DigiCare4CE

Workshop Report

Interreg CENTRAL EUROPE | Co-funded by the European Union
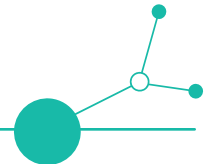
DigiCare4CE

A 2.2 Implementation of pilot action 1 "The digital transformation of care management and delivery"

D.2.1.1 Co-creating the concept of the pilot action
D.2.2.1 Initializing workshop for pilot action 1

1. Overview

Coordinators: GGZ, NOELGA

1.1. Aim of the workshop

The workshop had three primary objectives, with particular emphasis on the second objective:

(1) To share updates on our completed project tasks and the current status of our strategy development, i.e. transnational DigiCare4CE model and benchmarking.

(2) To focus on the preparation needed for implementing Pilot Action 1 and 2, both in terms of methodology and practical implementation, i.e. **presenting and discussing the basic concepts** for pilot action 1 and 2 of each project partner. By using a **co-creative approach common needs and use cases** will be identified and defined in order to **tap synergies** when entering the implementation phase. We also intend to identify the subsequent steps required for implementing the pilot actions within your respective organizations.

(3) To discuss further project activities (e.g. study visits, summer school) and project management activities.

1.2. Agenda

20. September 2023
Arrival
19:00 Dinner at City Hotel (*voluntary)

21. September 2023

09:00 **Opening Session**
Input Presentation NOE LGA
Input Presentation GGZ

10:00 **Update on the underlying 'Transnational DigiCare4CE Model' with Coffee Break "Savoury"**
Coordinator: IAT, ISRAA

12:00 Lunch

13:00 **Activity 2.1: Shaping the joint pilot actions - Joint implementation and evaluation methodology**
Coordinator: TH Deggendorf

15:00 Coffee Break "Sweet"

15:15 <u>Room 1:</u> **Activity 2.2: Pilot Action 1 "The digital transformation of care management and delivery"**
Coordinator: GGZ

<u>Room 2:</u> **Activity 2.3: Pilot Action 2 "The datafication of elderly care delivery based on environmental, wearable and IoT solutions**
Coordinator: NOE LGA

<u>Topics:</u> Presenting and discussing the basic concepts of each Project Partner.
Implementation plan: Timing, resources.

Discussion of similarities of the proposed pilot actions.

17:00 End of the workshop

18:00 Guided City tour through St. Pölten

19:00 Musical interlude

19:45 Dinner in St. Pölten (Restaurant Schauspiel)

22. September 2023

09:00 **Welcome WP2**
        Coordinator: TH Deggendorf, NOE LGA

09:15 **Meet and Greet Associated Partners**

09:30 **WP2 - Wrap up Pilot Actions 1 + 2**
        Coordinator: NOE LGA, GGZ

10:30 **Coffee Break "Sweet"**

10:45 **WP2 – Study visits, summer school**
        Coordinator: TH Deggendorf

11:15 **Project manager meeting**
        Coordinator: TH Deggendorf

12:15 End of Workshop

12:30 Lunch in St. Pölten (Restaurant La Dolce Vita)

1.3. Participants

Figure 1. Participants of the Initializing workshop for pilot action 1 and 2

Table 1. List of participants

PP (NAME AND SURNAME)	INSTITUTION
Sonja Weigerstorfer	Deggendorf Institute of Technology PP1
Ursula Berger	Geriatric Health Care Centers of the City of Graz PP2
Sandra Dohr	Geriatric Health Care Centers of the City of Graz PP2
Judith Goldgruber	Geriatric Health Care Centers of the City of Graz PP2
Stefan Windisch	Geriatric Health Care Centers of the City of Graz PP2
Oscar Zanutto	Institute for older care and sheltered homes PP3
Giorgia Coldebella	Institute for older care and sheltered homes PP3
Davide Tuis	Institute for older care and sheltered homes PP3
Pavel Jirek	Association of Social Services Providers Czech Republic PP4
Martin Dujcak	Technical University of Kosice PP5
Ana Ramovs	Anton Trstenjak Institute of Gerontology and Intergenerational Relations PP6
Ajda Cvelbar	Anton Trstenjak Institute of Gerontology and Intergenerational Relations PP6
Lenka Lhotska	Czech Institute of Informatics, Robotics and Cybernetics of the Czech Technical University in Prague PP7
Julia Winkler	Health Agency of Lower Austria PP8
Judith Kramer	Health Agency of Lower Austria PP8
Michelle Renz	Health Agency of Lower Austria PP8
Florian Lochner	Health Agency of Lower Austria PP8
Jozef Blanda	European Grouping of Territorial Cooperation Via Carpatia PP9
Veronika Kočišová	European Grouping of Territorial Cooperation Via Carpatia PP9
Agnieszka Kojder-Walaszek	Rzeszow Regional Development Agency PP10
Karolina Krukowska	Rzeszow Regional Development Agency PP10
Manfred Pferzinger	IMC Krems University of Applied Sciences (external expertise)
Markus Golla	IMC Krems University of Applied Sciences (external expertise)
Deepak Dhungana	IMC Krems University of Applied Sciences (external expertise)
Hannes Schaffer	mecca Consulting (moderator)

2. Opening Session – Input presentations of activity coordinators

Coordinator: NOELGA & GGZ

In an opening session NOELGA and GGZ presented their organiszations with focus on long-term care facilities and digitalization. Detailed information and presentations slides are stored on Nextcloud.

Figure 2. Opening Session - NOELGA

Figure 3. Opening Session - GGZ

3. Activity 1.2 & 1.3 update on the underlying "Transnational DigiCare4CE Model"

Coordinator: IAT & ISRAA

3.1. Activity 1.2 Co-Creation of the Transnational Digi4Care Model

IAT presented the research results of Activity 1.2 "Co-Creation of the Transnational DigiCare4CE Model, which included Questionnaire 1 and 2 as well as a desk research. The findings build the foundation for the implementation of pilot action 1 and 2. Subsequently, ISRAA presented the progress of Activity 1.3 "Benchmarking of long-term care facilities for older people". The preliminary results are presented in Chapters 2.1.1, 2.1.2 & 2.1.3.

Figure 4. IAT & ISRAA presenting results of Activity 1.2 Co-Creation of the transnational DigiCare4CE model

3.1.1. Questionnaire 1

Aim of Q1: To better understand the situation of all the DigiCare4CE project partners who will carry out the pilot action:

- the ground floor for the Transnational DigiCare4 CE Model development;
- the basis for the second research stage (Questionnaire 2);
- to help us think about what kind of digitalization model would serve our consortium needs the most.

Questionnaire 1 was completed by the 8 project partners who will carry out the pilot action (DIT, GGZ, TUKE, RRDA, NOELGA, ISRAA, CVUT & EGTC Via Carpatia).

3.1.1.1. Description of the digital solution

	ORGANISATION (country)	PROPOSED DIGITAL SOLUTION + short description
1.	DIT (Germany)	Extension of the computer-aided nursing documentation DAN by the possibility to enable a secure data exchange via interfaces with general practitioners and specialists, hospitals and health care providers (physiotherapists and occupational therapists).
2.	GGZ (Austria)	Expanding and optimizing an existing, mobile/digitized nursing documentation workflows in ilvi with further functionalities: (1) proof of execution and (2) digital wound documentation and measurement function via app.
3.	TUKE (Slovakia)	Detail analysis of processes conducted within the care facility followed by analysis of concrete possibilities for their digitalisation regarding concrete case studies and testing of proposed solutions within the care facility.
4.	RRDA (Poland)	We are considering the development and implementation of a tool to monitor the satisfaction of rehabilitated patients and the progress of rehabilitation itself (assessed by the patients and the rehabilitators).
5.	NOELGA (Austria)	The technology we would like to intend is an intelligent 3D smart sensor, that can analyse movement in a room. If the sensor detects a critical situation, it alerts a nursing assistant. The sensor will be placed in the centre of a room to scan and analyse the whole room using infrared. The purposes of the major modules are to prevent and detect falls.

6.	ISRAA (Italy)	The solution will have to guarantee a response to the following critical care issues related to the health conditions of older residents in a protected nucleus dedicated to people with moderate-severe dementia. We will use devices that are related with the chosen solution.
7.	CVUT (Czechia)	The aim of the presented project is to design, implement and test in real settings reliable sensor-based systems with smart evaluation algorithms for supporting better and timely care of fragile persons.
8.	EGTC Via Carpatia (Slovakia)	This solution is based on the use of virtual and augmented reality, among other things, in the field of support for the therapy of the elderly. The pilot will also include training for senior facility staff in working with new technologies that can be used in senior facilities.

3.1.1.2. Description of the people involved in the digital solution you plan to implement

PEOPLE INVOLVED:

- People in charge: DigiCare4CE project partner team, LTC facility management and external partners.
- End-users: Health professionals in the LTC facility and external partners, potentially employees of similar LTC facility.

THE DIGITAL SOLUTIONS SHOULD BENEFIT:

- Health professionals in the LTC facility - more time for actual patient care etc.
- Residents in LTC facility (care recipients) and their family members - higher quality of care and efficiency of the services, increased safety etc.
- Management of the long-term care facility - quality management, better overview of the risk factors, reduction of costs etc.
- External professionals - better interoperability between different systems.

3.1.1.3. Motivation and expected results

- Increased safety and quality of care
- Optimizing working conditions
- Better quality of documentation
- Better interoperability between different systems
- Economic and ecological advantages
- Monitoring of critical behaviours
- Improving the attitude towards the technology adoption in care processes
- Learning from implemented solutions

3.1.1.4. Description of predicted equipment of the digital solution you plan to implement

PREDICTED EQUIPMENT AND TECHNICAL REQUIREMENTS:

- Basic technical infrastructure: WLAN infrastructure, network database, hospital information system, central storage location for data, etc.
- Devices: mobile devices, PC, sensors, monitoring devices for seniors, virtual reality equipment etc.
- Hardware and software: Relevant hardware, on which the given technology will be run, newly developed software and apps etc.
- To keep in mind: DATA PROTECTION (guidelines and data-secured interfaces)!

3.1.1.5. Overview of the organisations' structures

1. Few nursing homes for which The Bavarian Red Cross is responsible (pilot action proposed by DIT),
2. Peter Rosegger Residential Nursing Home (pilot action proposed by GGZ),
3. Nursing home? (pilot action proposed by TUKE),
4. Care and rehabilitation center Donum Corde (pilot action proposed by RRDA),
5. Nursing care centre in Raabs / Thaya (pilot action proposed by NOELGA),
6. Zalivani Institute (pilot action proposed by ISRAA),
7. Gerontology Centre Gero Centre (pilot action proposed by CVUT),
8. Arcus nursing home and VIA LUX nursing home (pilot action proposed by EGTC Via Carpatia)

3.1.1.6. Overview of the organisations' work processes you plan to digitalise

- communication – to be simplified
- documentation - be collected digitally and at the point of care
- data – to be transferred automatically to the hospital information system
- time management and residents' safety – to be improved
- the rehabilitation and satisfaction of rehabilitated patients – to be monitored
- falls and other critical behaviours – to be detected and prevented
- fragile persons monitoring - to become better, time efficient and remote
- the social rehabilitation process – to be supported with VR solutions

3.1.1.7. Overview of the organisations' challenges

Challenges	Most proud of
- staff shortage, - retaining quality employees, - increased care needs in the society, - inefficient digital solutions, - external communication, - putting the person in the centre (including staff, family members), - Language barrier	- high quality care, - person-centred care, - interdisciplinary cooperation, - high level of safety, - successful introduction of digital solutions in the past, - high level of digitization, - employees' sense of commitment, - Continuously improvement

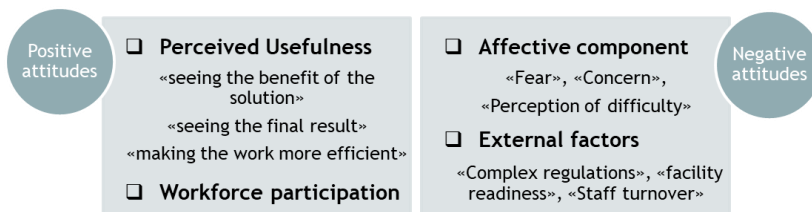### 3.1.1.8. Assessment of digital literacy of managers and employees

- Assessment of digital literacy level: No use of validated tools
- Differences on the level of digital skills: Age, Personal interests, Cultural background, Occupation
- Areas to be improved & Training courses provided: Mainly occasional trainings, specific for the software/device used, Workshops to address specific needs, Good practice: IT GO OUT (visit) - GGZ

3.1.1.9. Assessment of the attitudes towards digitalization

Assessment of managers' and employees' attitudes: No use of validated tools
Opinions about managers' and employees' attitudes:

Positive attitudes

❑ **Perceived Usefulness**
«seeing the benefit of the solution»
«seeing the final result»
«making the work more efficient»

❑ **Workforce participation**

❑ **Affective component**
«Fear», «Concern», «Perception of difficulty»

❑ **External factors**
«Complex regulations», «facility readiness», «Staff turnover»

Negative attitudes

Investment plan and other fundings 6/8: allocated budget and funding (2 partners); if necessary (1 partner); need for budget approval (1 partner); no budget or fundings (1 partner – 2 facilities)

3.1.1.10. Assessment of the <u>expectations</u> of managers and employees toward digitalization

Expectations	Factors	Value
• About Management • About Staff • About Residents	• **Willingness** of managers and staff • **Trainings** on new devices • **Co-creation processes** with workforce • **Device features** and interfaces • **Clear strategy** for the digitalization process	• **Optimization** of processes • **Management** of communication and resorurces • **Data** for better planning • **Early involement** of potential users • Increasing **safety**, **monitoring**, disease **prevention** • Working on **fears** and **concerns**

3.1.1.11. Digital solutions already used in the long-term care organisations

Digital solutions already used:
- o Management of clinical record software
- o Intelligent assistive technologies

Lessons learnt from the last Introduction of an ICT innovation:
- o Device usability is central
- o Integration of data and devices increase acceptance
- o Early involvement of professionals is beneficial
- o Economically sustainable business model is necessary

3.1.2. Questionnaire 2

Aim of Q2: to collect good practices and competitive solutions in the field of digital solutions in formal care setting. Questionnaire 2 was partially completed by all 10 project partners.
Four thematic groups of digital solutions are:

- **Digitalisation of nursing documentation and workflow**
  - ▪ Extension of the computer-aided nursing documentation DAN (DIT)
  - ▪ Expanding and optimizing an existing, mobile/digitized nursing documentation workflows (GZZ)

- Detail analysis of processes conducted within the care facility followed by analysis of concrete possibilities for their digitalization regarding concrete case studies and testing of proposed solutions within the care facility (TUKE)

> **20 GOOD PRACTICES**
> - digital medical- and nursing documentation (20)
> - digital wound documentation and management (2)
> - technical: analyzing large amounts of data (20)
> - technical: helps in summarizing and evaluating the entered data (20)
> - technical: speech recognition - filling out forms via domain-specific speech recognition (1)

- **Rehabilitation monitoring**
  - Implementation of a tool to monitor the satisfaction of rehabilitated patients and the progress of rehabilitation itself (RRDA)

> **9 GOOD PRACTICES**
> - information system for physiotherapy
> - monitoring physiotherapy patients' progress remotely
> - tele rehabilitation
> - interactive system for the treatment of balance disorders
> - motivational tool for gamified tele-rehabilitation

- **Falls prevention and monitoring of critical behaviors**
  - Intelligent 3D smart sensor, that can analyse movement in a room (NOELGA)
  - Device that will have to guarantee a response to the following critical care issues related to the health conditions of older residents in a protected nucleus dedicated to people with moderate-severe dementia (ISRAA)
  - To design, implement and test in real settings reliable sensor-based systems with smart evaluation algorithms for supporting better and timely care of fragile persons (CVUT)

> **16 GOOD PRACTICES**
> - patient monitoring and fall prevention and/ or detection (16)
> - other critical behaviours detection ()
> - technical: SOS buttons
> - technical: Sensor patch
> - technical: SOS bracelet for seniors

- **Virtual and augmented reality in the field of support for the therapy of the older people**
  - Use of virtual and augmented reality in the field of support for the therapy of the elderly, SOS button (EGTC Via Carpatia)

> **15 GOOD PRACTICES**
> - gamification (5)
> - physical (4) and cognitive (3) exercise
> - mental health (3)
> - virtual visit/ travel (7)
> - training (1), socializing (1), safety (1)

3.1.3. Desk research

The following partners were involved in the research: IAT, ISRAA, GGZ, CVUT, TUKE.

Aim: To explore key factors for successful digitalisation in LTC facilities.

The data was split into:

- factors that facilitate digitalisation and
- factors that serve as barriers.

The facilitating factors and barriers were grouped into 5 categories each:

- Organizational/cultural
- Personal/educational
- Legal/ethical
- Technical/IT
- Other

3.1.3.1. Facilitating factors for successful digitalization

Organisational and cultural
- Effective Management
- Organisations open to change
- Clear communication strategy

Personal and educational
- ICT training opportunities
- Co-design capabilities
- Perception of benefits

Legal and ethical
- Policies, legislation
- Monitoring and accountability (safety, security, privacy)
- Interoperability

Technical/IT
- Suitable Infrastructure
- Set yourself up for scalability and interoperability
- Reliability of technology

Others
- Data-based transformation, evaluations
- Cost-benefit analysis

3.1.3.2. Barriers to successful digitalization

Organisational and cultural
- Traditional Management
- No co - creation culture
- Miscommunication

Personal and educational
- Lack of knowledge or training
- Increased workload
- Negative perceptions of technology

Legal and ethical
- Legal requirements
- Ethical concerns
- Privacy and security

Technical/IT
- System instability
- Lack of system integration
- Lack of interoperability

Others
- Lack of evidence-based research
- Uncontrollable cost

3.1.3.3. Digitalization milestones

Pre-implementation:
- exploring system risks and compatibility,
- allocating resources,
- defining roles and responsibilities, etc.

During implementation:
- clear communication,
- promoting co-creation,
- monitoring progress, etc.
- after implementation:
- continuous evaluation,
- improving reliability,
- scaling up gradually, etc.

Throughout the process:
- improving reliability,
- keeping up improvement,
- managing risks,
- facilitating dialogue and translation between professional cultures,
- promoting co-creation

3.2. Activity 1.3 Benchmarking of long-term care facilities for older people

Aim of Activity 1.3: The Digi4Care model forms the basis for a benchmarking exercise that allows all participating care institutions to assess their current level of digitalisation. In order to use the advantages of transnational cooperation, the assessment will be carried out by applying a joint approach. As a basis, a toolbox will be created with a schedule, checklists, a curriculum for online training and a template for the benchmarking reports per partner region. The benchmarking report shows the current state of digitalisation identifies existing deficits and gives recommendations for a realistic development path with a short-, medium- or long-term horizon. The report also serves to fine-tune the model and as a tip for the design of the Digi4Care Online Check.
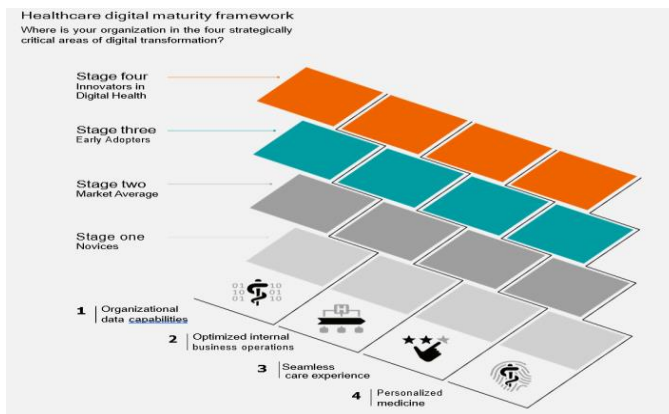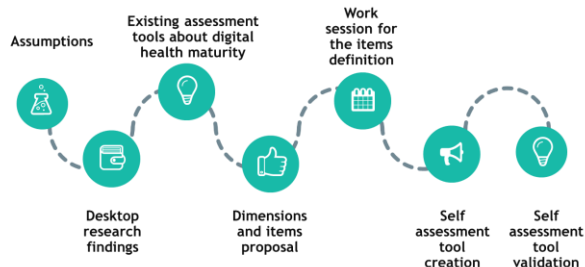
3.2.1. Work session

After the theoretical presentation of the current status of Activity 1.3, four groups were formed for a 30-minunte work session.

Figure 5. Group 4 in the work session for A 1.3 Benchmarking

Each group checked the items and phases (novices; market average; early adopters, innovators) of the proposed model (see below) based on the relevance and purpose of DigiCare4CE. The groups also deleted the non relevant ones, created new ones, and suggested other categories that matter in LTC domain to be evaluated.

Organisation capabilities:

Stage one Novices	Stage two Market average	Stage three Early adopters	Stage four Innovators
- Data migration from an operating system to a central repository is limited - The operational, tactical, and business information and analytics that end-users have access to is limited and represents historical performance - Data insights regarding operational revenue and costs are outdated or insufficient	- There is a singular, consolidated data storage location such as a data warehouse or data lake - Information and analytics are real time or near real time - Has a detailed view into patient's total cost of care across multiple care settings throughout the continuum, including episodic and case-specific detail - Actionable data analytics is used to identify clinical and operational improvement opportunities - Drill-down capabilities are available to view specific information for patient and populations	- Advanced data analytic capabilities provide insight to support patient care (e.g., patient capacity planning, clinical interventions) - Automated augmentation points are available for clinical teams (e.g., sepsis alerts, clinical trial matching) - Advanced augmentation points are available for nonclinical teams (e.g., coding and claims denial) - Advanced analytic capabilities are available to reduce time spent on pre- and postcare activities	- The organization has AI capabilities (e.g., natural language processing, machine learning, advanced statistical analysis) to augment clinician and staff performance and deliver a more personalized patient care experience

Optimize internal business operations:

Registration and appointment scheduling

Stage one Novices	Stage two Market average	Stage three Early adopters	Stage four Innovators
- Appointments cannot be scheduled online - Inbound (IB) and outbound (OB) communication is decentralized - By default, patients have the onus to reach out to an organization to schedule their referral - Patient registration is paper based; patients must repeat information multiple times - Provider search and match is not available online	- Online appointment scheduling is available through a portal, but options for scheduling are limited - A limited level of IB and OB communication is centralized - Phone outreach for referral processing is done manually - Patient registration is electronic but often collected at the point of service; interoperability is varied - Patients can search for a provider based on a limited number of filters	- Online appointment scheduling is available through a portal, and options for scheduling are comprehensive - The majority of IB and OB communication is centralized - Phone outreach for referral processing is done through an automated dialer - Patient registration can be collected electronically prior to a patient's visit (i.e., through a mobile app); interoperability is present - Patients can search for a provider based on a broad set of filters	- Appointment scheduling is available through various methods (e.g., phone, online, text, chatbots) and options available are comprehensive - There is a single centralized hub for IB and OB communication - Outreach for referral processing is based on patient preferences and is automated and digital - Patient registration is digital and specific to patient's demographics and condition (context awareness) - The system can suggest the best provider for a patient to see based on the patient's demo-graphics, financial profile, condition and health history

Coding and charge capture

Stage one Novices	Stage two Market average	Stage three Early adopters	Stage four Innovators
- Clinicians manually document in the patient record - Providers or coders manually assign procedure and diagnosis codes - Charges are captured manually via paper and keyed into the patient accounting system - No edits are in place to ensure accurate coding	- Templates are in place to en-sure optimal documentation - Software is used to validate medical necessity - Nonsurgical procedure codes are assigned by the provider; surgical procedure codes are abstracted by a coder; radiology procedural coding is assigned using computer-assisted coding software - Nonsurgical charges are captured electronically; surgical charges are captured manually during abstraction by the coder - Preclaim edits are in place to ensure coding accuracy - Revenue integrity is validated manually	- Medical necessity is validated using real-time edits based on payer guidelines - Electronic controls are in place to notify requirements for ABNs and waivers - Computer-assisted coding is used more broadly - All charges are captured electronically and interfaced into patient accounting platform - Revenue integrity and charge reconciliation are validated electronically	- Provider documentation is completed in real time using a combination dictation/ templated phrase completion for all routine care and surgical procedures - Some codes are abstracted using AI - Preclaim edit resolution is recommended via AI or resolved using AI/robotic process automation (RPA)

Care experience:

Seamless care experience

★★☆

Stage one Novices	Stage two Market average	Stage three Early adopters	Stage four Innovators
• There is limited portal access	• Information contained on the portal is view-only and limited; information may not be up to date	• Patients have access to their entire medical record on their portal; information is up to date	• Patients can upload or download information and share their record with other organizations
• Patients must call the practice to obtain information; the process can be challenging	• Patients can call the practice to obtain information with more ease	• Patients can communicate with the practice through the patient portal in addition to phone	• Patients can communicate with providers through various access points (e.g., phone, portal messaging, text, chatbots)
• Patient outreach is conducted as needed	• Proactive communication strategies are siloed at the specialty/department level	• Proactive communication strategies are population based and coordinated across the system	• Providers and clinic staff send out proactive and personalized communication to patients
• There is limited triage assistance for patients unsure of what setting to receive care in or how to treat symptoms present	• Nurse triage is provided through a phone service and may not be available 24/7	• Digital nurse triage is available through certain access points	• On-demand triage is available 24/7 through various access points
• Only in-person visits are offered	• Asynchronous video visits are offered through a separate application; interoperability with the EHR is limited	• Asynchronous video visits and synchronous visits are integrated through the patient portal; integration with the EHR is functional	• Virtual visits are augmented in real time by the integrated remote capture technologies
		• Remote patient monitoring is available for certain populations	• Administrative and clinical functions have a 360-degree view of a patient's needs and preferences

Check-In

Stage one Novices	Stage two Market average	Stage three Early adopters	Stage four Innovators
• Patient check-in process is manual and paper based	• Patient check-in is electronic through the EHR	• Patient check-in can be completed through mobile app	• Patients are offered contactless check-in via geofencing
• Forms are completed on paper and scanned into the electronic health record (EHR)	• Forms are completed electronically with e-signature	• Forms can be completed and signed through mobile app	• Patients can pay time-of-service charges via apps supporting touchless options
• There are no time-of-service collections	• Time-of-service payments are collected and posted in real time in the patient account	• Some payments are collected in advance of care event	
		• Credit card numbers are securely stored to facilitate time-of-service payments	

are reconciled electronically

Patient follow-up

Stage one Novices	Stage two Market average	Stage three Early adopters	Stage four Innovators
• Statements are submitted manually	• Statements are submitted electronically	• There is omnichannel patient communication	• Staff activity is gamified
• Manual reports are generated to identify accounts for follow-up	• Work drivers are in place	• Automated dialer is used to contact patients	• AI is used to support payment arrangement modeling/ monitoring
• OB calls to patients are dialed manually	• Smart prioritization is in place (e.g., balance, propensity to pay)	• Payment plans are set up online	• AI is used to support text/ chatbots
• IB calls are answered by whomever is available	• Advanced call management system is used to track performance (e.g., abandonment rate)	• IVR is available to make payments	
	• Interactive Voice Response (IVR) is used to route calls and address common questions	• Patients are provided care credit options	
		• Patients can live-chat with a customer service representative	

Personalized medicine:

Stage one Novices	Stage two Market average	Stage three Early adopters	Stage four Innovators
• Care delivery is encounter-based • Treatment is provided for the presenting illness • Population surveillance and data gathering is limited • Patient clinical alerts for follow-up and tracking do not exist	• Population-based programs exist for one or two chronic diseases but are basic • Pharmacogenetic testing is available for one or two commonly used drugs • Data gathering and tracking across the continuum of care is limited • Few clinicians or specialties deploy data-driven diagnoses and customized treatments	• Remote monitoring is available for specific populations, data is automatically captured, and the care team is alerted about adverse events • Population health management is managed by dedicated staff • Drug therapies are targeted based on molecular testing • Pharmacogenetic screening is provided for multiple drug regimens • Integrated best practices and predictive analytics are on hand for providers	• Molecular-based treatments are guided by patient genomic profile • Genomic screening is performed on all patients • Technology prompts staff and patients for follow-up directly • There is increased attention to epigenetic factors in care decision-making • There is a high patient adoption of personalized services, home hospital, and monitoring • AI is used to proactively monitor patient data and provide alerts on the outliers for clinical follow-up

4. Activity 2.1 Shaping the joint pilot actions – Joint implementation and evaluation methodology

Coordinator: DIT

Within this work session, led by DIT, we discussed the joint implementation and evaluation methodology with all partners. The project plans two pilot actions, which differ in the selected technology fields. In both cases, the aim is to find solutions how new technologies can best be integrated into existing processes, how their acceptance by staff and residents can be ensured, how their cost/benefit ratio is evaluated in practice, etc. The objectives of the pilots, the issues to be addressed, and the criteria for their subsequent evaluation are to be defined in a joint methodology so that implementation in the various care facilities, with all their differences, leads to a common result. In order to ensure a coordinated cooperation, the milestones of the operational implementation will be uniformly regulated in an implementation plan. The following steps are included and affected in the implementation and evaluation of the pilot actions:

- Research questions (Activity 2.1)
- Hypotheses (Activity 2.1)
- Methods (Activity 2.1)
- Implementation (Activity 2.2 & 2.3)
- Measurement/Evaluation (Activity 2.2 & 2.3)
- Peer review (Activity 2.4)
- Monitoring and evaluation (hard facts, soft facts) (Activity 2.2, 2.3, 2.4 & 2.5)

The consortium discussed different research questions and aspects that might be considered for the joint methodology:

- What will be measured? What will we do in the pilot actions? How much does it cost? What are the risks? – These questions will be answered in the uniform implementation plan.
- How can successful digitalisation be implemented in a number of pilot actions?
- How can the digitalisation process be shaped that it leads to successful implementation of 8 pilot actions? (focus on the process of digitalisation)
- How can long-term care facilities benefit from digitalization / implementation of pilot actions?
- What happens before and after implementation? (use cases)
- How can elaborated forms of technology be accepted by the employees?
- How many people should be involved in the implementation process?
- What defines success for each pilot?

The implementation and evaluation methodology will be further elaborated in teams from **October to November 2024.**

Figure 6. Work session for A 2.1 joint implementation and evaluation methodology

5. Activity 2.2 "The digital transformation of care management and delivery" – Pilot Action 1

Coordinator: GGZ

Activity 2.2 was the core of the workshop. All partners of pilot action 1 (DIT; GGZ; RRDA; TUKE) defined areas of the associated care facilities that need digitalization. In this workshop session each partner presented his/her current status of the **basic concept for the pilot action**. The partners worked together on discussing and justifying the area of digitalization, type of technology, product maturity, current/next steps for implementing the pilot action, time frame, resources (time, cost, staff) and challenges as well as needs.

5.1. DIT

Figure 7. DIT presenting their basic concept for pilot action 1

Organisation	Deggendorf Institute of Technology / DIT
Associated care facility	BRK inpatient care facility Bad Kötzting The BRK (Bayrisches Rotes Kreuz) inpatient care facility is a nursing home for seniors and offers a wide range of care services.
Area of digitalization	Extension of the digital documentation software: Direct and secure exchange of information about residents between the care facility and the surrounding care network, such as hospitals, GPs, specialists, dentists, physiotherapists, pharmacies, etc.
Type of technology	• Documentation software • Interfaces (APIs) with telematic infrastructure
Product maturity	• DAN software is elaborated • Interfaces probably already exist
Current status	The DAN software was implemented in 2017 and has been used in Bad Kötzting ever since. The system is used to document every nursing action. In addition, it is the basis for reporting to the medical service, among others. The telematics infrastructure, TI for short, is a long-term project of the Federal Government. It is supposed to be a network for secure and fast communication and data transmission in the German health system. The TI is implemented by gematik GmbH. Currently, all GPs, dentists, hospitals, psychotherapists and pharmacies in Germany must connect to the TI. Other service providers - such as health care providers, midwives and nursing homes - will gradually be connected to the TI over the coming years. July 2025, the connection of care services and other care facilities should be completed. Currently, a data exchange between the disciplines is not possible. All communication takes place by telephone or fax.
Next steps	• Round table with all decision makers together with technical staff in order to define the options. • Identifying technical solutions for APIs, taking into account all parties involved. • Trying to get the software company on board.
Starting date	Rough estimation: January 2024
Duration of testing	Approx. 30 weeks
Staff	BRK internal: district manager, home management, care service management, care professionals, administrative staff
Costs	Not defined yet

Challenges	The DAN software itself is well elaborated but may not be updated in the future as the software company is promoting and selling a new product called MD stationary.
	The DAN software was bought by the care facility, so besides the high effort of data transfer, there would be also high costs for buying a new, more suitable documentation software.
	The telematics infrastructure is not well developed and faces many concerns from users with different backgrounds about inoperability, unanswered use cases, data leaks, etc.
	GPs etc. might reject the idea of building an isolated solution for digital communication and data exchange alongside the TI.
Needs	In-depth insight into the existing structure and future plans of the system
Feedback / Open questions	- Was there any analysis if the software would be able to be further developed? - How dependent are you from the government? Being dependent from many external stakeholders and the government might be barriers in the pilot action. - Is there a technical pre-analysis? - What do the GPs and health professionals' wish or need? How do you estimate their acceptance? - Is there a connection to the ePA? (electronic patient file) - Do they want to buy new software? - How do you try to involve external partners? - The pilot action involves risks, e.g. high dependence on external partners; development of new solutions – time management?, scope of pilot action is high (it covers many topics and interfaces) - Plan B? Maybe change the care facility, which will use the software?

Use Case

Ms Meyer has returned to the care facility from hospital. In the hospital she was given different medication than before and now her attending GP has to prescribe these new medications in writing.

Before implementation:
- *Kathrin has to call the GP's office and inform them that Ms Meyer is back from hospital and now needs new medication.*
- *The doctor's assistant at the practice makes a note of the information and says that the doctor will call back.*
- *After the doctor has called back and asked questions, he issues the prescription and someone of the care facility can collect the prescription and the prescription from the doctor's office.*

After implementation:
- *Kathrin has been digitally informed from the hospital about Ms Meyer's new medication within the nursing documentation software.*

- *She also finds the doctor's/discharge letter from the hospital there.*
- *She can forward this information from the system to the GP with the request to prescribe the new medication. When she checks later, she finds the prescription already in the message inbox.*

5.2. GGZ

Figure 8. GGZ presenting their basic concept for pilot action 1

Organisation	Geriatric Health Centres of the City of Graz
Associated care facility	The Peter Rosegger Residential Nursing Home
Area of digitalization	Digitalisation of care documentation; Extension of ilvi* through mobile documentation apps *digital work and documentation system with a mobile device
Type of technology	• Digital & mobile wound documentation/ measurement via ap • Further apps (optional): proof of execution; scanner app
Product maturity	• Ilvi = already available on the market and in use in the associated care facility • Documentation apps = only apps which already exist on the market will be selected for the pilot action
Current status	Completed tasks: **(1)** Internal meetings with IT and management of the GGZ **(2)** Desk research for technologies/apps **(3)** Use of protocols of previous workshops/projects with nursing staff **(4)** Interviews for Questionnaire 1 and 2 & Pilot Action 1 with employees and managers of IT, management, care management, residential nursing home, R&D **(5)** GGZ-Meeting to decide on technology and next steps

Next steps	**(1)** Observation of processes in nursing home (2 days in nursing home)
	(2) More detailed desk research about available wound measurement apps
	(3) Analysis and comparing available solutions based on predefined criteria - consultation with experts of the GGZ (e.g. lawyer, nursing staff, IT employees…):
	   (i) technical features (compatibility)
	   (ii) ethics, legal aspects (data security)
	   (iii) usability
	   (iv) professional requirements (care-relevant aspects)
	   (v) costs
	   (vi) measurement precision –Organization of technical requirements & equipment
	(4) Selection of app to integrate to ilvi and HIS (Healthcare Information System)
	(5) Preparatory work for testing (technical equipment, methodology, pre-tests…)

Starting date	Spring 2024
Duration of testing	4-8 weeks (excl. pre-test; training for staff, follow-up)
Staff	Core team for the pilot action: • R&D department: Berger, Dohr, Goldgruber • IT & process management: Windisch + team • Peter Rosegger residential nursing home: Kocher, Ramic + nursing staff / end user (wound manager etc.) Additional experts: GGZ management: Hartinger, Hohensinner, Schippinger, Sauseng + scientific team

Costs	• Technical equipment: license for app; programming; technical infrastructure provided by ilvi, nexus etc.
	• Staff costs (project team, IT)
	• External expertise, consultancy costs (?)
Challenges	• Limited time resources of nursing staff
	• Availability of representatives of the nursing home
	• Unclear implementation and evaluation process & methodology (Which criteria? Which data will be collected?)
Needs	• Regular exchange with residential nursing home representatives (structure for cooperation)
	• Clear methodology and structured implementation plan with tools
Feedback / Open Questions	• Quite promising
	• Do you already use these devices (i.e. ilvi)?
	• Are health professionals used to the system? How is their acceptance?
	• Are you going to install an app onto the device?
	• Which app will be installed? What about the costs?

Use Case

Wound documentation is a time consuming and complex process in the GGZ. Our nurse Kathrin spends around 2h per day on wound documentation. On average, a nursing home deals with 10 wounds (of which 4 are chronical wounds). By equipping our nursing home with a digital wound documentation system, staff should be relieved from the complex process:

BEFORE IMPLEMENTATION OF TECHNOLOGY	*AFTER IMPLEMENTATION OF TECHNOLOGY*
Kathrin measures the wound with a ruler and takes pictures from different angles to document it. She saves these pictures in a storage on the computer. Afterward, she manually enters details like wound size and surface into the patient's file in the hospital information system, along with attaching the pictures. This routine is carried out regularly to monitor the wound's progress.	*Kathrin now uses a wound documentation app on her mobile device, which allows her to measure and document the wound in seconds. The app automatically records the wound's picture and measurement (size) in the patient's file in the hospital information system. This eliminates the need for additional manual steps and saves Kathrin valuable time.*

5.3. RRDA

Figure 9. RRDA presenting their basic concept for pilot action 1

Organisation	Rzeszow Regional Development Agency (RRDA)
Associated care facility	Donum Corde Center for Rehabilitation and Medical Care: • The facility provides comprehensive rehabilitation and round-the-clock medical care for patients in various health conditions in inpatient and outpatient settings. • The Pilot Action will be implemented in the area of rehabilitation, it will facilitate the work of physiotherapists, care team and management.
Area of digitalization	Rehabilitation; long-term care for elderly people
Type of technology	**An innovative tool is a digital solution that will:** ▪ help improve the management process and information flow, ▪ allow all relevant patient information to be shared between the care team and managers, ▪ even allow information to be shared with external professionals such as doctors, therapists and other service providers, ▪ make it possible to create of an individualized rehabilitation plan for an elderly patient, ▪ improve the quality of health services provided to patients with various health dysfunctions, **The solution is expected to:** ▪ facilitate the management of the rehabilitation process, ▪ monitor the effects of rehabilitation, ▪ enable transparent and rapid familiarization of the elderly with their progres in rehabilitation, ▪ enable the managers to quickly learn about the elderly's opinion of their stay at the facility and their subjective feelings about medical care and the rehabilitation process, Currently, DC does not have an electronic transferring data system that would support the data flow between the management team of the facility and the medical team etc. Most of the patients' rehabilitation data is stored on paper. **Implemented technology:** The tool is web-based, made with Progressive Web Application (PWA) technology, it means it allows to be installed on a tablet or phone. The data will go to a server and will be available to authorized persons. It will be possible to integrate such a system with the existing system in the DC. The system would also allow anonymized surveys (provided by patients input) to be made available externally for review by third parties, or to employees in non-anonymized form. Perhaps also generating reports for "managers."
Product maturity	In the development stage

Current status	▪ the concept has been developed
	▪ it's implementation and development has been agreed on between RRDA/IT expert and Donum Corde – associated partner
Next steps	▪ working meetings with DC
	▪ agreement on the details of data to be gathered by the system
Starting date	Beginning of 2024
Duration of testing	4-6 weeks
Staff	▪ DigiCare4CE Project management team
	▪ IT expert
	▪ **Beneficiaries and end users**
	▪ Donum Corde management: Head of Physiotherapy at Donum Corde, Manager of Donum Corde and medical staff: physiotherapists, DC managers
	▪ service recipients (end users: physiotherapists, managers, elderly) - elderly people (patients)
Costs	The costs are divided by RRDA and Donum Corde:
	▪ RRDA financial resources
	▪ Any further costs of the system development are on the DC side
Challenges	Financial limitations regarding the development and implementation of the system are challenges RRDA is facing.
Needs	▪ to enable real-time decision-making by analysing older patients' satisfaction and responding to current patient needs or possible gaps in service providing,
	▪ to increase the quality of medical services provided;
	▪ to enable efficient management of the facility and the rehabilitation process of elderly patients,
	▪ to train DC employees on how to use the software,
	▪ to customize the software to the needs/digital skills of the elderly to enable them the completion of the rehabilitation satisfaction questionnaire on their own

Feedback / Open questions	• How do you get 3rd partners to use your system?
	• Do your partners have experiences with the implementation of digital tools?
	• Duration of the implementation phase (4-6 weeks) might be too short
	• What do you want to measure?
	• How will DC identify with the proposed solution?
	• Who will use the solution? Are they already on board?
	• How will you deal with access and data protection?
	• Who develops digital solution and how far is it developed? – Development process takes up a lot of time, therefore start in 2024 might not be possible.
	• Why are you cooperating with a rehabilitation centre? (→ at the beginning DC was a long-term care facility – they changed their name and extended services – long-term care is still part of it)
	• How many people do we need to test? How many elderly people should be involved within the process?
	• Digital skills of people working there are high (majority of employees are young)

Use Case

Before implementation:

***Currently, the DC does not have an electronic rehabilitation data transfer system**:*
- *to support the flow of data on the rehabilitation process,*
- *to monitor the effects of the rehabilitation itself (assessed by the patient and the rehabilitator),*
- *to enable management and medical teams (doctors, physiotherapists, managers) see the progress of functional performance and the assessment of rehabilitation progress from the patient as well, in a transparent and timely manner. All patient rehabilitation data is kept on paper,*

Records of the rehabilitation process are stored on paper by attending physiotherapist. In case of their absence it is difficult for other physiotherapists to get the access to the data of patients rehabilitation proces.

After implementation:
- *all the data related to the rehabilitation process will be digitalised,*
- *the management of the rehabilitation process, monitoring, planning and evaluation of the therapy effects will be facilitated and more efficient,*
- *all the relevant patient information data will be shared between the care team and managers of the DC, and in some cases, the planned solution will even allow information to be shared with external professionals such as doctors, physiotherapists and other service providers,*
- *DC employess will be able to lern about the elderly's opinion of their stay at the facility and their subjective feelings about medical care and the rehabilitation process.*

BEFORE IMPLEMENTATION OF TECHNOLOGY	AFTER IMPLEMENTATION OF TECHNOLOGY
Currently, the DC does not have an electronic rehabilitation data transfer system	After the implementation of the digital solution

5.4. TUKE

Figure 10. TUKE presenting their basic concept for pilot action 1

Organisation	Technical University of Kosice
Associated care facility	Kosice Self Governing Region EISI - European Information Society Institute (NGO) – Project "Friendly data environment in healthcare"
Area of digitalization	Processes of communication and cooperation - within the LTC facilities - between LTC facilities and external stakeholders
Type of technology	Optimization and Digitalization processes
Product maturity	The product has not been selected or developed yet.
Current status	• Formed implementation team including technical skilled • Identified next steps leading to change delivery • Partially done analysis of data environment • Next steps in cooperation with EISI • Pre-define testing LTC facility • Conducted market analysis – available solutions by private companies

Next steps	• Define the test LTC facility(ies) – 1 or 2
	 • Mapping of the environment
	    - Within testing LTCs
	      Strategy 1 - Process shadowing
	      Strategy 2 – Data analysis
	      Summarize the findings
	    - Workshop with main regional authority and other LTC facilities to control the findings, identify variations and other specific needs and requirements
	 • Define the expected value
	    - Service quality
	    - Cost optimization
	    - Customer experience
	    - Innovation enablement
	    - Create the solution
	    - Co-creation sessions with testing LTCs
	    - Workshop with main regional authority and other LTC facilities to control the findings, identify variations and other specific needs and requirements
	 • Testing phase
	    - Within the testing LTCs
	 • Summarize findings and define action plan for next steps

Starting date	Not yet defined
Duration of testing	Not yet defined
Staff	Not yet defined
Costs	In line with the project budget. The expected steps will be planned according to the budget.
Challenges	- Current digital environment – potential risk of old technologies causing problems once we would like to connect them with new tools - Expected costs - Legislative framework - Data processing – ensure compliance with legislation (national and European) - Interoperablity with current and new tools as well as communication with national electronic systems maintained by National Health Information Centre - User acceptance - Care facilities are private, but they need to be respecting the managing authority - There is no guidance on how to digitalize long-term care facilities
Needs	- Friendly and agile working mood - Trust of target group - Skilled team members especially needed for - Analysis of current status processes and needs – social and technical skills - Proposing new technical solution – technical skills

Feedback / Open Questions	• Is there already any digitalisation?
	• Are the care facilities private or governmental?
	• Will the result of the pilot action be a digital solution?
	• Implementation of a digital solution within the pilot action is important
	• Does this general approach fit to the objectives of pilot action 1?
	• Time management? IT development?
	• Analysis is quite on a general level - recommendation: Select a certain care facility and choose a concrete solution you want to test there.
	• Pilot Action has still many unknown aspects and risks
	• "We already know the chances for making LTC more digital. But we did not deeply analyze solution that we can test yet"
	• Regional agency wants to have a general solution (analysis)
	• Side note: Pilot action is not solely about the technology, but the implementing process
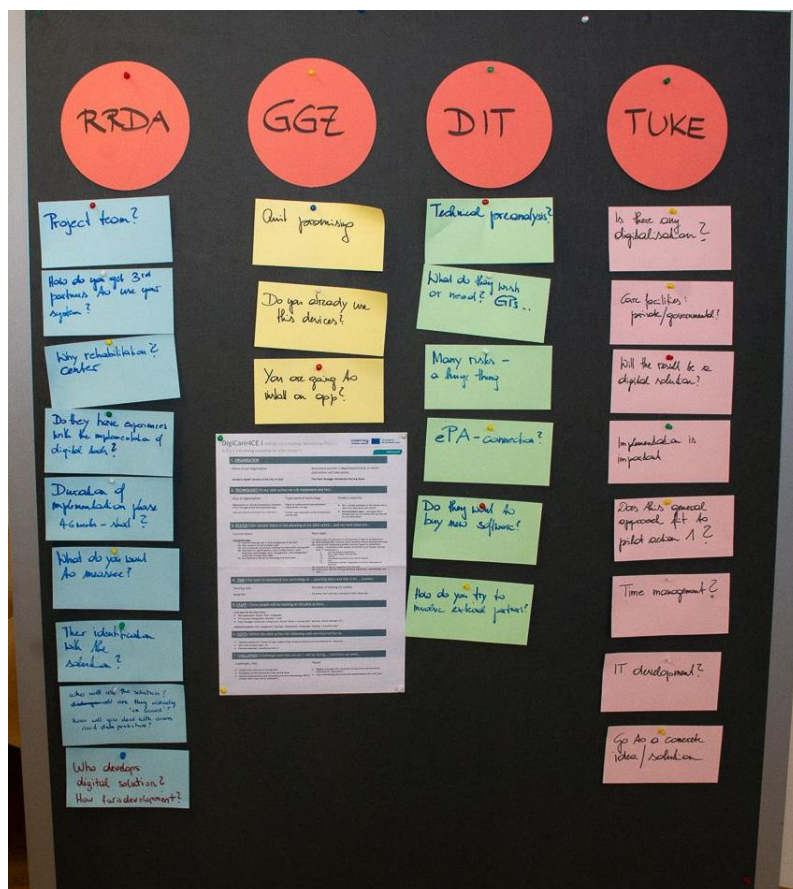
Figure 11. Summary of co-creating the basic concepts for pilot action 1

6. Meet and Greet Associed Partners

Coordinators: GGZ, NOELGA

On 22nd September the DigiCare4CE consortium invited associated partner organisations (i.e. long-term care facilities in which the pilot actions will take place) to an online meet and greet session. All partners introduced themselves and their associated organisations.

Figure 12. Associated partner welcome - project consortium with associated care facilities

Figure 13. GGZ and NOELGA introducing partners of pilot action 1 & 2

Table 2. List of participants - Associated partner welcome

Organisation *PM*	COUNTRY	PILOT	ASSOCIATED PARTNER
Deggendorf Institute of Technology (DIT) *Sonja Weigerstorfer*	Germany	P1	Bayrisches Rotes Kreuz, Kreisverband Cham, Kreisgeschäftsführer: **Manfred Aschenbrenner** Manfred.Aschenbrenner@kvcham.brk.de *Senioren-Wohn- und Pflegeheim Bad Kötzting* Wohnbereichsleiterin: **Agnieszka Otawa** otawa@ahkoetzting.brk.de;
Geriatric Health Care Centers of the City of Graz (GGZ) *Sandra Dohr*	Austria	P1	IT Manager of the GGZ, **Stefan Windisch** stefan.windisch@stadt.graz.at
Technical University of Kosice (TUKE) *Martin Dujčák*	Slovakia	P1	Head of Regional Development Department of Kosice Self-Governing Region, **Mrs. Barbora Kováčová** barbora.kovacova@vucke.sk
Rzeszow Regional Development Agency (RRDA) *Agnieszka Kojder-Walaszek*	Poland	P1	Head of the Donum Corde Center, **Ms. Kinga Łabuda** kinga.labuda@donumcorde.pl Head of Physiotherapy at Donum Corde, **Ms. Agnieszka Wiśniowska- Szurlej**
Health Agency of Lower Austria (NOE LGA) **Michelle Renz**	Austria	P2	Nursing and Care Centre Raabs/Thaya, Nursing Director Roswitha Astner Roswitha.Astner@noe-lga.at
Institute for Older Care and Sheltered Homes (ISRAA) *Oscar Zanutto*	Italy	P2	Psychologist, Psychoterapist and general manager of one of ISRAA's nursing homes, **Emanuela Capotosto** (contact via Oscar)
Czech Institute of Informatics, Robotics and Cybernetics of the Czech Technical University in Prague *(CVUT)* *Lenka Lhotská*	Czech Republik	P2	?
EGTC Via Carpatia *Jozef Bľanda*	Slovakia	P2	**ARCUS** – Specialized facility, facility for seniors and home of social services: **JUDr. Vojtech Hintoš** - Director Arcus hintos.vojtech@gmail.com , **Mgr. Iveta Kurčáková** - Head of Social Department, **Mgr. Angelika Herčková** - Quality Manager sekretariat@arcuskosice.sk riaditel@arcuskosice.sk
Association of Social Services Providers Czech Republic (ASSP CR) *Pavel Jirek*	Czechia	n/a	**E.A.N. European Ageing Network** CEO Karel Vostry info@ean.care
Anton Trstenjak Institute of Gerontology and Intergenerational Relations (IAT) *Ana Ramovš*	Slovenia	*n/a*	n/a

7. WP2 – Wrap up Pilot Action 1 and 2

Figure 14. GGZ presenting the main results of the work session of pilot action 1

Next steps and time plan:

The implementation phase starts in **01/2024** and ends in **02/2025** (i.e. deadline for final monitoring and evaluation report by coordinators NOELGA and GGZ). Until the **end of autumn 2023** each project partners further **elaborates the co-design, engagement of long-term-care facility, on what to implement and how to measure success** (and how to improve the use of digitalization). Each pilot action should start the latest in **March 2024**.

To facilitate these tasks, the consortium will establish working groups for Activity 2.1, 2.2, and 2.3, with dedicated implementation teams for Activity 2.2 and 2.3. Subsequent actions will involve the creation of a **checklist for the preparatory phase** of the pilot actions (DIT, IAT, ISRAA) by the **end of October 2023**, as well as the formulation of the **implementation plan** (GGZ, NOELGA, IAT, DIT). The initial draft of the **joint implementation and evaluation methodology** is projected to be completed in **November 2023**.

8. WP2 – Study visits, summer school

8.1. Study visits

Coordinator: DIT (supported by IAT)

Each partner contributes 1-3 ideas to a [catalogue of study visits](#) until 29th September 2023 to their own or another European country. The organizations should have already successfully implemented good practice and years of experience in the implementation of digital solutions.
The study visits will be selected based on the following topics:
1. Digitalisation process in long term care organisations
2. Digitalization of nursing documentation and workflow
3. Rehabilitation monitoring

4. Falls prevention and monitoring of critical behaviors
5. Virtual and augmented reality that supports older people and care provision

Next steps:

1. **Facility Selection:** After finalizing the study visit catalogue, each project partner will choose 2-3 organizations they wish to visit.

2. **Bilateral or joint visits:** Partners will individually select facilities based on the unique requirements of their pilot actions. However, joint visits are possible if there is a common interest.

3. **Expert involvement:** We can also invite experts from our stakeholder list to participate in the study visits.

4. **Organization**: Once partners have chosen their facilities, they are responsible for planning and organizing their respective visits.

5. **Timeline**: Study visits should occur during periods 2 and 3. Period 2 is for preparing the pilot action, while period 3 offers an opportunity to gather additional insights during implementation.

8.2. Summer School

Coordinator: DIT

Deggendorf Institute of Technology, Faculty Applied Health Sciences organizes a summer school which will be held during **22 – 26ᵗʰ July 2024** and invites university students from technical, medical and social sciences to Deggendorf. The central theme of the summer school is **"Transforming Long-Term Care: Innovating Clinical Reasoning through Digitalization"**.

DIT kindly requests the partners of the DigiCare4CE project to help disseminate the **informational materials** (i.e. flyers, posters) to students and partner universities. You can choose to distribute these materials digitally or in print format. All the necessary information materials are stored on Nextcloud.

Figure 15. Promotion material for the summer school in Deggendorf

9. Project management activities

The following project management activities were discussed at the end of the workshop:

- We will utilize **Nextcloud** as our shared data repository, ensuring that project information and documents are easily accessible to all team members.
- **Gantt charts** will be generated to provide clear visual representations of project timelines and milestones.
- Since 1st of October an **external project management office** (Theresa Luber) will provide expertise regarding project management activities.
- The current number and frequency of **meetings** will remain the same, to keep every partner on the same level of knowledge.
- The next meeting in person will be held in **March 2024**, location: tba.