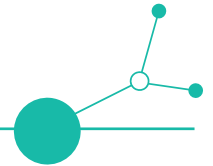


A3.2 - Innovation plan for long-term care facilities for older people

PP5 - TUKE



08 2025



Regional Innovation plan [Kosice Region - Slovakia]

1) Define and describe purpose for the innovation

Define a systematic innovation approach aligned with strategic goals and long-term success. Clearly outline the plan's intent to guide decisions, resource allocation, and stakeholder engagement. Please, consider the motivation for innovation and two frames of the innovation - ideal and realistic solution.

Purpose: This Innovation Plan aims to support the long-term integration and regional replication of the digital care management system developed and piloted at the ARCUS long-term care (LTC) facility in the Košice Region. Built on the Microsoft SharePoint platform, the solution enables digital documentation, structured internal communication, and streamlined workflows. The purpose is to scale this successful model across the region to improve operational efficiency, data handling, and the overall quality of care.

Motivation: The pilot implementation confirmed that even in environments with limited digital skills, introducing a user-friendly digital system can replace inefficient paper-based processes and reduce administrative burden. Staff responded positively, reporting easier information access and communication. The motivation behind the plan is to build on this momentum and enable other LTC facilities in the region to benefit from a proven, cost-effective digital solution.

Ideal Solution: A region-wide digital ecosystem in which all LTC facilities use integrated platforms like SharePoint or compatible systems to manage documentation, schedules, and communication. The system would also support interoperability with health information systems (e.g., IS CYGNUS) and allow real-time data exchange between care facilities and healthcare providers. Staff would use intuitive dashboards for workflow management and decision-making.

Realistic Solution: Replicate the SharePoint-based solution, as configured at ARCUS, in at least three additional LTC facilities in the Košice Region. The system remains modular and does not require integration with external databases. Training and mentoring will be provided by TUKE and ARCUS, while the Košice Self-Governing Region supports replication through licensing and promotion. This staged, low-barrier approach enables digital transformation tailored to each facility's readiness and needs.

2) Considered factors before a Innovation plan design

Review and integrate regional (and, if relevant, national) digital transformation policies, strategies, and guidelines. Focus on identifying regional priorities for LTC digital transformation, evaluating investment levels in care innovation, and recognizing the key elements for digital transformation as defined by policymakers. Evaluate impact on ecosystem, consider legal regulations and the need of processes transformation. Also identified bottlenecks and challenges.

Ecosystem Impact: The innovation aligns with Slovakia's strategic direction for long-term care (LTC), as outlined in the *National Strategy for Long-Term Social-Health Care* (2021), which calls for digital, integrated, and community-based care systems. On a regional level, the *Integrated Territorial Strategy of the Košice Self-Governing Region 2022-2030* and the *PHRSR of Košice City 2022-2027* prioritize digitalization of public services, the well-being of seniors, and capacity building in social services. The pilot's digital solution contributes directly to these aims by improving care coordination, increasing administrative transparency, and enhancing the overall quality of LTC.

Legal Regulations: The digital solution adheres to Slovak data protection laws (GDPR) and the Act No. 448/2008 Coll. on Social Services. The system is role-based, enabling secure access, documentation, and audit trails. While national LTC legislation still separates health and social care sectors, this innovation is future-ready for integration with healthcare systems like IS CYGNUS.

Existing Technology Infrastructure: Most LTC facilities in the region possess basic IT infrastructure (e.g., internet access, PCs/tablets), and the SharePoint platform used in the pilot requires no specialized hardware. Its cloud and intranet compatibility ensure low-cost, rapid deployment without the need for proprietary hardware or software.

Budgetary Constraints: This solution is highly cost-efficient. Licensing is covered by the Košice Self-Governing Region, and implementation requires only minimal investments in training and occasional hardware upgrades. The modular nature of the system also allows gradual rollout and customization without vendor lock-in.

Resident Needs and Preferences & Staff Experience: The solution was co-developed with care staff and designed around user-friendly dashboards and forms. Elderly residents benefit indirectly through improved documentation, care consistency, and faster internal communication. Staff initially hesitant about digital tools later expressed high satisfaction and confidence, particularly due to tailored training and the practical usability of the platform.

Process Transformation: The innovation supports full replacement of paper-based records and manual internal communication with digitized workflows. However, it does not require clinical care changes or external integrations in its initial phase, making it ideal for stepwise transformation without disrupting service delivery.

Identified Bottlenecks and Challenges:

- **Digital literacy gaps** among older staff were a barrier at the start but were addressed via co-design and hands-on support.

- **Workflow mapping** was essential to clarify inconsistencies in legacy procedures.
- **Resistance to change** required strong leadership support and clear communication.
- **Lack of national digital integration frameworks** between social and health care still limits full potential but does not hinder local success.

3) Explore various levels of digitization, determine level of digitalization

Select the appropriate digital maturity level for your innovation—from Basic Digitization to Full Digital Transformation—and indicate the corresponding EU Technology Readiness Level (TRL). Describe your choice in terms of:

- *Technology Adoption: Implementation of digital tools across the organization.*
- *Process Integration: How digital technologies are embedded in core workflows.*
- *Data Utilization: Use of data for decision-making and operational improvement.*
- *Innovation Capability: The organization's ability to drive digital innovation.*
- *Cultural Shift: The extent to which digital skills and mindsets are integrated into the culture.*

Digitization/Digitalization level: Intermediate Digitalization (TRL 7-8)

The implemented solution transforms essential care documentation and internal communication into structured digital workflows, replacing inefficient manual processes. It enables seamless, daily use of digital tools while setting the foundation for future data-driven decision-making and integration with external systems (e.g., IS CYGNUS).

Technology Adoption: The Microsoft SharePoint-based platform is fully implemented and used by ARCUS staff for daily operations, including care-related documentation, task assignment, internal messaging, and calendar coordination. The solution runs on existing hardware (PCs, tablets) and has been embraced by staff following targeted training sessions and involvement in user testing. Digital tools are now embedded into all internal work routines.

Process Integration: Digital workflows have been tailored to reflect real-life processes within the LTC facility. Documentation, communication, and shift coordination are now managed entirely through the platform. Paper-based processes have been fully replaced, and SharePoint has become the primary communication and reporting tool. This high degree of integration ensures staff no longer rely on parallel systems.

Data Utilization: Currently, digital forms and dashboards are used to organize and monitor care processes. While advanced data analytics is not yet implemented, the system supports structured data collection and simple performance tracking (e.g., communication frequency, task completion). The digital records created during daily operations provide a strong basis for future use of analytics and predictive tools to enhance care planning.

Innovation Capability: The choice to build the care management solution on SharePoint reflects a pragmatic and adaptable innovation strategy. Rather than investing in expensive proprietary platforms, TUKE and ARCUS leveraged an accessible and flexible tool to create a modular system tailored to the LTC context. The system is replicable, customizable, and scalable—qualities essential for regional rollout. TUKE’s support further enables fast and cost-effective adaptation by other facilities.

Cultural Shift: A significant cultural transformation occurred during implementation. Initial hesitation from staff—especially those with low digital literacy—was overcome through a human-centered design approach, co-creation workshops, and easy-to-navigate interfaces. Staff now view the digital solution as a helpful, intuitive tool that reduces complexity and improves collaboration. The experience has fostered openness to further digital innovations within the care environment.

4) Define and describe objectives (with dependencies and indicators) for the innovation (related to the purpose)

Set clear, SMART (specific, measurable, achievable, relevant, and time-bound—that) goals targeting outcomes like enhanced product features, improved client satisfaction, or cost reduction. Include defined KPIs and success criteria to track progress and resolve any conflicting aims early.

Objective 1: Regional replication of the digital care management solution

- **Goal:** Implement the SharePoint-based care documentation and communication platform in at least three additional LTC facilities in the Košice Region by Q2 2026.
- **Indicator(s):**
 - Number of new LTC facilities using the system.
 - Percentage of core workflows digitalized in each facility.
- **Priority:** Must-have | Long-term
- **Risk & Mitigation:**
 - *Risk:* Low interest or resistance from LTC facility management.
 - *Mitigation:* Provide regional-level advocacy, showcase ARCUS pilot results, and offer mentoring by ARCUS and TUKE.

Objective 2: Improve operational efficiency through process digitalization

- **Goal:** Reduce administrative workload and paper-based processes by at least 15% in each implementing facility within 12 months of system adoption.
- **Indicator(s):**
 - Time saved on administrative tasks (based on pre/post staff feedback or time tracking).
 - Number of forms and communication tasks transitioned to digital workflows.
- **Priority:** Should-have | Middle-term
- **Risk & Mitigation:**
 - *Risk:* Staff revert to old habits or parallel paper processes.
 - *Mitigation:* Include staff in process mapping, ensure clear digital alternatives are faster and easier to use, and monitor usage logs.

Objective 3: Build digital readiness and confidence among LTC staff

- **Goal:** Train 100% of relevant staff in each implementing facility, ensuring competence in daily use of the SharePoint-based platform.
- **Indicator(s):**
 - Number and % of trained staff.
 - Training evaluation scores; post-training digital confidence level $\geq 80\%$.
- **Priority:** Must-have | Short-term
- **Risk & Mitigation:**
 - *Risk:* Digital literacy barriers, particularly among older staff.
 - *Mitigation:* Provide simple, hands-on training with visual aids and peer support; allow extra learning time for first users

Objective 4: Establish a regional mentoring and knowledge-sharing model

- **Goal:** Set up a support mechanism with ARCUS and TUKE to mentor and onboard additional LTC facilities across the region.
- **Indicator(s):**
 - Number of LTCs supported through mentoring or workshops.
 - Number of joint learning sessions organized.
- **Priority:** Could-have | Middle-term
- **Risk & Mitigation:**
 - *Risk:* Limited capacity at ARCUS and TUKE to provide ongoing support.
 - *Mitigation:* Develop templated onboarding materials, train additional peer mentors within the first replication sites.

5) Define and describe development requirements and processes for the innovation

Describe the process for planning, designing, and deploying the innovation. Define clear milestones and scope, ensuring that digital innovations are smoothly integrated into existing workflows. Evaluate technology needs, assign key roles with specific responsibilities, and incorporate diverse stakeholder perspectives to preempt challenges. Define how the innovation will be realized, whether you want to use in-house development or you plan to use external developers.

General description: The development and implementation of the digital care management solution are based on adapting Microsoft SharePoint into a modular and user-friendly platform tailored for LTC operations. The system includes digital forms, internal messaging tools, dashboards, and calendar features, all integrated to replace paper-based processes. The innovation is already functional at ARCUS and is now being prepared for replication across at least three additional LTC facilities in the Košice Region. Development focuses on configurability, staff engagement, and ease of scaling without custom programming.

Roles and Responsibilities:

Management: LTC facility managers are responsible for coordinating internal implementation, communicating the benefits of the digital solution, ensuring process alignment, and motivating staff. At the regional level, Košice Self-Governing Region supports promotion, licensing, and

facilitation.

Care Staff: End users of the system. They provide feedback on usability, participate in co-design of workflows, and contribute to testing. They are trained to use the platform for documentation, task tracking, and communication.

IT Staff: Provide basic technical support at the facility level, including device setup, network access, and troubleshooting. They also support platform rollout under TUKE's guidance and ensure smooth system operation.

Developers: No custom software developers are required for the core solution. TUKE customizes SharePoint through configuration (not code), builds process templates, and adapts forms and dashboards for each new facility. Optional advanced customization can be added based on future needs.

Project Coordination: TUKE leads technical development and documentation. ARCUS supports mentoring and real-life testing. A regional innovation team will be formed, including representatives from each new LTC adopter, to facilitate coordination and shared learning.

Implementation Control Approach: An agile, iterative implementation method will be used:

- Initial process mapping workshop with each facility
- Weekly feedback loops during early rollout
- Monthly review calls between TUKE, ARCUS, and each LTC
- Evaluation checkpoints at 3 and 6 months post-deployment

Cooperation on innovation: The innovation is a result of co-creation between academic (TUKE), public (ARCUS and the Košice Self-Governing Region), and professional (LTC staff) actors. Continued cooperation is planned through mentoring, shared toolkits, and joint training sessions.

Evaluation and Delivery Milestones:

Month 1: Preparation Phase

- Finalize digital toolkit, templates, and onboarding materials
- Conduct internal alignment meetings between TUKE, ARCUS, and regional stakeholders
- Identify and confirm first LTC facility for replication

Month 2: Initial Engagement

- Conduct process mapping workshop with first LTC facility
- Tailor platform configuration based on mapped workflows
- Set up required hardware, access rights, and internal project team

Month 3-4: Pilot Rollout in First Facility

- Implement digital workflows and begin live testing
- Provide hands-on training to care and admin staff
- Hold weekly feedback and adjustment sessions with TUKE and ARCUS

Month 5: First Evaluation Checkpoint

- Assess usage data and collect staff feedback
- Make platform adjustments based on real-life application
- Prepare onboarding plan for additional LTC facilities

Month 6-7: Onboarding of Additional Facilities

- Repeat process mapping and configuration in LTC #2 and #3
- Launch phased implementation and training in new facilities
- Peer support and mentoring provided by ARCUS

Month 8-9: Consolidation Phase

- Ongoing support and refinement of digital workflows
- Monthly progress calls with each facility
- Cross-facility knowledge exchange sessions

Month 10: Final Evaluation Checkpoint

- Conduct full evaluation of all facilities (efficiency, satisfaction, data quality)
- Identify replication barriers and document lessons learned
- Propose sustainability and scaling adjustments

Month 11-12: Reporting and Handover

- Prepare internal and external reports
- Formalize handover of system ownership to each LTC
- Plan long-term mentoring and potential TRL scaling

Implementation Evaluation and Testing: Evaluation will be carried out through user feedback surveys, usage statistics, and administrative efficiency indicators. Staff satisfaction, data quality, and process consistency will be monitored.

Allowable Rollback Criteria: If more than 20% of staff in any facility report persistent usability issues after 2 months of full operation, a partial rollback to hybrid (paper + digital) use may be implemented, paired with retraining and system adjustments.

Technology Selection and Flexibility: Microsoft SharePoint was selected for its accessibility, configurability, and compatibility with existing IT infrastructure. Its modular nature allows each LTC to tailor forms and dashboards without full-scale development. The system can evolve toward integration with IS CYGNUS or other national platforms if required.

Reference Documents and Agreements:

- DigiCare4CE Pilot Fact Sheet - TUKE (ARCUS Košice)
- Deliverable 3.2.1 & 3.2.2: Innovation Concept and Roadmap
- Košice Region IUS Strategy (2022-2030)

- National Strategy for Long-Term Care (2021)
- Data processing and GDPR compliance documents (ARCUS internal)

6) Define and describe implementation requirements and plan for the innovation

Deploy the innovation in manageable phases—from testing and pilot projects with care teams to a full-scale launch and review. Define goals, timelines, and resource allocations for each phase, and track progress using metrics like time-to-implementation, staff adoption rates, and cost efficiency.

General description: The implementation of the digital care management system is structured into three interconnected branches and delivered in three clear phases over a 12-month period. The approach ensures replicability, adaptability, and user ownership in each participating long-term care (LTC) facility. The process follows a co-creation and agile implementation model, using modular SharePoint-based technology.

Implementation Branch 1: System Deployment and Customization

- **Objective:** Tailor and deploy the SharePoint-based digital care platform in each participating LTC facility.
- **Milestone(s):**
 - Completion of workflow mapping in each facility
 - Deployment of tailored platform version
 - Live system operational in 3 facilities

Implementation Branch 2: Training and Capacity Building

- **Objective:** Equip care staff, management, and IT support with necessary skills and confidence to use and maintain the system.
- **Milestone(s):**
 - Delivery of staff training sessions in all facilities
 - Minimum 80% satisfaction and competency rate from trainees
 - Availability of support documentation and peer mentoring

Implementation Branch 3: Monitoring, Evaluation, and Mentoring

- **Objective:** Track performance indicators, collect feedback, and support facilities through mentoring and continuous improvement.
- **Milestone(s):**
 - Launch of monitoring dashboard and usage tracking
 - Mid-term and final evaluation reports completed
 - Mentoring provided to all participating LTCs

Phase 1 (time: 3 months): Preparation and Pilot Deployment

- **Milestones:**
 - Toolkit finalized
 - ARCUS continues acting as mentoring facility
 - First replication facility selected and onboarded

<ul style="list-style-type: none"> • Branches: 1, 2 • Indicator: Completion of onboarding workshop, training delivered, system live in one facility
<p>Phase 2 (time: 5 months): Multi-site Expansion and Training</p> <ul style="list-style-type: none"> • Milestones: <ul style="list-style-type: none"> ○ Digital platform tailored for two additional facilities ○ Training delivered to 100% of relevant staff ○ SharePoint platform fully operational in three LTCs • Branches: 1, 2, 3 • Indicator: Three live implementations with >80% staff using the platform daily
<p>Phase 3 (time: 4 months): Evaluation and Regional Integration</p> <ul style="list-style-type: none"> • Milestones: <ul style="list-style-type: none"> ○ Final evaluations completed ○ Mentoring framework established ○ Feedback-based platform optimization documented • Branches: 2, 3 • Indicator: Final report completed, replication model validated, readiness for regional scale-up confirmed
<p><u>Risk and Change Management Integration:</u></p> <p>The implementation plan integrates risk and change management at all levels:</p> <ul style="list-style-type: none"> • Resistance to change: Addressed through co-design workshops and role-model mentoring by ARCUS staff. • Low digital skills: Managed through step-by-step training, visual documentation, and hands-on support. • Workflow misalignment: Early process mapping ensures that digital forms and tasks reflect actual routines. • Delays in replication: Buffer periods built into Phases 2 and 3; TUKE provides agile support to adapt timelines. <p>A rollback mechanism is included: if more than 20% of staff in a facility report consistent usability issues over two months, the system may revert to hybrid use (digital + paper) while adjustments are made.</p>
<p>7) Define and describe reflection (testing, validation, verification) requirements and plan for the innovation</p>
<p><i>Regularly assess the process to address challenges such as technical issues, resistance, or resource limits. Schedule checkpoints to review progress and, based on clear criteria like unmet KPIs or negative feedback, decide when to adjust or revisit earlier steps.</i></p>
<p>Reflection - Testing, Validation, Verification: The validation process for the innovation is based on iterative and participatory testing in operational environments. The focus is on practical usability, adoption consistency, and continuous feedback. Given the modular and configuration-based nature of the platform (rather than custom development), the reflection process emphasizes</p>

real-world performance rather than purely technical debugging.

Unit Testing:

- Conducted during the configuration of each new LTC instance of the SharePoint platform
- Includes form logic testing (required fields, dropdowns, dependencies), notification triggers, access rights, and workflow behavior
- Responsibility: TUKE (technical lead) in cooperation with the designated LTC IT contact
- Outcome: Signed checklist of verified features before go-live

Integration Testing:

- Focuses on how the system integrates into day-to-day care workflows
- Includes testing of user interactions between different departments (e.g., care staff, administration, managers)
- May involve integration with existing platforms like IS CYGNUS (where applicable), tested through single sign-on or complementary use
- Responsibility: On-site staff, supported by ARCUS mentors
- Outcome: Use-case walkthrough sessions validated by users before full transition from paper to digital

Continuous Integration with Implementation:

- Agile feedback loops are embedded in the implementation timeline
- Weekly review calls are conducted during the first two months post-deployment
- Digital usage is monitored via SharePoint activity logs
- Staff input is collected via feedback forms and interviews
- Identified issues trigger immediate revision, and updated modules are re-tested without disrupting service delivery
- A 3-month and 6-month evaluation is planned per facility, including indicators like task completion time, user confidence, and perceived communication quality

8) Define and describe delivery and sustainability requirements and plan for the innovation

Ensure the innovation is viable and scalable by planning for ongoing development, maintenance, and regular evaluations. Use both tangible outcomes (e.g., improved data use and reduced workload) and intangible benefits (e.g., increased client satisfaction) to guide future enhancements.

Delivery requirements and rules:

- **Standardized Toolkit Delivery:** Each LTC facility receiving the digital solution will be provided with a starter toolkit that includes configuration templates, user manuals, onboarding materials, and training guides. TUKE will oversee the customization and delivery process to ensure consistency across sites.
- **Support Timeline:** TUKE will provide direct implementation support for each facility for at least 3 months post-deployment. ARCUS will offer peer mentoring throughout the

- rollout and provide lessons learned from their own implementation.
- **Licensing and Access Control:** Microsoft SharePoint licenses will be provided via the Košice Self-Governing Region's institutional framework. TUKE will configure access permissions according to GDPR-compliant data governance practices.
- **Handover Protocols:** Each LTC facility will receive full administrative access and operational responsibility for the system upon completion of implementation and evaluation phases. A handover document will confirm readiness and define long-term responsibilities.
- **Monitoring Rules:** Each facility must commit to reporting usage and staff feedback quarterly during the first year. Monitoring indicators include login frequency, number of digital forms submitted, and staff satisfaction.

Sustainability Requirements:

- **Institutional Ownership:** After initial implementation, each LTC facility will own and maintain its version of the digital platform. Facility managers will be responsible for internal oversight and onboarding of new staff.
- **Technical Sustainability:** The SharePoint platform is scalable and cloud-compatible, reducing the need for intensive maintenance or technical personnel. Updates and changes can be handled in-house or through regional IT partners.
- **Regional Replication Support:** ARCUS and TUKE will continue to act as regional competence centers, offering mentoring to future adopters within the Košice Region. TUKE will support the creation of a replication playbook.
- **Policy Alignment:** The innovation is fully aligned with the long-term care goals of Slovakia's national LTC strategy and Košice's regional development plans, enhancing its chances of integration into policy-driven funding and long-term planning.
- **Ongoing Capacity Building:** Annual digital skills refreshers and update workshops will be offered by TUKE or regional partners to ensure continued capability and system optimization in each facility.
- **Scalability and Future Integration:** The platform is designed to evolve with emerging needs—such as potential integration with national health systems or future modules for predictive analytics—ensuring it remains relevant and extensible.