

RE-USABLE

Reduction of CO-2 Emissions in hospitals by implementation of hybrid procedure trays including re-usable textiles in the operation room

KEYWORDS

Reusable versus disposable, Reduction of CO-2 emissions, Operation room waste management, Circular economy, HTA, LCA

DURATION

24 months

ABSTRACT

The Dutch Healthcare sector is responsible for 7% of the national CO2 footprint and 13% of raw material consumption. More than 4% of all waste in the Netherlands comes from healthcare. Operating rooms contribute 20-30% of the total hospital waste. This waste includes disposable procedure trays used in every surgery, consisting of single-use sterile surgical gowns, drapes, and other materials like bowls, gauzes, and syringes. The production of these trays consumes energy and resources and adds to the waste pile as they are discarded after each procedure.

It is also possible to use a hybrid (partially reusable) variant of these procedure trays. In this model, the gowns and drapes are made of textile, and the materials are individually packaged, so unused items do not need to be discarded.

Within the current system, the costs of reuse (transport, washing) do not outweigh the sustainability benefits. We expect that a complete transformation to large-scale use of hybrid procedure trays will cause a reform of the supply chain and logistics. Such a transformation will bring economies of scale and eventually lead to cost reductions.

With project ReUsable, we will test the potential of this sustainable business model using knowledge of the life cycle of existing and hybrid trays and health economic evaluation methods. The goal of our project is twofold: 1) quantify how much more sustainable surgical procedures will become and the associated costs and savings 2) inform professionals in the field about the behavioral changes that make sustainability feasible in practice.

Timeline: 3 months preparation, 4-12 months execution, 12-20 months analysis, writing and development of additional hybrid trays, 20-24 months implementation. Total project budget 940.000

PARTNERS

PI	Organisation	Country
Salentijn	Amsterdam UMC	The Netherlands
Alexander	Evercare Medical	Sweden
Dougle	OLVG	The Netherlands
Findl	Vienna Institute for Research in Ocular Surgery (VIROS), Dept. of Ophthalmology, Hanusch Hospital	Austria
Maier	Maatschappelijk Verantwoord Ondernemen, Nederland	The Netherlands
Pölsenstein Mag.	Rudolf Heintel Gesellschaft mbH	Austria