Introducing Israel to the Innovation Network for Environmental Technologies (Inno-MT) in Denmark and why it is beneficial to a more sustainable Israel



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The Third Recycling Convention
Hiriya Recycling Park, 17 October 2018

cleancluster
INNOVATING GREEN SOLUTIONS
INNOVATION NETWORK FOR ENVIRONMENTAL TECHNOLOGY

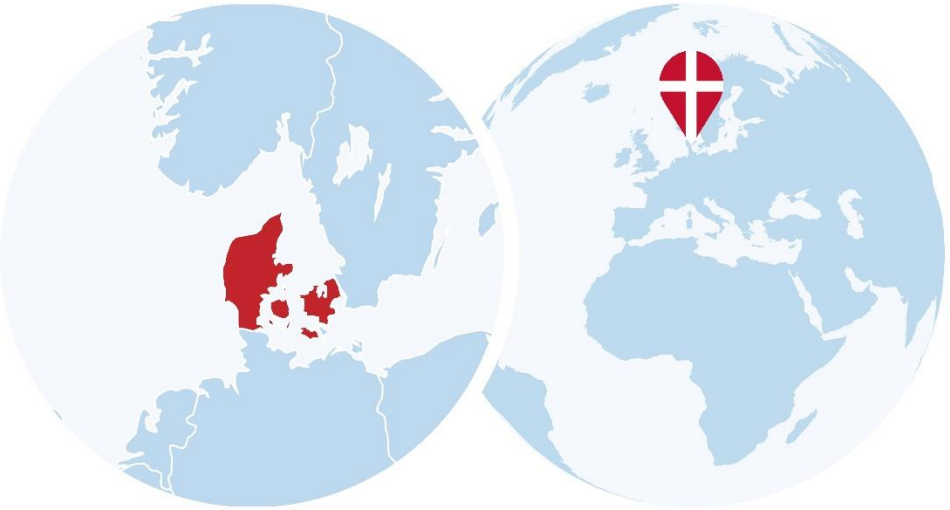
A brief overview

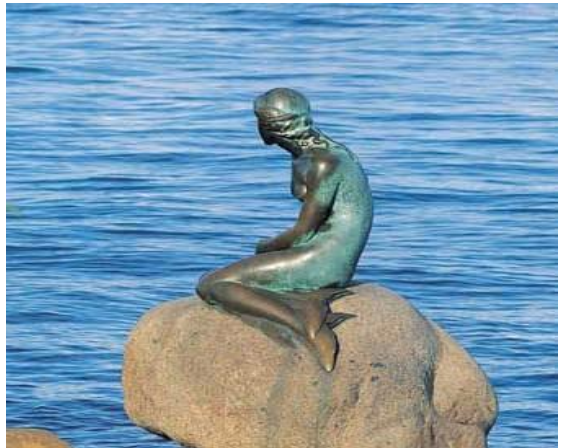
Population: 5.7 million

No. of municipalities: 98 - 5 Regions.

Capitol: Copenhagen, 600.000 inhabitants

Fossil free by 2050



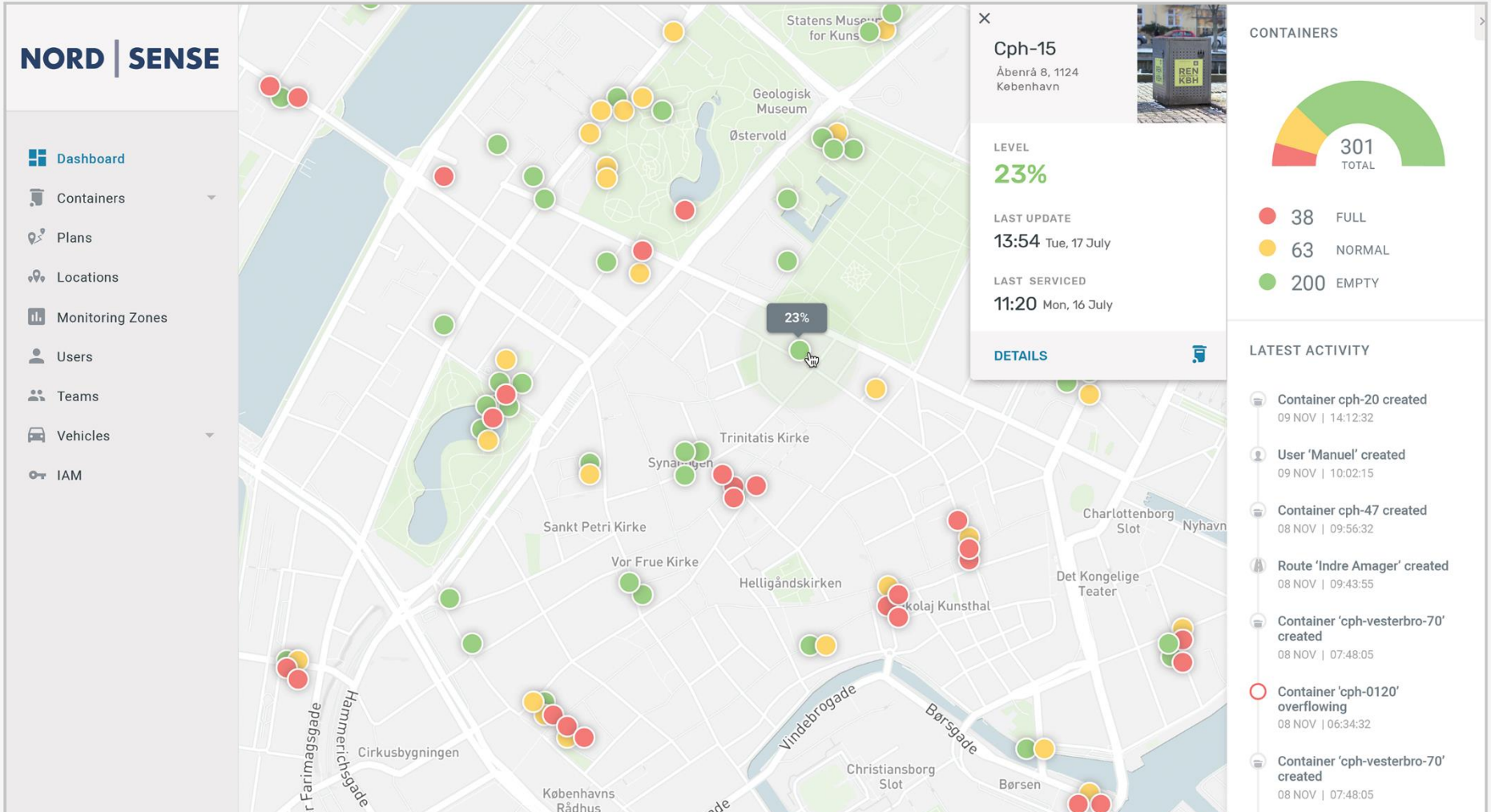


Around 5,000 pig farms in Denmark produce approx. 28 million pigs annually.


The Danish Waste Model
Tryk på Esc for at afslutte fuld skærm
2050
https://youtu.be/LU0cBelmtIg
0:05 / 3:40

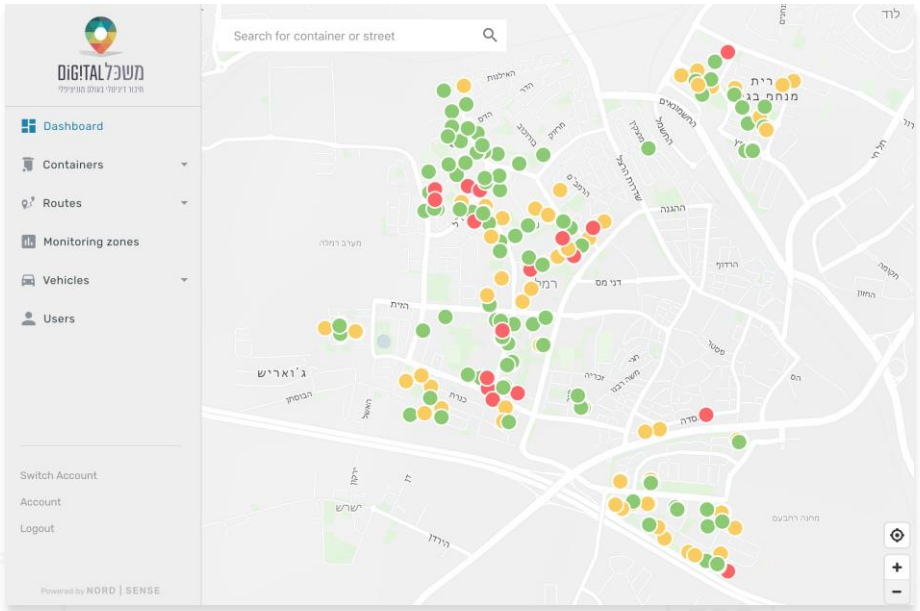
NORD | SENSE

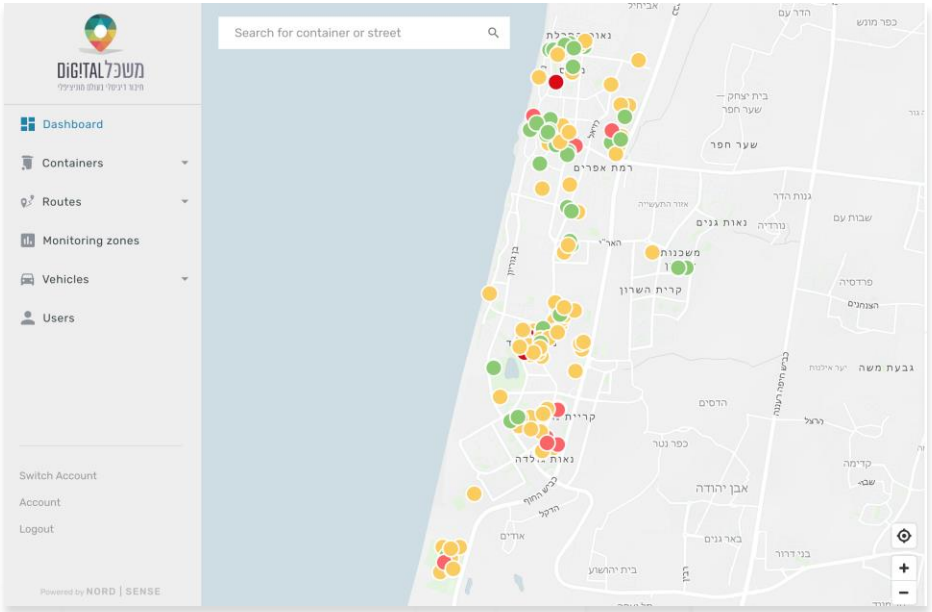
Smart waste management system



Ramla & Netanya

400 sensors installed in underground containers

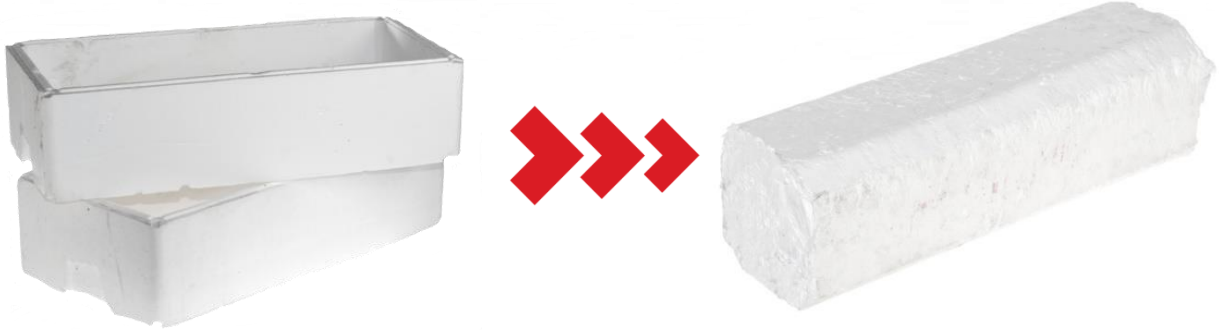




TURN WASTE TO VALUE

Compaction

- Every kilo recycled EPS saves the world 3 liters of oil.
- Achieved density 350 kg/m3
- Ratio up to 50:1
- Machines Israel: 8



RUNI

TURN WASTE TO VALUE

Dewatering

- Separates and compacts in one process.
- Liquids to biogas.
- Reject as RDF or go to recycling.
- Machines Israel: 3

RUNI

Anaerobic Digestion of Food Waste incl. Pre-treatment

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Country Manager

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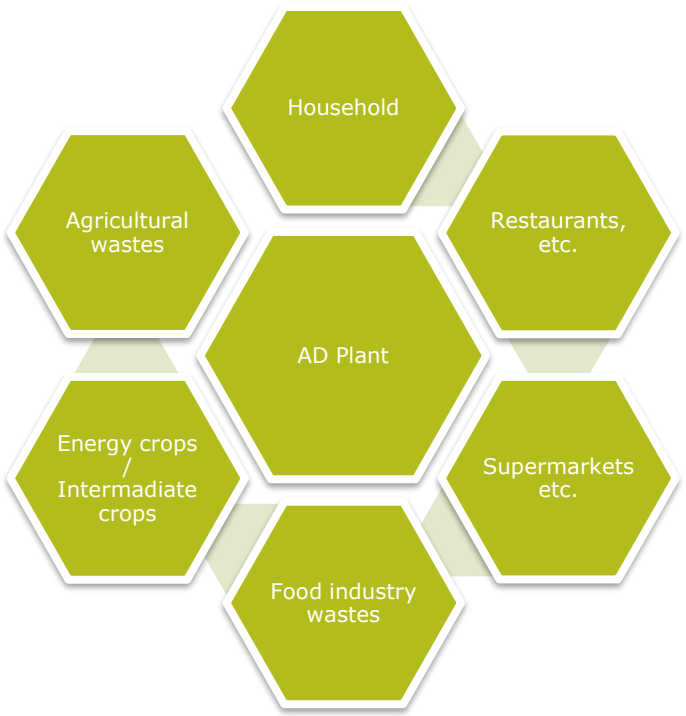
Sectors interesting for Anaerobic Digestion

The anaerobic digestion converts organic wastes into energy (biogas) and organic fertilisers

- Food waste
  - Restaurants, supermarkets, households etc.
- Industrial sources of organic waste
  - Food industry
  - Other industry (Ethanol for example)
- Agricultural waste
  - Animal manure
  - Crops waste
- Energy and intermediate crops

All sectors have to consider pre-treatments. The challenging biomasses are presents in every sector.

The biogas is circular economy!



Pre-treatment of Supermarket Waste, Source Segregated Household Waste and the like

Feed hopper → **Pulper** → **Separator** → **Finisher** → **Pasteurisation** → **Digestion**

Pre-treatment of source seggregated household waste, supermarket waste and food industry waste:

Objectives :

- Removal of plastic, glass, metals, etc.
- Pasteurisation of the waste at 70 °C for 1 hour

Existing technologies :

- Pulp :<0.3% contaminants / Tons Dry Matter (DM). For the best technologies: 0,1% only!
- Gas yield : 450-520 Nm^3 CH_4/t Volatile solids (VS)
- Low water consumption
- High organic fraction recovery

xergi

Case story
Willen biogas, UK
Facility for treatment of organic waste from London

Plant:
- Built in 2014-2016
- 1.5 MWe capacity
- Digester volume: 5,000 M3

Biomass input:
- Food waste
- Restaurant waste

- Treatment of 27.000 tonnes / year

Key drivers:
- Investor wants a reliable and high performing biogas plant.
- Receives gate fee for handling household waste.
- Sells renewable electricity to the grid.

Solution:
- Biogas plant - scalable and versatile
- Customized to substrates
- Best solution for handling organic household waste.
- Technology for pretreatment of household waste.
- Excellent return on investment

Thank you

www.inno-mt.dk