

# Enterprise Europe Network – Russian Business-Innovation Networks

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## TECHNOLOGY KEYWORDS

### 1. ELECTRONICS, IT AND TELECOMMS

#### 1.1. Electronics, Microelectronics

- 1.1.1. Automation, Robotics Control Systems
- 1.1.2. Digital Systems, Digital Representation
- 1.1.3. Electronic circuits, components and equipment
- 1.1.4. Electronic engineering
- 1.1.5. Embedded Systems and Real Time Systems
- 1.1.6. High Frequency Technology, Microwaves
- 1.1.7. Magnetic and Superconductor Materials/Devices
- 1.1.8. Microengineering
- 1.1.9. Micromachining
- 1.1.10. Nanotechnologies related to Electronics and Microelectronics
- 1.1.11. Optical Networks and Systems
- 1.1.12. Peripherals Technologies (Mass Data Storage, Display Technologies) related to Electronics and Microelectronics
- 1.1.13. Printed Circuits and Integrated Circuits
- 1.1.14. Quantum Informatics
- 1.1.15. Semiconductors
- 1.1.16. Smart Cards and Access Systems
- 1.1.17. Environmental and Biometrics Sensors, Actuators

#### 1.2. Information Processing, Information System, Workflow Management

- 1.2.1. Advanced Systems Architecture
- 1.2.2. Archivistics/Documentation/Technical Documentation
- 1.2.3. Artificial Intelligence (AI)
- 1.2.4. Computer Games
- 1.2.5. Computer Hardware
- 1.2.6. Computer Software
- 1.2.7. Computer Technology/Graphics, Meta Computing
- 1.2.8. Data Processing/Data Interchange, Middleware
- 1.2.9. Data Protection, Storage Technology, Cryptography, Data Security
- 1.2.10. Databases, Database Management, Data Mining
- 1.2.11. Electronic Commerce, Electronic Payment
- 1.2.12. Imaging, Image Processing, Pattern Recognition
- 1.2.13. Information Technology/Informatics
- 1.2.14. Internet Technologies/Communication (Wireless, Wi-Fi, Bluetooth)
- 1.2.15. Knowledge Management, Process Management
- 1.2.16. Simulation
- 1.2.17. Speech Processing/Technology
- 1.2.18. User Interfaces, Usability
- 1.2.19. Electronic Signature
- 1.2.20. Building Automation Software
- 1.2.21. Remote Control
- 1.2.22. Smart Appliances

#### 1.3. IT and Telematics Applications

- 1.3.1. Applications for Health
- 1.3.2. Applications for Tourism
- 1.3.3. Applications for Transport and Logistics

- 1.3.4. ASP Application Service Providing
- 1.3.5. e-Government
- 1.3.6. Environment Management Systems & Documental Management Systems
- 1.3.7. GIS Geographical Information Systems
- 1.3.8. CRM - Customer relationship Management
- 1.3.9. Quality Management System
- 1.3.10. Maintenance Management System
- 1.3.11. Operation Planning and Scheduler System
- 1.3.12. Didactic System
- 1.3.13. ICM – Internet Content Management
- 1.3.14. Analysis Risk Management
- 1.3.15. Work Hygiene and Safety Management

#### 1.4. Multimedia

- 1.4.1. Cultural Heritage
- 1.4.2. E-Learning
- 1.4.3. E-Publishing, Digital Content
- 1.4.4. Human Language Technologies
- 1.4.5. Information Filtering, Semantics, Statistics
- 1.4.6. Visualisation, Virtual Reality

#### 1.5. Telecommunications, Networking

- 1.5.1. Audiovisual Equipment and Communication
- 1.5.2. Broadband Technologies
- 1.5.3. Mobile Communications
- 1.5.4. Narrow Band Technologies
- 1.5.5. Network Technology, Network Security
- 1.5.6. Radar
- 1.5.7. Research Networking, GRID
- 1.5.8. Satellite Technology/Systems/Positioning/Communication in GPS – Global Positioning System
- 1.5.9. Signal Processing
- 1.5.10. Hi-Fi
- 1.5.11. Description to Sound and Music Computing
- 1.5.12. Description Image/Video Computing
- 1.5.13. Communications Protocols, Interoperability
- 1.5.14. Residential Gateway

## **2. INDUSTRIAL MANUFACTURING, MATERIAL AND TRANSPORT TECHNOLOGIES**

### **2.1. Design and Modelling/Prototypes**

### **2.2. Industrial Manufacture**

- 2.2.1. Cleaning (sandblasting, brushing)
- 2.2.2. Coatings
- 2.2.3. Drying
- 2.2.4. Erosion, Removal (spark erosion, flame cutting, laser/plasma cutting, electrochemical erosion, waterjet cutting)
- 2.2.5. Forming (rolling, forging, pressing, drawing)
- 2.2.6. Hardening, heat treatment
- 2.2.7. Joining techniques (riveting, screw driving, gluing)
- 2.2.8. Jointing (soldering, welding, sticking)
- 2.2.9. Machine Tools
- 2.2.10. Machining (turning, drilling, moulding, milling, planning, cutting)
- 2.2.11. Machining, fine (grinding, lapping)
- 2.2.12. Mixing (powder, etc.), separation (sorting, filtering)
- 2.2.13. Moulding, injection moulding, extrusion, sintering
- 2.2.14. Surface treatment (painting, galvano, polishing, CVD, PVD)

### **2.3. Process control and logistics**

### **2.4. Plant Design and Maintenance**

### **2.5. Packaging/Handling**

- 2.5.1. Foil, fils
- 2.5.2. Laminate
- 2.5.3. Packaging for machines
- 2.5.4. Packaging for materials
- 2.5.5. Plastic bags

### **2.6. Construction Technology**

- 2.6.1. Building Materials, Components and Methods
- 2.6.2. Civil engineering
- 2.6.3. Construction Equipment
- 2.6.4. Fire Resistance/Safety
- 2.6.5. Mechanical Engineering, Hydraulics, Vibration and Acoustic Engineering related to construction technology
- 2.6.6. Pipeline Technology
- 2.6.7. Pulp Technology related to construction technology
- 2.6.8. Sensory/Multisensory Technology, Instrumentation related to construction technology
- 2.6.9. Simulation, Simulation Engineering
- 2.6.10. Sound Insulation
- 2.6.11. Vacuum/High Vacuum Technology
- 2.6.12. Gas Safety
- 2.6.13. Security

### **2.7. Materials Technology**

- 2.7.1. Adhesives
- 2.7.2. Building materials
- 2.7.3. Ceramic Materials and Powders
- 2.7.4. Colours and varnish
- 2.7.5. Composite materials
- 2.7.6. Fine Chemicals, Dyes and Inks
- 2.7.7. Glass
- 2.7.8. Iron and Steel, Steelworks
- 2.7.9. Materials Handling Technology (solids, fluids, gases)
- 2.7.10. Metals and Alloys
- 2.7.11. Non-ferrous Metals
- 2.7.12. Optical Materials
- 2.7.13. Paper technology
- 2.7.14. Plastics, Polymers

- 2.7.15. Properties of Materials, Corrosion/Degradation
- 2.7.16. Rubber
- 2.7.17. Stone
- 2.7.18. Advanced Textile Materials

### **2.8. Transport Infrastructure**

- 2.8.1. Air Transport
- 2.8.2. Intermodal Transport
- 2.8.3. Logistics
- 2.8.4. Railway Transport
- 2.8.5. Road Transport
- 2.8.6. Traffic Engineering/Control Systems
- 2.8.7. Transshipment Systems
- 2.8.8. Water Transport

### **2.9. Transport and Shipping Technologies**

- 2.9.1. Design of Vehicles
- 2.9.2. Hybrid and Electric Vehicles
- 2.9.3. Railway Vehicles
- 2.9.4. Road Vehicles
- 2.9.5. Shipbuilding
- 2.9.6. Traction/Propulsion Systems

### **2.10. Aerospace Technology**

- 2.10.1. Aeronautical technology/Avionics
- 2.10.2. Aircraft
- 2.10.3. Helicopter
- 2.10.4. Satellite Navigation Systems
- 2.10.5. Space Exploration and Technology

## **3. OTHER INDUSTRIAL TECHNOLOGIES**

### **3.1. Other Industrial Technologies**

- 3.1.1. Cleaning Technology

### **3.2. Process Plant Engineering**

### **3.3. Apparatus Engineering**

### **3.4. Chemical Technology and Engineering**

- 3.4.1. Agro chemicals
- 3.4.2. Anorganic Substances
- 3.4.3. Colours, dyes related to Chemical Technology and engineering
- 3.4.4. Electrical Engineering and Technology/Electrical Equipment
- 3.4.5. Man made fibres
- 3.4.6. Organic Substances
- 3.4.7. Pharmaceuticals
- 3.4.8. Plastics and Rubber related to Chemical Technology and engineering
- 3.4.9. Soaps, detergents
- 3.4.10. Special chemicals, intermediates
- 3.4.11. Care, Hygiene, Beauty

### **3.5. Textiles Technology**

- 3.5.1. Component adhesives for strengthening of seam
- 3.5.2. Dry filling related to Textiles Technology
- 3.5.3. Dyeing related to Textiles Technology
- 3.5.4. Finisher related to Textiles Technology
- 3.5.5. Non weaving related to Textiles Technology
- 3.5.6. Solvent based glues for strengthening of edges and seam
- 3.5.7. Thermoplastic textile fibres
- 3.5.8. Weaving related to Textiles Technology
- 3.5.9. Woven technical textiles for industrial applications

### **3.6. Footwear/Leather Technology**

- 3.6.1. Dry filling related to Footwear/Leather Technology
- 3.6.2. Dyes related to Footwear/Leather Technology
- 3.6.3. Tanned leather process related to Footwear/Leather Technology

- 3.7. **Sound Engineering/Technology**
- 3.8. **Mining Technologies**
- 3.9. **Printing**
  - 3.9.1. Flexography
  - 3.9.2. Printed Reel Material
- 3.10. Household Goods & Appliances

#### 4. ENERGY

- 4.1. **Energy storage and transport**
  - 4.1.1. Heat storage
  - 4.1.2. Heat transport and supply, district heating
  - 4.1.3. Storage of electricity, batteries
  - 4.1.4. Transmission of electricity
  - 4.1.5. Transport and storage of gas and liquid fuels
  - 4.1.6. Transport and storage of hydrogen
- 4.2. **Energy production, transmission and conversion**
  - 4.2.1. Fuel cell, hydrogen production
  - 4.2.2. Fuel liquefaction, gasification
  - 4.2.3. Furnace technology, construction of heating boilers
  - 4.2.4. Generators, electric engines and power converters
  - 4.2.5. Heat exchangers
  - 4.2.6. Heat pump, cooling technologies
  - 4.2.7. Heating, ventilation
  - 4.2.8. Turbines, fluid machinery, reciprocating engines, combined heat and power
- 4.3. **Fossil Energy Sources**
  - 4.3.1. Coal and Hydrocarbons
  - 4.3.2. Gaseous fossil fuel
  - 4.3.3. Solid fossil fuel
  - 4.3.4. Liquid fossil fuel
- 4.4. **Nuclear Fission/Nuclear Fusion**
- 4.5. **Renewable Sources of Energy**
  - 4.5.1. Gaseous biomass
  - 4.5.2. Geothermal energy
  - 4.5.3. Hydropower
  - 4.5.4. Liquid biomass
  - 4.5.5. Photovoltaics
  - 4.5.6. Solar/Thermal energy
  - 4.5.7. Solid biomass
  - 4.5.8. Unconventional and Alternative Energies
  - 4.5.9. Waste incineration
  - 4.5.10. Wind energy
- 4.6. **Rational use of energy**
  - 4.6.1. Energy management
  - 4.6.2. Lighting, illumination
  - 4.6.3. Process optimisation, waste heat utilisation
  - 4.6.4. Thermal insulation, energy efficiency in buildings
- 4.7. **Other Energy Topics**
  - 4.7.1. Combustion, Flames
  - 4.7.2. Fuel Technology

#### 5. PHYSICAL AND EXACT SCIENCES

- 5.1. **Astronomy**
- 5.2. **Chemistry**
  - 5.2.1. Analytical Chemistry
  - 5.2.2. Computational Chemistry and Modelling
  - 5.2.3. Inorganic Chemistry
  - 5.2.4. Organic Chemistry
  - 5.2.5. Petrochemistry, Petroleum Engineering
- 5.3. **Earth Sciences**
  - 5.3.1. Geology, Geological Engineering, Geotechnics

- 5.3.2. Oceanography
- 5.3.3. Tectonics, Seismology

- 5.4. **Mathematics, Statistics**
  - 5.4.1. Algorithms and Complexity
  - 5.4.2. Mathematical modelling
  - 5.4.3. Statistical Analysis

- 5.5. **Meteorology/Climatology**
  - 5.5.1. Biosensor
  - 5.5.2. Moisture sensors
  - 5.5.3. Temperature monitoring

- 5.6. **Physics**
  - 5.6.1. Acoustics
  - 5.6.2. Astrophysics/Cosmology
  - 5.6.3. Laser Technology
  - 5.6.4. Nuclear Physics
  - 5.6.5. Physics of Fluids
  - 5.6.6. Sensors/Multisensor Technology, Instrumentation
  - 5.6.7. Solid state physics
  - 5.6.8. Thermodynamics
  - 5.6.9. Vibration and Acoustic engineering
  - 5.6.10. Optics

- 5.7. **Mechanical Engineering**
  - 5.7.1. Micro-Mechanics

#### 5.8. Hydraulics

- 5.9. **Separation Technologies**
  - 5.9.1. Filtration and Membrane Processes
  - 5.9.2. Extraction
  - 5.9.3. Adsorption
  - 5.9.4. Distillation
  - 5.9.5. Sublimation
  - 5.9.6. Other Processes

#### 5.10. Micro- and Nanotechnology related to physical and exact sciences

#### 6. BIOLOGICAL SCIENCES

- 6.1. **Medicine, Human Health**
  - 6.1.1. Biostatistics, Epidemiology
  - 6.1.2. Care and Health Services
  - 6.1.3. Clinical Research, Trials
  - 6.1.4. Cytology, Cancerology, Oncology
  - 6.1.5. Dentistry/Odontology, Stomatology
  - 6.1.6. Diagnostics, Diagnosis
  - 6.1.7. Diseases
  - 6.1.8. Environmental Medicine, Social Medicine, Sports Medicine
  - 6.1.9. Gene - DNA Therapy
  - 6.1.10. Gerontology and Geriatrics
  - 6.1.11. Heart and blood circulation illnesses
  - 6.1.12. Electromedical and Medical Equipment
  - 6.1.13. Medical Research
  - 6.1.14. Medical Technology/Biomedical Engineering
  - 6.1.15. Neurology, Brain Research
  - 6.1.16. Pharmaceutical Products/Drugs
  - 6.1.17. Physiology
  - 6.1.18. Surgery
  - 6.1.19. Virus, Virology/Antibiotics/Bacteriology
  - 6.1.20. Laboratory Equipment
  - 6.1.21. Rescue and Emergency Equipment
  - 6.1.22. Physiotherapy, Orthopaedic Technology
  - 6.1.23. Single Use Products and Consumer Goods
  - 6.1.24. Medical Textiles
  - 6.1.25. Medical Furniture
  - 6.1.26. Medical Biomaterials

- 6.2. Biology/Biotechnology**
  - 6.2.1. Biochemistry/Biophysics
  - 6.2.2. Cellular and Molecular Biology
  - 6.2.3. Enzymology/Protein Engineering/Fermentation
  - 6.2.4. Genetic Engineering
  - 6.2.5. In vitro Testing, Trials
  - 6.2.6. Microbiology
  - 6.2.7. Molecular design
  - 6.2.8. Toxicology
- 6.3. Genome Research**
  - 6.3.1. Bioinformatics
  - 6.3.2. Gene Expression, Proteom Research
  - 6.3.3. Population genetics
- 6.4. Micro- and Nanotechnology related to Biological sciences**

## **7. AGRICULTURE AND MARINE RESOURCES**

- 7.1. Agriculture**
  - 7.1.1. Agriculture Machinery/Technology
  - 7.1.2. Animal Production/Husbandry
  - 7.1.3. Biocontrol
  - 7.1.4. Crop Production
  - 7.1.5. Horticulture
  - 7.1.6. Pesticides
  - 7.1.7. Precision agriculture
  - 7.1.8. Seed coating
  - 7.1.9. Veterinary Medicine
- 7.2. Sylviculture, Forestry, Forest technology**
  - 7.2.1. Forest technology
  - 7.2.2. Paper Technology
  - 7.2.3. Pulp Technology
  - 7.2.4. Sylviculture, Forestry
  - 7.2.5. Wood Products
- 7.3. Resources of the Sea, Fisheries**
  - 7.3.1. Aquaculture
  - 7.3.2. Fish/Fisheries/Fishing Technology
  - 7.3.3. Marine Science

## **8. AGROFOOD INDUSTRY**

- 8.1. Technologies for the food industry**
  - 8.1.1. Drink Technology
  - 8.1.2. Food Additives/Ingredients/Functional Food
  - 8.1.3. Food Packaging/Handling
  - 8.1.4. Food Processing
  - 8.1.5. Food Technology
- 8.2. Food quality and safety**
  - 8.2.1. Detection and Analysis methods
  - 8.2.2. Food Microbiology/Toxicology/Quality Control
  - 8.2.3. Safe production methods
  - 8.2.4. Tracability of food
- 8.3. Nutrition and Health**

## **9. MEASUREMENTS AND STANDARDS**

- 9.1. Measurement Tools**
  - 9.1.1. Acoustic Technology related to measurements
  - 9.1.2. Analyses/Test Facilities and Methods
  - 9.1.3. Chemical material testing
  - 9.1.4. Electrical Technology related to measurements
  - 9.1.5. Mechanical Technology related to measurements
  - 9.1.6. Optical material testing
  - 9.1.7. Optical Technology related to measurements
  - 9.1.8. Other Non Destructive Testing
  - 9.1.9. Sensor Technology related to measurements
  - 9.1.10. Thermal material testing
- 9.2. Amplifier, A/D Transducer**
- 9.3. Electronic measurement systems**

- 9.4. Recording Devices**
- 9.5. Reference Materials**

- 9.6. Standards**
  - 9.6.1. Quality Standards
  - 9.6.2. Technical Standards

## **10. PROTECTING MAN AND ENVIRONMENT**

- 10.1. Safety**
  - 10.1.1. Acoustic safety
  - 10.1.2. Assessment of Risk
  - 10.1.3. Fire Safety Technology
  - 10.1.4. Hazardous Materials
  - 10.1.5. Radiation Protection
- 10.2. Environment**
  - 10.2.1. Air Pollution/Treatment
  - 10.2.2. Biodiversity
  - 10.2.3. Ecology
  - 10.2.4. Environmental Engineering/Technology
  - 10.2.5. Measurement and Detection of Pollution
  - 10.2.6. Natural Disasters
  - 10.2.7. Remote sensing technology
  - 10.2.8. Soil Pollution
  - 10.2.9. Water Pollution/Treatment
- 10.3. Waste Management**
  - 10.3.1. Biotreatment/Compost/Bioconversion
  - 10.3.2. Incineration and Pyrolysis
  - 10.3.3. Land and Sea Disposal
  - 10.3.4. Recycling, Recovery
  - 10.3.5. Radioactive Waste

## **11. SOCIAL AND ECONOMICS CONCERNS**

- 11.1. Socio-economic development models, economic aspects**
- 11.2. Education and Training**
- 11.3. Information and media, society**
- 11.4. Technology, Society and Employment**
- 11.5. Infrastructures for social sciences and humanities**
- 11.6. Citizens participation**
- 11.7. Foresight tools**
- 11.8. Sports and Leisure**