

Project Name: LASO (2023-PRR-1c)

Hospital-centric AI Selection and Operationalisation blueprint approach

Deliverable D4.2. Training material LASO methodology

V2 (updated after validation in use case 2)

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Table of contents

Table of contents	2
Introduction	5
Part I: LASO Methodology	6
General tips for conducting LASO methodology	7
Intake interview	9
Preparing for the intake interview	9
Who to interview	9
Interview materials	10
Intake interview topic list	10
Workshop 1: AI Opportunity Mapping	20
Preparing for the workshop.....	20
Workshop participants	20
Workshop materials.....	21
Workshop agenda	21
First Draft of AI Canvases.....	27
Selection of AI solutions	27
Drafting AI canvases	27
First Legal Check	29
Legal assessment with LASO JusticeBot	29
Workshop 2: Prioritization of AI solutions.....	31
Preparing for the workshop.....	31
Workshop participants	31
Workshop materials.....	32
Workshop Agenda	33
Workshop 3: Refining the Concept Idea.....	38
Preparing for the workshop.....	38
Workshop participants	39
Workshop materials.....	39
Workshop agenda.....	40
Drafting Project Tasks	46
Step-by-step guide to defining project tasks.....	46
Second legal check.....	48

Workshop 4: From insights to action.....	49
Preparing for the workshop.....	49
Workshop participants	49
Workshop materials.....	50
Workshop agenda	50
Part II: LASO Blueprint	57
Section 1: Problem definition	58
Section 2: Description of AI solution	59
Section 3: Planning and evaluation	62
Section 4: Stakeholder mapping	64
Part III: Tools to support the LASO methodology	66
AI Ideation cards	66
AI the game: Rules	66
AI the game: Cards.....	68
AI canvas	69
Legal Assessment Tools	70
Phase 1: Pre-Assessment	70
Phase 2: Assessment.....	72
Prioritization Tools	74
LASO Prioritization Matrix	74
Paper-based LASO Prioritization Scoring Sheets	77
Digital LASO Prioritization Scoring Application.....	103
Supporting Sheets in the File	106
Explanation of Each Domain	106
How to Use It	109
Getting Started	109
Survey Questions	111
FAQs	111
Guidance ethics: A practical framework for responsible AI implementation	113
Guidance ethics.....	113
References	119

Introduction

The LASO methodology was developed to help hospitals identify promising AI opportunities that serve the common good and to guide the early stages of preparing for implementation of such opportunities. It is designed specifically for healthcare settings, considering the operational realities, stakeholder dynamics, and regulatory context hospitals face when considering AI-based innovation.

The LASO methodology was co-created and refined through two real-world use cases at UZ Brussel. In the first use case, the foundational steps of the methodology were developed and tested. In the second use case, the LASO approach was further validated and adapted to ensure that it is both practical and scalable. A key objective throughout this project has been to ensure that the LASO methodology can be applied by hospitals and organizations beyond those involved in its initial development and validation. That is why this training manual was created.

This manual offers all information needed for hospitals to apply the LASO methodology independently. It consists of three parts:

- **Part 1:** outlines the LASO methodology and includes detailed manuals to support the execution of each step/workshop
- **Part 2:** contains the LASO blueprint, a structured template for documenting progress throughout the process and prepare for follow-up
- **Part 3:** provides a set of tools used in the supportive steps and workshops

While the LASO manual is primarily aimed at innovation managers and teams, we recognize that not all hospitals have such roles or dedicated teams. Therefore, these materials are equally suitable for use by a dedicated **LASO team** consisting of project leaders, IT managers, clinical staff, or others with an interest in introducing AI within a hospital context. To ensure clarity and consistency throughout this manual, we will use the term *LASO team* to refer to the team responsible for carrying out the LASO methodology.

Part I: LASO Methodology

The LASO methodology is structured around four multi-stakeholder workshops, supported by several key activities that can be carried out by the LASO team. The approach is designed to be practical, time-efficient and aligned with hospital realities.

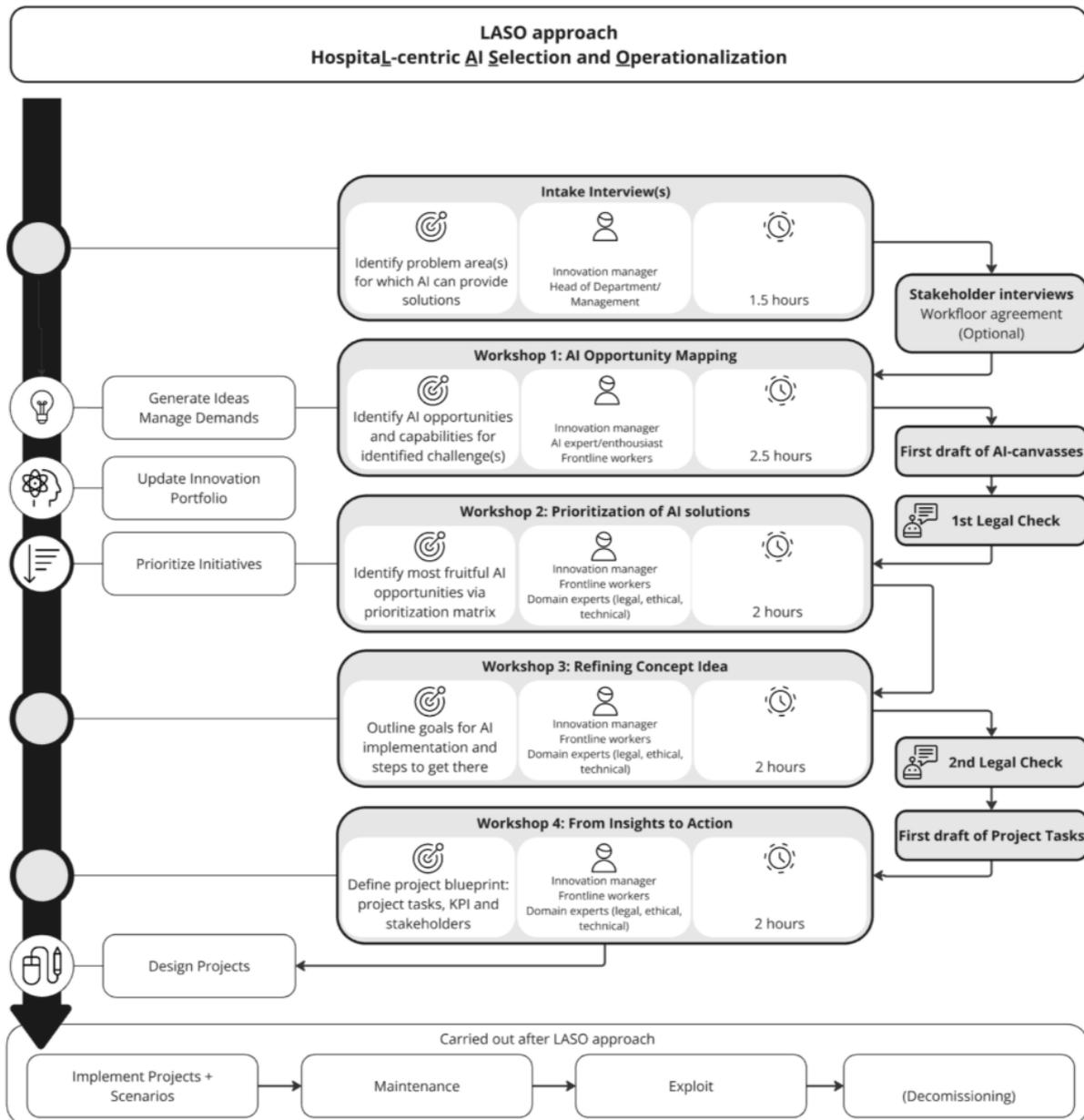


Figure 1: LASO Methodology

The LASO methodology includes:

- **Intake interview** to define a relevant problem area and, when needed, follow-up interviews to align with perspectives of frontline stakeholders

- **Workshop 1: AI Opportunity Mapping** to identify AI opportunities for the defined problem area
- Drafting of **AI Canvases** describing the identified challenges and proposed AI solutions
- **First Legal Check** of proposed AI solutions to screen for early compliance risks
- **Workshop 2: Prioritization of AI Solutions** to select the most promising AI solution
- **Workshop 3: Refining Concept Idea** to explore the selected AI solution in more depth and outline strategies for implementation
- **Second Legal Check** to confirm the continued legal soundness of the selected AI solution
- Drafting of a first version of **Project Tasks** to prepare for implementation
- **Workshop 4: From Insights to Action** to translate the results of all previous steps into a clear set of actions and stakeholder roles, forming the foundation for a future project proposal

This manual provides LASO teams with all the necessary information to independently carry out the LASO methodology within a hospital setting. The results of each step can be documented in the LASO blueprint.

General tips for conducting LASO methodology

Facilitating the LASO methodology for the first time may present certain challenges, particularly in hospital settings where time and availability of (clinical) stakeholders are limited. This section provides practical guidance to support the organization and facilitation of the LASO workshops.

The LASO methodology is designed to be conducted through a series of **offline, in-person workshops**. While it may not always be feasible to bring all relevant stakeholders together, in-person participation has proven crucial to foster engagement, enable constructive discussion, and ensure the quality of workshop outcomes. If certain participants are unable to attend, it is therefore recommended to organize a short follow-up meeting to validate key assumptions and discussions, rather than conducting the workshops online or in a hybrid format.

Workshops should be held in a quiet room that provides sufficient space for all participants and is free from interruptions. Standard workshop materials, such as sticky notes dot stickers for voting, pens, and markers, should be prepared in advance. When possible, the **LASO team** should consist of at least two members: one to facilitate the workshop and one to take notes. This division of roles allows the facilitator to focus on guiding the session and managing group interactions, while the note-taker documents key insights, questions, and group discussions.

For **facilitators with limited previous experience**, several approaches can support the effective facilitation of LASO workshops. Assistance may be sought from a colleague with relevant facilitation skills, or an external facilitator may be engaged. Alternatively, a trial run with the LASO team can serve as valuable preparation, allowing facilitators with limited experience to familiarize themselves with the workshop materials and agenda before working with a broader group of stakeholders. Additionally, the following guidelines can help facilitators to create a productive and inclusive workshop atmosphere:

- *Encourage open discussion and balanced participation:* workshops are most effective when all participants feel encouraged to contribute. However, some participants may feel hesitant to speak, especially if they are not familiar with AI. Open-ended questions and active listening

can help create a supportive space. If certain participants dominate the discussion, gently invite quieter participants to share their perspectives to ensure a balanced conversation.

- *Manage time effectively:* workshops work best when they follow a structured timeline. While open discussion is valuable, it is important to manage time carefully to ensure that all activities can be completed. Therefore, set clear time limits for each phase of the workshop and, if necessary, suggest parking off-topic discussions for later. The use of a timer or designated timekeeper can help to maintain focus and keep discussions on track.
- *Guide, don't lead:* facilitators are not expected to provide answers but rather to guide participants through a collaborative and structured workshop process. Instead of leading participants toward a specific outcome, help them discover insights on their own by asking thought-provoking questions such as:
 - How might AI help to address this challenge?
 - What would this solution look like in daily practices?
 - Are there alternative ways to approach the challenge/solution?
- *Promote collaboration:* The strength of the LASO methodology lies in its multi-stakeholder approach. Combining perspectives across roles and departments fosters solutions that are broadly applicable and grounded in hospital practice. Encourage participants to build on one another's ideas rather than critique them. If disagreements arise, guide the conversation back to shared goals rather than differenced in opinions.



Remember, you don't need to be an AI-expert to facilitate LASO workshops. Your role is to guide discussions, keep participants engaged, and create an environment where ideas can thrive. If you stay flexible, encourage curiosity and creativity, and trust the process, meaningful insights will emerge!

Intake interview



This manual provides a general framework for preparing and conducting the LASO intake interview, outlining its key steps, materials and topic list. However, the actual preparation, structure, and content of the interview may vary based on factors such as:

- *The context of the interview*
- *The background of the interviewee*
- *Information that is already available*

Interviewers are therefore encouraged to adapt the guidelines for the intake interview as needed.

This manual contains all necessary information for conducting the first step of the LASO methodology: the intake interview. The purpose of this step is to **identify a concrete domain, process, or department** within the hospital where AI could help address existing challenges.

Rather than starting from a specific technology or solution, the intake interview focuses on revealing operational issues in hospital workflows and care delivery to ensure that the selected field of application is grounded in real workplace needs. In addition to identifying potential challenges, this phase also aims to **identify the department's strategic values and priorities** to serve as reference point for prioritizing AI solutions in later stages of the LASO methodology. Understanding these elements is essential as innovation efforts should align with the department's overarching goals to ensure relevance, feasibility, and long-term support.

Preparing for the intake interview

To prepare for the intake interview(s), several preparatory steps should be completed to ensure the discussion is well-informed and aligned with institutional priorities:

- Review the hospital's current **innovation strategy** and, if available, its **AI strategy** to define the broader framework within which a relevant problem area should be identified
- Consult the hospital's **innovation portfolio** to avoid overlap with existing projects and to identify any previously documented challenges that may require follow-up
- Compile a set of **known operational issues or bottlenecks** to serve as a starting point for identifying a meaningful problem area to explore further

Who to interview

To obtain a comprehensive view of both strategic priorities and daily work floor challenges, consider the following interviewees:

- **Head of Department/Manager:** can provide an overview of strategic priorities and known challenges within the department, and help to define the problem area for potential AI applications
- **IT Manager:** can offer insight into the technical infrastructure and feasibility of potential AI solutions within the hospital or a specific department

Additionally, (optional) interviews can be conducted to ensure alignment and deepen the understanding of the identified problem space:

- **Frontline stakeholders:** can validate whether challenges identified by leadership are in line with daily work floor realities
- **Domain experts** (e.g., legal advisor, member of ethics committee, Electronic Health Record specialist, clinician with specific domain expertise): can clarify the context of the problem area and identify technical, legal, or organizational considerations relevant to potential AI applications. They are particularly valuable in clarifying how existing systems work, which stakeholders are involved, and what safeguards must be considered.

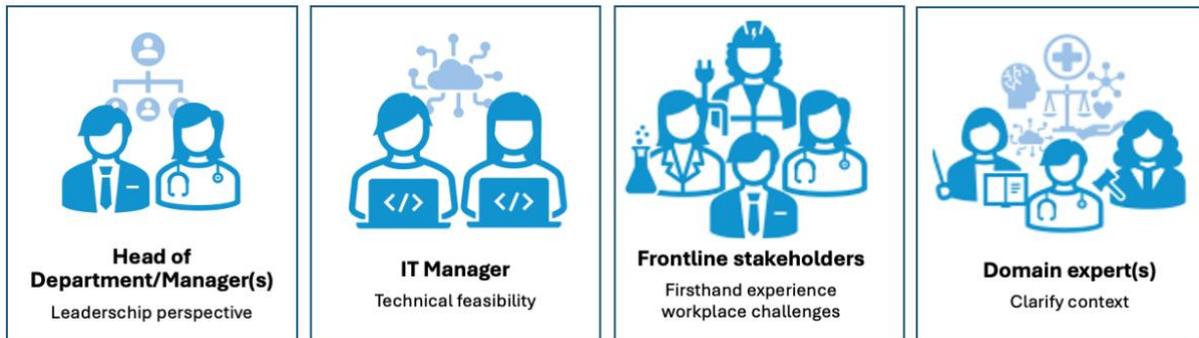


Figure 2: Stakeholders intake interview

Interview materials

To ensure a well-prepared and structured intake interview, the following materials should be available:

- Topic list:** to guide the conversation and ensure all relevant themes are covered
- Recording material:** to record the interview (with consent!) if required
- Laptop, tablet or notebook:** for real-time notetaking to capture insights, observations and follow-up actions

Intake interview topic list

The following topic lists offer a guide to help structure the intake interview and ensure all relevant themes are addressed. The total duration of the interview is approximately **one hour**.



These topic lists provide general guiding questions for conducting the LASO intake interview. It is not intended as a strict questionnaire to be followed in a fixed order and can be adjusted based on the context of the interview, the expertise of the interviewee, and information that is already available.

Time indications are indicative and may vary depending on the profile of the interviewee and the depth of the discussion. Information that is already available



Topic list head of department

Introduction (5 minutes)

Begin by briefly introducing the purpose of the interview. Explain the LASO methodology and emphasize that its aim is not to push AI technologies but to identify opportunities where AI could meaningfully support or improve existing workflows and operations. Clarify why the interviewee was selected and how their insights will help shape the LASO trajectory in the hospital.

Identification of strategic values and priorities (15 minutes)

This section explores the broader context in which the department operates, including the strategic values, long term objectives, and current priorities that shape its direction:

- **Department context and role**
 - How would you describe your department and the type of work it focuses on?
 - What is your role within the department?
- **Strategic values**
 - What values are central to your department's work? (e.g., patient safety, quality, efficiency, staff wellbeing, ...)
 - Are there any formal strategic plans, roadmaps, or action plans that guide your department's work?
 - If yes, follow up with:
 - What key goals or themes are emphasized in these plans?
 - How are these goals operationalized in daily routines or decision-making?
 - How is progress towards these goals tracked or evaluated?
 - If no, follow up with:
 - In the absence of a formal plan, what would you say are the department's main ambitions?
 - What longer-term outcomes would your department like to achieve in the next 1 to 3 years?
 - How do these ambitions influence decisions or initiatives in practices?
- **Operational priorities**
 - What are the current priorities or ongoing projects within your department?
 - What timelines or milestones are in place for these priorities/projects?
 - Are there any expected shifts in focus or new priorities emerging in the coming months or years?

Identification of problem area (30 minutes)

This section aims to identify a concrete operational challenge within the department and gain insights on how AI could support or improve current practice:

- **Perception of AI**

- How do you currently view the role of AI in your department or field of work?
- What opportunities do you see for AI to support or improve your day-to-day tasks?
- **Prioritizing problem area**
 - What are the most pressing challenges in your department right now?
 - If you had to choose one challenge to address, what would be your top priority?
 - Why is this issue particularly urgent or important?
 - *Note for interviewer: Once a problem area is identified, guide the conversation toward exploring the current workflow and where specific challenges arise*
 - *Can you describe the current workflow for this process or activity?*
 - *Who are the key people or roles involved? What are their responsibilities? How do they collaborate with others (internally and externally)?*
 - *What tasks are performed within this workflow? In what order do these tasks take place? What is the intended outcome of these tasks?*
 - *What tools, software, or platforms are used to support this process? What data is currently collected, shared, or processed to support this process?*
 - *In your view, what is the main challenge that should be solved to improve this process?*
- **Attempts at improvement**
 - Have you or your team already tried any digital or organizational solutions to address these challenges/improve this workflow?
 - If so, what was the outcome?
 - Do you see AI as a potential part of a solution to address these challenges/improve this workflow?

Stakeholder mapping (5 minutes)

This section aims to identify key individuals or roles who should be involved in the subsequent steps of the LASO methodology:

- Which colleagues or departments play a key role in the identified problem area?
- Who do you think should be involved in the next phases of this LASO AI innovation process?
- Are there specific individuals whose perspectives or expertise would be valuable in exploring or implementing a potential AI solution?

Note for interviewer: the following stakeholders can be considered and checked for: IT department, legal department, clinical staff, administrative or back-office staff, department or unit managers, operational support roles, patient representatives

Wrap-up and conclusion (5 minutes)

In this section, key insights from the conversation are summarized. Also, explain what will happen next.

- Briefly summarize the main topics discussed during the interview
- Confirm any immediate follow-up actions (e.g., inclusion in future workshops, sharing of results, ...)
- Thank the interviewee for their time and contributions



Topic list IT-Manager

Introduction (5 minutes)

Begin by briefly introducing the purpose of the interview. Explain the LASO methodology and emphasize that its aim is not to push AI technologies but to identify opportunities where AI could meaningfully support or improve existing workflows and operations. Clarify why the interviewee was selected and how their insights will help shape the LASO trajectory in the hospital.

Role and technical context (10 minutes)

The objective of this section is to understand the role of the IT manager/department within the department where LASO will be conducted and the broader hospital context:

- Can you briefly describe your role within the IT department and your area of responsibility?
- How is the department/hospital's digital infrastructure currently organized?
- What are the main systems/platforms in use? (e.g., Electronic Health Record, scheduling systems, internal communication tools, ...)
- Are there existing frameworks or guidelines for developing/implementing new digital tools?

Strategic priorities and digital roadmap (10 minutes)

This section aims to identify IT-related goals, constraints, and strategic focus areas:

- Are there strategic digital or IT roadmaps in place at hospital or department level?
- Are there goals around digitization, interoperability, data governance, or AI integration at hospital or department level?
- What major IT projects or upgrades are currently foreseen?

Identification of technically relevant problem area (15 minutes)

The aim of this section is to explore areas where AI might help improve or streamline operations:

- From your perspective, are there recurring technical or operational challenges within the department/hospital where AI could provide support?
- Are there existing tools or systems that could be enhanced with AI? (e.g. decision support, automation, scheduling, data extraction, ...)
- What kind of data is available for such use cases. Are there concerns about quality, access or standardization?
- Have you seen or explored any AI applications elsewhere that could be relevant in your context?

Technical readiness and constraints (10 minutes)

This section aims to understand the technical environment and feasibility for AI:

- Are there existing policies or standards for AI and data use in the department/hospital?
- Are there in-house technical capabilities for developing/implementing AI tools, or is external support needed?

- What constraints do you foresee when it comes to experimenting with or scaling AI tools? (e.g., infrastructure, budget, staff capacities, ...)

Stakeholder mapping (5 minutes)

This section aims to identify key individuals or roles who should be involved in the subsequent steps of the LASO methodology:

- Which colleagues or departments play a key role in the identified problem area?
- Who do you think should be involved in the next phases of this LASO AI innovation process?
- Are there specific individuals whose perspectives or expertise would be valuable in exploring or implementing a potential AI solution?

Note for interviewer: the following stakeholders can be considered and checked for: IT department, legal department, clinical staff, administrative or back-office staff, department or unit managers, operational support roles, patient representatives

Wrap-up and conclusion (5 minutes)

In this section, key insights from the conversation are summarized. Also, explain what will happen next.

- Briefly summarize the main topics discussed during the interview
- Confirm any immediate follow-up actions (e.g., inclusion in future workshops, sharing of results, ...)
- Thank the interviewee for their time and contributions



Topic list frontline stakeholders (optional)

Introduction (5 minutes)

Begin by briefly introducing the purpose of the interview. Explain the LASO methodology and emphasize that its aim is not to push AI technologies but to identify opportunities where AI could meaningfully support or improve existing workflows and operations. Clarify why the interviewee was selected and how their insights will help shape the LASO trajectory in the hospital.

Context and role (10 minutes)

The goal of this section is to understand the interviewees responsibilities and their work environment:

- How would you describe your department and the work you do? What is your specific role in the department?
- What kind of tasks do you typically perform in a normal working day or shift?
- What (recurring) challenges do you encounter in your work?

Validation of identified problem area (20 minutes)

This section explores if the problem area identified by the head of department reflects the operational challenges experienced by frontline stakeholders:

- The department head indicated that (insert problem area) is a priority for improvement. Does this match your experience?
- Can you describe what (insert process identified in problem area) currently looks like in daily practice? What works well and what causes problems?
- Who else is typically involved in this process? What are their roles?
- What tools or systems are used to support this process? Are they helpful or limiting?
- What types of data or information are recorded or shared? How is this handled in practice?
- Have there been any past efforts to improve or change this process? How did that go?

Perspectives on possible improvements (15 minutes)

In this section, the focus is on the potential for improvement and openness to exploring AI-supported solutions:

- In your view, what is the most urgent challenge that should be addressed in (insert process identified in problem area)?
- What kind of support or improvement would help you most in this process/in your work?
- Do you think an AI-based solution could help? If so, what should it do (or not do)?
- Are there any risks or concerns you would have about introducing an AI-based solution?

Stakeholder mapping (5 minutes)

This section aims to identify key individuals or roles who should be involved in the subsequent steps of the LASO methodology:

- Which colleagues or departments play a key role in the identified problem area?
- Who do you think should be involved in the next phases of this LASO AI innovation process?

- Are there specific individuals whose perspectives or expertise would be valuable in exploring or implementing a potential AI solution?

Note for interviewer: the following stakeholders can be considered and checked for: IT department, legal department, clinical staff, administrative or back-office staff, department or unit managers, operational support roles, patient representatives

Wrap-up and conclusion (5 minutes)

In this section, key insights from the conversation are summarized. Also, explain what will happen next.

- Briefly summarize the main topics discussed during the interview
- Confirm any immediate follow-up actions (e.g., inclusion in future workshops, sharing of results, ...)
- Thank the interviewee for their time and contributions



Topic list domain experts (optional)

Introduction (5 minutes)

Begin by briefly introducing the purpose of the interview. Explain the LASO methodology and emphasize that its aim is not to push AI technologies but to identify opportunities where AI could meaningfully support or improve existing workflows and operations. Clarify why the interviewee was selected and how their insights will help shape the LASO trajectory in the hospital.

Context and role (10 minutes)

The purpose of this section is to understand the expert's responsibilities and how their work relates to the identified problem area:

- Can you briefly describe your role and area of expertise within the department/hospital?
- How does your work relate to the domain/process identified as a priority for improvement?
- Are you currently involved in any initiatives related to this domain/process?

Technical, legal or organizational context (20 minutes)

This section aims to clarify specific requirements, constraints or prerequisites that may influence the feasibility of an AI solution:

- From your perspective, what are the main technical/legal/organizational factors we need to consider when exploring improvements in this process/domain?
- Are there specific legal/ethical/organizational concerns that must be addressed?
 - What digital tools, systems, or platforms are used in this domain/process? Are their compatibility or integration issues to be considered?
 - What types of data are currently collected, used, or shared in this domain/process? Are there any limitations on data availability, quality or access? Are there specific data protection concerns that must be addressed?
 - Are there existing rules, policies or compliance requirements (e.g., GDPR, hospital IT standards, clinical protocols, ...) that should be taken into account?
 - Are there specific ethical concerns that must be addressed?
 - Have you been involved in passed improvement initiatives in this domain/process? What were the key lessons learned?

Feasibility and risks of AI (15 minutes)

This section explores the perceived opportunities and risks of using AI in the identified domain/process:

- In your view, could AI meaningfully support or improve this domain/process?
- What would be essential to ensure successful development or deployment of an AI solution in this domain/process?
- What potential risks, barriers, or unintended consequences should we anticipate in this process/domain?

Stakeholder mapping (5 minutes)

This section aims to identify key individuals or roles who should be involved in the subsequent steps of the LASO methodology:

- Which colleagues or departments play a key role in the identified problem area?
- Who do you think should be involved in the next phases of this LASO AI innovation process?
- Are there specific individuals whose perspectives or expertise would be valuable in exploring or implementing a potential AI solution?

Note for interviewer: the following stakeholders can be considered and checked for: IT department, legal department, clinical staff, administrative or back-office staff, department or unit managers, operational support roles, patient representatives

Wrap-up and conclusion (5 minutes)

In this section, key insights from the conversation are summarized. Also, explain what will happen next.

- Briefly summarize the main topics discussed during the interview
- Confirm any immediate follow-up actions (e.g., inclusion in future workshops, sharing of results, ...)
- Thank the interviewee for their time and contributions

Workshop 1: AI Opportunity Mapping



This manual provides a general framework for preparing and conducting the LASO AI Opportunity Mapping workshop, outlining its key steps, materials, and facilitation guidelines. However, the actual preparation, structure, and composition of the workshop may vary based on factors such as:

- *The number of participants and their background*
- *The number of AI solutions generated in the previous AI ideation workshop*
- *The time constraints and resources available for the workshop*

Facilitators are therefore encouraged to adapt the workshop setup as needed to ensure it is efficient, inclusive, and aligned with the specific needs of the organization and participants.

This manual provides a structured guide for conducting the first multi-stakeholder workshop in the LASO methodology. This workshop focuses on **exploring potential AI solutions with frontline stakeholders**. The goal of this session is to match real-world challenges, identified during the intake interview(s), with AI capabilities that can provide meaningful support in daily hospital practices. The workshop is designed to be accessible to everyone, including those with no prior experience in AI, to ensure that all participants can contribute valuable insights based on their lived experiences.

The purpose of this workshop is to **match AI capabilities and opportunities with real-world challenges** experienced in the identified hospital field or department. Through a combination of brainstorming exercises using ideation tools, participants generate and present potential AI solutions. These are then reviewed and clustered, followed by a **prioritization step** that combines strategic alignment with personal preferences of frontline stakeholders.

By the end of this workshop, participants will have generated a consolidated list of proposed AI solutions, a first prioritization of these solutions, and an initial draft of some key elements of the AI canvases. These outputs will serve as input for selecting the most promising solutions, drafting complete AI canvases and conducting the first legal check in the subsequent stages of the LASO methodology.

Preparing for the workshop

Before conducting the workshop, **three key components** must be identified based on the intake interview(s) conducted during the first step of the LASO methodology:

- Define the **problem area**: clearly outline current work processes and challenges that could potentially be addressed through the implementation of AI
- Identify **key stakeholders**: determine which frontline stakeholders experience these challenges firsthand and invite them to participate in the workshop
- Define **strategic values**: list the department's strategic values and priorities identified from the intake interview(s) to help with a first prioritization of ideated AI solutions

Workshop participants

To ensure a productive discussion, it is important to invite a diverse group of participants to bring a variety of perspectives and expertise to the table. The following stakeholders should preferably be invited:

- **Hospital innovation manager:** plays a key role in connecting the workshop outcomes to the hospital's broader innovation strategy.
- **AI expert:** internal or external AI specialist that can provide technical insights into AI's capabilities and limitations. Their expertise can help participants understand what is realistically possible and ensures that the proposed AI solutions are technically feasible and aligned with best practices.
- **AI enthusiast (if available):** a staff member who is interested in digital transformation and emerging technologies can help to bridge the gap between AI theory and practical application. They can also act as internal advocates for AI-driven innovation.
- **Frontline stakeholders:** includes healthcare professionals, hospital staff, and other end-users who will be directly affected by or work with the AI solution.

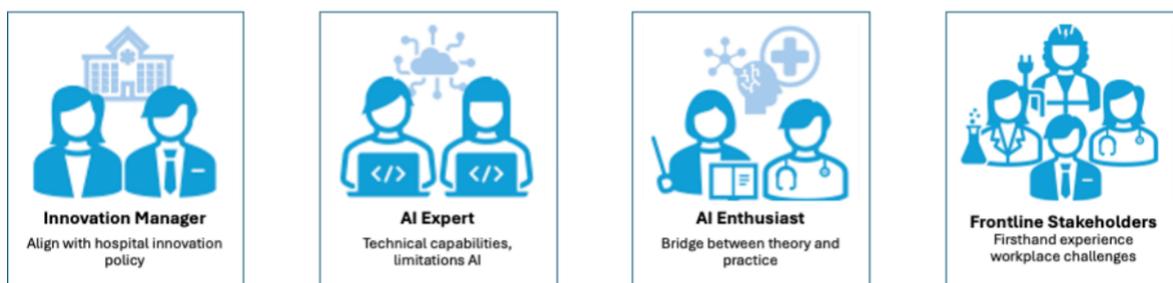


Figure 3: Stakeholders Workshop 1: AI Opportunity Mapping

Workshop materials

To ensure a smooth workshop session, the following materials should be prepared in advance:

- ❑ **Workshop instructions (slide set):** a PowerPoint presentation guiding participants through each step of the workshop.
- ❑ **Timer:** To help facilitators keep track of the workshop's timing and ensure each phase stays on schedule
- ❑ **AI ideation card set for hospitals:** A set of inspiration cards providing examples of AI applications, tailored to a hospital setting. A printer-friendly version of the cards is available here: [AI the game: Cards](#)
- ❑ **Printed AI canvas:** Templates for collective brainstorming that help structure and document AI solutions. A printable version of this template is available here: [AI canvas](#)
- ❑ **Basic facilitation materials:** paper, sticky notes, dot stickers, and markers

Workshop agenda

This workshop brings multiple stakeholders together to explore AI-driven solutions for workplace challenges. The workshop structure is carefully designed to gradually introduce AI concepts before

guiding participants towards identifying practical opportunities for AI-driven innovation. The expected duration of the workshop is **two hours**.

Introduction (25 minutes)



Warm up participants, set expectations, introduce the workshop framework, and ensure a shared, basic understanding of AI among all participants.

Welcome and workshop overview (5 minutes)

At the beginning of the workshop, participants are welcomed and introduced to the workshop's purpose. This introduction should explain that the workshop is designed to help participants explore how AI can support their daily work, particularly in addressing the challenges identified in the problem space.

Next, facilitators introduce the LASO methodology, outlining its structured approach to identifying and developing AI-driven solutions within the hospital. This will help participants to understand how this workshop fits within the broader innovation process and LASO approach.

Present problem space (10 minutes)

To ensure that all participants have a clear understanding of the problem and challenge(s) they will be working on, facilitators will present the problem space identified from the intake interviews conducted in the first phase of the LASO methodology.

Following this presentation, participants should be encouraged to share their feedback or provide additional insights based on their own experiences. This collaborative approach ensures that the problem definition is well-grounded and accurately reflects the realities of the workplace.

How can AI help? (10 minutes)

To ensure that all participants have a shared, basic understanding of AI, a short and accessible presentation on the potential of AI should be given to introduce basic AI concepts and highlight its application in healthcare and hospital environments. Ideally, this presentation is given by an AI expert or AI enthusiast, allowing participants to ask questions and seek clarification when needed. During this Q&A session it is important to create an open and reassuring space where all questions and concerns can be discussed.

Some participants may express concerns about AI, particularly regarding its impact on their jobs. It is therefore essential to reinforce that AI is a tool designed to assist, not replace, (healthcare) professionals. Explain that AI can automate repetitive tasks, improve efficiency, and provide decision-support, but human expertise remains essential. By addressing these concerns early on, participants will feel more at ease and be more open to exploring AI-driven solutions during the workshop.

Brainstorming AI solutions (25 minutes)



Ideate AI-driven solutions for the identified challenges.

Individual brainstorm (5 minutes)

To begin this exercise, facilitators provide each participant with paper and a pen and ask them to individually reflect on the identified challenges and consider how AI could help them to overcome these challenges in their daily tasks. It is important to emphasize that there are no wrong answers in this exercise. The goal is simply to capture as many potential AI use cases as possible, based on their own experiences.

The notes from this exercise will serve as input for the next step, where participants will collaborate in groups and use AI Ideation Cards to explore concrete AI-driven solutions.

Collective brainstorm with AI ideation cards (20 minutes)

For this exercise, facilitators should divide participants into small groups of three to five people. To encourage cross-disciplinary thinking, it is advisable to mix individuals from different departments or backgrounds to ensure that a diverse range of perspectives contributes to the discussion. This approach can also help to develop solutions that are not limited to a single team or department, but can be applied across departments, fostering broad impact and collaboration.

Each group receives a set of AI Ideation Cards, which provide examples of AI applications in healthcare. These cards serve as inspiration for creative problem-solving and help participants explore AI-driven solutions for the challenges identified earlier. A description of the game rules can be found here: [AI the game: Rules](#)

Additionally, all groups receive a set of blank AI-canvases, which they can use to structure and capture their ideas. At this stage of the workshop, participants should primarily focus on:

- Defining the **problem** they want to solve (A)
- Identifying **for whom** they are solving it (B)
- Determining the **AI task** that will be used (C)
- Providing an initial idea of how AI will help **address the problem** (D)

This information should remain high-level and not overly detailed, as further refinement will take place in subsequent stages of the workshop.

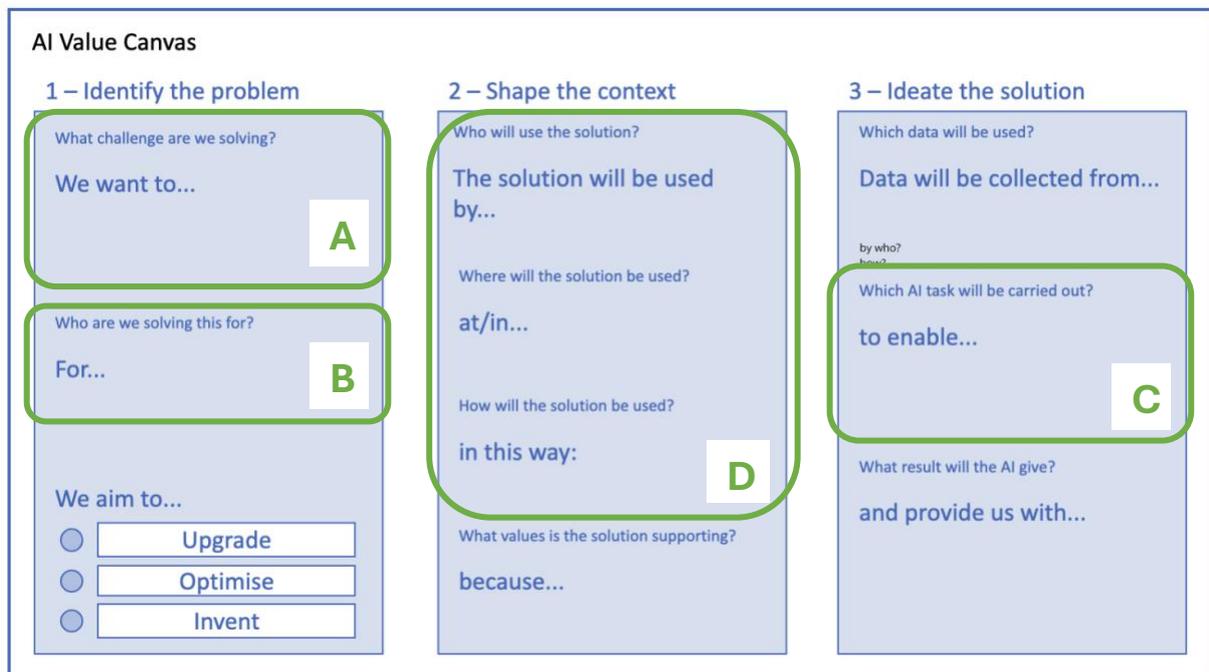


Figure 4: Sections of AI canvas that can be completed in workshop 1

To support this process, facilitators can display a slide highlighting the key areas of the AI Canvas that should be completed at this stage. This will help participants understand where to record their first draft of the solution and ensure that all groups capture the necessary information for further development. By capturing their ideas immediately on the AI canvas, we aim to ensure that all potential solutions are clearly documented so they can be developed in the next steps.

Throughout the exercise, facilitators should actively guide the groups, ensuring that ideas remain practical, relevant, and feasible within the hospital environment. If needed, facilitators can ask questions to stimulate deeper thinking and help groups refine their solutions before moving on to the next stage.

Break (15 minutes)

To maintain focus a short 15-minute break is held halfway through the workshop.

Presentation and prioritization of ideated solutions (50 minutes)

 Allow groups to present their AI-driven solutions and refine them through feedback. Make a first prioritization of ideated solutions based on strategic values and personal preferences.

Presentation of AI solutions (25 minutes)

Once the ideation exercise is completed, each group presents their proposed AI solutions to the rest of the participants. Facilitators ask each group to:

- Clearly explain the problem their solution addresses

- Describe the core idea behind their AI-supported approach
- Outlined the intended improvement in department/hospital workflows

After each presentation, participants are invited to provide questions or comments to encourage constructive feedback or suggestions for improvement. Facilitators document the ideated solutions by sticking completed AI canvases or sticky notes to a large paper. Similar ideas and AI solutions are identified and clustered to reveal recurring themes. After all ideated solutions are presented, facilitators guide a short discussion to assess:

- Is AI truly needed to address the proposed problems?
- Can certain ideas be merged into a single, more robust solution?
- Are there valuable ideas that may not require AI but might need follow-up?

If a proposed solution does not involve AI but is considered relevant, it can be documented separately for future reference outside the LASO framework. The outcome of this step should be a comprehensive overview of all AI solutions that were generated during the brainstorming phase.

Prioritization of AI solutions (25 minutes)

This step focuses on performing a first prioritization of the ideated AI solutions to identify the most promising and relevant solutions by combining strategic relevance with participant preferences. Begin this step by presenting briefly present each of the proposed AI solutions that emerged from the previous step. Next, invite participants to assess each solution based on two dimensions:

- **Strategic alignment**
Present the strategic values that were identified during the intake interview(s). Provide a short explanation of each value and allow participants to ask questions to ensure mutual understanding of these values among all participants. Then ask participants to link these values to each of the proposed solutions by writing them on a sticky note and attaching them to the solution(s) they feel that uphold this value.
- **Personal preferences**
Distribute dot stickers to participants, allowing each person three votes. Participants can use these dots to indicate which AI solutions they believe are most valuable, feasible or interesting based on their own experience and professional judgement.

To score the ideated solutions, each strategic value carries a weight based on its relative importance to the department. For instance, values ranked highest by department leaders receive 5 points, while less critical values receive 4,3,2 or 1 point. By assigning these values to the proposed AI solutions, a total strategic score can be calculated, showing how well each solution aligns with organizational priorities. In parallel, the results of dot voting can be calculated by simply counting the number of dots placed on each solution. This score provides insights into which solution frontline stakeholders consider most relevant in practice. Combining the two scores ensures that the prioritization of ideated solution reflects both organizational priorities and workplace realities, indicating solutions that are both strategically aligned and meaningful in daily practice.

Wrap-up and conclusion (5 minutes)



Summarize key findings and inform participants about the next steps

Conclude the workshop by summarizing key outcomes: the challenges explored, the ideated AI solutions, and the initial prioritization based on strategic values and personal preferences. Explain that the LASO team will now review these results to select which solutions will be further developed in the next workshops.

Briefly outline the next steps of the LASO methodology and ask participants for any final thoughts they would like to share. Thank participants for their time and input and inform them how they will be updated and involved as the LASO process is going forward.

First Draft of AI Canvases

This manual aims to guide the LASO team in creating a first draft of the AI canvases that will be used as input for the subsequent phases of the LASO methodology. This step follows the first LASO workshop (AI Opportunity Mapping) and supports the transition from a broad ideation phase to the focused development of AI solutions. The goal is to first narrow down the list of proposed AI solutions and prepare draft AI canvases for those retained.

Selection of AI solutions

In cases where a wide variety of AI solutions were generated during Workshop 1 AI Opportunity Mapping, a selection must be made to determine which solutions will be taken forward in the LASO methodology. This decision is preferably made in consultation with the head of department or hospital manager responsible for the use case conducted in the LASO trajectory. To support informed decision-making, the LASO team should present the following materials:

- **Strategic value scores:** These indicate how well each AI solution aligns with the strategic values of the department/hospital, as identified earlier in the LASO process.
- **Dot voting scores:** These scores reflect the preferences of workshop participants, offering insight into which AI solutions were most valued by frontline stakeholders.

By combining both scores, heads of department/managers can evaluate which solutions hold the most promise from both a strategic and operational perspective. This promotes a balanced decision that acknowledges both institutional goals and real-world needs.



If only a small number of AI solutions were generated during the first workshop, this selection step may be skipped, and all solutions can proceed to the next phase.

Drafting AI canvases

Once the final set of AI solutions is confirmed, the LASO team is responsible for completing a first draft of the AI canvas for each selected solution. The AI canvas is a structured template that outlines the envisioned AI solution, including:

- The **problem** the AI solutions addresses and who we are solving it for
- The **context** in which the AI solution will be used, including who will use it and how it will be used
- Technical and operational elements of the **AI solution**, including key information about the AI tasks involved, the data required, and the expected outcomes or improvements the solution aims to achieve.

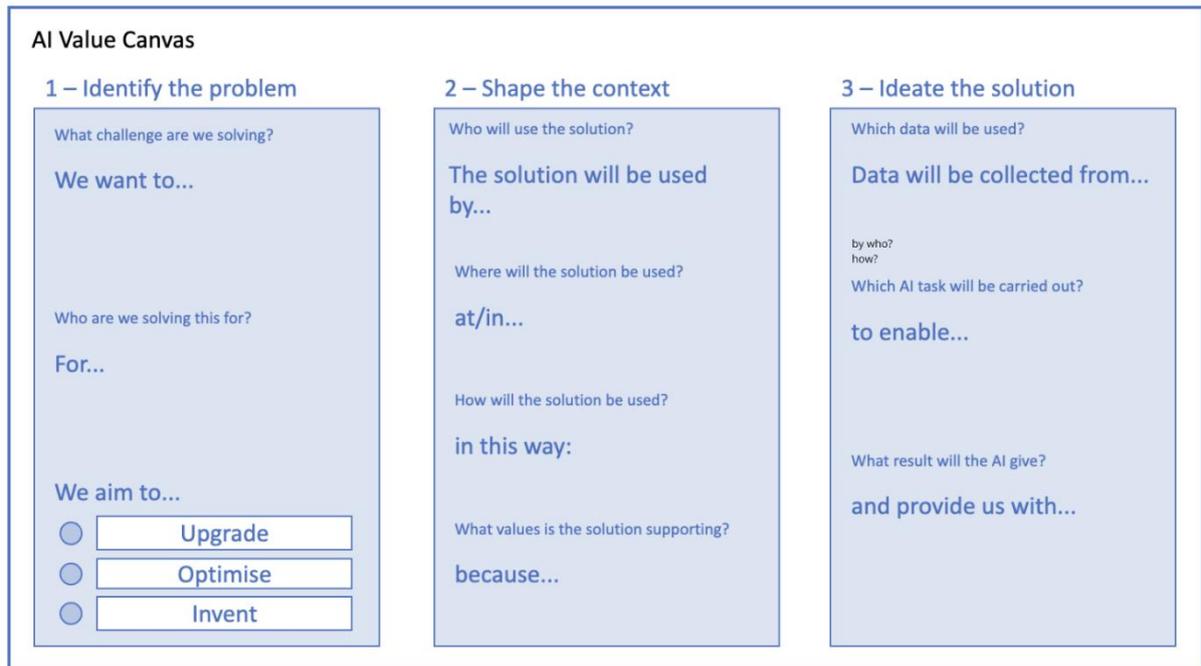


Figure 5: AI canvas

To complete these canvases, the LASO team can draw on insights gathered during workshop 1. Where information is missing or requires further input, additional consultation may be required, for instance:

- **IT specialists** may be consulted for questions regarding data access, system interoperability, or technical feasibility
- **Frontline stakeholders** may be contacted to validate assumptions about workflows, user interaction or the practical outcomes/impact of the solution

These first drafts will guide the *First Legal Assessment* of the proposed AI solutions and will serve as foundation for further refinement in *Workshop 2: Prioritization of AI Solutions*.

First Legal Check

This manual outlines the first formal legal assessment step within the LASO methodology. This initial legal check ensures that AI solutions comply with relevant legal frameworks, particularly the General Data Protection Regulation (GDPR) and the AI Act. To support this process, three legal tools have been developed:

- **Checklist and PowerPoint presentation:** intended for use during the early ideation and exploration phases. They introduce six prohibited AI scenarios under the AI Act and help stakeholders reflect on the legal feasibility of their ideas.
- **ComPlayAnt game:** intuitive analog tool designed to help non-specialists assess legal risks through a guided process.
- **LASO JusticeBot:** structured online tool that identifies relevant regulatory issues under the AI Act and GDPR. It guides users through a series of questions and generates a tailored legal risk report for each AI solution



Only the LASO JusticeBot was applied and validated during the LASO project. Therefore, this manual will focus exclusively on the use of the JusticeBot. Further information on the checklist, and ComPlayAnt game can be found in the appendix: [Legal Assessment Tools](#)

Legal assessment with LASO JusticeBot

Once specific AI solutions have passed the initial prioritization and a first draft of AI canvases has been completed, they proceed to a first legal assessment. This assessment helps to:

- Classify AI solutions based on potential legal and ethical risks
- Identify who is responsible for tackling these risks
- Determine whether to proceed, mitigate risks, or abandon the AI solution entirely.

To support the legal risk assessment of AI solutions, the LASO JusticeBot was developed as an accessible online tool (<https://laso.smartlawhub.eu>). It is designed to help non-specialists navigate complex legal frameworks and assess the risks of AI solutions in a structured and user-friendly manner. The tool guides users through a decision tree, asking targeted questions about the specific circumstances and the intended use of the AI solution being assessed. Using plain language and offering explanations of key legal concepts and obligations, the JusticeBot helps users identify relevant regulatory issues.

To conduct the legal assessment using the LASO JusticeBot, the LASO team should draw on the information recorded in the draft AI canvases. If certain details are missing or unclear, the LASO team may consult with relevant stakeholders or domain experts to clarify the necessary elements before proceeding with the legal assessment. Based on the responses provided, the JusticeBot:

- Flags potential risks associated with the AI solution
- Points to the appropriate contact within the hospital who can assist in mitigating the identified legal risks

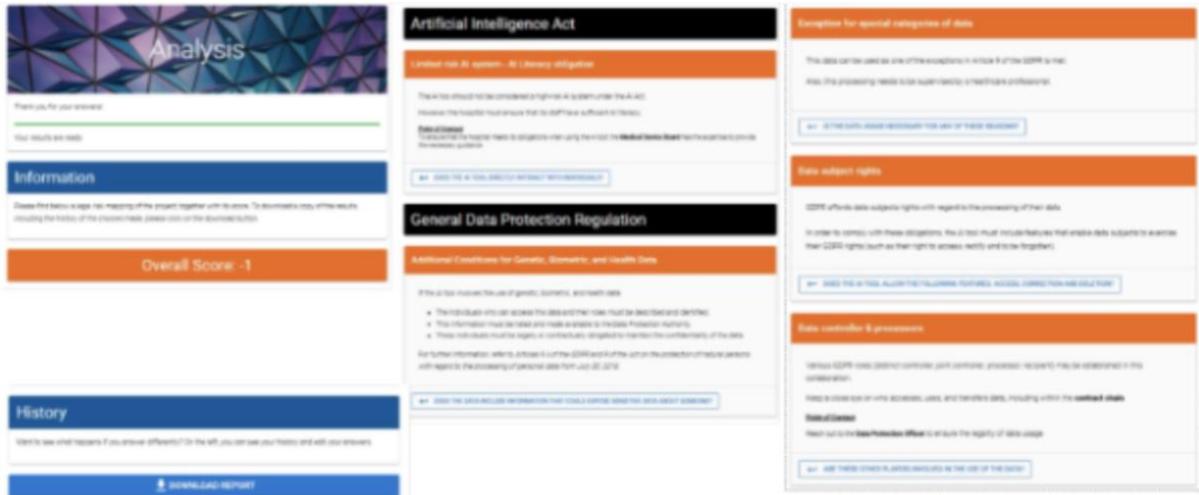


Figure 6: Screenshot of a legal report generated by the LASO JusticeBot

At the end of the assessment, the JusticeBot generates a legal risk report tailored to the AI solution in question. This report includes an automatically calculated risks score ranging from – 2 to 2:

- **2:** minimal legal risk
- **0:** risks in either the GDPR or AI Act pathway
- **-1:** risks in both pathways
- **-2:** high risks that are nonetheless manageable.

If the legal risks are deemed unacceptable and cannot be mitigated, the JusticeBot will not provide a score, indicating that the AI solution should not proceed.

Score	AI Act	GDPR	Explanation
+ 2	●	●	No risk identified in either section
+ 1	NA	NA	Not applicable
0	● / ●	● / ●	One section is free of risks, while the other contains at least one intermediate risk
- 1	●	●	Both sections at least one Intermediate Risk
- 2	● / ● / ●	● / ● / ●	At least one section contains a severe risk
UR	●	● / ● / ●	An Unacceptable Risk has been flagged

Figure 7: Legal scoring scenarios

Workshop 2: Prioritization of AI solutions



This manual provides a general framework for preparing and conducting the LASO Prioritization workshop, outlining its key steps, materials, and facilitation guidelines. However, the actual preparation, structure, and composition of the workshop may vary based on factors such as:

- *The number of participants and their background*
- *The number of AI solutions generated in the previous AI ideation workshop*
- *The time constraints and resources available for the workshop*

Facilitators are therefore encouraged to adapt the workshop setup as needed to ensure it is efficient, inclusive, and aligned with the specific needs of the organization and participants.

This manual is designed to guide facilitators through the second multi-stakeholder workshop of the LASO methodology. This workshop focuses on **identifying the most promising AI opportunity** for implementation in the hospital setting. The goal of this session is to evaluate and prioritize AI use cases based on their alignment with hospital strategies, impact, feasibility and risks.

Through a combination of structured discussions, collaborative scoring, and strategic prioritization, participants will evaluate AI-driven solutions to identify the most suitable option for implementation. The workshop is divided into targeted steps that guide participants from initial review to final scoring, ensuring a clear and logical decision-making process.

By the end of the workshop, participants will have ranked AI opportunities based on strategic value, impact, feasibility and risks. Based on these scores, the most promising AI-solution can be selected for further development in the subsequent stages of the LASO Methodology.

Preparing for the workshop

Several preparation tasks must be completed in advance of the workshop:

- **Selection of AI-solutions** (if applicable): If many solutions were generated during the first workshop, the head of department or hospital manager should review and select the most suitable solutions for further development. If the number of solutions from the first workshop was limited, then this step is not necessary.
- **Draft AI canvases**: Once the most suitable solutions are selected, the LASO team should make a first attempt to complete the AI canvas for each selected solution.
- **First legal check with JusticeBot**: Once the AI canvases are drafted, a first legal check should be conducted to assess the legal feasibility of each proposed AI solution. Solutions that do not pass the legal check should be eliminated before the workshop to avoid further development of legally unviable ideas.

Workshop participants

To ensure a comprehensive prioritization and discussion, it is essential to invite diverse stakeholders to bring various perspectives and expertise. The following participants should preferably be included in the workshop:

- **Hospital innovation manager**: plays a key role in connecting the workshop outcomes to the hospital's broader innovation strategy.

- **Head of department/manager(s):** brings strategic and managerial insights to help assess how outcomes will fit into existing workflows, staff structures, and department planning.
- **Frontline stakeholders:** includes healthcare professionals, hospital staff, and other end-users who will be directly affected by or work with the AI solution.

Depending on the skills and expertise already present among the innovation manager, head of department/manager(s), and frontline stakeholders, the following representatives can be invited if desired:

- **IT representative:** provides guidance on how the AI solution can be technically integrated into the hospital’s digital infrastructure
- **Legal representative:** Ensures that the proposed AI solutions comply with legal requirements. If participants have adequate legal knowledge or access to legal resources, then a dedicated legal representative may not be necessary.
- **Ethical representative:** Provide ethical oversight, ensuring that the proposed AI solutions align with ethical standards and values in healthcare. If frontline stakeholders make ethical decisions in their daily work, then an ethical representative might not be required.



Figure 8: Stakeholders Workshop 2: Prioritization of AI solutions

Workshop materials

To ensure a well-organized and engaging workshop, facilitators should have the following materials ready in advance:

- ❑ **Workshop instructions (slide set):** A structured presentation that guides facilitators and participants through each step of the workshop. This slide set should include an overview of the objectives, instructions for each exercise, and key discussion points.
- ❑ **Timer:** To help facilitators keep track of the workshop’s timing and ensure each phase stays on schedule
- ❑ **LASO Prioritization matrix:** A structured matrix outlining the criteria for evaluating AI solutions, focusing on strategic value, impact, feasibility, and risks. This matrix serves as a base for scoring each AI solution and is available here: [LASO Prioritization Matrix.xlsx](#)
- ❑ **LASO scoring tools:** Scoring tools that allow participants to evaluate each AI solution based on strategic value, impact, feasibility, and risks. Depending on the workshop format and availability of a laptop/tablet/Smartphone, a paper or digital version can be used:
 - **Prioritization score sheet:** A paper form containing structured questions to help participants evaluate each solution. A printable template is available here: [Paper-based LASO Prioritization Scoring Sheets](#)
 - **LASO Prioritization tool:** a digital, survey–based interface designed to guide participants through the scoring process. Further information about the tool and how to access it can be found here: [Digital LASO Prioritization Scoring Application](#)
- ❑ **Basic facilitation materials:** Paper, sticky notes, and markers to support brainstorming, note-taking, and group exercises.

Workshop Agenda

This section provides step-by-step instructions to help facilitators guide participants through evaluating and prioritizing AI solutions. The structured format ensures focused discussions, collaboration, and well-informed decision-making based on strategic value, impact, feasibility, and risks.

The expected duration of the workshop is **two hours**.

Introduction (10 minutes)



Warm up participants, set expectations for the workshop and present AI solutions that will be evaluated.

Welcome and introduction (5 minutes)

Participants are welcomed and provided with a brief overview of the workshop’s purpose to prioritize AI solutions based on strategic value, impact, feasibility, and risks. A short presentation should introduce this objective, emphasizing that the session will help determine which AI solutions are most suitable for hospital implementation.

Overview of AI solutions (5 minutes)

Facilitators present an overview of the selection process of AI solutions explaining:

- How many ideas were generated during the AI ideation workshop
- How these ideas were narrowed down to the selected solutions for further evaluation (if applicable)

Each of the AI solutions is then introduced using the AI canvas to outline:

- The problem being addressed (Problem)
- The context in which the solution will be used (Context)
- The AI driven approach that will be used to solve the problem (Solution)

Finalize AI canvas (15 minutes)



Review and complete the AI canvas for each AI solution that will be evaluated during the workshop.

Participants are divided into smaller groups, with each group assigned one of the AI solutions. Groups should ideally include a mix of expertise, ensuring diverse perspectives contribute to refining the AI canvas.

Each group receives the AI canvas for their assigned AI solution. Facilitators instruct participants to:

- Review the existing information on the canvas
- Identify any gaps or unclear aspects that need further elaboration

Groups work together to finalize their AI canvas, ensuring that all items are clearly defined. During this exercise, facilitators circulate between groups to provide guidance, answer questions, and ensure participants stay focused. By the end of this step, each group should have a refined and complete AI canvas that clearly presents their AI solution.

Present AI canvas (15 minutes)



Present AI canvas to the larger group and gather feedback for further refinement

Each group presents their completed AI canvas to the rest of the participants. After each presentation, the facilitator opens the floor for discussion. Participants from other groups are encouraged to ask questions to clarify the presented AI solution and provide feedback or suggest improvements to refine the AI canvas.

During this part of the workshop, facilitators should focus on encouraging constructive feedback while ensuring that discussions remain focused and solution-oriented. Additionally, they should also keep an eye on the time to ensure that each group has the opportunity to present their solution and receive feedback. At the end of this exercise, all AI canvases should be reviewed and refined, incorporating feedback to ensure that each solution is clear.

Break (15 min)

A 15-minute break is scheduled to allow participants to refresh and reset before the evaluation of the AI solutions begins.

Facilitators can use this time to digitize the AI canvases by transferring the paper versions into a digital format (e.g., slide). These digital versions can then be displayed during the evaluation phase, helping participants easily reference key details of each AI solution while scoring.

Present LASO Prioritization Matrix (5 minutes)



Introduce the LASO prioritization matrix to ensure mutual understanding

Facilitators introduce the LASO Prioritization Matrix, which serves as the framework for scoring each AI solution. This matrix evaluates AI solutions based on key factors such as:

- Impact on hospital operations and patient care
- Feasibility (technical, financial, organizational)
- Potential risks and challenges (legal, ethical)

By walking participants through the matrix, facilitators ensure mutual understanding of the evaluation criteria before scoring begins. Additionally, participants are encouraged to ask clarifying questions to ensure that everyone understands the scoring before moving to the next phase.

Evaluation of AI solutions (40 minutes)



Score each AI solution using the LASO Prioritization Matrix score sheets or the digital LASO Prioritization scoring tool

To ensure an informed and structured evaluation, participants are grouped based on their expertise, with each group assigned specific criteria from the LASO prioritization matrix that align with their assumed knowledge. For example:

- Frontline stakeholders assess the impact on patient care and daily workflows
- Head of department/Managers evaluate strategic alignment and long-term benefits
- IT representatives score technical feasibility

Facilitators should clearly explain the role of each group and how their input contributes to a balanced and objective evaluation process. Facilitators should also emphasize that when scoring the AI solutions, it is important to evaluate their most likely impact on the various domains and items of the prioritization matrix. This assessment should be based on the solution, as described on the AI Canvas, rather than assuming best-case or worst-case scenarios. Participants should therefore be encouraged to:

- Focus on the actual proposed solution rather than general assumptions about AI.
- Critically assess how the solution is likely to affect hospital operations, patient care, and resource allocation.
- Avoid overly optimistic or pessimistic predictions and instead reflect realistically on the expected outcomes and impact.

Each AI solution is presented one by one using the AI canvas developed earlier in the workshop. A digital version (prepared during the break) is displayed to guide participants in scoring the solutions. Depending on the workshop format and the availability of devices (laptop/smartphone/tablet), either a paper-based or digital version of the LASO scoring tools can be used to evaluate the AI solutions:

- **LASO Prioritization scoring sheet:** structured paper form containing questions to guide participants in evaluating each AI solution.
- **LASO Prioritization scoring tool:** digital tool guiding participants through the scoring process using a survey-based interface.

Each group records their responses independently. To enhance the objectivity of the scoring, the same criteria are scored by multiple groups to reduce bias and validate results. During the scoring, facilitators remain available to answer questions and provide clarifications on scoring criteria, and ensure participants understand how to complete the LASO scoring sheet. The completed scores are then compiled to calculate an overall prioritization score for each AI solution.

Once all groups have submitted their scores, facilitators compile the results by combining the scores from different criteria and groups. To ensure that the selected AI solution align with both organizational priorities and needs of frontline stakeholders, the **strategic value scores** and **personal preference scores** collected during the first LASO workshop are also integrated into the final calculation. This combined score determines the overall ranking of the AI solutions and helps to identify the most promising AI opportunities for further development in the LASO process.

Deliberation (20 min)



Provide participants with the opportunity to review the final scores, raise questions or concerns, and ensure consensus on the results.

Facilitators present the final scores of each AI solution and invite participants to share any questions, remarks, or concerns regarding these scores. This ensures that participants have the opportunity to validate or challenge scores, discuss or clarify any uncertainties or discrepancies, and add their perspective to the final scores. If strong arguments are presented, adjustments to the scores may be made.

During this phase of the workshop, it is important for facilitators to ensure that the discussion remains focused, constructive and time-efficient while allowing room for collaborative decision-making. If disagreements arise, focus on guiding the discussion towards consensus-building rather than debate.

By the end of this step, all participants should feel that their input has been considered, and there should be a shared agreement on the prioritization of AI solutions. If no significant concerns remain,

facilitators should ask for final approval for all participants to confirm the ranking of the AI solutions. This step ensures that all participants agree with the outcome of the workshop and that the most promising AI solutions are ready to move forward.

Wrap-up and conclusion (5 min)



Summarize key findings and inform participants about the next steps

After reaching consensus on the final ranking of the AI solutions, facilitators provide a brief recap of the workshop. To ensure that all participants leave with a clear understanding of the workshop outcomes, this summary should highlight:

- The AI solutions that were evaluated
- The final ranking of solutions based on the LASO Prioritization Matrix
- Key insights from the discussion and deliberation

To conclude the workshop, facilitators outline the next steps of the LASO Methodology, upcoming workshops or meetings, and how participants can continue to contribute to the AI selection process. Participants are thanked for their engagement and valuable contributions, emphasizing that their insights will help ensure that AI solutions are practical, impactful, and beneficial for hospital operations and patient care. By ending on a positive and forward-looking note, participants leave the session feeling informed, appreciated, and motivated to stay involved in the LASO process.

Workshop 3: Refining the Concept Idea



This manual provides a general framework for preparing and conducting the LASO Refining Concept Idea workshop, outlining its key steps, materials, and facilitation guidelines. However, the actual preparation, structure, and composition of the workshop may vary based on factors such as:

- *The number of participants and their background*
- *The number of AI solutions retained from the previous prioritization workshop*
- *The time constraints and resources available for the workshop*

Facilitators are therefore encouraged to adapt the workshop setup as needed to ensure it is efficient, inclusive, and aligned with the specific needs of the organization and participants.

This manual provides a structured guide for conducting the third multi-stakeholder workshop in the LASO methodology. This workshop focuses on **refining the AI solution** that was retained from *Workshop 2: Prioritization of AI solutions*. The objective is to further develop and strengthen the chosen AI solution by identifying key stakeholders, potential effects, and core values that need to be considered for ethical and responsible implementation of this solution.



This workshop is built on the Guidance Ethics approach: a structured method to ensure that AI solutions in healthcare are developed and implemented ethically and responsibly. Understanding this approach is essential for facilitators, as it forms the foundation for the workshop structure and discussion. An introduction to this approach can be found here: [Guidance ethics: A practical framework for responsible AI implementation](#). More information, including practical tools for facilitating a guidance ethics workshop, is also available via <https://begeleidingsethiek.nl/>

Starting from the proposed solution, participants will engage in collaborative discussions to explore its broader impact, ensuring that technical, contextual, and human factors are accounted for. Through structured exercises, the group will define concrete measures to support the responsible integration of AI into hospital workflows. These measures will focus on three key areas: technology, context, and users.

By the end of the workshop, participants will have outlined specific measures that will serve as the foundation for the final step in the LASO methodology. This manual ensures that facilitators, even those without prior experience in conducting these workshops, can guide participants through the session.



If multiple AI solutions were retained from the prioritization matrix, several sessions of this workshop can be conducted (one for each solution). However, it is important to manage the workload for participants, as excessive time commitments may reduce engagement.

If multiple solutions need to be refined, ensure that there are enough participants to run parallel sessions. If the group is too small to split, and resources or time are limited, an alternative approach is to allow participants to vote on the solution they wish to refine during this workshop.

Preparing for the workshop

The following steps must be completed prior to this workshop:

- **Selection of AI solution:** Select the most promising AI solution based on the results from the previous prioritization workshop.

- **Defining the AI solution:** Develop a clear and concrete description of how the selected AI solution is expected to be implemented in daily practice. Specify:
 - Who will use the AI solution
 - How and when it will be used
 - What outcome it is intended to achieve

This detailed description will serve as the foundation for exploring the potential impact of the solution and identifying appropriate measures to support its responsible integration in a hospital context.



To assist with defining the AI solution, DataKlap® can be used. This hands-on method enables participants to create tangible and intuitive visual representations of complex data ecosystems, called a DataKlap® Map.

For more information on DataKlap®, visit <https://data-en-maatschappij.ai/en/tools/dataklap>

Workshop participants

To ensure input from a diverse group of participants with various backgrounds and expertise, the following people should be involved in the workshop:

- **Innovation Manager:** plays a key role in connecting the workshop outcomes to the hospital's broader innovation strategy.
- **Frontline stakeholders:** includes healthcare professionals, hospital staff, and other end-users who will be directly affected by or work with the AI solution.
- **Head of department/Manager(s):** brings strategic and managerial insights to help assess how outcomes will fit into existing workflows, staff structures, and department planning.
- **IT representative:** provides guidance on how the AI solution can be technically integrated into the hospital's digital infrastructure.



Workshop materials

Facilitators should prepare the following materials in advance:

- ❑ **Workshop instructions (slide set):** A structured presentation outlining each phase of the workshop, objectives, exercises, and discussion prompts.
- ❑ **Timer:** To help facilitators keep track of the workshop's timing and ensure each phase stays on schedule

- Large papers or flipchart:** Used for organizing Actors, effects and values, ensuring visibility for all participants
- Sticky notes in four colors:**
 - Yellow: For identifying key stakeholders (Actors)
 - Green: For listing positive effects of the AI solution
 - Pink: For listing negative effects of the AI solution
 - Blue: For identifying core values
- Printed 'Options for Action' templates:** structured templates where participants can write down proposed actions for each domain (technology, context, user) to ensure ethical implementation. A printable version of this template can be found here: [Templates options for action](#)
- Dot stickers:** used during the voting process to select the most important values for the next phase
- Basic facilitation materials:** Pens and markers to support brainstorming, note-taking, and group exercises.

Workshop agenda

This section provides a detailed step-by-step approach to help facilitators support participants in identifying key stakeholders, assessing potential impacts, and developing concrete actions to ensure the AI solution is implemented ethically and responsibly.

The expected duration of the workshop is **two hours**.

Introduction (5 min)



Warm up participants, set expectations for the workshop, and present the Guidance Ethics framework.

At the start of the workshop, participants are welcomed and given a brief introduction to the LASO Methodology. This is followed by an overview of the workshop's purpose: developing concrete measures for the responsible implementation of AI within the hospital. Facilitators outline the agenda, explaining the structured process participants will follow.

A brief introduction to the Guidance Ethics Approach follows, highlighting its focus on ethical guidance, real-world application, and stakeholder dialogue. Participants learn about the three key steps (Case, Dialogue, and Action), which will guide discussions toward practical outcomes.

As some participants may feel daunted by the idea of ethical reflection, participants should highlight that this session emphasizes action over theory. Rather than just identifying ethical concerns, participants will create practical strategies to ensure AI is implemented in a way that aligns with professional values and patient needs.

Stage 1: Case (10 min)

The first phase of the workshop "Case" ensures that all participants have a shared understanding of the AI solution they will be working with throughout the session. If not all participants attended

previous workshops, facilitators should start with a brief introduction to the basic principles of AI using the “*How can AI help?*” presentation from *LASO Workshop 1: AI Opportunity Mapping*. This general AI introduction can be skipped if all participants are already familiar with AI or participated in earlier LASO workshops.

Next, facilitators provide a brief overview of the previous workshops, summarizing how ideas were generated, discussed, and prioritized. This helps participants connect the current session to the broader process, ensuring continuity and reinforcing the rationale behind the chosen AI solution.

Finally, the selected AI solution is presented in detail, covering its intended function, the specific challenge it aims to address, and its expected impact within the hospital setting where it will be implemented. Facilitators should encourage questions and clarifications to ensure that everyone fully understands the AI solution before moving to the next phase of the workshop.

Stage 2: Dialogue (40 min)



Identify key stakeholders, explore effects, and link effects to core values.

The goal of this phase is to guide participants in identifying the key stakeholders involved in the AI solution, exploring the effects of its implementation, and linking these effects to underlying values. This structured discussion helps to ensure a broad and balanced perspective on the ethical and practical considerations of the AI solution.

Step 1: Actors (10 min)

Begin by asking participants to list all relevant stakeholders who will interact with or be affected by the AI solution. Encourage them to consider stakeholders at different levels, including those who may not be present in the workshop. Start by having participants individually reflect on the stakeholders involved. After a few minutes, invite each participant to share the stakeholders they identified.

Use yellow sticky notes to write down each identified stakeholder. Stick these sticky notes on large sheets of paper, organizing them into three levels:

- **Micro level:** individuals directly using or impacted by the AI solution (e.g., healthcare professionals, patients, hospital staff)
- **Meso level:** Organizations that use or are affected by the AI solution (e.g., hospitals, AI companies)
- **Macro level:** Actors at the societal level who influence or are impacted by the AI solution (e.g., government agencies, regulatory bodies, civil society organizations, mutualities)

If there is any uncertainty about a stakeholder’s role or position, ask participants to clarify their involvement. Once all stakeholders have been identified, check with the group to ensure no important perspectives are missing.



To facilitate this process, participants can be provided with a pre-listed set of stakeholders based on the description of the AI solution. Facilitators can start by presenting these

stakeholders and then invite participants to suggest additional ones that may have been overlooked.

Step 2: Effects (15 min)

Once stakeholders have been identified, participants will be asked to reflect on the potential positive and negative effects of introducing the AI solution within hospital practice. These effects may occur in the short or long term and can impact individuals, organizations, or society as a whole.

To begin, participants will have five minutes to individually list possible effects. Positive effects are written on green sticky notes, while negative effects are written on red sticky notes. After this reflection, participants are asked to share their insights with the group. If an effect is unclear, facilitators or other participants can ask for clarification.

All sticky notes are placed on large sheets of paper where they will be arranged in a structured matrix based on:

- **Timing of the effects:** Short-term or Long-term
- **Level of impact:** Micro (individual), Meso (organizational), or Macro (societal) level

This structured approach provides a clear visual representation of how the AI solution may influence different levels over time.

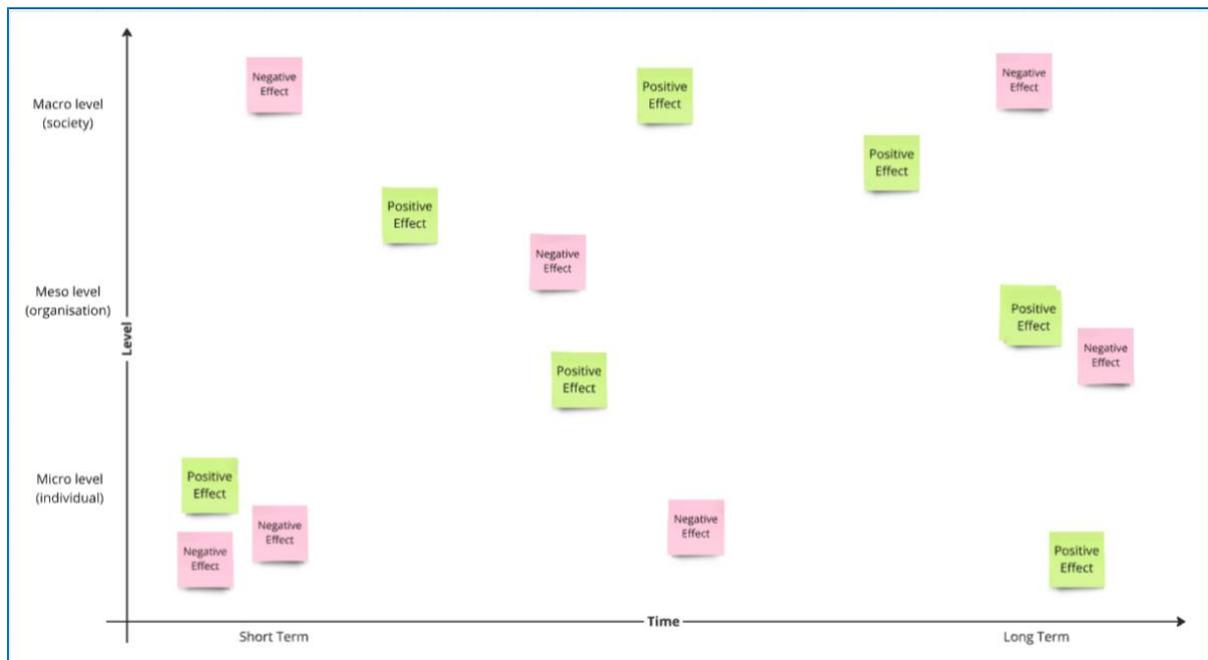


Figure 9: Example of a structured matrix depicting how effects arise at various levels over time

Before moving to the next steps, facilitators will check if any important effects have been overlooked and invite participants to add any final contributions.

Step 3: Values (15 min)

The final part of this phase focuses on making the values explicit that underlie the effects listed in the previous step. The goal is to highlight the ethical principles that should guide the responsible

implementation of the AI solution. By the end of this step, participants will have selected the three most important values to carry forward into the next phase.

To begin, participants will have 5 minutes to individually reflect on possible values related to the listed effects using the printed value cards. These cards serve as a reference to help participants link values to the effects noted earlier. To facilitate this, participants can be encouraged to walk around, pick up value cards, and move closer to the paper where the effects are listed to get a clearer view.

After individual reflection, participants take turns sharing the values they identified. If a value is unclear, facilitators or other participants can ask for clarification to ensure a shared understanding. Each value is written on a blue sticky note and placed on the wall. As participants present their values, any related effects from the previous step are grouped alongside them, creating clear connections between the effects and the values.

It is possible that some effects may be linked to multiple values. In such cases, the effects can be copied onto additional sticky notes so they can be associated with different values. Also, discussions or disagreements may arise as participants may interpret values differently. In this case, facilitators should encourage constructive discussion, ensuring that all perspectives are heard while guiding the group toward consensus.

Once all participants have shared their values, the group collectively reviews the list. At this stage, participants can suggest any additional values they feel may have been overlooked. Facilitators should encourage a final check to ensure that the values captured accurately reflect the group's perspectives.

After finalizing the list, each participant receives three round stickers and is asked to vote for the three values they consider most important. The three values that receive the most votes will be retained and will serve as the foundation for the next phase of the workshop.



Since identifying values can be challenging, facilitators can take the lead in this step if needed. In this case, they conduct a preliminary review during the break, making initial connections between the effects and relevant values. After the break, facilitators present this preliminary list, explaining which values were linked to which effects. If anything is unclear, participants are encouraged to ask clarification. Next, the group reviews the list and can suggest additional values. Once the final list is agreed upon, each participant can vote for the three values they find most important.

Break (15 min)

Participants and facilitators take a short break before moving to the next phase of the workshop.

Stage 3: Action (40 min)



Develop concrete actions, focusing on technology, context and user, to support responsible and ethical AI implementation

The goal of this phase is to develop concrete actions that promote the three values selected in the previous phase. These actions will focus on three key areas that support responsible and ethical AI implementation:

- **(Re)Designing Technology:** Making adjustments to the AI solution itself to align with ethical standards
- **(Re)Organizing the Context:** Establishing guidelines, policies, and regulations to create a supportive environment for responsible AI implementation
- **(Re)Adapting User behavior:** Encouraging behavior changes to ensure ethical and responsible use of the AI solution



To help participants understand these three areas, facilitators can provide a simple, real-world example. For instance, to prevent drunk driving:

- *Technology can be adapted by installing an alcohol lock in cars*
- *Context can be structured through legal regulations, penalties and police interventions*
- *User can be influenced by awareness campaigns about the dangers of drunk driving or targeted interventions to encourage sober driving (e.g. BOB campaigns in Belgium)*

Reflection in team (20 min)

Participants are then divided into smaller groups to brainstorm actions for the selected values. There are two ways to organize this exercise:

- Each group works on all three domains (technology, context, and user) for one value
- Each group focuses on one domain (technology, context or user) for all three values

Facilitators should choose the approach that best fits participants' expertise and comfort level. This flexibility ensures that all participants, whether they have technical, operational, or ethical backgrounds, can contribute meaningfully.

Each group discusses and develops possible measures to protect and promote the assigned value(s) within their domain(s). Facilitators can walk around to assist participants, answer questions, or check in on how the exercise is progressing to ensure everyone stays engaged and on track.

Team presentation and group discussion (20 min)

Once the brainstorming session is complete, each group presents their proposed actions to the larger group. Facilitators should encourage discussion, ensuring that ideas remain practical, actionable, and aligned with real-world implementation. If needed, facilitators can ask clarifying questions to refine the measures and ensure they address potential challenges.

By the end of this phase, participants will have generated a list of concrete actions that will serve as the foundation for the next stage of the LASO Methodology.

Wrap-up and conclusion (5 min)

To wrap up the session, the facilitators should first summarize the key actions defined for each value and domain. This ensures that all participants leave with a clear understanding of the outcomes of the workshop.

Next, invite participants to share any final thoughts or reflections on the workshop. This can be done through a brief round of feedback, allowing participants to express what they found valuable or if they have any remaining questions.

After this, provide a short explanation of what comes next in the LASO Methodology. Explain that the results of this workshop will be analyzed, and a refined list of actions will be created. These actions will then serve as input for Workshop 4, where they will be transformed into concrete project requirements.

Finally, conclude the workshop by thanking participants for their time, input, and collaboration. Acknowledge their contributions and emphasize how their insights will directly shape the responsible implementation of the AI solution.

Drafting Project Tasks

This step translates the insights and options for action generated during *Workshop 3: Refining the Concept Idea* into a first structured draft of project tasks. These tasks will form the foundation of the project blueprint and help ensure that the AI solution is implemented in a way that is practical, responsible, and in line with operational realities.

Each task is linked to:

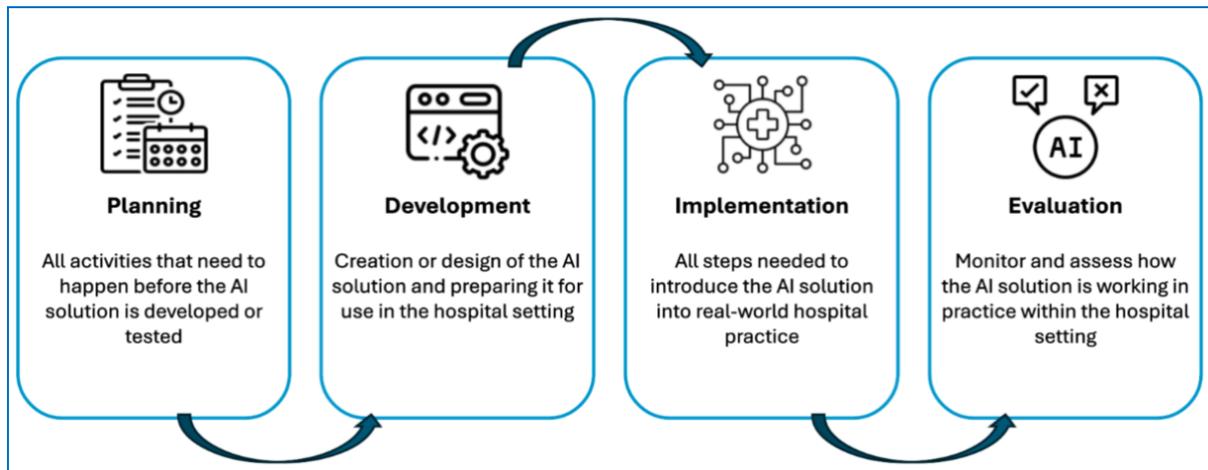
- **A project phase:** planning, development, implementation or evaluation
- **A domain:** technology, context or user
- **A core value** identified in workshop 3

This classification ensures that the project plan blueprint captures the full range of work that needs to be done and aligns technical implementation with ethical and organizational goals.

Step-by-step guide to defining project tasks

This step-by-step guide provides a structured framework for defining a first set of project tasks:

1. List all options for action identified in workshop 3
2. Cluster similar actions
3. Identify the core value identified in workshop 3 for each task (*e.g. efficiency, quality*)
4. Formulate the task as a value-driven statement referring to the identified value (*e.g. to ensure efficiency, the AI tool must be..... ; to uphold quality, must be included*)
5. Link each task to a project phase in which it should be carried out. Use the following definitions to guide this classification:
 - a. **Planning:** all activities that need to happen before the AI solution is developed or tested
 - b. **Development:** creation or design of the AI solution and preparing it for use in the hospital setting
 - c. **Implementation:** all steps needed to introduce the AI solution into real-world hospital practice
 - d. **Evaluation:** Monitor and assess how the AI solution is working in practice within the hospital setting



Each task should clearly state what must be done, by whom (if known), and in what phase it occurs. To list all project tasks in a structured manner, the following template can be used: [WS4](#)

[Template.xlsx](#)



The following tips can support the LASO team in drafting clear and actionable project tasks:

- *Keep task descriptions short and action-oriented (e.g., develop a user training module for nursing staff to ensure efficient use)*
- *Focus on what is practically needed to realize the AI solution in a hospital context*
- *Use clear, non-technical language to ensure that all participants will be able to understand and engage with the task list in the subsequent Workshop 4: From insights to action*
- *If needed, consult with domain experts or participants from workshop 3 to clarify unclear actions or provide missing details*

Second legal check

The second legal check is intended to reassess the legal compliance of the AI solution after it has been further refined in Workshop 3: Refining the concept idea. At this point, additional details, such as new information about data use, the involvement of specific stakeholders, or intended outcomes, may have emerged that could influence the legal risk profile of the solution.

The second legal assessment should be conducted in the same way as the first legal check, using the LASO JusticeBot or other tools and procedures outlined in the manual: [First Legal Check](#)



If the LASO team determines that no significant changes have been made to the AI solution and no new information has been introduced that may affect its legal implications, they may decide not to repeat the legal check. However, this decision should be clearly documented and justified.

Workshop 4: From insights to action



This manual provides a general framework for preparing and conducting the LASO From Insights to Action workshop, outlining its key steps, materials, and facilitation guidelines. However, the actual preparation, structure, and composition of the workshop may vary based on factors such as:

- *The number of participants and their background*
- *The number of AI solutions retained from the previous prioritization workshop*
- *The time constraints and resources available for the workshop*

Facilitators are therefore encouraged to adapt the workshop setup as needed to ensure it is efficient, inclusive, and aligned with the specific needs of the organization and participants.

This manual provides a comprehensive guide for conducting the fourth multi-stakeholder workshop in the LASO methodology. The purpose of this workshop is to take the first steps in shaping a concrete project plan by translating the findings from the previous steps into an initial set of concrete tasks, project objectives, indicators, and stakeholder roles and responsibilities.

The workshop is designed to be accessible to everyone, regardless of prior knowledge of AI or participation in earlier LASO workshops. The goal of this session is to collaboratively define what needs to happen and who needs to be involved to bring the AI solution forward.

By the end of this workshop, participants will have shaped a refined list of project tasks, clear strategic objectives and measurable indicators to evaluate success, a stakeholder map showing who is impacted and who holds influence, and a shared understanding of the roles different stakeholders will play throughout the project. Together, these outcomes form the basis of a structured AI project blueprint that can be used to guide decision-making, assign responsibilities, and support the development of a full project proposal after the LASO process concludes.

Preparing for the workshop

Prior to the workshop, the following key preparatory steps should be completed:

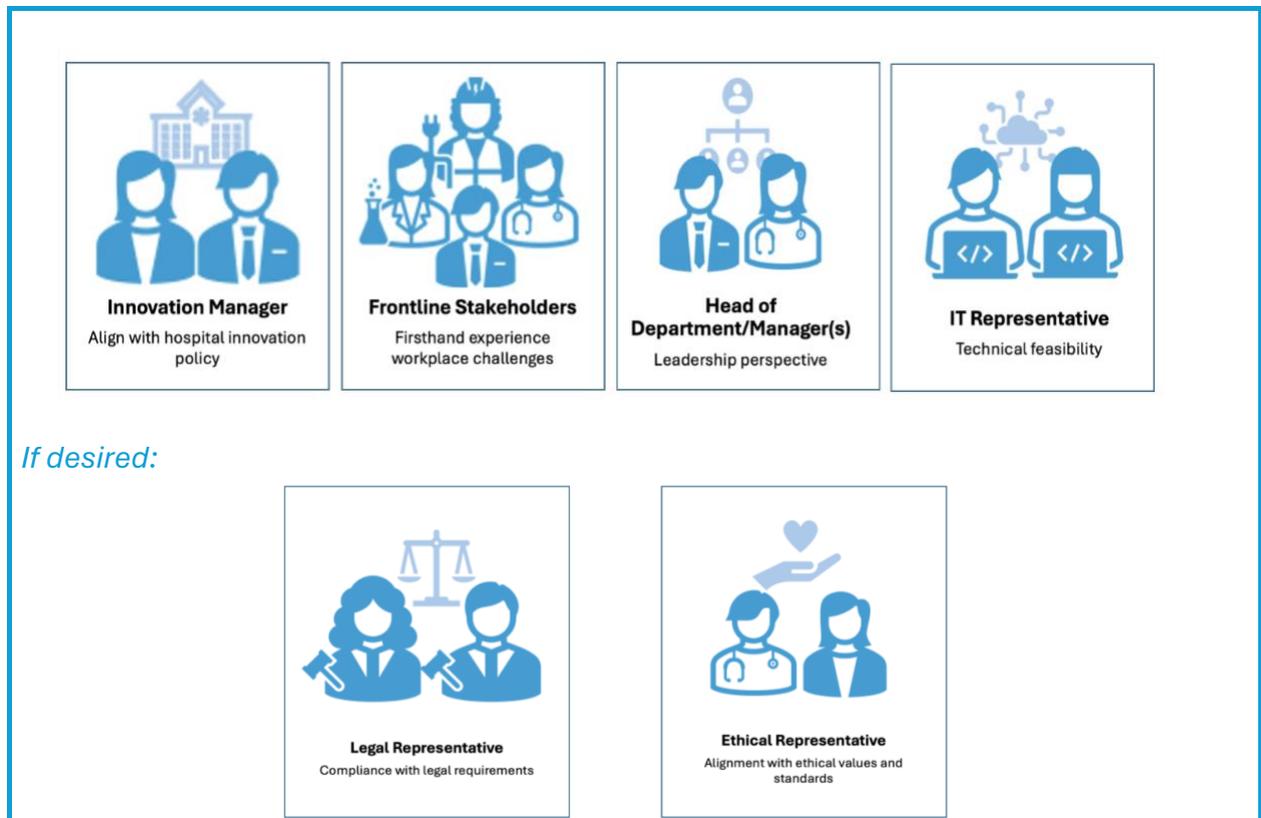
- Draft an initial **list of project tasks**
- Compile an **overview of all stakeholders** identified in *Workshop 3: Refining the Concept Idea*.

Workshop participants

To ensure a variety of perspectives, it is important to involve participants with various backgrounds and expertise. The following roles should be included:

- **Innovation manager:** plays a key role in connecting the workshop outcomes to the hospital's broader innovation strategy.
- **Frontline stakeholders:** includes healthcare professionals, hospital staff, and other end-users who will be directly affected by or work with the AI solution.
- **Head of department/Manager(s):** brings strategic and managerial insights to help assess how outcomes will fit into existing workflows, staff structures, and department planning.
- **IT representative:** provides guidance on how the AI solution can be technically integrated into the hospital's digital infrastructure.

In addition to these core profiles, legal or ethical representatives can be invited to ensure early identification of risks, dependencies, and practical considerations.



Workshop materials

The following materials should be prepared in advance:

- ❑ **Workshop instructions (slide set):** a structured set of slides to guide participants through each part of the session. It should include an overview of the results of previous workshops, the workshop goals, instructions for each exercise, and prompts to support participants.
- ❑ **Timer:** To help facilitators keep track of the workshop's timing and ensure each phase stays on schedule
- ❑ **Printed task overview:** A printed version of the task list that can be used to collect participant feedback.
- ❑ **Printed stakeholder list:** A printed version of the stakeholder list that can be used to collect participant feedback.
- ❑ **Basic facilitation materials:** sticky notes in various colors, pens and markers to support collaboration, note-taking and idea-sharing during group work

Workshop agenda

This section outlines step-by-step guidance to help facilitators lead participants through the process of shaping a first blueprint of an AI project plan. The agenda is designed to keep discussions focused

and collaborative to provide space for reflection, decision-making and shared ownership of the project's next steps. The workshop consists of two main parts:

1. Defining and refining project tasks and identifying meaningful indicators (KPIs) to evaluate success
2. Identifying stakeholders, assessing their impact/influence, and assigning clear roles

The expected duration of this workshop is **two hours**.

Introduction (10 minutes)



Warm up participants, set expectations for the workshop, and present the LASO Methodology along with the results of all previous workshops. This will ensure that all participants have a shared understanding of the LASO journey and how it progressed so far.

Begin the workshop by welcoming participants and briefly introducing the LASO methodology. Explain that LASO is a step-by-step process designed to help hospitals implement AI solutions that are not only innovative but also ethically responsible, technically feasible, and aligned with real-world needs. If participants are new to the project, emphasize that this workshop is accessible to all and that no prior experience with AI or LASO is required.

Following this welcome, provide a short overview of the AI solution(s) developed during the LASO journey so far. Walk participants through the key steps and findings of the previous workshops. Explain that today's workshop will build on these results to start shaping a practical blueprint for the selected AI solution(s) by:

- Reviewing and discussing the list of tasks needed to take the AI solution forward
- Identifying operational goals and meaningful indicators to evaluate success of the AI solution
- Assessing the influence and impact of stakeholders on the AI solution
- Assigning clear roles and responsibilities to stakeholders

End the introduction by encouraging open participation and reminding everyone that all perspectives are valuable and needed to ensure a grounded, realistic project plan.

Refining project tasks (10 minutes)



Present the list of project tasks for the envisioned AI solution, gather input from participants, and check for alignment with expectations

Start this part of the workshop by briefly introducing the task list. Specify that these are not detailed technical specifications or product requirements, but rather high-level tasks that offer a first overview of what needs to happen to move the AI solution forward. Clarify that each task is linked to a project phase and is also labeled with the domain and value it relates to.

Use a slide set or the Excel template to walk participants through the tasks one by one. Keep your explanation brief and to the point. The aim is to give an overview, not to go into all details. Also, hang a printed task list on the wall or place it centrally on the table to document participant feedback.

To make this part of the workshop more engaging, encourage participants to give feedback as you present the task list. Rather than waiting until the end, facilitators should regularly pause and invite input while going through the list. To keep the discussion going, one of the facilitators can document participant feedback using two different colors of sticky notes. The following prompts can be used to encourage participants to actively contribute to shaping the task list:

- **Questions or unclear items (color 1):** mark anything that is unclear or that raises a question
 - Is the task clear to you?
 - Are there any words or terms in the task that are confusing or too vague?
- **Suggestions or additions (color 2):** add suggestions or point out missing information
 - Is there anything missing in the task that you think should be included?
 - Do you have a suggestion to improve how this task is described?

At the end of this step, you will have a printed task list with sticky notes capturing participants' feedback. Let participants know that their feedback will be reviewed and incorporated into the task list after the workshop.

Define project KPI (30 minutes)



Collaboratively define how the success of the envisioned AI solution can be observed and measured

This part of the workshop is designed to support participants in defining how the success of the AI solution can be measured. The aim is to identify:

- **Strategic objectives:** goals the AI solution is meant to achieve
- **Objective findings:** how to observe or measure whether these goals are being achieved

Begin by briefly introducing the AI solution. Use accessible, non-technical language, and focus on the practical problem it addresses and the value it is expected to bring to frontline workers. Describe what the solution is intended to accomplish in terms of workflow improvements or expected outcomes.



To support a clear and shared understanding of the envisioned AI solution among all participants, especially those who may not have attended earlier workshops, it can be helpful to present a visual representation of the envisioned AI solution. A tool like DataKlap, for instance, can help to illustrate how the AI system will fit into existing workflows and what its core functions will be, making the concept more concrete and easier to discuss.

Define strategic objectives (10 minutes)

Once the context is clear, invite participants to reflect on what a successful version of this solution should accomplish. Ask participants to define **key strategic objectives** of the solution: high-level outcomes that describe what success should look like from their perspective. Distribute one color of sticky notes and ask participants to write down their ideas answering the question:

“What should this AI solution achieve if it is successful?”

Encourage them to think broadly and from their own experience. Not every answer should be technical or measurable yet. Once they are finished, ask participants to share their ideas on a central

board or flipchart. Group similar objectives together and facilitate a brief discussion to merge overlapping ideas or clarify wording where needed. Aim to collectively identify 3 to 5 clearly formulated strategic objectives. This exercise can be done in small groups or as one large group (depending on group size).

Define objective findings (15 minutes)

Next, divide participants into pairs or small groups. Assign each group one (or more, depending on group size) of the strategic objectives that were just agreed upon. Ask them to brainstorm objective findings: ways to observe or assess whether the strategic objective is met. Explain that these are not formal KPIs in the traditional sense, but real-world indicators that the outcome is becoming visible. Encourage groups to think of signs they would experience in their day-to-day work. Provide them with a second color sticky notes and ask them to write down their ideas answering these questions:

“How would we know that this goal is being achieved? What might improve/change in your daily work if this objective is met? Is there something we could count, compare, or track? “

After 5-7 minutes of group work, ask each group to present their findings. Stick their notes next to the corresponding strategic objective on the central board or flipchart and discuss them with the group to ensure shared understanding.

Wrap-up (5 minutes)

End this part of the workshop by summarizing the strategic objectives and associated objective findings. Let them know that their input will be reviewed and, if needed, rephrased or translated into formal KPIs by the project team after the workshop. Reinforce that their contributions are essential for making sure the envisioned AI solution’s success is defined in ways that truly matter to those working on the frontlines.

Break (10 minutes)

This short break can be used to reset the workshop room (clear task materials, prepare stakeholder visualizations) and forms a natural transition between the two phases of the workshop.

Stakeholder analysis (20 minutes)



Collaboratively evaluate how different stakeholders may be impacted by or influence the success of the envisioned AI solution, laying groundwork for assigning meaningful roles and responsibilities in the next step.

Begin by presenting the stakeholder list. Briefly go over all stakeholders and shortly describe why they were considered relevant to the AI solution. Next, introduce the **Stakeholder Impact and Influence Matrix**: a 2x2 grid that helps structure the stakeholder analysis (Ackermann & Eden, 2011). Physically display the matrix on a wall, board or table, and invite participants to work in small groups or as one large group (depending on the size of the group).

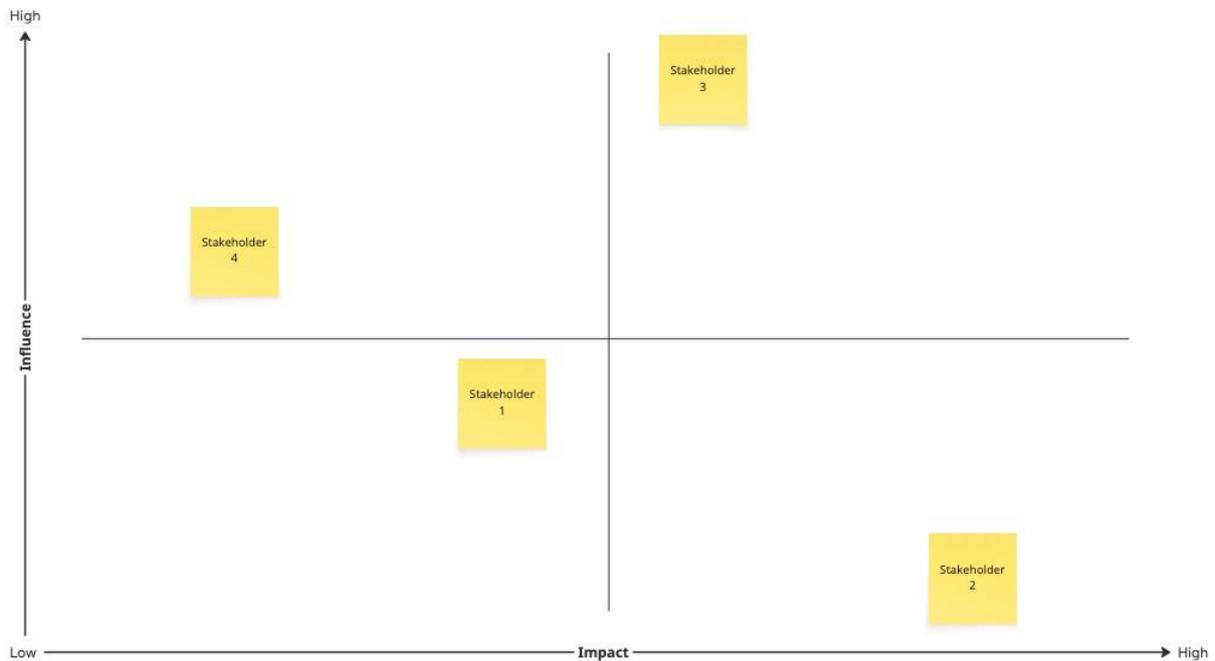


Figure 10: Impact-Influence matrix

Ask participants to position each stakeholder on the matrix using sticky notes. Each stakeholder should be written on a separate note, and participants should collaborate to place these in the quadrant that best reflects their combined insights. To guide participants in accurately placing stakeholders on the matrix, it can be helpful to introduce a shared understanding of what high and low scores mean (Gilmour & Beilin, 2007).

	Low	High
Impact <i>Extent to which the AI solution will affect stakeholder's daily work, responsibilities or experiences</i>	Stakeholder may only be indirectly affected or not affected at all. The AI solution is unlikely to influence their tasks, responsibilities or experiences in a meaningful way.	Stakeholder's work or experience will change significantly. They may be directly using the solution, adapting their workflows or facing new expectations. This includes both potential challenges and opportunities.
Influence <i>Stakeholder's ability to (un)intentionally shape, enable, or block the success of the AI solution</i>	Stakeholder has limited power to influence decisions or outcomes of the AI solution. They are not expected to play a key role in guiding or approving the project.	Stakeholder has strong decision-making power, essential knowledge, or informal authority that can shape the direction or outcome of the AI solution. Their support is essential to move the project forward.

Allow space for discussion as participants consider each stakeholder's position. Encourage them to justify their choices, ask questions, and share different perspectives. Once all stakeholders have been

placed on the matrix, briefly summarize the results with the group. Highlight any clusters or surprising results that emerged from this exercise. Let participants know that this stakeholder mapping will serve as input for defining a dedicated project team that takes the AI solution forward after conclusion of the LASO methodology.

Stakeholder roles (20 minutes)



Collaboratively define stakeholder roles and clarify their responsibilities in the further development of a concrete project plan following the conclusion of the LASO methodology

Begin this section of the workshop by explaining that assigning stakeholder roles is not about creating formal job descriptions or project roles. Rather, it is a collaborative way of clarifying who will need to be involved, how they will contribute, and who will be responsible for keeping the AI project on track. This exercise can be done in small groups or as a large group (depending on the size of the group).

To structure this discussion, introduce five stakeholder roles that reflect different types of engagement and responsibilities throughout the project’s lifecycle (UZBrussel Innovation Department, n.d.). Ensure that stakeholder roles are clearly displayed during the exercise so that participants can easily refer to the definitions:

- **Project Sponsor:** stakeholder(s) who should ultimately be responsible for the success of the envisioned project. They provide high-level support and ensure that the project aligns with strategic goals and receives the necessary resources.
- **Project Coordinator:** stakeholder(s) who should lead and guide the development of a full AI project plan. They ensure coordination among teams, follow up on tasks, and keep the project moving forward.
- **Project Team:** stakeholder(s) with specific knowledge and expertise needed to develop the project plan. They often understand the hospital context, user needs, or technical and regulatory constraints.
- **Development Team:** stakeholder(s) that are responsible for creating the envisioned AI solution. They may be internal or external partners, and include those who build, configure or technically integrate the AI solution.
- **Testing Team:** End-users of the AI solution who will test it in practice during development or implementation. Their feedback is essential for validating the solution’s functionality and usability.

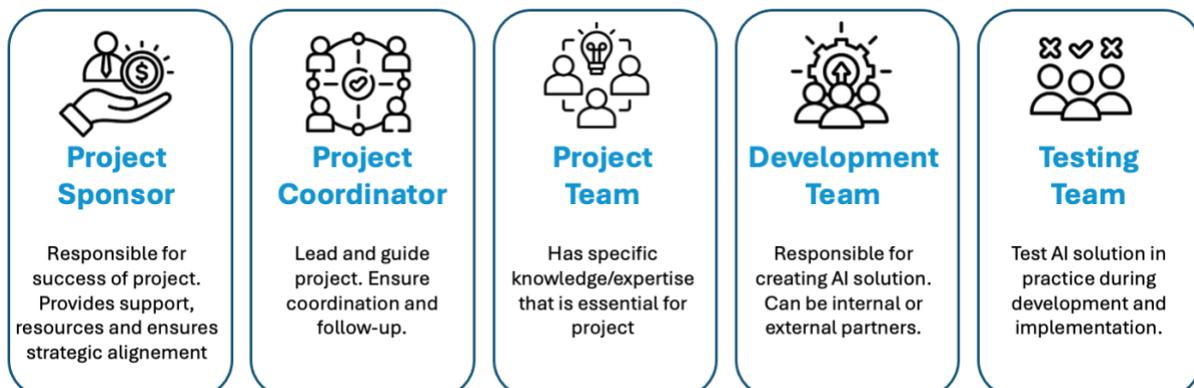


Figure 11: Five stakeholder roles

Once all roles have been introduced and are clear to participants, move into the group activity. Ask participants to revisit the stakeholder matrix developed earlier in the workshop. Invite participants to place each stakeholder next to the role they believe best fits them. Allow for multiple stakeholders to be placed under the same role, and clarify that some stakeholders may also appear under more than one role, if justified.

Encourage participants to discuss their reasoning as they assign roles. To guide the discussion, facilitators can ask the following questions:

- Who needs to take responsibility for taking this project forward?
- Who has the right experience to coordinate and guide development?
- What expertise is essential to make this project work in practice?
- Who will actually use and test the solution in a real-world setting?

Once all roles have been assigned, go over the completed overview together with the participants. Ask them if they feel the roles are accurate and complete. Note any stakeholders whose roles are still unclear or require further discussion after the workshop. Conclude this part of the workshop by highlighting that this stakeholder role map will serve as a foundation to form a project team that will draft the full AI project plan.

Wrap-up (10 minutes)

End the workshop with a short summary of key results: a finalized task list, strategic objectives and indicators, a stakeholder impact/influence map and clearly assigned stakeholder roles for further development of the AI solution. Thank participants for their valuable input and highlight how their perspectives ensure that the AI solution is both practical and meaningful.

Explain that

- The LASO team will consolidate the outcomes of the workshop into a draft AI project blueprint
- This blueprint may be shared for feedback, used to engage hospital leadership, or form the basis of a follow-up project

Encourage participants to stay involved, either by taking on a role or providing input later and thank them for their contribution.

Part II: LASO Blueprint

The LASO Blueprint is a structured template designed to document progress throughout each phase of the LASO methodology. It captures key insights, decisions, and outcomes from the workshops and supportive steps to support internal coordination and serves as a foundation for taking the developed AI solution further. The information captured in this LASO Blueprint can be used to prepare a project proposal to ensure the development and implementation of the identified AI opportunity.



The LASO Blueprint is a living document that should be completed and updated after each workshop/supportive step to maintain the accuracy of the information and ensure that all findings are meticulously documented.

The LASO Blueprint contains four main sections and is designed to be iteratively used throughout the various steps of the LASO methodology. Each section addresses a specific theme that is typically part of a project proposal:

1. **Problem definition:** provides a description of the problem that the AI solution will address
2. **Description of AI solution:** provides a detailed description of the AI based solution, including benefits and risks
3. **Planning and evaluation:** provides an overview of the indicators for evaluating the solution and the various phases of its implementation
4. **Stakeholder mapping:** provides an overview of the various stakeholders and their roles and contains information about the team that is designated to take the LASO blueprint further

Each of these sections includes several questions designed to help you gather relevant information from the LASO workshops and supportive steps. For each question, the blueprint specifies which workshop or supportive step the information can be obtained from.



*While the LASO Blueprint serves as an important resource for developing a project proposal, it is important to note that this document is **not a finished proposal!** The information contained in the LASO Blueprint still requires **further iteration** to be complete!*

Section 1: Problem definition

This section provides a description of the problem that the AI solution will address.

- 1) What is the problem you want to address with the AI solution?**
 - a) What is the current situation?
(Describe current situation)
 - b) What are the challenges you want to address?
(Describe current challenges)

- 2) How will the AI solution solve the problem?**
 - a) Who are the end-users of the AI solution?
(Describe who will use the solution, where the solution will be used)
 - b) What is the desired outcome of the solution?
(Describe result AI will give, values the solution supports)

INPUT LASO METHODOLOGY	
Intake Interview	<i>Provide an initial description of the current situation and challenges in the department/hospital</i>
WS1	<i>Update the problem description based on participant feedback gathered during the workshop</i> <i>Add a first description of how the proposed AI solution(s) will help solve the identified challenge(s)</i>
<i>If multiple AI solutions were ideated in WS 1, copy this section and complete one version per AI solution</i>	
Drafting AI canvas	<i>Refine the description(s) of the problem and the AI solution(s) based on the completed AI canvas</i> <i>Add any additional information on how the solution works, who will use it and the intended outcome</i>
Legal check	<i>Remove any AI solution(s) that did not pass the first legal assessment</i> <i>Update the remaining descriptions if relevant legal issues emerged during the check</i>
WS 2	<i>If multiple solutions were retained, only keep the description of the solution selected as most promising based on the prioritization outcomes.</i>
<i>In the remaining LASO steps review and update this section as needed</i>	

Section 2: Description of AI solution

This section provides a detailed description of the envisioned AI solution.

1) What AI solution emerged as the most suitable/preferred?

- a) Who will use the solution? Where will the solution be used?
(Describe users/context)
- b) How will the solution be used?
(Describe use/intended outcome)
- c) What type of AI technologies and methods will be used in the AI solution?
(Describe AI tasks)
- d) What are the functionalities and features of the solution?
(Describe functionalities, features)
- e) Which data will be used? Where will data be collected from?
(Describe data)

INPUT LASO METHODOLOGY	
WS1	<i>Provide a first description of the proposed AI solution(s) and how it could support daily practice</i>
<i>If multiple AI solutions were ideated in WS 1, copy this section and complete one version per AI solution</i>	
Drafting AI canvas	<i>Refine the description of the AI solution(s) based on the completed AI canvas</i> <i>Add more detailed information on who the solution is for, how it will be used in the hospital workflow, what AI technologies it is likely to involve and what types of data will be required or generated</i>
Legal check	<i>Remove any AI solution(s) that did not pass the first legal assessment</i> <i>Update AI solution description(s) if important legal concerns or constraints were raised</i>
WS 2	<i>If multiple solutions were retained, only keep the description of the solution selected as most promising based on the prioritization outcomes</i>
WS 3	<i>Add a first description of the core functionalities or features of the AI solution based on the options for action developed in the workshop (technology, context, user)</i>
Drafting Project Tasks	<i>Refine and expand the list of functionalities and features of the AI solution using the defined project tasks</i> <i>Include any new functionalities that emerged when translating actions into tasks</i>
WS 4	<i>Finalize the description of the AI solution</i> <i>Add any additional improvements or refinements suggested during the session</i>

2) What positive effects/outcomes do you expect from this AI solution?

List all positive effects/outcomes in the table below. Use the questions to provide more detailed information for each of these effects/outcomes.

- a) Which stakeholders will be affected by these positive effects/outcomes?
- b) At what level do you expect to see these positive effects/outcomes?

c) When do you expect to see these positive effects/outcomes?

Positive effects/outcomes of the AI solution			
Effect	Stakeholder	Level	Timing
<i>Describe effect</i>	<i>Add stakeholder</i>	<i>Micro/Meso/ Macro/All levels</i>	<i>Short term/ Medium term/ Long term</i>

3) What negative effects or risks do you foresee from this AI solution?

List all negative effects/risks in the table below. Use the questions to provide more detailed information for each of these effects/risks.

- a) Which stakeholders will be affected by these negative effects/risks?
- b) At what level do you expect to see these negative effects/risks?
- c) When do you expect to see these negative effects/risks?

Negative effects/risks of the AI solution			
Effect	Stakeholder	Level	Timing
<i>Describe effect</i>	<i>Add stakeholder</i>	<i>Micro/Meso/ Macro/All levels</i>	<i>Short term/ Medium term/ Long term</i>

INPUT LASO METHODOLOGY	
WS 2	List the initial positive and negative effects of the preferred AI solution based on the insights and discussions that emerged during the scoring of the LASO Prioritization Matrix
WS3	Refine the initial effects listed after WS 2 by incorporating new insights gathered from exploring the AI solution in more detail Add new effects identified during the workshop Specify for each effect which stakeholder(s) will be affected, at what level and expected timing
WS 4	Finalize the list of effects Update or refine the descriptions, affected stakeholders, and expected timing when needed

4) What legal risks did you identify for the AI solution?

Provide an overview of the legal risk assessment conducted with the JusticeBot in the table below. Use these questions to provide more detailed information for each of the identified legal risks. In case no legal risk was identified, mention 'no risk identified'.

- a) What is the overall legal risks score for this AI solution?
- b) What legal risks were identified from the AI Act?
 - i) How will you mitigate these risks?
 - ii) Who will you contact to help mitigating these risks?
- c) What legal risks were identified from the GDPR?
 - i) How will you mitigate these risks?
 - ii) Who will you contact to help mitigating these risks?

Overall Legal Risk Score: <i>Add Justicebot score (-2 to +2)</i>			
AI Act	Risk	Mitigation strategy	Contact person
	<i>Describe risk</i>	<i>Describe mitigation strategy</i>	<i>Add contact</i>
GDPR	Risk	Mitigation strategy	Contact person
	<i>Describe risk</i>	<i>Describe mitigation strategy</i>	<i>Add contact</i>

INPUT LASO METHODOLOGY	
First Legal Check	<i>Add the legal risk score, identified risks, mitigation strategies and contact person(s) for each AI solution</i>
WS 2	<i>If multiple solutions were retained, only keep the legal risk description of the solution selected as most promising based on the prioritization outcomes</i>
Second Legal Check	<i>If a second legal assessment is performed update the legal risk profile of the AI solution</i>

Section 3: Planning and evaluation

This section outlines the preliminary planning for developing and implementing the AI solution and key indicators that will be used to evaluate whether the AI solution meets its intended goals.

1. **What concrete tasks need to be carried out for developing/implementing the AI solution?**
(Describe project tasks)

2. **In which project phase should each task be completed?**
(Planning, Development, Implementation, Evaluation)

Project Planning	
Project Phase	Task
Planning	
Development	
Implementation	
Evaluation	

INPUT LASO METHODOLOGY	
Drafting Project Tasks	<i>Add initial project tasks to table</i>
WS 4	<i>Refine and finalize project tasks based on input from participants</i>

3. **What is the intended outcome or goal of the AI solution if successful (Strategic objective)?**
List all strategic objectives in the table below. Use the questions to provide more detailed information for each of these objectives.

- a. What improvements or changes are expected if the solution is successful?
- b. For whom will these improvements matter most?

4. **How can we tell whether the AI solution is achieving its intended outcome (Objective findings)?**

List all objective findings in the table below, linking them to the strategic objective they monitor. Use the questions to provide more detailed information for each of these objectives.

- a. What hospital procedures or workflows are likely to change as a result?
- b. Can something be counted, compared, or monitored to demonstrate improvement?

Project Key Indicators	
<i>Strategic objectives</i>	<i>Objective Findings</i>

INPUT LASO METHODOLOGY	
WS 4	<i>Add strategic objectives and objective findings to the table</i>

Section 4: Stakeholder mapping

This section provides an overview of the most important stakeholders, their roles and aims to determine a dedicated project team that will take the AI solution further after conclusion of the LASO methodology.

1) What stakeholders are impacted or influenced by the AI solution?

List all stakeholders in the table below, indicating their impact/influence.

- a) To what extent are these stakeholders affected by the AI solution (Impact)?
- b) To what extent can these stakeholders shape the AI solution (Influence)?

2) What are the roles and responsibilities of these stakeholders?

Indicate the role of each stakeholder in the table below

Stakeholder impact and roles			
Stakeholder	Impact	Influence	Role
Add stakeholder	High/Low	High/Low	Sponsor/Coordinator/ Project Team/ Development Team/ Testing Team

3) Who of these stakeholders can take the AI solution forward after the LASO project?

Identify stakeholders from the table above who can take the AI solution forward and help shape a concrete project proposal. Use the questions below to provide more detailed information about these stakeholders.

- a) Who can contribute to the development of a project proposal?
- b) What is their role in the development of a project proposal?
- c) How can they be contacted?

Project Team		
Stakeholder	Role/Responsibility in drafting project proposal	Contact details
Add stakeholder	Describe role/responsibility	Add contact

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INPUT LASO METHODOLOGY	
WS 3	<i>Add stakeholders identified from the workshop</i>
WS 4	<i>Finalize list of stakeholders based on feedback from participants</i>
	<i>Add stakeholder impact/influence on the project and their respective role in the project</i>
	<i>Use overview of stakeholders, their impact/influence and role to define a dedicated project team that will draft the full AI project proposal</i>

Part III: Tools to support the LASO methodology

This part of the LASO manual contains all tools used to support the execution of the LASO methodology. To support ease of use, the tools are organized in chronological order, following the sequence of the LASO methodology. For each tool, a brief explanation of its purpose and instructions for use are provided.

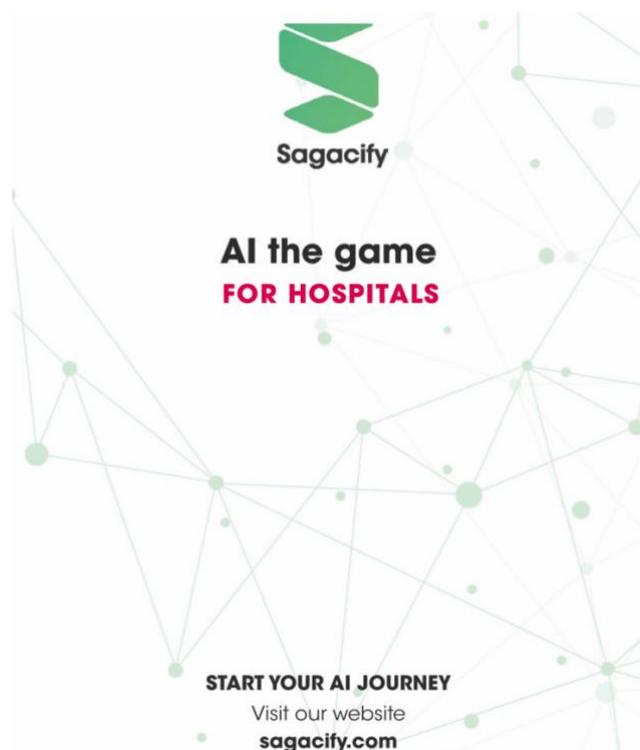
AI Ideation cards



The AI ideation cards are used during Workshop 1: AI Opportunity Mapping to help participants explore potential AI solutions for the identified problem area. Their goal is to inspire creative thinking and support structured brainstorming by making AI concepts more tangible.

AI the game: Rules

The goal of this game is to generate new AI ideas by leveraging the participant's business knowledge and expertise. The game consists of 3 steps, each designed to collaboratively generate AI-based project ideas. In each step, the "Challenges", "AI Tasks", and "Impact" cards will be used to define and prioritize potential projects.



Card setup

Before the game begins, decide on the card setup:

- Shared Deck (one deck for the table): if there's only one deck for each type of card (Challenges, AI Tasks and Impacts), the cards should be laid face up on the table so everyone can see and choose from them.
- Individual Deck (one deck per player): if each player has their own set of cards, the cards should be kept in the player's hand. Players will draw from their own decks during each step of the game.

Step 1: Define the challenge

Submit a challenge

If using a shared deck, each player selects a challenge card from the table or creates their own challenge idea.

If using individual decks, each player chooses a challenge card from their hand or comes up with their own challenge.

Group vote

Once all challenges are submitted, the group discusses and votes on which challenge to tackle. The challenge with the most votes is selected for the next round.

Step 2: Select an AI solution

Propose AI solutions

Propose a solution: Players select an AI task card or write their own idea on a post-it.

Group vote

The group votes on which AI task best solves the selected challenge. The winning AI task is chosen to move forward.

Step 3: Evaluate the impacts

Associate impacts

Evaluate the impacts: Players pick one or more impact cards or write their own idea on a post-it. An impact card can be associated positively or negatively to a project depending on the players' ideas about it.

Discussion

The group discusses the proposed impacts to ensure all relevant aspects of the project are considered.

Project definition and short-listing

Document the project

Once all three steps are completed, the challenge, AI tasks and associated impacts are noted down as a project idea.

Repeat

The game then restarts with a new challenge until a shortlist of potential projects is generated

Final reminder and closing

Goal reminder

Throughout the game, keep in mind that the objective is to generate innovative AI project ideas by combining the collective business knowledge of the participants.

Closing word

Ensure that all generated ideas are thoroughly documented. Once the game is concluded, these ideas should be shared with the group for further discussion and potential implementation.

This approach not only helps in ideating potential AI projects but also ensures that all valuable ideas are captured and considered for future business strategy.

AI the game: Cards

Printable versions of the AI ideation cards are available via the following links:

Challenges	Recto	Challenges - Recto.pdf
	Verso	Challenges - Verso.pdf
AI Tasks	Recto	AI Tasks - Recto.pdf
	Verso	AI Tasks - Verso.pdf
Impact	Recto	Impacts - Recto.pdf
	Verso	Impacts - Verso.pdf

AI canvas

AI Value Canvas

1 – Identify the problem

What challenge are we solving?

We want to...

Who are we solving this for?

For...

We aim to...

- Upgrade
- Optimise
- Invent

2 – Shape the context

Who will use the solution?

The solution will be used by...

Where will the solution be used?

at/in...

How will the solution be used?

in this way:

What values is the solution supporting?

because...

3 – Ideate the solution

Which data will be used?

Data will be collected from...

by who?
how?

Which AI task will be carried out?

to enable...

What result will the AI give?

and provide us with...

Legal Assessment Tools



The legal assessment tools are used to evaluate the legal feasibility of proposed AI solutions. They support the LASO team and participants in identifying potential legal risks. Legal assessment can be integrated during the ideation of AI solutions and is formally applied at two key moments:

- *During the first legal check, which takes place prior to Workshop 2: Prioritization of AI Solutions*
- *During the second legal check after Workshop 3: Refining the Concept Idea*

These tools help to ensure that the selected AI solutions comply with relevant legislation such as the GDPR and AI Act, and that any legal concerns are addressed before moving forward.

The LASO methodology simplifies legal risk management for AI solutions in hospitals through two key phases: the Pre-Assessment and the Assessment Phase.

These two legal phases are briefly described below, with a PowerPoint presentation to support the explanation.

Phase 1: Pre-Assessment

On the legal side, this phase begins at the ideation or exploration stage, when the hospital is identifying challenges or brainstorming AI solutions—whether to develop in-house or purchase. At this point, the Innovation Team starts discussing the feasibility of their ideas and asks: "Is this AI solution legally allowed?"

The goal is to swiftly exclude proposals that could result in AI projects breaching the General Data Protection Regulation and/or the AI Act, ensuring only legally viable projects move forward.

Pre-assessment of legal risk

You are brainstorming an AI solution for hospital settings and need to ensure its legal feasibility. This pre-assessment phase will help you determine whether your proposed solution complies with the two key European legislative frameworks for AI: the GDPR and the AI Act, identifying any potential prohibitions or restrictions.

There may be a prohibition on the use of the AI solution under the GDPR if it involves processing personal data without a valid legal basis. Additionally, if the data qualifies as health data, genetic data, or biometric data, further compliance requirements apply. In such cases, stricter rules must be observed for the processing to be considered lawful and authorized.

However, even when potential GDPR compliance risks are identified at this stage, they are often manageable with appropriate legal guidance. As such, their presence should not prevent the project from proceeding to the Legal Assessment phase. Potential GDPR risks are not irreparable and can typically be managed effectively through consultation with the Data Protection Officer (DPO).

Accordingly, the presence of GDPR-related risks at this point should not prevent the project from moving forward to the Legal Assessment phase.

This is not the case for forbidden tools under the AI Act.

Prohibited AI tools

The LASO Legal Team has identified six prohibited scenarios under the AI Act that must be strictly avoided to prevent severe fines, legal non-compliance, and potential reputational damage.



Prohibition of AI tools using subliminal, manipulative or deceptive techniques

AI Systems that deploy subliminal techniques beyond a person's consciousness or use manipulative or deceptive techniques that distort or aim at distorting behavior and hinder informed decision-making of a person or a group of people, reasonably likely causing significant harm. These AI Systems cause them to take decisions that they would not have taken otherwise.

The use of these prohibited techniques could be facilitated, for example, by machine-brain interfaces or virtual reality.

The determination of 'significant harm' is fact-specific considering the severity of harm, context and cumulative effects, scale and intensity, whether it affects person's vulnerability and the duration and reversibility.

For example:

- An AI chatbot that promotes self-harm to users or incentivizes them to commit suicide or harm other persons or groups of persons by promoting terrorist content or incentivizing violence against certain persons or groups of persons (i.e., minorities).
- An AI chatbot that offers fraudulent products that cause significant financial harm.



Prohibition of AI tools exploiting vulnerabilities of a group or a person

AI Systems that exploit vulnerabilities of a person or a group likely leading to significant harm.

Examples of vulnerable people are minors or elderly people, Persons with disabilities, people from low socio-economic backgrounds, people from ethnic or religious minorities.

The two scenarios described hereabove do not prohibit lawful practices like psychological treatment for mental illness or physical rehabilitation, if they follow applicable laws and medical standards, such as obtaining explicit consent from individuals or their legal representatives.



Prohibition of AI tools using a social score leading to detrimental or unfavorable treatment of a natural person or groups of persons

This prohibition applies to either or both of the following detrimental or unfavorable treatment of certain individuals or groups of people:

- in social contexts unrelated to where the data was originally collected.
- that is unjustified or disproportionate to their social behavior or its severity.



Prohibition of AI assessing criminal risks of a person

Assessing criminal risk with an AI tool cannot be based solely on profiling or personality traits and characteristics, unless used to support human assessments based on objective and verifiable facts directly linked to criminal activity.

Prohibition of AI using biometric categorization for certain 'sensitive' characteristics

The use, distribution or supply of an AI Tool that categorizes individuals based on their biometric data to deduce or infer their race, political opinions, trade union membership, religious or philosophical beliefs, sex life or sexual orientation, is prohibited.

Biometric data are Personal data resulting from technical processes related to physical, physiological, or behavioral traits (e.g., facial images or fingerprints).



Prohibition of AI inferring emotions of people in the workplace

The use, distribution or supply of an AI Tool that infers emotions in the workplace are prohibited, except when necessary for medical or safety purposes.

Phase 2: Assessment

Once specific AI projects have passed the initial feasibility check, they move to a detailed legal assessment. This Assessment will allow the LASO Team to:

- Classify projects based on potential legal and ethical risks.
- Identify who within the hospital is responsible for addressing these risks.
- Determine whether to proceed, mitigate risks, or abandon the project entirely.

This phase is tackled by our LASO JUSTICEBOT (temporarily hosted at <https://laso.justicebot.ca/question>; it will soon be available on the Smart Law Hub website), or its analog version the Game "ComPlayAnt"

To learn more about the Legal Assessment Phase, launch the LASO JusticeBot—its functionality is explained at the beginning. You may also consult the “About the Booklet” section, which originates from the Booklet entitled *ComPlayAnt*. This can be found here: [Booklet.pdf](#)

Prioritization Tools



The prioritization tools are used in Workshop 2: Prioritization of AI solutions to support participants and the LASO team in evaluating and ranking the proposed AI solutions. These tools include:

- The LASO Prioritization Matrix
- Paper-based LASO Prioritization Scoring Sheets
- Digital LASO Prioritization Scoring Tool

LASO Prioritization Matrix

The LASO prioritization matrix is a structured tool to evaluate AI solutions across three key domains:

1. Impact
2. Feasibility
3. Risks

Each domain includes specific criteria designed to assess the potential value, practicality, and ethical or legal considerations of the proposed AI solution.

Impact		Feasibility		Risks		
Clinical Care	Patient experience	Resources	Budget	Legal	GDPR	
	Partner experience		Personnel (time, qualified, #)		MDR	
	Quality of care		Infrastructure		IVDR	
	Efficiency of care				AI act	
Operations	Efficiency	Change	Process		Ethical	Transparency
	Productivity		Learning			Human autonomy
	Quality		Acceptance	Data governance		
	Employee experience			Inclusiveness and equity		
	Financial gain			Do no harm		
Organization	Service scale	Dependency	Internal (other department)			
	Client scale		External (partner/company)			

	Hospital reputation		End-user involvement		
		Technical	Integration		
			Data accessibility		
			Cybersecurity		
			Maintenance		
			Stability		
			Responsiveness		

Domain 1: Impact

This domain evaluates how the AI solution might impact key aspects of healthcare delivery, including clinical care, hospital operations, and hospital organization. It contains the following categories:

- **Clinical care:** refers to the direct impact of the AI solution on patient care and the broader healthcare ecosystem, including hospital partners.
- **Operational impact:** evaluates how the AI solution will affect the hospital’s internal processes, workforce, and overall efficiency.
- **Organizational impact:** evaluates how the AI solution might affect the hospital’s structure, external partnerships, reputation, and long-term value creation.

Domain 2: Feasibility

This domain evaluates whether the AI solution can realistically be developed, implemented, and maintained in the hospital setting. It assesses the following aspects:

- **Resources:** assesses whether the necessary budget, personnel, and infrastructure are available to develop, implement, and maintain the AI solution.
- **Change:** assesses how easily the AI solution can be integrated into existing hospital workflows, focusing on process adaptations, learning effort, and user acceptance.
- **Dependency:** evaluates how dependent the AI solution is on other departments, external organizations, or end-users.
- **Technical:** assesses how easily the AI solution can be integrated, maintained and sustained within the hospital’s existing technical infrastructure.

Domain 3: Risks

This domain assesses the potential legal and ethical implications of using an AI solution in a hospital setting. The following categories should be scored:

- **Legal:** evaluates whether the AI solution meets healthcare regulations and compliance standards

- **Ethical:** evaluates the ethical aspects of the AI solution, ensuring that it aligns with core principles such as transparency, fairness, safety, and human autonomy.

LASO Prioritization Matrix scoring template

In Workshop 2: Prioritization of AI solutions, participants evaluate each proposed AI solution using either the paper-based LASO Prioritization Scoring Sheet or the digital LASO Prioritization tool. Using a standardized scoring scale ranging from -2 to +2, stakeholders assess each solution across multiple criteria to assess its strengths and weaknesses.

To support the LASO team in collecting and analyzing these scores, an Excel template of the LASO Prioritization Matrix is available. This template enables the LASO team to not individual scores collected during the workshop and automatically calculates a combined score for each AI solution. The final output provides a clear, comparative overview to guide the selection of the most promising AI solutions for further development.

The LASO Prioritization matrix template can be found here: [LASO Prioritization Matrix.xlsx](#)

Paper-based LASO Prioritization Scoring Sheets



When scoring, **consider the most likely impact of the AI solution**, based on its description in the AI canvas, rather than assuming best-case or worst-case scenarios. A realistic assessment will help prioritize solutions that bring the most value while minimizing potential risks.

Domain 1: Impact

This domain evaluates how the AI solution might impact key aspects of healthcare delivery, including clinical care, hospital operations, and hospital organization.

1.1 Clinical Care

Clinical care refers to the direct impact of the AI solution on patient care and the broader healthcare ecosystem, including hospital partners. It examines whether the solution is likely to enhance or disrupt the patient journey, partner collaboration, quality of care, and care efficiency.

1.1.a Patient Experience

To what extent do you believe that the AI solution will impact a patient's journey and overall experience (e.g. welcome, care phase, follow-up phase, end of treatment) and influence the care of patients?

- Extremely positive impact (+2):** The AI solution significantly enhances the patient journey and overall experience across all stages of care, leading to better accessibility, efficiency, and satisfaction

Example: An AI-powered virtual assistant that provides personalized support from hospital admission to post-treatment follow-ups, ensuring seamless communication and reducing patient stress.

- Positive impact (+1):** The AI solution improves certain aspects of patient experience and care, but the impact is more limited or focused on a specific stage of the patient's journey.

Example: An AI-powered appointment scheduling system that reduces waiting times but does not improve communication or post-treatment support.

- No impact (0):** The AI solution does not affect patient experience or care.

Example: An AI tool that improves internal hospital workflows but does not change how patients interact with healthcare providers.

- Negative impact (-1):** The AI solution negatively affects certain aspects of patient experience or care, leading to discomfort or reduced satisfaction. *Example: An AI triage system that misclassifies patient urgency, causing delays for patients with serious conditions.*

- Extremely negative impact (-2):** The AI solution severely impacts the patient journey and overall experience across all stages of care, leading to widespread dissatisfaction, confusion, or even harm.

Example: An AI decision-support system that leads to misdiagnoses, causing delays in necessary treatments and loss of trust in hospital care.

1.1b Partner experience

To what extent do you believe that the AI solution will impact the overall experience of hospital partners (e.g., first-line and second-line healthcare providers, other hospitals, and governmental bodies) and influence the care of patients?

- Extremely positive impact (+2):** The AI solution significantly improves the experience of hospital partners across all interactions and collaborations, leading to seamless coordination, improved efficiency, or better patient outcomes.

Example: An AI-powered referral system that allows real-time information sharing between hospitals, general practitioners, and specialists, ensuring faster and more accurate patient transitions.

- Positive impact (+1):** The AI solution improves certain aspects of hospital partner experience and coordination, though its effects may be limited to specific processes or interactions.

Example: An AI tool that streamlines patient discharge summaries, making it easier for first-line healthcare providers to receive up-to-date patient information.

- No impact (0):** The AI solution does not affect hospital partner experience or collaboration.

Example: An AI system designed purely for internal hospital workflow optimization with no external impact)

- Negative impact (-1):** The AI solution negatively affects certain aspects of the hospital partner experience, causing frustration or inefficiencies in coordination.

Example: An AI-based electronic health record system that is incompatible with external partners' systems, leading to data transfer issues and delays.

- Extremely negative impact (-2):** The AI solution severely disrupts the experience of hospital partners across all interactions and collaborations, leading to widespread inefficiencies, miscommunication, and breakdowns in care coordination.

Example: An AI-powered triage system that assigns incorrect priority levels, preventing emergency care providers from responding to critical patients in time.

1.1.c Quality of care

To what extent do you believe that the AI solution will impact the health-related quality of life (HRQOL) of patients (i.e., physical & mental well-being) and influence the care of patients?

- Extremely positive impact (+2):** The AI solution significantly improves health-related quality of life across all aspects of physical and mental well-being, leading to substantial improvements in patient health outcomes and overall care quality.

Example: An AI-powered early detection system that identifies severe diseases at an early stage, leading to timely interventions and significantly better treatment outcomes.

- Positive impact (+1):** The AI solution improves certain aspects of health-related quality of life but does not fully transform patient care.

Example: An AI-assisted mental health chatbot that provides emotional support and coping strategies, helping patients manage stress but does not replace in-person therapy.

- No impact (0):** The AI solution does not affect health-related quality of life .
Example: An AI system used for administrative hospital tasks that does not interact with patient care.
- Negative impact (-1):** The AI solution negatively affects certain aspects of health-related quality of life, leading to worse patient experiences or treatment outcomes.
Example: An AI system that prioritizes efficiency over patient-centered care, leading to shorter but less personalized doctor-patient interactions.
- Extremely negative impact (-2):** The AI solution severely impacts health-related quality of life across all aspects of physical and mental well-being, potentially leading to serious health risks and long-term harm.
Example: An AI-driven patient monitoring system that fails to detect critical health deterioration, leading to life-threatening complications that could have been prevented.

1.1.d Efficiency of care

To what extent do you believe that the AI solution will impact the efficiency of care?

- Extremely positive impact (+2):** The AI solution significantly reduces time and resource use per patient across all aspects of care, leading to major efficiency gains and cost savings.
Example: An AI-powered triage system that rapidly assesses symptoms and directs patients to the appropriate care level, reducing wait times and optimizing resource allocation hospital-wide.
- Positive impact (+1):** The AI solution improves certain aspects of time and resource use per patient, but its impact is more localized or limited to specific tasks.
Example: An AI-driven administrative tool that automates patient discharge paperwork, reducing administrative workload but not directly affecting clinical efficiency.
- No impact (0):** The AI solution does not affect time and resource use per patient.
Example: An AI tool used for retrospective data analysis that does not directly impact real-time workflow efficiency.
- Negative impact (-1):** The AI solution negatively affects efficiency by increasing time and resource use per patient due to workflow disruptions or added complexity.
Example: An AI-based patient documentation system that requires frequent manual input, increasing the administrative burden on healthcare staff.
- Extremely negative impact (-2):** The AI solution severely reduces efficiency, leading to significantly higher time and resource use per patient, causing delays, increased costs, and staff frustration.
Example: AI-driven workflow automation system that causes widespread delays in-patient admissions and treatment planning.

1.2 Operations

Operations evaluates how the AI solution will affect the hospital's internal processes, workforce, and overall efficiency. This includes assessing whether the solution streamlines workflows, reduces errors, enhances employee productivity, or impacts financial stability.

1.2.a Efficiency

To what extent do you believe that the AI solution will impact the efficiency of hospital operations?

- Extremely positive impact (+2):** The AI solution significantly improves efficiency by saving time and resources across all support operations, leading to hospital-wide process optimization.

Example: An AI-driven supply chain management system that predicts inventory needs, reducing waste and optimizing hospital logistics across all departments.

- Positive impact (+1):** The AI solution improves certain aspects of time and resource use in support operations, but its effects are limited to specific tasks or departments.

Example: An AI-assisted billing system that automates insurance claims, reducing manual processing time but not impacting other administrative tasks.

- No impact (0):** The AI solution does not affect time and resource use in support operations.

Example: An AI-driven research platform that helps analyze medical data but does not optimize hospital processes or resource allocation.

- Negative impact (-1):** The AI solution negatively affects efficiency by increasing time and resource use in support operations due to workflow disruptions or added complexity.

Example: An AI-based procurement system that miscalculates inventory needs, leading to overstocking or supply shortages that require manual corrections

- Extremely negative impact (-2):** The AI solution severely reduces efficiency, leading to major resource waste, operational breakdowns, and staff dissatisfaction.

Example: An AI-driven financial reporting tool that produces incorrect budget forecasts, causing major disruptions in financial planning and resource allocation.

1.2. b Productivity

To what extent do you believe that the AI solution will impact hospital operations and the overall output per employee?

- Extremely positive impact (+2):** The AI solution significantly increases overall output per employee across all operational areas, allowing staff to handle more tasks efficiently with fewer resources.

Example: An AI-powered workflow automation system that streamlines documentation, scheduling, and communication across the hospital, reducing administrative tasks for all employees and freeing up time for patient care.

- Positive impact (+1):** The AI solution improves certain aspects of employee output but may be limited to specific tasks or departments.

Example: An AI-powered chatbot that automates routine patient inquiries, allowing administrative staff to focus more on complex requests.

- No impact (0):** The AI solution does not affect overall employee output.

Example: An AI-driven research tool that helps with clinical studies but does not influence day-to-day hospital workflows.

- Negative impact (-1):** The AI solution negatively affects productivity, leading to a decrease in employee output due to workflow disruptions or additional complexity.

Example: An AI-driven patient management system that requires extensive manual input and processing, slowing down daily operations.

- Extremely negative impact (-2):** The AI solution severely reduces productivity, leading to a substantial decrease in overall employee output and causing serious disruptions in hospital operations.

Example: An AI-based resource management system that fails to allocate equipment and personnel properly, leading to widespread operational breakdowns and excessive delays.

1.2.c Quality

To what extent do you believe that the AI solution will impact hospital operations by helping reach goals with fewer errors?

- Extremely positive impact (+2):** The AI solution significantly reduces errors across all operational areas, leading to higher accuracy, improved goal achievement, and enhanced patient safety.

Example: An AI-powered medication dispensing system that eliminates dosage errors across the hospital, ensuring accurate and safe administration of drugs.

- Positive impact (+1):** The AI solution reduces errors in certain aspects of operations, improving goal achievement in targeted areas.

Example: An AI-assisted documentation tool that reduces transcription errors in patient records, making it easier for clinicians to access accurate medical histories.

- No impact (0):** The AI solution does not affect error rates in operations.

Example: An AI chatbot for administrative inquiries that assists with general questions but does not impact operational accuracy.

- Negative impact (-1):** The AI solution negatively affects quality by increasing errors in certain areas, leading to inconsistencies or delays in reaching hospital goals.

Example: An AI-based supply chain management system that miscalculates stock levels, leading to occasional shortages of essential medical supplies.

- Extremely negative impact (-2):** The AI solution severely impacts quality by increasing errors across all operational areas, leading to widespread inefficiencies and compromised patient safety.

Example: An AI decision support system that misinterprets lab results, leading to incorrect diagnoses and improper treatments across multiple hospital departments.

1.2.d Employee experience

To what extent do you believe that the AI solution will impact hospital operations and employee satisfaction at work?

- Extremely positive impact (+2):** The AI solution significantly improves employee satisfaction across all aspects of work.

Example: An AI-powered documentation assistant that automates administrative tasks, allowing nurses to spend more time with patients and less time on paperwork.

- Positive impact (+1):** The AI solution improves certain aspects of employee satisfaction at work.

Example: An AI-driven shift scheduling tool that offers more flexible and predictable work schedules, improving work-life balance for some staff members

- No impact (0):** The AI solution does not affect employee satisfaction at work.

Example: An AI tool used for hospital-wide financial analysis that has no direct influence on daily staff workload or job satisfaction.

- Negative impact (-1):** The AI solution negatively affects certain aspects of employee satisfaction at work.

Example: An AI reporting system that requires staff to learn a different workflow, leading to an adjustment that some employees find challenging.

- Extremely negative impact (-2):** The AI solution severely reduces employee satisfaction across all aspects of work.

Example: An AI-driven task management system that creates overly rigid workflows, limiting professional autonomy and reducing job flexibility for employees.

1.2.e Financial gain

To what extent does the AI solution generate financial gains for the hospital?

- Extremely positive impact (+2):** The solution significantly increases financial gains, optimizing costs and generating substantial revenue.

Example: An AI-driven hospital resource allocation system that reduces unnecessary patient admissions and optimized bed usage, leading to major cost savings and increased efficiency.

- Positive impact (+1):** The system provides financial benefits, though the gains are moderate.

Example: An AI-powered automated billing system that reduces administrative processing time and errors, slightly lowering operational costs and improving cash flow.

- No impact (0):** The solution does not affect financial performance.

Example: An AI-driven tool for clinical research that provides insights for medical advancements but does not directly impact hospital expenses or revenue.

- Negative impact (-1):** The solution leads to financial losses or increased operational expenses.

Example: An AI system that requires staff training and software updates, leading to short-term costs before potential benefits can be realized.

- Extremely negative impact (-2):** The solution severely harms the hospital's financial stability, leading to major losses.

Example: An AI-driven predictive analytics system that requires expensive hardware upgrades and ongoing maintenance costs, outweighing any financial benefits.

1.3 Organization

Organization evaluates how the AI solution might affect the hospital's structure, external partnerships, reputation, and long-term value creation. This includes assessing how widely the solution can be applied, whether it enhances or disrupts collaborations and workflows, and how it impacts the hospital's public image and economic potential.

1.3.a Service scale

To what extent do you believe that the AI solution will impact operations or workflows within or beyond hospital departments? (e.g., improve efficiency, enhance collaboration)

- Positive impact across hospital and partner(s) (+2):** The solution will significantly improve operations and workflows across the entire hospital and its external partners.

Example: Implementing an AI system that streamlines patient referrals between the hospital and community care providers, ensuring seamless transitions and reducing wait times.

- Positive impact across various departments (+1):** The solution improves operations across multiple departments, facilitating better coordination and workflow integration.

Example: Using AI to synchronize diagnostics and treatment planning across radiology and oncology departments, improving care coordination.

- No impact (0) –** The solution is unlikely to impact operations or workflows.

Example: An AI tool used for backend data analysis without affecting day-to-day operations.

- Negative impact across various departments (-1):** The solution causes workflow disruptions in multiple departments, leading to operational inefficiencies.

Example: An AI communication tool that complicates information sharing between departments, leading to delays and confusion.

- Negative impact across hospital and partner(s) (-2):** The solution severely disrupts operations, affecting both the hospital and its external partners.

Example: An AI data integration issue that disrupts communication between the hospital and external care providers, leading to delays in patient care transitions.

1.3.b Client scale

To what extent do you believe that the AI solution will impact patient care? (Example: improve access, enhance care)

- Positive impact for all patients within the entire hospital, regardless of age/pathology (+2):** The solution significantly enhances patient care and access for all patients across the hospital, leading to improved satisfaction and outcomes.
Example: An AI-driven patient portal that offers personalized health information, appointment scheduling, and medication reminders for all patients.
- Positive impact for specific patients (age, pathology) across various departments (+1):** The solution improves care for specific patient groups across multiple departments.
Example: AI-based diagnostic tool enhancing accuracy for cancer patients across radiology and oncology departments.
- No impact (0):** The solution does not affect patient care or experience.
Example: An AI tool used only for internal data analysis, with no direct impact on patient interactions or outcomes.
- Negative impact for specific patients (age, pathology) across various departments (-1):** The solution causes challenges or inconveniences for specific patient groups across multiple departments.
Example: AI-driven triage system misclassifying symptoms for elderly patients across emergency and internal medicine departments.
- Negative impact for all patients within the entire hospital, regardless of age/pathology (-2):** The solution adversely affects all patients across the hospital, leading to significant dissatisfaction and poor outcomes.
Example: AI system malfunction leading to widespread appointment cancellations or miscommunications affecting all patient groups.

1.3.c Hospital reputation

To what extent do you believe that the AI solution will impact the overall reputation and public relations (PR) of the hospital?

- Extremely positive impact (+2):** the solution is expected to enhance the hospital's image as a leader in innovation and patient care.
Example: Introducing a groundbreaking AI diagnostic tool that reduces misdiagnosis rates, gaining national media attention and public trust.
- Positive impact (+1):** the solution will positively influence public perception, but the impact is likely to be localized or moderate.
Example: Using AI to enhance appointment scheduling, leading to minor improvements in patient convenience and satisfaction.
- No impact (0):** the solution is unlikely to influence the hospital's reputation
Example: Implementing a back-end AI system with no visible effect on patient care or public perception.
- Negative impact (-1):** the solution is likely to negatively affect the hospital's reputation, causing noticeable dissatisfaction.

Example: Deploying an AI scheduling system that leads to frequent appointment errors and patient complaints.

- Extremely negative impact (-2):** the solution could severely damage the hospital's reputation, trigger legal issues, or create a public relations crisis.

Example: Implementing an AI-powered patient interaction system that significantly reduces face-to-face communication with healthcare providers, leading to widespread patient dissatisfaction, negative media coverage, and concerns about depersonalized care in the hospital.

1.3.d Valorization potential

To what extent do you believe that the AI solution will create value and make the solution available for economic and/or societal use through industry, hospitals, or society?

- Extremely positive impact (+2):** The AI solution creates significant value and has widespread applicability across industry, hospitals, and society.

Example: An AI-driven clinical decision support system that improves diagnostic accuracy and is adopted by multiple hospitals and healthcare systems, setting a new standard in patient care.

- Positive impact (+1):** The AI solution contributes to value creation and has potential for use in specific areas.

Example: An AI-based rehabilitation assistant that helps stroke patients recover faster, used in specialized rehabilitation centers but not widely implemented in general hospitals.

- No impact (0):** The AI solution does not create additional value or have economic/societal applicability.

Example: An AI-powered scheduling tool that improves workflow efficiency in one hospital but has no potential for broader adoption beyond internal hospital use.

- Negative impact (-1):** The AI solution negatively affects value creation and reduces its potential for economic or societal use.

Example: A highly specialized AI tool designed for a rare medical condition that requires extensive customization, making it impractical for broader implementation in most hospitals.

- Extremely negative impact (-2):** The AI solution severely reduces value and prevents meaningful economic or societal use.

Example: An AI-driven hospital navigation system that requires costly infrastructure modifications, limiting its feasibility for broader adoption in other healthcare facilities.

Domain 2: Feasibility

The Feasibility domain evaluates whether the AI solution can realistically be developed, implemented, and maintained in the hospital setting. It assesses the availability of key resources, the level of change required for successful implementation, and the technical requirements for long-term sustainability.

2.1 Resources

Resources assesses whether the necessary budget, personnel, and infrastructure are available to develop, implement, and maintain the AI solution.

2.1.a Budget

To what extent do you believe that a sufficient budget is available for the development, implementation, and maintenance of the AI solution (i.e., leadership is willing to invest in the solution)?

- Extremely high availability (+2):** The full budget is secured, ensuring complete financial support.

Example: The hospital board has fully approved funding for an AI-powered patient monitoring system, covering software development, staff training, and ongoing maintenance costs

- High availability (+1):** The budget is available but may require adjustments or prioritization.

Example: Funding is allocated for an AI-driven radiology tool, but additional investment is required for staff training and infrastructure upgrades.

- No impact (0):** The availability of the budget neither supports nor hinders feasibility.

Example: The AI solution is cost-neutral, relying on existing hospital resources with no additional budget needed for implementation or maintenance.

- High unavailability (-1):** A significant portion of the budget is missing, affecting development, implementation, or maintenance.

Example: An AI-based patient engagement platform is partially funded, but without additional investment, only a pilot version can be launched instead of a full-scale rollout.

- Extremely high unavailability (-2):** No budget is available, making development, implementation, and maintenance unfeasible.

Example: The hospital has no allocated funds for an AI-driven administrative automation tool, preventing any progress beyond initial discussions.

2.1.b Personnel (time, qualified, #)

To what extent do you believe that sufficient and qualified human resources (in terms of time, expertise, and number of personnel) are available for the development, implementation, and maintenance of the AI solution?

- Extremely high availability (+2):** All necessary personnel are fully available, with the required expertise and time.

Example: A dedicated AI team, including IT specialists, data scientists, and clinical staff, is in place to manage an AI-driven clinical decision support tool, ensuring seamless integration and long-term sustainability.

- High availability (+1):** Qualified personnel are available, though some minor gaps exist.

Example: The hospital IT team is capable of implementing an AI-powered administrative tool, but some staff may need extra training to fully operate and maintain the system.

- No impact (0):** The availability of personnel neither supports nor hinders feasibility.

Example: The AI solution is externally managed, requiring little to no hospital staff involvement beyond standard operations.

- High unavailability (-1):** A significant lack of qualified personnel or time affects feasibility.

Example: The hospital wants to implement an AI-driven diagnostic system, but there are not enough trained radiologists to validate and oversee AI-generated results, delaying full deployment.

- Extremely high unavailability (-2):** No qualified personnel are available, making development, implementation, and maintenance unfeasible.

Example: The hospital lacks both AI specialists and IT staff trained to handle AI-driven systems, preventing any progress without extensive hiring and training efforts.

2.1.c Infrastructure

To what extent do you believe that the appropriate technical infrastructure and organizational/human resources are available for the development, implementation, and maintenance of the AI solution (e.g., location, IT equipment)?

- Extremely high availability (+2):** All required technical infrastructure and resources are fully available and well-suited for the solution.

Example: The hospital has a robust IT infrastructure, secure cloud storage, and high-performance computing systems in place, making it easy to integrate an AI-powered patient monitoring system without additional investment.

- High availability (+1):** Key infrastructure and resources are available, though some gaps may exist.

Example: The hospital has a functional data center and IT support team, but additional software updates and minor hardware improvements are needed to support an AI-driven predictive analytics tool.

- No impact (0):** The availability of infrastructure and resources neither supports nor hinders feasibility.

Example: The AI solution is cloud-based and externally managed, meaning the hospital's internal infrastructure has little to no impact on its feasibility.

- High unavailability (-1):** Key infrastructure or resources are missing, significantly affecting feasibility.

Example: The hospital's IT systems are outdated, lacking the processing power needed to run an AI-based image recognition tool efficiently, leading to slow response times and requiring major upgrades.

- Extremely high unavailability (-2):** The necessary infrastructure and resources are entirely lacking, making development, implementation, and maintenance unfeasible.

Example: The hospital does not have a secure network, adequate data storage, or trained IT personnel to support an AI-driven digital patient records system, preventing implementation without significant investment and restructuring.

2.2 Change

Change assesses how easily the AI solution can be integrated into existing hospital workflows, focusing on process adaptations, learning effort, and user acceptance. Scoring helps to determine whether the AI solution can be implemented smoothly or requires significant change management efforts.

2.2.a Process

To what extent do you believe that process adaptations are needed for the AI solution to be efficient (i.e., the level of change management required)?

- No need for adaptations (+2):** The solution integrates seamlessly with existing processes, requiring no or negligible adaptations.

Example: An AI-powered documentation assistant that automatically integrates into existing patient record systems without workflow changes.

- Need for small adaptations (+1):** Some process adjustments are required, but they are straightforward to implement.

Example: An AI-driven appointment scheduler that slightly modifies patient booking procedures but remains easy to adopt.

- No impact (0):** The AI solution does not require nor benefit from process changes.

Example: A background AI system that provides administrative insights without affecting daily workflows.

- Need for significant adaptations (-1):** Significant process adaptations are required, creating implementation difficulties.

Example: A new AI triage system that requires nurses to adjust their intake procedures, adding extra steps to the workflow.

- Need for fundamental adaptations (-2):** The solution requires fundamental process changes, making implementation highly complex or impractical.

Example: An AI tool that completely restructures patient flow in emergency care, requiring extensive reorganization of hospital operations.

2.2.b Training

To what extent do you believe that training is needed to use the AI solution (i.e., the level of change management required)?

- No training needed (+2):** The solution is intuitive and requires no or negligible learning effort.

Example: A simple AI-driven alert system that automatically notifies staff without requiring manual interaction.

- Limited training needed (+1):** Some learning is required, but users can adapt quickly with basic training.

Example: An AI-assisted documentation tool that requires a short tutorial to understand new features.

- No impact (0):** The AI solution does not require nor benefit from learning efforts.
Example: A backend AI system that improves data processing but does not require user interaction.
- Significant training needed (-1):** Significant training is needed, making adoption more difficult.
Example: A complex AI analytics dashboard that requires staff to learn new data interpretation skills before use.
- Extensive training needed (-2):** The solution requires extensive learning, making adoption highly complex or impractical.
Example: A surgical AI-assisted robotic system that requires specialized training and certification before it can be used safely.

2.2.c Acceptance

To what extent do you believe that the AI solution will be easily accepted (i.e., there is trust in delegating the tasks of interest to an AI system)?

- Fully accepted (+2):** The solution is fully accepted, with strong trust and willingness to delegate tasks to AI.
Example: An AI-powered medication dispenser that is widely trusted by staff due to its proven accuracy and reliability.
- Generally accepted (+1):** The solution is generally accepted, though some users may need reassurance or minor adjustments.
Example: An AI diagnostic support tool that doctors find useful, but some may prefer to validate results manually before fully relying on it.
- No impact (0):** The solution does not influence acceptance or trust in AI delegation.
Example: A non-interactive AI system that runs in the background without affecting staff decision-making.
- Significant resistance (-1):** The solution encounters significant resistance, making trust and acceptance difficult.
Example: An AI-driven scheduling system that removes personal control over shift planning, leading to skepticism among staff.
- Rejected (-2):** The solution is entirely rejected, with no trust in AI delegation and no willingness to adopt it.
Example: An AI-assisted clinical decision-making tool that staff refuse to use due to a preference for human judgment in critical patient care.

2.3 Dependency

Dependency evaluates how dependent the AI solution is on other departments, external organizations, or end-users. Scoring helps assess whether the AI solution can be implemented easily or requires extensive coordination efforts.

2.3.a Internal (other department)

To what extent do you believe that the AI solution is dependent on other hospital departments to function properly?

- No dependency (+2):** The AI solution operates completely independently within one department and does not require collaboration or data exchange with other departments.

Example: An AI-powered tool that assists in automating nursing shift schedules, only requiring input from the nursing department.

- Limited dependency (+1):** The AI solution requires some collaboration or data exchange with other departments, but this is easy to manage.

Example: An AI-driven system for patient check-in that requires minor integration with the administrative department but is otherwise self-sufficient.

- No impact (0):** The AI solution neither influences nor is influenced by collaboration or data exchange between departments.

Example: A research AI tool that analyzes hospital data but does not interact with other departments or affect daily hospital operations.

- Significant dependency (-1):** The AI solution relies heavily on collaboration and data exchange with other departments, making implementation more difficult.

Example: An AI-powered diagnostic support tool that requires ongoing collaboration between radiology, oncology, and internal medicine for accurate results.

- High dependency (-2):** The AI solution is highly dependent on collaboration and data exchange between multiple departments, making implementation complex and difficult to execute.

Example: A hospital-wide AI system for patient flow optimization that must integrate data from all departments, requiring continuous adjustments and cross-departmental coordination.

2.3.b External (partner/ company)

To what extent do you believe that the AI solution is dependent on external partners or organizations to function properly?

- No dependency (+2):** The solution operates fully independently within the hospital and does not require external data exchange or collaboration.

Example: An AI-powered tool that streamlines internal hospital inventory management without needing third-party involvement.

- Limited dependency (+1):** Some collaboration or data exchange with external partners is required, but this is easy to manage.

Example: An AI-assisted billing system that exchanges basic financial data with insurance companies but follows standard formats and processes.

- ❑ **No impact (0):** The AI solution neither influences nor is influenced by collaboration or data exchange with external partners.

Example: An AI tool for in-hospital staff training that does not require any external collaboration.

- ❑ **Significant dependency (-1):** The AI solution relies heavily on collaboration and data exchange with external organizations, making implementation more difficult.

Example: An AI-driven patient referral system that requires frequent data exchange between hospitals and external healthcare providers.

- ❑ **High dependency (-2):** The solution is highly dependent on collaboration and data exchange with multiple external organizations, making implementation complex and difficult to execute.

Example: A national AI-driven healthcare database that requires ongoing cooperation from multiple hospitals, regulatory bodies, and government agencies to function effectively.

2.3.c End-user involvement

To what extent can end-users (e.g., nurses, doctors, administrative staff) actively participate in the development and implementation of the AI solution?

- ❑ **Very easy to involve (+2):** End-users can fully participate without barriers, ensuring smooth integration of their feedback in the innovation process.

Example: An AI-driven patient feedback tool that allows nurses and doctors to easily contribute insights and adjustments during development.

- ❑ **Easy to involve (+1):** End-user participation is possible with some coordination but remains manageable.

Example: An AI-powered scheduling system that requires hospital staff to provide input during setup but does not significantly affect their daily work.

- ❑ **No impact (0):** End-user involvement is neither required nor beneficial to the innovation process.

Example: A backend AI system that improves hospital energy efficiency without requiring input from medical staff or patients.

- ❑ **Difficult to involve (-1):** There are significant obstacles to involving end-users, requiring extra effort or adjustments.

Example: An AI-assisted diagnostic tool that requires physicians to regularly adjust and validate results, adding extra workload before trust is built.

- ❑ **Not possible to involve (-2):** End-users cannot participate in the development or implementation of the AI solution due to fundamental constraints.

Example: An AI-powered drug discovery system that operates exclusively on large-scale data analysis and does not allow direct input from hospital staff.

2.4 Technical

Technical assesses how easily the AI solution can be integrated, maintained and sustained within the hospital's existing technical infrastructure. Scoring helps determine whether the solution is technically practical and sustainable within the hospital setting.

2.4.a Integration

To what extent is the AI solution easy to integrate into the hospital's existing digital systems?

- Very easy to integrate (+2):** The AI solution works independently and does not require any connection to other hospital systems.

Example: An AI-driven staff training platform that operates as a standalone system without connecting to hospital networks.

- Relatively easy to integrate (+1):** Some integration is needed, but it can be done with minimal technical effort using existing hospital infrastructures.

Example: An AI-assisted diagnostic tool that requires a simple data feed from the hospital's radiology department.

- No impact (0):** The AI solution does not require integration with hospital systems, nor does it affect their functionality.

Example: An AI research tool that analyzes historical hospital data but does not need real-time system integration.

- Difficult to integrate (-1):** The AI solution requires significant technical adjustments, making integration time-consuming and complex.

Example: An AI-driven patient scheduling tool that must be linked to multiple hospital databases and electronic health records.

- Very difficult to integrate (-2):** The AI solution depends on deep integration with multiple systems, making implementation highly complex and potentially unfeasible.

Example: A fully AI-automated hospital workflow system that requires restructuring all IT infrastructure and clinical software

2.4.b Data accessibility

To what extent is the data required for the AI solution to function effectively, available and easily accessible?

- Data is fully available and usable (+2):** The necessary data already exists in structured format, is easily accessible, and requires no additional effort to be used by the AI solution

Example: An AI-powered billing system that pulls directly from existing structured financial databases without additional configuration.

- Data is available but needs some adjustments (+1):** The required data exists but requires some preprocessing or adaptation before it can be used.

Example: An AI-based predictive analytics tool that requires slight reformatting of patient records to ensure compatibility.

- No impact (0):** The AI solution does not rely on hospital data, and data availability does not affect its feasibility

Example: An AI-driven energy management system that optimizes electricity use without using patient data.

- Data is incomplete or difficult to access (-1):** The AI solution requires data that is either fragmented, unstructured, or stored in different systems, making access and use complex.

Example: An AI-driven decision-support system that requires manual entry of historical patient data due to inconsistent record formats.

- Data is unavailable or inaccessible (-2):** The AI solution relies on data that is missing, restricted, or not integrated into existing hospital systems, making implementation impractical.

Example: A hospital-wide AI solution that depends on real-time patient data but lacks integration with existing electronic health records.

2.4.c Cybersecurity

To what extent is the AI solution likely to ensure strong cybersecurity and protect sensitive data, systems, and devices if implemented?

- Very likely to be fully secure (+2):** The AI solution aligns with cybersecurity best practices and would be designed to meet all security standards, ensuring full protection of data, systems, and devices without requiring additional measures.

Example: An AI-powered patient monitoring tool that meets all security standards and encrypts sensitive data automatically.

- Likely secure but requiring minor improvements (+1):** The AI solution includes security measures but may need some adjustments to fully align with hospital cybersecurity policies

Example: An AI scheduling tool that requires minor software updates to comply with hospital security protocols.

- No impact (0):** Cybersecurity is not a relevant factor in evaluating this AI solution, as it does not handle sensitive data or interact with secure hospital systems.

Example: An AI system used for staff training that does not store or process sensitive patient information.

- Potential security concerns requiring intervention (-1):** The AI solution presents risks that would require additional cybersecurity measures such as encryption, firewall protections, or policy updates before safe implementation.

Example: An AI-powered chatbot for patient communication that needs encryption and additional security layers before deployment.

- Severe security risks (-2):** The AI solution lacks proper cybersecurity measures, making it unsafe to deploy without significant IT intervention and policy changes.

Example: An AI system that would process sensitive patient data but has no clear cybersecurity plan, requiring a full redesign to comply with hospital cybersecurity standards.

2.4.d Maintenance

To what extent is the maintenance of the AI solution easy and sustainable, requiring minimal expert knowledge to keep the system up to date?

- Minimal maintenance required (+2):** The AI solution requires minimal maintenance with no need for specialized expertise.

Example: An AI-powered tool for optimizing hospital room temperatures that runs automatically with no manual updates needed.

- Routine maintenance required (+1):** The AI solution requires occasional updates or adjustments, but hospital IT staff could manage these with minimal effort.

Example: An AI decision-support tool that requires occasional software updates but can be managed by existing IT staff.

- No impact (0):** Maintenance requirements do not affect the feasibility of the solution.

Example: An AI-powered dashboard that operates on pre-existing hospital analytics tools without additional maintenance.

- Frequent maintenance required (-1):** The AI solution requires regular updates and adjustments, potentially increasing the workload for hospital IT staff or requiring occasional external support.

Example: An AI-powered robotic assistant that needs regular calibration and AI model retraining to stay effective.

- High maintenance burden (-2):** The AI solution requires constant updates, troubleshooting, and expert intervention, making long-term use unsustainable.

Example: A fully AI-driven hospital operations system that needs daily updates from AI specialists to function correctly.

2.4.e Stability

To what extent is the AI solution likely to be stable and reliable in daily operations?

- Highly stable (+2):** The AI solution is expected to function smoothly without technical issues, downtime or disruptions.

Example: An AI-powered administrative tool that, when developed, would be designed to operate without issues for years.

- Generally stable (+1):** The AI solution would work overall but might experience minor, manageable disruptions.

Example: An AI-powered speech recognition tool that could occasionally require a system reboot but would otherwise function reliably.

- No impact (0):** Stability is not a relevant factor in evaluating this AI solution, as it would not impact real-time hospital operations.

Example: An AI-powered training simulator that runs on a separate system and would not affect patient care.

- Occasional instability (-1):** The AI solution might experience frequent but manageable performance issues, potentially affecting efficiency.

Example: An AI-powered workflow optimization tool that, if implemented, could slow down during peak hours, causing occasional delays.

- Highly unstable (-2):** The AI solution is expected to experience frequent technical failure, making it unreliable and impractical for use.

Example: A real-time AI monitoring system that would be prone to frequent crashes and require constant intervention.

2.4.f Responsiveness

To what extent is the AI solution likely to respond effectively to changes in workload?

- Highly responsive (+2):** The AI solution would adapt automatically and efficiently to fluctuations in workload without delays.

Example: An AI planning system that would dynamically adjust hospital staffing based on real-time patient flow to optimize resource use.

- Generally responsive (+1):** The AI solution is expected to perform well under normal conditions but may slow down slightly during peak workload periods.

Example: An AI-powered voice recognition tool that would function well but could experience minor delays when many users access it simultaneously.

- No impact (0):** Responsiveness is not a relevant factor in evaluating this AI solution, as it would not rely on real-time workload changes.

Example: A background AI tool designed to analyze hospital-wide patient trends over time, which would not require immediate response.

- Limited responsiveness (-1):** The AI solution might struggle to handle workload increases, causing occasional delays.

Example: An AI-assisted patient triage system that could slow down during high emergency room traffic, delaying responses for lower-priority cases.

- Fails to handle workload changes (-2):** The AI solution would be unable to function properly when workload increases, making it unreliable.

Example: An AI-powered appointment scheduling system that could crash if too many patients tried to book appointments at once.

Domain 3: Risks

The Risks domain assesses the potential legal and ethical implications of using an AI solution in a hospital setting. Scoring these factors helps to assess whether an AI solution is legally compliant, ethically sound, and safe to use in a hospital environment.

3.1 Legal

Legal evaluates whether the AI solution meets healthcare regulations and compliance standards.

3.1.a General Data Protection Regulation (GDPR)

To what extent does the AI solution comply with GDPR regulations, particularly regarding the lawful processing of personal data?

- No Risk (+2):** The AI solution fully complies with GDPR, ensuring that all personal data processing has a clear lawful basis, necessary safeguards are in place, and patient rights are respected.

Example: An AI-powered administrative tool that processes only anonymized patient data, eliminating any privacy risks while maintaining compliance.

- Very Low Risk (+1):** The AI solution meets GDPR requirements, but minor **improvements** (e.g., refining patient consent procedures or data security policies) could further strengthen compliance.

Example: An AI-driven scheduling system that collects minimal personal data (e.g., appointment dates) but has robust security and clear data retention policies.

- Not Applicable (0):** GDPR does not apply, as the AI solution does not process any personal or sensitive data.

Example: An AI-powered hospital energy management system that optimizes electricity use without interacting with patient information.

- Low Risk (-1):** The AI solution has some GDPR compliance gaps, requiring adjustments to ensure full legal alignment (e.g., clarifying the lawful basis for data collection or improving security measures).

Example: An AI-based chatbot for patient inquiries that collects basic contact details without fully explaining how the data is stored or used.

- High Risk (-2):** The AI solution poses a significant legal risk under GDPR, as it lacks a clear lawful basis for data processing or fails to provide sufficient security and transparency regarding personal data use.

Example: An AI-powered diagnosis tool that collects and stores patient health records without proper consent, encryption, or data access restrictions.

3.1.b Medical Device Regulation (MDR)

To what extent does the AI solution comply with the MDR, ensuring it meets safety, performance, and risk management requirements for medical devices used in a hospital setting?

- No Risk (+2):** The AI solution fully complies with MDR, including proper classification, risk assessment, and certification.

Example: An AI-powered imaging tool that assists radiologists in detecting abnormalities and has obtained CE marking under MDR.

- ❑ **Very Low Risk (+1):** The AI solution is on track for compliance but requires minor documentation or adjustments.
Example: An AI-driven clinical decision support system that follows MDR guidelines but is awaiting final certification.
- ❑ **Not Applicable (0):** MDR does not apply, as the AI solution is not classified as a medical device.
Example: An AI tool that automates administrative hospital tasks without impacting patient diagnosis or treatment.
- ❑ **Low Risk (-1):** The AI solution requires further regulatory review to meet MDR compliance but is expected to be certifiable.
Example: An AI-based rehabilitation assistant that interacts with patients but still needs validation for risk classification.
- ❑ **High Risk (-2):** The AI solution does not meet MDR requirements, making certification difficult or requiring major modifications.
Example: An AI-driven diagnostic algorithm used for patient triage without the necessary regulatory approval.

3.1.c In Vitro Diagnostic Regulation (IVDR)

To what extent does the AI solution comply with IVDR, ensuring it meets regulatory requirements for diagnostic medical devices used for in vitro testing?

- ❑ **Fully compliant (+2):** The AI solution **fully complies** with IVDR, including proper classification, validation, and certification.
Example: An AI-powered lab tool that assists in blood sample analysis and has obtained CE marking under IVDR.
- ❑ **Most compliant (+1):** The AI solution **is aligned with IVDR but requires minor procedural updates** to achieve full compliance.
Example: An AI-based genetic screening tool that follows IVDR guidelines but is awaiting final approval.
- ❑ **Not applicable (0):** IVDR **does not apply**, as the AI solution **does not involve in vitro diagnostic testing**.
Example: An AI-driven hospital inventory system that manages medical supplies but does not analyze patient samples.
- ❑ **Low Risk (-1):** The AI solution **requires further validation** before being fully compliant with IVDR but is **expected to meet requirements**.
Example: An AI-powered pathology imaging tool that is still in the process of obtaining regulatory certification.
- ❑ **High Risk (-2):** The AI solution **does not meet IVDR standards**, requiring **major regulatory adaptations** or **reclassification**.
Example: An AI-based diagnostic algorithm used for detecting infections in blood samples without proper regulatory validation.

3.1.d Artificial Intelligence Act (AI-act)

To what extent does the AI solution comply with the AI Act, ensuring it meets EU regulations regarding risk classification, transparency and accountability?

- ❑ **Fully compliant (+2):** The AI solution fully complies with the AI Act, including proper risk classification, documentation, and human oversight.
Example: An AI-powered decision support tool that assists doctors but does not make autonomous medical decisions, aligning with AI Act transparency requirements.

- ❑ **Mostly compliant (+1):** The AI solution is aligned with AI Act guidelines but requires minor clarifications or documentation.
Example: An AI tool used for patient symptom tracking that complies with AI risk classification but needs improved explainability documentation.
- ❑ **Not applicable (0):** The AI Act does not apply, as the solution does not use AI-based decision-making or automation.
Example: A manually programmed software tool for hospital resource allocation that does not rely on machine learning or automation.
- ❑ **Some compliance gaps (-1):** The AI solution requires adjustments to comply with the AI Act but is expected to meet requirements.
Example: An AI-powered chatbot for patient information that needs clearer disclosure of its AI-driven nature to meet transparency guidelines.
- ❑ **Significant legal risks (-2):** The AI solution does not meet AI Act requirements, presenting compliance challenges or risk reclassification.
Example: An AI system making autonomous medical decisions without sufficient human oversight, requiring significant adaptation to comply with the AI Act.

3.1.e Domain-specific regulation(s)

To what extent does the AI solution comply with specific regulations that apply to its intended use and domain of use (e.g. occupational safety legislation, financial regulations, patient rights)?

- ❑ **Fully compliant (+2):** The AI solution fully complies with all relevant domain-specific regulations.
Example: An AI-driven ergonomic assessment tool for hospital staff that aligns with occupational safety laws by ensuring proper workplace risk assessments.
- ❑ **Mostly compliant (+1):** The AI solution is aligned with domain regulations but may require minor adjustments.
Example: An AI-powered hospital billing system that follows financial compliance rules but requires additional documentation for auditing.
- ❑ **Not applicable (0):** Domain-specific regulations do not apply, as the AI solution is not operating in a regulated area.
Example: An AI-driven hospital logistics system that optimizes equipment storage but does not interact with patient care or regulated workflows.
- ❑ **Some compliance gaps (-1):** The AI solution requires some modifications to fully comply with domain-specific regulations.
Example: An AI-based shift planning tool for nurses that needs to be adjusted to align with labor laws on working hours and rest periods.
- ❑ **Significant legal risks (-2):** The AI solution faces significant regulatory challenges in its specific domain.
Example: An AI-driven automated reimbursement system that does not yet comply with national healthcare financing laws, requiring legal review before deployment.

3.1.f General legislation

To what extent does the AI solution comply with general regulations that apply to its intended use and domain of use?

- ❑ **Fully compliant (+2):** The AI solution fully complies with all legal and regulatory requirements.
Example: An AI-powered drug dosage calculator that has received CE marking, follows GDPR, and aligns with AI Act risk classification.
- ❑ **Mostly compliant (+1):** The AI solution is mostly compliant but requires minor legal clarifications or documentation updates.
Example: An AI system for remote patient monitoring that is nearly certified but needs additional documentation for MDR compliance.
- ❑ **Not applicable (0):** No legal risks apply, as the AI solution does not interact with regulated areas.
Example: An AI-driven energy management system for hospital buildings with no impact on healthcare regulations.
- ❑ **Some compliance gaps (-1):** The AI solution has regulatory gaps that need to be addressed, but it is expected to be compliant with proper adjustments.
Example: An AI-based symptom checker that needs clearer patient consent procedures to meet GDPR standards.
- ❑ **Significant legal risk (-2):** The AI solution faces significant legal challenges and may require major changes to meet compliance standards.
Example: A hospital-wide AI system for automated diagnosis that lacks proper MDR classification and approval.

3.2 Ethical

Ethical evaluates the ethical aspects of the AI solution, ensuring that it aligns with core principles such as transparency, fairness, safety, and human autonomy. Scoring helps assess whether the AI solution is ethically sound and responsible for use in a hospital setting.

3.2.a Transparency

To what extent does the AI solution provide transparency and explainability regarding its data and functioning?

- ❑ **Fully transparent (+2):** The solution is fully transparent, and its processes can be easily explained in simple terms to non-experts.
Example: An AI-powered medication dosage calculator that provides clear explanations for each recommendation, allowing healthcare professionals to understand and verify its output.
- ❑ **Generally transparent (+1):** The solution is generally transparent, but some technical details require expertise to understand.
Example: An AI-driven diagnostic tool that provides explainable results, though deeper analysis requires knowledge of medical algorithms.
- ❑ **No impact on transparency (0):** Transparency and explainability do not affect the feasibility of the solution.
Example: An AI tool for hospital resource allocation that functions automatically and does not require explanation to end-users.
- ❑ **Limited transparency (-1):** Transparency is lacking, making it difficult for users to understand how the AI solution works.
Example: An AI-powered patient scheduling tool that assigns appointment times without showing why specific slots are chosen.

- Not transparent (-2):** The solution is opaque and unexplainable, leading to uncertainty and reduced trust in its use.
Example: An AI-generated treatment plan that provides no reasoning or justification, making it impossible for clinicians to validate recommendations.

3.2.b Human autonomy

To what extent does the AI solution ensure human agency, keeping decision-making under human control?

- Full human autonomy (+2):** The system fully supports human autonomy, with humans maintaining complete control over all decisions.
Example: An AI-assisted drug prescription tool that provides recommendations but requires a doctor's final approval before prescribing medication.
- Limited human autonomy (+1):** The system provides decision support but does not override human control.
Example: An AI-powered alert system that flags potentially dangerous drug interactions but allows pharmacists to decide on necessary actions.
- No impact on human autonomy (0):** The system neither enhances nor reduces human autonomy in decision-making.
Example: An AI tool that automates hospital inventory tracking without affecting medical decisions.
- Reduced human autonomy (-1):** The system reduces human control in key decisions, raising concerns about oversight.
Example: An AI-based triage system that automatically prioritizes patient care but requires staff to adjust rankings manually if necessary.
- No human autonomy (-2):** The system operates autonomously, making key decisions without human control.
Example: An AI tool that automatically discharges patients based on pre-set criteria, without clinician review or approval.

3.2.c Data governance

To what extent does the AI solution ensure robust data governance, including data quality, security, compliance, and effective data use?

- Comprehensive data governance (+2):** Comprehensive frameworks and processes are in place, fully ensuring data quality, security, and compliance.
Example: An AI-powered patient records system that encrypts data, controls user access, and undergoes regular audits for GDPR compliance.
- Structured data governance (+1):** Data governance is well-structured, with minor areas for improvement in security or compliance.
Example: A predictive analytics tool that securely processes patient data but requires updates to its data-sharing agreements.
- No impact on data governance (0):** The system neither improves nor weakens data governance frameworks.

Example: An AI tool for tracking hospital room occupancy that does not store or process sensitive patient data.

- Limited data governance (-1):** Weak governance structures result in inconsistent data management and security vulnerabilities.

Example: An AI-driven hospital logistics system that tracks supply levels but does not have formal policies for archiving historical data.

- Weak data governance (-2):** No governance framework exists, exposing data to security breaches, compliance violations, and misuse.

Example: An AI scheduling tool that relies on staff input but does not validate or standardize entered data, leading to inconsistencies in scheduling accuracy.

3.2.d Inclusiveness & Equity

To what extent does the AI solution ensure fairness, inclusiveness, and the absence of bias in its outputs?

- Fully inclusive and fair (+2):** The solution is fully inclusive, with no potential for discrimination or bias.

Example: A speech recognition AI that accurately understands various accents and dialects, ensuring equitable service for diverse patients.

- Generally inclusive and fair (+1):** The system demonstrates fair outputs with only minor risks of bias.

Example: An AI-assisted symptom checker that works well but could be fine-tuned to improve accuracy for underrepresented patient groups.

- No impact on inclusiveness and equity (0):** The system does not influence inclusiveness or equity, either positively or negatively.

Example: A hospital equipment tracking AI that does not interact with patient care or decision-making.

- Limited inclusiveness and risk of bias (-1):** Noticeable risks of discrimination or unfair treatment are present in the system's outputs.

Example: An AI-based appointment scheduling tool that unintentionally favors certain patient groups due to default prioritization settings.

- Not inclusive and biased (-2):** The solution systematically discriminates, reinforcing inequality and exclusion.

Example: An AI-powered patient monitoring system that detects irregular heart rhythms effectively in male adults but has not been trained on data of women, leading to inaccurate assessment for women.

3.2.e Do no harm

To what extent does the AI solution minimize the risk of harm and prevent negative consequences from its decisions?

- Strong harm prevention (+2):** The solution poses no risk of harm, with strong safeguards ensuring safe and ethical use.

Example: An AI-powered early warning system for sepsis detection that alerts clinicians with real-time updates and built-in validation checks.

- Effective harm prevention (+1):** The system is designed with safety considerations, though minor risks may still exist.

Example: An AI medication dosage calculator that helps reduce errors but requires periodic software updates to align with evolving guidelines.

- No impact on harm prevention (0):** The solution does not contribute to harm prevention but also does not introduce new risks.

Example: An AI-powered inventory system that manages hospital supplies without influencing patient care.

- Limited harm prevention (-1):** Noticeable risks exist, potentially leading to unintended negative consequences.

Example: An AI-powered virtual nurse assistant that provides general health advice but requires periodic updates to expand its medical knowledge and avoid outdated recommendations.

- Insufficient harm prevention (-2):** The system is highly harmful, posing severe risks to individuals or organizations.

Example: An AI-driven workflow optimizer that prioritizes efficiency but does not account for staff fatigue, potentially leading to increased stress among healthcare workers.

Digital LASO Prioritization Scoring Application

The LASO Prioritization Scoring Application is a decision-support tool designed to help stakeholders assess various Artificial Intelligence (AI) solutions based on key factors influencing adoption in healthcare environments. It enables users to evaluate candidate technologies across critical impact, feasibility, and risk dimensions using a guided survey interface. This user manual provides a comprehensive explanation of how to use the tool, from system initialization to generating and interpreting results, and includes guidance on aligning each evaluation with the LASO KPI framework.

Understanding the LASO Prioritization Matrix

The LASO Prioritization Matrix helps evaluate AI solutions in hospitals by scoring them across multiple domains that reflect real-world adoption concerns. The matrix ensures that solutions are not just technologically promising but also ethically responsible, legally compliant, operationally feasible, and strategically relevant.

Each domain in the matrix corresponds to one question in the evaluation form. The scores range from -2 (very negative) to +2 (very positive) and allow stakeholders to evaluate solutions from their own professional perspective.

What is the “Project Prioritization Matrix”?

The Project Prioritization Matrix is a decision-support tool designed to help hospitals and healthcare stakeholders systematically evaluate and compare AI solutions. It was created within the LASO project (Hospital-centric AI Selection and Operationalisation blueprint) to ensure that AI implementations are responsible, strategic, and feasible across a broad set of impact domains.

This matrix allows stakeholders to assign quantitative scores to qualitative criteria, making it easier to:

- Visualize trade-offs between projects,
- Rank initiatives,
- Justify investment or implementation decisions.

Why is this Matrix Important?

- **Consistency:** Encourages uniform evaluation by different stakeholders.
- **Transparency:** Makes prioritization decisions understandable and explainable.
- **Multidimensional assessment:** Goes beyond technical aspects to include ethics, law, and hospital strategy.
- **User-friendliness:** Even non-technical staff can participate in scoring thanks to clear descriptions and the guided scale.

Structure and Components

Scoring Domains

The matrix evaluates each AI project across diverse domains, chosen to reflect key areas of concern for hospitals:

Domain	Purpose	Description
Change: Change management required	Acceptance; Learning; Process	Easy acceptance of the solution (i.e. there is trust in delegating the tasks of interest to an AI system) Little learning needed to use the solution Little need for process adaptations for the solution to be efficient
Clinical care: Improvements in the care of patients	Efficiency of care; Partner experience; Patient experience; Quality of care	Improve health-related quality of life (HRQoL) of patients (i.e. physical & mental well-being) Improve overall experience of hospital partners (e.g. first line and second line healthcare providers, other hospital, governmental bodies) Improve patients' journey and overall experience (i.e. welcome, care phase, follow-up phase, end of treatment) Spend less time and resources per patient
Dependency: Organizational dependencies involved	End-user involvement; External (partner/company); Internal (other department)	End-users can be easily included in the innovation process Minor requirements for cross-department interactions (i.e. only one specific department is involved, no other interactions) Minor requirements for inter-organizational interactions (i.e. only one specific organization is involved, no other interactions)
Ethical risks associated with the system	Data governance; Do no harm; Human autonomy; Inclusiveness & equity; Transparency	Easy transparency and explainability regarding the data and solution (i.e. the system can easily be explained in laymen language) Human agency is ensured, the system is not in control (i.e. humans remain in control of the decision) No potential for discriminations by the solution (i.e. the output of the system is not biased) No risks of harm are posed by the solution (i.e. minimal risk for negative consequences of the decisions made) enough framework and processes for managing data assets, ensuring data quality, security, and compliance, and enabling effective data use across a hospital
Legal: Legal risks associated with the system	AI-act; Domain-specific; GDPR; General legislation; IVDR; MDR	No risk regarding General Data Protection Regulation compliance (e.g. data can be anonymized) No risk regarding In Vitro Device Regulation compliance No risk regarding Medical Device Regulation compliance (i.e. no medical device involved) No risk regarding compliance to domain-specific regulations No risk regarding general regulation compliance low risk by the AI Act (i.e. risk level of the system)
Operations: Improvements in hospital operations	Efficiency; Employee experience; Financial gain; Productivity; Quality	Gain time and resources in support operations Generate financial gains for the hospital Improve satisfaction of employees at work Increase overall output per employee Reach goals with higher quality and/or fewer errors

Domain	Purpose	Description
Organisation: Improvements in overall organization	Client scale; Hospital reputation; Service scale ; Valorisation potential	Create value and make solution available for economic and/or societal use through industry, hospitals or society Impact positively a large scale of operations (i.e. system's spillovers extend beyond departements < hospital < partners) Impact positively a large scale of patients and/or end-users (i.e. system's spillovers extend beyond population (child/adults/etc.), pathology or organisation) Improve overall reputation and PR of the hospital
Resources: Organizational and human resources available	Budget; Infrastructure; Personnel (time, qualified, #)	Availability of appropriate technical infrastructure for the development, implementation and maintainance of the solution (e.g. location, (IT) equipment) Availability of sufficient and qualified human resources for the development, implementation and maintenance of the solution Availability of sufficient budget for the development, implementation and maintenance of the solution (i.e. leadership is willing to invest in the solution)
Technical: Technical resources and integration needed	Cybersecurity; Data accessibility; Integration; Maintenance ; Responsiveness; Stability	Easy maintenance of the solution (i.e. little need for expert knowledge to keep the system up to date) Easy protection of individualsâ€™ and organizationsâ€™ systems, applications, computing devices, sensitive data and financial assets against computer viruses, sophisticated and costly ransomware attacks, and more Easy technical integration of the solution (i.e. the system is isolated, not connected to other digital tools) Good ability of the solution to react to workload Good availability, accessibility and quality of the data (i.e. data already exist and can be immediately used/processed by the solution) Good stability and robustness of the solution (e.g. little downtimes)

Scoring Logic

Each domain is scored on a 5-point scale from -2 to +2, as follows:

Score	Meaning
+2	Strong positive impact or advantage
+1	Mild positive impact
0	Neutral or unknown
-1	Mild negative impact or challenge
-2	Strong negative impact or barrier

A higher total score across domains indicates a more favorable, feasible, and aligned project.

Each project (row) gets an individual score per domain, and a total column sums up the values to allow ranking or threshold-based decisions.

Supporting Sheets in the File

Matrix with Instructions

- Contains the main scoring table.
- Rows = different AI projects or solutions.
- Columns = scoring domains.
- Includes automatic summation of total score per project.

Scoring Legend

- Explains the meaning of each score (-2 to +2).
- Offers clear, practical descriptions for consistent application across users.

Domain Descriptions

- Defines each domain clearly.
- Offers reflection questions or examples to guide scoring (e.g., “Will this solution reduce clinician workload?” for operational feasibility).

Explanation of Each Domain

Below is a brief description of each of the 8 domains covered in the scoring form:

1. Change: Change management required

What it asks: It asks for attention to: acceptance; learning; process.

Why it matters: This matters because easy acceptance of the solution enables smoother implementation with minimal resistance.

2. Clinical care: Improvements in care of patients

What it asks: It asks for attention to: efficiency of care; partner experience; patient experience; quality of care.

Why it matters: This matters because improving health-related quality of life (HRQoL) and care quality strengthens patient outcomes and satisfaction.

3. Dependency: Organizational dependencies involved

What it asks: It asks for attention to: end-user involvement; external (partner/company); internal (other department).

Why it matters: This matters because successful inclusion of end-users and alignment across departments reduce friction and support innovation.

4. Ethical risks associated with the system

What it asks: It asks for attention to: data governance; do no harm; human autonomy; inclusiveness & equity; transparency.

Why it matters: This matters because transparency and explainability ensure the system aligns with ethical expectations and public trust.

5. Legal: Legal risks associated with the system

What it asks: It asks for attention to: AI-act; domain-specific; GDPR; general legislation; IVDR; MDR.

Why it matters: This matters because full compliance with legal regulations (e.g., GDPR) is critical to lawful and risk-free implementation.

6. Operations: Improvements in hospital operations

What it asks: It asks for attention to: efficiency; employee experience; financial gain; productivity; quality.

Why it matters: This matters because operational improvements save time and resources, improve staff satisfaction, and enhance output quality.

7. Organisation: Improvements in overall organization

What it asks: It asks for attention to: client scale; hospital reputation; service scale; valorisation potential.

Why it matters: This matters because creating scalable, valuable solutions enhances institutional impact and societal benefit.

8. Resources: Organizational and human resources available

What it asks: It asks for attention to: budget; infrastructure; personnel (time, qualified, number).

Why it matters: This matters because appropriate human and technical resources are essential for solution development and sustainability.

9. Technical: Technical resources and integration needed

What it asks: It asks for attention to: cybersecurity; data accessibility; integration; maintenance; responsiveness; stability.

Why it matters: This matters because ease of maintenance and integration ensures long-term technical reliability and performance.

Sheet 1: Matrix with Instructions

This sheet includes a structured matrix for scoring projects based on multiple dimensions.

Header Row (Row 1)

Cell	Explanation
A1-I1	Each column header represents a scoring domain. These correspond to the evaluation criteria explained earlier (e.g., Strategic Alignment, Patient Impact, etc.).

J1	“Total” — automatically calculates the sum of all scores for a given row/project.
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Row 2 (Sub-header)

Cell	Explanation
A2-I2	Shows the scoring scale: from -2 to +2, with guidance for each point. For instance, -2 = strong negative impact, 0 = neutral or unknown, +2 = strong positive impact.

Rows 3–X (Project Scoring Rows)

Each row is used to assess a specific **AI solution or project**.

Cell	Explanation
A3-I3 (and down)	Users assign a numeric score (-2 to +2) for each domain for the corresponding project.
J3 (and down)	Automatically sums the values in columns A to I to give a total prioritization score.

Sheet 2: Scoring Legend

This sheet offers a **detailed explanation** of the scoring system used in the matrix.

Columns:

Column	Explanation
A (Score)	Lists each score: -2, -1, 0, +1, +2.
B (Label)	Short label: e.g., “Very negative impact”, “Neutral”, “Very positive impact”.
C (Explanation)	Detailed description of what each score level means in practical terms, across all domains. Help evaluators decide which score to assign.

Sheet 3: Domain Descriptions

This sheet breaks down each domain with a brief explanation, aligned with the earlier explanation provided.

Column	Explanation
A (Domain)	Name of the evaluation domain (e.g., Strategic Alignment, Technical Readiness).
B (Description)	Brief explanation of what the domain assesses. Help users understand how to evaluate the impact of an AI solution under that domain.

C (Scoring Tip)	Optional guidance or questions to consider while scoring. For example, “Does the project align with institutional digital strategy?”
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Summary of Logic

- The **main matrix sheet** is where scoring takes place.
- The **legend sheet** helps users calibrate their scoring consistently.
- The **domain sheet** explains each evaluation criterion and improves clarity for users unfamiliar with the LASO project context.

How to Use It

1. **Gather relevant stakeholders** (e.g., clinicians, IT, ethics, admin).
2. **Review the AI solution** being considered.
3. **Individually or collectively score** each domain using the guided scale.
4. **Sum the total** to see how the project ranks.
5. Use the result to **support go/no-go decisions**, compare options, or trigger further analysis for borderline projects.

Getting Started

To launch the LASO Prioritization Scoring Application, locate the HTML file titled `AI_Solution_Evaluation_Form.html` and open it in your preferred browser. Upon loading, the form interface will automatically display all necessary elements, including dropdown menus for stakeholder groups and AI solutions, a set of evaluation questions, and a submission button.

The interface is divided into three key sections:

1. Stakeholder & AI Solution Selection
2. Eight Scoring Questions (corresponding to the KPI framework)
3. Submission and Excel export

When you are ready to begin, follow these steps to open and use the LASO Prioritization Scoring Application:

1. **Opening the Tool:** The LASO Prioritization Scoring Sheet is provided as an HTML file. To use it, simply open the file in your preferred web browser. The form for scoring will automatically appear on the page.
2. **Interface Layout:** The interface consists of several sections. These sections include survey questions, dropdown menus for selecting stakeholders and AI solutions, and a submit button. Each section has been designed to allow users to input data in a streamlined and efficient manner.

Selecting Stakeholders and AI Solutions

Begin by selecting the stakeholder group (e.g., "IT Department," "Nursing," "Management") that is most relevant to your perspective. Then choose the AI solution under evaluation (e.g., "Automatische opmaak uurroosters" or other hospital-specific technologies). These selections will ensure the results are categorized appropriately.

Answering the KPI-Driven Survey Questions

The heart of the application lies in its eight survey questions, which reflect the domains outlined in the LASO KPI framework. Each question represents a critical factor in the adoption and evaluation of AI solutions in healthcare—ranging from legal compliance and ethical risks to operational feasibility and strategic alignment.

Each question offers five response options, ranging from strongly positive (+2) to strongly negative (-2). Users should select the option that best reflects the AI solution's current or anticipated performance.

Each question aligns with a domain in the KPI Prioritization Matrix, including:

- **Impact:** E.g., Will this solution improve patient outcomes?
- **Feasibility:** E.g., Are resources, skills, and technical integration in place?
- **Risk:** E.g., Are there ethical, regulatory, or cybersecurity risks?

Filling Out the Form

Once the tool has loaded, the user can begin by selecting the relevant **stakeholder group** and **AI solution**. These selections will help the tool categorize the results according to the selected stakeholder's perspective and the specific AI solution being evaluated.

1. **Stakeholder Selection:** In this step, select the stakeholder group that is most relevant to the evaluation. You will find a dropdown menu labeled **Stakeholders**, from which you can choose the group. For instance, the user might select "IT Department."
2. **AI Solution Selection:** Similarly, the tool features a dropdown menu labeled **AI Solution**, which allows you to select the specific AI technology that you are evaluating. This could be any AI solution currently under consideration by the user's department or organization.
3. **Answering the Survey Questions:** For each of the eight survey questions, select the option that most closely matches the situation, or the performance of the AI solution user is evaluating. The options should be considered carefully, as they will directly impact the final score of the AI solution.

Submitting the Form

Once all questions have been answered, the user can proceed to the submission process. To submit the form, the user clicks the **Submit** button located at the bottom of the page. Before the form can be submitted, the system will check to ensure that all questions have been answered. If any question is left unanswered, the user will receive a prompt reply to complete the missing response.

When all questions are answered and the form is submitted, the system will ask for the Excel file containing the corresponding information. This file will be filled with the chosen options' points and will be available to the user.

Upon successful submission, the system will prompt you to select an Excel file. The selected file will be populated with:

- Stakeholder and AI solution identifiers.
- Point values per question (from -2 to +2).
- Aggregated scoring per domain.

These entries populate the "Scoring sheet" of the Excel file, aligning responses with the predefined stakeholder rows and AI solution columns. This allows comparisons across multiple evaluations and helps identify consensus or disagreement across stakeholder groups.

Generated Excel Sheet

The Excel sheet generated by the tool will contain several key pieces of information:

1. **Row Mappings:** The Excel sheet will categorize the results based on the selected stakeholder group. For example, if you selected the "IT Department" as your stakeholder group, the results will be displayed in rows specifically assigned to IT.
2. **Column Mappings:** The Excel sheet will also categorize the results based on the selected AI solution. If you selected "Automatische opmaak uurroosters" (Automatic Schedule Generation), for example, the corresponding column in the Excel sheet will be labeled accordingly.
3. **Survey Results:** The tool will display the point values for each question, along with the stakeholder group and AI solution. This allows the user to see how each question was answered and what the final score for the AI solution is.

Survey Questions

The primary focus of the LASO Prioritization Scoring Sheet is a series of questions used to assess AI solutions. Each question is designed to measure a different aspect of an AI solution.

Each of these questions comes with five answer options, each corresponding to a point value from +2 to -2. Users are required to select one option per question that best represents the AI solution being assessed.

FAQs

1. **Can I select multiple stakeholders or AI solutions?**
No, the tool only allows you to select one stakeholder group and one AI solution at a time. You must submit the form separately for each stakeholder group or AI solution you wish to evaluate.

2. **What happens if I do not answer all the questions?**

If any question is left unanswered, the system will display a prompt alerting you to the missing response. You will not be able to submit the form until all questions are answered.

3. **Can I edit my answers after submitting the form?**

No, once the form is submitted, it cannot be edited. However, you can submit a new form if you need to make changes or corrections to your answers.

4. **Can I evaluate multiple AI solutions or stakeholder views?**

Yes, but each evaluation must be submitted separately. Use the tool multiple times for different stakeholders or AI solutions.

5. **Are the results automatically interpreted?**

While raw scores are calculated and structured, interpretation requires contextual understanding.

Guidance ethics: A practical framework for responsible AI implementation



Workshop 3: Refining the Concept Idea is built on the Guidance Ethics approach. This approach offers a structured method to ensure that AI solutions in healthcare are developed and implemented ethically and responsibly. Understanding this approach is essential for facilitators, as it forms the foundation for the workshop structure and discussion.

Workshop 3: Refining the Concept Idea is built on the **Guidance Ethics** approach. This approach offers a structured method to ensure that AI solutions in healthcare are developed and implemented ethically and responsibly (Verbeek & Tijink, 2020).

Understanding this approach is essential for facilitators, as it forms the foundation for the workshop structure and discussion.

Guidance ethics

As healthcare becomes more digitalized and automated, new ethical challenges arise. Instead of focusing on whether an AI solution is “good” or “bad”, Guidance Ethics shifts the conversation toward the “How”: How can we integrate AI in a way that is responsible, practical, and aligned with the needs of patients and healthcare professionals?

At its core, Guidance Ethics acknowledges that technology and society influence each other. While we design and develop technology, it also shapes the way we work, interact, and provide care. To navigate these interactions, Guidance Ethics is structured around four key principles:

- **Ethical guidance instead of judgement:** The goal is not to determine whether an AI solution should or should not be used but explore how it can be implemented responsibly while addressing potential ethical concerns.
- **Focus on real-world applications:** Discussions are grounded in a specific AI use case, ensuring that ethical reflections are practical and directly relevant to hospital settings.
- **Stakeholder dialogue:** A participatory, multi-stakeholder approach ensures that healthcare professionals, technical experts, and other key stakeholders bring in their perspectives, making ethical considerations more comprehensive and applicable.
- **Action-oriented ethical design:** The approach results in concrete actions across three domains: (re)designing technology, (re)organizing the context, and (re)adapting human behavior.

The Guidance Ethics framework structures this workshop into three phases, guiding participants from reflection to action:

1. **Case:** Introduce the AI solution and the specific hospital setting in which it will be used
2. **Dialogue:** Identify key stakeholders, discuss the potential effects of the AI solution, and connect these effects to core values
3. **Action:** Develop concrete measures in the domains of technology, context and human behavior to ensure responsible implementation

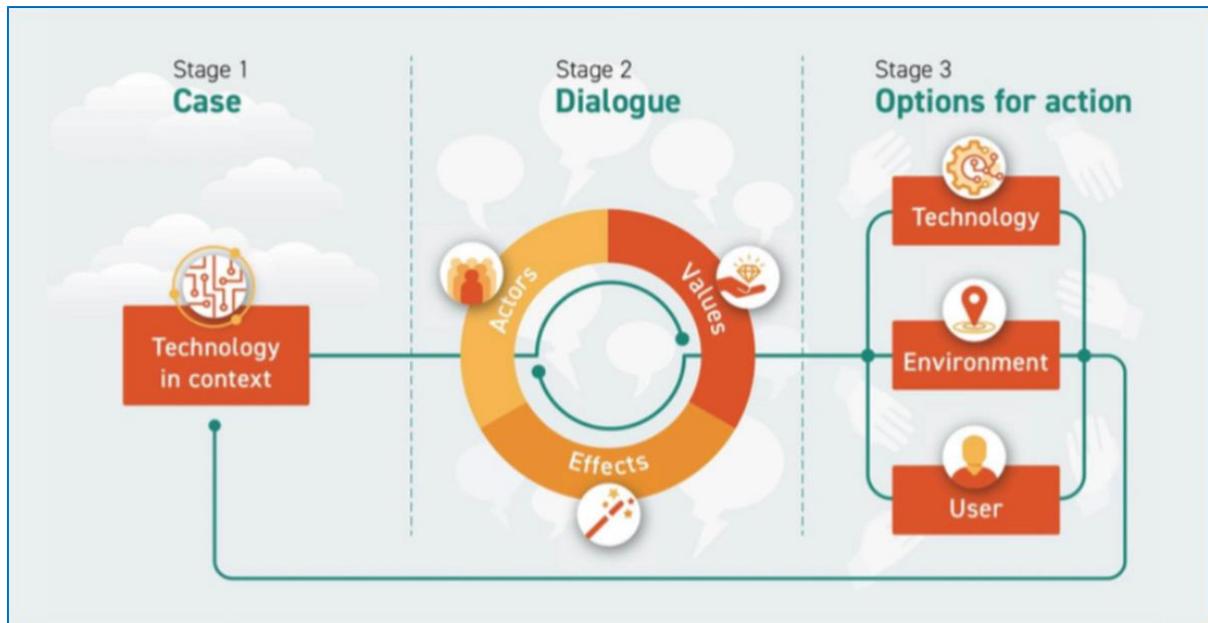


Figure 12: Stages of the guidance ethics approach (Verbeek & Tijink, 2020)

More information about the guidance ethics approach, including practical tools and resources to support the facilitation of a guidance ethics workshop, can be found via <https://begeleidingsethiek.nl/>

Templates options for action

This template can be used if each group works on all three domains (technology, context, and user) for one value

Value:		
 Technology	 Context	 User

These templates can be used if each group focuses on one domain (technology, context or user) for all three values

 Technology		
Value 1:	Value 2:	Value 3:



Context

Value 1:	Value 2:	Value 3:



User

Value 1:

Value 2:

Value 3:

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