How to innovate in healthcare institutions?

A practical step-by-step guide

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How to innovate in healthcare institutions?

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A practical guide to help healthcare facilities establish an innovation culture and an innovation process.

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Preamble

Welcome to this guide to innovation in healthcare, an exciting initiative orchestrated by lifetech.brussels, the healthcare cluster of hub.brussels, the Brussels Agency for Entrepreneurship, in partnership with Antares Consulting, an international consulting firm with over 20 years' experience in the healthcare sector, and Hict, a Belgian consulting firm founded in 2004.

The aim of this guide is to support healthcare institution players in their innovation journey. It is also aimed at entrepreneurs, researchers, manufacturers or companies in the sector who want to exchange, collaborate or even co-create innovative solutions with these healthcare institutions, and for whom a better understanding of the innovation process in which these players are involved is in fact vital. Lastly, this guide is intended for healthcare enthusiasts seeking to understand the challenges of innovation in this field.

Our ultimate goal is to help accelerate the delivery of innovative healthcare solutions that meet the needs of patients and healthcare professionals, while fostering successful collaborations and synergies.

For hub.brussels, it is imperative that we support innovation in the medical field, so that we can meet a number of economic and societal objectives. The COVID-19 pandemic revealed the extent to which we need to be more reactive to guarantee an optimum level of public health that is accessible to all.

Similarly, while life expectancy is increasing in our societies, it also brings its share of chronic and/or degenerative diseases. Besides the fact that everyone should be able to age with dignity, public authorities cannot overlook the pressure this can put on the healthcare system, and therefore on its quality and cost.

This means that innovation fulfils the promise of reducing inequalities in health while supporting economic development that has a positive impact on society. To encourage this innovation, we are focusing on the creation of a climate of exchange between healthcare and economic players to best meet these challenges.

In the following pages, you will explore the elements required to set up an innovation culture and an innovation process in healthcare, step by step. This guide is your companion on the journey, from generating ideas and defining needs to monitoring and evaluating the implemented solutions, setting up an innovation structure and developing strategic alliances. We will provide clear information, practical advice and inspiring perspectives to help you overcome the challenges inherent in healthcare innovation.

We are convinced that innovation in healthcare knows no bounds, and we are delighted to be accompanying you on this adventure. We hope this guide will be a source of inspiration and support for all your healthcare innovation projects and that the information it contains helps you to make significant advances in the healthcare field, benefiting patients, healthcare professionals and society as a whole.

I hope you enjoy reading it!

Isabelle Grippa

Chief Executive Officer
hub.brussels

Foreword

The Brussels University Hospital (H.U.B.) is a strategic grouping of three renowned hospital institutions: Erasmus Hospital, Jules Bordet Institute and Queen Fabiola Children's University Hospital. Together, these three entities form a centre of medical and scientific excellence, offering high-quality care in a variety of specialised fields. Their complementarity enables H.U.B. to respond holistically to the health needs of the population while remaining at the cutting edge of medical advances.

Today, Belgian hospitals are at a crucial crossroads. The demographic transition, with its rapidly ageing population, is putting immense pressure on our absorption capacities. Needs are growing faster than our infrastructures can keep up with. At the same time, the economic sustainability of healthcare is being severely tested by chronic underfunding, plunging our system into a critical situation. Furthermore, the transition of society, with its ever-changing human behaviours, requires hospitals to rethink their approach to better meet today's patient expectations.

Faced with these challenges, innovation is no longer an option but a necessity. Hospitals must reinvent their practices, become more efficient and effective and align themselves with patients' real needs.

As an academic hospital, one of our fundamental missions is to drive research and innovation. It is in our DNA to continually reinvent ourselves, regardless of the financial constraints and available resources. We need to stay at the forefront because that is how we can continue to offer the best possible care while shaping the future of medicine.

The creation of the H.U.B. in 2022 was an opportunity for the three institutions to develop a common vision in terms of medical strategy, operations and innovation. In a hospital, it is easy to quickly become overwhelmed by day-to-day operational tasks and problems, on top of the need for efficiency gains to cope with the complex financial situation. It is not a company that, by definition, has a financial margin it can devote to innovation projects. In fact, we do not currently have a budget for innovation, and in any case it is important not to wait for impeccable financial health to innovate.

This project has enabled us to gain initial experience and build a stronger innovation strategy for the years to come. The H.U.B. has chosen to make this a priority, and has enlisted the help of the Brussels healthcare cluster lifetech.brussels to develop a more concrete approach, with two objectives. Firstly, to generate as many ideas as possible and give people the tools to become agents of change; secondly, to enable all our employees to play an active part in shaping the future of our institutions.

Renaud Witmeur

General Manager
Brussels University Hospital

Acknowledgements

A huge THANK YOU...

... to the staff of the FHF Research and Innovation Fund, and in particular Guillaume Mercy, who inspired us and guided our thinking on the development of a Hospital Innovation Center;

... to all the people and jury members who collaborated in any way in setting up our call for expressions of interest in the development of a Hospital Innovation Center in Brussels, and in the selection of the winning hospital;

... to the management of the Brussels University Hospital, the Transformation and Innovation Unit, the Communications Department and the CTC-CTSU for your trust, attentiveness, support and collaboration throughout the project;

... to the employees in the two working groups of the H.U.B. Innovation Centre project (acculturation and operational groups) for your time and contributions, which have enriched this guide;

... to all tenderers on the H.U.B. call for requirements for your many ideas;

... to Dr Maarten Vander Kuylen and his clinical team for your interest, trust and availability, which allowed the successful completion of the pilot project;

... to all the patients who agreed to test the device as part of the pilot project and give us their feedback;

... to the RDS team for your trust, your patience and the extremely rewarding collaboration that grew up around the pilot project;

... to the staff of the Groupe santé CHC, Pasteur Clinic, AZ Groeninge Hospital, Foch Hospital, Sant Joan de Déu Hospital, HUB, HUG, IMAD, UZ Brussel and the Rosa team for their invaluable contributions to the videos used as illustrations and inspiration in this guide, to the CCYC team for producing these videos, to the hub.brussels com team and to My-Van Thai for their advice;

... to Valérie Wittmann and Hélène Linsmeau, with whom this project was launched and coordinated;

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... to the European Regional Development Fund, whose financial support made this whole project possible.

Table of contents

Note to the reader

This Innovation Guide is a practical tool designed to promote innovation in the healthcare sector. It provides a schematic approach to the essential steps needed to foster a more innovative culture and to effectively structure the processes for implementing new ideas. Readers will find concrete tools referenced throughout the guide, as well as additional readings in the “Further Reading” section at the end of the guide.

Written in parallel with an innovation project carried out at the Brussels University Hospital (H.U.B) between June 2022 and June 2024, this guide is part of an initiative that led to the creation of an Innovation Center within the institution. This Center has two main objectives: promote the development of an innovation culture within the hospital and establish an innovation process based on a rigorous methodology. To achieve this, the lifetech.brussels cluster closely collaborated for two years with around twenty H.U.B collaborators from various departments and disciplines (referred to hereafter as the acculturation and operational groups), as well as with the Transformation and Innovation Unit and the Management team. This guide is complemented by textboxes detailing the implementation of the different phases of this project within the hospital, providing testimonies, advice, and concrete examples.

Lifetech.brussels is pleased to have supported H.U.B in this pioneering initiative in Brussels and hopes that this document will help spread this dynamic within other healthcare institutions. Numerous other examples cited in this guide enrich and put the experience into perspective.

Introduction

Introduction

Objectives of this guide

This guide to innovation in the healthcare sector is designed to support you throughout your innovation journey. It provides practical advice and concrete examples to ensure the success of your healthcare innovation projects and the development of a culture of innovation within your organisation.

Before getting down to business, let's consider five key questions:

Why do healthcare institutions need to innovate?

Healthcare institutions are facing many changes, including socio-demographic developments, shifts in societal values, epidemiological changes, the impact of digital transformation, changes in funding arrangements, and research findings.

Innovation is crucial if they are to remain relevant and effective in the face of these challenges. This involves not only improving organisational processes and care design but also reinventing practices and introducing new methods. In all cases, innovation helps to focus care on the patient, while increasing the added value of that care.

What is innovation?

Innovation means finding new ways of accomplishing tasks, or taking unprecedented action to achieve better results. It implies significant changes, challenging established patterns to generate a substantial increase in value. In short, innovation is not simply a matter of improving what already exists, but can be seen in a different approach or the creation of new practices designed to deliver tangible benefits (see Figure 1). It may involve all aspects of the organisation, such as structural design, technology, new services, organisation and management, professional practices and care processes. Innovation is often associated with technologies and systems, but it also encompasses the organisation of work, new forms of management and new organisational structures (Nobre, 2013).

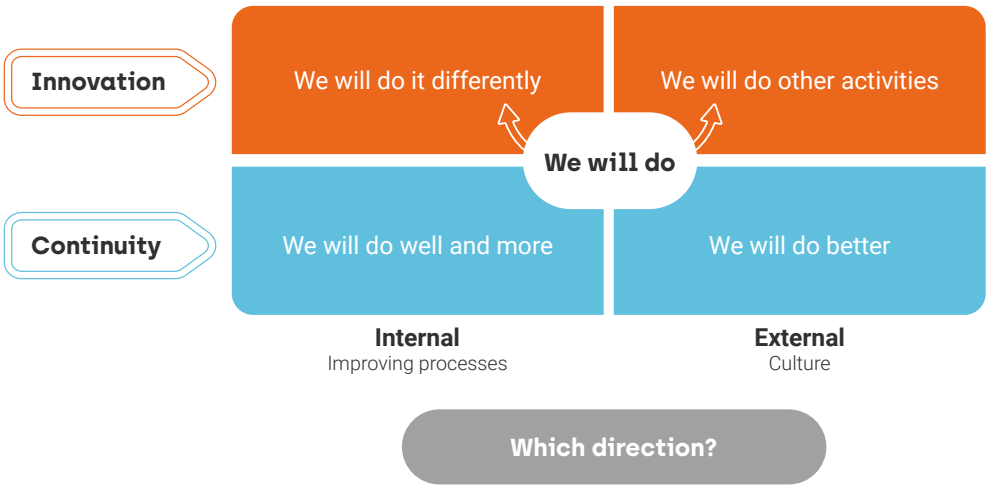


Figure 1: Diagram illustrating the difference between continuous improvement and innovation (Antares Consulting, 2010)

And at H.U.B. in particular? How do the Innovation Centre project staff define innovation?

"Innovation at H.U.B. aims to pool projects that not only improve patient care and optimise the internal processes of the different H.U.B. institutions, but above all to rethink the organisation. It facilitates the introduction of new approaches to care and new services, solving problems with an innovative perspective that brings added value compared to the previous situation.

Innovation can come from projects that highlight the cross-disciplinary nature of different services, establishing a dynamic interaction between patient care and clinical and translational research. These projects must be carried out in a context that seeks to unite the different hospital sites and cultures. As far as possible, these projects should be developed, supported and driven by all stakeholders, whether patients, their families or the professional body as a whole.

The implementation and results of these projects should enable H.U.B. to position itself as an innovative reference centre in the healthcare sector." (Operations Group, Innovation Centre)

How does an organisation's adoption of innovation evolve?

In general, the first innovation initiatives within an institution are born of the desire to solve a problem or dysfunction, since continuing to follow the same practices will never produce different results.

In addition to solving internal problems, major challenges often arise from environmental changes, which are likely to introduce new issues. Failing to anticipate these challenges, or insufficiently adapting, can lead to malfunctions or missed opportunities. In the early stages of an innovation's introduction, the proposed solutions have often already been tested elsewhere, but they differ significantly from the usual practices, making these innovations novelties primarily for the institution, rather than for the sector.

New trends (see Step 0, "Systematic scanning of the environment") also bring new challenges, with new requirements and opportunities. The adoption of new projects, as well as the cultural change required within the organisation to integrate these projects, lead to an adjustment in the role of innovation within the institution.

To exploit these opportunities, an institution needs to reach an advanced level of innovation maturity. This level is generally observed in institutions where innovation is embedded in the organisation's culture, representing a strong competitive advantage and positioning organisations as leaders in the hospital sector (see Figure 2).

The overall qualification of the level of innovation integration within the healthcare institution's business model must be assessed with regard to the qualification that could be given to each of the innovative projects carried out transversally or independently within the institution's different departments. It should also be noted that having a super-innovative project does not make a healthcare institution super-innovative.

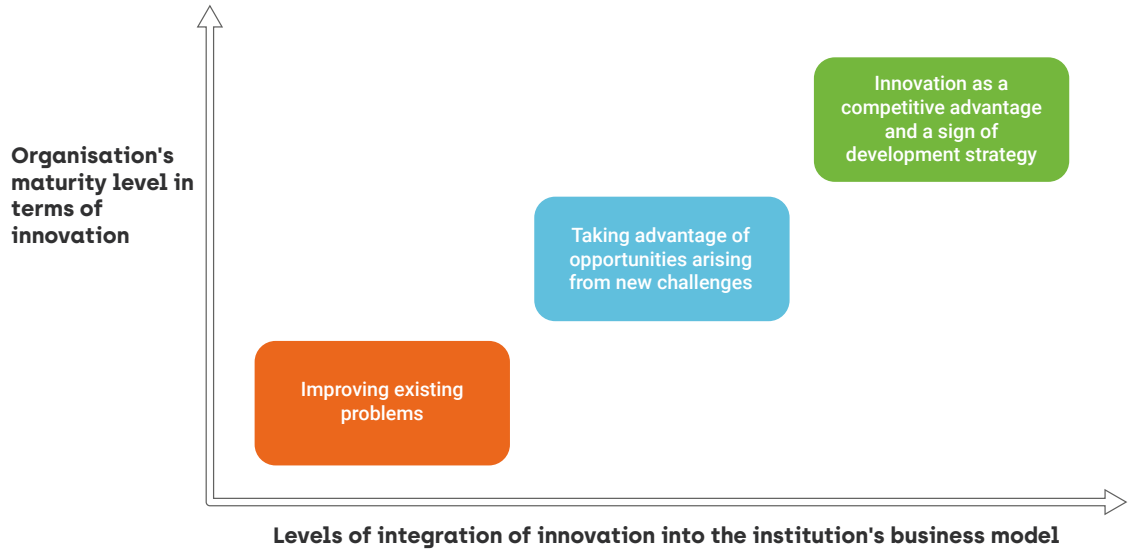


Figure 2: Evolution of the role of innovation within the institution

This transformation towards an innovative culture does not happen spontaneously or through simple evolution, or even through the implementation of multiple or significant projects. It requires the adoption of the appropriate mechanisms and follows a demanding and evolving logic of interactions (see Figure 3)

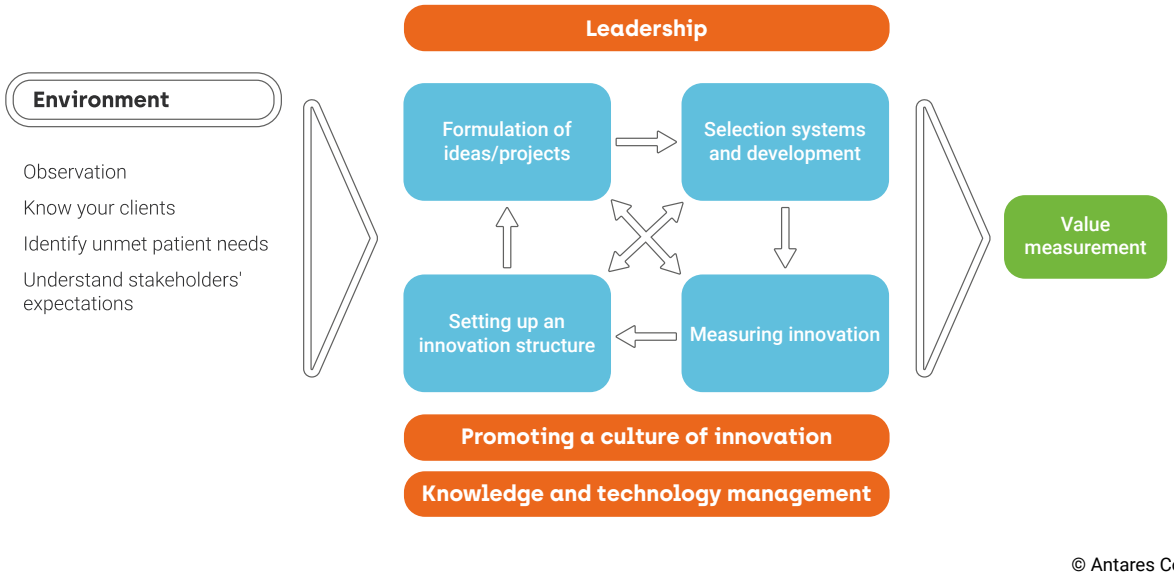


Figure 3: Promoting a culture of innovation within an organisation (Antares Consulting, 2010)

First of all, it is essential to keep a close eye on the institution's environment. Anticipating challenges and transforming them into competitive advantages and opportunities requires prior identification. Whatever monitoring method is used, it is always preferable to monitor the external environment rather than focusing solely on the internal aspects of the organisation. Focusing on internal problems generally limits institutions to continuous improvement, whereas analysing the external environment can generate more innovative options.

Environmental monitoring also involves listening to customers, whether they are prescribers or citizens targeted by prevention or health promotion programmes.

Understanding patients' changing expectations and unmet needs is also crucial in the current context. Healthcare institutions must go beyond simply measuring their activities so they can segment and better understand their patients. At present, few hospitals make the effort to characterise their patients beyond the services they provide.

Lastly, questioning, thinking together and understanding how to bring value to your stakeholders is also a source of innovation.

On an organisational level, a key condition is the creation of a structure that promotes awareness, organises innovation processes and supports all ideas likely to become innovations. This structure must use appropriate methods to guarantee the desired results within a suitable timeframe.

For an organisation to be innovative, it needs unifying leadership among its managers and executives. Informing and training these leaders, while encouraging risk-taking and risk management, are essential for establishing and promoting a culture of innovation. Ultimately, well-developed leadership must also promote learning and personal development (see also video 2 from the Geneva University Hospitals).

Lastly, unmeasured policies are futile and cannot be effectively managed. It is therefore essential to measure value and translate this value into relevant indicators that are integrated into the company's dashboards.

Video 1: Innovation integration progress at Sant Joan de Déu Children's Hospital (Barcelona, Spain)

Strategic integration of innovation - The case of Sant Joan de Déu Hospital:

At Sant Joan de Déu paediatric hospital in Barcelona, innovation has evolved from a simple tool for solving existing problems to a central pillar of the hospital's development strategy. This progression is illustrated in Video 1.

How can the value of innovation be measured?

Measuring value is essential in healthcare innovation. Without clear value enhancement, there can be no real innovation (Porter, 2007 and 2010). It is therefore crucial to quantify the impact of innovation on clinical outcomes, patient-perceived quality of care, response to needs and expectations, increased efficiency, or other appropriate approaches depending on the subject being addressed. This evaluation helps to determine whether the investment is worthwhile.

Innovation is often justified because it replaces or eliminates obsolete practices or technologies and their associated costs. Identifying these inefficiencies allows resources to be reallocated to the development of the most promising innovations while improving the overall efficiency of the healthcare system.

How to innovate?

This guide details the key steps for innovating in the healthcare sector, using the infinity symbol (two interdependent circles) to illustrate the relationship between creating an innovative culture and successfully implementing innovative projects, while at the same time facilitating the necessary organisational change (Nobre, 2013).

This interdependent relationship is structured around two virtuous circles, represented by the infinity sign (see Figure 4), to show the interconnection of the following phases:

0. Systematic scanning of the environment
1. Definition of the mission, vision and objectives of the innovation approach
2. Creation of a dedicated innovation management structure
3. Definition of processes
4. Stimulation and formulation of ideas
5. Identification of opportunities
6. Feasibility analysis
7. Definition of the business plan
8. Definition and performance of the test phase
9. Search for financing and implementation
10. Selection of partnerships and strategic alliances
11. Valorization of innovation outcomes
12. Continuous assessment and integration

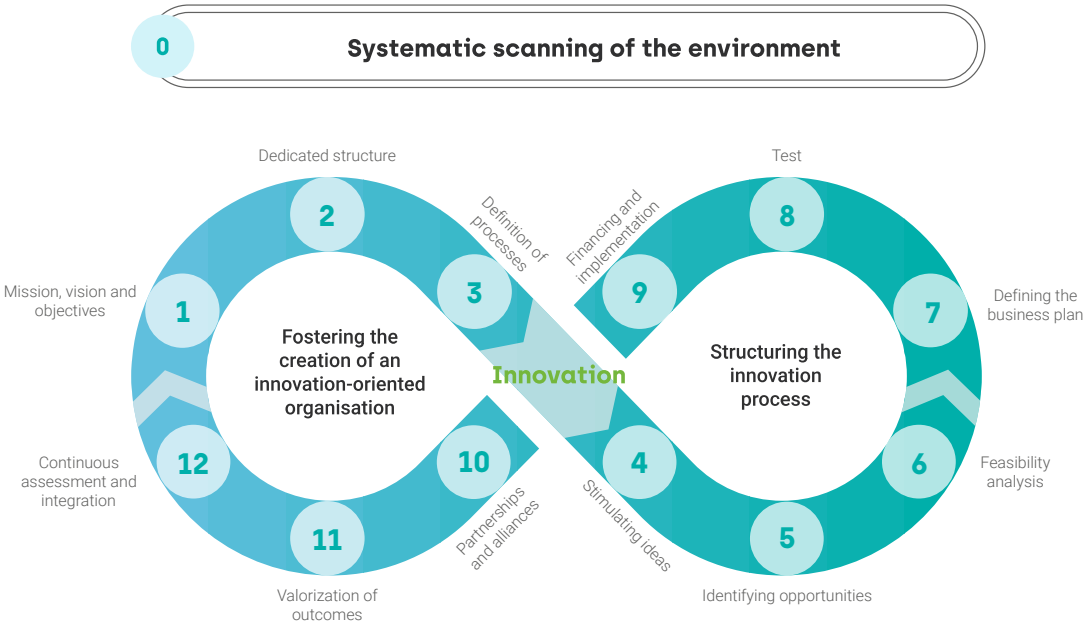


Figure 4: Key stages in an institution's innovation journey (Antares Consulting, 2010)

The first circle highlights the elements that foster the creation of an innovation-oriented organisation, underpinned by Systematic scanning of the environment, creating fertile ground for the emergence of innovations. This also involves adapting hospital structures, which are often too fragmented, to encourage a culture of innovation.

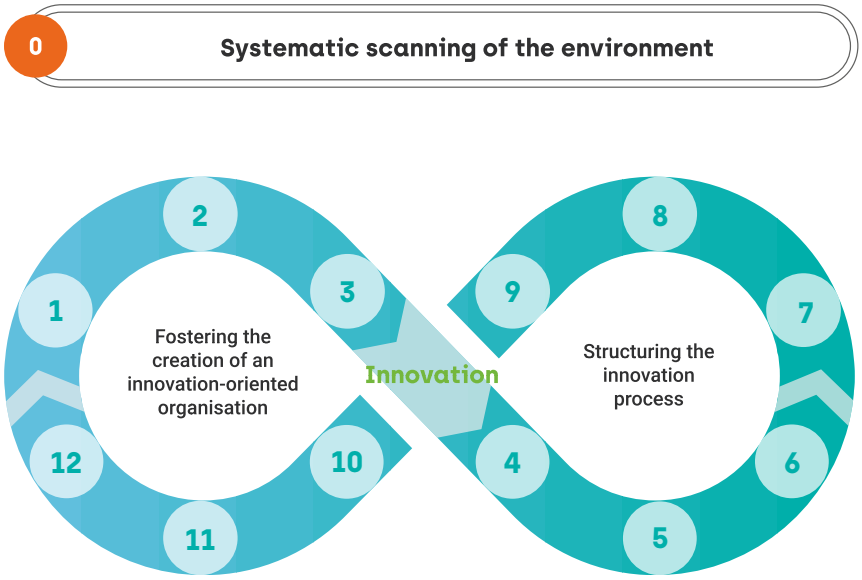
The second circle focuses on the steps needed to structure the innovation process: defining the processes that enable innovation projects to be carried out efficiently, reliably and quickly, leading to tangible results.

Fostering innovation therefore involves not only initiating new projects, but also integrating the practices needed to accelerate the organisation's evolution.

0.

Systematic scanning of the environment

0. Systematic scanning of the environment



0.1 Objective of this phase

The healthcare and social systems environment is constantly evolving, characterised by a large number of changes and transitions in various fields. Knowing and understanding these transitions, and being able to identify their time horizon and potential impact on your organisation, are essential. The aim of this first step is to systematically analyse the trends and changes likely to have a significant impact on your context.

0.2 Why does this matter?

Environmental analysis is the cornerstone of innovation. By understanding its environment, the institution can seize opportunities, anticipate change and meet future challenges. Today's society is undergoing a convergence of major changes, each of considerable importance, and all marked by their rapid evolution and complexity.

The main macro trends (not in order of priority):

- **Demographics**
  The ageing of the population, accompanied by an increase in healthy life expectancy, poses a range of challenges in terms of needs and demands. The new generations, who have grown up in a digital world, are more informed, critical and demanding. At the same time, massive migration, motivated by economic, political and climatic factors, is creating new needs to which we must adapt. Lastly, family structures are also changing significantly.

- **New values in society**
  Patients' expectations have evolved towards greater accessibility, immediacy of care, integration of services, access to information, and transparency. The expression "Nothing about me, without me" (Lansley, 2011) reflects their desire to take charge of their care. Innovation means revisiting organisational and care processes, service design, space planning, institutional governance and the criteria for measuring results.

- **Epidemiology**
  The prevalence of chronic diseases and the increase in life expectancy are transforming the way care is delivered. It is crucial to develop the integration of health and social services, adopt a global and multidisciplinary approach and use digital technologies. Mental health has also become a major issue, requiring new approaches and forms of intervention.

- **Digital transformation of society**
  Digital transformation is influencing every aspect of our lives. The large-scale incorporation of the digital approach into health-care services is unavoidable and will improve non-presential care, productivity, diagnostic reliability and patient relations.

- **Financing**
  Rising healthcare costs are outstripping economic growth. Changes in healthcare financing are shifting the focus towards more tailored care, transferring risk to providers and necessitating a rethinking of organisational models.

- **Environment**
  Sustainable development objectives are becoming imperative, and the carbon footprint of the health and social care industry is increasingly worrying.

- **Knowledge**
  Advances in scientific knowledge, particularly in pathophysiology and disease treatment, are challenging the organisation of hospitals, which are traditionally based on medical specialities.

- **Professionals**
  The growing importance of chronic diseases, the evolution of technologies and digital transformation are having a profound influence on the work of healthcare professionals and the way patients are cared for over the long term.

- **New players and changing missions**
  New players, including industrial giants, are investing in the provision of healthcare services. Public-private partnerships and new industrial approaches are redefining the missions and business models of healthcare institutions.

Meso and micro trends

It is less relevant to generalise about meso and micro trends.

At the meso level, it is possible to identify certain public policies common to several countries, such as those of the EU-15, Norway, the UK and Switzerland. For example, all these countries have public policies that encompass the following:

- financing reforms;
- efforts to facilitate care integration;
- responses to new needs, such as mental health, rare diseases and rehabilitation requirements;
- structuring of community health and prevention;
- promotion of appropriate care (prioritising the relevance of care rather than just its effectiveness);
- digital transformation of healthcare services;
- development of new approaches to tackle the crisis in the profession and professional organisations, and the shortage of professionals.

At the micro level, generalisation is impossible, as each institution occupies a unique geographical space, with its own distinct and specific patients, suppliers, competitors and potential partners.

0.3 What is the process?

- Talk to hospital institutions that are more advanced in the reforms needed to respond effectively to these different trends;
- Consult academic experts and clinical leaders to better understand the importance, implications and impact of macro trends;
- Listen to patients, in a variety of ways, to better understand their expectations and unmet needs;
- Organise brainstorming sessions around macro trends to stimulate creative thinking and explore new ideas and solutions;
- Consult public or private, national or international bibliographical sources produced by associations, governments, multilateral organisations or think tanks, to broaden your perspective and provide information for innovation.

There are many well-documented reports on these trends and their evolution (see Figure 5). Particularly significant is the convergence of the expert authors' opinions on an uncertain future. It is therefore very useful to identify some of these relationships and monitor them systematically. They are best used as sources for discussion and reflection, examining the relevance of their findings and recommendations, as well as their potential impact in your context.

These actions provide a better understanding of the changes underway and identify opportunities for innovation within healthcare systems.

Don't forget to share the information and lessons learned from the macro trends watch! The internal dissemination of this data is crucial for raising awareness among all the key players in the institution. It is particularly important to encourage executives, professional leaders and local managers to think about the potential impact of this information in guiding innovation.

In terms of microanalysis within your geographical catchment area, several methodologies can systematise this analysis. The most common is based on an analysis of Porter's five forces: competitive rivalry, the threat of new entrants, the bargaining power of suppliers, the bargaining power of buyers and the threat of substitute products (Porter, 1980).

Figure 5: Examples of sources of public information on environmental analysis

0.4 Critical aspects

- Regularly monitor the environment to avoid limiting yourself to a continuous improvement approach;
- Do not assume that the institution has already mastered all aspects of environmental analysis. Also, do not adopt the opposite attitude of believing that nothing is possible;
- Analyse the issues likely to have a significant short-term impact on your institution, avoiding a biased selection limited to areas where the institution is already prepared to cope with change;
- A sceptical attitude towards future projections can limit the analysis of macro trends. It is important to resist the temptation to systematically discredit these reports, whether through a refusal to believe in changes in your context, or simply because you do not agree with their content or they significantly challenge you. These interpretations are designed to stimulate thought and broaden your perspectives.

0.5 Remember

Understanding the macro trends or transitions underway at all levels means that you can lay solid groundwork for future innovation.

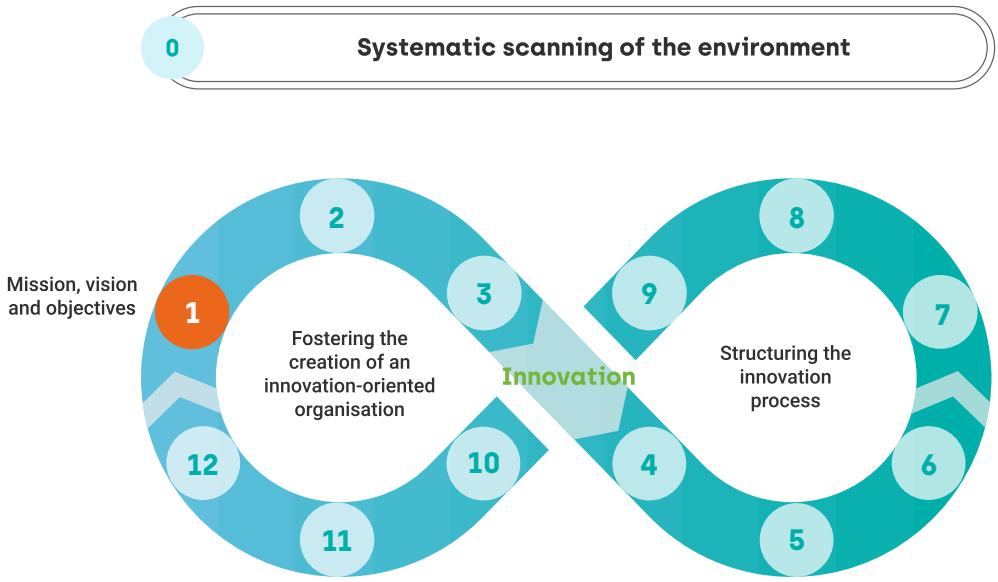
- Identify the major transitions at three levels - macro, meso and micro - that influence health and social systems. Determine which will have the greatest impact on your context;
- Listen to patients' often unspoken needs and expectations;
- Get to know the dynamics of all the institutions in your catchment area;
- Consult and discuss ideas with experts in your field on a regular basis;
- Communicate internally with all key players on macro, meso and micro analyses and their implications for your field. The aim is to make them aware of the need to act differently, and to encourage creative thinking within teams.

This is already common practice in industry, enabling it to effectively anticipate change.

1.

Definition of the mission, vision and objectives of the innovation approach

1. Definition of the mission, vision and objectives of the innovation approach



1.1 Objective of this phase

It is crucial to reflect on and formalise the "why" of innovation within an institution. Innovation is not a fad, it is an approach that serves a mission.

Innovation objectives vary from one institution to another. For example, academic institutions may seek to capitalise on their research results to develop and implement innovative initiatives. Specialised hospitals (oncology, paediatrics, ophthalmology, etc.) may be interested in strengthening their differentiation, while other hospitals may want to consolidate their existing strengths.

As explained above, for qualifying a healthcare institution's positioning, the three approaches to innovation presented in Figure 2 are not mutually exclusive. Furthermore, although these approaches do not correspond 100% to the reality of every institution, thinking about them helps to clarify your desired purpose and determine your priorities.

An institution's Vision defines this purpose, this desired medium-term future. It must be clear, understandable by all, and meet the expectations of patients, stakeholders and professionals. A well-defined vision allows you to identify the indicators for measuring results, i.e. the achievement of this vision. These indicators should reflect the desired stage of development. The Vision is a conceptual framework that guides decision-making in developing the necessary strategies and initiatives. It also helps in making coherent decisions in unexpected situations.

1.2 Why does this matter?

The mission and, above all, the Vision tell you "why" you want to innovate. This desire, expressed clearly and concretely, helps you to decide "what to do" and "how to do it". This approach, illustrated by *The Golden Circle* (Sinek, 2009), enables you to move proactively rather than reactively towards innovation (see Figure 6).

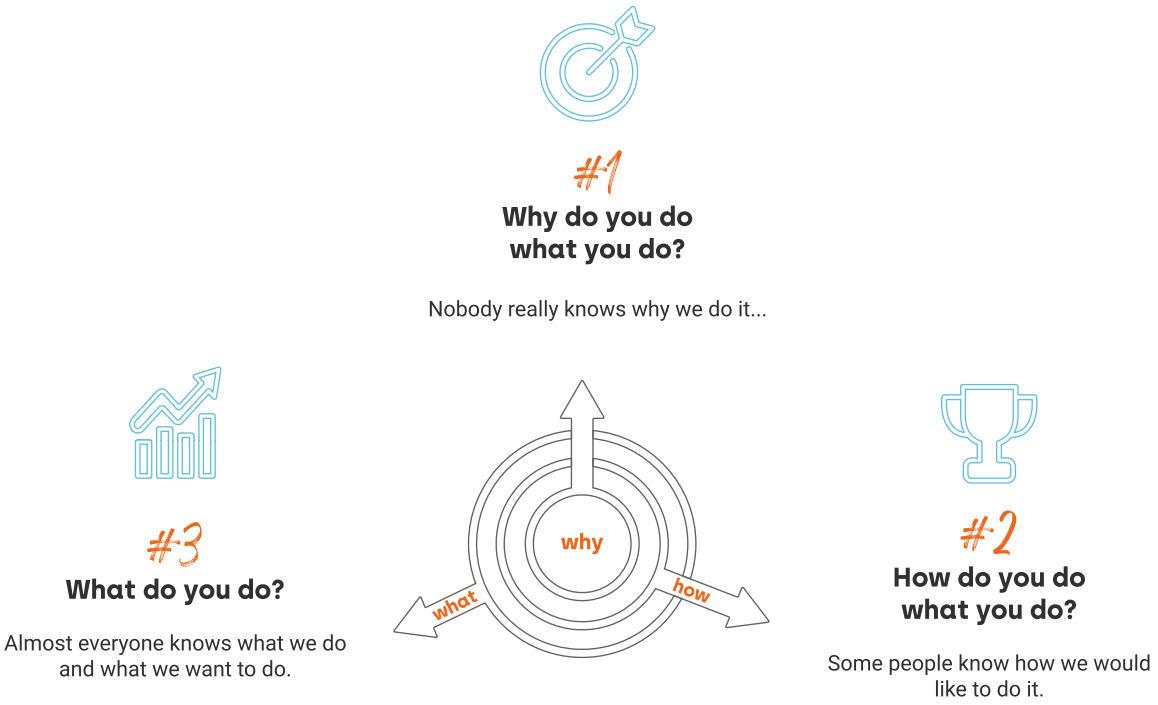


Figure 6: The Golden Circle (Sinek, 2009)

1.3 What is the process?

What is the point of a vision?

The Vision is a clear representation of the institution's desired future within a given timeframe. It provides a general orientation for defining objectives and establishing the strategies and initiatives needed to achieve them. The Vision is positioned upstream of the entire process and guides planning and actions.

The Vision is expressed through values, goals and priorities. It is the first step in expressing the desired direction, for the present and the medium- and long-term future. As a management tool, it facilitates decision-making and serves as a springboard for communication and motivation. The Vision is therefore the lever that drives change and guides the organisation's development.

How to define a vision?

Defining the Vision is an analytical exercise requiring joint reflection by governance bodies, professional leaders and stakeholders. As a frame of reference for the institution's ultimate objectives, it is essential that the Vision is easily communicable and understandable. It must also demonstrate its feasibility to guarantee its effectiveness.

And at H.U.B. in particular?

Members of the Innovation Centre's acculturation group took part in seven working sessions to reflect on the Innovation Vision 2035 at H.U.B. and its operationalisation in the shorter term. These sessions led to the definition of a Vision proposal that was adopted by the H.U.B. Board of Directors in September 2024.

1.4 Critical aspects

A well-defined Vision must:

- unite all the key players around a common goal. To achieve this, a consensus-building process must be organised with the institution's decision-makers to clarify the Vision;
- be communicated in a variety of ways, emphasising different aspects for different audiences, to ensure that it is understood and appropriated. All the key players need to understand how they can contribute to achieving this Vision;
- serve as a management tool to guide actions and decisions.

1.5 Remember

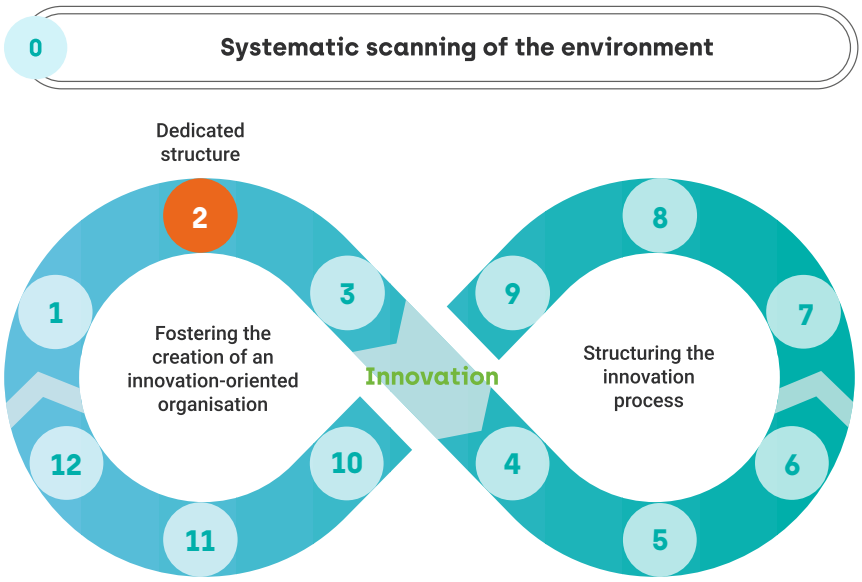
The Vision must be realistic, comprehensible and operationally defined. It is the foundation on which the strategies and actions for achieving the institution's objectives are built.

The Vision's transformative potential can only be fully realised if everyone involved understands its importance and how they can contribute to it.

2.

Creation of a dedicated innovation management structure

2. Creation of a dedicated innovation management structure



2.1 Objective of this phase

The aim of this phase is to set up an innovation management structure within the institution to ensure ongoing action to promote innovation development.

Initially, this structure will organise processes and encourage the formulation of proposals. It will gradually be required to provide methodological support for all processes and evaluate not only proposals resulting from calls for projects, but also those submitted spontaneously.

It is important for this structure to be as cross-functional as possible so that it can work with all departments and organisational units.

2.2 Why does this matter?

Innovating is a collective effort that requires genuine cross-functionality. To guarantee this collaborative approach, the innovation management structure must have the firm support of top management. This support is crucial to overcoming the challenges inherent in teamwork, particularly in organisations that are often fragmented, hierarchical and characterised by different approaches specific to each unit. Aligning management with the innovation objectives facilitates the coordination and cooperation required for successful innovation at all levels of the organisation.

2.3 What is the process?

- Determine the type of structure best suited to your needs. This may be an innovation department, a dedicated programme or a cross-functional team. Creating synergies with existing structures dedicated to research or performance improvement can be a clever way of sharing resources;
- Appoint an innovation manager or a multi-disciplinary team to manage innovation, with management support, internal recognition and the leadership to coordinate the work, set clear objectives and report on progress;
- Define an innovation strategy: in addition to defining priorities, objectives and the means to achieve them, this strategy must specify the methods for stimulating innovation and be in line with the institution's Vision and overall objectives;
- Rigorously follow a structured innovation programme with clearly defined milestones, measurable objectives and deadlines to guarantee innovation progress and measure evolution using indicators;
- Set up training and capacity-building programmes for the institution's staff, particularly on the overall approach and the methodologies to be used in each phase of the innovation process.

Video 2: Development of an Innovation Centre at Geneva University Hospitals (Geneva, Switzerland)

Development of an Innovation Centre - the case of Geneva University Hospitals:

Seven years ago, Geneva University Hospitals were among the first in Europe to develop an Innovation Centre. This Innovation Centre was part of the HUG's strategic plan, which focused on cultural change within the institution. Today, it is a major tool for providing motivation, generating ideas and engaging employees, patients and partners. Their experience is described in Video 2.

Video 3: Creation of an Innovation Unit at Clinique CHC MontLégia (Liège, Belgium)

Development of an Innovation Unit - the case of Groupe Santé CHC:

More recently (since 2022), Clinique CHC MontLégia has created an Innovation Unit whose mission is to coordinate new ideas as effectively as possible and structure interactions with players from outside the institution to identify potential synergies. Discover some of the projects supported by this Innovation Unit in video 3.

Creation of an innovation department at Hospices Civils de Lyon

Innovation is at the heart of activities at Hospices Civils de Lyon (HCL), as illustrated by world firsts in transplants, innovative equipment, partnerships and an enhanced patient experience. Initiatives include the Electronic Patient Dossier developed by HCL, innovative purchasing and partnerships such as GOPI (optimised imaging equipment management), and the management of large-scale projects in Lean Design mode.

In 2021, an ambitious programme was created to support this innovation; one of its main actions was the creation of a federating and facilitating innovation department. This department organises the "Innovations - Partnerships - 3D Printing", "Valorisation & Intellectual Property" units and the "Innovative Medical Devices Expertise Unit".

This team is also responsible for opening a desk to process applications for support and funding, developing a network of partners to boost creativity and create alliances, and organising regular meetings to spread the culture of innovation. Funding has also been secured for innovative in-house projects.

To find out more: Hospices Civils de Lyon (2023) L'innovation aux HCL - Rapport d'activité 2022.

Structuring innovation management in Brussels hospitals

In early 2024, we contacted most of the hospitals in Brussels to obtain information about their innovation management. The aim was to understand existing structures, current initiatives and any obstacles encountered. A total of eight hospitals were contacted for this survey.

According to the answers provided by our respondents, none of the hospitals is planning to create a structure dedicated strictly to innovation, with a cross-functional position within the organisation.

The information collected revealed that most hospitals do not currently have dedicated innovation management structures. However, innovative initiatives do exist, often driven by motivated individuals or specific departments such as IT or quality of care. These initiatives include digitalisation, patient pathway improvement and interdisciplinary collaboration projects. However, the lack of financial and human resources and the absence of institutional support often hinder these initiatives.

2.4 Critical aspects

Think carefully about the most appropriate position to take on this responsibility from the outset, evaluating the following options:

- Management position: make sure responsibilities are clearly defined, with a clear decision-making role and direct accountability for results;
- Cross-functional position: consider a role recognised for its ability to intervene across the entire organisation. This could include a collegial body, led by an executive manager.

In this process, it is crucial to ensure that the key questions are clearly addressed:

- Are the responsibilities and objectives clearly defined by the management, and are they known and recognised both within the management and throughout the organisation?
- Does the chosen position enable cross-functional action throughout the organisation?
- Can decisions be made and implemented immediately, without intermediate constraints?

In addition, adequate resources, including human resources, must be allocated to this unit. Be prepared to consider unconventional solutions, such as using staff on a part-time or fixed-term basis, and pooling specialised resources with other units within the institution (e.g. research management and performance management units).

Lastly, a crucial question to consider is that of external alliances in the innovation process. You will not develop innovation alone in your institution; you will probably need external partners (see also step 10. “Selection of partnerships and strategic alliances”). If you think that these allies could become more than one-off suppliers, you must plan from the outset the best structure and governance for establishing lasting partnerships (to share risks, accelerate market access and reap other potential benefits), working effectively with other organisations.

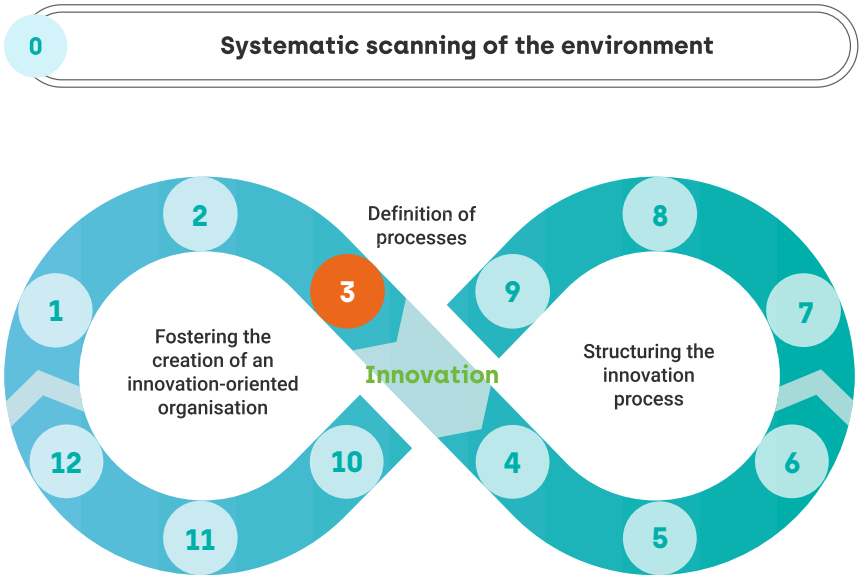
2.5 Remember

Keep these essential points in mind:

- Clarify responsibility for innovation within your organisation, and the associated governance;
- Identify the person responsible for innovation at the head of this structure;
- Ensure the structure has clear accountability and is supported by management;
- Define well-established missions, vision and decision-making processes within this structure;
- Anticipate flexible and changing situations when allocating resources.

Definition of processes

3. Definition of processes



The framework for innovation is now in place, as you have scheduled a systematic environmental analysis, set up a dedicated innovation structure and defined your priority objectives.

3.1 Objective of this phase

The aim is to put in place a well-structured, transparent process framework to support the journey from the initial idea to the end of the innovation process. For each stage, you must define the objectives, identify the tools to be used (methods widely recognised in the literature and accessible) and set the go/no-go criteria for each phase of the process through to the end, while maintaining maximum objectivity.

3.2 Why does this matter?

The aim of this phase is to make the innovation process more reliable and streamlined, ensure efficient project management and minimise risks. It also ensures the appropriate allocation of resources to the most promising projects, while objectively assessing their feasibility and potential impact on the institution.

3.3 What is the process?

It is useful to structure the six main stages of an innovation process in detail (see steps 4 to 9 in Figure 4):

4. Stimulation and formulation of ideas
5. Identification of opportunities
6. Feasibility analysis
7. Definition of the business plan
8. Definition and performance of the test phase
9. Search for financing and implementation

It is crucial to build and share a chart detailing this process within the institution. This guarantees its reliability, identifies the required skills and provides transparency, while informing potential candidates about the process from the outset (see Figure 7).

Figure 7: Structure of the processes and analyses to be carried out at each step to provide support, from the formulation of an idea to its achievement

These steps can also be represented as a funnel, where each initiative progresses according to its relevance, assessed at each phase using methods adapted to each objective (see Figure 8). This practical guide ensures a rigorous process, avoiding false negatives (opportunities wrongly dismissed) and false positives (resources wasted without results).

An idea initially considered irrelevant can evolve with adjustments. Fostering creative thinking means not rejecting an idea out of hand, but exploring its possible potential.

It is impossible to simultaneously optimise the levels of false positives and false negatives, as they are inversely proportional. If I want to reduce false positives, I will reject all unconventional ideas and will not be able to innovate. If I want to avoid false negatives, I will consume a lot of resources without providing any value. Consequently, it would be preferable to minimise false negatives during the initial steps and reduce false positives at more advanced steps.

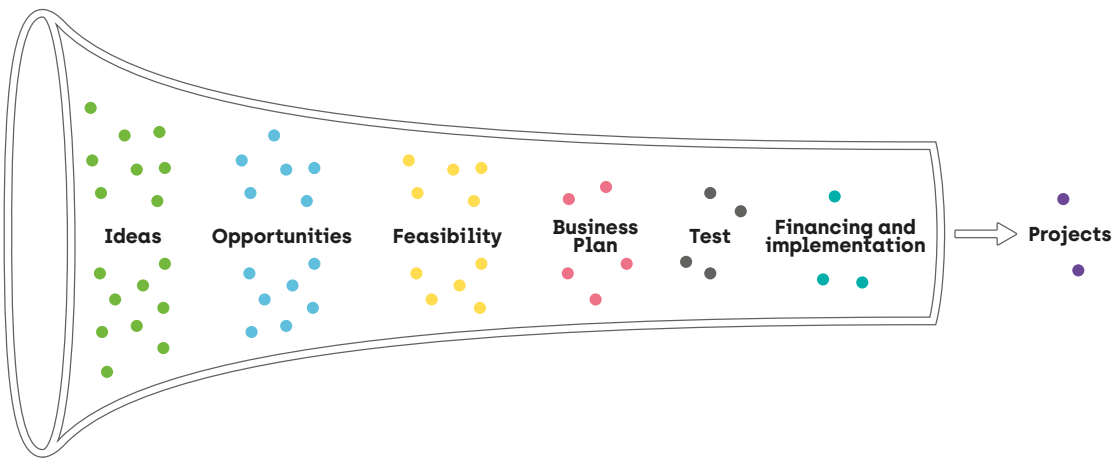


Figure 8: A progressive selection process from ideas to innovation projects for implementation

Each phase of the process has its own specific objectives, tools, methods and risks. While some aspects are standardised, others vary depending on the institution or the nature of the innovation to be studied. Each phase requires distinct skills and knowledge, potentially involving different people at each step. Profiles must be adapted to the type of project.

3.4 Critical aspects

- Describe each step to ensure process traceability;
- Determine the skills required for success at each stage, then decide whether it is best to develop these capabilities in-house or use external resources;
- Define each step in a pragmatic, achievable way. Simple, effective execution is better than a complex, unachieved proposal;
- Avoid intuitive decisions. Instead, choose structured processes that lead to rational decision-making.

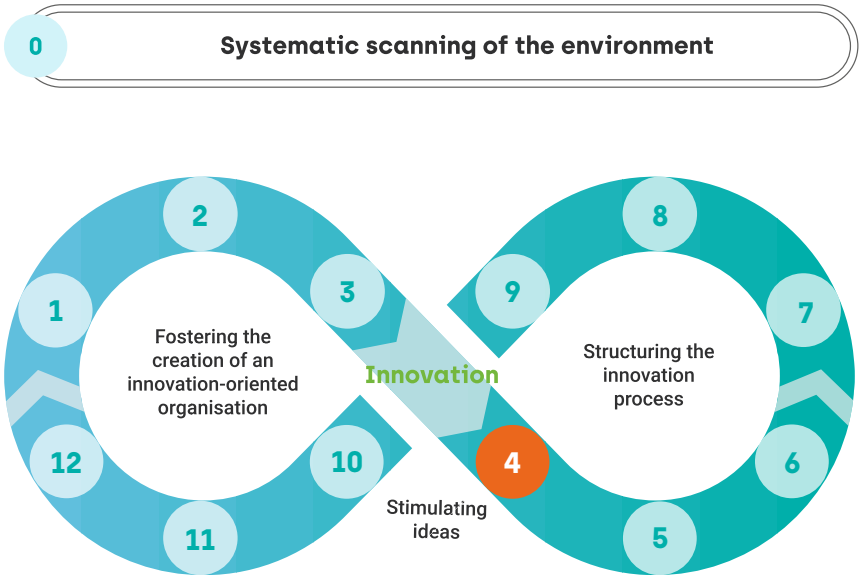
3.5 Remember

- Adopt appropriate methods and validated tools used in the innovation literature;
- Align processes with the institution's overall strategy for judicious resource allocation. If the Vision includes specialisation, this may require specific steps or tools;
- Maintain sufficient flexibility to enable rapid adaptation to new needs;
- Coordinate all the project steps to avoid duplication and gaps, and prevent delays and inefficiencies;
- Implement agile processes to adapt quickly to changes and new opportunities.

4.

Stimulation and formulation of ideas

4. Stimulation and formulation of ideas



4.1 Objective of this phase

The objective of this phase is to unleash creativity by generating innovative ideas within your institution and involving a large number of people. Every member must feel able to contribute to the innovation process. The ultimate aim is to collect a range of proposals for solving problems and/or exploiting opportunities, in line with the defined strategic priorities (see Figure 2).

Innovation also means being inspired and opening up to new horizons. A formal phase of stimulating ideas is crucial to support and enhance innovative minds. The aim is to enable all employees to share their ideas (bottom-up) and diversify contributions in line with institutional priorities (top-down) (Barets and Duchateau, 2020).

4.2 Why does this matter?

The ultimate goal of an innovation development policy is to encourage proposals to emerge spontaneously from those in charge of the process. As a result, the implementation of these spontaneous ideas is a positive indicator that the innovation culture is taking root.

However, there are several situations where calls for projects are essential:

- during the initial implementation of your institution's innovation development policy;
- when faced with a specific situation or a complex problem, or when you want to boost creativity on a particular theme;
- when approached by external organisations.

This phase creates an environment conducive to the emergence of innovative ideas and reinforces the culture of innovation by encouraging the participation of all institution members. By fostering this participation, the risk of overlooking valuable ideas is minimized, further enhancing the environment for innovation.

4.3 What is the process?

To stimulate creativity and collect original ideas:

- Create an environment where staff feel comfortable sharing even the boldest ideas;
- Set up an open and transparent idea-gathering process;
- Diversify the tools for encouraging and collecting ideas (online platforms, dedicated innovation spaces, etc.);
- Clarify and communicate the key issues requiring innovation;
- Hold brainstorming sessions involving various departments and hierarchical levels.

The ultimate aim of this phase is to create an environment conducive to the spontaneous generation of ideas and initiate the proposal evaluation process (Benoît-Cervantes, 2016). The key question is therefore how to receive and process these proposals.

Hack Healthcare:

The Hack Healthcare event is a good example of how to boost the formulation of good ideas within the ecosystem.

Every year in Belgium, it brings together experts from the healthcare sector to solve complex healthcare challenges presented by key players. Over two days, participants focus on specific issues, take part in collaborative brainstorming sessions and then work to turn these ideas into reality for future implementation.

Further information: https://hackbelgiumlabs.be/hack-healthcare/

Video 4: Development of a pre- and post-natal monitoring application at Foch Hospital (Paris, France)

Patient experience approach and the collection of their needs - The case of Foch Hospital

Foch Hospital implemented the patient experience approach in 2018 so that it could better identify the needs of its patients. In the maternity hospital, mothers wanted a tool for pre- and post-natal monitoring. The hospital embarked on a co-creation process to develop the appropriate solution with patients, carers and doctors, and test it in its living lab. Discover it in video 4.

4.4 Critical aspects

Evaluating the progress of this phase is essential, as it reveals the degree and characteristics of diffusion and interest in innovation among the institution's different departments, professionals and organisational units. It is also worth noting whether the proposal of an idea involves the collaboration of different departments or even the participation of external allies.

The key indicators for assessing performance in this phase must be adapted to the specific features of each institution. The basic indicators should include, on the one hand, the number of spontaneous ideas produced by staff and, on the other, the number of ideas generated during targeted calls for ideas.

Here are some examples of indicators:

- proportion of innovative proposals to continuous improvement proposals;
- proportion of ideas for exploiting potential opportunities;
- total number of departments participating in this process (including those that never participate);
- quality of the ideas proposed (needs or opportunities), measured, for example, by the quality of the justification or merits of the proposal.

Overall, these indicators should make it possible to characterise the nature and quality of the proposals and the people or departments involved.

And at H.U.B. in particular?

This phase of stimulating ideas at H.U.B. began with the members of the operational group set up to create the Innovation Centre. The principle applied was to "diverge" as much as possible before converging on the choice of needs and ideas to be worked on (see first diamond in Figure 9).

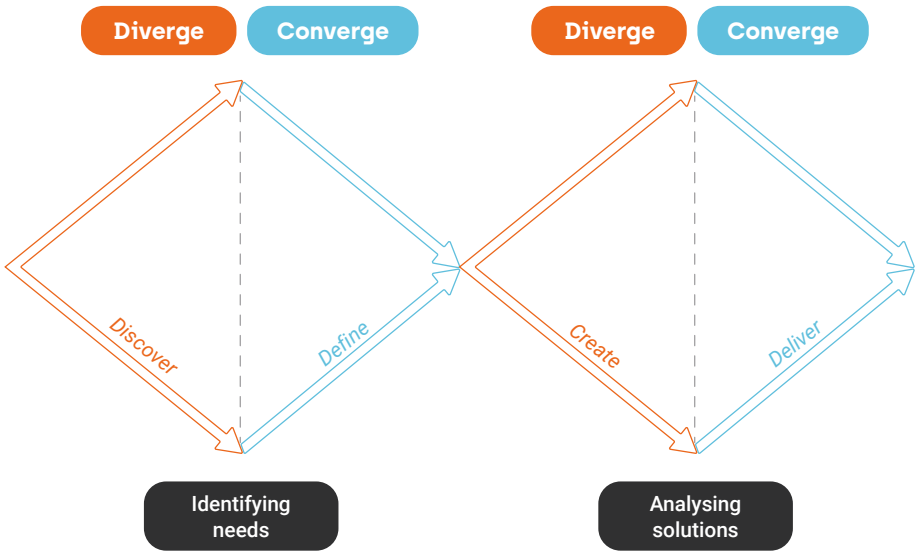


Figure 9: "The Double Diamond" methodology used to identify needs (adapted from the British Design Council, 2005)

Although a large number of needs and ideas were collected within the operational group, the desire to include all hospital employees in the reflection process emerged from the group.

The decision was then taken to issue an institutional "call for needs". To frame this call, a brainstorming session centred on the H.U.B.'s strategic plan took place with the management of the Innovation Centre's operational group to list the priority themes. These themes were validated by management:

- involving patients' families in the care process;
- creating a smoother patient journey within the hospital.

A questionnaire (also referred to below as a "query form") developed by the Innovation Centre was put online and shared within H.U.B. The members of the operational group also promoted it among their colleagues to encourage widespread participation in the field (see first part of Figure 10).

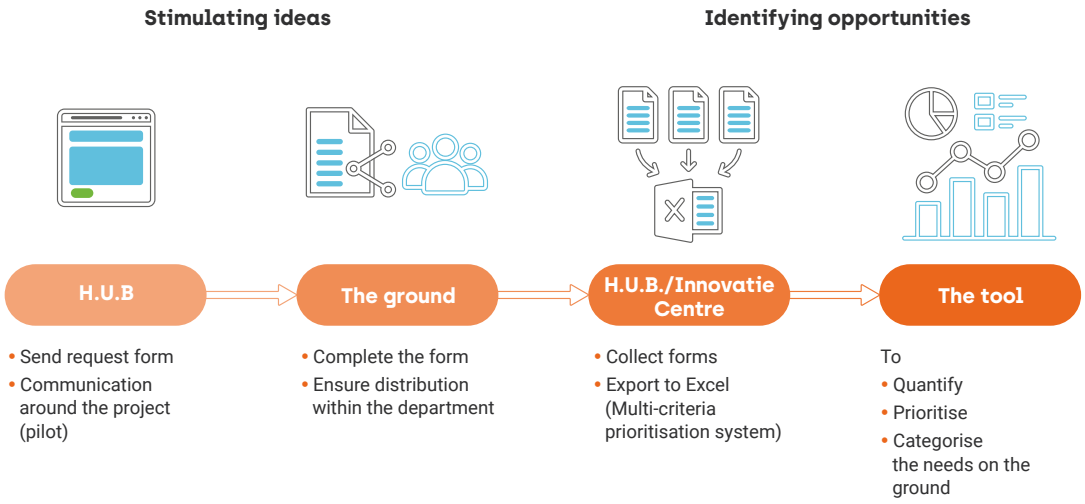


Figure 10: Overall methodology for stimulating ideas and identifying opportunities (© Hict, 2023)

After two weeks of collecting requirements, the form had 47 submissions from H.U.B. employees in 24 different departments.

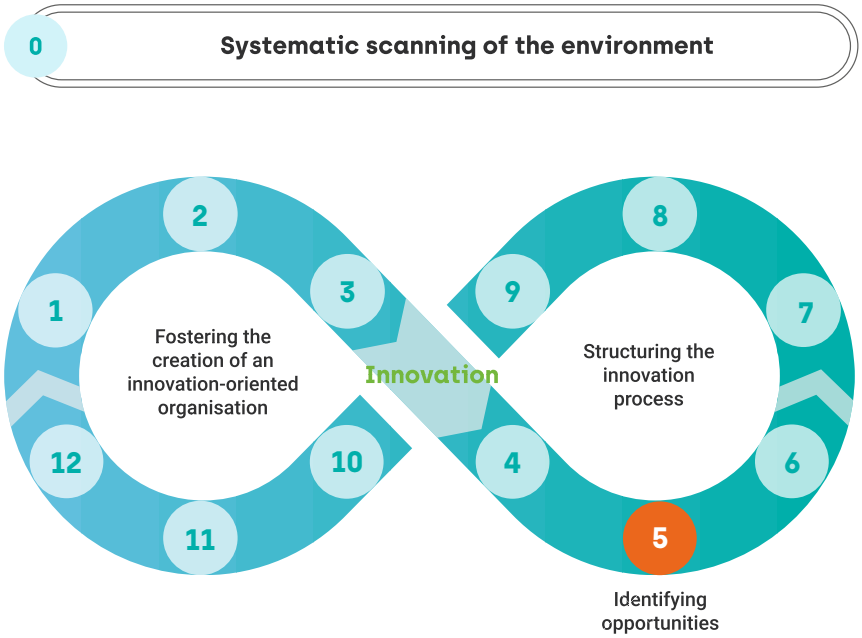
4.5 Remember

- Clearly define the priority areas of intervention and the innovation themes, and align them with the defined Vision;
- Structure calls for projects by specifying the desired area of intervention, whether in response to needs or to seize opportunities;
- Set the preferred conditions for calls for tenders: promote proposals involving several departments, multidisciplinary proposals, those that include patients in the team, etc.;
- Organise the receipt of spontaneous ideas at any time;
- Do not reject or discredit creative thinking. Before ruling out an idea, ask yourself: "Why not?"

5.

Identification of opportunities

5. Identification of opportunities



5.1 Objective of this phase

The aim of this step is to identify the most promising innovation opportunities from among the ideas received. Although the "Idea Stimulation and Formulation" step is designed to solve a problem or take advantage of an opportunity, this phase focuses on identifying the initial options that may actually constitute an opportunity.

In calls for projects, this analysis begins by sorting through the submitted ideas. It includes evaluating and quantifying opportunities to select those that best meet the institution's needs. A structured approach is essential for this identification.

5.2 Why does this matter?

This phase enables resources to be concentrated on those innovation projects with the greatest potential for positive impact. It prevents the dispersal of human and financial efforts on ideas that are not very feasible, not very beneficial, or already under development.

5.3 What is the process?

Follow a methodical approach to assess the value of the submitted ideas:

- Develop a formal, transparent process for reviewing ideas;
- Use evaluation and prioritisation tools and criteria;
- Facilitate the exchange of ideas between members of different departments;
- Exchange ideas with tenderers to clarify and flesh out the proposals;
- Ensure proposals are approved by management;

- Analyse the market: identify trends, emerging demands and gaps. Understand the needs of different patient groups;
- Involve the stakeholders: consult patients, professionals and industry experts to obtain their opinions and ideas for potential solutions;
- Study the competition: identify the weaknesses of competing solutions and find out how you can do better;
- Ensure your institution's needs are aligned with the innovative solutions available on the market or to be developed in preparation for the next phase (feasibility).

With this in mind, keep abreast of technological and scientific advances. Explore new technologies - innovative medical devices, mobile apps, digital solutions - that address unmet needs or improve healthcare.

When prioritising the collected needs, it is crucial to consider the added value of the needs and solutions proposed. Their impact on the following aspects needs to be assessed:

- improving health outcomes;
- transforming clinical practice;
- improving the patient experience;
- improving efficiency;
- improve healthcare professionals' work quality;
- contributing to the organisation's digital transformation.

Video 5: Rosa's developments in relation to hospital needs (Brussels, Belgium)

Addressing the needs of hospitals - the case of the start-up Rosa:

In addition to GPs, in 2023 Rosa improved its online medical appointment booking platform so that it also meet the needs of hospitals facing a huge number of "no-shows", making the appointment booking system more efficient. Watch its testimonial in video 5.

And at H.U.B. in particular?

The application of this step 5 to H.U.B. was based on the "diverge/converge" methodology mentioned above (see second diamond in Figure 9). In practice, this involved two stages for qualifying the results (see Figure 11):

- Qualification 1: Converge the needs/ideas from the previous phase to bring out the most relevant;
- Qualification 2: Diverge the ideas for solutions/tools that meet the needs identified in Qualification 1, by creating mini business cases (see also Figure 12).

H.U.B. Innovation Centre – MULTI-CRITERIA PRIORITISATION SYSTEM

Qualification 1

HUMAN IMPACT				ORGANISATIONAL IMPACT						URGENCY			
Patient impact		Staff impact		Sustainability & ecological impact		Link with H.U.B strategy		Cross-cutting nature: Impact on the hospital's 3 institutions		Incentive		Competitiveness	
Weight:	X%	Weight:	X%	Weight:	X%	Weight:	X%	Weight:	X%	Weight:	X%	Weight:	X%
Brief description of parameter		Brief description of parameter		Brief description of parameter		Brief description of parameter		Brief description of parameter		Brief description of parameter		Brief description of parameter	

H.U.B. Innovation Centre – MULTI-CRITERIA PRIORITISATION SYSTEM

Qualification 2

DEGREE OF INNOVATION				EFFORT						VISIBILITY			
Degree of uncertainty		Risk		Cost-Benefit		Feasibility (organisational preparednes)		Time frame		Internal		External	
Weight:	X%	Weight:	X%	Weight:	X%	Weight:	X%	Weight:	X%	Weight:	X%	Weight:	X%
Brief description of parameter		Brief description of parameter		Brief description of parameter		Brief description of parameter		Brief description of parameter		Brief description of parameter		Brief description of parameter	

Figure 11: Multi-criteria prioritisation system developed for the evaluation of the ideas/needs submitted during the internal call (Hict, 2023)

Qualification 1 - Objective: Converge on the top 3 needs submitted by H.U.B. employees

- Evaluation of submissions: all submissions were evaluated by members of the Innovation Centre's operational group, the lifetech team, and Hict consultants. Each submission received a confidence score based on the answers provided in the questionnaires.
- Evaluation criteria: the criteria, defined by the operational group and shown in Figure 11, include the organisational impact of the need, the ecological impact, the impact on the patient and the link with the hospital's strategy. In addition to this objective quantitative assessment of the evaluation parameters, members of the Innovation Centre's operational group were also asked to provide a qualitative "overall feeling" score for each submission. This subjective assessment helps to validate the automatic quantitative prioritisation and identify needs that are interesting but not a priority.

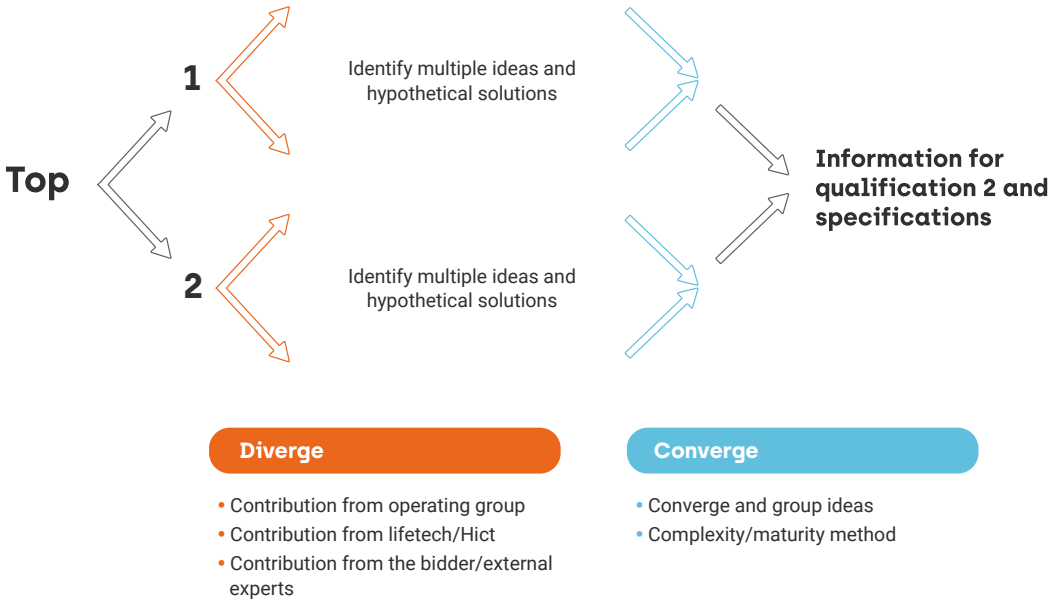


Figure 12: Approach defined for the two qualifications of the ideas/needs submitted during the internal call (adapted from the British Design Council, 2005)

A dashboard (see appendix) was developed to view all the evaluations. This table served as the basis for a workshop aimed at determining a top 3 to be included in Qualification 2. Although a top 2 was eventually established (the third top 3 option being a possible "Plan B"), the decision was taken to continue with one of the submissions, validated by management.

We have observed that the call for needs must be framed sufficiently upstream to obtain usable and actionable content within the framework of the Innovation Centre's mission, and to prioritise needs more easily.

Qualification 2: Objective 1: Diverge the ideas for solutions/tools that meet the needs identified in Qualification 1

Qualification 2 was carried out during a brainstorming workshop (see Figure 13) with members of the Innovation Centre's operational group. The group used the results of Qualification 1 and a market and literature review to list the available solutions (developed or not) that could meet the submitted needs.

Qualification 2: Objective 2: Define the criteria that the solution/tool should meet

The aim was to build a mini business case (in our context, certain criteria, such as the budget, had already been set) and establish the content of the call for solutions, the next step of the project.

Discussions were also held with the winning tenderers. These discussions helped to refine the choice of needs to be selected, as some of the submitted needs were deemed very interesting but ultimately did not fit with the mission of the H.U.B. Innovation Centre (see also "Definition and execution of the test phase" section).

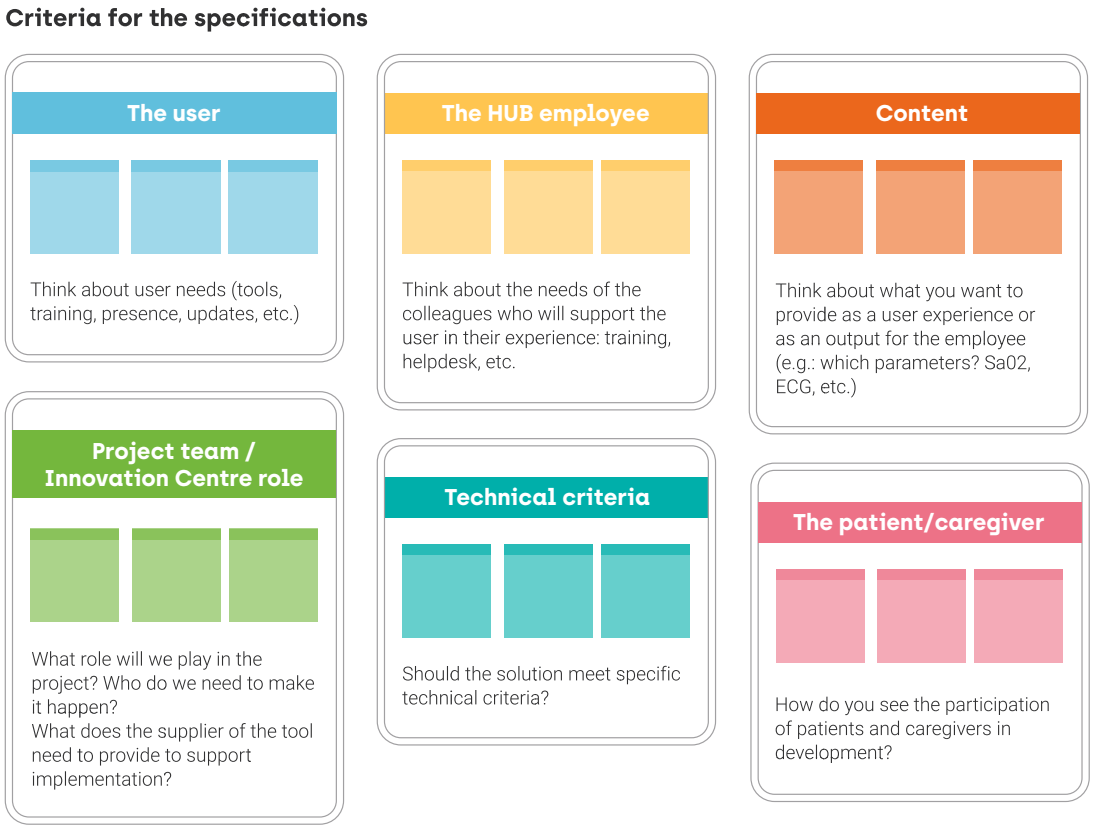


Figure 13: Workshop methodology for defining the criteria ("need to have" and "nice to have") required for project definition and drafting a call for projects or specifications (Hict, 2023)

We have observed that it is crucial to carry out an in-depth analysis of market maturity, i.e. to ensure that the market is ready to partially or totally respond to the need expressed, even if this means that the hospital and the solution developer(s) have to co-create the most appropriate solution (see also Step 6. "Feasibility analysis").

5.4 Critical aspects

The major risk is to classify an idea as a "false negative", which means you have lost a potential opportunity.

The hardest part is determining the competitive advantage you will have over a similar initiative, whether already in existence or under development.

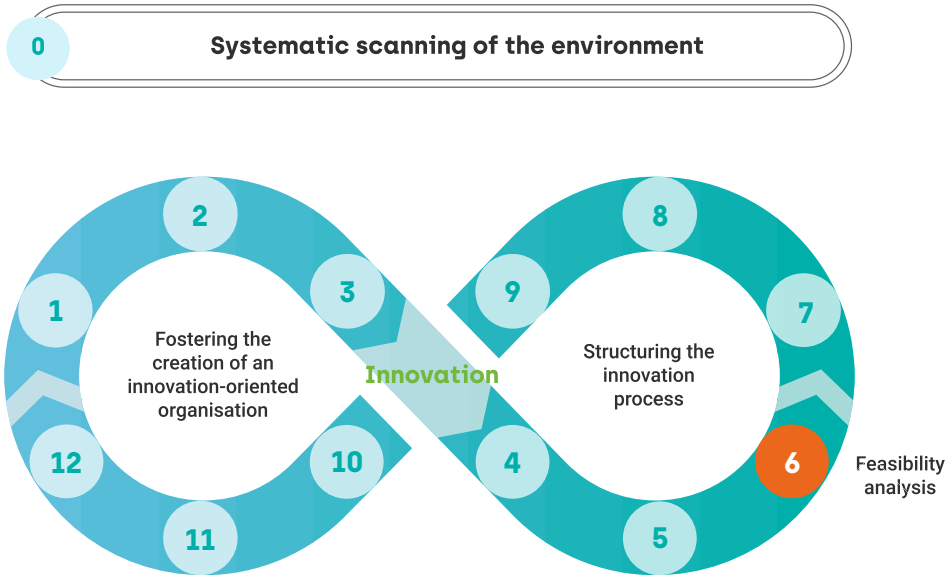
5.5 Remember

- Create a structured framework for reviewing ideas, with evaluation and prioritisation tools, and use solid research methods to obtain reliable, relevant data;
- Actively involve the stakeholders in identifying opportunities;
- Stay abreast of new trends and regulatory developments to foster far-reaching innovations;
- Use simple evaluation criteria, such as impact and feasibility, to align the selected ideas with corporate objectives.

6.

Feasibility analysis

6. Feasibility analysis



6.1 Objective of this phase

This phase aims to provide a realistic assessment of all relevant aspects, taking into account the nature of the idea and using all available approaches. In other words, the focus is not on the idea's innovative potential but on its feasibility and realisation potential.

6.2 Why does this matter?

This phase is designed to prevent the launch of innovation projects that could fail due to unanticipated constraints. It ensures that projects are both relevant and achievable, while avoiding wasting time and resources that could be better spent on other initiatives. At this stage, it is crucial to manage resources wisely, as their use can become significant.

6.3 What is the process?

In this phase, you have a wide range of options for properly assessing the initiative's feasibility. Two initial criteria, based on specific tools, serve as the basis for preliminary sorting. It is also crucial to create a comprehensive list of potential prospects so you can examine the feasibility of your initiative, each accompanied by dedicated tools and methodologies, to be used according to the nature of the initiative.

Use the following approaches for the first stage of the feasibility assessment:

- **Create a business case**
  The business case evaluates the project by examining potential revenues, costs and risks. It enables you to assess the overall economic viability of the initiative and decide whether the project is worth pursuing as currently defined.

- **Analysis of Michael Porter's Five Forces**
  This analysis helps to understand the initiative's degree of competitiveness and estimate its feasibility by examining the market through the following dimensions:

    - the threat of new entrants;
    - the bargaining power of suppliers;
    - the bargaining power of customers;
    - the threat of substitute products;
    - rivalry among existing competitors.

These two initial analyses play a triage role, determining whether the defined opportunity is ready for the application of other relevant criteria or perspectives to assess its feasibility. If any of these criteria are not met, it will be necessary to return to the opportunity assessment phase and reformulate the initiative.

There are other factors in addition to economic viability to consider when determining the feasibility of an idea:

- **Clinical feasibility:** the project must be clinically achievable, meeting the needs of patients and healthcare professionals;
- **Organisational feasibility:** it must be possible to integrate the project into the organisation without disrupting existing processes;
- **Regulatory feasibility:** the project must comply with current regulations and standards, including possible referral to an ethics committee;
- **Human feasibility:** the project must be supported by the key stakeholders, including healthcare professionals, patients, payers and regulators. This dimension also encompasses ethical aspects;
- **Technical feasibility:** the project must be technically feasible while guaranteeing the quality and safety required for its implementation.

6.4 Critical aspects

The critical aspect of this phase is to identify initiatives that are "true positives", i.e. to avoid giving the green light to initiatives that are not feasible, as the opportunity cost could be very high. It is essential to make exhaustive use of all the necessary and relevant analyses to ensure that your judgment on the feasibility of the initiative is well-founded.

In a call for ideas, especially for an institution in the early stages of the innovation development process, this phase should take place as early as possible, ideally between the idea stimulation and formulation phase and the opportunity identification phase, or simultaneously with the latter. Ensuring feasibility is crucial, as it is necessary to guarantee that short-term success can be capitalised on to continue building a culture of innovation.

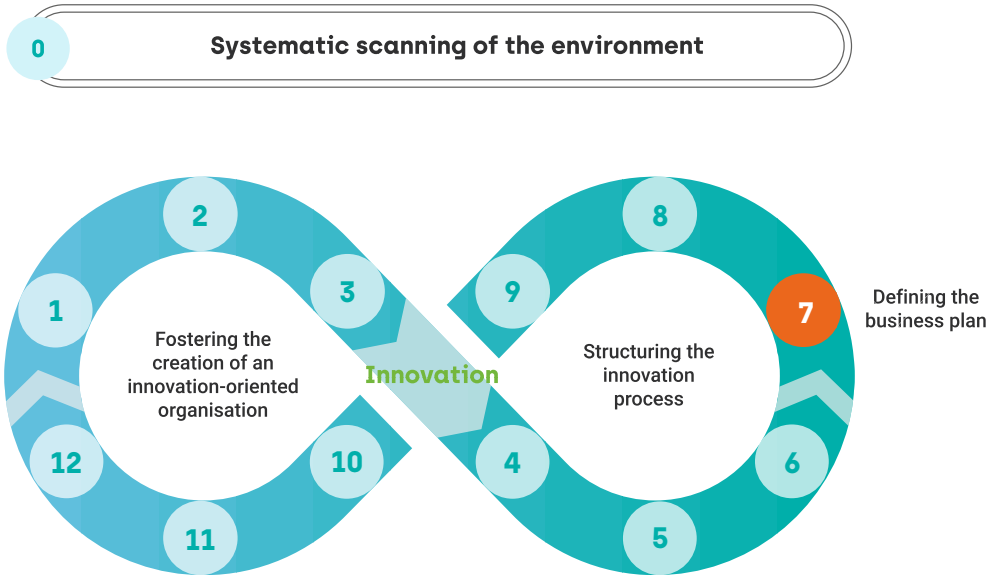
6.5 Remember

The feasibility analysis is a team effort, requiring the integration of different perspectives. It is essential to know and be able to correctly use all the tools and methodologies relevant to each approach.

7.

Defining the business plan

7. Defining the business plan



7.1 Objective of this phase

Once you have analysed the feasibility of your idea, it is time to formalise the business plan. This essential document details the market research, competing options, what the innovation replaces, market access (if relevant), analysis of constraints formulated by the regulators, development strategy and revenue sources.

Keep in mind the four distinct objectives of the business plan:

- Serve as a reference model: the business plan will be used in dealings with different parties, such as financiers, investors, partners and regulators. As a model, it will need to be adapted to the specific objectives of each participant, each of whom is likely to have different interests;
- Maintain a solid, up-to-date base: to be solid and relevant, the business plan must be updated on an ongoing basis in line with new information and data received;
- Act as a negotiating tool: the business plan will serve as a negotiating tool with potential investors or other sources of financing;
- Determine the next steps: the business plan will be very useful in defining the next steps and the actions to be taken. Conversely, any modification or constraint encountered during deployment will require the business plan to be updated.

7.2 Why does this matter?

The business plan is also the project roadmap. It clarifies the Vision, ensures that all stakeholders understand the objectives, assesses financial viability and guarantees the availability of the necessary resources.

This document will be regularly updated to reflect any new developments regarding the innovation initiative. It will also be essential for securing financing and making strategic decisions.

7.3 What is the process?

To help you progress along this path, the business plan must include the following analytical elements:

- **Executive summary:** a concise overview of the project, outlining its objectives, vision, importance to the healthcare institution and related funding requirements;
- **Project description:** a detailed description of the project, explaining its specific objectives and its expected impact on healthcare;
- **Market analysis:** an assessment of the sector, focusing on the needs of patients and healthcare professionals, industry trends, growth opportunities, current and potential competitors, the products/services replaced by the innovation, and the protection of innovation (barriers to entry);
- **Services or solutions:** an in-depth presentation of the services or solutions offered by the project, including how they work and the benefits they bring;
- **Implementation strategy:** an explanation of the deployment plan, partnerships, promotion, resources required, and indicators of success;
- **Management team:** a presentation of the key team members, their relevant expertise and their contribution to the project's success;
- **Financial plan:** project-specific financial projections, including budget, revenue forecasts, costs, financing requirements and potential sources of funding;
- **Risk analysis:** identification of potential challenges and mitigation plans to minimise these risks;
- **Implementation plan:** a description of the specific steps involved in launching the project, with deadlines, costs, responsibilities and short-term objectives;
- **Appendices:** the inclusion of relevant documents that back up the credibility of the project.

This business plan must be clear, solid and flexible so that it can be adapted to the requirements of the financial backers. For private investors, also explain the added value, provide a detailed analysis of potential competition and demonstrate the team's commitment.

7.4 Critical aspects

When formulating the business plan, it is crucial to consider the following three aspects:

- A poor understanding of the market can delay or cancel project adoption;
- Unconvincing financial viability may deter investors;
- Neglecting the competition can distort your competitive advantages and cost you market share.

You must also define the execution strategy: allocate responsibilities, set milestones and deadlines, manage risks and coordinate stakeholders. At the same time, do not hesitate to use methodologies such as PRINCE2, Agile or PMP to structure and coordinate the necessary activities.

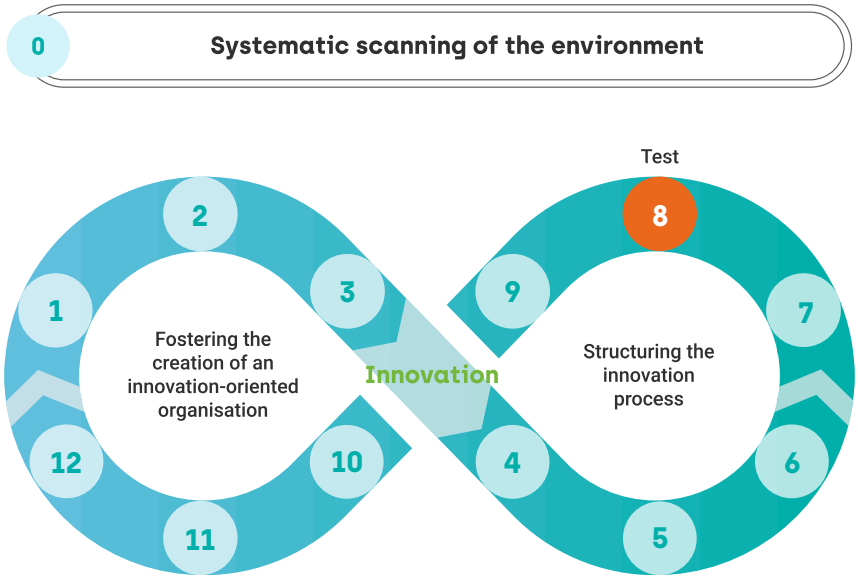
7.5 Remember

- Clearly demonstrate the project's value proposition and show how it solves a health need, improves performance and/or capitalises on an opportunity;
- Clearly identify the specific value creation for stakeholders;
- Demonstrate the financial soundness of the project by explaining how the funds will be used and showing that the revenue and results estimates are realistic;
- Assess the risks and propose strategies to mitigate them;
- Update the business plan according to the feedback you receive from your interlocutors and any changes in objectives set by financiers, potential customers or regulators. The business plan model must therefore be both robust and adaptable.

8.

Definition and execution of the test phase

8. Definition and execution of the test phase



8.1 Objective of this phase

The test phase, or prototyping phase, involves evaluating the innovation in a real or simulated environment. The aim is to complete the initial idea, taking into account all the constraints identified so far.

This phase implies that the relevance of the innovation initiative has been accepted, but will be further refined and formalised through this exercise. It is essential to foster collaboration between all internal and external players, including suppliers, who also bear a share of the risk.

8.2 Why does this matter?

This synergy ensures that the innovation is technically feasible, well integrated into the institutions that will adopt it, and accepted by end-users.

This phase minimises the risks associated with innovation by evaluating the initiative's behaviour in a quasi-real-life context. Design adjustments will be made to validate the innovation's functionality. Without this step, hasty deployment could lead to high costs and disappointing results (Ministry of Health and Prevention, 2023).

8.3 What is the process?

The choice of test site depends on the type of innovation. A simple organisational innovation can be tested in-house, while a more complex or technological innovation may require an external space, such as an applied research laboratory or living lab. This phase often requires collaboration between researchers, companies and end-users to test new technologies and concepts under real healthcare conditions.

Living labs play a crucial role in this phase. A living lab is a multi-purpose space where researchers, companies and users work together to develop and evaluate new technologies or simulate the organisation of work, the layout of spaces, etc.

Innovations can also be tested in real healthcare environments, with iterative adjustments based on feedback from potential users.

ENoLL (European Network of Living Labs) certifies living labs according to the following principles:

- end-user involvement throughout the innovation process;
- use of co-creation methodologies in which end-users actively participate in defining needs and designing, developing and evaluating innovative solutions;
- openness and inclusiveness of living labs to all stakeholders in the process;
- diversity of partners, including companies, public authorities, universities and other organisations;
- evaluation of the socio-economic impact of innovation activities;
- collaboration with other living labs and participation in network activities.

ENoLL offers a certification framework that includes criteria such as process transparency, financial sustainability and governance model. Although the accreditation of living labs is not compulsory, knowing and respecting these criteria is beneficial to ensure efficient organisation and smooth operation. However, some partners may require ENoLL accreditation to establish development agreements with you, particularly international companies with strict compliance requirements.

Lastly, living labs can be generalist or specialised in one or more fields.

Although we have included living labs in the “definition and execution of the test phase” step, they are also used in other phases of the innovation process, notably in the “identification of opportunities” and “feasibility analysis” phases, to assess a project’s technical feasibility, for example.

Some examples of living labs

Location	Name of living lab and specialisation	Website
Germany, Halle (Saale)	**Future Care Lab** Innovation area for the development of assistive technology, including assistive robotics; linked to Halle University Hospital	**https://format.medizin.uni-halle.de/portfolio/future-care-lab/**
Germany, Karlsruhe	**Living Lab Ambient Assisted Living** Innovation space for the development of new sensor systems, networking of industry players, and medical process forecasting	**https://www.fzi.de/erleben/house-of-living-labs/**
Germany, Mannheim	**INSPIRE Living lab** Innovation space for patients treated in the urology and orthopaedics departments; developed in collaboration with Mannheim University Hospital	**https://www.livinglab-umm.de/english/**
France, Paris	**Broca Living Lab** Research and innovation in health and autonomy technologies at Broca AP-HP Hospital	**https://www.brocalivinglab.org/**
France, Strasbourg	**OpenCare Lab** Innovation space for the development of prevention and overall health solutions (metabolic and psychological aspects); developed in particular with Strasbourg University Hospitals.	**https://www.opencare-lab.fr/**
Netherlands	**The National eHealth Living Lab (NELL)** Validation and evaluation of ehealth applications	**https://nell.eu/english**
Netherlands, Amsterdam and Delft	**Living Lab Value-Based Healthcare** Creation of tools and products to facilitate communication in interdisciplinary healthcare environments; initiative developed in collaboration with Amsterdam UMC and TU Delft	**https://delftdesignlabs.org/living-lab-value-based-healthcare/**

Table 1: Some examples of European living labs

Video 6: Testing of an innovative organisational model in a nursing home at IMAD (Geneva, Switzerland)

Testing an innovative organisational model - The case of the Geneva Institution for Homecare and Assistance

IMAD has set up a pilot project within a medical centre to test an innovative organisational model based on a collaborative approach. Its experience is shown in video 6.

8.4 Critical aspects

- Organise the innovation test carefully;
- Facilitate access to the industrial innovation for the healthcare institution for test performance. And conversely, use industry resources to test your product innovations;
- Assess the need for a living lab and consider accreditation. If not, take its recommendations into account to improve your practices.

8.5 Remember

The testing of an initiative will vary considerably depending on its nature: product, service, or organisational and managerial innovation.

For product or service testing, it is generally necessary to collaborate with one or more partner companies. Several points must then be addressed:

- **Supplier selection and collaboration methods:** if a supplier is considered a partner, it shares the risk with you, which implies clear agreements on patent ownership and other economic aspects.
- **Nature of decisions:** these decisions must be taken collectively, both during the test phase and when the product or service is brought to market.

However, organisational or managerial innovations are often less complex to test, as they are generally internal to the institution.

Paradoxically, product and service innovations are often easier to implement than internal organisational or managerial changes. In these cases, in addition to an effective innovation strategy, well-orchestrated change management is essential to ensure successful innovation implementation (Kotter, 2012).

And at H.U.B in particular? Pilot study: ''There are too many wires on my patient''

Figure 14: Hospital patient wiring and monitoring (Anderson, 2017)

Following the call for needs presented in step 4, the members of the Innovation Centre selected the need "There are too many wires on my patient" (steps 5 and 6). A pilot study was then launched to test the suitability of a potential solution for the needs of H.U.B. and to draw lessons from it regarding the "real-life" unfolding of the initial stages of the innovation process addressed in this guide, for the different stakeholders involved.

Initial need

ICU staff launched this pilot study to reduce the number of wires on patients while maintaining a level of safety and functionality equivalent to that of traditional monitors.

Supplier identification and solution selection

We sought out Belgian and foreign suppliers offering innovative wireless monitoring solutions. A selection committee evaluated the different proposals based on safety, functionality and cost. Following this evaluation, the French company RDS and its MultiSense® solution were selected.

MultiSense® is a wireless monitoring solution offering safety and functionality comparable to conventional hospital monitors. It consists of:

- a connected patch that continuously collects a range of physiological parameters (heart rate, oxygen saturation, skin temperature, respiratory rate, patient activity and position);
- a secure web platform that transforms data into decision-making tools for caregivers;
- a telephone that provides logistical support for the patient and enables the solution's lifecycle to be managed.

This solution, initially developed for use at home after hospitalisation, enables the continuous monitoring of vital signs without the need for wires, thus improving patient comfort and mobility (see Figure 15).

Figure 15: Illustration of the RDS MultiSense® device and patch application (RDS, 2024)

Redirection to another department

Due to the specific standards of intensive care, we redirected our pilot project to another department.

Dr Maarten Vander Kuylen, a thoracic and oesophageal surgeon at Erasmus Hospital, was contacted and was very interested in the solution for continuous monitoring and patient convalescence; he worked with physiotherapists, nurses and other care professionals to integrate this innovation into the thoracic surgery and surgical gastroenterology department.

The thoracic surgery department uses a conventional monitor for all post-operative lung resection patients (lobectomy, pneumonectomy, limited reductions, lung volume reductions). However, the surgical gastroenterology department does not have a conventional monitor for patients who have undergone oesophagectomy and are therefore not monitored continuously.

Pilot study objectives

The objectives of this reorientation were to:

- evaluate the benefits offered by MultiSense® to healthcare professionals (ease of use and user satisfaction);
- assess tolerance and comfort when using the MultiSense® device on patients who have undergone lung resection or oesophagectomy;
- assess the benefits in terms of patient mobilisation (particularly in the gym during physiotherapy).

Benefits of the solution

The benefits of the MultiSense® solution as perceived by the clinical team are many, for both patients and healthcare professionals.

For patients, continuous monitoring provides reassurance and enables them to become mobile more quickly, while the absence of wires also makes it easier for them to move around. Patient mobilisation is essential in optimising recovery after surgery.

For caregivers, especially physiotherapists, the solution makes it quick and easy to get patients moving without having to disconnect and reconnect monitors for rehabilitation sessions. The absence of wiring makes it easier for nursing staff to provide care, optimising their time and department management.

For doctors, the main advantage is the ability to monitor patients' vital signs remotely, enabling greater responsiveness and more precise monitoring of post-operative developments, particularly in the event of potential complications.

In oesophageal surgery, where patients are not usually monitored, the MultiSense® solution provides an additional level of safety for complicated surgery with proven risks of complications.

Request to the ethics committee

A request was submitted to the ethics committee for authorisation to conduct a pilot study at the hospital. This step ensured that all ethical and patient safety aspects were taken into account before the solution was tested. As the solution is CE IIa marked, only a synopsis of the experiment and a partnership contract between H.U.B. and RDS were proposed.

Training of the field team

To prepare the field team, made up of several surgeons, head nurses, nurses and physiotherapists, training was provided on how to use the MultiSense® solution, apply the patch and use the data tracking platform.

This pilot project was made possible through the involvement of a large number of hospital staff: management, doctors, nurses, physiotherapists, IT and biomedical managers, innovation team, ethics committee, data protection officer and logistics department. The presence and support of the RDS team throughout the study facilitated the resolution of malfunctions and technical issues.

Set-up and patient monitoring

Eligible patients who had undergone oesophageal or thoracic surgery were fitted with the MultiSense® patch and given a detailed explanation of how it worked. The aim was to offer patients monitoring during their hospitalisation and evaluate their experience and that of the clinical team.

Feedback

This pilot case took place in the thoracic surgery and surgical gastroenterology departments over a period of 11 weeks (until 26/07/2024). During this period, 16 patients were monitored for an average of five days. Seven of these patients were monitored after oesophageal surgery and nine after lung resection (anatomical resection, wedge resection or surgical lung volume reduction).

Due to the short length of stay after thoracic surgery, the need for dual identification (2FA) by message on the participants' private phones to connect to the MultiSense® platform, and the habit of using conventional monitoring in the thoracic surgery department, Dr Vander Kuylen was more selective about which patients to monitor. Only patients under his supervision received the MultiSense® device as a result of this 2FA problem.

Alignment and meetings

Weekly meetings were held between the hospital teams, the project team (comprising staff from the H.U.B. Transformation and Innovation Unit, Hict and lifetech) and RDS for monitoring and feedback. These meetings helped to clarify the specific needs of care professionals and fine-tune the solution so that it was perfectly adapted to the hospital's requirements.

"Coordination between the different stakeholders was ensured thanks to the commitment and inclusion of all players in regular meetings, transparent communication, constant monitoring and feedback, and great

flexibility in the face of the unexpected. A clear, simple action plan that everyone could understand was also essential to meet deadlines and keep the project on track." Yasmine Syed, Hict.

Changes in usage during the experiment

This experiment made it possible to assess those patients for whom the solution was most useful and to observe an evolution in practices with the device. This includes patients following oesophageal surgery who are not normally monitored, patients staying in hospital for several days, and those at low risk of complications who become mobile more quickly.

Interesting use cases identified during the experiment

- Extra muros patients (hospitalised after surgery outside the thoracic surgery or gastroenterology departments)
    - example: a patient hospitalised in orthopaedics due to a lack of space in the thoracic surgery department. There are no hospital monitors in orthopaedics. The patch enabled the thoracic surgery team to monitor the patient remotely, providing reassurance to both caregivers and patients.
    - weekend outings with remote surveillance.
- Patients hospitalised after surgery in the thoracic surgery or gastroenterology departments
    - example: following oesophageal surgery, a patch was placed on a patient who was then discharged early from intensive care due to a lack of available beds. The patch enabled the surgeon to monitor the patient over the weekend and detect atrial fibrillation events, allowing immediate treatment.
    - use of the solution in the absence of conventional monitoring.
- Doctor: good to be able to monitor a patient remotely, especially if the parameters are good.

Patient feedback

All the patients monitored in this study were subsequently contacted by telephone by the surgeon, who wanted to know their level of satisfaction with the use of the device (via a satisfaction questionnaire). Overall, the patients were very satisfied. They all said they would recommend MultiSense® to a family member. A majority of respondents also felt safer in hospital knowing that their vitals were being monitored at all times by the clinical team. Lastly, if given the opportunity, a large majority of patients would agree to go home earlier thanks to this solution.

Positive impact of the solution on reducing the environmental footprint

The use of the MultiSense® solution is also part of a process of organisational and technological innovation aimed at replacing hospitalisation days, which emit high levels of CO2 and waste, with homecare days, which emit much less. The MultiSense® device is supplied as a ready-to-use kit, most of which can be reused after a reconditioning procedure carried out by RDS, to ensure sustainability and minimise the carbon footprint.

In RDS's median scenario, with a reduction in Average Length of Stay in hospital of two days, the company estimates the positive impact of patient pathways with MultiSense® as:

- a net reduction in CO2 emissions between a hospital stay and a homecare route of -282 kg net per patient (AP-HP, 2022; Ministry of Ecological Transition and Territorial Cohesion, 2022);
- a net reduction in waste between a hospital stay and a homecare route of -2. 2 kg net per patient (Ministry of Labour, Health and Solidarity, 2016).

Conclusion

This pilot study demonstrated the effectiveness and benefits of an in-hospital wireless monitoring solution. Unfortunately, technical obstacles prevented the monitoring from being rolled out to all the clinical team members involved. However, positive feedback from patients and the doctor, as well as close collaboration with the supplier, laid the foundations for the wider adoption of this technology within the hospital. The lessons learned by RDS, both from the results of the study and from their collaboration with the hospital, have provided them with valuable input for the future development of their solution.

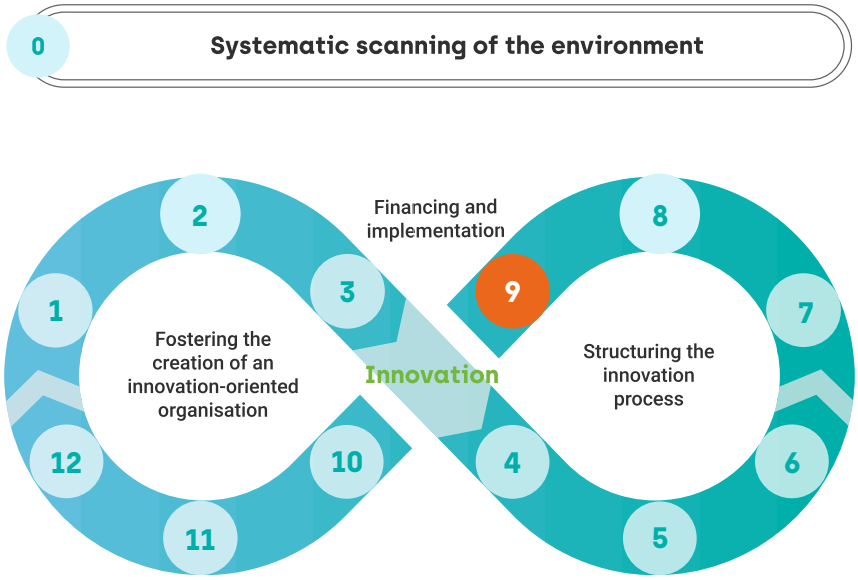
The collaboration between H.U.B. and RDS also highlighted a number of key elements in the effective integration of a solution.

In particular, we advise start-ups wanting to collaborate with healthcare institutions to:

- Identify and involve all key players in the institution (department head, clinical team, IT manager, DPO, etc.) from the start of the project, to guarantee the acceptance and smooth integration of your solution;
- Understand in detail each department's requirements, so they can adapt their solution to the end user's needs, or even co-develop it with them;
- Explore alternatives in case of technical constraints: identify other departments where your solution could bring real added value;
- Provide ongoing technical support and training to ensure the successful integration and optimal use of your solution by staff;
- Document the adaptations and the results obtained for each department, demonstrating not only the flexibility of your product but also its effectiveness in a range of contexts (see Hospi'Up Guide from the FHF Fund).

9. Search for financing and implementation

9. Search for financing and implementation



After drawing up a solid business plan and testing your innovation, you are ready for the crucial stage of securing financing and then implementation.

9.1 Objective of this phase

The aim of this phase is to define an effective execution strategy for bringing your innovation to market while identifying financing needs and potential sources of funding. It is very likely that, in addition to the funds needed for the test phase, additional financing will be required for the full launch of your product or service. It is therefore essential to plan and organise adequate fund-raising to support this final stage.

9.2 Why does this matter?

Adequate funding and efficient execution are essential to the success of the project. They also enable stakeholders to be coordinated and informed decisions to be made on project implementation.

9.3 What is the process?

The first step is to evaluate costs and revenues. Estimate the costs of the activities and/or resources replaced by the new project, as well as the gains it generates or is expected to generate.

Also identify sources of financing:

- Look for interested investors or private equity firms;
- Explore the grants available for healthcare projects;
- Consider joint financing between hospitals and life sciences industries;
- Use participatory financing platforms to request funds from individuals;

- Take out bank or preferential-rate loans specifically for healthcare innovation projects;
- Look for venture capital funds dedicated to healthcare;
- Participate in incubation and acceleration programmes offering funding and mentoring.

All these financing methods are possible, depending on the legal nature of your innovation structure and the innovation itself (e.g. sharing a patent with a partner outside the hospital).

9.4 Critical aspects

- Make sure financing is guaranteed and sustainable;
- Diversify funding sources to reduce dependency;
- Make sure that the execution strategy is aligned with the financial resources available, to avoid gaps between your ambitions and your resources;
- It is also crucial to consider the management skills of the teams who developed the innovation. Investors pay particular attention to two aspects, namely assessing the nature of the product or service, and the skills of the team in place to implement it.

9.5 Remember

A robust business plan is the tool required for carrying out this phase, as well as for programming and obtaining financing.

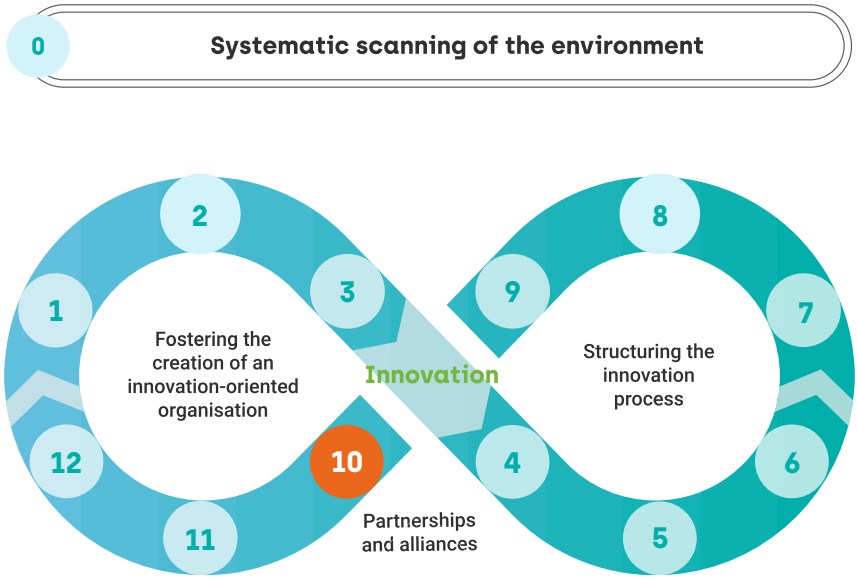
In addition to analysing your business plan, private investors will also assess your management skills, the scalability potential of your product or service, the details of your market research, and what constitutes the “secret sauce” of your initiative that makes it unique and promising.

Recommendations regarding the implementation strategy cannot be generalised, as they depend on the specific nature of the innovation and the characteristics of the target markets.

10.

Selection of partnerships and strategic alliances

10. Selection of partnerships and strategic alliances



10.1 Objective of this phase

The objective of this step is to create an environment conducive to innovation by establishing alliances, which help to spread risk-taking, and, eventually, by building an innovation ecosystem beyond your institution. This ecosystem includes all the players who interact to stimulate innovation: healthcare institutions, healthcare professionals, researchers, start-ups, external partners, patients and funding bodies.

Ensure you also encourage internal collaboration to guarantee the success of these alliances.

10.2 Why does this matter?

It is highly unlikely that you will be able to develop innovation in isolation; you will need to build partnerships with a variety of strong organisations. If this network of alliances becomes stable, you will have the option of building an ecosystem. A robust ecosystem facilitates cross-fertilisation, i.e. the process of exchanging ideas, knowledge and technologies. This allows new approaches to emerge, combining different elements to solve problems and stimulate creativity.

10.3 What is the process?

- Determine your institution's specific alliance needs based on established priorities. Identify the skills, resources and expertise you need for your innovation projects;
- Identify partners from other healthcare institutions, companies, universities, start-ups or research organisations. Make sure they have the required skills or resources;
- Assess cultural compatibility and the ability of partners to contribute effectively to innovation;
- Maintain a dynamic, adaptive ecosystem.

Another option is to not create an ecosystem yourself but to join an existing one.

Coalition Next

Coalition Next is an exemplary model of ecosystem creation (see Figure 16). This network brings together various players in the healthcare sector around the common objective of promoting the adoption and experimentation of digital healthcare solutions, in the interests of patients and healthcare professionals alike. Present in France, Belgium, Canada, the Netherlands and Israel, Coalition Next brings together healthcare manufacturers, insurance companies, public and private Healthcare institutions, and institutions specialising in innovation.

For more information, visit https://www.coalitionnext.com

Figure 16: Coalition Next alliance partners in Belgium (Coalition Next, 2024)

Creating a dynamic ecosystem at AP-HP

Assistance Publique - Hôpitaux de Paris (AP-HP) is the largest public hospital network in Europe, with 38 establishments in Paris and the Île-de-France region. As an essential pillar of the French healthcare system, AP-HP is committed to providing medical care, advanced research and healthcare training. Each year, it records over 8 million outpatient consultations and approximately 1. 2 million hospitalisations, with a capacity of around 21,000 beds.

In September 2023, AP-HP inaugurated the Association des Sociétés Innovantes Issées de l'AP-HP (ASIIA), at the Hôtel-Dieu in Paris, as part of the Agora du soin digital. This association aims to bring together start-ups co-founded by AP-HP doctors and staff, or based on technologies and patents co-owned by AP-HP.

The central aim of ASIIA is to strengthen the links between caregiver-entrepreneurs and support their initiatives, while positioning these start-ups as a major asset in attracting young doctors. Eighty companies have been identified to date and around 15 have already joined the association. It is more than just a club, it is a real collaborative network that promotes collective progress.

By centralising all innovation initiatives within a single structure, ASIIA facilitates the development of synergies, the sharing of resources and the mutual reinforcement of each project.

Further information: https://blog.lallianse.com/index.php/2024/06/26/asiia-association-des-societes-innovantes-issues-de-lap-hp/

In addition, AP-HP has launched an integrated information platform that brings together various players in the healthcare sector, including healthcare professionals, care facilities, the medical industry, decision-makers, researchers and the general public. Created by Entreprises de Services du Numérique (ESN), this platform offers up-to-date information, in-depth analysis, regulatory data and essential insights into the healthcare sector. By promoting interaction, mutual learning and knowledge dissemination, AP-HP has created a dynamic, collaborative ecosystem.

Video 7: Collaboration with industrial partners at AZ Groeninge (Kortrijk, Belgium)

Developing alliances with industry - The case of AZ Groeninge Hospital:

AZ Groeninge works with industrial partners, enabling it to improve its regulatory procedures and accelerate the time-to-market and success rate of its solutions. Find out more in video 7.

10.4 Critical aspects

Remember that collaboration is often the key to progress, especially as you become more influential in the field of innovation. Setting up an ecosystem (or a significant stake in one) is a good way to stabilise your alliances and gain easier access to external expertise.

Make sure the alliances you create add real value, and avoid poorly structured partnerships. A common vision shared by all the partners is essential to align efforts towards shared innovation goals.

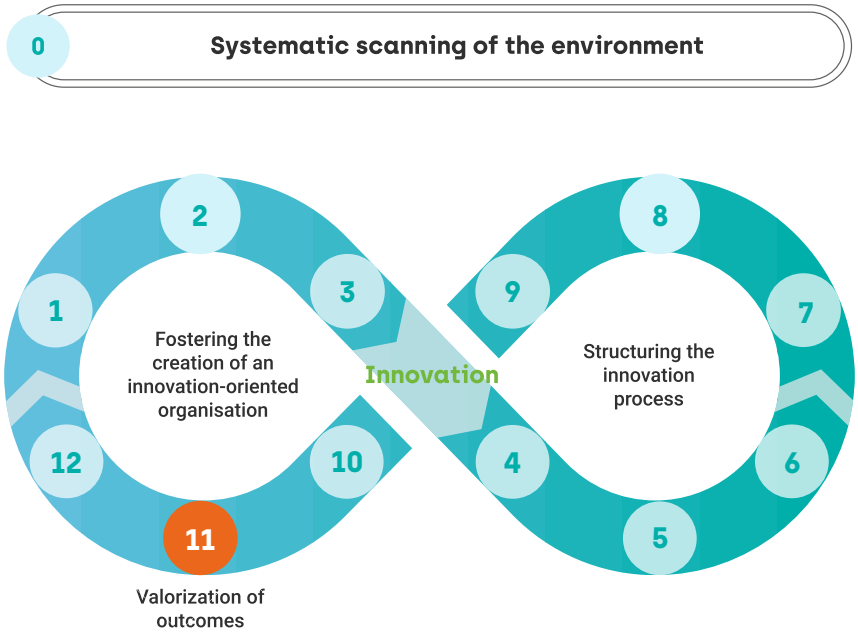
10.5 Remember

- Negotiate robust partnership agreements to foster innovation;
- Proactively manage relationships with your partners to maintain valuable stability and prevent them being attracted by your competitors;
- In long-term, sustainable partnerships, bear in mind that your partners may want to participate in the governance of the innovation structure.

11.

Valorization of innovation outcomes

11. Valorization of innovation outcomes



11.1 Objective of this phase

The aim of valorising innovation results is to measure the added value compared with the previous situation. The ultimate aim is to transform these advances into valuable resources, generating a significant economic and strategic impact for the institution.

This assessment is particularly crucial for product or service innovations.

During this phase, it is essential to identify, define and establish relevant indicators to demonstrate value creation.

When the innovation concerns a product or service likely to be adopted by other departments within the same organisation, other institutions, or even internationally, it is also important to think about how to facilitate this dissemination, how to continuously update the product or service, and how to assess the effects of its scalability. This also applies to the development of new functionalities within the same user environment.

11.2 Why does this matter?

The valorisation of results is a major criterion for demonstrating that an innovation is worth adopting, disseminating, etc.

It enables R&D investments to pay off, boosting the company's revenues and profitability. It also strengthens the competitive position and reputation, attracts talent and opens up opportunities for collaboration.

It also acts as a lever for influencing regulations and adapting standards to innovations.

11.3 What is the process?

Build your dashboard. Quantify the gains, including the qualitative aspects.

Several questions need to be asked when defining indicators:

- Have we helped to improve patient health or quality of life?
- Have costs fallen?
- Has the volume of services increased, at the same cost?
- Have we created a new space, a new paradigm, etc.?

And take into account two additional perspectives:

- Have patients and/or customers been taken into account in measuring results, for example via PREMs (Patient Reported Experience Measures), PROMs (Patient Reported Outcome Measures) or PRIMs (Patient Reported Incidents Measures)?
- What is the impact of innovation on the workload and work results of care professionals?

Intellectual property protection is also crucial and varies according to the nature of the innovation (hub.brussels, 2021).

Also explore other value-adding strategies, such as the publication and dissemination of results and the creation of key partnerships.

Video 8: Optimising the patient pathway and evaluating the patient experience at the Pasteur Clinic (Toulouse, France)

Measuring efficiency improvements in the patient pathway - The case of the Pasteur Clinic

The Pasteur Clinic collected data on its patients' experience at every stage of the patient pathway and measured their satisfaction using indicators. Find out how this institution measures the added value of the innovations implemented around this patient pathway in video 8.

11.4 Critical aspects

- Manage intellectual property from the moment you share your innovation;
- Protect the interests and reputation of your institution.

As a general rule, the valorization objectives must remain consistent with the institution's overall priorities.

11.5 Remember

Generalising recommendations on the value of the innovations, whether they concern products, services or managerial aspects, is extremely complex.

The key is to choose the valuation method best suited to your innovation. The most commonly used evaluation pillars include:

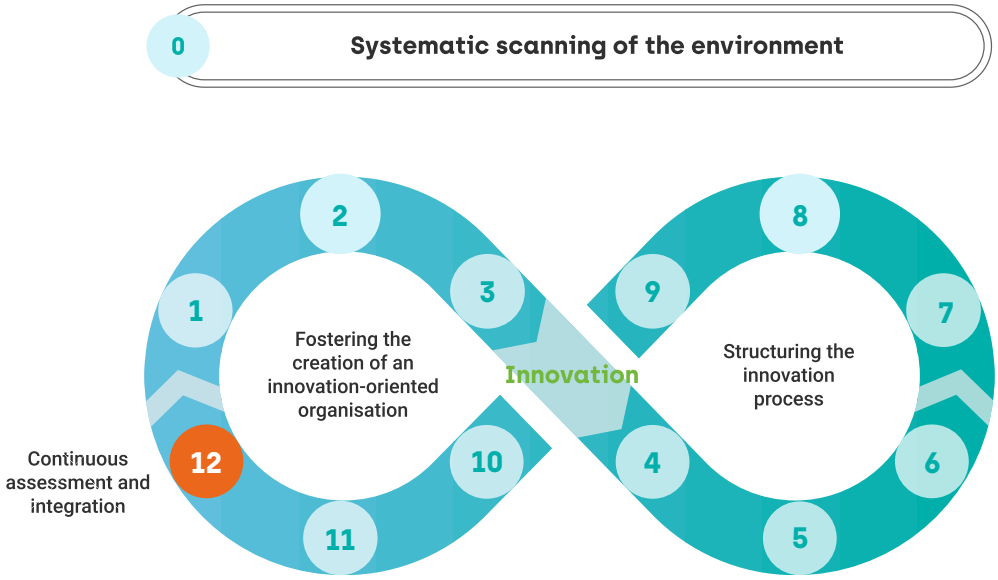
- clinical efficacy: assessing how products have improved the diagnosis or treatment quality by replacing less reliable solutions.
- cost of services: measuring the impact of new equipment or technology on costs, or the ability to increase service production at the same cost.
- patient safety: evaluating improvements in safety, as well as the reduction of diagnostic or treatment incidences.
- patient-perceived value: analysing clinical outcomes or patient experience throughout their care.

These axes make it possible to quantify the added value of the innovation and demonstrate its significant impact.

12.

Continuous assessment and integration

12. Continuous assessment and integration



12.1 Objective of this phase

This final phase aims to integrate innovation into your institution's culture and processes. The aim is to monitor progress, evaluate performance against objectives and decide on any expansion. The ultimate goal is for innovation to become a central element of organisational development.

12.2 Why does this matter?

Becoming an innovative institution attracts partners, promotes talent retention and influences regulators, strengthening your position in the industry.

Furthermore, an institution's innovative character is increasingly recognised by the public. Satisfaction and accessibility surveys now frequently reveal that patients are willing to travel for better quality services.

Evaluation measures results and impact, scalability explores the extension of the initial success, and continuous integration ensures that innovation is firmly anchored in the organisation's strategy.

12.3 What is the process?

Set up a regular monitoring system to collect relevant data (KPIs, user satisfaction, feedback).

Enhance your dashboards with these new indicators, but you also need value-measurement indicators in every department or unit. Usually, there are indicators for the activity carried out, but not for results.

If the innovation is successful, plan to roll it out to other departments, services or regions. The whole organisation does not need to innovate simultaneously, but innovation should not be the prerogative of a small group of professionals.

Integrate the lessons learned into existing organisational processes on an ongoing basis and ensure alignment with the long-term strategy.

Video 9: Developing an impactful innovation culture at UZ Brussel (Brussels, Belgium)

Encouraging change towards innovation - the case of UZ Brussel Hospital:

UZ Brussel carries out innovation projects at different levels, from continuous improvement projects to the development of the most disruptive projects. In video 9, find out why change management is essential for hospitals wanting to carry out innovative projects.

12.4 Critical aspects

- Protect the benefits and successes of innovation;
- Continue to raise awareness of new issues. Celebrating successes is also a very effective way of raising awareness;
- Facilitate the acquisition of new skills, particularly among project teams and local managers;
- Effectively manage external aspects and communication to maintain a good image and positive relations.

12.5 Remember

- Identify problems quickly and make proactive adjustments;
- Measure the real impact of innovation to make informed decisions;
- Plan innovation deployment carefully to maximise benefits;
- Make a commitment to your institution's staff and partners to maintain and develop sustainable innovation by adapting to market trends and user needs.

Conclusion

Conclusion

This guide was designed to support you throughout the healthcare innovation process and help you create an innovative institution shaped by your organisational culture.

Innovation is not a passing fad, nor is creativity the preserve of a few exceptional individuals. On the contrary, innovation is the only viable strategy for navigating an increasingly complex world characterised by many different influential trends evolving at unprecedented speed. Never before have we experienced such a dynamic of change.

Innovation is not simply an incentive for healthcare institutions, but an imperative, with environmental, social and economic sustainability at its core. It is a rigorous discipline, requiring the methodical application of approaches, methods and tools adapted to each particular context.

However, the absorption capacity of people, processes and technology in the face of change is limited, which can lead to significant disruption when exceeded. Furthermore, the number of innovations that actually take root is small, and it is rare to find institutions that are recognised for their innovative character.

Martec's Law (see Figure 17) illustrates the growing gap between the increasing complexity of technologies and the ability of teams to integrate and use them effectively in organisations. This law highlights the importance of focusing not just on adopting innovations, but also on developing the skills and strategies needed to maximise their use.

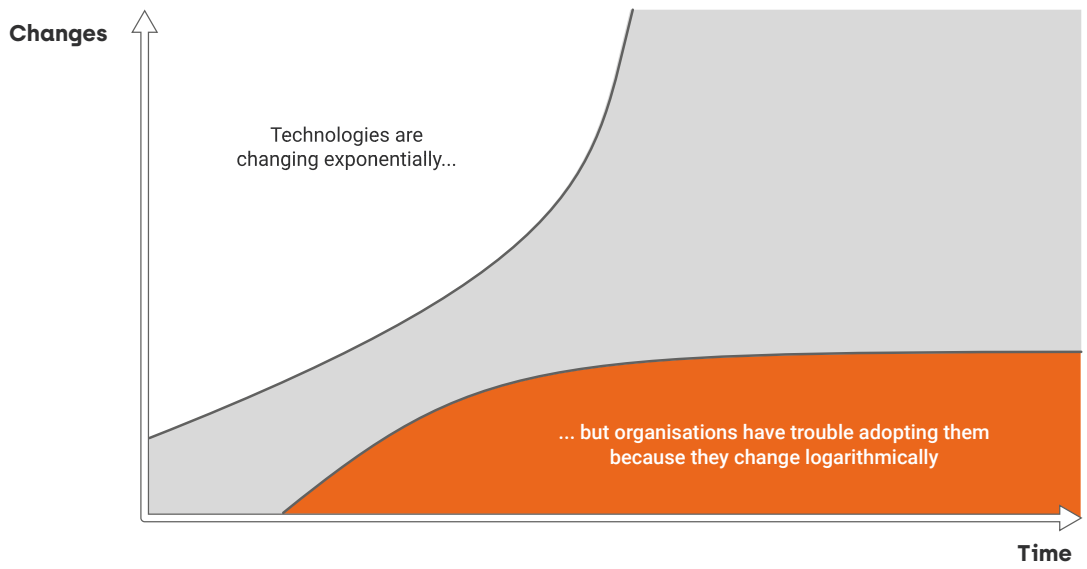


Figure 17: Martec's Law (Brinker, 2013)

Innovation is not just about anything new. It requires a clear vision of objectives, appropriate experimentation and a precise assessment of the added value compared with the previous situation. It is crucial not to overuse the term "innovation" to describe any change. The notion of added value and the substitution of a previous situation are essential elements in the definition of innovation.

In short, merely accumulating innovative projects is no guarantee of significant organisational change. For innovation processes to be effective and relevant, they must be deeply integrated into the organisation's culture..

Video 10: Development of a global innovation strategy at H.U.B. (Brussels, Belgium)

Stimulating the development of a global innovation strategy - the case of the Brussels University Hospital:

Discover in this tenth video how the strategic grouping of the three hospital institutions that make up the H.U.B has served as a catalyst for strengthening the innovation strategy of this new hospital.

Today, innovation transcends the boundaries of individual institutions; all the available intelligence and capabilities must be mobilised to effectively develop these processes (Graham, 2018). Although healthcare institutions have a wealth of knowledge and talent at their disposal, there is even greater expertise to be found outside the institutions. Hence the importance of adopting an ecosystem approach that transcends institutional boundaries. Currently, most innovation processes are based on co-creation.

If these initial elements are clear, you will understand that developing an innovative organisation also requires effective change management. John Kotter's principles, which we have illustrated through the two interactive circles throughout the Guide, are essential to understanding this change management (Kotter, 2012).

It is now imperative, and ethically necessary, to develop innovation to benefit patients and the general public. The gap between the available options and growing needs widens every day.

This Guide is designed to help you immerse yourself in the world of innovation. It contains an overview of the entire process, with a pedagogical approach that addresses the key concepts and issues, chapter by chapter. Note that, in practice, innovation is an iterative process in which the different steps may overlap, requiring back-and-forth action to refine approaches. Innovation implies risk, and managing that risk means striving for the greatest possible reliability in an uncertain context.

What keywords can guide you through this exciting innovation process?

1. **Culture:** if you do not build a genuine culture of innovation, even the best-designed processes will fall short;
2. **Talent:** innovation cannot exist without talent. This requires sometimes asymmetrical measures between different departments or individuals, which may not be popular but are essential;
3. **Opportunities:** these are the major levers of innovation. Adopt a discipline to monitor your environment, the major trends and your local-regional context;
4. **Capabilities:** capabilities are discussed throughout the Guide and are crucial to overcoming intuition, improving efficiency and reliability and keeping pace with change;
5. **Knowledge transfer:** while science is global, innovation is often local. Sharing knowledge is essential for the effective implementation of innovative ideas.

The ideas advocated by the Mayo Clinic in the USA have been valuable references in the field of hospital innovation (LaRusso et al., 2015). This health institution recommends:

- taking patients' needs into account;
- maintaining an iterative, evolutionary process;
- encouraging cooperation between disciplines;
- integrating different technologies;
- learning from negative experiences and avoiding organisational inertia.

It also proposes an attractive approach to development: "Think Big, Start Small, Move Fast": be ambitious in your Vision and objectives, start modestly with concrete actions that are limited in scope and therefore in risk-taking, but move fast, i.e. accelerate the development and implementation of a pilot project that has demonstrated its potential, to capitalise on success and thus stay one step ahead of the competition.

As we bring this Practical Guide to a close, here are two lists of key messages to remember:

Conditions for the success of an innovative institution

- Ensure that all employees adhere to a common Vision and strategy that are focused on differentiation;
- Receive consistent, firm support from management;
- Be proactive in identifying opportunities;
- Value all contributions, regardless of the person's status;
- Fight the tendency to discredit innovative ideas;
- Create a pool of ideas and projects and follow them up effectively;
- Communicate, value and recognise the efforts of entrepreneurs within your institution.

Reasons and arguments for support from the Management and governance structures

- Develop innovation and its added value as a key differentiator;
- Encourage a new culture within the institution by developing a distinct identity;
- Enhance the appeal of the institution to attract quality talent;
- Master shared services and collaborations with industry, research and regulators;
- Explore and implement new business models;
- Encourage non-competitive cooperation between institutions.

We hope this Guide will provide you with all the information you need for your healthcare innovation adventure. For more personalised support, please contact lifetech.brussels, the Brussels' healthcare cluster. We are ready to help you realise your innovative projects, or to discuss the subject in greater depth.

Ultimately, innovation in healthcare is an exciting journey with considerable potential for impact. You now have the tools you need to develop innovative healthcare solutions.

We wish you a lot of success in your quest for innovation!

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Further reading

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QR code for accessing the global playlist:
"Yes we care ! A series of care innovators in action"

Glossary

Term	Definition
Bottom-up	A procedural approach that analyses details or special cases before generalising.
Business case	A succinct, reasoned assessment of a business project or idea, highlighting the benefits, costs and risks. It aims to determine whether the project is viable in its own right and worth pursuing.
Business plan	Detailed document describing the market analysis, strategic vision, objectives, activities, financial structure and projections of an initiative or new development or business. It serves as a roadmap to guide development, management and the search for funding.
Cluster	A cluster is a geographical grouping of interconnected companies, organisations or institutions operating in the same sector or field, working together to enjoy synergy effects. Cluster members often share resources, knowledge and infrastructure, which can stimulate innovation, increase competitiveness and foster economic development in the region where they are located.
Cross-fertilization	Cross-fertilisation involves applying knowledge, resources, methodologies and practices from one sector to a new environment, to get the best out of it. It is a production action enriched by the interaction of fields of activity and thinking from different origins.
Crowdfunding	Crowdfunding is a term used to describe all the tools and methods of financial transactions that involve a large number of people in financing a project.
Institutional culture	The culture of a healthcare institution encompasses the values, beliefs, norms and behaviours shared within it. Transforming this culture is essential to building an innovative organisation.
Design Thinking	Design Thinking is a user-centred approach that combines creativity and problem-solving to create innovative solutions.
Ideation	The cognitive process of producing an idea.
Innovation	The process of introducing and implementing change of any kind to improve the value and quality of health outcomes.
Living Lab	A living lab is a multi-purpose space where public and private players, companies, associations and individuals work together to test new services, tools or uses in real-life conditions. The aim is to bring research out of the laboratory and into everyday life, anticipating future uses of technology. This approach, based on cooperation between local authorities, companies, research laboratories and potential users, aims to encourage open innovation, network sharing and user involvement right from the design stage.
Macro	The macro level of the environment is the broadest scale of analysis. It takes into account global trends that may impact the healthcare institution, such as economic trends, technological advances, national and international policies and societal developments.

Meso	The meso level represents an intermediate scale in environmental analysis. It focuses on external factors that can have an impact on the institution, usually brought about by regulation.
Micro	The micro environment refers to the most local, immediate scale of the institution. It focuses on analysing the institution's catchment area, such as population trends, changes in complementary structures in the care process, or competitors.
PREM	PREM (Patient Reported Experience Measure) is a healthcare tool that collects feedback from patients on their care experience, focusing on their perception of quality, communication and overall satisfaction.
PRIM	PRIM (Patient Reported Impact Measure) is a healthcare tool used to assess the impact of an illness or treatment on patients' daily lives and overall well-being, based on their own perceptions.
Project	A planned initiative to introduce changes to improve the current situation or better meet unmet needs. It is characterised by specific objectives and measurable results, while being limited in time. Projects can cover a wide range of fields.
PROM	PROM (Patient Reported Outcome Measure) is a healthcare tool that collects information directly from patients on their state of health, symptoms and quality of life following a treatment or intervention.
Stakeholder	In a healthcare institution, a stakeholder is any person, group or organisation with an interest in or influence on the institution's activities, decisions and results, whether internal or external.
Start-up	A start-up is an independent organisation, less than five years old, that aims to create, improve and develop a scalable, innovative and technological product, with rapid and high growth. (https://www.europeanstartupmonitor2019.eu/)
Top-down	A procedural approach that moves from the general to the specific.
Innovation value	Improved end result, achieved at the same or a lower cost than before. This is the main criterion for assessing whether the innovation justifies the financial investment and the resources required to implement it.

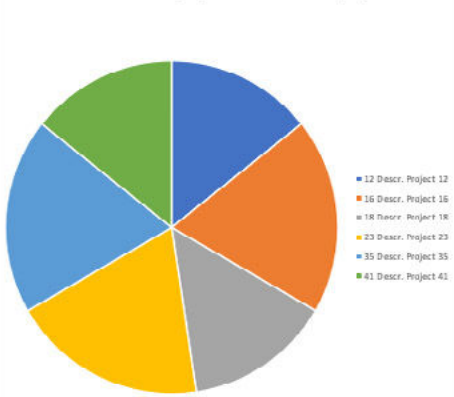
Appendix

HÔPITAL UNIVERSITAIRE DE BRUXELLES
ACADEMISCH ZIEKENHUIS BRUSSEL

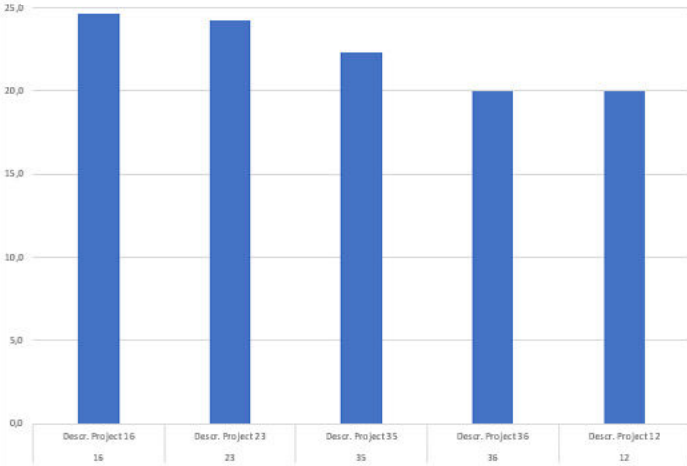
Top-ranked bids

QUALITATIVE EVALUATION | QUANTITATIVE EVALUATION

Top-ranked bids by number of times in the top 5
(cut-off: three or more times)

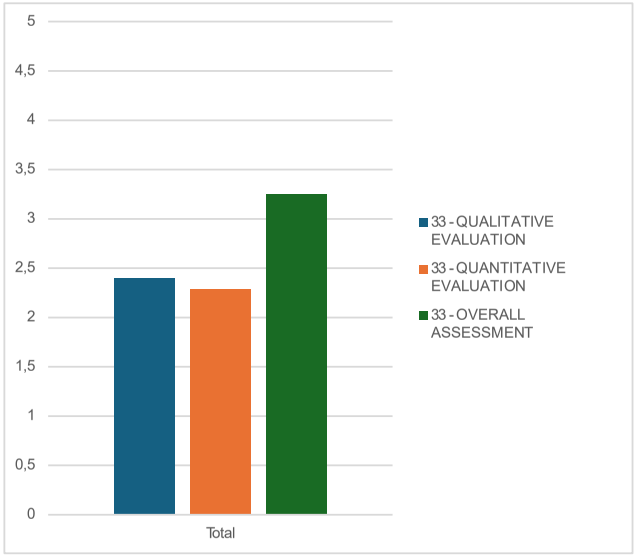


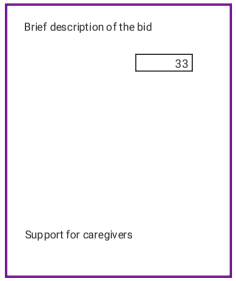
Top 5 (or more) based on the total from all categories



N.B.: projects that have never been in the top 5 of a category are not presented here (pie chart).

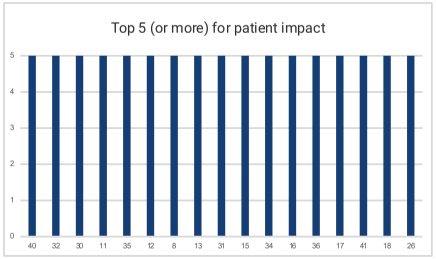
Impact scoring & comparison of qualitative and quantitative ratings

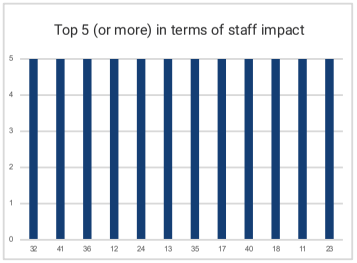


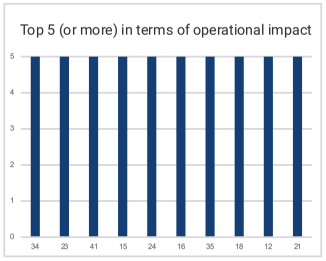


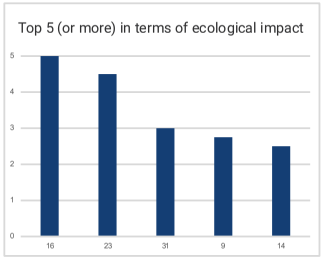
Top 5 bids by impact category

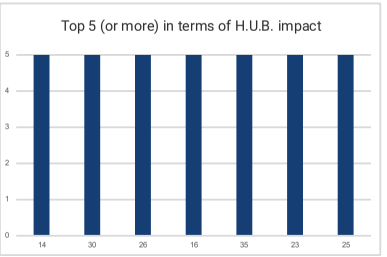
EVALUATION QUALITATIVE | EVALUATION QUANTITATIVE











Brief description of the bid: We need to create a diagnostic and referral unit at Erasme.

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