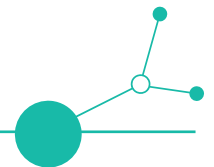


A3.2 - Innovation plan for long-term care facilities for older people

PP8 - NOELGA



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Regional Innovation plan

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: The primary purpose of this innovation is to enhance safety and quality of life for residents in long-term care (LTC) settings by systematically introducing AI-supported digital fall sensors. The plan aims to guide strategic decisions, secure stakeholder engagement, and ensure resource alignment in accordance with institutional goals for digital transformation in care services.

Motivation: Falls are a major risk for elderly residents in LTC facilities, often leading to serious injuries, hospitalizations, and increased care needs. Existing manual monitoring systems are insufficient to guarantee quick response times or effective fall prevention. The motivation for this innovation lies in addressing these safety gaps while relieving staff from constant manual supervision, ultimately improving both care quality and efficiency.

Ideal Solution: A seamlessly integrated, AI-driven fall detection and prevention system that provides real-time alerts, supports predictive analytics, and fully integrates into the facility's digital care documentation and response workflows.

Realistic Solution: The implementation of a fall sensors as a standalone solution. The system will include real-time fall alerts, basic reporting features, and staff training, with limited predictive capabilities in the pilot phase.

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 the digital strategy of the company and national digital health initiatives. It supports the goal of using smart technologies to increase care efficiency and resident safety, while fostering innovation ecosystems in LTC.

Legal Regulations: The use of fall sensors adheres to GDPR and local data protection laws. Privacy impact assessments were conducted, and all data collected is anonymized or securely stored in compliance with care sector regulations.

Existing Technology Infrastructure: The pilot was integrated into the existing infrastructure of the care facility.

Budgetary Constraints: The pilot was partially funded under the DigiCare4CE framework. Full-scale deployment requires additional investment for hardware, licenses and staff training, which limits scalability without further funding.

Resident Needs and Preferences & Staff Experience: Residents appreciated increased safety and autonomy. Staff expressed positive feedback on reduced workload but emphasized the need for adequate training and technical support to manage the new system effectively.

Process Transformation: Care processes were adapted to incorporate real-time alert handling and follow-up documentation. The shift required staff role adjustment and cross-team coordination.

Identified Bottlenecks and Challenges:

- Connectivity issues in certain facility areas.
- Not enough staff training.
- Time-consuming manual follow-up documentation in care software.

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 level of digitalization, corresponding to EU TRL 7-8 (system prototype demonstration in operational environment).

Technology Adoption: Partial adoption—installed in selected rooms/facility areas; scalable to broader use.

Process Integration: Medium—alerts integrated into care team workflows; not yet linked with predictive analytics or centralized dashboards.

Data Utilization: Basic use of real-time alert data and incident logs for care decisions. Limited analytical use due to standalone nature.

Innovation Capability: Moderate—project demonstrates openness to innovation but dependent on external support for full integration and scaling.

Cultural Shift: Emerging—staff gradually accepting digital tools with structured onboarding and training efforts.

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.

1. Objective 1:

- **Goal:** Reduce fall-related injuries in participating care homes within 12 months.

- **Indicator(s):** Number of fall incidents reported pre- and post-implementation.
- **Priority:** Should-have | Middle-term
- **Risk & Mitigation:** Inaccurate data due to underreporting → conduct regular incident audits and staff surveys.

Objective 2:

- **Goal:** Increase staff response time efficiency through real-time alerts.
- **Indicator(s):** Average response time to incidents.
- **Priority:** Should-have | Short-term
- **Risk & Mitigation:** Staff unfamiliarity with system → Provide ongoing training and quick reference guides.

Objective 3:

- **Goal:** Achieve staff satisfaction with the new system.
- **Indicator(s):** Staff survey results.
- **Priority:** Could-have | Short-term
- **Risk & Mitigation:** Initial reluctance → Involve staff in evaluation and feedback loops.

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 innovation was developed and deployed by the sensor company. The solution was customized for pilot facilities, tested in stages and implemented through cross-functional coordination.

Roles and Responsibilities:

- **Management:** Oversight, strategy alignment, funding decisions.
- **Care Staff:** Daily operation, responding to alerts, giving user feedback.
- **IT Staff:** Technical setup, maintenance, and troubleshooting.
- **Developers:** Ensured system customization and support.
- **Project Coordination:** Internal project manager oversaw timelines, stakeholder communication, and documentation.

Implementation Control Approach:

Monthly coordination meetings, milestone tracking and continuous updates.

Cooperation on innovation:

Collaboration between care home management, Developer, Umbrella Organisation and project coordinators.

Evaluation and Delivery Milestones:

- Training sessions held.
- Sensor installation completed.
- Interim feedback collected and implemented.
- Final report submitted.

Implementation Evaluation and Testing:

Conducted feedback surveys and live scenario tests. All issues documented and escalated to developers.

Allowable Rollback Criteria:

If system failures in alert accuracy or connectivity loss occurs, revert to manual monitoring and reassess.

Technology Selection and Flexibility:

System chosen for modular scalability and future interface potential (e.g., with predictive analytics). Flexibility to add more sensors.

Reference Documents and Agreements:

- Consent forms
- Vendor SLA
- Internal compliance checklist
- Data protection assessment

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 rollout followed a phased approach: technical assessment, installation, staff training, real-time use, monitoring and evaluation. Each phase included defined goals and check-ins.

Implementation Branches

Branch 1

- **Objective:** Deploy and validate fall sensors in pilot rooms.
- **Milestone(s):** System operational in 6 rooms; test alerts in real-time.

Branch 2

- **Objective:** Integrate alert workflow into care procedures.
- **Milestone(s):** Care staff trained; SOPs adapted.

Phases Overview:

Phase 1 (0-2 months):

- **Milestones:** Planning, installation, IT checks
- **Indicator:** Sensors active and online

Phase 2 (2-4 months):

- **Milestones:** Staff onboarding, live use
- **Indicator:** Alert response documented

Phase 3 (5-6 months):

- **Milestones:** Evaluation, feedback loop
- **Indicator:** Staff survey, fall rate comparison

Risk and Change Management Integration:

Change requests logged, prioritized, and handled in coordination with vendor. Risks reviewed monthly.

7) Define and describe reflection (testing, validation, verification) requirements and plan for the innovation

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.

Reflection - Testing, Validation, Verification: Continuous feedback loops, operational testing scenarios, and validation sessions with staff and tech teams ensured functionality.

Unit Testing: Each sensor tested for signal strength, alert accuracy, and coverage.

Integration Testing: Verified integration with Wi-Fi and alert delivery mechanisms to staff.

Continuous Integration with Implementation: All changes pushed in test environment before live deployment. Staff notified and trained on updates.

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:

- Vendor SLA ensures uptime and support.
- Internal IT team designated contact for issue escalation.
- Evaluation reports submitted to DigiCare4CE.

Sustainability requirements:

- Maintenance covered under service contract.
- Annual review to assess upgrade needs.
- Plan to expand sensor deployment depending on funding.
- Potential for data use in preventive care and predictive analytics in future stages.