Scirocco Exchange

Capacity-building for integrated care

# D9.1 Expanded SCIROCCO Maturity Model and its self-assessment Tool

## WP9 Scoping the expansion of the SCIROCCO tool

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## Statement of originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

## EC Disclaimer

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# Abbreviations

| | |
|---|---|
| ACSELL | ACcelerating SmE innovation capacities with a Living Lab approach |
| B3-MM | B3 Maturity Model |
| CCMM | Continuity of Care Maturity Model |
| COVID-19 | Coronavirus disease 2019 |
| EHTEL | European Health Telematics Association |
| EMRAM | Electronic Medical Record Adoption Model |
| HIMSS | Healthcare Information Management Systems Society |
| ICT | Information and Communication Technologies |
| IFIC | International Foundation for Integrated Care |
| MMND | Maturity Model for Neighbourhood Development |
| NASSS | Non-adoption, Abandonment, Scaling-up, Spreading and Sustaining |
| OSAT | Online self-assessment tool |
| SG | Scottish Government |
| SME | Small and Medium-Sized Enterprise |
| TCRM | Telemedicine Community Readiness Model |
| TREAT | Telemedicine Readiness Self-Assessment Tool |
| UEDIN | University of Edinburgh |

# Executive summary

This report defines how the SCIROCCO Maturity Model and its self-assessment tool can be expanded to other fields of active and healthy aging and types of users, including their experiences with the adaptation and expansion process. The report describes in detail four experiences of expansion and adaptation, including options for two additional expansions.

Worldwide SCIROCCO application: the SCIROCCO model is composed of 12- maturity domains for assessing integrated care. It is supported by an online self-assessment tool that implements a Likert-based survey and offers visual representations that help to compare assessments and identify areas for improvement. Its international application by 35 regions and countries, with more than 1,246 individual assessments, shows that SCIROCCO already has the capacity to be adapted to diverse local circumstances internationally.

Assets: A categorisation of SCIROCCO elements is presented which includes content, process and format-based assets. Content-based assets that include the 12-domain objectives and maturity assessment scales, knowledge assets and the community of users are the basis for expanding SCIROCCO to other areas and disciplines.

Expansion through four scenarios: Four expansion scenarios of the SCIROCCO Maturity Model of Integrated Care and its self-assessment tool have been identified, through adaptation to a new field or the inclusion of new types of users. These four scenarios include: drill-down, different users, different topics and full-blown expansion.

The first scenario consists of drilling down into the existing 12 SCIROCCO domains with the aim of exploring further its contribution to health and care integration. An example includes delving into the domain of digital infrastructure and adapting the critical success factors for scaling-up telemedicine developed by the Momentum project on advancing telemedicine adoption in Europe.

The second scenario involves user expansion, which is described through the experience of implementing the SCIROCCO Maturity Model to measure the level of care coordination in nursing homes in 18 Catalan territories, before and during the 2020-2021 COVID-19 pandemic outbreaks. New users included personnel coming from the social sector and technical staff.

The third and fourth scenarios involve adapting the SCIROCCO Maturity Model to a topic that is not integrated care. They provide illustrative examples of the potential to apply the SCIROCCO Maturity Model to other disciplines and fields, explored through the SCIROCCO consortium's collaboration with two European projects focusing on demand-driven innovation (ACSELL) and digital neighbourhood development (???).

Outcomes and possible next steps: From the experience gathered in these exercises, a methodology and process for expansion was developed. It consists of a stepwise approach that helps adopters to define the scope and purpose, targeted audience and type of assessment by which SCIROCCO can be extended. Adopters of the expanded/adopted versions of the SCIROCCO Maturity Model offered encouraging feedback on its expansion to other domains and audience, outlining a number of opportunities for its further exploitation.

# 1. Introduction

The SCIROCCO Exchange project aims to support the readiness and capacity of health and social care authorities for the adoption and scaling-up of integrated care. The main objective of this capacity-building support is to facilitate access to tailored, evidence-based assets on integrated care and thus support personalised knowledge transfer and improvement planning.

The project builds upon the preliminary achievements of the B3 Action Group on Integrated Care of the European Innovation Partnership on Active and Healthy Ageing that first developed the concept of the B3 Maturity Model. Through the activities of the EU funded project SCIROCCO[1], the SCIROCCO Maturity Model was further refined and supported by a validated online self-assessment tool. In the SCIROCCO Maturity Model[2], the many activities that need to be managed in order to deliver integrated care have been grouped into 12 dimensions, each of which addresses part of the overall effort to implement integrated care.

The ambition of the SCIROCCO Exchange project is to maximise the value and impact of the SCIROCCO Model and Tool. It focuses on the development and testing of a Knowledge Management Hub[3] with the objective of facilitating access to personalised knowledge transfer and capacity-building assets to support the process of adoption and scaling-up of integrated health and social care services in Europe. Following the high uptake and interest in using SCIROCCO self-assessment tool, the project also explores the topis/areas of potential expansion and adaptation of SCIROCCO Exchange Maturity Model and its self-assessment tool which would go beyond the integrated care concept.

Within this framework, WP9 Capacity-building Assets, had two main objectives:

- To scope the added-value of expanding the SCIROCCO Exchange Maturity Model and its online self-assessment tool for integrated care to other areas of active and healthy ageing;
- To validate and test the expanded SCIROCCO Exchange Maturity Model and its online self-assessment tool.

To this end, the following tasks were performed in WP9:

- scoping the added-value of expanding the SCIROCCO Exchange Maturity Model;
- application of SCIROCCO methodology for the development of Maturity Model and its online self-assessment tool;
- Guidance on the use of the expanded SCIROCCO Exchange Maturity Model and its online self-assessment tool.

The structure of this deliverable is as follows:

- Chapter 1 Introduction to SCIROCCO and the SCIROCCO Exchange Maturity Model and its online self-assessment tool, including the description of how they are applied in

[1] https://www.scirocco-project.eu/
[2] https://www.scirocco-project.eu/scirocco-tool/
[3] https://SCIROCCO-exchange-tool.inf.ed.ac.uk/

real-life-settings; and objectives of the potential expansion of the SCIROCCO Exchange model and tool.

- Chapter 2 describes the assets for potential expansion and adaptation of the SCIROCCO Exchange Maturity Model and its online self-assessment tool.
- Chapter 3 provides the conceptual basis for the expansion and adaptation of the SCIROCCO Exchange Maturity Model and its online self-assessment tool.
- Chapter 4 outlines the methodology and process for the expansion and adaption of the SCIROCCO Exchange Maturity Model and its online self-assessment tool.
- Chapter 5 describes in detail the different scenarios of expanding/adapting the SCIROCCO Exchange Maturity Model and its online self-assessment tool.
- Chapters 6 summarises the main lessons learned from the expansion and adaptation of the SCIROCCO Exchange Maturity Model and its online self-assessment tool and outlines key conclusive remarks and next steps.

# 1 The SCIROCCO Maturity Model for Integrated Care and the Tool

This chapter describes succinctly the SCIROCCO Maturity Model for integrated care and its self-assessment tool and provides an overview of the applications undertaken to support countries and regions in their path to improved care integration. Further information about the SCIROCCO Model and Tool is located in the Resources Section of the Scirocco Exchange website that compiles project deliverables, knowledge transfer activities, publications, presentations and sessions' recordings and other useful educational materials.[4]

## 1.1 Describing the Model

The Maturity Model for Integrated Care is the fruit of a long process of reflection, discussion and elaboration that started in the context of the European Innovation Partnership on Active and Health Ageing. The work was done specifically through the B3 Action Group on Integrated Care which produced the first conceptual B3 Maturity Model (B3-MM). B3-MM was then further developed, validated and tested through the SCIROCCO project (Scaling Integrated Care in Context) in 2016 and 2018.[5] The resulting Model consisted of 12 domains that are needed to deliver comprehensive integrated care. Each of the dimensions included a 6-point scale.[6,7] Between 2016 and 2021, the SCIROCCO tool has been used by 31 organisations, conducting more than 1,240 assessments. SCIROCCO's global expansion has been possible due to the translation and adaptation of the Model and the Tool into 10 different languages (German, Spanish, Italian, Lithuanian, Dutch, Polish, Slovenian, Slovakian, Estonian and French). The SCIROCCO Maturity Model and its online self-assessment tool were then further refined and tested through the follow-up SCIROCCO Exchange project (Figure 1)[8]. This also included the potential expansion of the Model and the Tool to other initiatives (beyond integrated care) that considered the SCIROCCO Exchange Tool as an inspiring self-assessment tool. This report takes stock of these experiences and provides a framework for expanding the SCIROCCO Exchange Maturity Model to other domains of the active and healthy ageing agenda.

[4] Scirocco Exchange resources: https://www.sciroccoexchange.com/resources
[5] Scirocco Project: https://www.scirocco-project.eu/
[6] Henderson, D., Pavlickova, A., & Lewis, L. (2016). Scalability and transferability of good practices in Europe: What does it take? International Journal of Integrated Care (IJIC), 16(6).
[7] Grooten, L., Vrijhoef, H. J. M., Calciolari, S., Ortiz, L. G. G., Janečková, M., Minkman, M. M., & Devroey, D. (2019). Assessing the maturity of the healthcare system for integrated care: testing measurement properties of the SCIROCCO tool. BMC medical research methodology, 19(1), 63.
[8] https://www.sciroccoexchange.com/

**Figure 1. The SCIROCCO Exchange Maturity Model for Integrated Care**


## 1.2 Applying the Model: The SCIROCCO Tool

To facilitate the implementation of evaluations based on the SCIROCCO Maturity Model, an online self-assessment tool (OSAT) was designed, developed, and validated to appraise the level of readiness for integrated care of a defined territory, whether the territory is a county, region, country or organisations.

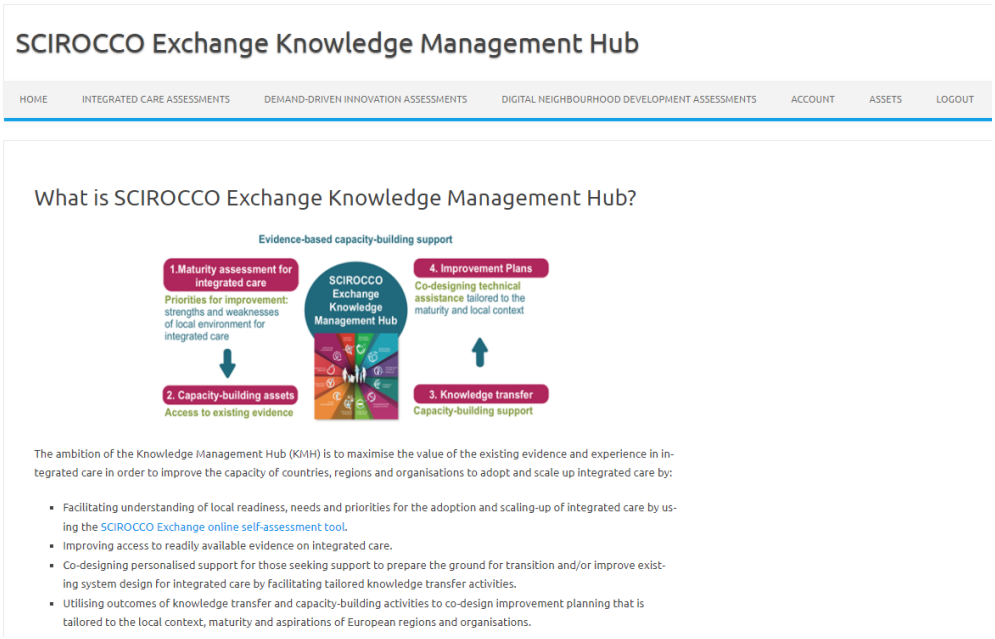
The SCIROCCO OSAT helps users to:

- Understand the strengths and weaknesses of their local, regional or national context for integrated care and inform policymakers about potential areas of improvement;
- Adopt and transfer integrated care good practices by identifying their maturity domains and requirements for the potential transferability and scaling-up;
- Facilitate multi-stakeholder dialogues on progress towards the implementation and delivery of integrated care;
- Support twinning and coaching activities that help territories and organisations to better understand the local conditions that enable the successful deployment of integrated care.

The OSAT has been operationalised through an open-access web-based application.[9] This software requires a simple registration process and provides users with free access to integrated care assessments.

[9] Scirocco Online Self-Assessment Tool: https://scirocco-exchange-tool.inf.ed.ac.uk/

Figure 2. The SCIROCCO Online Self-Assessment Tool




English is the default language used by the SCIROCCO community, but the web portal is also available in ten other languages: Dutch, Estonian, French, German, Italian, Lithuanian, Polish, Slovak, Slovenian and Spanish.

Since its original inception, the SCIROCCO tool has evolved to incorporate multiple features. It has been adapted to wider subject matters, such as demand-driven innovation and digital neighbourhood development assessments as part of the work on expanding the SCIROCCO Model and Tool: they are described in Chapter 5 of this report. Moreover, an asset finder - that belongs in the SCIROCCO Exchange Knowledge Management Hub - has been added, which allows users to search for and contribute with additional publications, as assets, related to each domain and level of maturity.

## 1.3 Expanding the Model and Tool: Objectives

Successful and multiple applications of the SCIROCCO Maturity Model and the Tool led to considering the expansion of SCIROCCO's approach to other fields where multi-dimensional maturity assessment could be beneficial.

The Description of Action of SCIROCCO Exchange envisaged the following two objectives under Work Package 9 "Scoping the expansion of the SCIROCCO Tool":

1. To scope the added value of expanding the SCIROCCO Maturity Model and its online self-assessment tool for integrated care to other areas of active and healthy ageing.
2. To validate and test the expanded SCIROCCO Maturity Model and its online self-assessment tool.

To achieve these objectives three tasks were articulated. They involved exploring the expansion of the SCIROCCO Maturity Model to other areas of active and healthy ageing,

applying the validated approach to the development and testing in those areas and providing guidance on the use of the expanded SCIROCCO Maturity Model and its online self-assessment tool.

The outcomes of this stream of work will ultimately contribute to increasing the outreach of the exploitation of the SCIROCCO Exchange project. They will feed directly into the SCIROCCO Knowledge Management Hub by providing capacity-building assets for its expansion to identified areas.

# 2 Identification of assets

As a first step in the expansion process journey, it was deemed necessary to identify the list of assets than could be subject to expansion and exploitation. By deconstructing the SCIROCCO Maturity Model and the Tool into assets, it was possible to imagine different modalities of expansion based on some modifications and adaptations. These assets have been developed in the course of designing the maturity model, developing the OSAT, and deploying it in different health system contexts. All the knowledge generated during these applications has contributed to the continuous improvement and evolution of the SCIROCCO Maturity Model and the Tool.

In this chapter, we provide a catalogue of assets classified in three types: content-based, process-based and format-based assets. Although these three categories are open to further expansion, the main focus of the current expansion work has been on the kinds of content-based assets that need to be reviewed when approaching a new field of application.

## 2.1 Content-based assets

Content-based assets are knowledge that is structured around or related to the definition and refinement of the SCIROCCO Maturity Model. They have been developed in SCIROCCO through the experience gathered in applications of the Tool in real settings. The following table lists and describes the different content-based assets of the original SCIROCCO Maturity Model.

**Table 1. Content-based assets**

| Asset | Description |
|---|---|
| **Assessment focus** | Measuring the level of maturity of integrated care in a defined territory. |
| **Domain structuring** | Twelve domains of assessment that provide a holistic view in the implementation of integrated care. The original model includes “Readiness to change”, “Structure and governance”, “Digital infrastructure”, “Funding”, “Process coordination”, “Removal of inhibitors”, “Population approach”, “Citizen empowerment”, “Evaluation methods”, “Breadth of ambition”, “Innovation management” and “Capacity building”. For each domain a description and objectives are provided. |
| **Assessment scales** | Maturity readiness levels are established by six-point Likert scales with their respective narrative ordered from lower to higher maturity level. |
| **Knowledge assets** | Background documents about integrated care models, health system conditions and reports derived from previous assessments can be part of the knowledge management assets collated in the OSAT. |
| **Community of users** | Current and past users of the Scirocco Model and Tool form the community of users, an unvaluable intangible knowledge asset, that - through exchange and feedback - contributes to improve, expand, and market Scirocco services and solutions. |

## 2.2 Process-based assets

Process-based assets capture the knowledge acquired during the process of implementing and applying the SCIROCCO Maturity Model and the Tool to different healthcare contexts and specifically in the nine European regions participating in the SCIROCCO Exchange knowledge transfer and improvement programme. Processes include the type of users, modalities of assessment, translation, localisation and validation, and supporting materials to streamline the implementation of self-assessments.

**Table 2. Process-based assets**

| Asset | Description |
|---|---|
| **Primary user** | Identification of who is the primary user is crucial for a successful implementation of the maturity assessment results for the ultimate recipient. Thereby, it is necessary to profile the primary user from a geographical, jurisdictional and functional perspective. |
| **Target audience** | Definition of the different stakeholders involved in the self-assessment process. |
| **Modalities of assessment** | Participation methodologies used to implement the assessment. The assessment can include virtual, in presence or hybrid modalities. Consensus-building workshops have been widely used to reach group agreements. |
| **Translation and localisation** | In most countries where English is not an official language, a translation of the domain objectives and assessment scales was undertaken to facilitate the participation of non-English speakers. In the translation process or with the original version, some modifications can be needed to localise the narrative to the implementation context. |
| **Validation** | The survey used by the original Scirocco Maturity Model was validated. Any modification of the structure and narrative of this model, including its partial or total translation, should go through a new survey validation. |
| **Guidelines** | Methods and guidelines developed to inform and support the implementation of self-assessment processes. |

## 2.3 Format-based assets

Format-based assets are drawn from the design and development of the SCIROCCO tool and provide service to the users through the web portal, the online self-assessment tool and the Knowledge Management Hub.

## Table 3. Format-based assets

| Asset | Description |
|---|---|
| **Web portal** | Official website where information about the Scirocco Maturity Model and access to the OSAT is made available to users. |
| **Online self-assessment tool** | Software application embedded in the web portal that allows users to carry out self-assessments, see the results in spider web charts, compare with other assessments, and visualize the level of consensus. |
| **Knowledge management application** | Software application embedded in the web portal where users can search and upload documents classified by domains and levels of maturity. |

# 3 Conceptualisation for expanding the SCIROCCO Maturity Model

It is important to describe the conceptualisation for the expansion of the SCIROCCO Maturity Model. Effectively, this represents the scoping of Model's potential expansion informed by the changes to the original scope over time. Steps involved in the investigation of actual expansion are all explained before a short overview of four possibilities for expansion is introduced with greater detail in the four scenarios featured in Chapter 5 of this report.

Background: The development of the SCIROCCO Maturity Model started out with the specific aim of developing a conceptual framework to understand state-of-art of European regions and countries in integrated care. With its use over time, other possible expansions of the Model's application became obvious. The expansion process involved a set of steps, which are called scenarios for the purpose of the SCIROCCO Exchange project.

The SCIROCCO Maturity Model had a specific intention when it was first designed. It was originally intended to self-assess the level of maturity of integrated care initiatives in given territories, such as communities, regions or countries. Health and care providers and managers were the stakeholders involved in this self-assessment process as they are the responsible personnel who work at different levels of integration of health and care services. Therefore, the initial primary area of assessment for the SCIROCCO Maturity Model was health and care integration, and the primary users and adopters of the Model were stakeholders who had a stake in the service delivery process.

Changes to the scope of expansion over time: The possible expanded application of the SCIROCCO Maturity Model was modified over time. Through the multiple, successful applications of the SCIROCCO Maturity Model and the Tool (hereafter 'SCIROCCO') in different healthcare system contexts, it became obvious that it could be expanded towards new domains of assessment that are closely related to integrated care. Examples included active and healthy ageing, health promotion and digital maturity for integrated care. Other forms of expansion also emerged and were supported and analysed in the context of this Work Package. It was also clear that the user base could be extended to new stakeholders that had not previously been involved in the process, like policymakers, technical staff and citizens.

Expansion process: Several steps were involved in the expansion process. As a first step in the expansion process of SCIROCCO, a conceptualisation of the potential uses was proposed; grounded in the experience of past applications, it showed that different avenues of approach could be taken. Four scenarios of expansion that combine two dimensions were identified: topic and type of user. Both dimensions are classified into two categories — incumbent and new.

These two categories benefit from a brief explanation. By an incumbent topic, we refer to the classic (existing or current) application of SCIROCCO to the field of integrated health and care. By way of new topics, we point towards other themes that can be related to integrated care, but do not necessarily constitute integrated care directly (as an example of

the latter, we offer e.g., demand-driven innovation in Chapter 5). By an incumbent user, we mean the types of stakeholder profiles that have participated in self-assessment processes of integrated care in the past or at present (like health care providers from different professional backgrounds, health care managers and service planners). Therefore, expansion to a wider set of users would entail the introduction of other profiles that belong to the supply or demand side of health and care services.

This conceptualisation can be represented by a two-by-two matrix. The matrix distinguishes between topic and user. As shown in the table below, it portrays four scenarios for expansion of SCIROCCO.

**Table 4. Expansion matrix with four scenarios**

| Topic and user dimensions | Incumbent user | New user |
|---|---|---|
| **Incumbent topic** | Drill-down expansion (1) | User expansion (2) |
| New topic | Topic expansion (3) | Full-blown expansion (4) |

The four scenarios can be referred to as Applications 1, 2, 3, and 4. More detail on these four scenarios is given below. They are then explored further in Chapter 5 of the report.

### Description of the four expansion scenarios

The first scenario, called "Drill-down expansion" results from applying a more in-depth exploration of each of the original 12 SCIROCCO domains (i.e., assessing the maturity of integrated health and care, and involving traditional users). This type of expansion was repeatedly suggested in previous assessments. Proposals were made that by drilling down in this manner, users would gain from exploring higher granularity in a particular domain: they would likely experience a continuation of a first general assessment that would then (later) explain the root causes of any discrepancies or identify more accurately any explaining factors. For instance, to gauge the digital maturity of integrated care it would presumably be necessary to delve into the "Digital infrastructure" domain in search of the level of development, adoption, and use of specific digital health tools. An illustration of a drill-down expansion on telemedicine services is provided in application 1.

In the second scenario, called "User expansion", the focus of integrated health and care interventions remain, and the original programme of activities is unaltered; however new user profiles are introduced. Adding new perspectives in the self-assessment process enables further insights into the experience, and new sources of discrepancies that can be tackled by the initiators of an integrated care experience. A clear example of user expansion is the involvement of recipients of care such as patients, citizens or informal caregivers. The user expansion scenario is illustrated through the application 2 on integrated care in nursing homes.

The third scenario, called "Topic expansion", consists of extending the use of SCIROCCO to different themes from integrated health and care that may even be unrelated to the original integrated care field. There are two major reasons for expanding in this new direction: the Tool's range and its flexibility. On the one hand, the SCIROCCO Maturity Model has aroused interest in the scientific community and in other fields of practice, such as the management of public services because of its comprehensiveness. On the other hand, the experience gained in the development and applications of the SCIROCCO Tool has been incorporated into its design so that it can remain as flexible as possible. This flexibility allows new requirements to be addressed (such as altering — by enlarging or by reducing — the number of domains, and the grades of the maturity scale). An illustration of the topic expansion is featured in application 3 about open innovation in municipalities.

Finally, the fourth scenario, called "Full-blown expansion", combines expansion in both directions, i.e., it addresses both a new topic and involves new types of users. In this scenario, the SCIROCCO Maturity Model and the Tool shows its entire range of potential and flexibility. This option is especially relevant for future possible exploitations of SCIROCCO. In this case, as an example, we refer to its use in digital neighbourhood development described in application 4.

# 4 Methodology and process for expansion

It was important for SCIROCCO Exchange to work with a deliberate methodology that could help explore the process of expansion of its Model and Tool. This methodology is explained here.

Process: The development of an expansion methodology was an iterative process. It was refined with new applications and the experience gained during their implementation. First, the scenarios for expansion were conceived and mapped out. Second, a common methodological approach was used to inform and guide the application of each of the four expansion scenarios.

The project consortium has developed a set of fundamental observations on how to use the SCIROCCO Exchange tool for integrated care. It has transformed them into guidelines and coaching on how to expand it and use adapted/refined versions.

Guidelines: Every time the SCIROCCO Exchange Model and Tool is adopted for a self-assessment process, recurrent questions arise. To ease the implementation process, the SCIROCCO Exchange consortium has developed a range of educational materials that assist new adopters and streamline the process of applying the Model and the Tool. They include documentation such as the description of the SCIROCCO Exchange Maturity Model[10], the SCIROCCO Exchange Tool User Guide[11], the SCIROCCO Exchange Tool Facilitator Guide[12], and translations of the English version of the Maturity Model into ten other languages (Dutch, Estonian, French, German, Italian, Lithuanian, Polish, Slovakian, Slovenian, and Spanish). Multi-media materials and recordings of educational and dissemination sessions are offered on the project's website and YouTube channel[13].

Coaching: The different expansion experiences of the SCIROCCO Exchange model and tool for integrated care initially required coaching to explain the Model's structure, logic and method (how the online self-assessment tool is used). In particular, the challenge of expanding the Tool to a different topic or new user-base has needed additional support to be offered to SCIROCCO Exchange adopters (who act as the basis for the development and refinement of the expansion methodology).

An eight-step process: An eight-step process was developed to assist expanders ("expanders" for the purpose of the project – "people who are working to or helping to expand the SCIROCCO Exchange tool"). It is a stepwise approach. The process helps to simplify the process of understanding, definition and implementation of the SCIROCCO Exchange Model to a new assessment. Around 20 questions needed to be posed to expanders. Each step in the process is accompanied by a number of questions that assist adopters to prepare for the expansion process. In the table below, a description of each of the eight steps is accompanied by 2-4 relevant questions.

[10] https://www.sciroccoexchange.com/uploads/SCIROCCO-Exchange-Maturity-Model-v1.0-13.06.2019.pdf
[11] https://www.sciroccoexchange.com/uploads/SCIROCCO-Exchange-Tool-User-Guide-V1.0.pdf
[12] https://www.sciroccoexchange.com/uploads/SCIROCCO-Exchange-Tool-FacilitatorGuide-V01.0.pdf
[13] https://www.youtube.com/channel/UCYTx-n2i5hdgZT6LhQ-5FJA/featured

### Table 5. Eight-step methodology for expansion

| Steps | Description | Questions |
|---|---|---|
| 1 | Identify the scope and purpose of the expansion | Q1. What is the main objective of using and adapting the Scirocco model and tool?<br>Q2. What is the theme to be explored?<br>Q3. Which is the geographical context where the application will take place? |
| 2 | Specify objectives and needs for the expansion | Q4. Which are the specific objectives of the self-assessment process?<br>Q5. Which are the specific requirements to apply the Scirocco Model and Tool in this context? |
| 3 | Identify stakeholders participating in the assessment | Q6. Who is the primary user of the expansion of Scirocco to this area or topic?<br>Q7. Who else will be using the model and tool?<br>Q8. Approximately, how many people will participate in the self-assessment process? |
| 4 | Select the type of use (single, continued) | Q9. How many times do you want to run the assessment? Once or more times?<br>Q10. Are you planning to measure progress after the first assessment? |
| 5 | Co-design the adaptation of the model: dimensions and maturity scales | Q10. How many domains are you willing to assess?<br>Q11. What are the titles and narratives of each domain?<br>Q12. How many levels do you want to use in the maturity scale?<br>Q13. What are the descriptions for each maturity level and domain? |
| 6 | Translation, localisation and validation of the tool | Q14. Do you plan to translate the Model into another language?<br>Q15. Would the results of the assessment require a validated survey? |
| 7 | Implement the expansion | Q16. Do you plan to capture individual or group responses?<br>Q17. Will assessments be conducted face-to-face or virtually? |
| 8 | Evaluation of the implementation and outcomes | Q18. Are you interested in assessing the implementation process?<br>Q19. How do you envisage to use the results of the assessment?<br>Q20. Do you plan to produce a scientific report of the assessment? |

Steps in the expansion process: All eight of the steps involved in the expansion process are described below.

#### Step 1. Identify the scope and purpose of the expansion

The first step consists of identifying the scope and purpose of the expansion answering questions such as:

- Q1. What is the main objective of using and adapting the SCIROCCO Exchange model and tool?

- Q2. What is the theme to be explored?
- Q3. Which is the geographical context where the application will take place?

From these three questions, the topic dimension should be decided from among three options: exploration of one of the 12 original SCIROCCO Exchange domains, general assessment of integrated health and care, or a new theme.

**Step 2. Specify objectives and needs for the expansion**

This second step aims for the expanders to state the specific objectives of the assessment and the resulting needs for the expansion in terms of the implementation process.

The two questions to respond to are:

- Q4. Which are the specific objectives of the self-assessment process?
- Q5. Which are the specific requirements to apply the SCIROCCO Exchange Model and Tool in this context?

**Step 3. Identify stakeholders participating in the assessment**

The user dimension (i.e., of stakeholders) is clarified through this third step. Step 3 leads to three outcomes: It enables insights into the main users of the assessment. It provides a rough estimate of the number of people who will participate in the self-assessment process. It helps to establish the complexity of its implementation. An overview of the types of expansion emerges from combining the answers to the third step with the ones collected in the first step.

The three questions to respond to are:

- Q6. Who is the primary user of the expansion of the SCIROCCO Exchange tool for integrated care to this particular area or topic?
- Q7. Who else will be using the model and tool?
- Q8. Approximately, how many people will participate in the self-assessment process?

**Step 4. Select the type of use (single, continued)**

The fourth step provides for some options. How the self-assessment process is conducted may differ due to the scope, purpose, and objectives set in steps 1 and 2.

Single versus continued use of the tool: Usually there are two different types of use: single and continued. A single use is appropriate for a static assessment: a static assessment usually evaluates the current situation or level of maturity and allows a comparison to be made between different organisations or territories. A continued use is defined when what people want to observe is the evolution over time rather than at a single point in time. This second (continuous) approach is necessary when the first assessment is followed by an intervention whose effects need to be monitored and checked over time. In this second case, several assessments will take place over different time-periods. Eventually, it will be possible to establish measures for progress or regression in addition to any cross-sectional comparisons between territories.

The two questions to respond to are:

- Q9. How many times do you want to run the assessment? Once or more times?
- Q10. Are you planning to measure progress after the first assessment?

### Step 5. Co-design the adaptation of the model: dimensions and maturity scales

Once the respondents have identified the topic, users, and type of use, the adaptation process starts.

Length of time and complexity of co-design: Based on experience within the Scirocco Exchange project, adaptation of the model is a time-consuming process: it requires several iterations among the adopters to decide on the number of dimensions that will be assessed and the maturity scales (both in terms of the number of maturity levels and the narrative for each dimension and scale). There have been several examples of teams that have started with high-level ambitions about renaming the entire original model and/or vastly re-designing it. The scale of these ambitions has generally, however, been scaled back to a more practical and pragmatic approach, following discussions. Hence, instead, a practical approach of reusing what has worked in previous Scirocco assessments is highly recommended and can save a fair amount of time.

The four questions to respond to are:

- Q10. How many domains are you willing to assess?
- Q11. What are the titles and narratives of each domain?
- Q12. How many levels do you want to use in the maturity scale?
- Q13. What are the descriptions for each maturity level and domain?

### Step 6. Translation, localisation and validation of the tool

Translation into local language(s) and localisation: In addition to the efforts needed for deciding and describing the number of domains and maturity levels, a translation to the local language and/or localisation (adaptation of local terminology) might be needed. This translation has consequences in terms of validation.

A validation process was undertaken to demonstrate structural validity and internal consistency of the (original) SCIROCCO model.[14] Any (future) modification of the original model would require a new validation, especially if the model's wording is translated into another language. Validating a questionnaire is a time-consuming process that can deter its adoption and implementation. Therefore, this option remains at the adopters' discretion (in relation to the intended use of the assessment results and how robust they need them to be e.g., if they wish to produce a scientific publication based on a validated tool.

The two questions to respond to are:

- Q14. Do you plan to translate the Model into another language?
- Q15. Would the results of the assessment require a validated survey?

### Step 7. Implement the expansion

Implementing the expansion entails many aspects that differ from case to case and are related to local and organisational circumstances. Each expansion needs an individualised implementation process in accordance with the main objectives and resources available for the implementation. Alternative modes of implementation can be applied by the expanders:

[14] Grooten L, Vrijhoef HJ, Calciolari S, Ortiz LG, Janečková M, Minkman MM, Devroey D. Assessing the maturity of the healthcare system for integrated care: testing measurement properties of the SCIROCCO tool. BMC medical research methodology. 2019 Dec;19(1):1-0.

these include individual or collective self-assessments, face-to-face or virtual sessions, and synchronous or asynchronous application/implementation.

The questions to respond are:

- Q16. Do you plan to capture individual or group responses?
- Q17. Will assessments be conducted face-to-face or virtually?

Hybrid or virtual use of the SCIROCCO tool: Thanks to the availability of the online self-assessment tool, SCIROCCO has been shown to support both hybrid (part-physical) and virtual assessments during the 2020-2021 episodes of the COVID-19 pandemic outbreaks.

**Step 8. Evaluation of the implementation and outcomes**

The final step in the expansion process is the evaluation of the implementation and results. Visual representations like the SCIROCCO's spider diagrams and the distribution of responses are powerful tools to help in exploiting the results of the assessment. Tabular data is also available to enable further statistical analysis.

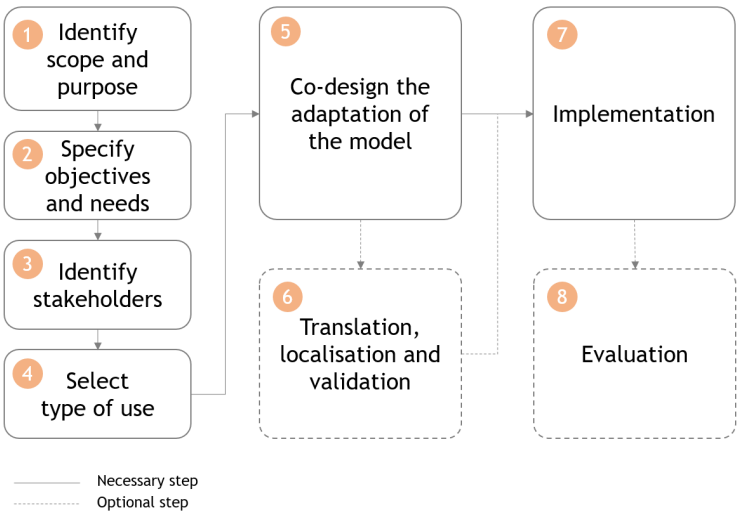
The three questions to respond to are:

- Q18. Are you interested in assessing the implementation process?
- Q19. How do you envisage to use the results of the assessment?
- Q20. Do you plan to produce a scientific report of the assessment?

Evaluation outcomes can contribute to improve the implementation process and eventually become new knowledge assets that could be added to the SCIROCCO Exchange Knowledge Management Hub and / or other repositories (e.g., IFIC's Knowledge Tree), be published as organisational and scientific literature or be used in a pan-European or an international endeavour in the future.

Having explored the eight steps in the expansion process, they are shown in tabular format with an indication of which seven steps are necessary and which one is optional.

**Figure 3. Flow diagram of the expansion process**




All the information gathered through this expansion methodology will help both the adopter and implementer to accommodate the SCIROCCO Model and Tool to the specific needs of the

expansion. To illustrate this process, chapter 5 describes four examples of each of the expansion scenarios that were initially introduced in chapter 3.

# 5 Expansion applications

Development of a testbed: During the course of the SCIROCCO Exchange project, several initiatives have considered using SCIROCCO tool in a way that goes beyond ('expands') the conventional SCIROCCO approach of self-assessment of integrated health and care maturity. These initiatives have, therefore, acted as a testbed for the extension of the SCIROCCO tool for integrated care; they have led to a process of improvement and refining of the methodology for expansion taking place within the course of the SCIROCCO Exchange project.

This chapter showcases four initiatives that illustrate the four modes of expansion that were briefly described in chapter 3. For each scenario, an initiative is presented, and the process of adaptation described. Reflections are offered on how the expansion process has been affected by the COVID-19 pandemic. The lessons learned during the expansion process are distilled in two ways: both from the perspective, first, of the adopter and, second, the changes needed in the original model and tool.

**Table 6. Examples of expansion by type**

| Applications | Expansion type | Examples |
|---|---|---|
| 1 | Drill-down expansion | Scaling-up telemedicine |
| 2 | User expansion | Integrated care in nursing homes |
| 3 | Topic expansion | Open innovation (ACSELL) |
| 4 | Full-blown expansion | Digital neighbourhood development |

## 5.1 Drill-down expansion: Scaling-up telemedicine

Today's adoption of telemedicine services differs from those adopted historically. During the COVID-19 pandemic, there was a significant expansion of telemedicine services as an alternative to face-to-face healthcare encounters, thereby improving safety for both patients and healthcare professionals. This unparalleled level of adoption of a specific eHealth solution contrasts with the difficulties of deploying and scaling-up telemedicine services experienced in the past, when many pilot projects simply faded away.[15]

The scope and purpose of this drill-down expansion for telemedicine scale-up was to explore the conditions needed to deploy telemedicine as a digitally-enabled service that increases accessibility and improves coordination and integration of care.

Background: In 2015, the Competitive and Innovation Programme thematic network project European MOMENTUM for Mainstreaming Telemedicine Deployment[16] produced a blueprint for how to successfully scale up telemedicine projects. The MOMENTUM blueprint provides

[15] Consumer adoption of telemedicine in 2021. Rock Health. December 13, 2021https://rockhealth.com/insights/consumer-adoption-of-telemedicine-in-2021/
[16] Telemedicine MOMENTUM: http://telemedicine-momentum.eu/

a set of guidelines and indicators based on 18 critical success factors that were identified by analysing 30 telemedicine services.

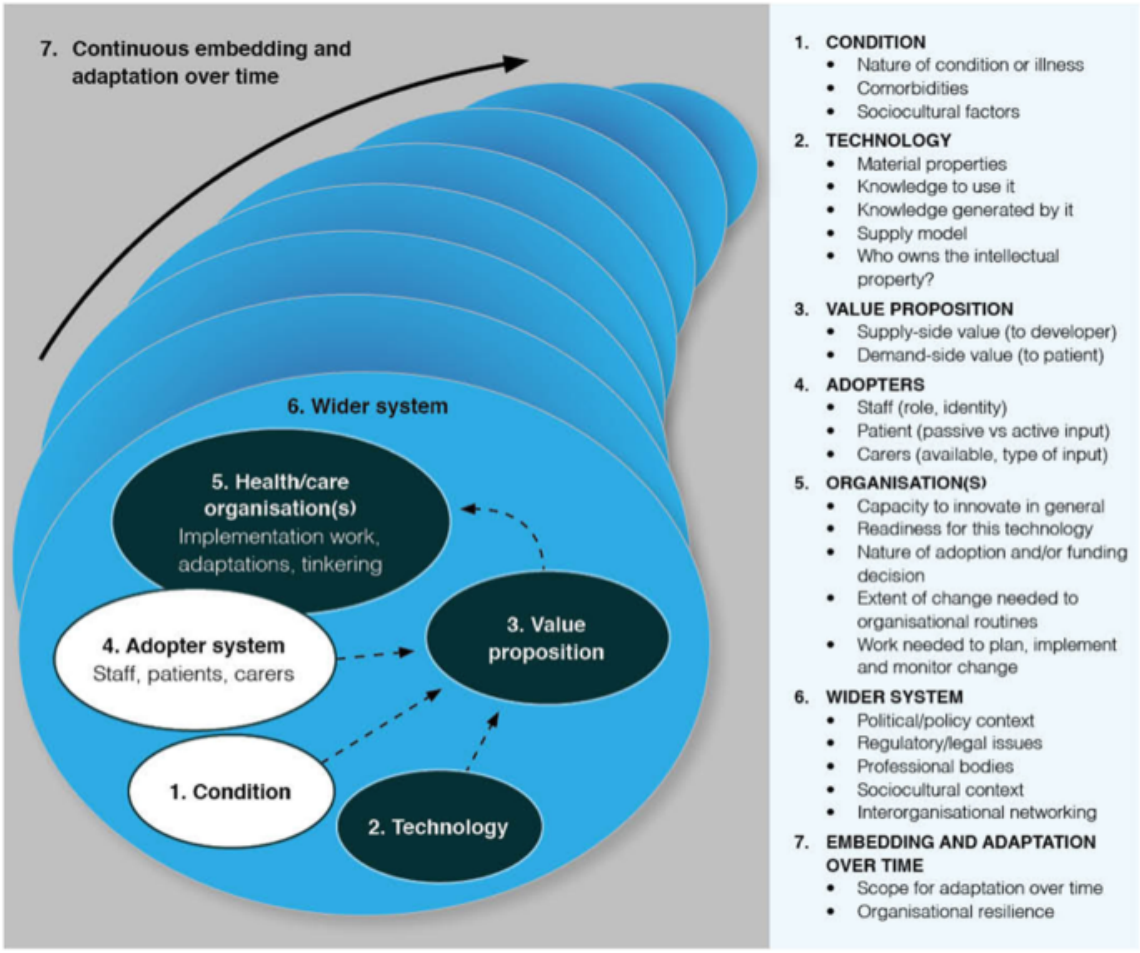
To make the MOMENTUM blueprint even more practical and ready for use, the MOMENTUM guidelines were combined with the Telemedicine Readiness Self-Assessment Tool (TREAT). Hence, the MOMENTUM-TREAT toolkit is composed of the 18 critical success factors mentioned, accompanied by performance indicators, and displayed in the format of an online questionnaire. The indicators measure to what extent each success factor is present in a particular telemedicine setting. The results of the survey produced by MOMENTUM-TREAT are processed electronically and serve as the basis for a facilitated workshop, at which all the key stakeholders in a telemedicine setting meet up. The workshop activity is designed to help them achieve consensus on gaps, potential barriers, and an agreed action plan for deploying the telemedicine service. The MOMENTUM-TREAT toolkit was used successfully in a United4Health project setting in Kristiansand, Norway[17] and at a national level in Scotland.

Developing a digital maturity instrument for integrated care was envisaged as one area of special interest for the expansion of SCIROCCO Exchange tool. Measuring the maturity of digital health has been approached from a technological and implementation perspective by a variety of initiatives that can act as inspiring sources for further expansion of the Tool. Three examples follow, the NASSS (non-adaptation, abandonment, scale-up, spread and sustainability) Framework, the HIMSS Digital Health Indicator and the Telemedicine Community Readiness Model (TCRM).

Three examples of inspiration for expansion of the SCIROCCO Exchange tool in the field of telemedicine/technology: For instance, the NASSS framework, on technology implementation, consists of seven domains and corresponding sub-domains: the domains generate a narrative about the complexity involved in the implementation of technology solutions by focusing on the causes of non-adoption and abandonment of technologies, and the challenges to scaling up, spreading and sustaining innovation.[18]

[17] United4Health: http://www.united4health.no/information-in-english/
[18] Greenhalgh T, Abimbola S. The NASSS framework-a synthesis of multiple theories of technology implementation. Stud Health Technol Inform. 2019 Jul 30;263:193-204.

**Figure 4. NASSS framework**

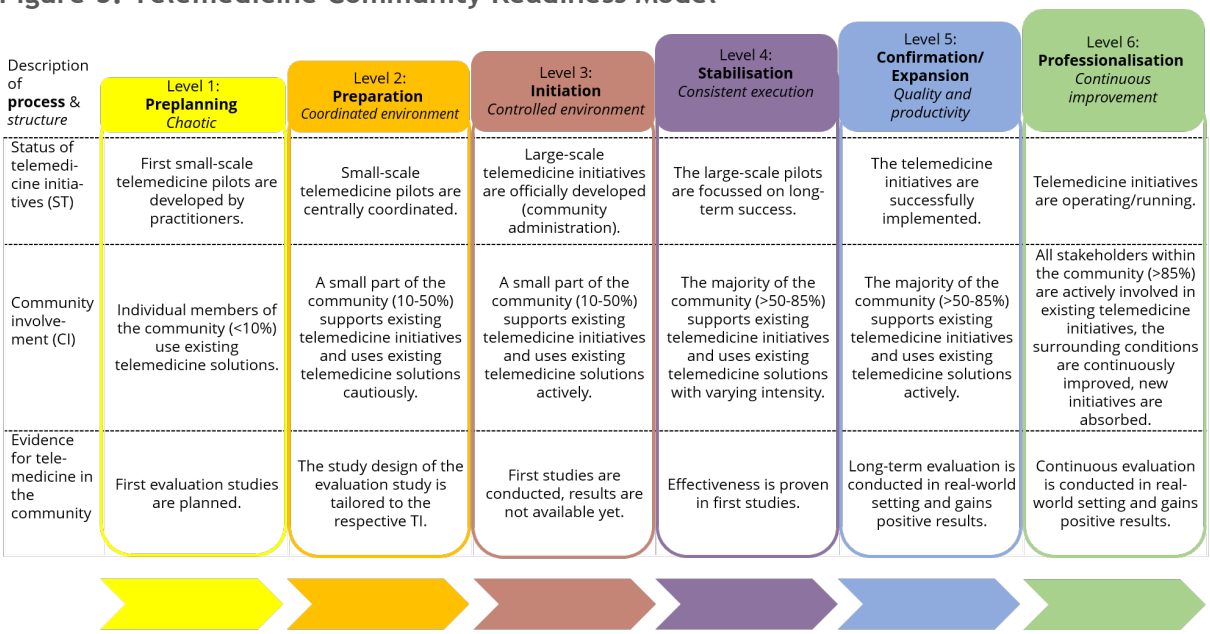



In terms of digital health, the professional society, HIMSS, has developed a Digital Health Indicator[19] as a consolidation of its family of maturity models that include the Electronic Medical Record Adoption Model (EMRAM) and the Continuity of Care Maturity Model (CCMM). These models share a technological approach, and do not take into consideration the contextual conditions of implementation (in contrast, context plays an important role in MOMENTUM-TREAT) with the exception of the Digital Health Index that includes the governance dimension.

Also, in contrast and with a focus on context/community, the Telemedicine Community Readiness Model (TCRM) developed by researchers at the Technical University of Dresden supports health care actors in determining the requirements for a successful telemedicine implementation. The model is based on barriers and success factors for telemedicine identified in the literature and is structured in six levels of deployment maturity that span from preplanning to professionalisation.[20]

[19] HIMSS Digital Health Indicator: https://www.himssanalytics.org/DHI
[20] Telemedicine Community Readiness Model: http://care4saxony.de/?page_id=3837#zp-ID-3837-1908008-TIKNDGEY

## Figure 5. Telemedicine Community Readiness Model




A focus on the expansion of SCIROCCO Exchange tool by drawing on MOMENTUM: Against this backdrop of telemedicine deployment maturity models, any (future) practical tool aimed at assessing the maturity of telemedicine services in support of integrated care would benefit from the knowledge developed in the MOMENTUM project. The eventual proposition would be to drill down in more depth into the domain of the SCIROCCO Model that is dedicated to digital infrastructure.

In the interim, this implies moving from the 18 critical success factors for deploying and scaling up telemedicine to the 12 domains structure of SCIROCCO Model. A first attempt at matching MOMENTUM's 18 critical success factors to the 12 domains of SCIROCCO Model domains is presented in Table 7.

### Table 7. Matching MOMENTUM critical success factors to SCIROCCO Model domains

| N | MOMENTUM critical success factors | SCIROCCO Model domains |
|---|---|---|
| 1 | Ensure **cultural readiness** for the telemedicine service | Readiness to change |
| 2 | Come to a consensus on the advantages of telemedicine in meeting **compelling needs** | Breadth of ambition |
| 3 | Ensure **leadership** through a champion | Structure and governance |
| 4 | Pull together **resources** needed for deployment | Funding |
| 5 | Address the **needs** of the primary client | Citizen empowerment |
| 6 | Involve healthcare **professionals and decision-makers** | Capacity building |
| 7 | Prepare and implement a **business plan** | Innovation management |

| N | MOMENTUM critical success factors | SCIROCCO Model domains |
|---|---|---|
| 8 | Prepare and implement a **change management** plan | Removal of inhibitors |
| 9 | Put the **patient** at the centre of the service | Citizen empowerment |
| 10 | Assess the **conditions** under which the service is legal | Structure and governance |
| 11 | Involve legal and **security experts** | Structure and governance |
| 12 | Identify and apply relevant legal and **security guidelines** | Process coordination |
| 13 | Ensure that telemedicine doers and users are **"privacy aware"** | Citizen empowerment |
| 14 | Ensure that the appropriate information technology infrastructure and eHealth infrastructure are **available** | Digital infrastructure |
| 15 | Ensure that the technology is **user-friendly** | Citizen empowerment |
| 16 | Put in place the technology and processes needed to **monitor** the service | Evaluation methods |
| 17 | Maintain good **procurement** processes | Process coordination |
| 18 | Guarantee the technology has the potential for **scale-up** | Digital infrastructure |

Overall, the critical success factors fit acceptably well into the smaller number of the SCIROCCO Model domains. Several observations can be made about the comparison of the structure and content of the two models. Only the domain "Population approach" is orphaned and has no comparable 'home' in the MOMENTUM-TREAT model. Four domains of SCIROCCO Model capture more than one critical success factor. The four are: "Structure and governance" that includes factors related to leadership and legal aspects of implementing telemedicine services; "Digital infrastructure" that encompasses availability and potential for scale-up; "Process coordination" that includes security guidelines and procurement processes; and "Citizen empowerment" that brings together a number of different factors such as user needs, usability, privacy awareness, and patient-centredness.

For the adaptation of MOMENTUM to the SCIROCCO tool two actions were required:

- to transform questions into maturity scales through a form of conciliation in the cases of those domains that can be aligned with multiple critical success factors.
- to address the single, orphaned domain, a new category that handles legal and security is proposed.

The resulting matching process and the modifications to the original model are presented in the following table. Three domains (highlighted in green) have been renamed to capture the essence of the original wording used in MOMENTUM model.

### Table 8. Adapted model for telemedicine maturity assessment

| N | Original SCIROCCO model | Adapted model for telemedicine | Associated critical success factors |
|---|---|---|---|
| 1 | Readiness to change | Readiness to change | Cultural readiness |
| 2 | Structure and governance | Leadership and governance | Leadership |
| 3 | Digital infrastructure | Digital infrastructure | Availability, potential for scale-up |
| 4 | Funding | Funding | Resources |
| 5 | Process coordination | Process coordination | Procurement processes |
| 6 | Removal of inhibitors | Removal of inhibitors | Change management |
| 7 | Population approach | Legal and security approach | Legal conditions, involvement of legal and security experts, application of legal and security guidelines |
| 8 | Citizen empowerment | Patient-centredness | Needs, usability, privacy awareness |
| 9 | Evaluation methods | Evaluation methods | Service monitoring |
| 10 | Breadth of ambition | Breadth of ambition | Compelling needs |
| 11 | Innovation management | Innovation management | Business plan |
| 12 | Capacity building | Capacity building | Involvement of healthcare professionals and decision-makers |

The next step investigated in this expansion process was to develop the maturity scales for each of the 12 domains. Based on the questions developed in the MOMENTUM model which are expressed as either multiple or binary choices, a readaptation process was developed. As a single example of this process, the next table represents the maturity scale for the "Readiness to change" domain.

### Table 9. Assessment scale for Readiness to change

| Maturity level | Description |
|---|---|
| 0 | There is no cultural readiness to embrace technology enabled care |
| 1 | An underpinning organisational culture embraces technology enabled care adoption |
| 2 | Patients and healthcare professionals are ready to use ICT tools (e.g., computers, tablets, mobile phones). |
| 3 | Doctors and other healthcare professionals are ready to share clinical information with each other and with the patient and there is a level of trust among all the stakeholders. |
| 4 | An underpinning culture welcomes and even promotes change, innovation and shows openness to new ideas. |
| 5 | Financial and other incentives are aligned with the telemedicine service to be deployed. |

Completing the maturity levels for each of the 12 domains of the adapted model is the step forward before testing the model in a concrete context.

## 5.2 User expansion: Integrated care in nursing homes

Catalonia in Spain has been used as an example case to investigate the use of the SCIROCCO tool applied to integrated care in care homes, with new user profiles (technical staff). A further user expansion case in Estonia was also explored, with policymakers, but is not described in detail here (see, however, section 5.5).

Background: Integrated health and social care in care homes is a policy priority in Catalonia, Spain. During the two previous years of COVID-19 pandemic (2020-21), the impact on people in care homes has been massive in terms of incidence, hospitalisation, and ultimately mortality — 40% of all care home deaths have been due to COVID. As a result, a great effort was made by the Catalonian health and social care system to provide an appropriate response to care homes' needs, by combining the responsibilities of health and social care teams that are managed by two different departments (the Department of Health and the Department of Social Affairs).

The Department of Health and the Department of Social Affairs agreed to conduct a maturity assessment of integrated care in care homes. They adopted the SCIROCCO Exchange Model and Tool and had three objectives: (1) evaluate the current maturity level and readiness for integrated care in care homes in different territories in Catalonia; (2) identify grassroot innovations for improving integration of health and social teams in care homes; (3) compare 18 different geographical areas.

From April to June 2021, more than 190 professionals took part in this self-assessment process, representing 18 Catalonian territories. Among the participants, new profiles were included (in addition to those which have been classically covered by SCIROCCO — it is this profile extension which counts as the "user expansion"). Two examples of new profiles included technical staff from both departments and territory focal points for social care. Professional profiles of respondents ranged across at least 12 different occupational fields: hospital care, primary care, nursing homes care, emergency services, intermediate care, health commissioners, county health authorities, public health, social services authorities, social affairs territorial delegates, residential social carers and social care services.

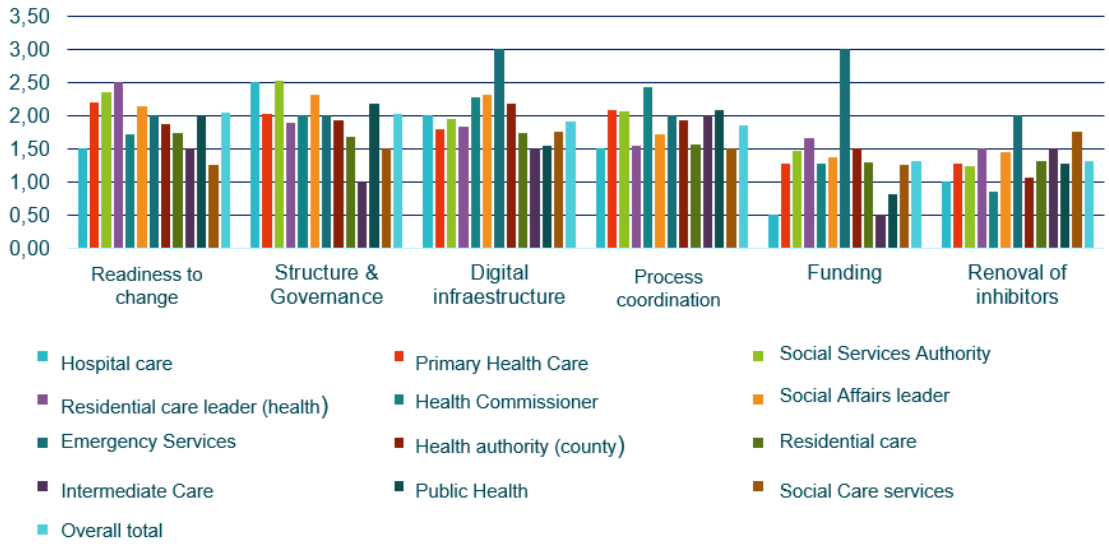
The analysis consisted of two separate self-assessments: one took place prior to the start of the pandemic, and a second occurred in the course of the current health situation — it was complemented by local consensus sessions which provided a quantitative appraisal.

Steps in the expansion process and results: A first step in the expansion process was to adapt the SCIROCCO Model for integrated care to the context of care homes in Catalonia. This process was undertaken by linguistic translation of the original model so as to change the accompanying narrative according to the context to be assessed. Domains and maturity scales were, however, respected and maintained: this indicates the adaptability of the SCIROCCO Model to assess the maturity of integrated care in nursing homes.

According to the results, all domains improved from the pre-pandemic situation (in 2020) to the contemporary situation (in 2021). The scores displayed in the figure below relate to

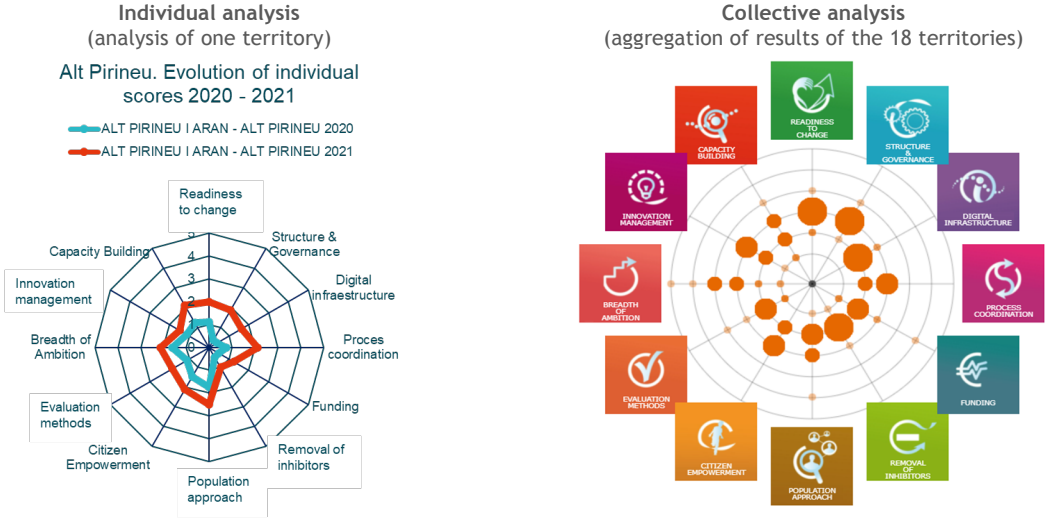
2021. Four domains experienced a higher degree of improvement: they were Structure and Governance, Readiness to Change, Digital Infrastructure and Process Coordination.

**Figure 6. Average scores by professional profile in 2021**




Profiling of users provided further insights in how maturity levels and progress were perceived by different players across domains. Local consensus meetings, conducted online, convened together all the participants; they were given information based on the specific territorial assessment results.

**Figure 7. Individual and collective comparative**



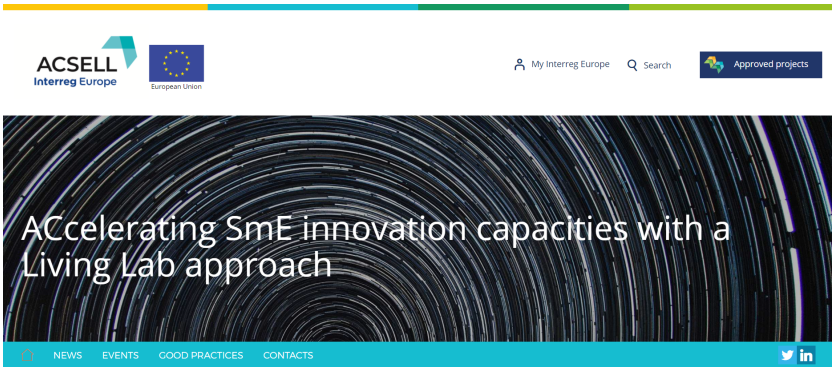

## 5.3 Topic expansion: Demand-driven innovation

This third type of expansion focuses on open innovation in local contexts — which was the fruit of collaboration with the Interreg Europe project, Accelerating SME innovation

capacities with living lab approach (ACSELL)[21]. The description of this expansion covers the background to the expansion, the stakeholders involved, the adaptation process itself, and the adaptation results. Complementary detailed materials are included in Annex 2.

Background: ACSELL project aims to point decision-makers, innovation intermediaries and SMEs towards the benefits of demand-driven product and service development and accelerate SME innovative capacities through a living lab approach.[22] Hence, the topic and context of this expansion of the SCIROCCO Model for Integrated Care differs from the traditional SCIROCCO assessment themes focusing on integrated care: instead, it introduces a policy framework to support user-driven innovation. Figure 8 illustrates the look-and-feel of the ACSELL web portal.

**Figure 8. ACSELL web portal**




A range of different stakeholders took part in the assessment process including local authorities, academic institutions, living labs, innovation agencies, SMEs and user representatives. The assessment was conducted in seven regions from three different countries — Belgium, Italy and Romania— during a period between March and June 2020.

According to the ACSELL project proposal, it was foreseen to adapt the SCIROCCO Exchange Maturity Model for integrated care and its online self-assessment tool to the specific context of strengthening SMEs capacities and their use of Living-Lab methods. As ACSELL focuses on innovation in the health and care domain, digital health and care innovation are two domains feasible for open innovation.

Therefore, certain parts and dimensions of the existing SCIROCCO Maturity Model could be used by ACSELL for two purposes, in order (1) to get a better picture of the (regional) context/readiness for the uptake of innovation in health and care systems, and (2) to allow for better and easier comparison with already existing SCIROCCO Exchange assessments. To enable new dimensions to be added, that address primarily SMEs and Living Lab issues, while keeping the adapted Maturity Model as short as possible at the same time, some dimensions that focus very much on integrated care had only to be replaced, merged or otherwise adapted.

[21] ACSELL: https://www.interregeurope.eu/acsell/
[22] ACcelerating SmE innovation capacities with a Living Lab approach: https://keep.eu/projects/21529/ACcelerating-SmE-innovation-EN/

The adaptation process reviewed the original domains of SCIROCCO Maturity Model and identified three domains which required further modification: Digital Infrastructure was renamed as Innovation Infrastructure; Population Approach to Demand-Driven Approach; and Citizen Empowerment to User Empowerment.

**Table 10. Adaptation of Scirocco domains to open innovation**

| N | Original | Adaptation | Changes |
|---|---|---|---|
| 1 | Readiness to change | Readiness to change | Unchanged |
| 2 | Structure and governance | Structure and governance | Unchanged |
| 3 | Digital infrastructure | Innovation infrastructure | Adapted |
| 4 | Process coordination | Process coordination | Unchanged |
| 5 | Funding | Funding | Unchanged |
| 6 | Removal of inhibitors | Removal of inhibitors | Unchanged |
| 7 | Population approach | Demand-driven approach | Adapted |
| 8 | Citizen empowerment | User empowerment | Adapted |
| 9 | Evaluation methods | Evaluation methods | Unchanged |
| 10 | Breadth of ambition | Breadth of ambition | Unchanged |
| 11 | Innovation management | Innovation management | Unchanged |
| 12 | Capacity building | Capacity building | Unchanged |

Annex 2 contains the results of the adaptation process to demand-driven innovation with objectives and assessment scales descriptions. It is publicly available on the SCIROCCO Exchange website[23] No specific validation process of the resulting model and narrative was undertaken by ACSELL.

[23] Demand-Driven Innovation in Health and Social Care: https://www.sciroccoexchange.com/uploads/ACSELL_OSAT_SCIROCCO_Adaptation-Final-15.04.2020.pdf

**Figure 9. Visual representation of the adapted SCIROCCO Model to demand-driven innovation**


### Lessons learned

Four main lessons were learned by applying the SCIROCCO Model to the SME and living lab context.

- ACSELL project partners reported that the adaptation of the SCIROCCO Maturity Model to the open innovation context was relatively easy because the use case was well defined.
- Expanding the SCIROCCO Model to ACSELL was not perceived to be a difficult process. The original structure of 12 domains covered the areas to be assessed. Minor adaptations were needed in the domains related to Digital Infrastructure, Population Approach and Citizen Empowerment. Adopters opted to rename and modify the narrative associated with these three domains to “Innovation Infrastructure”, “Demand-driven Approach”, and “User Empowerment”.
- A clear scoping exercise that set the boundaries of the assessment, and was defined by the ACSELL Consortium, was deemed helpful. The adaptation process was conducted by the ACSELL project consortium, with support from SCIROCCO Exchange’s project members (Scottish Government and University of Edinburgh).
- External stakeholders provided support to check and validate the various versions of the model before implementing the self-assessment.

The findings show the ease of application and expansion of the SCIROCCO Exchange Model; the need for a clear scoping exercise; and the benefits that come from the inclusion of external stakeholders.

## 5.4 Full-blown expansion: Digital neighbourhood development

The application of the fourth and most challenging type of expansion supported the development of a Maturity Model for digitally supported Neighbourhood Development

(MMND). It was developed in the context of the "Technik im Quartier"[24] project — technology in the neighbourhood — funded through the Interreg V Programme "Alpenrhein Bodensee Hochrhein", led by HS Furtwangen.[25]

Based on the SCIROCCO Maturity Model for integrated care, the expansion aimed to measure community-based networking and to identify strengths and gaps in community work and networking in a neighbourhood. Although neighbourhood development also includes aspects of integrated care, it goes beyond including especially aspects regarding to social mobilisation of the neighbourhoods.

**Figure 10. Dimensions of the maturity model for digital neighbourhood development**


Co-responsibility, joint decision-making, solidarity and reciprocity play an important role in the neighbourhood concept. The empowerment of all citizens to live independently and to participate in social activities in the neighbourhood is a key issue. Therefore, sustainable neighbourhood development projects aim to promote inclusion of disadvantaged groups, such as people with low health literacy or poor language skills, socio-economically disadvantaged people, and older people with support needs or limited mobility. In this case, both the topic and the users were entirely new. The use of information and communication technologies (ICT) as a tool for community work can help to better coordinate and consolidate social networks and to integrate people who are no longer able to participate fully in social life e.g., due to restrictions on their mobility. In addition, ICT tools can help to better organise the care of people in need of support so that they can live at home for as long as possible. The intergenerational use of technology also has the potential to narrow or to close gaps in health care by mobilizing and using existing social resources and drawing on the digital skills of alternative groups of people.

The adaptation of the dimensions as well as the associated evaluation scales were carried out in cooperation with experts and stakeholders involved in ongoing interventions in the

[24] Technik im Quartier: https://www.bodenseehochschule.org/labs/ibh-labs/ibh-lab-aal/technik-im-quartier/ (in German)
[25] Interreg V Program "Alpenrhein Bodensee Hochrhein": https://www.interreg.org/programm/about-interreg-v#:~:text=The%20INTERREG%20V%20programme%20area,Liechtenstein%20four%20sovereign%20national%20states.

"Technik im Quartier" project. The nature of neighbourhood development processes is highly diverse, and they range from top-down approaches led by authorities to bottom-up processes driven by the citizens. They may take place at micro, meso or macro levels of the community. This diversity was also considered in the development of the MMND.

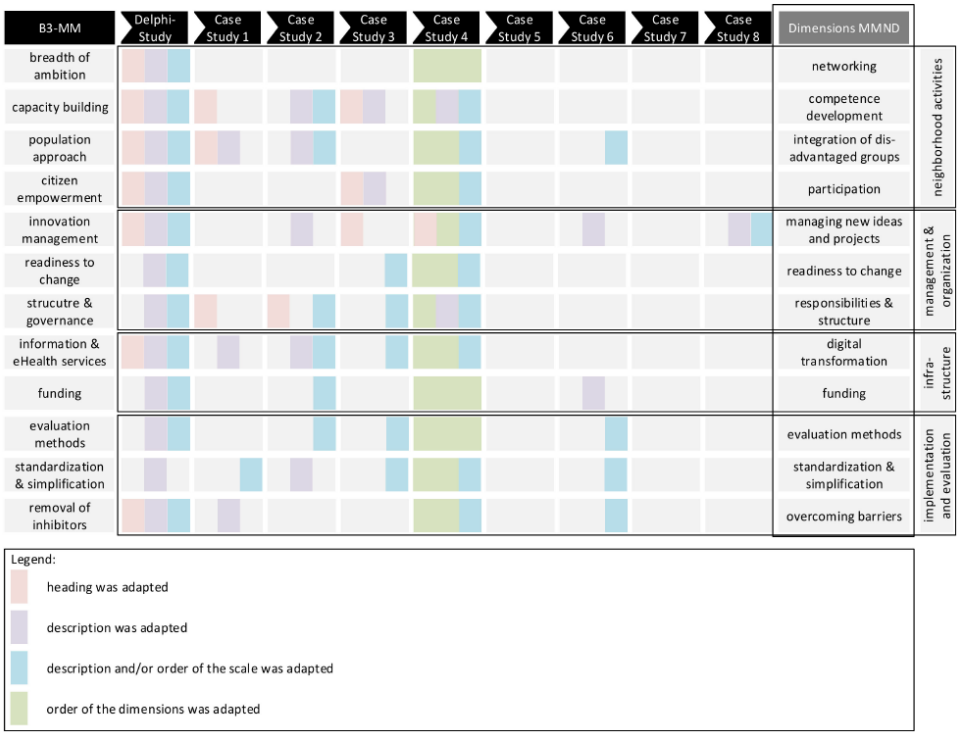
**Table 11. Adaptation of the SCIROCCO Maturity Model domains to digital neighbourhood development**

| N | Original | Adaptation | Changes |
|---|---|---|---|
| 1 | Readiness to change | Readiness to change | Unchanged |
| 2 | Structure and governance | Regulation of responsibilities and organisational structure | Adapted |
| 3 | Digital infrastructure | Digital transformation | Adapted |
| 4 | Standardisation and simplification | Standardisation and simplification | Unchanged |
| 5 | Funding | Funding | Unchanged |
| 6 | Removal of inhibitors | Overcoming barriers | Adapted |
| 7 | Population approach | Integration of disadvantaged groups | Adapted |
| 8 | Citizen empowerment | Citizen empowerment and participation | Adapted |
| 9 | Evaluation methods | Evaluation methods | Unchanged |
| 10 | Breadth of ambition | Degree of networking in the neighbourhood | Adapted |
| 11 | Innovation management | Managing ideas and new projects | Adapted |
| 12 | Capacity building | Competence development to foster (volunteers') capacity building | Adapted |

As a first stage, a Delphi study with focus groups and feedback rounds was conducted. This was followed by a validation process through interviews and consensus meetings in eight case studies (six in Switzerland, one in France and one in Germany) that were adapted to the specific needs and requirements of neighbourhood projects located in both urban and rural areas.

In this case, the expansion process did not alter the 12-domain structure but affected in different degree to eight domains, changing headings, objectives and the assessment scales. Three were completely redefined and renamed: "Integration of disadvantaged groups" instead of "Population approach"; "Degree of networking in the neighbourhood" instead of "Breadth of ambition"; and "Competence development to foster (volunteers') capacity building" instead of "Capacity building".

**Figure 11. Adaptation process for digitally supported neighbourhood development**




Source: Renyi et al, 2020[26]

Neighbourhood managers are the primary target group who are decision-makers at the neighbourhood management level and who have the necessary knowledge of a neighbourhood's specificities and decision-making structures.

The results of this neighbourhood expansion are described in Annex 3 and are publicly accessible on the SCIROCCO Exchange website.[27] As with the case of demand-driven innovation, a special section of the SCIROCCO Exchange Tool for Digital Neighbourhood Development assessments has been set up on SCIROCCO Exchange Knowledge Management Hub.

[26] Renyi M, Hegedüs A, Maier E, Teuteberg F, Kunze C. Toward Sustainable ICT-Supported Neighborhood Development—A Maturity Model. Sustainability. 2020 Jan;12(22):9319.
[27] Maturity model for digital neighbourhood development: https://www.sciroccoexchange.com/uploads/20200117-ReifegradmodellzurWeitergabe_EN.pdf

**Figure 12. Visualisation of a digital neighbourhood development assessment**


### Lessons learned

- The Scirocco Maturity Model for integrated care was partially transferable to the neighbourhood context of digital development.
- Without altering the original structure, substantial changes had to be made at domain, objective and assessment scale levels, which resulted from a Delphi study and a validation process on eight sites.
- The resulting instrument was helpful in promoting exchange within the neighbourhood development team and is appliable individually or in groups, being smaller groups preferable in terms of productivity.
- Different applications of the MMND are envisaged for the digital development of neighbourhoods such as self-assessment, consensus building, planning, benchmarking and exchange of good practices, and monitoring.
- Participants reported that the maturity model helped them understand the current situation in their neighbourhood.

## 5.5 Other applications and summary

Besides the four examples of expansion presented above, other expansion applications have taken place during the course of the SCIROCCO Exchange project. They are listed all together in Table 12. In this section, a short summary of these expansions is provided with the aim of demonstrating other potential areas for expanding the Scirocco Maturity Model and showing its flexibility to address different topics, users and contexts.

### Long-term care policies in Estonia

The structural reform process initiated in Estonia in order to improve health and care integration for people with complex chronic health and social conditions represents another example of user expansion that has been overseen by SCIROCCO Exchange partners. In this

case, the user expansion has pivoted towards policymakers at the Estonian Ministry of Health; they adopted the SCIROCCO Maturity Model as an assessment tool to define new health policies for long-term care. During this implementation, the SCIROCCO Model and Tool were applied in five areas of Estonia within the context of European Structural Reform process facilitated by International Foundation for Integrated Care.

### Goal-oriented care in Flanders

The region of Flanders in Belgium has undertaken a profound health and care reform which focus on primary care boards working to improve the care coordination between the health and social sector at local level. One of the areas of development at this level is the introduction of a type of care more oriented to patients' needs and goals. The University of Ghent has a research line on goal-oriented care[28] and has evaluated the SCIROCCO Maturity Model for Integrated Care as an inspiring model to assess the level of goal-oriented care in these primary care zones.

Adapting the SCIROCCO model to goal-oriented care belongs to the category of topic expansion, because the user base are integrated care stakeholders. In this respect, one potential innovation is the possible inclusion of individuals, informal caregivers and associations of patients. This addition would move the expansion process closer towards a full-blown expansion (since patients have not been involved in previous SCIROCCO assessments, and their future involvement in the use of the SCIROCCO Maturity Model and its online self-assessment too could result in substantially different results from specialist-only assessments).

A collaboration between representatives of the region of Flanders and SCIROCCO Exchange partners resulted in the organisation of a dedicated workshop[29] that was organised on 4 November 2021. Their participation in the SCIROCCO Exchange Mid-term workshop helped focus the agenda on the expansion of the SCIROCCO Maturity Model for Integrated Care.[30]

[28] Gray CS, Grudniewicz A, Armas A, Mold J, Im J, Boeckxstaens P. Goal-oriented care: a catalyst for person-centred system integration. International journal of integrated care. 2020 Oct;20(4).
[29] Goal-oriented care webinar – Knowledge exchange with Flanders: https://www.sciroccoexchange.com/news-events/goal-oriented-care-webinar-knowledge-exchange-with-flanders
[30] Scirocco Exchange Mid-term Workshop – Expansion of Scirocco Exchange Tool for Integrated Care: https://www.sciroccoexchange.com/news-events/scirocco-exchange-mid-term-workshop-expansion-of-scirocco-exchange-tool-for-integrated-care

## Table 12. Expansion applications conducted during the Scirocco Exchange project

| N | Application | Topic | Users | Type of expansion |
|---|---|---|---|---|
| 1 | Scaling-up telemedicine | Integrated care - digital infrastructure | Integrated care stakeholders | Drill-down expansion |
| 2 | Integrated care in nursing homes | Integrated care | Health and social care stakeholders | User expansion |
| 3 | Open innovation | Open innovation | Integrated care stakeholders | Topic expansion |
| 4 | Neighbourhood development | Digital neighbourhood development | Neighbourhood managers | Full-blown expansion |
| 5 | Long-term care policies | Integrated care | Policymakers | User expansion |
| 6 | Goal oriented care | Goal oriented care | Integrated care stakeholders | Topic expansion |

# 6 Conclusions and next steps

Measuring the level of health and care integration in a comprehensive and multi-dimensional way is a fundamental step to identify areas for improvement. To complete an objective assessment, the involvement of multiple stakeholders is necessary: they can span roles as diverse as health and care providers, to payers and planners.

Two elements —multiple domains and stakeholders— are the foundations of the SCIROCCO Maturity Model design. The successful implementation through the SCIROCCO online self-assessment Tool in more than 35 regions or countries and 1,246 assessments signposts the value of the Maturity Model and its online self-assessment Tool. It has triggered the exploration of expansion towards other areas of analysis in search of added value.

**Assets:** SCIROCCO Exchange assets can be classified into three categories of assets — content, process and format-based assets. Content-based assets — that include a 12-domain structuring, 6-point assessment scales, knowledge assets and a community of users — are pivotal for the potential expansion of the SCIROCCO Model and its Tool to other domains. Process and format-based assets also provide practical elements for extending the SCIROCCO Exchange approach, namely the online self-assessment tool implemented in the web-based application.

By analysing these assets, a methodology and process for the expansion was developed.

**Methodology:** This methodology is structured by means of a questionnaire that has been developed by compiling the experience of traditional and new assessments that use the SCIROCCO Model and the Tool.

The expansion process is consolidated in an eight-step process that potential adopters can follow to streamline the implementation. Broadly, the eight steps can be classified in two stages. In the first stage, identifying the scope and purpose, specifying the objectives and needs, identifying stakeholders, and selecting the type of use form the four first steps that take place before actual adaptation of the Model. This preparatory work leads to the second-stage adaptation co-design process. The process can optionally include the translation, localisation and validation of the survey. These three steps occur prior to implementation and evaluation.

**Conceptualisation:** Expanding the SCIROCCO Maturity Model and Tool was conceptualised defining four avenues for expansion based on content-based assets that emanate from the experience of the conventional application of the SCIROCCO Tool.

**Types of expansion:** As a result, four types of expansion have been identified by modifying the focus topic and the type of users involved. These scenarios are the drill-down, user, topic and full-blown expansion. Drill-down expansion opens the possibility of diving into each of the 12 SCIROCCO domains: it has been illustrated through the adaptation of the telemedicine scaling-up assessment. User expansion has been explored by the application of the SCIROCCO Tool to care integration in nursing homes in Catalonia before and during the COVID-19 pandemic, involving technical staff and the social sector. Involving patients and informal caregivers is a promising user expansion that is being explored in the extension of the SCIROCCO Model to measure goal-oriented care in Flanders.

Topic and full-blown expansion are the two scenarios where the SCIROCCO Maturity Model offers the most ambitious tests of its flexibility. In these two forms of expansion, the Model and Tool move away from integrated care. Instead, they are applied to the exploration of new fields, such as open innovation in local environments and the development of neighbourhoods powered by digital technologies. These are the two examples that were analysed and implemented in the online self-assessment tool, through collaboration with the ACSELL and Technik im Quartier projects.

Other exercises were explored — goal-oriented care in Flanders and long-term care policies in Estonia. All six cases are related to some extent to active and healthy ageing.

**Feedback and lessons learned:** Positive feedback was received by SCIROCCO Exchange "expanders". The process and results of expanding the SCIROCCO Maturity Model in the four scenarios, described in detail in this report, show the potential to address new areas or topics. Therefore, it also provides a new perspective for the exploitation of the SCIROCCO Exchange project. Among this feedback, all implementers reported on easy to use of SCIROCCO Tool, the flexibility of adapting the Model and the capacity for accommodating these changes in the online tool. Respecting the original SCIROCCO structure and adapting and translating the narrative to local conditions are lessons learned that will inform future expansions of the Model/Tool. The need to validate the SCIROCCO Model and Tool was addressed only in one of the four new scenarios (in relation to digital neighbourhoods reported on in Chapter 5). Validation is considered to be a time-consuming process to embark on, unless the results of the assessment are to be used for scientific purposes. For example, given that some European countries use more than one language, the validation of language translations of variations of the tool contents could prove to be a valuable asset for the further exploitation of the SCIROCCO Model and the Tool.

**Next steps:** Overall, the experience of expanding the SCIROCCO Maturity Model and Tool to other topics and other users has been a positive one from both sides of stakeholders and users — whether they are adopters and originators. The testbed formed by the initial four (an eventual six) experiences described in this report could be extended in future by adding new experiences that are ripe for testing.

An enlarged testbed would strengthen the expansion capacity of the SCIROCCO Maturity Model and its Tool, provide new avenues for exploitation of the project results and extend the number and availability of capacity building assets — thus contributing to long-term sustainability.

# Annexes

## Annex 1. Questionnaire for expansion of the SCIROCCO Maturity Model

The following questionnaire is intended to help those users interested in expanding the SCIROCCO Maturity Model towards either a different topic or addressing a new type of users. It is structured following the 8-step expansion process described in chapter 4.

**Step 1. Identify the scope and purpose of the expansion**

Q1. What is the main objective of using and adapting the SCIROCCO Model and Tool?

Q2. What is the theme to be explored?

Q3. Which is the geographical context where the application will take place?

**Step 2. Specify objectives and needs for the expansion**

Q4. Which are the specific objectives of the self-assessment process?

Q5. Which are the specific requirements to apply the SCIROCCO Model and Tool in this context?

**Step 3. Identify stakeholders participating in the assessment**

Q6. Who is the primary user of the expansion of SCIROCCO Model and the Tool to this area or topic?

Q7. Who else will be using the Model and Tool?

Q8. Approximately, how many people will participate in the self-assessment process?

**Step 4. Select the type of use (single, continued)**

Q9. How many times do you want to run the assessment? Once or more times?

Q10. Are you planning to measure progress after the first assessment?

**Step 5. Co-design the adaptation of the Model: dimensions and maturity scales**

Q10. How many domains are you willing to assess?

Q11. What are the titles and narratives of each domain?

Q12. How many levels do you want to use in the maturity scale?

Q13. What are the descriptions for each maturity level and domain?

**Step 6. Translation, localisation and validation of the Tool**

Q14. Do you plan to translate the Model and the Tool into another language?

Q15. Would the results of the assessment require a validated survey?

**Step 7. Implement the expansion**

Q16. Do you plan to capture individual or group responses?

Q17. Will assessments be conducted face-to-face or virtually?

**Step 8. Evaluation of the implementation and outcomes**

Q18. Are you interested in assessing the implementation process?

Q19. How do you envisage to use the results of the assessment?

Q20. Do you plan to produce a scientific report of the assessment?

## Annex 2. Adaptation for demand-driven innovation

This Annex contains the 12 domains objectives and assessment scales adapted for assessing the level of maturity of demand-driven innovation developed in the project ACSELL and described in the section 5.3 of this report.

| **1. Readiness to change** | |
|---|---|
| Objectives: | The existing systems of care (the term "care" refers to both health and social care) need to be re-designed to provide a more innovative and user-driven set of services. This will require change across many levels, the creation of new roles, capabilities, methodologies and working practices. It will also require new systems and infrastructure (e.g. living-labs infrastructure) to support information sharing, networking and collaboration across innovation intermediaries involved. This might be disruptive and may be viewed negatively, so we need clear cases, including a justification, a strategic plan, and a vision for demand-driven open innovation. Examples of the level of maturity include:<br>• Accepting the reality that care systems are unsustainable and need to embed innovation.<br>• Creating a compelling vision, with a real sense of urgency to ensure sustained focus and building a "guiding coalition (ecosystem)" for change.<br>• Enlisting stakeholders' support including political leadership, management, care professionals, research institutions, SMEs, public and press.<br>• Publishing a clear description of the issues, the choices that need to be made, and the desired future state of the open innovation care systems. |
| Assessment scale: | 0 - No acknowledgement of compelling need to change<br>1 - Compelling need is recognised, but no clear vision or strategic plan<br>2 - Dialogue and consensus-building underway; plan being developed<br>3 - Vision or plan embedded in policy; leaders and champions emerging<br>4 - Leadership, vision and plan clear to the general public; pressure for change<br>5 - Political consensus; public support; visible stakeholder engagement. |
| **2. Structure and governance** | |
| Objectives: | The broad set of changes needed to deliver demand-driven open innovation presents a significant challenge. It needs multi-year programmes with efficient change management, funding and communications, and the power to influence and (sometimes) mandate new working practices. This means alignment of purpose across diverse innovation intermediaries, motivate people, building new capacities and the willingness to collaborate and put the interest of the overall care system above individual incentives. Examples of the level of maturity include:<br>• Enabling distributed and collaborative leadership with excellent communication of goals, progress and successes.<br>• Managing successful demand-driven innovation within a properly funded, multi-year transformation programmes, including change management.<br>• Establishing competence centres and other intermediaries to support the roll-out of demand-driven innovation.<br>• Establishing clear open innovation structure with the mandate to select, develop and deliver demand-driven innovative services and approaches (e.g. living lab approach). |
| Assessment scale: | 0 - Fragmented structure and governance in place<br>1 - Recognition of the need for structural and governance change<br>2 - Formation of task forces, alliances, ecosystems and other informal ways of collaborating<br>3 - Governance established at a regional or national level<br>4 - Roadmap for a change programme defined and accepted by stakeholders involved<br>5 - Full, open innovation ecosystem established, with funding and a clear mandate. |
| **3. Innovation infrastructure** | |
| Objectives: | Demand-driven innovation requires involvement of diverse innovation intermediaries to enable continuous collaboration, and the systematic measurement and management of outcomes. It is therefore necessary to build on existing infrastructure in new ways to support co-creation and augmenting them with new capabilities and resources. The task can be made easier if the mechanisms for the early involvement of beneficiaries are in place and, can be simplified. Examples of the level of maturity include:<br>• Having essential components (e.g., Living Labs, demonstration facilities, test beds) to enable early involvement of users and other innovation intermediaries. |

| | |
|---|---|
| | • Providing mechanisms to support user co-creation approach (e.g. design-thinking workshops), integrating research and innovation processes in real life communities and settings.<br>• Existence of mechanisms and processes to support data collection and data analytics across the innovation intermediaries (e.g. panel data, structured international collaboration following certain standards and methodologies). |
| Assessment scale: | 0 - There are no demonstration facilities and test-beds in the region<br>1 - Demonstration facilities are in place, but their focus is more on show and tell, and not so much on interaction<br>2 - Some SMEs are using public research organisations sporadically for user-involvement within the innovation process (i.e. design-thinking workshops, co-creation etc.)<br>3 - Publicly funded living lab infrastructure is already in place but not many SMEs are using this<br>4 - Most of the SMEs in the region are aware of living labs and use them actively for their innovation processes<br>5 - Publicly funded real living lab infrastructure is able to provide longitudinal and transregional empirical data (i.e.. by panel data, structured international collaboration following certain standards and methodologies). |
| **4. Process coordination** | |
| Objectives: | Demand-driven innovation in health and social care delivery is a complex series of processes that are linked and interact together to achieve specified outcomes. Coordination of these processes demand new approaches and methodologies to include all relevant actors and to improve the quality and efficiency of demand-driven innovation. Structured and detailed planning is used to ensure the involvement of all relevant actors while also keeping flexibility for change. This is equally supported by existence of key authority/public body initiating and fostering new processes of engagement and collaboration.<br><br>Examples of the level of maturity include:<br>• Developing new processes and methodologies that are open, replicable, funded and/or reimbursed, and agreed by pertinent stakeholders.<br>• Negotiating with a broad range of experts and authorities the introduction and deployment of measurable outcomes to demonstrate the benefits of living lab approach and demand-driven, open innovation.<br>• Safeguarding sustainability of new processes and approaches. |
| Assessment scale: | 0 – No formal authority/and or public body exist to initiate new process and approaches, including collaboration and coordination of all relevant actors involved<br>1 – The stakeholders produce some approaches and structures and recognise the need for the coordination, but there are no formal plans and coordination to develop it<br>2 – Some coordinated innovation processes are underway; new collaborative methodologies are developed, some initiatives are formally described and tested, but no systematic approach is planned<br>3 – New approaches and methodologies for collaboration are formally agreed by all stakeholders involved. A systematic approach to the uptake of demand-drive innovation is planned, including the new structure for coordination but not deployed yet<br>4 – Most open-driven innovation services, are subject to a systematic coordinated approach, and deployed throughout the whole region/country.<br>5 – A systematic approach, including the governance, to foster coordinated innovation processes is in place across the region/country. The processes are scaled up, maintained and redesigned according to agreed outcomes. |
| **5. Funding** | |
| Objectives: | Changing systems of care to offer better integration of users and more efficient uptake of innovation requires initial investment and funding; a degree of operational funding during transition to the new models of innovation; and on-going financial support until the new demand-driven services are fully operational and the older ones are de-commissioned. Ensuring that initial and on-going costs can be financed is an essential activity that uses the full range of mechanisms: regional/national budgets, “stimulus” funds, European Union Investment Funds, public-private partnerships (PPP) and risk-sharing mechanisms.<br><br>Examples of the level of maturity include:<br>• Existing (regional) budgets that allow for demand-driven innovation (i.e. investments in technology, budget for training, provide incentives to end-users, reimbursement schemes for health professionals etc.). |

| | |
|---|---|
| | • Funding is focussing on both, invention (i.e. basic research) and diffusion (i.e. applied science, demonstration, test-beds)<br>• Developing new funding schemes (i.e. Social investment, public-private-partnerships, social impact or outcome funds etc.) |
| Assessment scale: | 0 - No additional funding is available to support the move towards demand-driven open innovation<br>1 - Funding is available but mainly for the pilot projects and testing<br>2 - Consolidated innovation funding available through competitions/grants for individual innovation intermediaries and small-scale implementation<br>3 - Regional/national (or European) funding or PPP for scaling-up is available<br>4 - Regional/national funding and/or reimbursement schemes for on-going operations is available<br>5 - Secure multi-year budget and/or reimbursement schemes, accessible to all stakeholders, to enable further uptake and scaling-up of demand-driven open innovation. |
| **6. Removal of inhibitors** | |
| Objectives: | Even with political support, funded programmes and good infrastructure, many factors can still make open innovation difficult to deliver. Often there exist a variety of barriers and inhibitors. These include legal and regulatory issues, reimbursement rules, resistance to change from individuals or professional bodies, cultural barriers and lack of skills and competencies. These factors need to be recognised early, and a plan developed to deal with them, so as to minimise their impact. Examples of the level of maturity include:<br>• Changes to the law concerning e.g., business models, information governance, data sharing -factors which may hold up innovation.<br>• Creation of new organisations or collaborations to encourage cross-boundary working ('open innovation ecosystem').<br>• Changes to reimbursement to support behavioural change and process change.<br>• Education and training to increase understanding of innovations in order to speed up solution delivery. |
| Assessment scale: | 0 - No awareness of the effects of inhibitors on open innovation<br>1 - Awareness of inhibitors but no systematic approach to their management is in place<br>2 - Plan for removing inhibitors agreed at a high level<br>3 - Implementation Plan and process for removing inhibitors have started being implemented locally<br>4 - Solutions for removal of inhibitors developed and commonly used<br>5 - High completion rate of projects & programmes; inhibitors no longer an issue for open innovation. |
| **7. Demand-driven approach** | |
| Objectives: | Open innovation can benefit especially those SMEs that do not have access to innovation infrastructure, which include research and development expertise and facilities as well as end-users' involvement following proven methods, in order to avoid ineffective, risky and costly product and service development. This is a practical response to meeting today's demands. The living lab approach goes beyond this and uses methods to understand where future challenges (and thus, demand) will come from. It starts an innovation process with the question for specific needs and possible demands. It offers ways to act ahead of time, to predict and anticipate, so that SMEs can enhance their innovative capacities in open innovation ecosystems. Examples of the level of maturity include:<br>• Understanding and anticipating demand; meeting needs better;<br>• Improving the innovative capacities of SMEs to predict and anticipate demands;<br>• Taking steps to divert citizens into more appropriate and convenient care pathways based on user preferences.<br>• Predicting future demand and taking steps to reduce health risks through open innovation interventions. |
| Assessment scale: | 0 - Demand-driven approach is not applied to the provision of health and social care services<br>1 – Demand-driven approach to the provision of health and social care services is considered but not implemented<br>2 – Demand-driven approach is used in certain projects on an experimental basis<br>3 – Demand-driven approach is used for specific groups i.e. those who are at risk of becoming frequent service users<br>4 - Demand-driven approach is applied to the provision of health and social care services but not yet systematically or to the full population<br>5 - Demand-driven approach is deployed at scale and fully implemented. |

| 8. User empowerment | |
|---|---|
| Objectives: | Health and social care systems are under increasing pressure to respond to various user-demands (i.e. patients, medical staff, informal care givers). Often, demands could be handled better according to the actual needs and by citizens and carers. There is evidence that many individuals would be willing to participate more in their own care if they were involved in the design of solutions. As a result, services and tools that are developed would offer better choice and comfort, encourage self-management and early engagement in a service design that is tailored to the users' needs. This begins with active user-involvement in the innovation process.<br><br>Examples of the level of maturity include:<br><br>• Citizens are considered as drivers of innovation that make valuable contributions to society with their knowledge and experience<br>• Potential (end) users are regarded as partners and co-producers in the innovation process in the course of which needs, desires and motives of users emerge in their everyday context in an active and iterative manner.<br>• Regularly updated databases of potential and interested users, or panels, are available to stakeholders for innovation processes to avoid resource-consuming recruitment of relevant user profiles. |
| Assessment scale: | 0 - User involvement is not considered as part of open innovation.<br>1 - User involvement is recognised as important part of open innovation but effective policies to support citizen involvement are still in development<br>2 - User involvement is recognised as important part of open innovation, effective policies to support users' involvement are in place<br>3 - Users are consulted on open innovation but not in the systematic way<br>4 - Incentives and tools exist to motivate and support users to co-create healthcare services and participate in decision-making and innovation processes about their own health<br>5 - Citizens are fully engaged and systematically involved in decision-making and innovation processes. |
| **9. Evaluation methods** | |
| Objectives: | As new demand-driven services are introduced to support open innovation, there is a clear need to ensure that the changes in approach are having the desired effect on quality of care, cost of care, access and users experience. This supports the concept of evidence-based investment, where the impact of each change is evaluated, e.g. by policy analysists, health economists working in universities or in special agencies or existing evaluation tools. Examples of the level of maturity include:<br><br>• Establishing baselines (on cost, quality, access etc.) in advance of new service introduction.<br>• Systematically measuring the impact of new services and pathways using appropriate methods (e.g., observational studies, incremental improvement, clinical trials, long-term impact studies).<br>• Generating evidence that leads to faster adoption of innovation. |
| Assessment scale: | 0 - No evaluation of open innovation is in place or in development<br>1 - Evaluation of open innovation is planned to take place and be established as part of a systematic approach<br>2 - Evaluation of open innovation exists, but not as a part of a systematic approach<br>3 - Some open innovation initiatives and services are evaluated as part of a systematic approach<br>4 - Most open innovation initiatives are subject to a systematic approach to evaluation; published results<br>5 - A systematic approach to evaluation, responsiveness to the evaluation outcomes, and evaluation of the desired impact on service redesign (i.e., a closed loop process) exists. |
| **10. Breadth of ambition** | |
| Objectives: | Open innovation includes many levels of integration and collaboration across many stakeholders and innovation intermediaries. It may be developed simply for healthcare needs or it may include social workers, the voluntary sector, and informal care. The broader the ambition, the more numerous and diverse the stakeholders who have to be engaged. Similarly, open innovation and the integration of various stakeholders may include all levels of the system or may be limited to one particular aspect. The long-term goal should be fully demand-driven open innovation and early integration of users, with expanded SMEs competences, leading to better care and improved outcomes. Examples of the level of maturity include:<br><br>• Open innovation supported at all levels within the healthcare system – at the macro (policy, structure), meso (organisational, professional) and micro (clinical, private homes) levels. |

| | |
|---|---|
| | • Open innovation between the healthcare system and other care services (including social, voluntary, informal, family services).<br>• Seamless transition for the patient between and within care services. |
| Assessment scale: | 0 - Innovation activities arise but not as a result of planning or the implementation of a strategy<br>1- The citizen or their family may need to act as the integrator of innovation in an unpredictable way<br>2 – Open innovation within the same level of care (e.g., primary care) is achieved<br>3 – Open innovation between care levels (e.g., between primary and secondary care) is achieved<br>4 - Improved coordination of open innovation is introduced<br>5 - Fully demand-drive open innovation is in place and functional. |
| **11. Innovation management** | |
| Objectives: | Many of the best ideas are likely to come from clinicians, nurses, (informal) care givers and social workers who understand where improvements can be made to existing processes. These innovations need to be recognised, assessed and, where possible, scaled up to provide benefit across the system. At the same time, universities and private sector companies are increasingly willing to engage in open innovation, and innovative procurement, in order to develop new technologies, test process improvements and deliver new services that meet the needs of citizens. There is also value in looking outside the system to other regions and countries that are dealing with the same set of challenges, to learn from their experiences. Overall, this means managing the innovation process to get the best results for the systems of care and ensuring that good ideas are encouraged and rewarded. Examples of the level of maturity include:<br>• Adopting proven ideas faster.<br>• Enabling an atmosphere of innovation from top to bottom, with collection and diffusion of best practice.<br>• Learning from inside the system, as well as from other regions, to expand thinking and speed up change.<br>• Involving regional health and social care authorities, universities and private sector companies and other sectors in the innovation process (i.e., “open innovation”).<br>• Using innovative procurement approaches (Pre-Commercial Procurement, Public Procurement of Innovation, Public Private Partnerships, Shared Risk, Outcome-Based Payment)<br>• Using European projects and partnerships (e.g., Horizon 2020, European Regional Development Funds, European Social Investment Funds and other). |
| Assessment scale: | 0 - No innovation management in place<br>1 - Innovation is encouraged but there is no overall plan<br>2 - Innovations are captured and there are some mechanisms in place to encourage knowledge transfer<br>3 - Formalised innovation management process is planned and partially implemented<br>4 - Formalised innovation management process is in place and widely implemented<br>5 - Extensive open innovation combined with supporting procurement and the diffusion of good practice is in place. |
| **12. Capacity building** | |
| Objectives: | Capacity building is the process by which individual and organisations obtain, improve and retain the skills and knowledge needed to do their jobs competently. As the systems of care are transformed, many new roles will need to be created and new skills developed. These will range from technological expertise and project management, to successful change management. This means also to motivate people for the involvement in open innovation processes. Open innovation systems need to become ‘learning systems’ that are constantly striving to improve quality, cost and access. They must build their capacity so as to become more adaptable and resilient. As demands continue to change, skills, talent and experience must be retained. This means ensuring that people get involved and motivated, knowledge is captured and used to improve the next set of projects, leading to greater productivity and increasing success. Examples of the level of maturity include:<br>• Increasing skills and motivation; continuous improvement.<br>• Building a skill base that can bridge the gap and ensure that the capacity needs are understood and addressed by innovative solutions where appropriate.<br>• Providing tools, processes and platforms to allow organisations to assess themselves and build their own capacity to deliver successful change.<br>• Creating an environment where service improvements are continuously evaluated and delivered for the benefit of the entire care system. |
| Assessment scale: | 0 - Open innovation services are not considered for capacity building |

| | |
|---|---|
| | 1 - Some approaches to capacity building for open innovation services are in place<br>2 - Cooperation on capacity building for open innovation is growing across the region<br>3 - Learning about open innovation and change management is in place but not widely implemented<br>4 - Systematic learning about open innovation and change management is widely implemented; knowledge is shared, skills retained and there is a lower turnover of experienced staff<br>5 - A 'person-centred learning innovation system' involving reflection and continuous improvement is in place. |

## Annex 3. Adaptation for digital neighbourhoods

This annex contains the 12 domains objectives and assessment scales adapted for assessing the level of maturity of digital neighbourhood development defined and validated in the project Technik im Quartier and described in the section 5.4 of this report.

| **1. Degree of networking in the neighbourhood** | |
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| Objectives: | A community comprises a wide range of actors from different sectors such as civil society, health and social services. Although there always tend to be interactions within these sectors, the degree of networking between actors in the neighbourhood can vary greatly.<br><br>The more systematic and formalized the cooperation and exchange between actors and the more actors from different sectors participate, the greater the degree of networking. A long-term goal should be to achieve a close and systematic cooperation and exchange between all actors in the neighbourhood with the aim of a comprehensive involvement of the people in the neighbourhood.<br><br>This can be promoted by the following measures, among others:<br><br>• Networking at the macro (political, structural), meso (organisations, associations) and micro (everyday work) level.<br>• Cross-sector networking between actors from civil society, health and social services.<br>• Close formalized cooperation and exchange within and across sectors to enable comprehensive community-based care for the population. |
| Assessment scale: | ○ 0- No collaboration and exchange between the individual actors in the neighborhood.<br>○ 1- Partial, selective cooperation and exchange between the individual actors in the neighborhood on the basis of personal contacts.<br>○ 2- Collaboration and exchange within individual sectors such as social services, health care, civil society (neighborhood associations, voluntary work, citizens' initiatives, etc.).<br>○ 3- Informal collaboration and exchange between actors from different sectors (e.g. regular networking meetings).<br>○ 4- Formalized collaboration and exchange between actors from different sectors.<br>○ 5- Close, formalized collaboration and exchange between all actors in the neighborhood. |
| **2. Competence development to foster (volunteers') capacity building** | |
| Objectives: | Competence development to promote neighbourhood development is the process by which individuals (particularly volunteers) and associations obtain, improve and retain the skills and knowledge needed to competently do their tasks in the neighbourhood, e.g. hygiene training for helpers of a senior citizens' café. As the neighbourhoods become increasingly community oriented, many new roles will need to be created, and new skills developed. These will range from practical over technological to organisational expertise.<br><br>In order to be sustainable and adaptable, community projects should build up and expand their competencies. Comparable to a "learning organisation" they will be striving to improve quality, need orientation and access. Since requirements and expectations are constantly changing, skills, talents and experience must be preserved as far as possible. This means that knowledge is captured and used to improve the next projects, resulting in greater productivity and success. Competence development depends to a considerable extent on the people who take responsibility. Continuity and low fluctuation of individuals are an important prerequisite for building and expanding competence. |

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| Assessment scale: | ○ 0- The development of competences or skills is not taken into account in community projects or development.<br>○ 1- There are some approaches to foster competence development.<br>○ 2- Cooperation in building up competence for community development is growing throughout the neighborhood.<br>○ 3- Systematic learning about the development of community structures is widespread; knowledge is shared.<br>○ 4- Skills are retained: fluctuation of experienced actors (voluntary and professional) is low or the transfer of knowledge / experience to successors is ensured.<br>○ 5- Ongoing reflection and exchange lead to continuous improvement of the neighborhood project comparable to a learning organization. |
| **3. Integration of disadvantaged groups** | |
| Objectives: | Community orientation serves to shape and improve the living conditions of all actors at local and regional level by, with and for the local people.<br><br>People with low health literacy or poor language skills, socio-economically disadvantaged people, elderly people with support needs or reduced mobility often have limited access to social life and cannot fully benefit from existing support systems.<br><br>Neighbourhood development projects can help to promote the quality of life and inclusion of disadvantaged groups. To this end, these groups of people should be taken into account in the projects, for example by:<br><br>• Offers and information are accessible in several languages and are easy to understand.<br>• Missing competences are specifically built up (e.g. technical training for older people).<br>• Information and networking opportunities are also offered online (e.g. for people with mobility impairments). |
| Assessment scale: | ○ 0- No awareness of disadvantaged groups in the neighborhood.<br>○ 1- Inclusion of disadvantaged groups is not fostered.<br>○ 2- Plan to take individual disadvantaged groups into account but other disadvantaged groups are not taken into account, e.g. for reasons of limited resources.<br>○ 3- Individual disadvantaged groups are taken into account but other disadvantaged groups are not taken into account, e.g. for reasons of limited resources.<br>○ 4- Neighborhood development is explicitly designed to include all existing disadvantaged groups.<br>○ 5- Consideration of the risks of potential disadvantage in neighborhood development is systematic and complete for the whole population. |
| **4. Citizen empowerment and participation** | |
| Objectives: | Neighbourhood activities aim to improve the conditions and quality of life in the neighbourhood. They concern the resources in the neighbourhood, participation and activation of citizens, strengthening self-help and processes of self-organisation, and networking and cooperation between institutions and local actors. Numerous studies and findings show that many people would be prepared to do more to help shape their environment, neighbourhood and living conditions. They want to and are able to participate actively in the neighbourhood work.<br><br>In order to enable participation, appropriate structures must be provided, and citizens must be enabled to become involved. To this end, people need to be provided with easily usable tools that promote their involvement in neighbourhood development, e.g. (technical) solutions with which they can get involved in neighbourhood work or make their views known. It is also important that neighbourhood managers or key actors meet citizens on an equal footing, provide scope for action and encourage them to participate in decision-making.<br><br>Note to fill in rating scale: If there are several projects and initiatives in the neighbourhood under consideration, which have different levels of maturity, orientate yourself towards the most mature |

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| | project when choosing the level of maturity of the neighbourhood. Make a note of the existence of different levels of project maturity in the section "reason for level selection". |
| Assessment scale: | ○ 0- No systematic plan for citizen empowerment and participation.<br>○ 1- There are efforts to increase citizen participation and to implement citizen empowerment and participation. However, citizens are not involved in decision-making processes for neighborhood development.<br>○ 2- Citizen empowerment and participation is recognized as an important part of neighborhood development. Measures are in place to support the empowerment of citizens. Citizens are mainly involved as advisors in the neighborhood development.<br>○ 3- Citizens participate in neighborhood development projects (more than as advisors, but not on an equal footing).<br>○ 4- Citizens participate as equals in the development of the neighborhood. There are measures that support cooperation and motivate those involved.<br>○ 5- The citizens initiate and control decision-making processes with regard to neighborhood work. |
| **5. Managing ideas and new projects** | |
| Objectives: | Many of the best ideas are likely to come from committed neighbourhood residents or professionals who understand where improvements can be made to existing processes. These innovations need to be recognized, assessed and, where possible, scaled up to provide benefit across the neighbourhood. At the same time, universities and private sector companies are increasingly willing to engage in community innovations, to support them, to provide scientific support, to introduce and test improvements and to offer new services that meet the needs of citizens.<br><br>There is also value in looking beyond neighbourhood borders at other municipalities (other regions and countries) facing similar challenges in order to learn from their experiences. Overall, this means managing the innovation process to get the best results for neighbourhood development and to ensure that good ideas are encouraged and rewarded.<br><br>This can be promoted e.g. through the following measures:<br>• Fast implementation of proven ideas.<br>• Create a space for open innovation, with an organised collection and dissemination of best practices.<br>• Learn from the neighbourhood, but also from other regions, to expand the space of ideas and accelerate change.<br>• Involve regional authorities, universities, private companies and other stakeholders in the innovation process.<br>• Use innovative procurement approaches (e.g. through public-private partnerships, shared risk, result-based payment).<br>• Form regional, but also cross-border partnerships and networks. |
| Assessment scale: | ○ 0- No openness for innovative ideas or new projects.<br>○ 1- Isolated ideas and new projects in the neighborhood with limited visibility.<br>○ 2- Ideas and new projects in the neighborhood are recorded and successes are published as good practice.<br>○ 3- Formalized process or structures for dealing with ideas or new projects in the neighborhood established.<br>○ 4- Comprehensive open innovation culture in the neighborhood combined with the application and dissemination of good practice.<br>○ 5- Innovation is promoted at the level of the municipalities / regions / countries. |
| **6. Readiness to change** | |
| Objectives: | In order to better use existing resources and include people in need of support into the community, changes are required at many levels. Besides, new roles, processes, working practices, and new systems to support information exchange and cooperation between the various stakeholders need to |

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| | be created. This requires a broadly based motivation to change and a strategy and vision of how neighbourhood cooperation should be shaped in the future.<br><br>The dimension thus includes the following facets and measures, among others:<br><br>• Create a compelling vision, with a sense of urgency and enlisting stakeholders, such as local authorities or associations, the public and the press.<br>• Accept that the status quo may not foster community development and cooperation and realize that something has to change in the neighbourhood.<br>• Consider the need to address the risks posed by social inequalities or lack of inclusion of vulnerable groups.<br>• Publish a clear description of the issues, the choices that need to be made and the desired future of the cooperation in the neighbourhood.<br>• Recruit people who are willing to get involved.<br>• Create a sense of urgency to ensure sustained focus, and build a "guiding coalition" for change. |
| Assessment scale: | ○ 0- No awareness of the need for change.<br>○ 1- Need for change is identified.<br>○ 2- Dialogue and consensus building underway or plan in development.<br>○ 3- Vision or plan embedded in policy; leaders and multipliers are committed to neighborhood development; vision or plan hardly known to the general public.<br>○ 4- Vision, goals and ideas for the desired lively neighborhood are communicated to and supported by a broader public; the relevant community actors are available.<br>○ 5- Broad-based public support and political consensus on the need for community development; visible stakeholder commitment; willingness to change is visible. |
| **7. Regulation of responsibilities and organisational structure** | |
| Objectives: | The building of caring communities is sometimes associated with extensive changes and represents a major challenge. It needs multi-year programs with efficient change management for projects, funding and communications, and the power to influence and sometimes mandate new practices. This means alignment of purpose across different authorities, organisations, professions and associations and the willingness to work together.<br><br>The interest of the entire neighbourhood is paramount. Therefore, technology-enabled networking and community services need to be introduced in a way that makes them easy to use, reliable, secure and equally acceptable to all citizens.<br><br>The dimension includes the following measures, amongst others:<br><br>• Enable properly funded programs, including:<br>  ○ strong program and project management and comprehensive change management<br>  ○ establishing neighbourhood management to support the rollout<br>  ○ decentralized leadership to reduce dependence on individual leaders<br>  ○ excellent communication of objectives, progress and success<br>• Manage successful social and digital innovation within a properly funded, multi-year transformation program.<br>• Identify and address the (potential) risks associated with social inequalities.<br>• Establish organisations with a mandate to select, develop and deliver appropriate and user-friendly digital services. |

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| Assessment scale: | ○ 0- No local or regional attempt to offer support for neighborhood networking.<br>○ 1- Recognizing the need for change at organizational and structural level, but no change has yet taken place.<br>○ 2- Plan for organizational and structural change defined and generally accepted.<br>○ 3- Organizational and structural support for the implementation of the change plan is provided at local and/or regional level.<br>○ 4- Support in implementing the change plan (organizational + structural) is provided as a service by local and/or regional authorities.<br>○ 5- Sustainable implementation of the change plan with clear organizational structures and responsibilities. |
| **8. Digital transformation** | |
| Objectives: | A lively neighbourhood is based on communication, exchange and community. Transparency and efficient communication between citizens, professional actors and institutions in the community are an important basis for effective neighbourhood work. Digital information and communication services can make an important contribution to supporting community work and interaction in the neighbourhood. They enable efficient cooperation between community actors, help to establish contact with citizens and enable them to become involved in the community. Ideally, digital services should build on existing offers, structures and networks, expand them with digital interaction possibilities and network them with each other.<br><br>Important components of this dimension are:<br>• Availability of basic IT infrastructure in the neighbourhood (e.g. broadband access, possibly public WLAN)<br>• Availability of secure and trustworthy digital communication and networking services at community level (information and news portal, calendar of events, local marketplaces, local social networks, etc.)<br>• Comprehensive awareness and appropriate technical and organisational measures for data protection<br>• Possibilities to promote the inclusion of disadvantaged groups into the digital world (e.g. training opportunities, Internet experience rooms, peer support, etc.)<br>• Use of digital communication and collaboration tools in neighbourhood work |
| Assessment scale: | ○ 0- There are no digital services to support community work or social interaction in the neighbourhood.<br>○ 1- Digital services are used in some areas, but are limited to individual institutions (associations, facilities, etc.) or services.<br>○ 2- There is a strategy for the implementation of digital services for inter-institutional community work.<br>○ 3- Networked digital services to support an active community are available and can be used by all actors in the neighbourhood on the basis of a uniform infrastructure; awareness of the services in the neighbourhood is low.<br>○ 4- The digital services to support an active community based on a uniform infrastructure are used by some citizens and other community actors.<br>○ 5- The digital services for the support of an active community based on a uniform infrastructure are used extensively by citizens and other community actors. |
| **9. Funding** | |
| Objectives: | Successful and sustainable community development requires initial investment at organisational and technical level as well as ongoing financial support for services. It is, therefore, essential to ensure the financing of both the initial and ongoing operational costs. For this purpose, the full range of possible funding sources from local, regional and national authorities, foundations, innovation funds, public-private partnerships (PPP) and private providers, should be considered.<br><br>In the case of PPPs, the private partner usually assumes responsibility for the efficient delivery of the service, while the public sector ensures that public objectives are respected. |

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| | Important components of this are:<br>• A prospect of sustainable financing – beyond the start-up phase – is desirable already at the beginning of the project.<br>• Multi-year budgets should be considered as an essential part of (local / regional / national / European) financial planning. The form can vary from country to country. Multi-year budgets therefore also include funds for which regular / annual applications are necessary for formal reasons.<br>Note for filling in rating scale: If there are several projects and initiatives in the neighbourhood under consideration, which have different levels of maturity, use the most mature as a guide when choosing the level of maturity of the neighbourhood. Make a note of the existence of different levels of project maturity in the section "reason for level selection". |
| Assessment scale: | ○ 0- No (funding) available<br>○ 1- Limited funding (grant or PPP) to test pilot projects with limited scope (groups of people or institutions)<br>○ 2- Financing (grant or PPP) of the start-up phase for the implementation and dissemination of digital services with a wider reach (persons or institutions)<br>○ 3- Financing (grant or PPP) for continuous expansion and ongoing operation; continuous application required<br>○ 4- A multi-year budget (local / regional / national / European) to ensure the ongoing operation<br>○ 5- A multi-year budget (local / regional / national / European) to ensure ongoing operations and to enable the further development of the digital services and/or their dissemination beyond the neighborhood |
| **10. Evaluation methods** | |
| Objectives: | As new communication possibilities and services are introduced to enable community development, there is a clear need to ensure that the changes have the desired effects on the well-being and quality of life of the citizens and on the access to neighbourhood-specific services and activities.<br>This supports the concept of evidence-based investment, where the impact of each change is evaluated to justify the costs of scaling up community-oriented developments at local, regional or national level.<br>This can be conducted inter alia through the following measures:<br>• Assessing baselines (on cost, quality, access, etc.) before introducing new services / projects.<br>• Systematically measuring the impact of new services and offers using appropriate methods (e.g. observational studies, incremental improvement).<br>• Generation of evidence that can lead to faster implementation and adoption of best practice. |
| Assessment scale: | ○ 0- No routine appraisal or evaluation in the project.<br>○ 1- Different methods for evaluation known, but no approach defined yet.<br>○ 2- Agreement on an approach for evaluation.<br>○ 3- Implementation of one's own evaluation concept of the project.<br>○ 4- Implementation of a systematic evaluation using a valid instrument (e.g. maturity model, standardized questionnaire).<br>○ 5- Evaluation results are analyzed and compared in order to identify any weaknesses or gaps in the projects or programs and to promote the exchange of experience. |
| **11. Standardisation and simplification** | |
| Objectives: | Despite the great diversity and range of community-oriented initiatives and projects, they all have certain common features that can be documented in the form of guidelines or procedural models. Such guidelines and models allow previous experiences to be recorded and passed on so that the wheel need not be reinvented. They also facilitate the exchange between the different projects and thus |

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| | promote learning from each other. Above all, they are also helpful for new neighbourhood projects, whose construction and development can thus be accelerated.<br><br>In practice, this means that countries or regions should agree on which technical systems to use to support community development so as to simplify implementation. |
| Assessment scale: | ○ 0- No known standards or procedural models that support community development<br>○ 1- Awareness of existing standards or procedural models; no application<br>○ 2- Discussion initiated on the need for guidelines or procedural models to support community development<br>○ 3- Activities to exchange experience with other neighborhoods are planned OR the application of existing guidelines, standards, procedural models is planned<br>○ 4- Guidelines and procedural models are available at regional or national level OR opportunities for exchanging experiences and recording "lessons learned" are available at regional or national level<br>○ 5- Generally accessible, practically proven recommendations for action with regard to organizational aspects OR regular exchange of experience between the projects takes place |
| **12. Overcoming barriers** | |
| Objectives: | Even with political support, funded programs and a good IT infrastructure, many factors can still make neighbourhood development difficult, delay change or limit how far change can go. These include a lack of social mobilization, the absence of multipliers, insufficient support for relevant political and social institutions, resistance to change by citizens or key stakeholders, cultural barriers to the use of technology, unfavourable financial incentives, and legal issues of data management. These factors need to be recognized at an early stage and a plan developed to avoid or deal with them in order to minimize their impact.<br><br>This can be conducted inter alia through the following measures:<br>• Actions to remove barriers: organisational, financial, legal and technical measures, considering the need to reduce the risk of social inequalities.<br>• Creation of new organisations or collaborations to encourage cross-institutional cooperation, e.g. municipal neighbourhood management.<br>• Creation of incentives to support changes in organisational processes and behaviour (clear added value through participation).<br>• Education and training to improve the understanding and acceptance of social innovations and technology-oriented communication in order to accelerate the provision and dissemination of solutions. |
| Assessment scale: | ○ 0- No awareness or lack of awareness of possible barriers; projects delayed or abandoned due to barriers.<br>○ 1- Awareness exists but no systematic approach to dealing with them.<br>○ 2- Agreement on strategies for dealing with and overcoming barriers.<br>○ 3- Applying the agreed strategies at neighborhood level.<br>○ 4- Deriving and implementing best practices for dealing with barriers.<br>○ 5- Barriers in the project overcome; project successfully completed or sustainably established. |