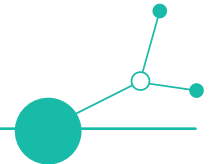


A3.2 -Regional Innovation Plan

D 3.2.3 Innovation plans for long-term care facilities for older people

Geriatric Health Centres of the City of Graz



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Regional Innovation plan

Geriatric Health Centres of the City of Graz (GGZ)

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 purpose of this innovation plan is to systematically expand and enhance digital care documentation across all long-term care (LTC) facilities of the GGZ. At its core, the plan aims to increase documentation quality, improve operational efficiency, and reduce administrative burdens on nursing staff. In doing so, it supports a broader, strategic transformation towards a digitally mature, resilient, and person-centered care organization, aligned with GGZ's vision to be a leading competence centre for geriatric care and innovation.

The foundational element of this plan is the continued development and institutional scaling of **ilvi**, a mobile, modular documentation platform. **ilvi** currently supports bedside data entry via mobile devices and connects with selected medical devices and the hospital information system (HIS). As part of this innovation plan, **ilvi** should evolve into a comprehensive digital care platform and tool, integrating even more features and functionalities that support seamless care delivery and information management.

Motivation:

The LTC sector faces increasing pressure from demographic shifts, staff shortages, and rising documentation demands. A smart, interoperable digital documentation system can relieve pressure from staff, strengthen communication flows, and reduce the risk of errors or omissions. While **ilvi** already offers meaningful benefits for documentation at the point of care, the system's full potential lies in its expandability. New features on **ilvi** have the potential to sustain care quality under resource constraints, align with digital health strategies (e.g., the Styrian eHealth Strategy and Austria's national eHealth targets), and move from reactive to proactive care delivery.

Ideal Solution:

The ideal solution sees **ilvi** transformed into an institution-wide **digital documentation and information platform** for care services - seamlessly integrated into all relevant care processes, interoperable with HIS and external systems, and accessible across all units and departments.

In the ideal implementation scenario, all care-related documentation - such as the recording of vital signs, medication administration, wound care, resident status updates, internal communication, and task logging is performed directly at the point of care using mobile devices. This approach can ensure that data entry is immediate, accurate and contextually aligned with the care process.

Moreover, the **ilvi** platform could also integrate not only with IT systems but also with IoT devices, including smart beds, fall prevention sensors, incontinence monitoring systems, or indoor localization technologies. These devices could feed real-time data directly into the documentation system, creating a rich and continuous stream of clinically relevant information.

Care teams could benefit from intuitive dashboards that automatically prioritize alerts and highlight resident-specific trends, enabling faster and more informed decision-making. Internal coordination among teams - such as between nursing staff and other health professionals as well as external communication with general practitioners, pharmacies, or mobile diagnostics, could be fully embedded in the platform. This would eliminate the reliance on fragmented channels like phone calls, paper-based documentation, or faxes, thus ensuring smoother, more reliable information flow.

Artificial intelligence (AI) could also have the potential for providing clinical decision support, suggesting task delegation options and detecting potential discrepancies in care planning. These capabilities could ideally contribute to higher care quality, increased safety, and more efficient use of staff resources.

Staff could be supported by voice-based documentation tools, equipped with natural language processing that understands various dialects and accommodates multilingual or migrant caregivers. This ensures inclusivity and ease of use across the diverse workforce found in long-term care.

Finally, the ilvi platform could be designed to be adaptable and scalable, making it capable of evolving with regulatory changes, technological advancements, and the growing complexity of geriatric care environments.

Concretely, the extended documentation system would incorporate:

- **Material logistics management**, enabling nurses to digitally log, order, and track consumables and equipment in real time.
- **Integrated communication modules**, supporting internal team handovers, real-time messaging, and structured shift reporting.
- **External communication pathways**, facilitating secure data exchange with general practitioners, pharmacies, suppliers, and mobile diagnostic units.
- **IoT and sensor integration**, including fall prevention sensors, motion detectors, vital sign monitors, and smart assistive technologies, all feeding data directly into resident records in ilvi.
- **AI-enhanced support features**, such as:
 - **Resident-specific data prioritization**, summarizing the most relevant clinical and care information for efficient review during shift changes or decision points.
 - **Predictive analytics**, e.g., flagging wound deterioration, escalating fall risk, or early signs of health deterioration.
 - **Automated workflow suggestions**, like timely reminders, care task optimization, and documentation prompts based on observed patterns.
 - **Natural language processing (NLP) for speech-to-text documentation**, enabling nurses to dictate care notes and assessments, reducing time spent on manual typing.

Realistic Solution:

The realistic path forward could involve a phased, organization-wide rollout of the ilvi-based documentation ecosystem across GGZ, beginning with the gradual introduction of new mobile applications starting, for example, with mobile wound documentation. This particular module was previously tested in the DigiCare4CE pilot initiative and could be expanded to all LTC, considering the lessons learned gathered in the pilot action.

The rollout could commence with early adopters as test users, i.e. staff that is highly motivated and interested in digital initiatives. Leveraging insights gained during first test phases, interfaces between ilvi and the HIS could be developed progressively, with the aim of enabling fully digital, end-to-end care documentation workflows.

In parallel, the first pilots involving AI-powered speech-to-text tools could be launched in selected units. These pilots would focus on technical integration and organizational adaptation, with ongoing refinements driven by user feedback and hands-on experience.

To support this transformation, continuous staff training and structured change management measures should be implemented throughout the process. These efforts could ensure not only the successful adoption of new tools, but also a smooth transition toward digitally empowered care practices.

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 shift toward comprehensive, point-of-care digital documentation using ilvi represents a systemic leap forward in the care ecosystem. By enabling real-time data capture directly at the resident's bedside via mobile devices, this innovation eliminates time lags, enhances documentation accuracy, and supports continuity and safety in care processes. It empowers caregivers with the tools to document once and use the data many times - across care planning, interdisciplinary communication and quality reporting.

As ilvi evolves, its potential impact extends beyond documentation. The platform can serve as a unifying digital layer that integrates:

- **Medication tracking and reconciliation tools**
- **Fall risk and mobility assessments** with inputs from wearable sensors
- **Cognitive and behavioral monitoring** based on structured observation protocols
- **Automated wound documentation and healing trajectory analysis via AI**
- **Task and shift scheduling**, dynamically informed by real-time care needs
- **Automated stock management for medical supplies and consumables**

These functionalities can all be consolidated into a single user interface, enabling a data-driven and holistic view of the care environment. The system also fosters **seamless communication** within care teams and with external partners - physicians, pharmacies, diagnostic providers, and suppliers - allowing for standardized, secure, and efficient data exchange.

From a macro perspective, the innovation could enhance compliance with care documentation standards, strengthen institutional resilience, and contribute to the emergence of intelligent, learning-oriented care models across the sector.

Legal and Ethical Considerations:

Full compliance with the **General Data Protection Regulation (GDPR)** is non-negotiable. Data protection protocols including secure user authentication, encryption, and role-based access are prerequisites for any digital solution. Equally important are ethical guidelines ensuring that new technologies support, rather than replace, the human dimension of caregiving. Transparent

communication with residents and their families about the purpose, use, and benefits of digital tools is critical to maintaining trust.

Technology Infrastructure:

GGZ benefits from an existing infrastructure that includes a comprehensive **HIS**, facility-wide **Wi-Fi coverage**, and established deployment of **ilvi**. However, several integration gaps remain: **ilvi**'s potential new features (e.g., speech-to-text, AI analytics, automated logistics) would need to be fully synchronized with the **HIS**. Bridging these gaps is a core objective of the innovation plan, and it will require close coordination with internal IT stakeholders and technology providers.

Financial Considerations:

While foundational infrastructure is in place, the innovation plan anticipates the need for additional investment to scale up and integrate advanced functionalities. A **hybrid funding model** could combine the following sources:

- Local and regional digitalization grants
- EU co-financing programs
- Internal reallocation of innovation budgets
- Strategic partnerships with technology vendors, co-development of tailored features

User Experience: Residents and Staff:

Residents value uninterrupted care routines and meaningful human interaction. Digital tools such as **ilvi** support this by minimizing staff time spent on documentation and allowing more time for care. For staff, especially nurses, mobile documentation reduces walking distances, avoids double entry, and streamlines handover communication. Pilot feedback showed strong user acceptance when tools are well integrated, intuitive, and supported by training.

However, **variation in digital literacy levels**, particularly among older staff or those with limited prior exposure to mobile technology could hinder the implementation. This highlights the need for tailored capacity-building efforts, including peer mentoring, microlearning formats, and ongoing coaching.

Process Transformation:

The innovation involves a fundamental redesign of documentation workflows - from hybrid, workstation-based processes to **fully mobile, real-time documentation** at the point of care. Activities like wound assessment, incident reporting, resident evaluations, and material tracking would shift to a fully digital format. Features such as **voice-controlled note entry**, **automated care task reminders**, and **digital handover reports** are designed to ease the workload and increase standardization. Change management and training will be critical for this transformation, with structured rollout phases and continuous stakeholder involvement to ensure smooth adoption.

Identified Bottlenecks and Challenges:

Key barriers identified during the pilot phase and pre-implementation analysis include:

- Diverse levels of **digital competence** among staff, requiring personalized training strategies
- **Technical issues** during the pilot (e.g., login errors, image syncing problems, inconsistent performance of scanning functions)
- Lack of **integration between ilvi and HIS**, resulting in duplicate data entry and inefficiencies
- Initial **skepticism or resistance** from users due to perceived increases in workload during test phases

- The need for **intensive coordination** with software vendors to tailor functionalities to the specific requirements of LTC documentation in Austria

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.*

Digital Maturity Level:

Advanced Digitalization → Transitioning toward Full Digital Transformation
GGZ is situated at a pivotal point in its digital evolution. Building upon foundational systems - such as the HIS, ilvi mobile documentation tools, and a robust IT infrastructure - the organization is moving beyond isolated digital applications toward an integrated, intelligent care ecosystem. The described innovation is currently operating at Technology Readiness Level (TRL) 7-8, with technology systems functioning in real-life conditions and undergoing refinement based on continuous user feedback and evaluation.

Technology Adoption:

GGZ has already implemented key technologies in its LTC environment. Mobile documentation via ilvi is actively used at the point of care, and HIS systems are in operation across facilities. Digital tools for wound documentation and document scanning have been piloted by health professionals, demonstrating readiness for scale-up. The IT department of GGZ ensures that internal integration capacities are available and scalable. Simultaneously, the Albert Schweitzer Institute provides proven methodologies for monitoring the impact of digital interventions and guiding implementation with scientific insights.

Process Integration:

The transition from paper-based or hybrid documentation systems to real-time, mobile digital workflows is already in progress. Digital documentation is becoming embedded in everyday nursing routines - for example, the recording of vital signs, wound status, or shift notes is increasingly done at the point of care. This reduces delays, duplication, and fragmentation. The innovation plan supports a progressive redesign of processes, aiming to create end-to-end digital workflows. In the target scenario, documentation is no longer a standalone task - it is an integrated and fluid part of care delivery.

Data Utilization:

While the current state allows for real-time data entry and retrieval, the full utilization of data for decision support and performance optimization is still maturing. Future integrations between ilvi and the HIS will enhance cross-system interoperability and data usability. Possible AI-driven

functionalities - such as predictive wound healing analytics, clinical alerts, and intelligent documentation summaries - could elevate the utility of collected data even more.

Over time, this infrastructure could support data-informed care planning, predictive risk modeling, and real-time quality assurance, fostering a more proactive, resident-centered care model.

Innovation Capability:

GGZ has demonstrated strong institutional capability for digital innovation through its engagement in the DigiCare4CE pilot and previous research collaborations. The organization applies a co-creative innovation model, actively involving care staff, management, IT professionals, and external experts in the design and testing of new technologies. This capability is further enhanced by strategic partnerships and by exposure to international best practices, such as those observed during delegation visits as part of DigiCare4CE.

Cultural Shift:

The digital transformation has triggered an evolving cultural shift within GGZ. Although digital literacy levels and change readiness vary across staff groups, the pilot experience has shown that early involvement, transparent communication, and practical support foster high acceptance. Caregivers appreciate tools that reduce administrative burdens and enhance the quality of care delivery - provided that sufficient training and follow-up are available.

To sustain momentum, GGZ need to continue investing in digital skills development, nurturing digital champions, and embedding innovation into its organizational identity. As a result, a culture of openness, experimentation, and continuous improvement will gradually replacing traditional skepticism, positioning GGZ to successfully navigate the path to full digital transformation.

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.

Summary of objectives:

The innovation plan is structured around short-, mid-, and long-term goals designed to improve care quality, streamline documentation, and strengthen collaboration across all care facilities.

- **Short- to Mid-term:** Testing and implement new documentation features directly at the point of care, starting with a reference site.
- **Mid-term:** Pilot and integrate more advanced features e.g. speech-to-text functions and selected AI-based features to support care professionals with faster, more accurate, and more user-friendly documentation.
- **Mid- to Long-term:** Expand digital capabilities and foster documentation and communication with external partners such as general practitioners and pharmacies ensuring better continuity of care and data exchange.

For more information regarding the objectives and indicators, please get in touch with ggz.asigg@stadt.graz.at

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 will follow a phased, co-creative development and deployment process that ensures close alignment with user needs, technical capabilities, and organizational workflows. It builds on the proven model from the DigiCare4CE pilot, expanding digital documentation with additional features.

The process needs to combine in-house coordination (via GGZ IT and management) with external development partnerships, particularly with the vendor of the ilvi platform. External technical development could be supported by structured input from internal user groups and ongoing evaluation by the Albert Schweitzer Institute. Agile methodologies (e.g. sprint planning, iterative releases, continuous feedback loops) need be used to allow adaptive implementation in a complex care environment.

Roles and Responsibilities:

- **Management:** Responsible for setting strategic direction, securing resources, and ensuring organizational alignment. They facilitate interdepartmental cooperation, authorize key decisions, and communicate goals and outcomes across the organization.
- **Care Staff:** Serve as primary end users and co-creators. Their feedback will shape system features, usability standards, and workflow integration. They participate in pilot phases, trainings, and evaluation activities, ensuring practical relevance of the solution.
- **IT Staff:** Provide infrastructure support, manage device configuration, oversee data security and compliance (e.g., GDPR), and serve as technical liaisons with external vendors. They coordinate the rollout, conduct local system integration (e.g. with HIS), and troubleshoot issues during implementation.
- **Developers** (External Vendors, primarily ilvi): Lead software development and feature customization. They work collaboratively with GGZ teams to adapt the platform to the specific needs of LTC documentation, ensure stable API interfaces, and deliver updates in line with implementation milestones.
- **Project Coordination:** The innovation process will be centrally coordinated by a Project Steering Group, consisting of representatives from management, IT, care leadership, and the Albert Schweitzer Institute. This group oversees planning, stakeholder engagement, monitoring, and milestone delivery. Sub-project leads may be appointed for specialized tasks (e.g. AI integration, logistics module, external data interfaces).

Implementation Control Approach:

A stage-gated implementation model will be used. Each stage (planning, pilot, refinement, scale-up) will only advance upon meeting defined success criteria (e.g. system stability, user acceptance, integration readiness). Frequent coordination meetings and technical review sessions will ensure that issues are identified early and resolved collaboratively. An issue-tracking system will log incidents, improvement suggestions, and performance metrics.

Cooperation on Innovation:

The innovation is grounded in co-design principles. Stakeholders from all levels: Professional caregivers, IT specialists, managers, residents (indirectly), and external partners will be involved throughout. This approach ensures the innovation is not imposed but developed with users, enhancing relevance, usability and acceptance.

International best practices (e.g. insights from Scandinavian LTC models) will continue to inform development. External collaboration with ilvi and potential AI technology providers will be formalized through contracts and joint development roadmaps.

Evaluation and Delivery Milestones:

Milestone	Responsible
Completion of system integration plan	IT + Vendor + Management
Launch of first AI/speech-to-text pilot	IT + Care Units
Feedback and refinement phase (pilot)	ASI + Care Staff
Extension to 3 additional facilities	Project Coordination Team
Full rollout of logistics and comms features	IT + Vendor
Evaluation report and final handover	ASI + Management

Implementation Evaluation and Testing:

All new features will undergo functional testing, usability testing, and real-world trials within selected care units. Evaluations will be managed by the Albert Schweitzer Institute using qualitative (focus groups, interviews) and quantitative (usage metrics, satisfaction surveys) tools. Adjustments will be made based on the results before broader rollout.

Allowable Rollback Criteria:

Rollback or rollback-with-adjustments will be allowed in the event of:

- Major system instability or repeated data loss
- Significant user rejection after remedial actions
- Breach of data protection protocols
- Failure to meet performance benchmarks (e.g. increased documentation time)

Clear fallback procedures (e.g. returning to previous versions, using hybrid models) will be defined for each pilot phase.

Technology Selection and Flexibility:

The core platform is ilvi, due to its modular architecture, existing use in GGZ, and demonstrated potential for expansion. However, the plan emphasizes vendor-neutral API standards, ensuring future interoperability. New modules (e.g. AI analytics, logistics, voice input) will be integrated as independent components where possible to maintain flexibility.

The system must allow for customization per facility/unit, language configuration (for multilingual teams), and role-based user interfaces to serve different professional groups.

Reference Documents and Agreements:

- DigiCare4CE Pilot Evaluation Report
- Monitoring and Evaluation Framework provided by GGZ
- GGZ Digital Health Strategy
- Styrian eHealth Roadmap, Austrian eHealth Strategy
- GDPR and Austrian Health Data Protection Guidelines
- Vendor contracts and service level agreements (ilvi and partners)
- Documentation from delegation visits (e.g. Denmark)

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 documentation ecosystem will follow a structured, phased approach to ensure minimal disruption, optimize user adoption, and continuously improve functionality through real-world feedback. It starts with focused pilot activities in one care home and gradually scales to all GGZ long-term care (LTC) facilities.

Each implementation phase includes goal setting, stakeholder engagement, training, testing, evaluation, and refinement. The rollout is divided into key thematic branches—core documentation, advanced AI/speech features, and logistics/communication modules. Clear indicators (adoption rates, usability, staff satisfaction, time savings, error reduction) will be used to assess progress and guide adjustments. Dedicated resources (personnel, IT capacity, time, and training infrastructure) will be allocated per branch and phase.

Implementation Branches

1. **Branch 1:** Scale up the use of ilvi mobile documentation tools across all LTC facilities to standardize point-of-care digital documentation.
2. **Branch 2:** Introduce and refine speech-to-text and test selected AI-based tools for daily workflows.
3. **Branch 3:** Implement real-time communication functionalities (internal and external).

For more information regarding the implementation plan, please get in touch with ggz.asigg@stadt.graz.at

Risk and Change Management Integration:

Risks are mitigated through:

- **Change Management Plans** with structured communication, early user involvement, and leadership endorsement
- **Dedicated Training Modules** with follow-up coaching, tailored by digital literacy level
- **Flexible Rollback Mechanisms** (e.g. hybrid systems, paper fallback) to minimize disruption in case of failure
- **Regular Monitoring** using feedback loops and usage data to address issues quickly

Potential high-risk areas include:

- Delays in system integration with HIS
- Resistance to AI tools due to trust or usability issues
- Complexity of logistics workflows affecting rollout speed

To manage these risks, each phase includes built-in checkpoints and adaptation periods. Change ambassadors and digital champions will be empowered in each facility to guide their teams and escalate issues early.

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:

The innovation will be monitored through a structured, iterative validation process that combines technical testing, user-centered feedback, and performance benchmarking. Each stage of development, whether piloting a new feature or expanding across facilities, will include built-in checkpoints for assessment, reflection, and course correction.

The Albert Schweitzer Institute will oversee a comprehensive evaluation and feedback loop with both qualitative and quantitative methods. This ensures each element of the innovation is functional, acceptable to users, and aligned with clinical and organizational goals.

Regular reflection enables the project team to identify:

- Technical bugs and usability issues
- Workflow mismatches or bottlenecks
- Staff resistance or low adoption rates
- Resource inefficiencies
- Gaps between actual outcomes and defined KPIs

Outcomes of reflection phases may lead to reconfiguration of system features, design tweaks, retraining, or even temporary rollbacks if needed.

Unit Testing:

Unit testing will be applied to each discrete functionality before integration into real-world environments. This includes:

- Testing individual modules (e.g. wound documentation app, speech-to-text feature, logistics interface) in a controlled environment
- Simulating user actions to validate that functionalities perform as expected
- Ensuring core system functions - data entry, storage, syncing - are error-free

These tests will be conducted by IT staff and development partners (e.g. ilvi) with early user representatives (e.g. digital champions) providing pre-pilot feedback.

Integration Testing:

Integration testing ensures all modules work together smoothly - across ilvi, HIS, and any connected IoT or external platforms. This includes:

- Testing data handover between mobile documentation and HIS
- Validating cross-compatibility between logistics tools and supply management systems
- Ensuring external communication pathways (e.g. GPs or pharmacies) are secure, compliant, and user-friendly

Each integration test will follow defined protocols, use real data structures (in test environments), and include simulated workflows with end users.

Continuous Integration with Implementation:

The innovation follows an agile deployment model. As such, testing and verification are not confined to the development phase but **embedded continuously** in implementation. This includes:

- Weekly or bi-weekly feedback cycles with staff in pilot sites
- Live monitoring of app performance, error logs, and usage rates
- In-app feedback collection and scheduled feedback workshops
- Iterative updates and hotfixes based on ongoing insights

All phases of rollout include “**review and refine**” cycles, where KPIs (e.g. time savings, error rate, satisfaction) are checked against baseline targets. Deviations trigger a structured decision process:

- Minor issues → refinement
- Major issues or unmet KPIs → rollback or phase freeze

Reflections will be documented in a **shared implementation dashboard**, accessible to key stakeholders, with clear decision logs and next-step tracking.

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:

The successful delivery of the digital innovation hinges on the establishment of clear operational conditions, resource commitments, and governance mechanisms that ensure continuity and performance beyond the initial implementation phase. Delivery is organized along the following principles:

- **Operational Ownership:** The digital documentation platform (ilvi) and its associated features will be jointly operated by GGZ's internal IT department and trusted external developers. A long-term service and development contract could define roles, maintenance cycles, response times, and update protocols.
- **Data Security and Compliance:** All delivery components must comply with the General Data Protection Regulation (GDPR) and Austrian health data legislation. Continuous system auditing, regular penetration testing, and user authentication monitoring will be required.
- **Support and Incident Management:** A structured support system will be established, including tiered helpdesk services, internal digital champions in each LTC unit, and escalation paths for critical incidents. All updates or patches must be tested in staging environments before production deployment.
- **Interoperability:** All new modules must follow vendor-neutral, open standards (e.g., HL7, FHIR) to ensure future compatibility with third-party systems and evolving HIS components.
- **Scalability:** The architecture must support increasing user numbers and new functions without performance degradation. The system will be hosted with elasticity to allow horizontal scaling as required.
- **Documentation and Knowledge Transfer:** Detailed documentation (user manuals, technical guidelines, admin protocols) will be maintained and updated continuously. Internal capacity-building will ensure that GGZ staff can manage core elements of the system independently over time.

Sustainability requirements:

- The long-term viability of the innovation rests on its ability to deliver measurable value, adapt to future needs, and become fully integrated into GGZ's operational and strategic frameworks.
- Financial sustainability need to be ensured through a mixed funding strategy that includes internal resources, regional digitalization grants, and EU co-financing instruments. Over time, efficiency gains such as reduced documentation time, fewer errors, and optimized care workflows are expected to generate tangible cost savings, making continued investment in the system economically justifiable.
- Human resource development plays a central role in sustaining the innovation. Ongoing training programs and digital skills development will be embedded into GGZ's onboarding and professional development pathways. This ensures that all staff regardless of digital proficiency can confidently use and benefit from the digital tools provided.

- Institutional integration is essential to avoiding duplication or reversion to old processes. The digital documentation system will be fully aligned with GGZ's internal workflows, policies, and quality assurance mechanisms. This eliminates parallel systems and ensures that digital documentation becomes the default, not an alternative.
- Continuous evaluation and iterative improvement are built into the sustainability plan. The impact of the innovation will be reviewed annually using a combination of KPIs, user satisfaction surveys, and usage analytics. These insights will guide future enhancements, help identify training needs, and reveal opportunities for further innovation.
- Finally, the system has been designed to be future-proof. With its modular architecture and adherence to open standards, ilvi is prepared for emerging requirements such as integration with new AI capabilities, adaptation to regulatory changes, or expanding into new domains like rehabilitation or outpatient geriatric care. Ongoing stakeholder engagement from care staff and IT teams to residents and external partners will ensure that the system continues to reflect the needs and values of all users.