



## CIRCULAR ECONOMY STRATEGIES TO REDUCE MEDICAL WASTE STREAMS

Logistics / Flow Management

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A relay lecture with 3 presenters and 4 perspectives, WFHSS 2023

**VAN STRATEN  
MEDICAL**  
'Providing Value to Life'

**GREENCYCL** 

**TU Delft**

**MAASSTAD  
ZIEKENHUIS**  
een santeon ziekenhuis



**renewi**  
waste no more

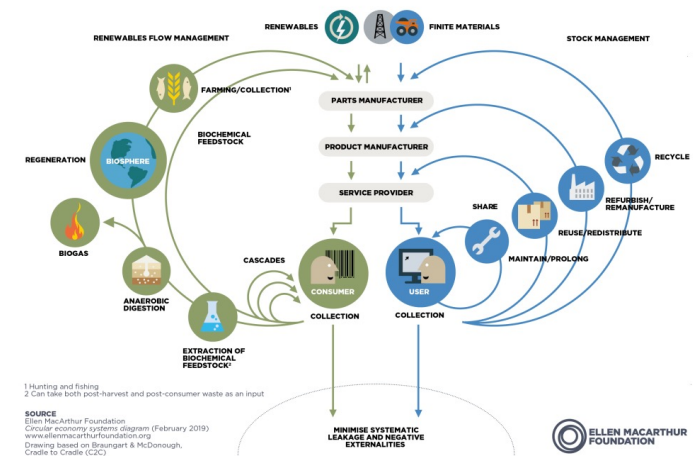


# Perspective from the supplier

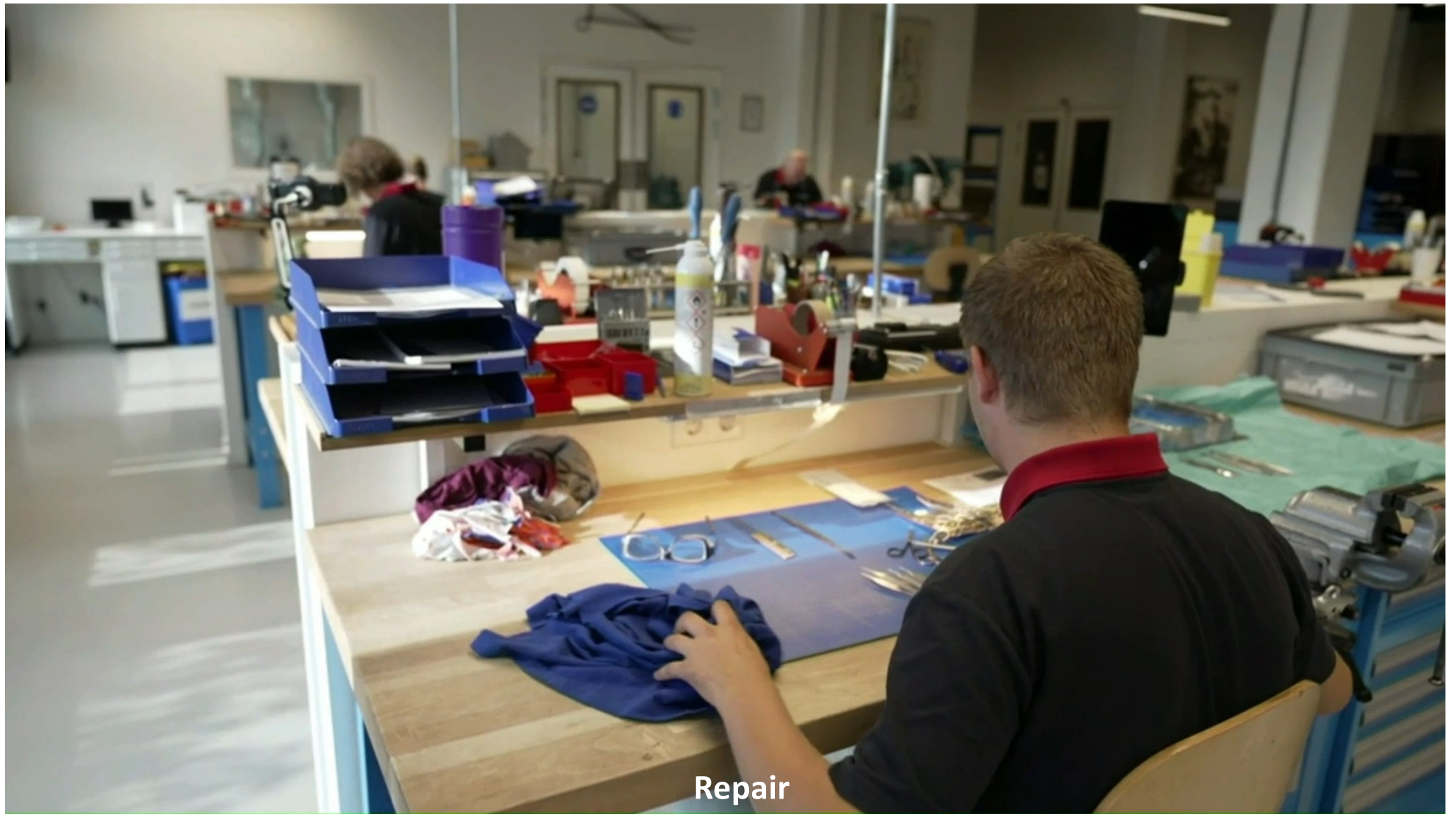
Ron op de Weegh, teamlead  
*Van Straten Medical, the Netherlands*

## Our mission is to reduce waste streams by:

- Reduce: We advice to use less disposable instruments and more reusable instruments.
- Reuse: Repair of instruments instead of replacement.
- Recycle: We successfully recycle packaging, wrapping paper and steel waste into new materials.  
Our mission is to manufacture new products out of recycled hospital waste.







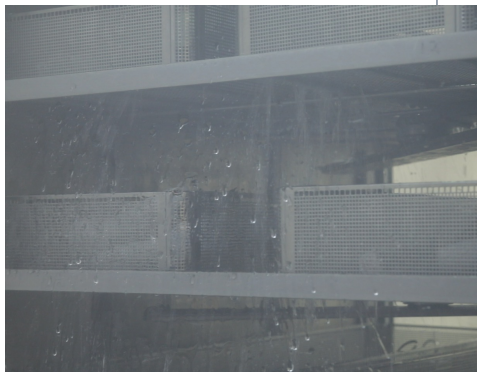
Repair

**Remanufacturing/recycling**

**We make new products out of recycled stainless steel instruments and plastics**



**VAN STRATEN MEDICAL**  
"Providing Value To Life"



## GO Jack instrument opener, made out of recycled blue wrap



# Perspective Surgeon/Chief Medical Buyer:

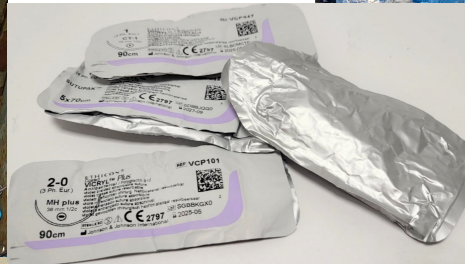
## Dr. Joost van der Sijp, MD

*Surgeon- Oncologist & Chief Medical Buyer*

*Haaglanden Medical Center, the Netherlands, co- founder of GreenCycl*

- As a healthcare professional I want to state that our hospital will not pay for any development or pay more for products which are green.
- Next do that I do not want my staff to be busy to sort waste to separate streams or remove stickers or tape.
- I co- founded GreenCycl a FieldLab to experiment with reusing, remanufacturing and recycling of medical waste.

GREENCYCL  
FieldLab



## Circular Economy:

- Reduce dependency on raw materials
- Reduce waste streams
- Reduce climate change impact



## Recycling polypropylene (PP)



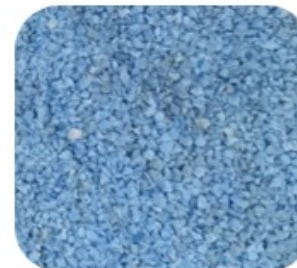
BLUE WRAPPING PAPER



USED SHEETS



PLASTIC BLOCKS



GRANULES



PRODUCTS



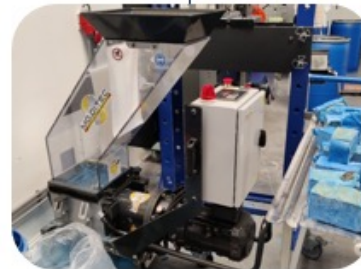
COLLECTION



MELTING



GRANULATING



INJECTION  
MOULDING









Perspective from the hospital's Green Team:

Corinne Riekwel

*Expert Sterile Medical Devices*

*Maastad Hospital, the Netherlands and co-initiator of blue wrap recycling*

# The need to change:



Perspective of Hospital staff  
Corinne Riekwel

# Awareness, cooperation and action!



→ Awareness 17/18/19

→ 2019  
Idea + Corona > Awareness

→ 2020 Cooperation

→ 20/21 Movement



2022  
Existence

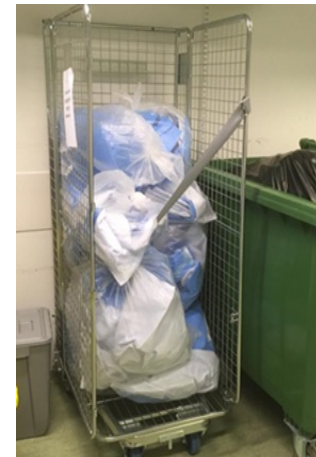
# Change workflows of transending departments

## Central Steril Supply Department



Share your experiences !

# Operation theatre



Cooperate in Greenteams !

# Logistics



Searching for a sustainable transport !

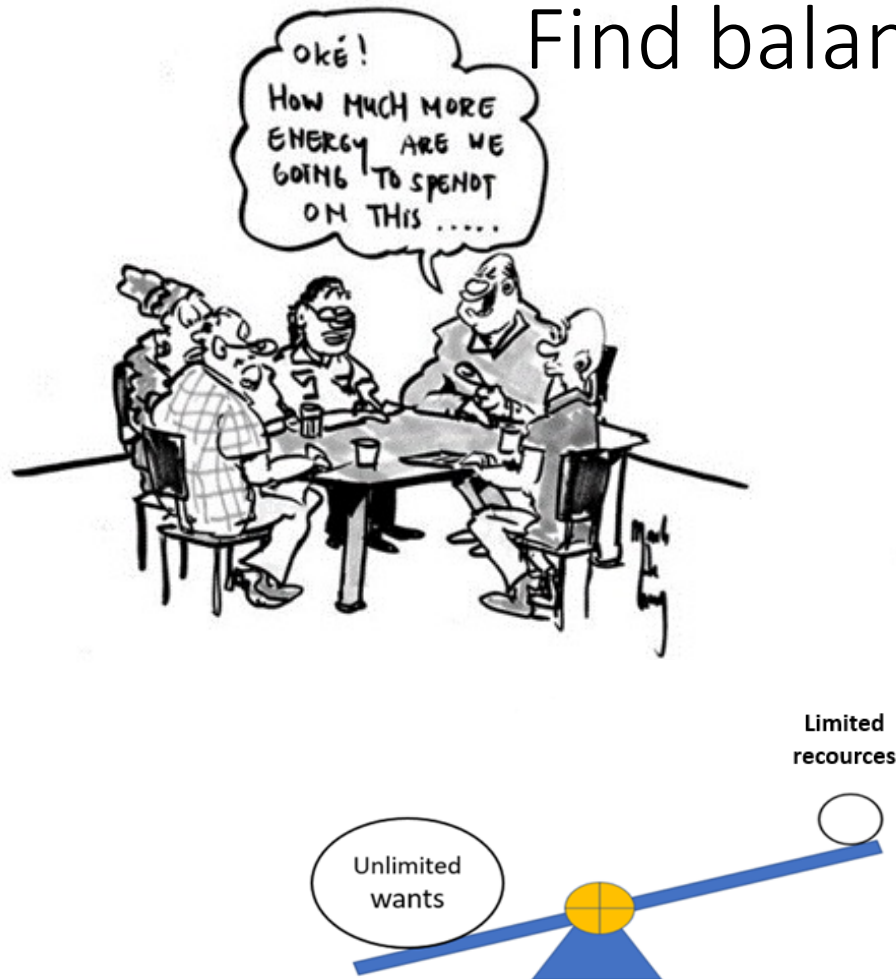
# Honor labour

## Appreciation of knowledge



Celebrate achievements !

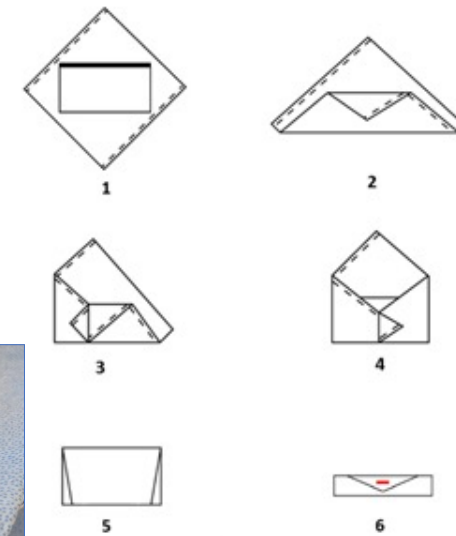
# Find balance



## Next steps:



▪ Sealing blue wrap without tape.



Earlier concept

New concept





Dr. Bart van Straten, MBA



Dr. Ir. Tim Horeman



- *Upscaling blue wrap recycling via new reprocessing methods*
- *PET packaging recycling into raw material and new medical products*
- *Creating sustainable designs in surgical robotics*

VAN STRATEN M  
'Providing



R. Dekker, et al, recycling medical packaging materials. 2023. Dpt. Multi Machine Engineering, Delft University of Technology



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Speak less, listen more!



Share your experiences !