorted recyclable materials</p> <p>7219 Research and development in other natural sciences and engineering</p>	<p>3. Circular economy (sustainability of processes, products and services, waste treatment and recovery, eco-design)</p>
<p>CERNESIM - Integrated Centre for Environmental Science Studies for the North-East Development Region</p> <p>Research Center for Environmental Engineering and Impact Assessment, "Gheorghe Asachi" Technical University, Iasi</p> <p>INCDSB (The National Institute of Research and Development for Biological Sciences) București - Iasi Branch - Institute of Biological Research Iași</p> <p>INCDSB (The National Institute of Research and Development for Biological Sciences) București - Piatra Neamț Branch - "Stejarul" Biological Research Center, Piatra Neamț</p> <p>INCERC - Iasi Branch - National Institute for Research and Development in Constructions, Urban Planning and Sustainable Spatial Development</p> <p>The Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry (including university doctoral studies through the School of Advanced Studies of the Romanian Academy)</p> <p>Environmental Resources and Biotechnologies Research Center, "Vasile Alecsandri" University, Bacau</p>				