

ManuREsource
workshop Ivan Tolpe award : NPirriK
28/11/2019



NUTRIMAN (H2020 – 818470)

VLACO npo



- ✓ Flemish **Compost and Digestate Quality Organisation** (°92)
- ✓ Support & implement **biowaste policies** (Materials Decree, Manure decree,...)
- ✓ More than 100 **members in mgt. (3) of organic waste (green, vfg, industrial)** :
Flemish gvt & other public and private stakeholder (treatment plants)
- ✓ Wide **knowledge** of availability, the use, and benefits of composts and digestates
- ✓ Member of o.a. **ECN** and **EBA**
- ✓ Focus
 - Closing the biological cycle (C and nutrients),
 - Quality certification (fertiliser, soil improver, substrates)
 - Research & demo projects
 - e.g.: Vlaanderen Circulair project (10/2017-3/2019)



- investment aid for **improved digestate post-treatment**
- Biogas plant ARBIO - Arendonk (B)



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- 2011
- Proces manure + generate electricity
- 35 kton org. waste + 55 Kton manure
- 3,5 MWe
- 81 kton digestate
- Post-treatment prior NPirriK:
 - separation @ centrifuge
 - heat (CHP): drying solid fraction & thicken liquid fraction digestate, or
 - biology



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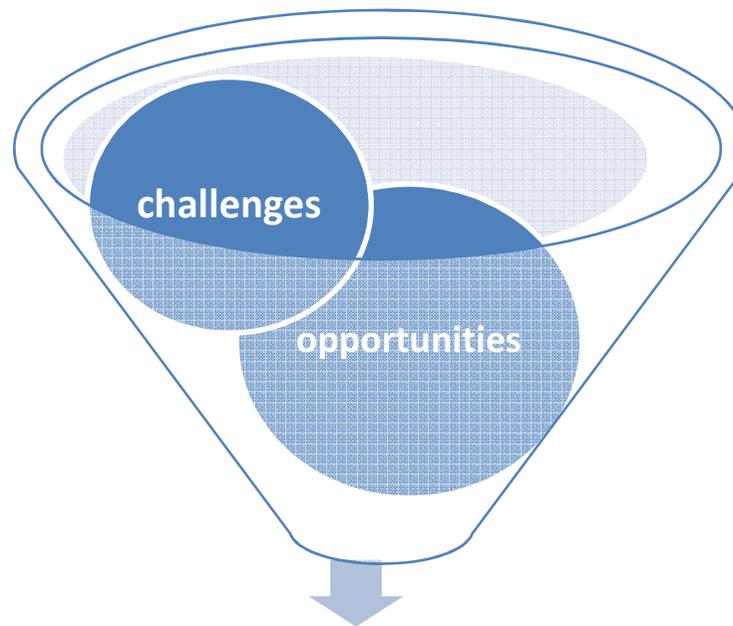
CHALLENGES:

- Destruction of N (biology)
- Salts in liquid fraction/effluent
- Concentrate (RO) low value (...)
- Increase N of dried digestate (= increasing value)



OPPORTUNITIES:

- Effluent low in salts for irrigation?
- ... saving transport?
- N (salts from liquid fraction) to solid dried digestate?



NPirriK-concept



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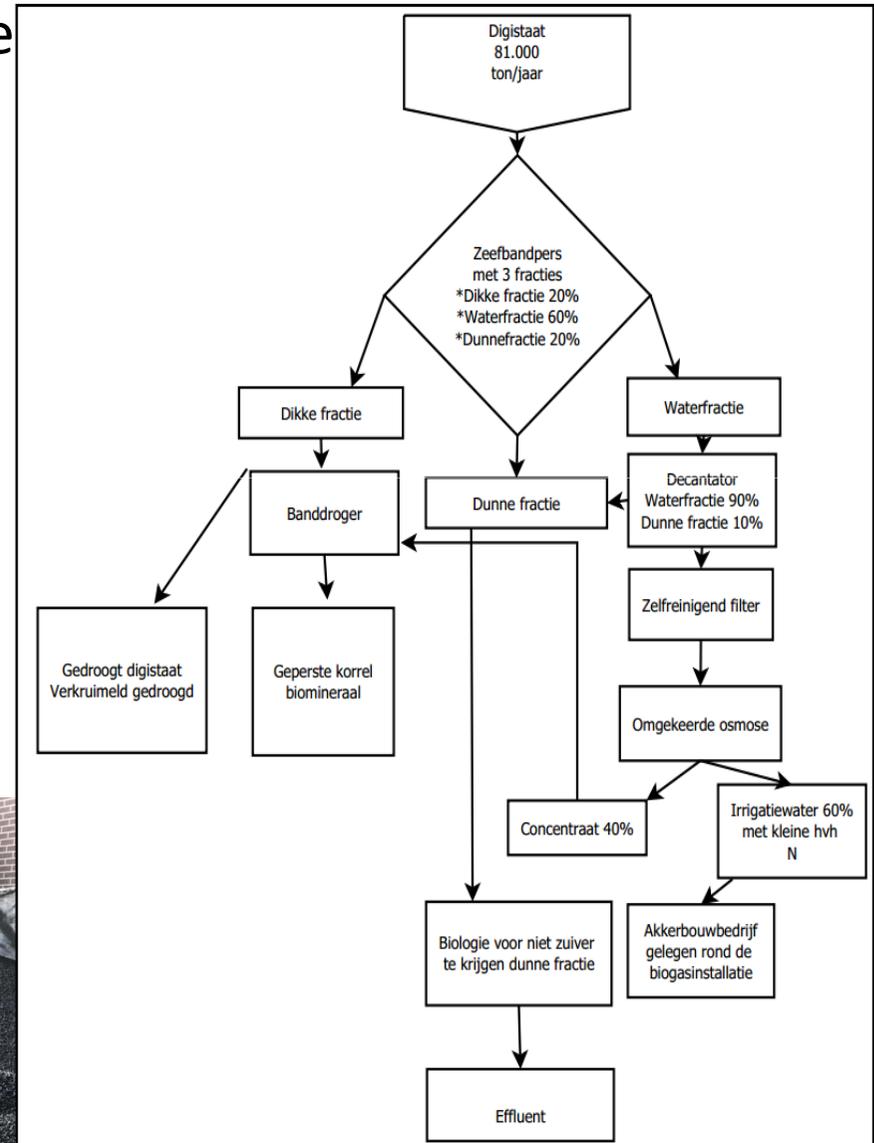


- Innovated post-treatment cascade

- Centrifuge
- Belt filter press
- Decantation tank
- Biology (°effluent)

- Reverse osmosis (Turbin)**
- Backmix (Dorset GP)**

- Belt dryer
- Pellet press



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- 3 'new' end products
- (Less and) lower salinity **effluent**
- **RO-permeate** (dischargeable/irrigation nearby fields)
- **Dried digestate (pellet) with higher N/P-ratio: 5000 ton/y (80-90% DW)**



	dried digestate prior NPirriK	dried digestate post NPirriK
	kg/ton	
DM	807	933
OS	569	637
Total Nitrogen	25,8	55
Mineral N	1,9	26
P ₂ O ₅	30	28
K ₂ O	13,9	23,4





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- Learning points
 - Success
 - Importance of
 - Pioneer projects such as NPirriK
 - In shaping spearhead objectives Flanders/EU
 - As an innovative response to structural challenges biogas sector (..)
 - Sharing info (ESNI, NUTRIMAN, ManuREsource, press, awards,..)
 - Cooperation
 - learning curve of > 15 months (installation, automation, dosing, commercialisation of pellets,...)





Thank you for your attention

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