



## 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**

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**MAASSTAD  
ZIEKENHUIS**  
een santeon ziekenhuis

**renewi**  
waste no more

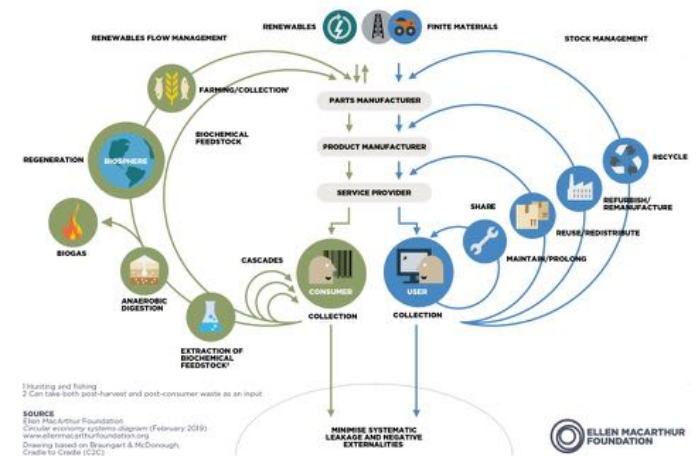


# Perspective from the supplier

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

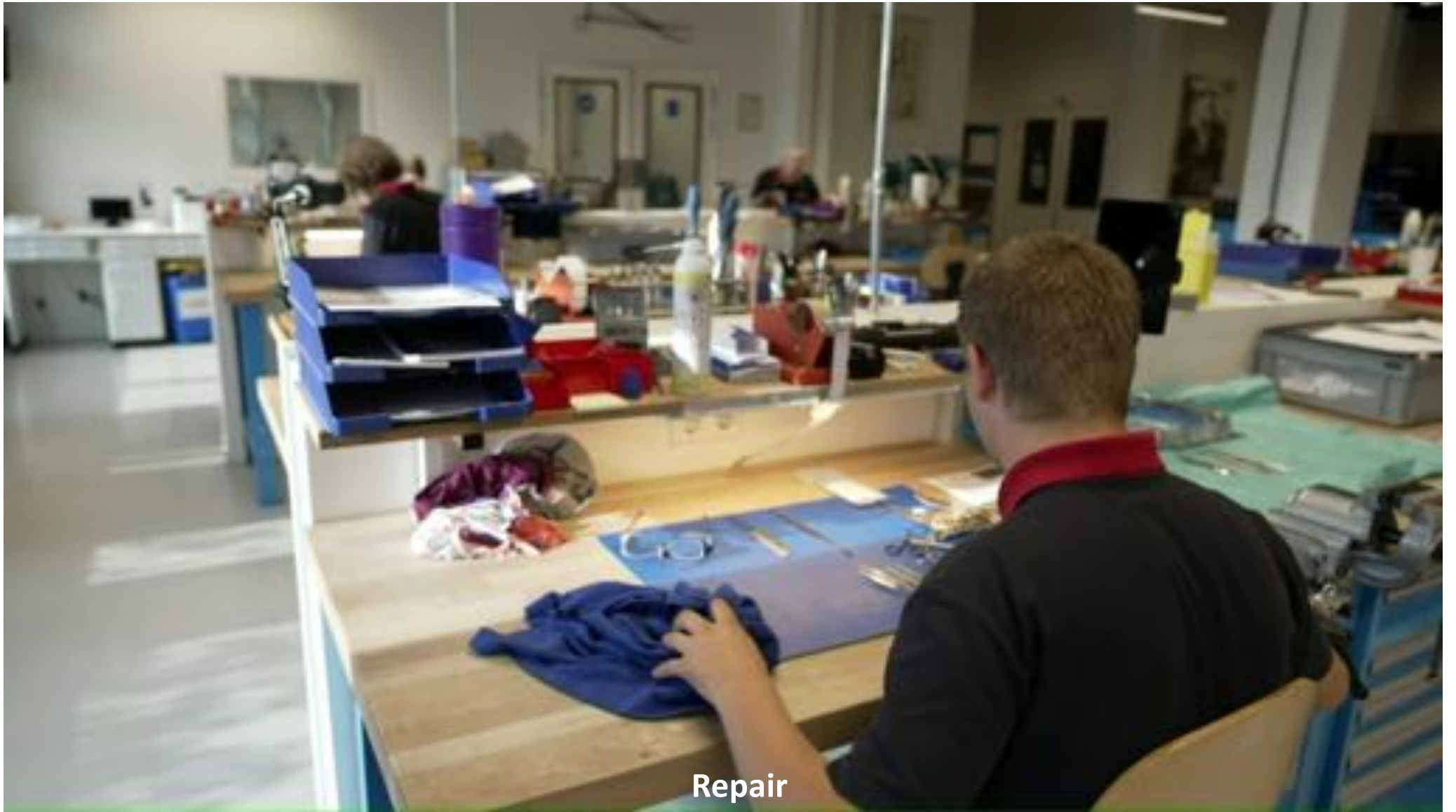
## Our mission is to reduce waste streams by:

- 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.





Reuse



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



 Journal of Cleaner Production  
Volume 322, 1 November 2021, 129121 

### Surgical waste reprocessing: Injection molding using recycled blue wrapping paper from the operating room

B. van Straten<sup>a</sup>, D.R. van der Heiden<sup>a</sup>, D. Robertson<sup>a</sup>, C. Rielkewel<sup>b</sup>, F.W. Jansen<sup>a, c</sup>, M. van der Elst<sup>a, d</sup>, J. Horemans<sup>a</sup>

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# Perspective Surgeon/Chief Medical Buyer:

## Dr. Joost van der Sijp, MD

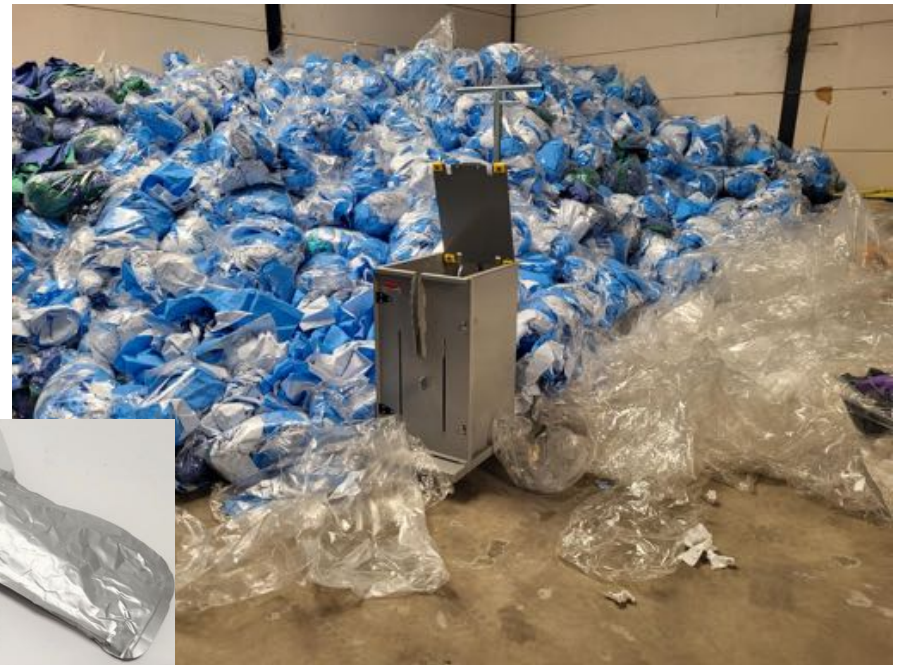
*Surgeon- Oncologist & Chief Medical Buyer*

*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)













Perspective from the hospital's Green Team:

**Corinne Riekwel**

*Expert Sterile Medical Devices*

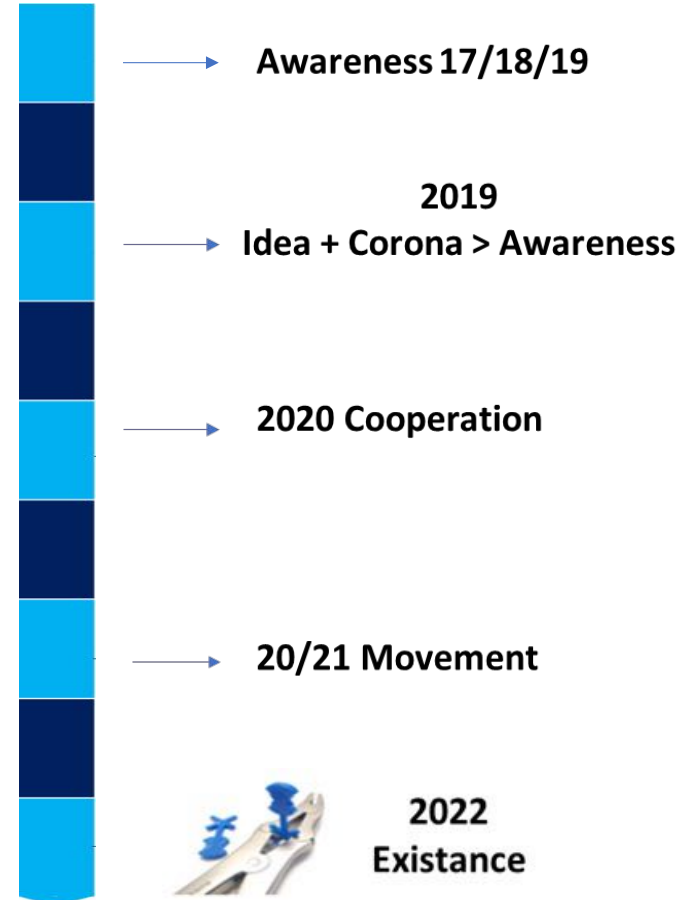
*Maastad Hospital, the Netherlands and co-initiator of blue wrap recycling*

# The need to change:



Perspective of Hospital staff  
Corinne Riekwel

# Awareness, cooperation and action!



# Change workflows of transcending departments

Central Steril Supply Department



Share your experiences !



# Operation theatre



Cooperate in Greenteams !

# Logistics



Searching for a sustainable transport !

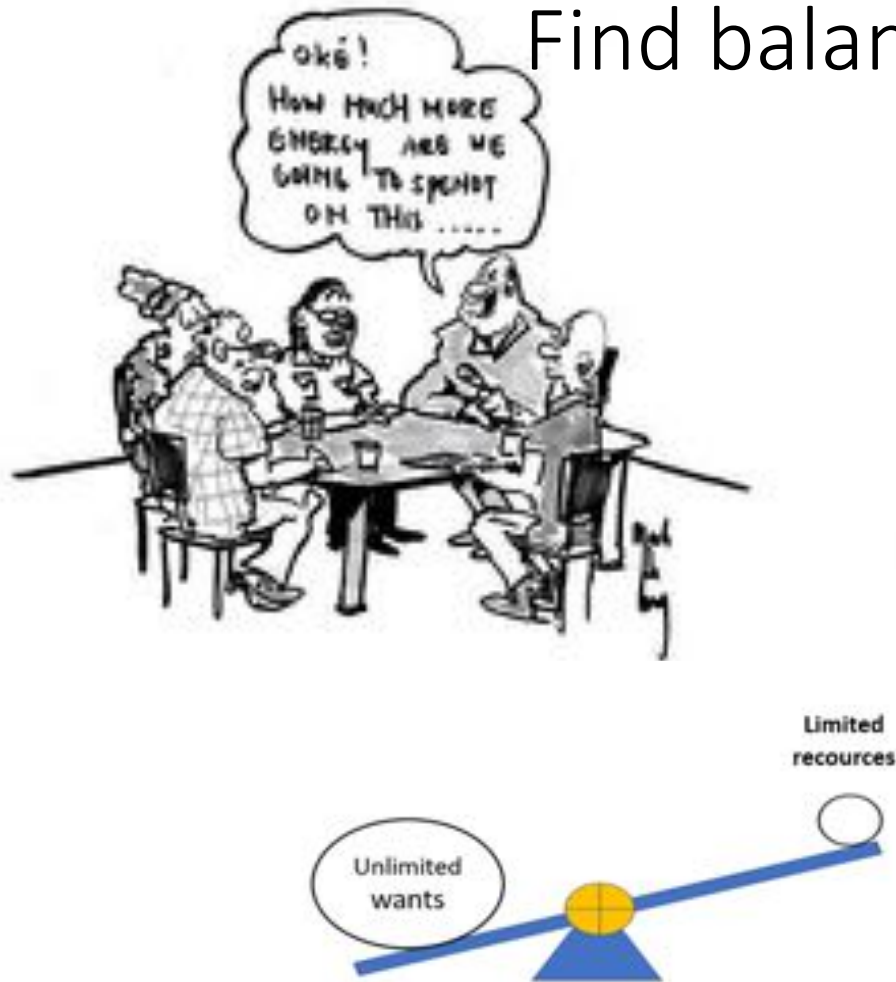
# Honor labour

## Appreciation of knowledge



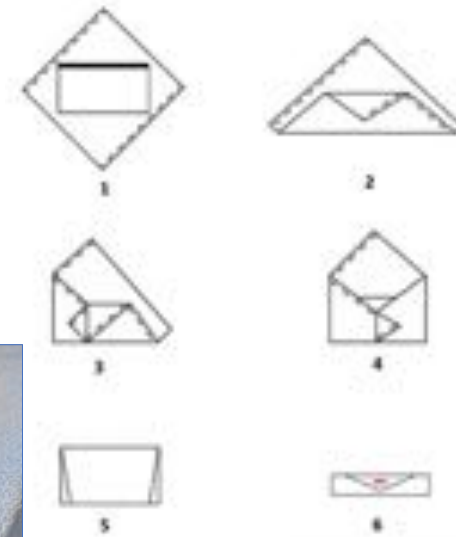
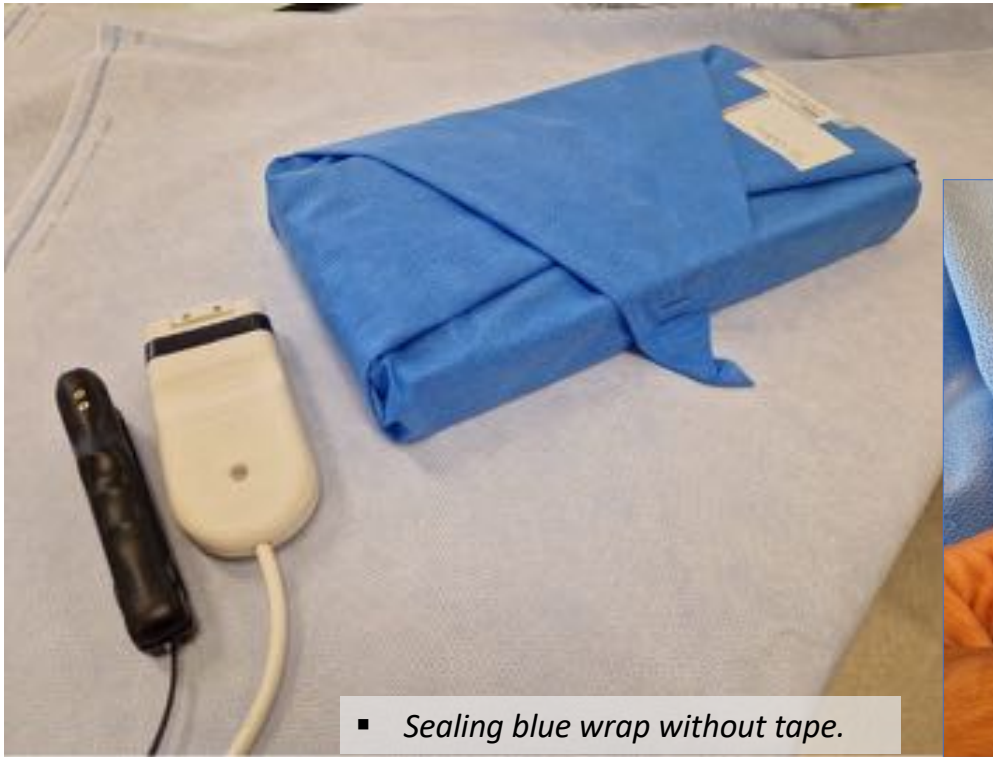
Celebrate achievements !

# Find balance





# Next steps:







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*



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 !