

Appendix 1

List of technologies considered in the "NT FOR Podlaskie 2020" project

Application area	Category	Technology	Symbol
Wood Industry	Nanomaterials from wood and plants	Production of nanocellulose	T1
		Production of cellulose nanofibers using high-gradient electric field spinning	T2
	Nanotechnologies for wood processing and protection	Nanotechnologies for cutting tools and wood processing	T3
		Nanotechnologies for wood protection (mechanical, physical, chemical, biological)	T4
Medicine	Nanoparticles for medicine, therapy, diagnostics, theranostics	Nanopowder technologies for biomedical applications	T5
		Nanocontainers for precise drug delivery to cells	T6
		Nanotechnologies related to drug delivery systems	T7
		Production of biocosmetics and medicinal herbal formulations in nanocarriers	T8
		Targeted nanotherapy	T9
		Magnetic nanoparticles for drug delivery, diagnostics, and magnetic hyperthermia	T10
		Nanotoxicology	T11
		Nanodiagnostics	T12
		Synthesis of nanoparticles for diagnostic and therapeutic use in cancer	T13
	Nanoscaffolds for regenerative medicine	Tissue regeneration technologies based on nanomaterials	T14
		Tissue nanoengineering	T15
		Production of bone system implants	T16
	Nanocomposites for orthopedics and dentistry	Composite materials for permanent dental fillings	T17
		Titanium-based composite with carbon filler for kinematic connections in bone implants	T18
Biomaterials		T19	
Nanosurfaces for medicine	Nanomaterials and nanocoatings in medical equipment	T20	
	Surface nanotechnology for biomedical applications	T21	
	Production of nanostructured coatings using hybrid PVD methods	T22	
Textile Industry	Nanofibers for textile applications	Production of nanofabrics for specialised applications	T23
		Nanotechnologies related to specialised textiles, e.g. wound dressings	T24
		Reinforcement of polymer materials with nanofibers	T25
Construction & Engineering	Polymer Nanocomposites	Reinforcement of building ceramics with nanofibers	T26
		Nanostructuring technologies for surface layers with special properties	T27
		Nanocoatings altering surface properties in glass industry products	T28
		Acrylic-based polymer composites with nanosilver filler	T29
		Self-cleaning coatings for a wide range of applications	T30
		Powder technologies for plastics, paints and varnishes	T31
Agriculture & Food Industry	Nanofertilizers	Production of nanofertilizers with nanoparticles for better absorption and crop quality	T32
	Nanotechnologies for food safety	Nanotechnologies in food packaging	T33
		Production of smart packaging	T34
		Nanosensor technologies for food production and testing	T35
		Antibacterial nanocoatings for food industry equipment	T36
Mechanical Engineering & Transport	Nanolubricants	Nanocomponent lubricants for machine and workshop equipment	T37
	Structural Nanometals	Nanostructuring technologies for metals and light alloys using severe plastic deformation	T38
Environmental Protection	Nanosensors for environmental protection	Production of nanosensors for environmental monitoring	T39
		Nanoparticles for water pollution control	T40
		Nanobarcode technology for early plant diagnostics	T41

	Nanomembranes for environmental protection	Production of nanostructured fibre filters for gas and liquid purification	T42
		Nanocatalysts for air protection	T43
		Selective chemical, biological, optical membranes (polymer–nanoparticle type)	T44
		Nanomembranes for water purification	T45
Renewable Energy	Nanotechnology for renewable energy	Nanocomposites for solar batteries	T46
		Fuel cell production	T47
		Efficient photovoltaic cell production	T48
Other Applications	Nanophotonics	Nanomaterials for fibre-optic technologies (e.g., glass–ceramic materials)	T49
		Advanced optoelectronic structure design (e.g., fibre lasers, sensors)	T50
		Unconventional fibre technology optimised for specific applications	T51
		Inelastic light scattering techniques (Brillouin, Raman) with temporal and spatial resolution	T52
		CVD of composite optoelectronic nanomaterials for environmental and threat detection	T53
	Spintronics	Magnetic nanomaterials for spintronics and biomedical applications	T54
		Ultrafast magnetisation research using femtosecond lasers	T55
	Nanomanufacturing processes	Structuring using optical, electron and ion-beam lithography (FIB)	T56
		Dispersion of nanoparticles (esp. CNTs) in polymers for improved material properties	T57

Appendix 2

List of criteria

Symbol	Description
A1	Impact of technology development on the investment attractiveness of the region (attracting major new investors)
A2	Impact of technology development on the growth of private R&D investment
A3	Impact of technology development on the level of R&D activity in the region
A4	Ease of commercialisation
A5	Possibility of utilising the scientific, equipment, and industrial potential of the region
A6	Competitiveness of the technology compared to available solutions (patents)
A7	Impact of technology development on building a strong competitive position for enterprises in Podlaskie
A8	Impact of technology development on the creation of new jobs
A9	Economic efficiency
A10	Stimulation of entrepreneurship, including SMEs, spin-offs, and start-ups
A11	Likelihood of technology absorption in Podlaskie existing industry
A12	Potential for broad dissemination and application of results
A13	Likelihood of technology absorption in newly emerging industrial sectors
F1	Access to funds facilitating the implementation of the technology
F2	Financial feasibility (availability of funding) for technology implementation
F3	Technical and implementation feasibility
F4	Quality of human resources within the industry
F5	Availability of qualified personnel
F6	Required research and development infrastructure
F7	Interest of the regional business sector in implementing new technologies
F8	Possibility of producing or acquiring the necessary technical and technological equipment