



S H E R P A

Shaping the ethical dimensions of smart information
systems– a European perspective (SHERPA)

Deliverable No. 3.1

SIS Workbook

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Abstract	This deliverable gives an overview of the logic and implementation of the SHERPA project SIS workbook. The workbook is a page of the SHERPA website that dynamically displays the main findings and outputs of the project and serves as a resource both for the project and for external users and stakeholders.
Key Words	smart information systems, workbook

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Executive Summary

The SIS Workbook is a part of the SHERPA project website that provides interactive access to the project's activities and outputs. This deliverable gives an overview of the rationale behind the workbook and the process and stages of developing it.

The workbook content remains available as a living resource on the project website:

<https://www.project-sherpa.eu/workbook/>

Introduction

The SIS workbook is the central repository of the SHERPA project. It is the place where the findings and outcomes of the various activities of the project are collected and where they are made available to stakeholders and various publics. It forms the basis for evaluation and prioritisation and is the key resource for dissemination and advocacy.

The SIS Workbook is a living resource that has a central place on the website of the SHERPA project (<https://www.project-sherpa.eu/workbook/>). As a consequence of the dynamic nature of the SIS Workbook, this deliverable will not necessarily contain the latest and most up-to-date content. The focus of this deliverable is to provide a description of the methods used to populate the workbook and explain its development. The deliverable contains a snapshot of the Workbook at the point of submission of the deliverable, but the authoritative version of the document is available on the website.

Requirements for the SIS Workbook

The DoA provides the following descriptions of the SIS Workbook:

- “All outputs of WP1 will be shared via the SIS workbook (WP3) and provide the basis for the subsequent work.”
- “3. WP3 will build on the outputs of WP1 and engage with stakeholders in WP2 to propose approaches to responsible development and use of SIS by
 - a. Developing and publishing a workbook on responsible development of SIS as an open access living document, containing current suggestions and approaches”
- “Task 3.1 – Create the Workbook for responsible development of SIS [Lead: DMU Contributors: all; Start: M1; End: M36]
 - The SIS workbook is the pivotal aspect of the SHERPA project. It will contain and make available all findings and outcomes of the project. It will serve as a knowledge repository for RRI in SIS providing links to external organisations and projects. It will be implemented as part of the SHERPA website with close links to the ORBIT repository and journal (www.orbit-rri.org). The workbook will consist of a set of living online documents, with which stakeholders can engage to support them in addressing these issues. The workbook will offer different access points and levels. This means that it will be accessible by stakeholder groups, by technology or by ethical/human rights issues. It will form the basis for the subsequent evaluation and stakeholder engagement work and the advocacy and communication activities.
 - The initial work in this task will be a definition of structure and contributions to ensure that it is compatible with all the activities that it will reflect. This will ensure that all contributions from WP1 can be seamlessly integrated as soon as they are available. Following this, the workbook will be expanded by integrating the WP3 outputs as described below.
 - The workbook will contain short abstracts or overviews and all artistic and audio-visual material. It will therefore be a resource for stakeholder engagement and communication and dissemination more broadly. Towards the later stages of the project, SHERPA will use the front end of the workbook to evaluate, validate and prioritise solutions and be the basis for advocacy and outreach activities.”

From this description the purpose of the SIS Workbook should be clear. The following sections contain the description of how the Workbook was developed in order to achieve these aims.

Aims and Expectations

The SIS workbook is the central repository of the SHERPA project where all findings, insights and recommendations are collected and made available to the various audiences. Its main purpose is to help key audiences to understand the options they have with regards to SIS, for example in terms of SIS policy development (both on a political and an organisational level), SIS development and SIS use. These options arose from the SHERPA recommendations. The SIS workbook is designed to allow stakeholders to understand their options and provide them with easy access to the underlying reasoning and the evidence upon which it is based, thus supporting evidence-based policy and decision making.

Key stakeholder groups expected to benefit from the SIS workbook include

- Policymakers, e.g. individuals involved in setting research and research funding policy
- Developers, e.g. AI researchers in publicly and privately funded organisations
- Users, e.g. user groups and representatives interested in contributing to policy
- Media, e.g. journalists reporting on SIS aspects and issues.

Logic of Construction and Display

The SIS workbook was constructed in a bottom-up way, starting with the various activities of WP1 designed to provide a better understanding of SIS. These led to the compilation of possible solutions that constitute responsible governance of SIS in WP3. Following the evaluation and prioritisation work in WP4, the SHERPA consortium were then in a position to provide suggestions and guidance for dissemination and advocacy in WP5. All of these activities were undertaken in close collaboration with stakeholders as provided by WP2. The following figure shows this logical relationship:

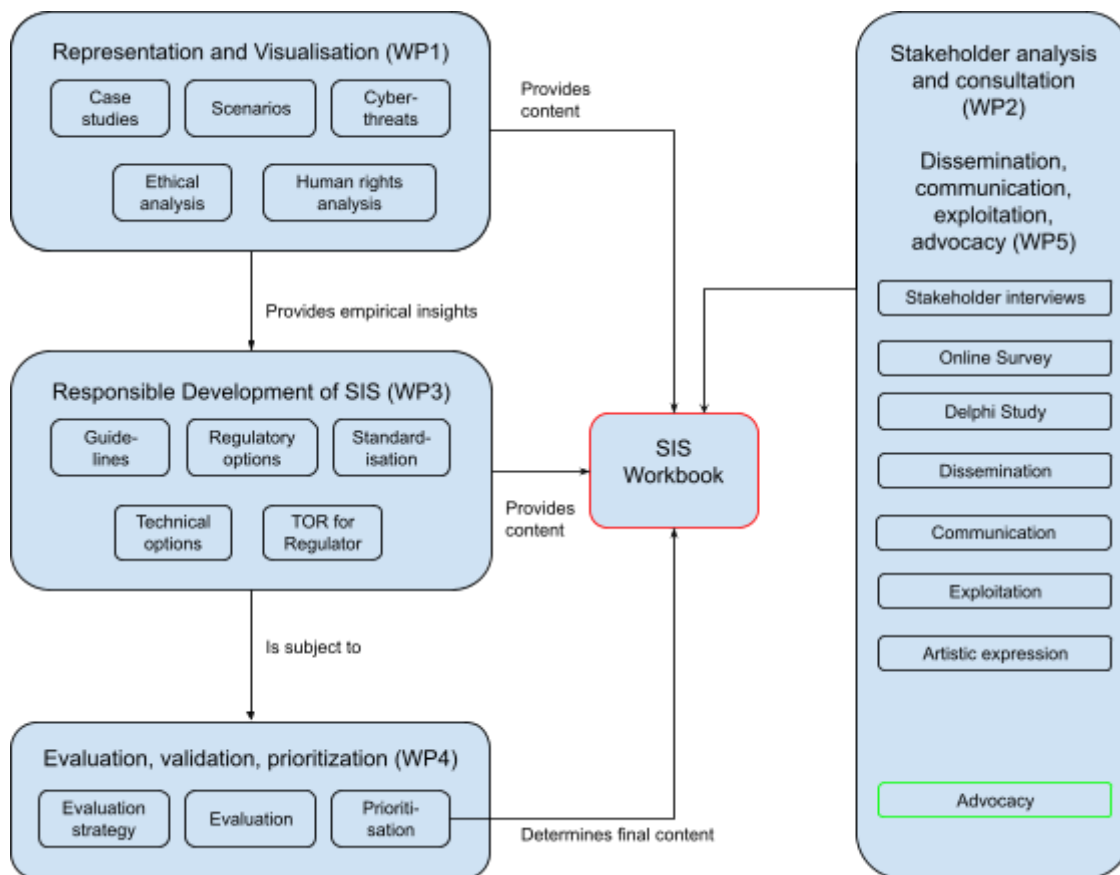


Figure 1: Development of the SIS Workbook from the SHERPA project logic

The individual steps of creating these components are described in the relevant deliverables linked to the tasks that created them. The purpose of figure 1 is to show how the SIS workbook was constructed from the point of view of the SHERPA project. The logic is a bottom-up one, with outputs of WP1 being included in the workbook, while at the same time they form the input for WP3. In this WP the understanding of ethical and human rights issues of SIS were transformed into a set of options that could be employed to address these issues. WP4 then used these options to work with stakeholders to understand which ones were perceived as most relevant and therefore should be prioritised. The SIS Workbook serves as a repository for the outcomes of all of these tasks, while at the same time having the function of displaying and disseminating the insights and findings.

The SIS Workbook also plays a crucial role in linking the stakeholder engagement with the fact finding and recommendation processes by providing a repository for findings and dynamic resources to be used for stakeholder consultation. It furthermore provides the mechanism for the communication, dissemination and exploitation of the project.

User Perspective

The design of the workbook, while informed by the consortium perspective outlined above, was driven by user needs. In order to design the workbook, potential user needs were first considered. In general, a potential user will be interested in questions of how to deal with SIS. They may be looking for input into how to shape research policy or funding calls or how to use SIS in their organisation.

They will therefore start using the SIS Workbook by looking at the recommendations that are specific to them, or of interest to them. These recommendations are among the results of the SHERPA project and therefore include and build on the instruments that SHERPA explore and develop, such as; regulatory options, standardisation, a suggestion for a regulator, technical options or other types of guidelines. These recommendations are communicated through the workbook and are supported by and disseminated more widely through; communication, dissemination and advocacy activities. Crucial to this will be the artistic representation, which includes the 10 SHERPA videos and the artistic work, which provide more accessible ways of accessing and engaging with key topics.

The workbook is displayed on the website using a bespoke design that allows for maximum user interaction whilst keeping the content of each deliverable and case study available for those who want to delve further into the SHERPA project.

The user may be content to see and work with the relevant recommendations'; however, they may also want to know why this particular recommendation is an outcome of SHERPA, and why the consortium proposes it to the particular stakeholder group. The workbook therefore provides links to the processes used for evaluating and prioritising the different options.

In addition, the user may want to drill down even deeper and understand why the justification steps ended up with the recommendations that were developed. In this case there is easy access to the underlying evidence base. This includes the various empirical and analytic activities that form the basis of the SHERPA project, such as case studies, scenarios or technical and theoretical explorations of the state of the art and likely consequences.

Development and Content of the Workbook

The workbook was created as part of the project website at the beginning of the project. It began as a repository webpage where all SHERPA outputs were published as soon as they became available.

The second iteration of the SHERPA workbook was instigated following the publication of all case studies, briefings, future scenarios, and videos on the website. The workbook is a crucial focus point of the website; it allows visitors quick access to areas of interest and that may be pertinent to them, without wading through articles and papers that might overwhelm a visitor.

The design brief came from Prof. Bernd Stahl and was intended to be a visual journey of the SHERPA project, showing all papers and articles in a chronological format that would highlight the evolution of the project via its publications. It quickly became apparent that this method would be unsuitable for an online webpage as the length of the page would be enormous. As such, other methods needed to be researched.

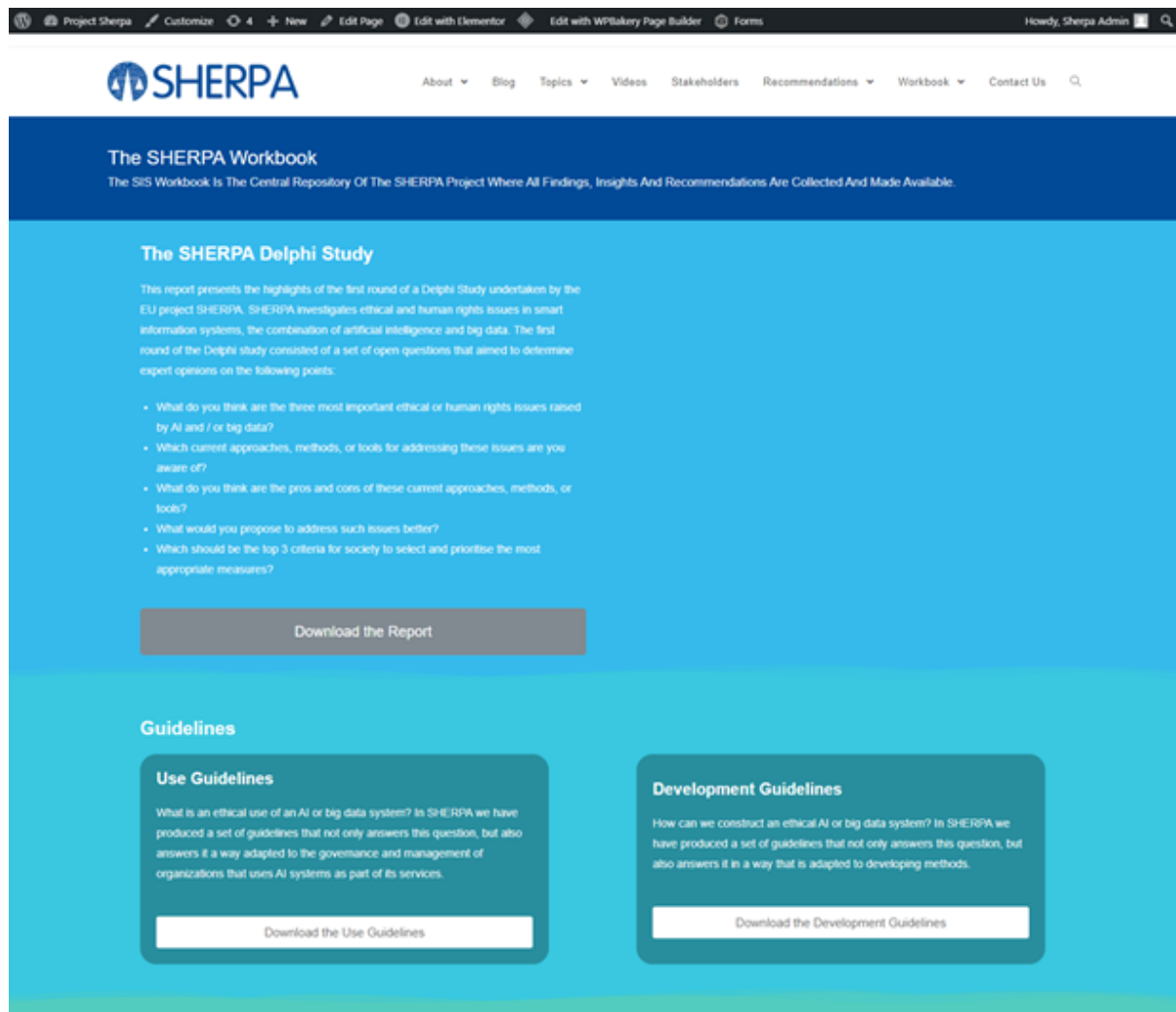


Figure 2 : The previous SHERPA Workbook

Gamification of the Workbook

After several brainstorming sessions the team decided that the Workbook could be conveyed as a game depicting a small robot that was learning about artificial intelligence, big data and ethics. Development for this began immediately with C3 and Unity being the engine deployed. Assets were created initially and the figure below shows what was created for this game.

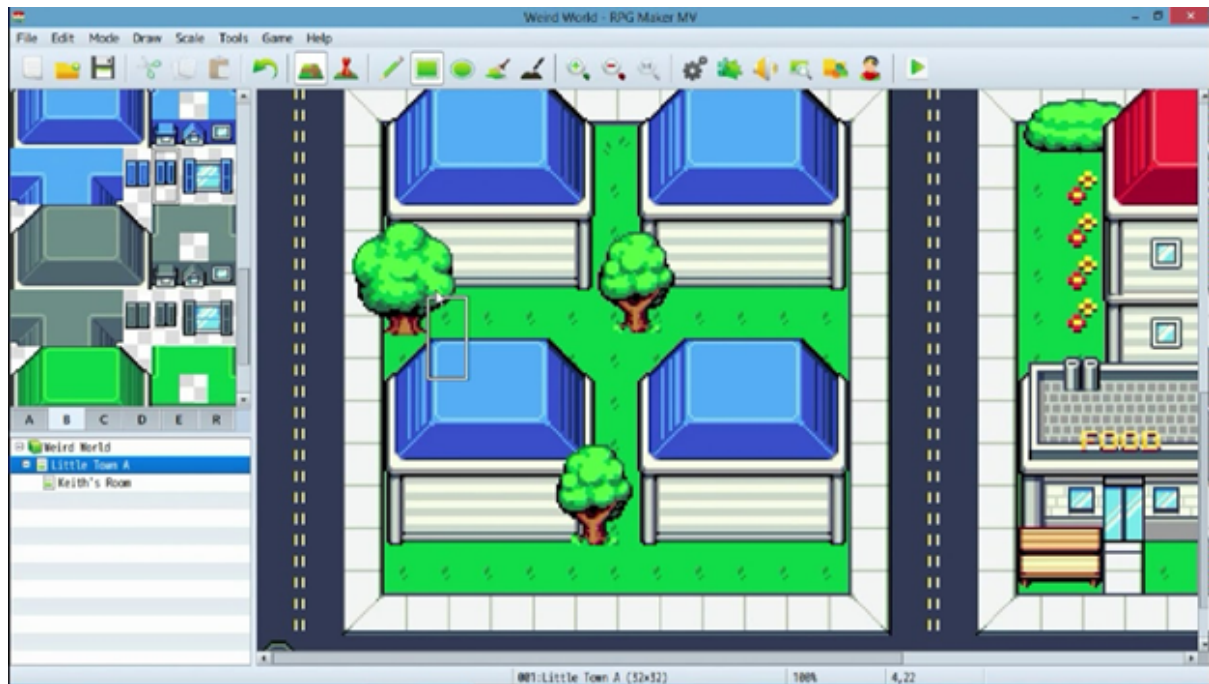
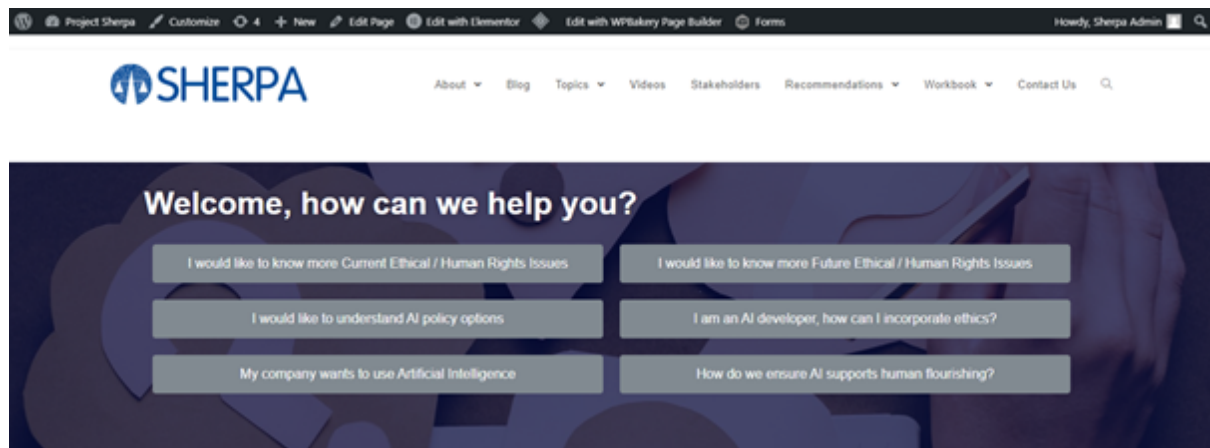


Figure 2 and 3 : Assets development for the SHERPA Workbook v2

When development for the game idea began, it became apparent that the user would need to download a browser plugin, and that this would compromise the mission statement of the SHERPA Project as it could not be ascertained what would happen with the users information once this plugin had been installed. As such, this process would severely undermine the SHERPA project and its outputs. The gamification plan was therefore not pursued further.

The third and final working version of the Workbook was created following a blended approach of the previous two ideas. Upon landing on the workbook page the user first encounters a question ('how can we help you?') and is able to select from a range of six responses which allows them to be forwarded to the areas that will be most suitable.

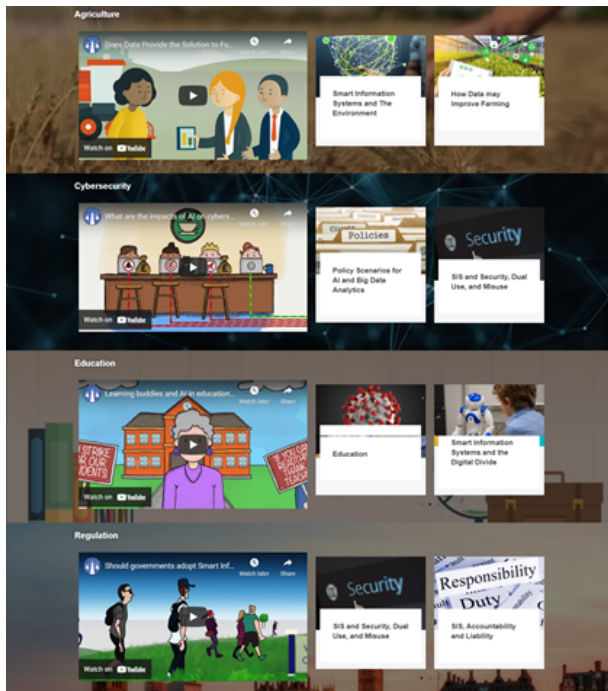


These six responses are as follows:

- I would like to know more Current Ethical / Human Rights Issues
- I would like to understand AI Policy options
- My company wants to use Artificial Intelligence
- I would like to know more Future Ethical / Human Rights issues
- I am an AI developer, how can I incorporate ethics?
- How do we ensure AI supports human flourishing?

Current Ethical / Human Rights Issues

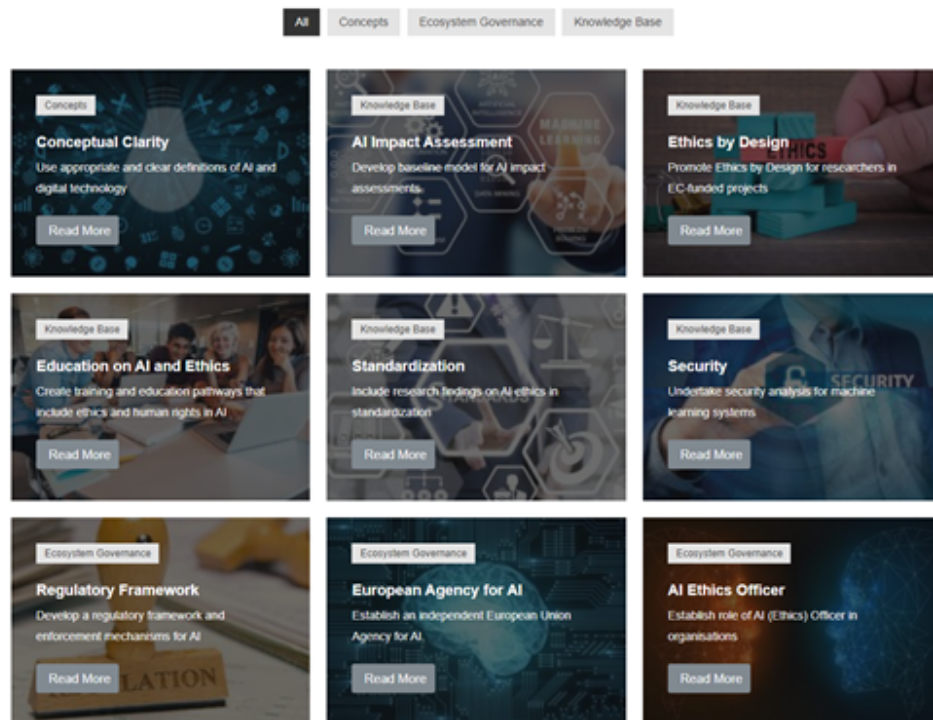
Clicking on the first button scrolls the user down the page to a more visual representation of the research areas of the SHERPA project. From here, the user can easily watch the videos or read the articles related to these areas. This section was designed to provide easily digestible information for users who may be looking into current ethical or human rights issues for the first time.



AI Policy Options

The policy options developed by the SHERPA project are displayed in a grid format with a filter enabled for ease of use. This allows people interested in this section to quickly get to the topics they are interested in.

Policy Options



The policy options are derived from the SHERPA recommendations and can be seen at the following URL

<https://www.project-sherpa.eu/recommendations/>

My company wants to use Artificial Intelligence

For any companies that are considering using Artificial Intelligence for their outputs, clicking this button will take the users to the Artificial Intelligence impact assessments section of the SHERPA website (part of the recommendations section, linked above).

Recommendation: Develop baseline model for AI impact assessments





What is the problem?

Despite much academic research, standardisation activities and policy-oriented work (notably including the HLEG (2020) Assessment List), there is no universally accepted baseline of what an AI impact assessment should entail.


There is broad agreement that a risk-based approach to AI is appropriate. For such an approach to work, there must be guidance on how to define, measure, interpret and address relevant risks.




Who should act?

European Commission, ideally led by EU Agency for AI


Recent News



The SHERPA project co-hosts the European Parliament's workshop on Policy options for the ethical governance of disruptive technologies
APRIL 10, 2021 / 0 COMMENTS



Trust and Transparency in Artificial Intelligence – Join the SHERPA, SIENNA and HEP webinar
MARCH 25, 2021 / 0 COMMENTS



EU-funded projects SHERPA, SIENNA & PANELFIT launch international conference on the ethical governance of disruptive technologies
MARCH 16, 2021 / 0 COMMENTS

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Future Ethical / Human Rights Issues


This section was designed to showcase the future scenarios of the SHERPA project and is displayed as a carousel rotating through the various options. Key images were specifically selected in order to catch the user's attention and allow them to click through quickly to read the scenarios themselves.

I would like to know more Future Ethical / Human Rights Issues




Education

[Read More →](#)




Warfare

[Read More →](#)



Self Driving Cars

[Read More →](#)

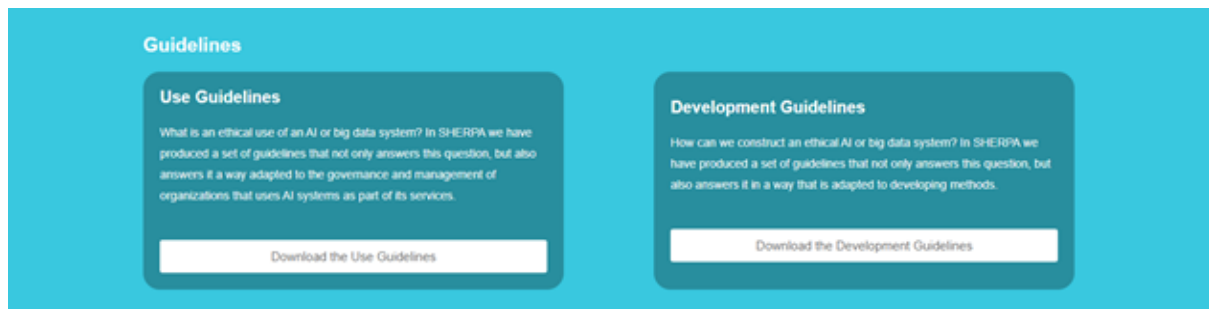


Mimicking Technologies

[Read More →](#)

How do AI developers incorporate Ethics?

Another key section of the Workbook was to provide developers of artificial intelligence with a selection of guidelines. These are highlighted on the Workbook page and give easy access to downloads of these documents.



Supporting Human Flourishing

This section takes the user away from the Workbook and into the recommendations section (as previously mentioned and linked). Here the visitor can browse all of the SHERPA recommendations that would actively support human flourishing.

Project Sherpa
Customise
New
Edit Page
Edit with Elementor
Edit with WPBakery Page Builder
Home
Hello, Sherpa Admin

About
Blog
Topics
Videos
Stakeholders
Recommendations
Workbook
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Our Vision

The SHERPA Vision : Ethics as integral to excellence in AI

A world where excellent AI and smart information systems support human flourishing by

- integrating ethical concerns by design, and
- safeguarding human rights

Achieving this vision will benefit individuals and consumers, and strengthen trust in AI systems.

These pages explain the SHERPA project recommendations to achieve this vision.

Recommendations to achieve this vision...

These recommendations aim to ensure that ethical and human rights issues of AI are recognised and addressed. They are based on the work of the EU project **SHERPA**. They are based on the view of AI as a set of overlapping ecosystems. In order to steer these ecosystems, three main conditions should be fulfilled:

- Concepts need to be clear and the ecosystems need to be clearly delineated
- There must be a sustainable knowledge base of technical, but also social, ethical and legal aspects
- Governance of AI ecosystems should set the framework and support individuals and organisations

These three groups of recommendations each contain several individual recommendations as outlined here.

Recommendations

AI
Concepts
Ecosystem Governance
Knowledge Base

Concepts

Conceptual Clarity

Use appropriate and clear definitions of AI and digital technology

[Read More](#)

Knowledge Base

AI Impact Assessment

Develop baseline model for AI impact assessments

[Read More](#)

Knowledge Base

Ethics by Design

Promote Ethics by Design for researchers in EC-funded projects

[Read More](#)

Knowledge Base

Education on AI and Ethics

Create training and education pathways that include ethical and human rights in AI

[Read More](#)

Knowledge Base

Standardization

Include research findings on AI ethics in standardization

[Read More](#)

Knowledge Base

Security

Undertake security analysis for machine learning systems

[Read More](#)

Ecosystem Governance

Regulatory Framework

Develop a regulatory framework and enforcement mechanisms for AI

[Read More](#)

Ecosystem Governance

European Agency for AI

Establish an independent European Union Agency for AI

[Read More](#)

Ecosystem Governance

AI Ethics Officer

Establish role of AI (Ethics) Officer in organisations

[Read More](#)

Background Information

If you are interested in the rationale and background of these recommendations, please click here.

This project has received funding from the European Union's Horizon 2020 research and innovation programme, under grant agreement No 796641.

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Testing and further development of the workbook

The implementation of the workbook followed an iterative methodology with the main steps described above. Following this, updates of the workbook were shared with the consortium for feedback. The main stages of the workbook development were also subject to feedback with other user communities and representatives, notably with stakeholder board members. Feedback was incorporated quickly until all major shortcomings were addressed.

The workbook will continue to be updated until the end of the project. Upon completion of the project, when no more dynamic content will be made available, the workbook will become the homepage of the overall project website.