

ESG (Environmental, Social, Governance) in Radiology Workflow to drive Strategic Business Value of University Hospitals in the Netherlands

Problem Description & Research Question

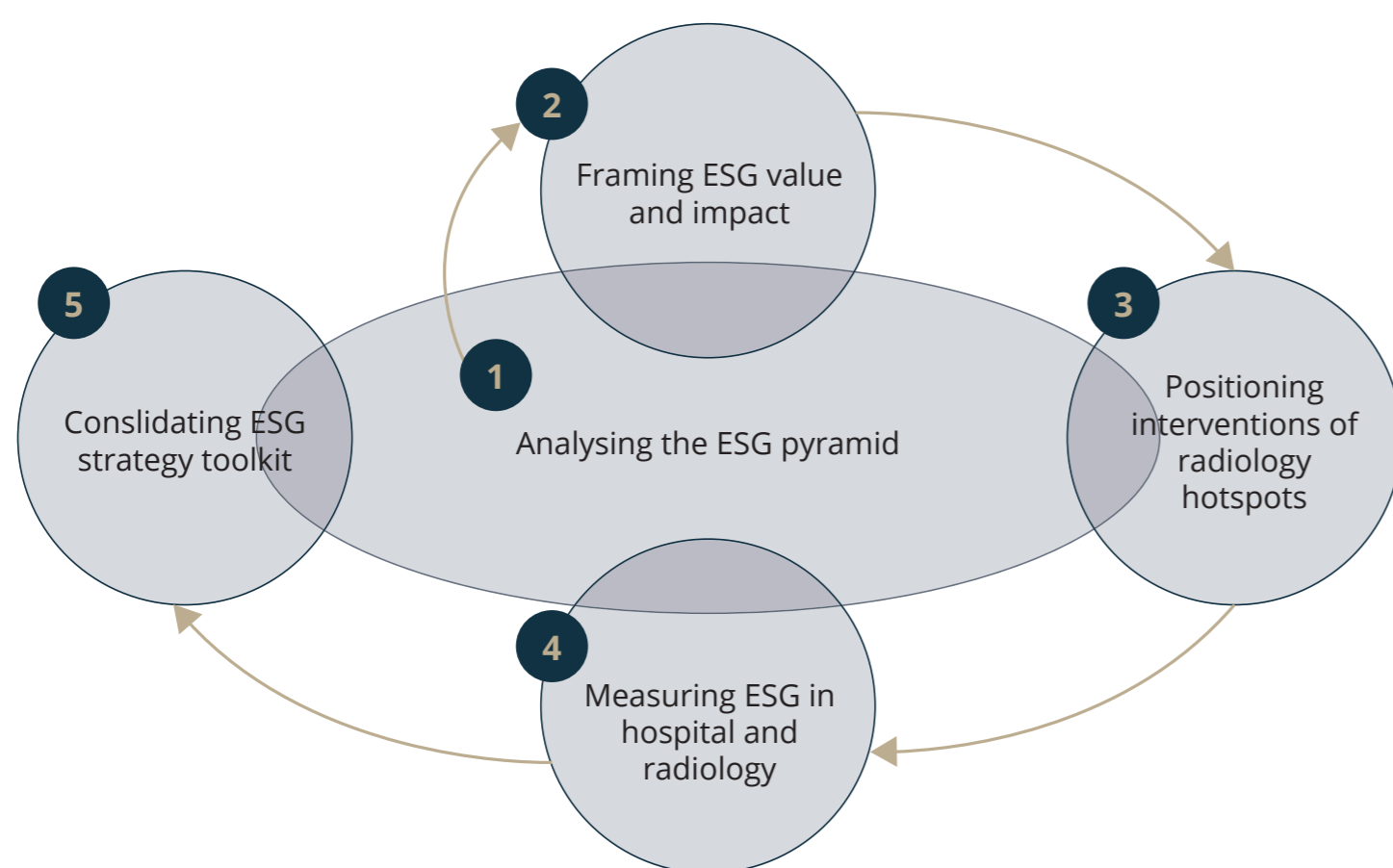
The complexity of the healthcare system and its growing impact on the three pillars of sustainability (Environment, Social, and Economic) calls for a radical new holistic approach to drive effective decision-making on investments, changes to protocols and regulations, or larger healthcare system redesign.

"How can ESG principles/policies be embedded in radiology workflows?"

The graduation project aims to provide guidance and an end-to-end toolkit for hospitals, Green Teams and particularly Radiology departments, to effectively contribute and help in achieving the national and global ESG goals. Taking a systemic approach and through collaboration with key ecosystem partners, the research strives to identify ESG strategic business value for hospitals, address key ESG hotspots in Radiology workflow, and provide an integrated measurement mechanism of ESG impact and value at department and hospital levels, connected to the external context of global and EU ESG initiatives.

ESG Research Design Process

Figure 1. ESG Research Design Process



The research takes on ambitious macro- and micro- objectives, addressing complex and interrelated challenges concerning the planet, the people and the systemic transformation processes in healthcare. Therefore, the research design process requires a number of steps of insights gathering, context setting and forward looking, in co-creation with multiple stakeholders. The proposed research design process is illustrated in Figure 1 and has five steps: [1] analysing the ESG pyramid as the fundamental base, [2] framing ESG value and impact, [3] positioning interventions of Radiology ESG hotspots, [4] measuring ESG in Radiology and at Hospital level, and [5] consolidating ESG strategy toolkit with the research conclusions. A wide range of data collection methods are used at each step of the process, including desk research, in-depth interviews, field research, surveys, and co-creation workshops. These led to field learnings on current ESG definitions, priorities and initiatives at hospital and Radiology clinical domain level.

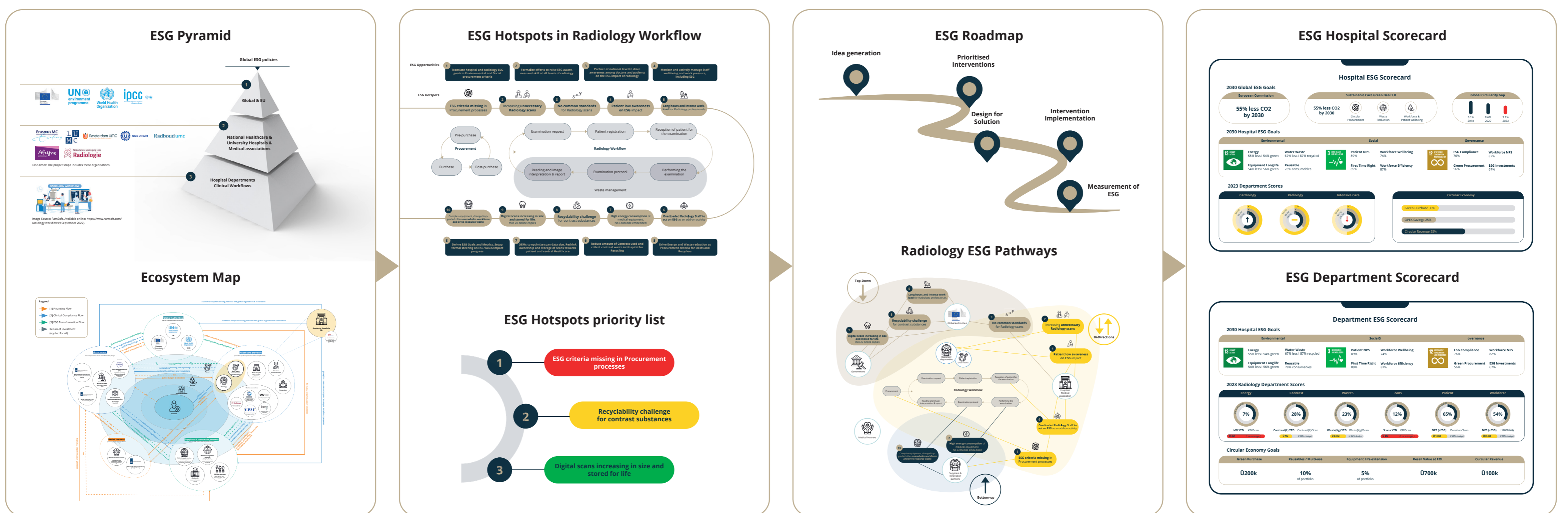
ESG Strategy Toolkit

As one of the goals of the research is the design and validation of a widely applicable and easy to adopt strategic design process for embedding ESG at core of healthcare workflows, the researcher consolidated all learnings, validations, and developed supporting tools in a four steps strategic design process, as presented in Figure 2. This process has been validated and refined during co-creation workshops. All participating in this study validated existing process limitations and gaps, eager to adopt such enabling process to professionalise and accelerate the approach to ESG transformation. Stakeholders appreciated at most the simplification of topic and process, its fit for purpose and adaptability to different organizational contexts. The toolkit is designed for agility, is digital-proof and as practical support for complex dialogues across all levels of the ESG pyramid.

Conclusion

The research involves 11 cross-disciplined stakeholders from six university hospitals and the national Radiology healthcare association in the Netherlands. Research findings indicate the need for continuous cross-hospital dialogue to structurally frame, define, and embed ESG into clinical workflows, industry regulations and protocols. The systemic and collaborative approach of addressing ESG transformation in Radiology, as proposed in this study, is validated by engaged stakeholders as representative clinical case study for the industry. **The ESG strategic design toolkit can optimize dialogue on value and impact of ESG interventions at all levels across the healthcare ecosystem**, enabling hospitals and Radiology stakeholders to define specific ESG goals, programs and structurally measure their progress. **Such simplified and transparent way of working has the potential to increase awareness, collaboration and significantly reduce ESG spending.**

Figure 2. Systemic Design Process and ESG Strategic Toolkit



1. Build the System View

2. Identify ESG Hotspots in Clinical Workflow

3. Map ESG Interventions on System Levels

4. Continuous Monitoring of ESG Value and Impact

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