



Publication I
Simple Guidelines
for Scouting Innovative
Smart Care Services



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1. Why do we need Smart Care Services

Although different parts of Europe or the world might be exposed to the following challenges with regards to health and care provision for older adults in various intensity, urgency, or might have different priorities, many of the challenges are truly transnational due to their direct or indirect impact on societies and economies. There are several major challenges or megatrends directly connected to sustainable health and care provision for older adults: 1. Demographic changes and ageing of the population, 2. Climate change, 3. Digitalization. Depending on the approach, these challenges can either create threats to current social and health care systems or they can offer opportunities for radical transformation and innovation. At least, they can accelerate necessary changes needed to both cope with transformations induced by these three major developments and use them at the same time to deliver better services, higher efficiency and create more developed economic environments finally leading to a higher quality of living.



Whether regions are able to play out more on the opportunities or suffer from an actualisation of the threats posed by these transnational challenges largely depends on their starting condition in terms of health and care infrastructure, resources and capabilities. Thus, less developed countries and regions are distinctively more exposed to the threats due to their limited resources, knowledge, capacities, and outflow of people in productive age and, thus, they are even more vulnerable. Further, the still on-going pandemic situation brought even more pressure on fast adaptability and systemic changes of social and health care systems and increased the pace of innovation and digitalisation on countries around the world. This makes integrated, time and resource efficient as well as highly effective approaches all the more necessary. Smart care services aim to use the potential offered by digitalisation and technological advance to respond in a holistic way to the complex challenges health and care systems are currently facing. A more detailed definition of the concept as well as a guiding description of how to scout smart care services are presented in the following chapters.

1.1. Current challenges

Globally, it is expected that the number of people aged 65+ will double in comparison to children (under age 5) by the year 2050, when one in six people will be in this age group. The share of adults aged 65+ will increase from 10 % (2022) to 16 % (2050) and the number of people aged 80+ will triple. The trend in the geographic region of Europe and North America is even more alarming, when the share will change from 19 % to 27 % (UN DESA, 2022). The EU-27 projection expects the number of people aged 65+ starting from 90.5 million at the start of 2019 to reach 129.8 million by 2050. This is accompanied and influenced by the decreasing fertility rate and higher life expectancy (UN DESA, 2022).

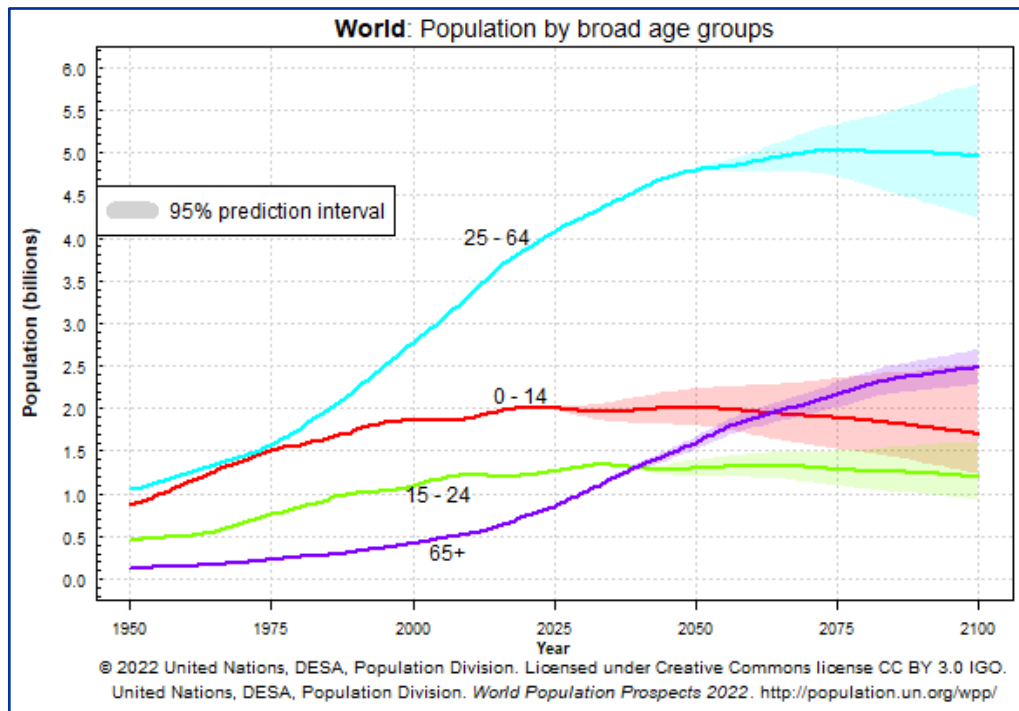


Figure 1: Demographic trends, Source: UN DESA, 2022

The demographic shift starts to have a huge impact on societies, economies and especially on social and health systems. The demand for specific services and goods will increase, and therefore create the need to provide for them with the expected scale, quality and accessibility (including the affordable price level). Hence, governments need to focus on improving the sustainability of social security and pension systems and establish universal health care and long-term care systems (UN DESA, 2022). This problem, however, is not new and the UN has paid attention to this phenomenon several decades already, just to mention some of their activities: Vienna International Plan of Action on Ageing (1982), United Nations Principles for Older Persons (1991), International Day of Older Persons (1999), or Political Declaration and the Madrid International Plan of Action on Ageing (2002), or the recent report of the Secretary-General (see more in UN GA, 2022). Nevertheless, effects of these activities have not yet materialised on a systemic or sufficient level. Action is, thus, urgent and necessary, and the digitalisation both pushes for the implementation of smart care services as well as provides a vast resource to cope with the challenges of increased demand of late life care.

Digital transformation opens new opportunities not only for industry or the economy, but it dramatically changes the whole society. New, exponential technologies like artificial intelligence, big data, advanced and (semi)autonomous robotics will transform medicine and medical research. It will not only change how the current portfolio of health and social services are provided, it will bring completely new, better, cheaper and more accessible services, new services and business models. Among those might be various telemedicine services, diagnostics and decision support systems based on big data analyses, electronic health records used for personalised medicine development, but supporting prevention and life-long approach to healthy and active living. Digital assistants and robots might help solving problems like loneliness, mobility, assistive technologies will help also caregivers and family members. In combination with smart home elements, they can support independent, safe and healthy living, while security and privacy remain among top priorities. New technologies allow to interconnect and integrate lower-level (personal) systems into larger, more complex, higher-level systems (like smart city).

This also allows for a connection to aspects of green development and sustainable living. The climate change and sustainability agenda with special emphasis on energy resources and energy efficiency is supported politically, by the consumer behaviour change and by current geopolitical conditions. In this context the cost efficiency and savings might be one of the priorities for care providers, families and elders. The demand for solutions combining all aspects (e.g. usage of renewable resources like wind and solar energy, battery systems, insular energy systems, smart energy management systems, etc.) will be on the rise.

Especially with regards to older adults, digitalisation does carry some risks nonetheless. In general, the pace of technology development and digitalisation is fast, so countries should be aware of the potential digital divide faced by the age group now over 55. Thus, it is advised to pay attention to the inclusion of older adults into digitalisation trends and reflect their needs, so they can benefit from technologies in their individual development, self-fulfilment, improvement of well-being, or they can contribute to societies. In the broader context, this contributes to more inclusive economies and societies with strengthened human rights protection, more human centred policies and systems (UN GA, 2022).

1.2. Smart Care Service

This complex, interconnected and transnational set of challenges leads to a discussion of how to create conditions to harness and use the power of technology, innovation (incl. social innovation), innovative methods (linked to human centred approach), entrepreneurship, inclusive approaches (e.g. quadruple helix principle, co-creation process) to identify and address the needs of older adults (and society in general). It arises the question of how to develop new solutions but also new (smart) care models for social and health services, how to prepare strategies and policies and regroup resources to transform the opportunities into better and more efficient and accessible services. This new approach to health and social services is vastly called Smart Care Services. Under this term, we can understand innovative, cross-sectoral, integrated health and social services using new approaches and technologies.

Smart care services enhance the concepts of Smart city, Smart Village and/or Smart Region and have common points with eHealth, they link social and health services. It can be understood as a term encompassing the comprehensive use of assets to support active and healthy living and ageing. These assets include e.g., innovative technologies, digital products, services or data, but are also often complemented or supported by the use of other assets and conditions, such as citizens' personal assets (e.g., skills, family, friends, etc.), cultural, environmental and economic conditions. They aim to provide effective solutions that contribute to improving the quality of life of vulnerable groups as well as greater efficiency, effectiveness and quality of service delivery. The concept is based on the principles of system openness, integrability, innovation, participatory design and user and provider problem orientation, while maintaining privacy and security.

Given the importance of maintaining the natural environment of the older adults, their safety, autonomy and independence, smart care services need to be developed more intensively. These can enhance the quality of life of seniors while helping them to remain active at work or in the community. Such services also have an important respite function for the senior's family and relatives and a systemic potential to be used in the coordination of community services and support. Information and communication technologies and assisted living services for older adults can significantly prolong the stay of seniors in their natural home environment and, thus, respond to the wish of many to stay in their homes as long as possible. At the same time they relax the strain on stationary care resources.

In terms of potential medical conditions to be targeted, the following shall be mentioned:

- Medical conditions: those with diabetes, coronary heart disease (CHD), peripheral arterial disease (PAD), heart failure (HF), valvular disease and stroke; those with mild cognitive impairment, dementia, Alzheimer's disease; those with frailty and at risk of falls living in isolated communities;
- Psychological and social conditions: depression, loneliness, social deprivation, poor quality of life, cognitive decline, disability, increased risk of somatic disorders.

In terms of possible application levels, the following types of applications can be sought:

- medical emergency services (high availability and addressability with fast delivery based on risk prediction models correlated with social, medical and psychological conditions)
- daily health monitoring, diet, physical activity, lifestyle, activity management services, leisure, social participation
- solutions for risk prevention, implementation of preventive measures
- data, data and knowledge management, including privacy and cybersecurity and related infrastructure

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2. Choose your challenge

The following chapters will guide you through the process of scouting such smart care services. They follow the steps necessary for a successful implementation of the scouting and selection process by both providing a general instructive perspective as well as illustrating each activity with case examples.

At the beginning of any scouting process stands the definition of a challenge you aim to tackle in the area of health and care. This sets the ground for all subsequent steps from gathering relevant stakeholders, to reaching out to potential solution providers as well as selecting promising and relevant proposals. The definition of the challenge is thus a fundamental step in the process which should be conducted with care and in close consultation with relevant regional actors. Generally, you can choose to either predefine a concrete topic or challenge you are seeking a tailor-made solution for. Such a thematic challenge is complemented by an open challenge in which you broadly frame a topic which still holds space for a range of different types of solutions to be offered. The difference and suitability of either option as well as how to select an appropriate challenge for your region are laid out in the following.

Generally, the scouting impulse is triggered by three types of motives: trends and assumptions of future developments, such as the demographic change exponentially increasing the demand of care services in the future. Next, currently unmet needs or services that do not show the desired impact or efficiency. These might for example pertain to remote counselling services or an electronic patient folder. Finally, desired benefits are thriving innovation scouting; while not coming from a perspective of scarcity they largely aim at exploiting the full potential of a given context. This might reflect in the search for elaborate, integrated smart home solutions tailored individually to user needs. Not only for telehealth or other smart health and smart care related service, its success depends on user acceptance. In the case of technologically enabled home (health) care, the end users are varied, and include patients, caregivers, support staff, and administrators (Cimperman et al., 2013). They bring a broad set of characteristics and needs to the table which need to be considered in the scouting process from the very beginning.

2.1. Open vs. thematically defined scouting processes

Following the three categories triggering the scouting of innovations they call for different formats of the searching process.

Open innovation scouting processes search for innovations on a very broad range of potential topics. They are implemented by organizations to explore wide ranges of internal and external sources for innovation and thus largely corresponds to the aim to explore and respond to trends and future developments. Ideas can hereby come both from within as well as from outside the organisation and innovators could be well established companies but also start-ups, university spin-offs or individuals. Since there is a wide range of eligible topics, open innovation processes will most likely attract a variety of interdisciplinary stakeholders (such as businesses, customers, users, education and research bodies and other) and therefore be able to capitalize on more resources in terms of experience, creativity, funding, etc. Open innovation scouting is particularly suitable if you aim to support a continuous stream of innovations evolving with regards to a topic or geographic area allowing to mirror societal and economic trends in real-time. This might for example be implemented through yearly innovation contests hosted by a country's research and education ministry.

On the other hand, thematically focused scouting processes search for solutions for a specific challenge (unmet need) or to optimise an existing protocol (desired benefits). The topic is therefore emerging from the context in which the scouting is taking place and involves numerous stakeholders in its definition. In the D-CARE project, the project wide innovation contest was specified by smart care lab members in each country to narrow it down to a small set of so-called country specific challenges, i.e. important and urgent issues in each region which solutions were sought for. Thematically defined scouting still allows for a wide range of actors to offer solutions – such as companies specialised in the given area, research institutions and spin-offs, or individuals. Yet, in comparison to open innovation scouting the number of relevant solutions/innovators will naturally be smaller as their idea needs to fit the topic directly and cannot be only remotely related. Thus, focusing on a certain topic corresponds to a problem-solving approach with the trade-off of missing some creativity, experience or funding opportunities in comparison to more flexible scouting processes.

2.2. How to define a relevant and feasible challenge for the scouting process?

Supporting innovations from the scouting process through to implementation is a team-effort. As it requires expertise from several areas, the involvement of investors, experts and users it is important to choose a challenge that is interesting and relevant all of these to be able to sustain the process through to its finalisation. Therefore, the definition of a challenge should involve an extensive market scan and stakeholder conversations. This allows to uncover trends, market density in a certain area and stakeholder interests – it, thus, ensures to find a relevant challenge.

While being relevant is important to ensure the support of necessary stakeholders for the scouting and implementation process as well as the success chances of the later implementation it is likewise vital to choose a feasible challenge. This means, that the scope of the challenge must be attainable by current technological and knowledge levels and the prototyping, testing, validation and implementation phases must be resourced in financial, expertise and time regards. Assessing the feasibility of a challenge, therefore, again requires a diligent calculation of an organisation's own resources as well as binding agreements with supporting stakeholders on their time and resource commitments.

For the D-CARE project, this occurred in the context of several workshops and bilateral discussions with smart care lab members in which their respective role in the innovation contest as well as potential commitments in terms of serving as a consultant or testing institution have been defined.

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3. Involve the right people

3.1. Quadruple-Helix Model and Creating of Innovations

To successfully scout smart care services the involvement of an effective, broad and active network is essential. To this end, the D-CARE project followed the trend toward multi-stakeholder collaboration on the basis of the Quadruple Helix Model. The model entails a network of relationships, where public and private stakeholders interact in value-creating processes to transform various inputs into valuable outputs for themselves and others.

The Quadruple Helix is an innovation collaboration model in which users (citizens), businesses (industry), research actors (academia) and agencies (government) work together to produce, foster and implement innovations. Compared to the Triple Helix model this model also embraces user-centred innovation models



Figure 2: Quadruple-Helix.

The QH model:

- is supposed to play an important role in promoting the transition from technical to social innovation;
- is considered to strengthen democratic structures in decision-making on regional research and innovation strategies;
- can complement and enhance the triple helix (TH) model by providing 'bottom-up' insights from civil society to complement 'top-down' views from university, industry and government in regional development;
- supports the creation of social innovation and provides the legitimation and justification of an innovation;
- exerts a strong influence on the generation of knowledge and technologies through its demand function (Roman, Varga, Cvijanovic, & Reid, 2020). In this way, the quadruple helix model is especially apt to generate user-centered, "disruptive" innovations which cater to the needs of all stakeholders involved in innovations located in a public field – such as health and care.

By involving actors from academia, governance, business as well as civil society or users from the very start of the process it can be ensured that the innovations which successfully pass through the development cycle will be fit for user needs, have a working business model, benefit from past research data and insights and are compatible with existing policy. Involving relevant actors from all four helix branches from the moment of the definition of an innovation challenge is therefore indispensable to scout smart care services which are relevant to the respective challenge, incorporate user needs and will be interesting from a business perspective as well as feasible from the viewpoint of existing legislation.

3.2. Steps towards establishing a quadruple helix



The following leads through an exemplary process of defining and involving relevant actors to scout smart care services from the quadruple helix.

Brainstorm with your co-workers and experts:

- map existing platforms, partnerships, networks, clusters, ecosystems, alliances, etc. in the field of smart health and smart care;
- collect relevant stakeholders in the region operating in the fields of integrated care, smart health and smart care;
- collect relevant transnational stakeholders operating in the fields of integrated care, smart health and smart care.

Divide identified stakeholders in four helixes:

Demand / Society helix

- End users: Older adults, long-term care recipients, informal carers, people who are unemployed / interested to work in the sector, people with chronic diseases and co-morbidities, people with disabilities, general public;
- students;
- NGOs, local action groups, civil society associations, volunteer organisations;
- formal (public) long term care and healthcare providers: hospitals, health centres, home care providers (they have a double role within smart care as they may also represent the business helix);
- social enterprises;
- employment agencies etc.

The specific contribution of this target group to innovations and the benefits for the collective:

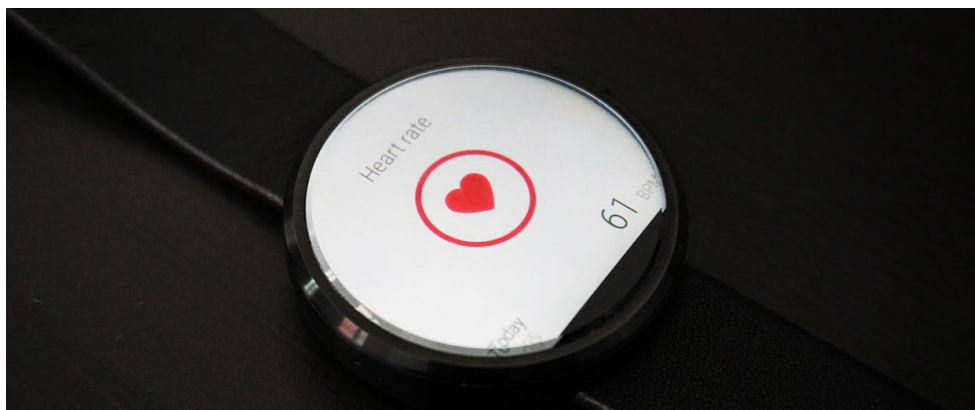
- to meet and express their relevant proposals and challenges;
- applied knowledge about (smart) care and health;
- an opportunity to express their opinion or co-develop ideas with other stakeholders;
- the possibility to improve innovative services also via testing, feedback;

Business helix

- Industrial actors from AAL/Home care industry;
- SMEs; especially solution providers in the field of smart health and care
- competence centres;
- service providers in charge of providing, installing and maintaining the smart health and smart care devices;
- private health care and social service providers;
- private employment agencies
- business support actors – associations, innovation or regional development centres

The specific contribution of this target group to innovations and the benefits for the collective:

- to meet local/national smart care providers and research partners, understand their needs and exchange experiences;
- to learn and understand the needs of the market;
- connect technological innovations with social ones;
- test solutions and receive end users' feedback to develop user-centered solutions;
- to get access to new market niches for repositioning of product/services;
- to improve access to and take up of services.



Research helix

- higher education institutions and universities;
- technology parks;
- research centres with research activities in AAL sector, smart health and smart care sector.

The specific contribution of this target group to innovations and the benefits for the collective:

- to learn, promote scientific knowledge and create synergies with SMEs for the transfer of knowledge;
- to share new ideas, good practices
- provide evidence-based feedback on the prevalence of challenges or certain medical conditions as well as the effectiveness of past tested or rolled out care services

Government helix

- Public administration, policy (local, regional, national) makers in field of R&I, health care and social care at local, regional and national level;
- Senior public servants & Senior analysts, senior managers from Health Insurance companies and Regulators;
- EU level policy decision makers – public servants responsible for Digital Single Market, PcP, PPI regulation, standardization, including MEPs from relevant parliamentary groups.

The specific contribution of this target group to innovations and the benefits for the collective:

- Meta-level knowledge about issues related to demographic changes;
- They may provide financial and organizational support in pilot testing for new services to end-users;
- to support “ready solutions” / new pathways to be followed/applied in coherence with stakeholders’ needs;
- knowledge, exchange experiences;
- to get direct access to other participants in the quadruple helix to test/imply/receive feedback for the strategies, programmes, schemes they are responsible for,
- increase sustainability of the public care systems, etc.
- provide connections to relevant regional, national and transnational actors in smart health and care

To increase the success of the collaboration it is important to define a specific core set of QH stakeholders that should undebatably be involved (stakeholder mapping) and that all QH actors involved are motivated and have an open mind.

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4. SMART Goals within Scouting smart care services



Once you have chosen the challenge you want to scout smart care solutions for and established a network, the next step is to define what exactly you want to achieve at each stage and set your goals, so that you can monitor and measure the level of progress and success. You can take inspiration from the case study of the D-CARE project.

Scouting Smart Care Service Models is usually about igniting social change of varying scale and impact. This scope determines what type of projects and participants should be within the program and how specific participation will help them. Only on this basis you will be able to promote the program well in the follow-up and start looking for the right participants. In the planning step you, therefore, need to focus on formulating the goal, identifying the target group, and then preparing the program instruments.

Setting goals is critical for every organization because goals determine how a broad vision and direction will be achieved. The SMART goals strategy is a tool for defining relevant, achievable and measurable objectives. It is a management technique whose history dates back to 1981, when it was first introduced by George T. Doran. Currently, this method is used for setting goals in project management. It is used by successful managers, entrepreneurs and marketing and advertising agencies.

S	Specific
M	Measurable
A	Attainable
R	Relevant
T	Time-Bound

Figure 3: SMART Goals

Defining these parameters as they pertain to your goal helps ensure that your objectives are attainable within a certain time frame. This approach eliminates generalities and guesswork, sets a clear timeline, and makes it easier to track progress and identify missed milestones. SMART Goals stand for Specific, Measurable, Achievable, Relevant, and Time-Bound. Their specific meaning will be elaborated below.

Specific

It is important that the goal is defined precisely. The more precisely it is defined, the easier it will be to meet it and avoid misunderstandings, for example, if the goal is to be met by your employees. In addition to a specific goal, the letter “s” can also indicate that the goal should be simple so that everyone can understand it.

Prompts to consider when writing specific objectives include:

- Who: Who will be impacted? Who is your focus population?
- What: What do you intend to impact?

Measurable

You must be able to measure the goal. With measurability, you can judge whether you have achieved the goal in the end.

In addition, the goal should also be motivating (Motivating), meaningful (Meaningful) and manageable (Manageable).

Prompts to consider when writing measurable objectives include:

- How much and in what direction will change occur?
- What data will you use to measure?
- Where will this data come from?
- Which indicators are suitable to measure progress towards the objective?
- Is there a stand-in or proxy measure to use if you cannot directly measure this objective? If not, would another measure be more appropriate instead?

Achievable

It should be possible to achieve the goal by the means available to you. Setting too ambitious goals can be demotivating for all actors involved and might result in no change occurring at all rather than change occurring in little steps. Goals should also be Acceptable (Acceptable) by the person responsible for meeting the goal. The goal should be Ambitious (Ambitious) and Appropriate (Appropriate), not only for the person in charge of the goal, but also for the institutional strategy and culture.

Prompts to consider when writing achievable objectives include:

- How will the group accomplish this objective?
- Does the current time frame or environment help or hinder this objective? Should we scale the target or time frame up or down?
- What resources will help us achieve this objective? What limitations or constraints stand in our way?
- A note of caution about setting objectives for long-term, population-level change:
- Complex, long-term issues require decades of work for change; your organization's actions are naturally only a small part
- Who's on the hook if you don't achieve your target?
- Is it more appropriate to measure movement direction without setting a concrete target number (e.g., increase, decrease, or maintain)?
- Consider intermediate objectives when appropriate

Relevant

goal that is consistent with other company or entrepreneur goals and plans and that is beneficial to your business and target group.

Each of your goals should also be Realistic, Rewarding and ultimately secured (Resourced). This means that you need to have enough resources, time, people and information to secure the goal.

Prompts to consider when writing relevant objectives include:

- Will this objective contribute to achieving a broader goal?
- Does it respond to a relevant challenge?
- Is it worthwhile and meaningful to measure this objective?

Time-bound

If you have a time-bound goal, you will be better motivated to perform the tasks leading to the goal. Moreover, it is a precondition for the measurability of the goal.

Ideally, the goal should also be Tangible, so it should be linked to a specific outcome.

Prompts to consider when writing time-bound objectives include:

- Is this time frame realistic?
- Should it be closer? Should it be further away?
- When will the data be available?

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Case example: D-CARE Planning of a scouting program for smart care services e.g. for the innovation call:

After having decided on a challenge or problem you want to scout solutions for, define who exactly you are looking for on a project level (organizations in the ideation phase, i.e. in the idea phase OR running projects that have proven the viability of their concept and whose main ambition is to grow the volume and/or positive impact of the activities, i.e. scaling). If the program is international, define the geographic scope (e.g. how many countries, eventually, you may specify which countries). Within the D-CARE project this occurred in the context of the organisational part of the innovation programme which was steered centrally on project level but inputs regarding challenges, needs and implementation outlooks came from the regional level. Here, project partners worked closely together with their quadruple helix stakeholders.

For the setup of the innovation programme, success check questions may be as follow:

- How many scouting programs do we want to prepare and implement during the 3-year period (by the end of 2022)?
- How many societal challenges do we want to focus on with the program? (e.g. 1)
- How many specific problems do we want to focus on with the program in each country? (e.g. 10 country-specific requirements)
- How many countries should be included? (e.g. 8)
- How many external partners do we want to include into preparation? (e.g. 1 venture capital company, 1 media partner, 1 academic partner...)
- How many applications do we want to obtain in total (or from each country)? (e.g. 20)
- How many participants do we want to have enrolled in the program? (e.g. success 5)
- How many smart solutions do we want to pilot? (e.g. 1-3)
- What is the proportion of concepts tested that have proven viable? (e.g. success = over 50%)
- What proportion of supported projects continues their activities 2 years after participation in the program? (e.g. success = over 50% of successful graduates)

Based on these success check questions a SMART goal formulation for the example of the D-CARE project might be:

In the D-Care project, we want to prepare and organise 1 scouting program in a form of an innovation call in 8 Danube region countries to identify at least 3 projects suitable for validation and on-site testing (with TRL3+) over the period of 3-years (by the end of year 2022) and the projects should be aimed at fall prevention with potential to decrease the fall incidence (measured by absolute number per year) of elderly people (55+) in senior house by 20 % by the end of the next year after the year of implementation.

These goals might be complemented by partial operational goals (for managing the preparation) and communication goals (see the Chapter VI Reach innovative minds).

5. Design a format

Depending on the goals and various factors like the level of your previous experience with innovation, built networks, frequency of appearance, available resources and other factors, you can choose to either build your own channel (or system of channels), or use the power of partners with already built scouting systems or combine both.

5.1. How to scout innovations

The following list is not exhaustive and introduces formats frequently used when companies or public institutions search for new ideas mostly from outside their own organisation. These formats might be used either for one-time (ad hoc) occasions or they might be part of a more structured and directed subsystem of scouting within the innovation system of your institutions such as recurring innovation contests. Depending on the regional context, it can be interlinked with local, regional, national or European innovation ecosystems. Feel free to experiment with formats and parameters, you can even develop your own. The list starts with a more detailed description of formats suitable for an active approach when you want to organise your own scouting events continuing with more passive approaches and finally a describing the D-CARE case example.

Hackathons

A hackathon is a form of a competition. Usually, it takes 24-48 hours and it is often organised during weekends. People can create teams either in advance or onsite. Grouping (2-5 people) can be totally free, based on the interest on proposed ideas of other people (exchanging of ideas might be one of the first activities), or facilitated, e.g., based on the background/knowledge (IT, marketing, specific medical area...), or personality characteristics (strategic, analytic, creative...). A broad spectrum of different backgrounds or knowledge and unplanned interactions is essential for success since it increases the chances to generate unexpected innovative ideas. Even if the hackathon is just IT-oriented, when you expect to obtain advanced technology solutions, it is necessary to have various specialisations, coding skills, coding languages etc present.

The process is structured and supported by experts and mentors, who help the teams to keep on track and can give useful feedback on ideas and solutions (e.g., feasibility). So, the participants work in teams, they can have a team mentor, or they can use consultations with experts during specific time frames (sometimes even whenever you need). There are one or two milestones/checkpoints to check the progress of teams. The outcomes might be a concept of the solution (idea, or low fidelity prototype), or functional demo or a prototype, so the teams can demonstrate the feasibility of their solutions. Sometimes, it might be required to validate the desirability by a small number of interviews with potential users/clients. The competition is finished by a final presentation in front of a jury composed of representatives of main organisers, target groups, experts on various aspects. It is up to you, how you define the scope of the competition. It might be very broad (e.g., mHealth), or you can narrow it (mHealth used for a specific medical usage, or disease; application of AI), or defined by a set of use cases/scenarios (very detailed problems). To this end, see the chapter on how to define your challenge.

You can organise small (local, regional) hackathons, or country wide, or even international. The larger the event is, the more potential participants and ideas you can get. Consider, however, that it is really demanding in terms of resources and usually hardly manageable without other partners and sponsors, who can provide financing, organisational know-how, organisational capacity, communication, marketing and PR support, free software tools for participants, mentors and experts.

Since there are quite a lot of hackathons around the world, the key differentiators and attractors are: prize money and various perks, further conditional financing of the solution development, access to strong industrial partners and high-profile experts and perspective of future cooperation (or access to their client base), unique data sets (in case, it is data-oriented hackathon, e.g., <https://www.nus-datathon.com/>). A potential risk factor may be the (in)stability of teams and motivation of teams to work together after the competition.

Innovation contests/Open calls

If you know your problems, situations, bottlenecks and you are not afraid to share it with a broader public (potential participants) then this might be an easy way to address and tackle it fast. After you define the problem/challenge in a balanced way (enough details, motivating and attractive), you can invite start-ups and innovators with already existing solutions to present their products/services to you when you can define minimum technology readiness levels. Or you can open the contest for newly proposed ideas, solutions and prototypes, which would need more time for development, testing and final launch. Either the ability to finance the pilot phase of shortlisted projects might be among the entry/selection criteria or you have your own or other external resources, which might be then granted in tranches after reaching defined milestones. Financing, access to target groups, and the possibility to showcase functionality of the solution are the most essential benefits for participants. There are some more structured and longer variations expecting closer cooperation over several weeks or months.

See our example of the D-Care Innovation Contest below, or some other contests here:

<https://digibcube.eu/open-calls/>

<https://digifed.org/open-calls/digital-challenges-2/digital-challenge-owners-open-call/>

Innovation Days

It is a similar format to a hackathon. Often it is focused on students of various fields of studies, but there might be an emphasis on a particular domain (e.g., medicine, social work, IT...). During the day, students have the opportunity to learn more on the current state of technology, on necessary steps to be completed during their prototyping and validation phase (design thinking methods) as well as principles of attractive presentations (pitch) from experts and mentors in short learning sessions. These sessions might be spread during the day or concentrated in the morning part. During the day they work in teams and can consult their prototypes or ideas with mentors and experts.

Reference: <https://dex-ic.com/i-day-2022>

Innovation Sessions

This format is more common among companies, but it can be transferred to health and social care. It is a facilitated discussion on a problem defined by (in this case) a service provider. During the event the service provider can find technology partners and some concepts for further development. The pre-selection, invitation and facilitation of the event and discussion is usually done or supported by specialised institutions like regional innovation centers.

See example: <http://www.gate2biotech.cz/singapursky-investor-hleda-v-brne-nove-technologie/>

Passive approach

In case you lack or do not want to allocate your organisational capacity, and/or you want to use the power and knowledge from your innovation and start-up ecosystem (already existing networks or at least awareness is a huge advantage), you can contact incubators, accelerators, venture and risk capital companies, business angels, or EIT Health. You should primarily contact those which are focused partly or mainly on topics and areas in direct relation, secondary also those, where the technologies might be transferred across industries. You have an option to either just attend their events/activities, observe, inspire yourself, network and select solutions which might be suitable for your needs. The easiest way is to attend e.g., technology and thematic fairs, shows, conferences, matchmaking and networking events, final presentation of competitions or Demo days. Demo Days are events, where start-ups and innovators present their ideas in front of potential investors. Usually, they can get prize money besides the opportunity to cooperate with an investor. Sometimes, it might be a final stage of incubation or acceleration programs.

For a reference you can explore the following examples:

<https://events.withgoogle.com/demoday/>

<https://dex-ic.com/demoday-2021>

<https://www.ycombinator.com/demoday>

Semi-active approach

You can negotiate with the innovation ecosystem actors to offer them your assistance with formulating agendas/challenges, validation of innovation ideas and solutions (new products, services, technologies). In turn for them organising the scouting process you can offer access to potential users/clients (if you are not a target group yourself), and thus you can become part of innovation process and learn by doing. You can have a role of a partner, co-organiser, or/and you can be in a jury. You can obtain a better tailor-made solution and higher acceptance of innovation among your staff.

There is a specific target group suitable rather for long-term cooperation which is academia. In case the university takes commercialisation seriously, usually it has its own technology transfer office (TTO) responsible for scouting and offering results of research for practical application. This might be patents, industrial design, or prototypes, proof-of-concept or solutions at various stages of technology readiness. Even if there is no TTO or highly specialised applied research department, you can still start cooperation and involve students and researchers (e.g., contractual research, final thesis, student competitions etc.)

Example: <https://mhttcnetwork.org/centers/mountain-plains-mhttc/telehealth-resources>

As mentioned in the beginning of this chapter, there is no strict rule or a universal way to design a smart care service scouting process and your decision on the format is very much dependent e.g., on the application context of the desired solution, your level of involvement, your resources and capabilities, including networks of partners etc. In case you just begin with the innovation process or lack resources, it is advisable to start with a passive approach. This will allow you to learn, build connections, and still have access to a potential solution, with low costs and quick results. If you have higher ambitions, then a semi-active approach can help you build even stronger networks and find more suitable solutions. With more experience and resources, you have a free hand to organise own formats and address larger number of solution providers from many countries.

5.2. D-CARE Innovation Contest example

A main activity of the D-CARE Smart Care Labs was the implementation of an Innovation Program. The Innovation Program describes new forms of collaboration within 4DMC where innovations are put into practice as new ideas that add value to users or customers. They can be radical, completely changing the way things are done, or incremental, making small improvements to what has been done before.

The Innovation Program has been used to evaluate the most optimal Smart Care and Smart Health solution for each project region and select it for further development and integration. Proposed solutions have been adapted to meet the needs of end users who require significant help in managing various chronic conditions (dementia, heart disease, diabetes, limited physical activity, etc.), as well as those who need support with conditions such as anxiety, depression, loneliness, social deprivation, low quality of life, etc. Regional specific needs have been defined in discussion with regional actors using co-creation and quadruple helix approaches. In our case, we tried to find regionally relevant and scalable, but still relatively broad challenges.

<p>WHAT'S IT ABOUT?</p> <ul style="list-style-type: none">  Quadruple Helix mechanism  Efficiently develop and validate innovations  Call for innovations  co-creation phase  pilot-testing  User-centric 	 <div style="background-color: #003366; color: white; padding: 10px; text-align: center;"> <p>D-CARE Innovation Contest</p> <p>https://www.1ka.si/InnovationContest</p> <p>Project ID: DTP656 Project co-funded by European Union funds (ERDF, IPA, ENI)</p>  </div>	<p>WHAT APPLICANTS GAIN:</p> <ul style="list-style-type: none">  User feedback  Real-life testing  Expert feedback and counseling  Access to transnational network
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The competition was open for international participants from the Danube region. The main value proposition of the contest for participants was the possibility to access potential users and clients in order to validate their solution and business model. In some project countries, it was possible to do large-scale on-site testing. The validation and testing with potential users, who are normally not easy to be accessed has a huge value for early-stage start-ups. Among other benefits were: a title D-Care Innovation Prize winner (or finalist), advisory and mentoring during the testing phase, contact with other regional players to fine tune the solution and business model within the co-creation process as well as contact to transnational stakeholders in smart health and care. After submitting their application (in line with the documentation – Guide for Applicants, Terms of Reference, Innovation Program Regulation), each region set a jury from regional stakeholders (preferably from target groups and according to the quadruple helix). In the first round, all applications were checked for formal criteria and then each application was evaluated by a set of quality criteria (e.g., excellence: innovativeness, methodological excellence; impact: fit for country specific challenges, replicability; implementation: fit with user requirements, fit with integration requirements, sustainability).

More information on the contest could be found here:

<https://www.interreg-danube.eu/approved-projects/d-care/section/innovation-contest-2021>

6. How to reach innovative minds?

Communication is important for the success of every innovation scouting process. When it comes to communication in the launch of an innovation program, there are four key goals you should have in mind:

- **INFORM:** informing participants about the Why, How & What of your innovation program,
- **GUIDE:** guiding participants to focus on the desired outcome (=strategic goals),
- **ACTIVATE:** achieving and sustaining active participation,
- **IMPROVE:** improved quality of participation.

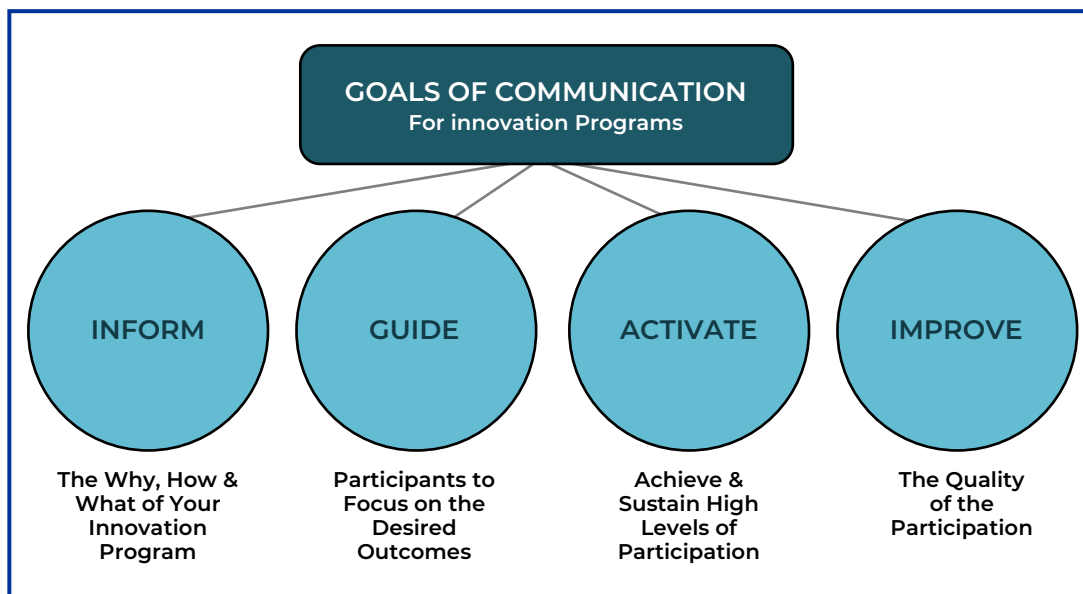


Figure 4: Goals of Communication

At the stage of launching the innovation program the “ACTIVATE” goal needs to be in focus. Here it is important to achieve and sustain high levels of participation, which is one of the most important elements to successfully scout innovations.

6.1. Communication plan

An appropriate communication plan needs to be designed with a special focus on “innovative minds” as a target group. The communication plan functions as a strategy developed to reach the target audience and inform people about the innovation program.

The communication plan has 3 main categories:

- the **MESSAGE** to be communicated,
- the **TARGET AUDIENCE** it needs to reach,
- and a **STRATEGY OF HOW** your message would be delivered to the selected audience.

The message

The main message is quite clear: addressing potential solution providers to participate in the innovation scouting process and urge them to apply. The communication technique and the tone should be attention grabbing and activating.

„Innovative mastermind? Experienced health care expert?

Passionate about sustainable societal impact? – WE WANT YOU!”

That was the way the D-CARE project tried to raise attention of innovative minds which returned good response rates.

Then a clear description can explain the aim of the innovation program and communicate further details. The D-CARE project had the following message:

„The Danube Region is looking for innovative solutions and engaged individuals to tackle our most pressing challenges in the health and care area. Demographic change, a lack of qualified personnel and insufficient services particularly in rural areas have put a strain on the Danube region’s health care systems. With our innovation programme we want to engage innovators that tackle the most important regional challenges (link) together with their end users and our experts from businesses, academia, and the public sector to develop effective, fitting, and cross-sectoral products and services.”

Therefore, we are excited to launch our innovation contest and are looking forward to your solutions, from ideas to market ready products!”

The message always should entail the following important elements of information:

- **The topic:** what is the innovation program about, which challenges does it tackle
- **The application procedure:** describe necessary details of how and where to apply.
- **Further information:** give a link or a contact detail in case applicants need further and/or more detailed information.
- **The award or prize:** give clear information about what applicants can gain.

The target group

Let’s try to define what group of people can be considered as “innovative minds”.

The answer is not easy at all. Actually, anyone can innovate. The answer lies in the power of human imagination. It all starts with a single innovative thought in our conscious mind, which can transform into an action with the right level of passion, and into an impactful outcome with the right level of effort. Continuous practice of paying attention to the thoughts and ideas soon results in innovation being a habit of our sub-conscious mind, eventually to becoming an innovative personality. Research indicates that an innovative mind is not necessarily born, it can be developed through techniques of observing and thinking.

It is obvious that the pandemic has had a huge impact on older adult care, both in establishing new approaches to care in general, and in accelerating the many trends that were already gaining ground over the last few years. Unfortunately for medical decision makers – and older clients themselves – the amount of effort that it has taken for institutions to continue providing the best possible care throughout the pandemic has left little time for keeping up with new innovations in the industry.

Whether contemplating care homes or home care, 2020 and 2021 have acted as a catalyst for all manner of changes in looking after older adults.

Focusing on smart care innovation programs solution providers, so called “innovative minds” can represent different groups of stakeholders connected to the development of smart care:

- students at schools, universities,
- researchers representing the academy level,
- NGOs,
- businesses, start-up entrepreneurs,
- institutions,
- policy makers
- older adults or their support networks

The strategy of “HOW”

Once the target group is defined you need to find the best way to reach out to them. A well-designed combination of online and offline tools can lead to effective communication. Do not forget the golden rule of using attention grabbing wording and picture/design especially on social media platforms. Here are some suggested tools to connect.

Online platforms

Online communication can be any type of verbal, written, or any other visualized interaction between people that happens on the Internet. As most of the “innovative minds” are online, therefore most probably the easiest and fastest way to reach out to them is using different types of online platforms.

Website

It is suggested to choose one main communication online platform of the innovation program. Preferably it can be the website of the innovation program coordinator. Here, all the details of the call can be uploaded.

Social media

Sharing and referring the link of the webpage is easy on any other social media platforms, like Facebook, Instagram, LinkedIn, Twitter... etc. Think of defining a hashtag dedicated to your innovation competition to be able to follow online news regarding your event.

Direct mails

Some organisations (e.g. universities, innovation centers, etc...) may have direct mailing lists or newsletter systems. Electronic mail is easy to set up, and sending an email doesn't require any special training, so it's a simple and efficient device for communication. Thus, an e-mail addressing these groups of people can also work.

Chatbox

Chat is communication between two people (one-on-one) or a group of people by sending short messages online. It's a simple and fast type of communication.

Holding webinars

You can create free webinars to provide potential applicants an option to learn about the innovation program. Webinars can be live, with the chance to ask questions, but they can be also recorded, enabling solution providers to listen to it again or share it with other innovators.

Offline communication platforms to connect

Offline communication refers to any and all marketing actions that do not involve the Internet. Offline communication is still widely used, as it is often considered to be complementary to online communication. The following tools can be considered when trying to reach innovators.

Press release

Inform the media of the launch of your innovation program. You can organise a press release event, inviting representatives of local and national media. You can use your brief to draft a short and impacting press release.

Dissemination events: on-site seminars, workshops, conferences

Direct interaction with stakeholders is always a good opportunity to inform them about the project and opportunities arising from its implementation. Direct contacts can also help to gain the support and get input from national and regional stakeholders, discuss and disseminate. These events are called dissemination events.

Depending on the number of participants and the goal and length of the event itself, there are different types of events: seminars, workshops and conferences.

Cooperation

Universities, incubators... You need to adapt your actions to the target community: incubators, accelerators, even co-working spaces can be part of your communication strategy. You can present your challenge to schools and universities to reach students.

Networks

Using networks in the respective field to promote the innovation scouting process can be a very effective tool.

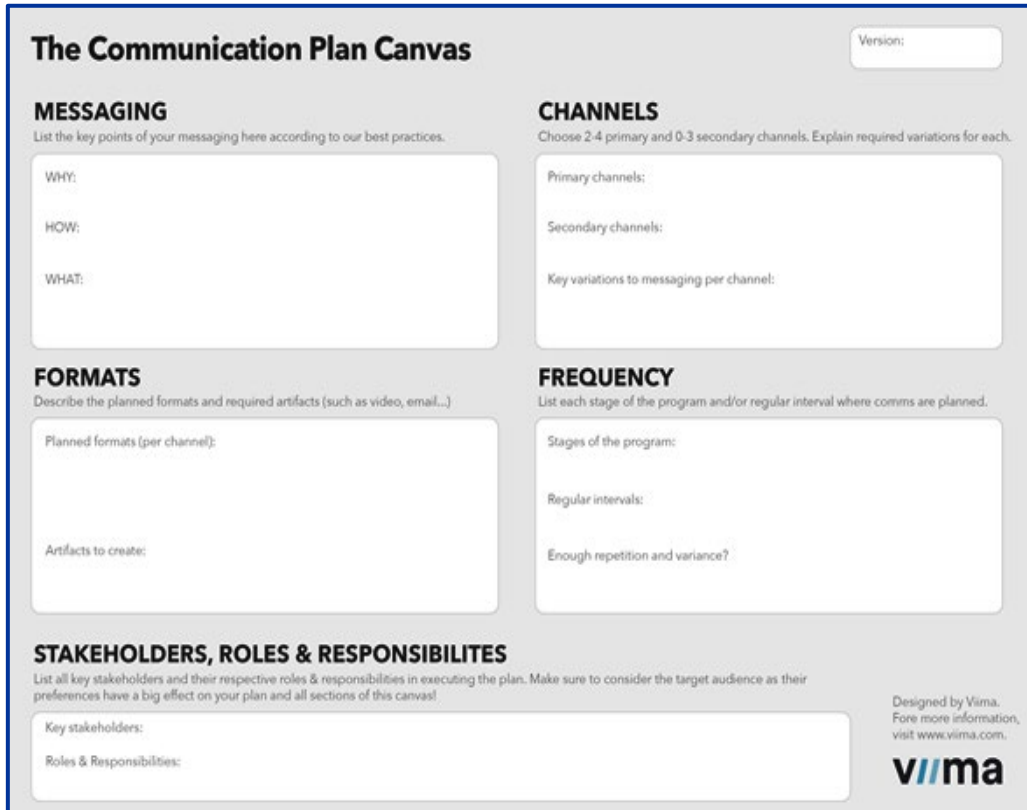
Innovation networks are groups or systems of interconnected people and can be of any size, geographical scope and configuration. They might be located in innovation hubs or accelerators, connected to universities or public authorities or organised interest groups.



6.2. A possible tool for planning a communication strategy

The first step in planning the communication about your innovation program is to get clarity on the big picture of the program. A good example for a communication strategy planning tool is the “**Communication Plan Canvas**” developed for innovation programs by Viima.

Filling in the canvas you can make sure that your team is aligned on these matters before you move forward in creating the communication plan. Misalignment here is likely to lead to later challenges.



The Communication Plan Canvas Version:

MESSAGING
List the key points of your messaging here according to our best practices.

WHY:
HOW:
WHAT:

CHANNELS
Choose 2-4 primary and 0-3 secondary channels. Explain required variations for each.

Primary channels:
Secondary channels:
Key variations to messaging per channel:

FORMATS
Describe the planned formats and required artifacts (such as video, email...)

Planned formats (per channel):
Artifacts to create:

FREQUENCY
List each stage of the program and/or regular interval where comms are planned.

Stages of the program:
Regular intervals:
Enough repetition and variance?

STAKEHOLDERS, ROLES & RESPONSIBILITIES
List all key stakeholders and their respective roles & responsibilities in executing the plan. Make sure to consider the target audience as their preferences have a big effect on your plan and all sections of this canvas!

Key stakeholders:
Roles & Responsibilities:

Designed by Viima.
For more information, visit www.viima.com.
viima

Figure 5: The Communication Plan Canvas. Source: Viima.com

There are 5 main topics that need to be filled in on the canvas:

1. Messaging

Here list the key points of your messaging, focusing on Why, How, and What.

- **WHY:** explain what the strategic purpose of your innovation program is for the organization and what the tangible goals you are looking to achieve are. Also explain why it is in the participants' best interest to take part and be active.
- **HOW:** explain the big picture of how you're planning to achieve the aforementioned goals. What initiatives will you be engaging in, what does the roadmap ahead look like and how is that organized in terms of responsibilities?
- **WHAT:** explain the next steps clearly. What initiatives will you start with? What does that look like in practice? Mention timelines, goals, and the key steps in getting there, as well as your expectations for participants.

2. The format

Describe the planned formats and required artefacts (such as video, emails...). Text & 1-to-1 should always be there, video and visuals work to complement them. Each format has its own strengths. Use a mix that is appropriate for your audience and your channels.

3. Channels

Choose 2-4 primary and 0-3 secondary channels. Explain required variations for each.

4. Frequency

List each stage of the program and/or regular interval where communication actions are planned. Regardless of the campaign length, a similar amount of communication is required. Thus, shorter ones are much more intense and usually require dedicated resources.

Things that are usually good to do:

- Heads-up communication a couple of days before launch
- Reminders a couple of days before the end of a campaign or each deadline within it
- Periodic reminders for participants (e.g. weekly).
- This is especially important for continuous processes and longer campaigns.

5. Stakeholders, roles and responsibilities

Here you need list all key stakeholders and their respective roles and responsibilities in executing the plan. Make sure to consider the target audience as their preferences have a big effect on your plan and all sections of the canvas itself.

Generally, while working on the canvas, keep the target audience of your communications in mind for each of the sections! You don't have to fill in all the details, but be detailed enough to make the plan actionable. And make sure to test the plan, especially the messaging, with a smaller audience before launch!



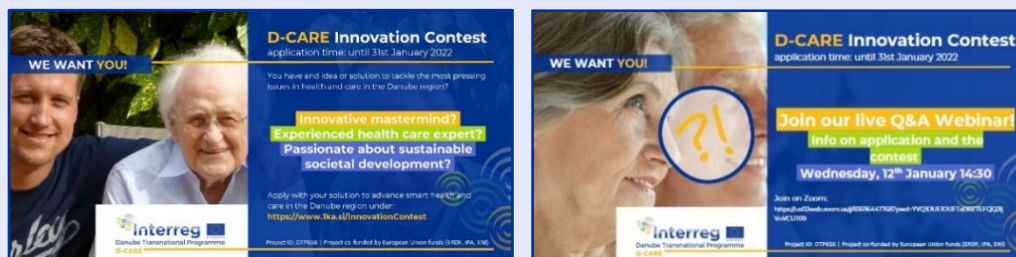
Short description of the D-CARE case-study – the communication approach of launching the innovation program

By the time the D-CARE project came to the status that the innovation program and contest application call could be published, the project partners had already set up their regional smart care labs, where stakeholders have direct and indirect contact to potential solution providers.

The call was officially launched on the D-CARE website, with links of all relevant documents (LINK) on 6th December 2021, with an application deadline on 31st January, 2022. The information was also shared on D-CARE's social media platforms, like Facebook and LinkedIn site.

D-CARE project partners also shared the information on their own online platforms. They also addressed potential applicants directly via personally or via online meetings.

A Q&A Webinar was held to inform potential applicants on 12th January, 2022.



Bildunterschrift

For the success of the call at the regional level, one key issue was to eliminate language barriers. Therefore, some partners had translated the call to their national language and had a subpage for publishing on the D-CARE website (see the Hungarian example (LINK)). Digital dissemination activities were complemented by in-person conversations, presentations and workshops with regional stakeholders as well as physical display of the innovation contest poster.

Sources:

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<https://get.agorize.com/en/resources/5-keys-to-successful-open-innovation-competition/>

<https://www.entrepreneur.com/en-in/growth-strategies/unleashing-the-power-of-an-innovative-mind/311751#:~:text=Research%20indicates%20that%20an%20innovative%20mind%20is%20not,Opinions%20expressed%20by%20Entrepreneur%20contributors%20are%20their%20own.>

<https://get.agorize.com/en/resources/5-keys-to-successful-open-innovation-competition/>

7. Select and build on

After completing these steps you are all set to conduct a smart care services scouting process. In case you use the passive approach (see the chapter on the format design) to scouting, e.g., attending suitable events, the selection process can be a bit simpler. It does not need to be announced publicly in advance, you do not have to organise an independent jury. However, with a more active role you also need to take part in the selection as well as the follow-up development process in a more dedicated way, e.g. nominating jury members, organising mentoring for the further development phases etc. In either case, the selection criteria should be prepared before the scouting process, because it will help you quickly filter out solutions or providers who do not match your desired criteria or formal requirements, which must be met to be processed with further assessment (e.g., technology readiness level, fitting your defined area or challenge etc.).



7.1. How can selection take place?

Good ideas for innovation can come from all corners of society/organization or companies. For evaluation you may use a set of simple questions based on so called the **Heilmeier Catechism**¹:

- What are you trying to do? Articulate your objectives using absolutely no jargon.
- How is it done today, and what are the limits of the current practice?
- What is new in your approach and why do you think it will be successful?
- Who cares? If you are successful, what difference will it make?
- What are the risks?
- How much will it cost?
- How long will it take?
- What are the mid-term and final proofs of progress and success?

Having a jury, the simplest is a voting system based on assigning points to each of the projects assessing overall satisfaction (it can be 0-10 scale, or 0-100 scale). This gives a basic overview over a ranking from the perspective of the evaluators. Yet, such a single-indicator assessment does not allow to understand the grounds of the assessment as well as no differentiation between different aspects of a proposed solutions being possible. Thus, a simple point based scoring might serve as a first step if the number of eligible solutions is high to narrow down to a number of highly interesting innovations which can be evaluated in depth in a next step.

If the challenge needs more detailed and balanced evaluation, multicriterial assessment is more suitable. Those criteria could be, based on design thinking, viability, feasibility and desirability. The criteria could be weighted based on the importance and also further composed of smaller sub-criteria (again with different weights).

¹ The Defense Advanced Research Projects Agency (DARPA), the innovative government agency focused on transformational breakthroughs in national security, uses a set of simple questions called the Heilmeier Catechism (named after a former director), to think through and evaluate proposed research programs.

In case of the D-Care Innovation Contest, we checked all applications in a first round for formal requirements set in the Program Regulation and Terms of Reference - eligibility criteria:

- **What type of institution can apply (any type of legal entity),**
- **What country (Danube region),**
- **Language and administrative criteria,**
 - Application form + Pitch deck or video pitch,
 - GDPR,
 - Conflict of interest disclosure,
 - Ethical self-assessment,
 - Other (sectoral restriction, focus of main activity, commitment and resources, number of applications),
- **Solution scope in line with the contest,**
- **Deadline.**

If the eligibility check was positive, each application was professionally evaluated by the set of quality criteria, where each proposal could receive up to 100 points:

- **Excellence (30 %):**
 - Innovativeness,
 - methodological excellence;
- **Impact (40 %):**
 - fit for country specific challenges,
 - replicability;
- **Implementation (30 %):**
 - fit with user requirements,
 - fit with integration requirements,
 - sustainability.

Aspects	Evaluation Criteria	
Excellence (30)	Innovativeness (15)	Alignment with D-CARE scope Elderly care topics: Medial, psychological, and social conditions
		Innovativeness of the envisaged solution
	Methodological Excellence (15)	Preparedness for testing
		Solution scope and methodology
		Previous recognitions (e.g., References, awards)
Impact (40)	Fit for country specific challenges (30)	Potential impact on local challenges Value proposition
	Replicability (10)	Ease of transferability to other regions
	Fit with user requirements (15)	Prospective users, risks & concerns
Implementation (30)	Fit with integration requirements (10)	Alignment with local system, processes, services
	Sustainability (5)	Measures to ensure sustainability of the proposed solution

Figure 6: D-Care Evaluation Criteria, Source: D-Care, Innovation Program Regulation

In the D-CARE project, each country has defined country-specific requirements (Criterion of Impact), i.e. what specific solutions they are looking for to ensure that the general objective is met: The D-CARE project supports social innovation in the Danube region as it aims to generate and deploy smart care services for older adults with chronic diseases and cognitive impairments as a solution to tackle the challenges and needs regarding the integrated care and social inclusion of elders with age between 55 and 80 years.

Country	Specific requirements - objectives for seeking the applicants within the Innovation call
Romania	In Romania, the focus is on improving quality of life of older adults with medical conditions (e.g., diabetes, coronary heart disease, dementia) and social conditions (e.g., depression, loneliness, cognitive decline). Expected solutions are assistive solutions for senior care facilities, disease management for hospitals, nutrition and medication, alert, and emergency systems (IoT, AI), increased access to socio-medical services from remote areas, virtual nursing and doctors, memory training apps or VR solutions to interact with objects, prediction and alert solutions, and also oncological patient management
Hungary	In Hungary the most pressing issues are social isolations, including loneliness, as well as cognitive decline, 1st and 2nd stage dementia. Solutions sought after should directly help assisted and independent living of elderly people (65+). Digital solutions helping the administration load of caregivers especially in homecare. Alert and emergency systems for home care and elderly care homes. More easy and simple solutions are also welcome, which help the everyday life of elders, that can be easily developed and produced by local companies. Solutions for preventing cognitive decline are required as well.
Czech Republic	In Czechia, diabetes, mobility impairments, hearing impairments, palliation care are the selected medical conditions which are challenging in the region. Loneliness, poor quality of life and cognitive decline are the psychological and social conditions to be improved. Solutions sought after are nutrition and diabetes and gluten-free diet (production efficiency, diversity, and choice, measuring of health impact) products, the reduction of social and healthcare medium- and long-term costs, waste and energy management, economic efficiency), fall prevention, automated or semi-automated emergency systems (nurse-patient system, smart bed solutions), Telemedicine, AAL (assisted technologies, prevention, monitoring), Volunteer engagement management, digital assistants, and digital education (Digital skills, other competences - languages).
Slovenia	For Slovenia, those solutions are required, which help older adults living home alone, unable to self-care; residential care homes; older adults with different types of diseases like dementia, Alzheimer, heart diseases, diabetes, frailty. Also, depression, loneliness, cognitive decline, inability to use e-services. Solutions sought after are digital assisted solutions for older adults which living home alone at minimum least half the day; digital assisted solutions and ICT for senior home; reducing social and healthcare medium- and long-term costs; solutions to facilitate the use of services among the elderly of the national e-health / e-zdravje portal; digital education (digital skills, use of the smart care applications).
Germany	In Germany, one of the main challenges is to harmonise and scale up existing solutions that have remained on a pilot or isolated level. Therefore, the contest focuses scouts both ambient assisted living solutions for smart homes as well as pre-eminently integrative solutions which can combine existing tools to work together and enhance compatibilities along the entire care cycle for both older adults living at home but also potential use in care facilities.
Bulgaria	The focus in Bulgaria lies on improving social inclusivity and community for older adults who are unable to self-care and/or have fallen into isolation due to their remote place of residence. Solutions should provide digital means to engage older adults, help them to acquire digital skills and use the tools to directly improve their daily living conditions.
Austria	In Austria, solutions are sought that target several aspects of the daily lives of older adults with frailty and living isolated either in their remote homes or care facilities. Services and products shall focus on improving social inclusion, engage older adults in the community and prevent accidents at home, monitor medical conditions and alert in case of emergencies. These tools and solutions should be designed to be rolled out on a large scale to reduce healthcare and social costs in the long term with a rising number of older adults in need of care services.
Bosnia and Herzegovina	In Bosnia and Herzegovina, the current capacities for health care for older adults are lacking which can be drastically improved by advancing the digitalisation of health and care services. This is intended to be tackled by implementing digitally based products and services that focus on physical therapy and rehabilitation as well as ambient assisted living solutions in the context of smart homes. The solutions should be fit to be rolled out on a large-scale level and thereby increase the available capacities of care services and reduce costs in the long term by preventing physical decline and accidents.

Figure 7: D-Care Innovation Call - country specific requirements, Source: D-Care, Innovation Call



7.2. Who should be involved in the selection?

Generally, the jury could be drawn up internally and base on already existing decision-making processes and roles. If created (ad hoc) for the occasion, you may appoint only one person who is responsible for the selection or pre-selection, or include relevant team members (e.g., those contributing to setting challenges, or those having relevant skills to assess relevance, feasibility or viability of the solution, its interoperability, compatibility etc.). This might be suitable for the passive approach.



Yet even in this case, it might be helpful to call up external experts in particular if you do not have the experience or competence built internally yet and you can rely on a partner network (current or newly built). This might include the assessment of technological aspects (e.g., cybersecurity, internet of things, sensors, artificial intelligence...), impact on other systems, overall compatibility and interoperability, vendor-lock risk assessment, overview of other available solutions; user experience; economic viability. It is strongly recommended to have at least one person well aware of the problem/challenge to be solved and the potential users and their needs. You may want to have representatives of all four helixes according to the quadruple helix. Especially if you aim to emphasize user needs or technological feasibility it is advisable to have experts in the jury covering these aspects.

If your approach is semi-active, the decision on the jury is in the hands of the main organiser(s). If you organise your own scouting event, in some cases your external partners (e.g. sponsors, or technology partners...) may want to be members of the jury as part of the cooperation agreement. Their presence is a way how to cover knowledge and competences you do not have in your team. However, too many protocalar positions in the jury should be avoided. This can decrease the quality of the jury decision, especially, if the proportion is higher than one third. On some occasions it might be beneficial to invite higher political representatives to participate in order to raise awareness on the topic or support PR activities, besides applying the quadruple helix approach. Engaging a potential investor might help increase the survival chances of the solutions in case you target start-ups and, thus, sustainability and usability of the solution beyond validation and testing is a critical issue.

Depending on the voting system it might be helpful to have an odd number of jury/committees assessing the solution or the potential provider. In case of an even number, the chairman/chairwoman might decide in case of equal votes or number of points, or if a consensus is difficult to reach.

In the D-Care innovation contest we created a two level system: country working groups composed of relevant smart care lab members in each country shortlisted the projects selecting the top five proposals for their region. Those were passed on to a project level centralised board of experts validating the proposed assessment and ranking. The assessment procedure and outcomes were communicated transparently to the applicants allowing for a subsequent complaints process.

7.3. What can be next steps?

Once you have selected the most promising solution (or a provider), the next step is to prepare for the validation and testing phase (or potentially implementation phase, in case you tested several solutions during the previous period). This might include adjusting the plan and schedule and prepare agreements for covering rights, commitments, liabilities, financing/costs, problem resolving mechanism, IPR, communication/PR, or even an NDA (non-disclosure agreement) etc. - with the potential solution provider/developer.

The testing and implementation plan should include, e.g.:

- list of tasks and their duration
- milestones to help track the progress,
- mid-term and final indicators of success,
- responsible persons (for the phase and for activities),
- regular coordination and review meetings,
- data management and security,
- quality assurance.

For better visualisation of the tasks, their time distribution and relations, you may use a Gantt Chart and Responsibility Assignment Matrix.

For institutions only starting with innovation scouting, this testing, validation and potentially implementation phase would need more preparation, because it needs reallocation of resources temporarily, or permanently, if the innovation process is about to become continuous. This might include the preparation of an internal structure, processes and responsibilities. For more experienced institutions, this phase will be about implementing existing scenarios or about adjusting them to new conditions.

Depending on the technology readiness levels, you may plan on-site testing, or start with the validation phase, which might include interviews with target groups (e.g., users, employees), business experts to validate feasibility, desirability and viability. A very useful tool for the validation phase is the business model canvas, or its variation lean canvas.

A next step might be searching for suitable sources of financing, if that has not yet been covered throughout the previous phases. That might include private investors (venture, business angel), or public-private schemes or public programs supporting incubation, acceleration and scaling up of validated solutions.

You can find more information on the D-Care example in the testing reports.

8. Conclusion



Successfully scouting innovations requires some preparation and planning but offers – if diligently implemented – an enormous potential for public and private actors. Since for most challenges solutions or approaches do exist, oftentimes outside of an organisation itself. To ensure that these innovations respond effectively to the challenge some thought should be put into the setup of the challenge itself in terms of the ends the scouting should serve leading to a precise definition of an objective. Smart formulation of the goals of the scouting is a fruitful basis for choosing a suitable format for the scouting process, developing effective communication with innovators and supporting members from all four helixes in your network as well as the subsequent selection and testing and validation phases. But, it is not necessary to reinvent the wheel – a vast number of successful examples for various challenges, formats and concepts exist from which inspiration, insights and lessons learnt can be drawn.

