Hackathon: the circular diaper

Team 10 - ASAP
“CONSIDERING THE WORLD’S APPETITE FOR ONE-WAY PRODUCTS, WE SIMPLY CAN’T AFFORD TO THROW AWAY ANY HIGH-QUALITY FIBRE [...]”

ROY BROWN, PRESIDENT & CEO OF KNOWASTE
WE TACKLE TWO MAJOR PROBLEMS...
500
YEARS NEEDED FOR DEGRADATION
ON LANDFILL

$82BN
GLOBAL GDP IN FLOOD DAMAGES IN 2019
WHAT DO END-USERS THINK?

A BRIEF INTERVIEW WITH MUMS AND DADS: THE FIRST DIAPER USERS
ONE SOLUTION... FOR TWO BIG ISSUES!

SAP FROM DIAPERS...

...RE-USED AND RECYCLED...

...TO IMPROVE FLOOD MANAGEMENT
STEP 1
COLLECTING THE DIAPERS

STEP 2A
SEPARATING SAP FROM THE REST OF THE USED DIAPER

STEP 2B
RE-SELLING OTHER COMPONENTS

STEP 3
DEACTIVATING AND STERILIZING SAP

STEP 4
PUTTING SAP IN (SAND) BAGS

STEP 5
SELLING BAGS FOR FLOOD MANAGEMENT USE
WHY FOCUS ON SAP?

INcredible properties

PGW IMPACTS

A VALUABLE ASSET

INcredible properties
REVENUE MODEL

SAP BAGS FOR FLOOD MANAGEMENT

POLYPROPYLENE (PP) & POLYETHYLENE (PE)
TIMING

1. Present and validate our idea
2. Pilot with hospitals in the Netherlands
3. Scale the idea
READY FOR THE CHALLENGE?
THE TEAM OF #ASAP IS!

BERNADETTE BÖLLHOFF  
STRUCTURED LEADER

GRETA NANNI COSTA  
HEAD OF RESEARCH

QUENTIN CHERET  
BUSINESS DEVELOPER

EMILIE ROLAND  
EXTERNAL RELATIONS
THANK YOU!
Valuable talks with Krzysztof-Daniel Malowaniec, Romiena Decoutere, Thomas Langstraat, Torbjörn Rudmark & Henk van Paridon


Key Partners
- Municipalities, governments
- Health centres, e.g. hospitals
- For daycare centres
- Recycling & chemical manufacturing companies
- Research institutes (e.g. Flood Proof Holland)

Key Activities
1. Collecting the old diapers (pickup)
2. Separating SAP from the rest of the diaper
3. Selling remaining components
4. Deactivating the SAP
5. Putting SAP in (sand) bags

Unique Value Proposition
Superior product qualities compared to (sand) bags without SAP: lighter, faster & less manpower needed
Both rejection and absorption of water

Sustainability Proposition
Restoring value from the diapers' most valuable part (SAP).
Environmentally-friendly technology for flood management.

Customer Relationships
Pilot phase:
- Going to conferences like Flood Proof Holland
- Afterwards: only a bi-weekly basis (or more frequently if there are currently floods)

Channels
- Experiment and showcase at Flood Proof Holland
- Showcase on package from diapers the process
- Via presentations

Customer Segments
- State actors: Cities, municipalities, governments
- Sand bag companies: e.g. Indbag, Absorpent Specialty Products
- For PP & PE: (Plastic) Recycling companies, OR potentially chemical manufacturing industries (Sabic & Borealis)

Cost Structure
C1: Separating SAP from the rest of the diaper
C2: Cleaning and deactivating SAP
C3: Manufacturing SAP bags

Revenue Streams
R1: Sales of sandbags with SAP
R2: Sales of PP & PE
The absorptivity of pulp used to absorb urine is not affected by ozone.

Toxic materials (e.g. chlorine compounds) are not required to disinfect the pulp. Potentially toxic residues are not produced.

The dehydration of SAP by ozone oxidation can help decrease the volume of SAP that has absorbed urine.

Benefits of Dehydrating SAP through Oxidation using Ozone

Water Absorption Capacity

No Toxic Materials

Separate SAP and Pulp