R2 – Analysis of Smart Specialisation Strategy (S3) in Veneto, FVG and Slovenia

WP 3.1.1 R2

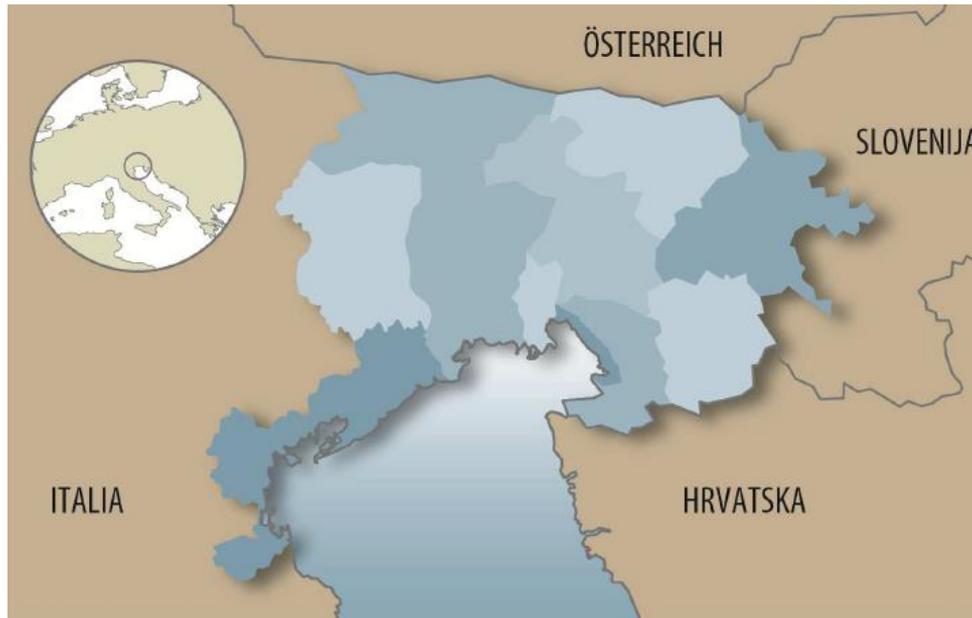Version 1
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DELIVERABLE DESCRIPTION

Work package	3.1.1	Deliverable	R2
Date	March 31 2018		
Title	Analysis of Smart Specialisation Strategy (S3) in Veneto, FVG and Slovenia		
Project Partner responsible	PP6 – GZS		
Project Partner Coordinator	PP3 – Ca' Foscari University of Venice		
Project partner Collaborator	PP4 – University of Promorska		

S3 – PROGRAM AREAS

Slovenia
1. Smart cities and communites
2. Smart buildings and homes
3. Network for the transition to circular economy
4. Sustainable food production
5. Sustainable tourism
6. Factories of the Future
7. Health – medicine
8. Smart Mobility
9. Development of materials as end products

Friuli-Venezia Giulia
1. Agrifood
2. Strategic Productive Supply Chain
   a) Smart Manufacturing
   b) Home systems
3. Maritime technologies
4. Smart health
5. Culture, Creativity and tourism

Veneto
1. Smart agrifood
2. Sustainable living
3. Smart manufacturing
4. Creative industries

SMART SPECIALISATION STRATEGY
FRIULI-VENEZIA GIULIA

	Development Trajectories
Agrifood	1. Application of industrial design techniques to food sectors
	2. Development of innovative systems for food preservation
	3. Development of Smart packaging
	4. Development of food chemical analysis and reuse of waste
Smart manufacturing	1. Technologies for numerical modeling of process and product
	2. Methods and technologies for integrated design
	3. Smart machines
Home system	1. Technologies related to materials
	2. Methods and technologies for rapid design
	3. Technologies for energy efficiency of buildings
	4. Cloud computing technologies
Maritime technologies	1.Methods for designing and developing new products, processes and services
	2. Green technologies and technlogies for energy efficiency
	3. Technologies for maritime security and safety systems
Smart health	1. Biomedical industry, in vivo and in vitro diagnostics
	2. Medical informatics and bioinformatics
	3. Innovative therapy
	4. Ambient Assisted Living
Culture, Cretivity tourism	1. Technologies for conservation and enhancement of goods and products
	2. Geomatics and image processing for the tourism and cultural sectors
	3. Social and sharing platforms

SMART SPECIALISATION STRATEGY

		Traditional industries	Cross- industires	Enabling technology	Innovation Driver
FRIULI-VENEZIA GIULIA	**Agrifood**	Agriculture Food and beverage industry Fishing Forestry	Food services Wholesale and retail trade Packaging Energy Logistics Chemistry Agricultural mechanics Food mechanics Biomedical Trade Tourism	Industrial design Innovative systems for food preservation Smart packaging Chemical analysis	Environmental sustainability Energy efficiency
	Smart manufacturing	Component mechanics Mechatronics Instrumental mechanics (machinery and equipment) Precision mechanics Metallurgy	Agriculture Building Furniture Food industry Packaging Food services industries Biomedical	Numerical modeling of proccess and product technologies Methods and technologies for integrated design Smart machines	Active ageing Design
	Home system	Furniture Household goods Buildings	Mechanics Food industry Packaging Food services industries Biomedical Agriculture	Technologies related to materials Methods and technologies for rapid design Technologies for energy efficiency of buildings Cloud computing technologies	Active ageing Design

SMART SPECIALISATION STRATEGY

		Traditional industries	Cross- industires	Enabling technology	Innovation Driver
FRIULI-VENEZIA GIULIA	**Maritime technologies**	Shipbuilding Nautical shipbuilding Offshore Transport Logistics services for navigation and boating	Agriculture Fishing	Technologies for designing and developing new products, processes and services Green technologies and technlogies for energy efficiency Security technologies	Environmental sustainability Energy efficiency
	Smart health	Biomedical Medical informatics Health-care	Mechanics Energy Mobility Forestry	Biomedical industry, in vivo and in vitro diagnostics Medical informatics and bioinformatics Innovative therapy Ambient Assisted Living	Environmental sustainability Active ageing Design
	Culture, Cretivity Tourism	Tourism Non-industrial artistic productions Creative industry Footwear industry Clothing Tanning Eyewear Artistic ceramics Artistic glass	Agriculture Mechanics Chemistry Biomedical	Technologies for conservation and enhancement of goods and products Geomatics and image processing Social and sharing platforms	Design Creativity Active ageing

	SMART SPECIALISATION STRATEGY FVG					
INDUSTRIES	Agrifood	Smart Manufact.	Home system	Maritime technologies	Smart health	Culture, Creativ. Tour.
Agriculture	■			□		
Agricultural mechanics	□					
Artistic ceramics						■
Artistic glass						■
Biomedical	□	□	□		■	
Buildings		□	■			
Clothing						■
Chemistry	□					
Component mechanics		■				
Creative industries						■
Energy	□				□	
Eyewear industry						■
Fishing	■			□		
Food and beverage industry	■					
Food industry		□	□			
Food mechanics	□					
Food services industries	□		□			
Footwear industry						■
Forestry	■				□	
Furniture		□	■			
Healthcare					■	
Household goods			■			
Instrumental mechanics		■				
Mobility/Logistics	□			■	□	
Mechanics					□	□
Mechatronics		■				
Metallurgy		■				
Non-industrial artistic produc.						■
Packaging	□					
Precision mechanics		■				
Shipbuilding				■		
Offshore				■		
Tanning						■
Transport				■		
Medical informatics					■	
Tourism	□					
Trade	□					
Wholesale and retail trade	□					

Legend
■ Industries
□ Cross-industries

SMART SPECIALISATION STRATEGY
VENETO

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	Development Trajectories	Micro-trajectories
Smart Agrifood	1. Nutrition and food sefty	1.Innovative and sustainable packaging for agri-food products 2.Improvement of health and well-being of counsumers through foods that can provide useful and functional elements for improving health
	2. Sustainable agri-food	1.Development of agriculture and precision zootechncs 2.Development of more efficient products and equipment, enabling technologies in organinc agriculture 3.Innovations and resources for the optimization of the nutritional state and the eco-sustainable phytosiseness defense of crops 4.Development of modalities and technologies in favor of integrated systems between agrifood, tourism and ecology
	3. Smart management of natural and energetic resources	1.Recovery of the sub-products obtained from the production/processing activities of agri-food production chain
	4. Innovative and sustainable transformation process	1.Development of innovative systems for food processing
	5. Traceability and protection of products and supply chains	1.Development of complete traceability systems 2.Recognition and communicability of the products
Sustainable Living	1. Smart and sustainable cities and buildings	1.Innovative solutions and materials for the living area 2.Development of technological solutions and integrated smart city management systems 3.Technologies for the design and development of buildings 4.Buildings energy management
	2. Recovery and regeneration of architectural restoration, technologies for cultural heritage	1.Technologies for cultural heritage
	3. Well-being security and health of habitats and life spaces	1.Automatin and Home automation for the improvement of life quality
	4. Safety and health (independent and active life)	1.Safety of life places and privacy 2.Solutions for independent living 3.Assistive technologies

SMART SPECIALISATION STRATEGY
VENETO

	Development Trajectories	Micro-trajectories
Smart Manufacturing	1. Sustainable productions and processes	1.Development of high performance and higer sustainability metal and non metallic components 2.Innovative processes for the treatment and/or reuse of industrial waste 3.New machinery and plants made with innovative materials and components, aimed at energy saving and rational use of resources 4.Tools for sustainable supply chain and "green" energy solutions for manufacturing processes and for the renewal of product life
	2. Cognitive systems and automations	1.Solutions for advanced maintenance, quality and logistics management and decision support in complex environment 2.Development of integrated digital platforms for the configuration of production systems 3.Development of intelligent machines, advanced automation systems and robotic systems
	3. Innovative and inclusive working space	1.Innovative solutions for spaces and organization of inclusive and human-centric work
	4. New organizational and production models	1.New models of industrialization in the production of equipment and consumer goods, through digitization and IOT systems
	5. Advanced design and production technologies	1.Tools and models for integrated, innovative and multi-scale design of components, products and innovative equipment for manufacturing processes 2.Systems, technologies, materials and equipment for innovative micromechanics 3.Development and production of innovative materials 4.Innovative solutions in the construction of machinery and equipment aimed at safety, environmental protection, saving and energy efficiency
Creative Industries	1. Innovative and eco/bio-materials	1.Digitalization of circular economy processes 2.Innovative materials for creative industry 3.Innovative textile materials and wearable technologies
	2. New business models	1.Business models and value-added services
	3. Creative design	1.Technologies for design and prototyping of creative products for fashion and furniture
	4. Innovative marketing and products enhancement	1.Innovation and digitalization in marketing processes
	5. Technologies for cultural heritage valorisation	1.Technologies and virtual reality for artistic and cultural heritage

SMART SPECIALISATION STRATEGY

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		Traditional industries	Cross- industires	Enabling technology	Innovation Driver
VENETO	**Smart Agrifood**	Agriculture Breeding Fishing Food processing industries	Packaging Energy Food Service Logistics Chemistry Agricultural mechanics Food mechanics Biomedical	Biotechnologies ICT Advanced materials Nanotechnologies	Environmental sustainability Energy efficiency
	Sustainable Living	Building Furniture Tourism Lighting technology	Mechanics Energy Mobility Forestry Biomedical	ICT Advanced materials Nanotechnologies Photonic	Environmental sustainability Active ageing Design
	Smart Manufacturing	Component mechanics Mechatronics Instrumental mechanics Precision mechanics	Agriculture Building Furniture Food industry Packaging Food services industries Biomedical	ICT Advanced materials Photonics Nanotechnologies Prototyping	Active ageing Design
	Creative Industries	Footwear industry Clothing Tanning Goldsmith Eyewear Artistic ceramics Artistic glass Tourism Culture	Agriculture Mechanics Chemistry Biomedical	ICT Advanced materials Advanced manufacturing systems Prototyping Biotechnologies Nanotechnologies Tissue plasma treatment plant	Design Creativity Active ageing

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INDUSTRIES	SMART SPECIALISATION STRATEGY VENETO			
	Smart Agrifood	Sustainable living	Smart Manufacturing	Creative Industries
Agricultural mechanics	▨		■	
Agriculture	■		▨	▨
Artistic ceramics				■
Artistic glass				■
Biomedical	▨	▨		▨
Breeding	■			
Building		■	▨	
Chemistry	▨			▨
Clothing				■
Component mechanics			■	
Culture				■
Energy	▨	▨		
Eyewear				■
Fishing	■			
Food industry			▨	
Food mechanics		▨	■	
Food processing	■			
Food Service			▨	
Footwear industry				■
Forestry		▨		
Furniture		■	▨	
Goldsmith				■
Instrumental mechanics			■	
Lighting technology		■		
Logistics	▨			
Mechanics		▨	■	▨
Mechatronics			■	
Mobility		▨		
Packaging	▨		■	
Precision mechanics			■	
Tanning				■
Tourism		■		■

Legend
- ■ Industries
- ▨ Cross-industries

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Development Trajectories	
Smart cities and communities	1. Manufacturing of electric and electronic components and equipment
	2. ICT systems
	3. Components and systems for district heating and the HVAC systems
	4. Development of ICT based projects in the areas of energy, urban mobility, safety and smart health systems
Smart buildings and homes	1. Energy refurbishment of buildings, interfaces between smart buildings and smart grids, integrated management systems for buildings, homes and the working environment of the future, and smart appliances for energy efficiency and self-sufficiency of buildings
	2. Sustainability of buildings with re-use of used construction materials and of waste as well as renewable and eco-friendly and healthy materials
	3. integration of wood-chain in the design of homes and working environments of the future by including research and innovation deriving from traditional knowledge and skills in using the wood and wood-compatible natural materials

SMART SPECIALISATION STRATEGY
SLOVENIA 2/4

	Development Trajectories
Network for the transition to circular economy	1. Sustainable biomass transformation
	2. Production of new bio-based materials
	3. Technologies for use of secondary and raw-materials and reuse of waste
	4. Production of energy based on alternative sources
Sustainable food production	1. Sustainable production of high-quality food in relation to business model that integrates knowledge institutions with manufacturers and economic entities along the entire value chains, including the development of new marketing models
	2. Establishment of innovative short ("Zero km") supply chains for locally and organically produced foods with guaranteed and recognised traceability from the field to the table
	3. Ensure long-term sustainable conditions for the development of the varieties and farming practices adapted to Slovenian territory but also resilient and adaptable to the progressive climate change conditions
Sustainable tourism	Social innovation based on:
	1. rich cultural heritage
	2. local creativity promoting activities
	3. services centred around sustainable use of natural resources
	4. innovative well-being programmes

SMART SPECIALISATION STRATEGY
SLOVENIA 3/4

	Development Trajectories
Factories of the Future	Integrated solutions enabling companies to build competent value-chains including production optimisation, (distributed) production management and control, quality assurance, regulation and data processing, intra-logistics, automation; optimisation and automation of production processes: smart machines and equipment, mechatronic systems, actuators and smart sensors, virtual technological production systems, remote monitoring and management, modularity of products and solutions, intelligent materials, etc.
Health – medicine	1. Research and Innovation activities related to medical applications and quality of life
	2. New substances and technologies in biomedicine combined with smart healthcare, personalized healthcare for vulnerable population, including high quality food and clean environment
Smart Mobility	Developing high value-added, demanding, complex, energy-efficient products consistent with the new EU transport emission standards (EURO 6c, EURO 7) and security standards (EURO NCAP). These include niche components and systems for internal combustion engines, E-mobility and energy storage systems, systems and components for security and comfort (interior / exterior), and advanced materials for the automotive industry

SMART SPECIALISATION STRATEGY
SLOVENIA 4/4

	Development Trajectories
Development of materials as end products	Focusing on materials' production technologies and processing, and material sciences - metallurgy, foundry and production of multicomponent non-homogeneous materials / components combined in different ways

SMART SPECIALISATION STRATEGY
SLOVENIA 1/3

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		Traditional industries	Cross- industries	Enabling technology	Innovation Driver
SLOVENIA	**Smart cities and communities**	Construction Lightening technology Logistics Component mechanics Machinery and equipment Creative industry IT industry	Modern engineering Furniture Health-care Precision mechanics Mobility Food industry Manufacture of light aircraft Transport	Cloud computing and big and open data Internet of things and future internet Embedded smart systems High Performance Computing (HPC) infrastructure Capture and use of long-distance earth observation data	Environmental sustainability Energy efficiency
	Smart buildings and homes	Construction Furniture Modern engineering Manufacture of domestic appliances Manufacture of prefabricated buildings Creative industry IT industry	Mechanics Energy Logistics Design	Smart housing units Smart environment using intelligent building management systems Smart appliances Advanced materials and products, including wood composites	Active ageing Design Environmental sustainability Wood as natural asset
	Network for the transition to circular economy	Forestry Chemistry Energy Mechanics	Packaging Component mechanics Instrumental mechanics Logistic Construction	Technologies for sustainable biomass transformation and new bio-based materials Technologies for use of secondary and raw-materials and reuse of waste Production of energy based on alternative sources	Environmental sustainability Energy efficiency Wood as natural asset

		Traditional industries	Cross- industries	Enabling technology	Innovation Driver
SLOVENIA	Sustainable food production	Agriculture Food and beverage industry Fishing Livestock	Food service Biomedical Packaging Healt-care Chemistry Tourism Trade	Sustainable production and processing of food products into functional foods Technologies for sustainable agricultural production (livestock and plants)	Environmental sustainability Energy efficiency
	Sustainable tourism	Tourism Culture Design Logistic Construction IT industry	Agriculture Food industry Energy Mobility Health-care Trade	IT-based marketing and networking through the creation of innovative, integrated and sustainable tourism products and services in line with upcoming needs Knowledge for enhancing the quality of services è service design, innovative management, process innovation, branding of basic (catering) and thematic tourism products by taking into account internationally recognised brands, and training Technological solutions for sustainable use of resources in accommodation facilities è in relation to activities in the field of smart buildings Green Slovenian tourism scheme è systematic approach to integration, guiding and developing sustainable and integrated solutions at the destination and local level	Environmental sustainability Active ageing Energy efficiency

SMART SPECIALISATION STRATEGY
SLOVENIA 3/3

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		Traditional industries	Cross- industries	Enabling technology	Innovation Driver
SLOVENIA	**Factories of the Future**	Component mechanics Mechatronics Instrumental mechanics (machinery and equipment) Precision mechanics Nanotechnology	Agriculture Construction Furniture Food industry Packaging Food services Biomedical	Robotics Nanotechnologies Modern production technologies for materials Plasma technologies Photonics and micro- and nanoelectronics Control technology	Active ageing Design Environmental sustainability Energy efficiency
	Health – medicine	Biomedical Medical informatics Health-care	Mechanics Energy Mobility	Biopharmaceuticals Translational medicine: diagnostics and therapeutics Cancer treatment – diagnosis and therapy Resistant bacteria Natural medicines and cosmetics	Environmental sustainability Active ageing Design
	Smart Mobility	Automotive industry Transport Logistics Mobility Manufacture of light aircraft	Energy Mechanics Component mechanics Instrumental mechanics	Niche components and systems for internal combustion engines E-mobility and energy storage systems Systems and components for security and comfort (interior and exterior) Materials for the automotive industry	Environmental sustainability Energy efficiency
	Dev. of materials as end products	Metallurgy Energy Precision mechanics	Nanotechnology Chemistry Trade	Sustainable production technologies in metallurgy Multi-component smart materials and coatings	Design Energy efficiency

SMART SPECIALISATION STRATEGY SLOVENIA

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INDUSTRIES	Smart cities and communities	Smart buildings and homes	Network for the transition to circular economy	Sustainable food production	Sustainable tourism	Factories of the Future	Health - med.	Smart Mobility	Develop. of materials as end products
Agriculture				■	□	□			
Automotive industry								■	
Biomedical				□		□	■		
Chemistry			■						□
Component mechanics	■		□			■		□	
Construction	■	■	□		■				
Creative industries	■	■							
Culture	■								
Design		□			■				
Energy		□	■				□		■
Fishing	■								
Food and beverage industry				■					
Food industry	□				□	□			
Food services									
Forestry	■								
Furniture	□	■				□			
Healthcare	□						■		
Instrumental mechanics						■		□	
IT industry	■	■			■				
Livestock				■					
Logistics	■	□	□		■			■	
Manufacture of light aircraft	□							■	
Mobility	□				□		□	■	
Mechanics		□	■					□	
Mechatronics						■			
Medical informatics							■		
Metallurgy	■								
Nanotechnology						■			□
Packaging			□	□		□			
Precision mechanics	□								■
Transport	□							■	
Tourism				□	■				
Trade				□	□				□

Legend
■ Industries
□ Cross-industries