Interreg Danube Region

Co-funded by the European Union

SpinIT

Project Title	**Boosting Smart Specialization and Encouraging Spin-offs in IT across Danube Region**
Call	**Danube Region Programme**
Project number	**DRP0200277**
Coordinator	**ZEDA**
Project duration	**30 months 0 days**
Project website	***(to be filled)***
Specific objective	**Creating a framework outlining the obligatory elements of each curriculum/methodology to be developed. This framework should align with the project goals and the developed LAP.**
Activity	**Activity 2.2 Next-gen Pilot Projects for Smart Specialization and IT**

SpinIT

Reporting Template for Deliverable D.2.2.3 Development / Selection of appropriate methodology / curriculum for pilot project implementation			
Due date:		Actual submission date:	**05.2025**
Organization:	**PP 8 Municipality of Cluj-Napoca**	Authors:	Alina Barbur Liviu Purtator Gabriela Pintican
Status: Final (F) Draft (D) Revised draft (RV)	**F**	Dissemination level: Public (PU) Confidential, only for members of the consortium (CO)	**CO**

Interreg Danube Region

Co-funded by the European Union

SpinIT

Table of Contents

Interreg Danube Region

Co-funded by the European Union

SpinIT

1. Introduction

The pilot project designed by the Municipality of Cluj-Napoca, in partnership with Transilvania IT Cluster, will address a dual need: developing future-ready skills through targeted training and curriculum-based learning, and improving digital processes in public institutions through hands-on application. On one hand, the pilot will introduce a modular ERP (Enterprise Resource Planning) platform tailored for the operational context of the City Hall Canteen. This system will enable transparent and traceable food procurement, streamline ordering workflows, and contribute to significant food waste reduction through real-time data and planning capabilities. It will also strengthen local supply chains by supporting direct integration with regional providers.

While the ERP platform will serve as the operational core of the pilot, its true added value lies in the educational ecosystem built around it. The ERP will act as a real-world use case and foundation for the development of the "Sustainable Digitalization of Processes: Applied Curriculum for Innovators and Practitioners." This curriculum will not only reflect the structure and logic of digital procurement workflows, but will also translate them into accessible learning modules that foster deep understanding and skill development. The curriculum is envisioned as a strategic instrument for building digital capacity across sectors supporting professionals in public and private institutions, as well as youth engaged in innovation, civic tech, or entrepreneurship. Through this dual approach, the pilot will reinforce the idea that digital tools are most effective when accompanied by human competencies that ensure their smart and sustainable use.

The planned ERP implementation will provide the foundation for the curriculum, which will include modules such as process mapping, circular procurement, and applied use cases from the TinyERP deployment. This close integration will ensure that learning is not abstract but grounded in actual institutional transformation. Moreover, the curriculum will emphasize transversal skills such as process thinking, systems analysis, and digital innovation - competencies that will be essential for navigating complex organizational environments.

By combining digital infrastructure (ERP) with educational innovation (curriculum), the pilot will offer a replicable model for other municipalities and sectors. It will demonstrate that investing in digital tools must go hand in hand with investing in people. The pilot will thus contribute not only to smart specialization at the local level, but also to strengthening human capital and fostering a culture of sustainable, data-driven innovation.

2. TP and pilot project identification

Please provide information about yourself and your selected pilot project.

Use the following table as a template.

Territorial Partner (TP)	
Name of the organization in original language	Municipiul Cluj-Napoca
Name of the organization in English	Municipality of Cluj-Napoca
Organization abbreviation	MCN
Pilot project	
Name of the pilot project	Smart Digital Solutions for Public Procurement and Youth Innovation
Name of the lead organization in original language	Municipiul Cluj-Napoca
Name of the lead organization in English	Municipality of Cluj-Napoca

3. Introduction of the selected pilot project

The pilot project designed by the Municipality of Cluj-Napoca, in partnership with Transilvania IT Cluster, will address a dual need: improving digital processes in public institutions and developing future-ready skills among professionals and young innovators. On one hand, the pilot will introduce a modular ERP (Enterprise Resource Planning) platform tailored for the operational context of the City Hall Canteen. This system will enable transparent and traceable food procurement, streamline ordering workflows, and contribute to significant food waste reduction through real-time data and planning capabilities. It will also strengthen local supply chains by supporting direct integration with regional providers.

While the ERP platform will serve as the operational core of the pilot, its true added value lies in the educational ecosystem built around it. The ERP will act as a real-world use case and foundation for the development of the "Sustainable Digitalization of Processes: Applied Curriculum for Innovators and Practitioners." This curriculum will not only reflect the structure and logic of digital procurement workflows, but will also translate them into accessible learning modules that foster deep understanding and skill development. The curriculum is envisioned as a strategic instrument for building digital capacity across sectors - supporting professionals in public and private institutions, as well as youth engaged in innovation, civic

tech, or entrepreneurship. Through this dual approach, the pilot will reinforce the idea that digital tools are most effective when accompanied by human competencies that ensure their smart and sustainable use.

The planned ERP implementation will provide the foundation for the curriculum, which will include modules such as process mapping, circular procurement, and applied use cases from the TinyERP deployment. This close integration will ensure that learning is not abstract but grounded in actual institutional transformation. Moreover, the curriculum will emphasize transversal skills such as process thinking, systems analysis, and digital innovation - competencies that will be essential for navigating complex organizational environments.

By combining digital infrastructure (ERP) with educational innovation (curriculum), the pilot will offer a replicable model for other municipalities and sectors. It will demonstrate that investing in digital tools must go hand in hand with investing in people. The pilot will thus contribute not only to smart specialization at the local level, but also to strengthening human capital and fostering a culture of sustainable, data-driven innovation.

4. Learning objectives

Please explain what the expected results of the pilot project are.
Use the following table as a template.

Field to be developed Select one or more.	☒ Smart Specialization ☐ Industrial Transformation ☐ Industry 4.0 Transition
Skills and key competences to be developed	Digital procurement and green acquisition ERP platform usage and data-driven decision-making Circular economy and food waste reduction Innovation in public service design Applied digital workflows for institutional transformation
Specific learning outcomes and results	Learners will understand how ERP systems optimize workflows. Learners will be able to identify inefficiencies and propose digital solutions.

	Professionals will strengthen their digital procurement and process innovation skills. Youth and innovators will gain exposure to real-life digital transformation use cases.

5. Teaching and Learning Methods

Please explain the methodology for conducting the pilot project.
Use the following table as a template.

Pilot project implementation and knowledge transfer	
Form Select one or more.	☒ In person ☐ Hybrid ☐ Online (e.g. digital platform, e-learning) ☐ Other (such as):
Description	The pilot is based on a blended implementation model. It combines in-person ERP demonstration and curriculum discussions with online resources (shared documents, feedback tools). While FIX Cluj acts as a youth testing ground, the methodology is equally structured to serve professionals in institutional settings. Knowledge is transferred through structured modules, case examples, real ERP workflows, and facilitated reflection.
Instructional approaches	
Instructional approach Select one or more.	☐ Lectures ☒ Workshops ☐ Other (such as):
Description	Lectures based on the curriculum “Sustainable Digitalization of Processes” Workshops focused on process mapping and ERP logic

	Peer discussions on adapting the ERP model to various institutional workflows
Methodologies	
Assessments Select one or more.	☐ Preliminary-pilot knowledge test ☒ Post-pilot knowledge test ☐ Mid-term exam ☐ Final exam ☐ Other (such as):
Description	
Feedback Select one or more.	☐ Preliminary-pilot knowledge test ☒ Post-pilot knowledge test ☐ Mid-term exam ☐ Final exam ☐ Other (such as):
Description	

6. Structure and content

Please draft the planned curriculum and schedule of the chosen pilot project. This must include:

- theoretical and practical parts
- training framework (units/timeframes): full list of modules with name and duration

Use the following table as a template.

Duration	
Teaching topics Please provide a list of topic titles.	• Introduction to Process Digitalization • Smart Workflows & Digital Processes • ERP in Practice: TinyERP Case Study • Sustainability by Design • Innovation & Cross-sector Application • Skills for Digital Transformation • Practical Challenges & Exercises
Learning aims	• Understand how process digitalization improves institutional efficiency. • Identify key components of sustainable and traceable workflows.

	• Learn to apply ERP logic (e.g., TinyERP) to optimize operations. • Develop data literacy and decision-making skills based on digital systems. • Cultivate process-oriented and innovation-driven mindsets. • Gain exposure to real-life public/private sector transformation models.
Methodologies e.g. learning video of 5 minutes, quiz, word cloud via Mentimeter	The pilot project relies on a blended learning approach combining curriculum-based study with oral discussions and guided reflection. The following methods are planned: • Curriculum-based learning – Structured exploration of the "Sustainable Digitalization of Processes" curriculum, using both self-paced reading and facilitated sessions. • Oral discussions and debriefs – In-person or online discussions guided by facilitators to deepen understanding of process digitalization, ERP concepts, and sustainability links. • Case-based learning – Analysis of the TinyERP implementation as a replicable model, with structured questions and scenario-based reflection. • Group ideation and brainstorming – Participants engage in guided conversations to co-create solutions and adapt lessons to their own institutional or sectoral contexts. • Visual prompts and mapping tools – Use of diagrams, flowcharts, and simplified visual tools to support understanding of workflows and inefficiencies.

Please provide information about each teaching topic.
Use the following table as a template.

Topic 1 Introduction – Why Process Digitalization?	
Duration	
Content	Explains why digitalizing workflows helps institutions make faster decisions, reduce manual work, and ensure data accuracy across operations. Subtopic 1.1: The need for efficiency, traceability, and fast decision-making Subtopic 1.2: Digitalization for sustainability and non-waste Subtopic 1.3: Who benefits? – Institutions, companies, startups, civic initiatives
Methodology e.g. watching a video, answering quiz questions via Kahoot	Curriculum-based reading + oral discussion with examples from public procurement.

Topic 2 Smart Processes in the Digital Era	
Duration	
Content	Introduces the concept of a digital process versus an analog one, showing how automation, data capture, and connectivity change workflows. Subtopic 2.1: What is a digitalized process? Subtopic 2.2: Examples of processes – procurement, production, delivery, inventory, records Subtopic 2.3: Designing efficient and sustainable workflows
Methodology e.g. watching a video, answering quiz questions via Kahoot	Facilitated explanation using diagrams + case reflection from participant experience.

Topic 3 ERP as a Model - End-to-End Digitalization	
Duration	
Content	Explains how modular ERP platforms (e.g., TinyERP) automate procurement steps, from request to delivery, ensuring traceability and efficiency. Subtopic 3.1: Real example – TinyERP and order automation Subtopic 3.2: Traceability – from order → supply → consumption → invoicing Subtopic 3.3: Reducing waste through visibility and planning
Methodology e.g. watching a video, answering quiz questions via Kahoot	Reading from curriculum + interactive walk-through of ERP logic using visual prompts.

Topic 4 Embedding Sustainability into Processes	
Duration	
Content	Presents the principles of sustainability applied to digital processes, including resource optimization and circular thinking. Subtopic 4.1: What is a sustainable process? Subtopic 4.2: Resource reduction, optimization, and data-driven decision-making Subtopic 4.3: Linking to green public/private systems and ESG

Methodology e.g. watching a video, answering quiz questions via Kahoot	Curriculum material review + oral brainstorming on real institutional examples.

Topic 5 Innovation and Digital Transformation	
Duration	
Content	Discusses how digitalization can trigger innovation in institutions by rethinking existing workflows. Subtopic 5.1: What does process innovation mean? Subtopic 5.2: TinyERP as a replicable case study Subtopic 5.3: Applying this model in other sectors: education, health, logistics
Methodology e.g. watching a video, answering quiz questions via Kahoot	Guided conversation + co-analysis of examples in groups

Topic 6 Competences for Process Digitalization	
Duration	
Content	Introduces key concepts for understanding and managing digital systems like ERP, CRM, and dashboards. Subtopic 6.1: Process thinking Subtopic 6.2: Using digital systems (ERP, CRM, dashboards) Subtopic 6.3: Data analysis for decision-making Subtopic 6.4: Optimization and innovation mindset

Methodology e.g. watching a video, answering quiz questions via Kahoot	Curriculum reading + reflection exercise on personal or institutional needs.

Topic 7 Practical Exercises and Challenges	
Duration	
Content	Teaches participants how to visually map a process and identify bottlenecks, redundancies, or areas of waste. Subtopic 7.1: Exercise 1 – Mapping a process and identifying inefficiencies Subtopic 7.2: Exercise 2 – Transforming an analog process into a digital one Subtopic 7.3: Exercise 3 – Applying TinyERP lessons to a different sector
Methodology e.g. watching a video, answering quiz questions via Kahoot	Hands-on exercise using printed templates + group debrief.

Topic 8 Conclusions and Future Use	
Duration	
Content	Illustrates how institutions can reuse and adapt the curriculum internally to improve their digital processes and foster a culture of efficiency.
Methodology e.g. watching a video, answering quiz questions via Kahoot	Group reflection, scenario-based brainstorming

7. Resources

Resources used during the pilot project preparation and implementation:

- "Sustainable Digitization of Processes" Curriculum, developed by Transilvania IT Cluster - core educational material used throughout the pilot to structure learning and application.
- TinyERP - modular enterprise resource planning software, provided as a real-case tool for understanding digital procurement and food logistics. The platform was configured for the City Hall Canteen and served as the technical foundation of the pilot.
- Internal implementation experience from the Municipality of Cluj-Napoca - the real ERP rollout context offered valuable insights into workflow digitalization, stakeholder communication, and public procurement challenges.
- Sustainable and green transformation courses developed by Transilvania IT Cluster - complementary learning materials supporting understanding of green procurement, ESG alignment and circular approaches in public administration.
- Case documentation and flow diagrams created collaboratively during stakeholder sessions in March 2025.
- Informal knowledge-sharing sessions coordinated by Transilvania IT Cluster, including oral presentations, peer-learning workshops and consultative feedback with public actors.
- Tools used for facilitation and coordination: Google Workspace, Miro (for workflow mapping), Mentimeter (for instant feedback).

Recommended resources for future use and scalability:

- Transilvania IT Cluster resource library, including materials on smart public services, digital innovation, green and sustainable transformation.
- Expanded case studies from other ERP implementations in public services (education, health, logistics) to show cross-sector adaptability.
- Open-source tools for workflow visualization, such as Draw.io or Lucidchart, to support digital process design in public and private institutions.
- Repository of replicable use cases within the Danube region to support learning, networking and cross-border peer exchange.