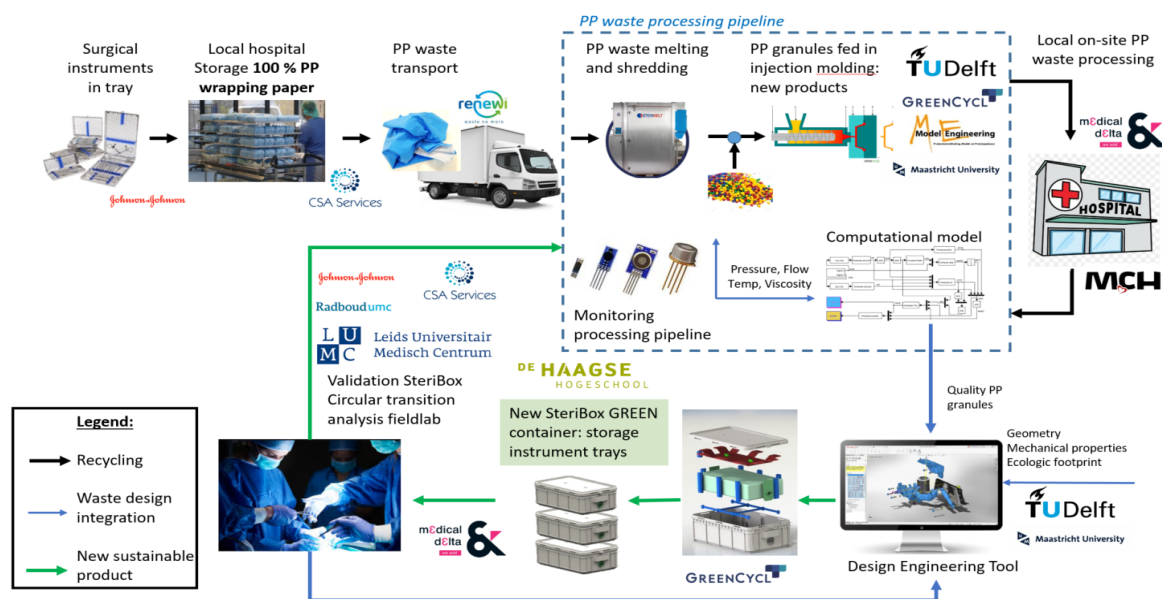


Assignment 3

Transforming hospital waste to new medical equipment: how can injection moulding be safely utilised?

Problem statement

To reduce the CO2 emission related to processing of hospital waste and the manufacturing of new medical devices, an open collaboration between industry, hospitals and universities was created within the entity GreenCycl (www.greencycl.org). In line with the goals of the Green deal, new processes are being developed that allow for reprocessing or recycle of medical waste and disposed instruments. Some of these processes are proven to be sustainable from a technical point of view and hospitals are able to purchase products made from their own waste. However, uncertainties in infrastructure, MDR and national or local rules and regulations prevent fast upscaling towards other hospitals in the Netherlands and Europe. Recently, a recycling method was developed in our High Quality (HQ) field lab that allows (parts of) new surgical instruments to be injection moulded from reprocessed surgical drapes coming from the Operation room. Today, 5 different products are manufactured and used in the sterilisation department and new advanced laparoscopic instruments



Although the processes of GreenCycl are technically feasible, there are no general guidelines for all reprocessing steps that allow manufacturers to use instruments that are (partly) made from recycled materials.

Research question(s)

- What is needed for hospitals to safely use products made (partly) from injection moulded recycled (potentially contaminated) medical waste from a Quality Assurance/Risk perspective.
- How does regulation differ over European and non-European countries.