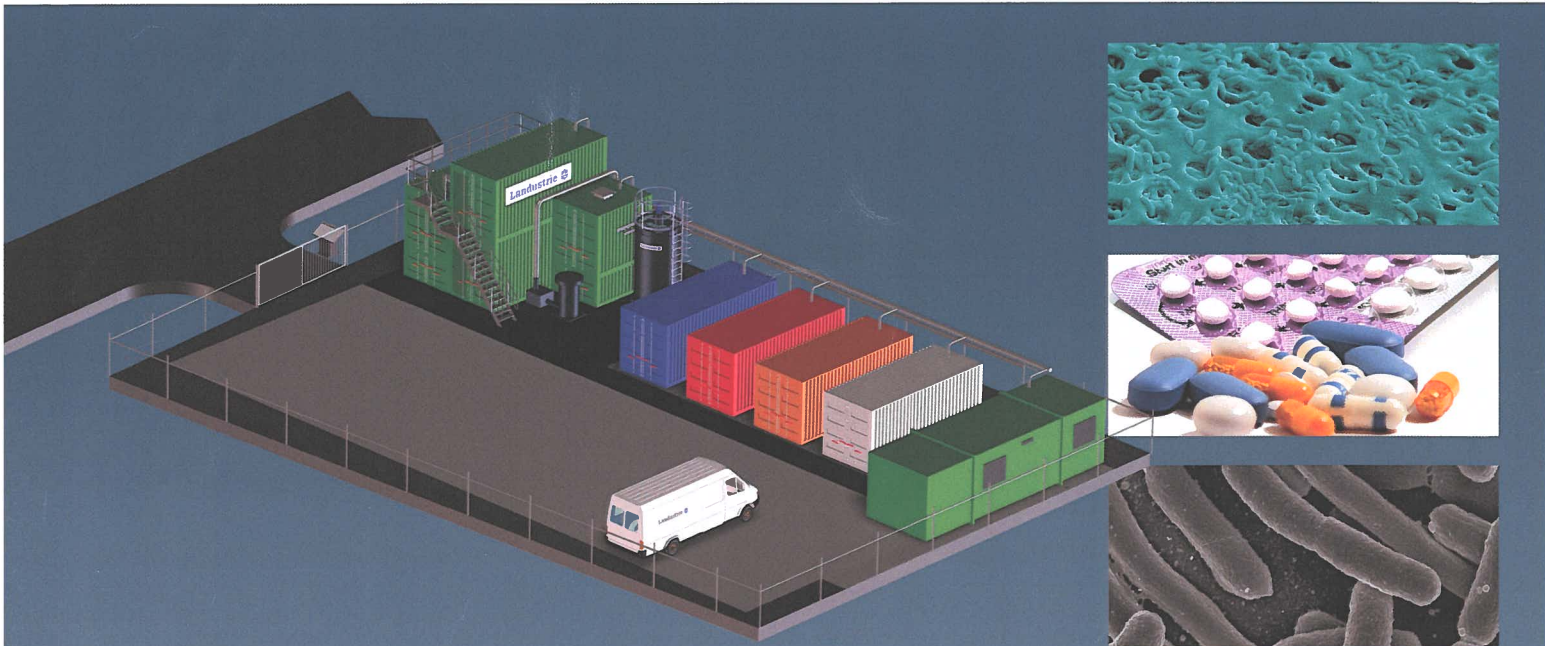


# Demosite hospital waste water

## Antonius Hospital Sneek, The Netherlands



Research site for testing, demonstrating and scaling up of new technologies for treatment of hospital waste water.

#### Available facilities:

- 3 waste water streams:
  - » mixed hospital waste water (70 m<sup>3</sup>/d)
  - » black water (toilet water from wards internal medicine and pulmonary diseases) (1500 l/d)
  - » urine (from day care oncology) (150 l/d)
- Prefiltration
- Digester
- 4 Rental locations for pilot plants. Facilities:
  - » air treatment
  - » electricity supply 230 – 380V with max 5kW power
  - » internet
  - » fresh water supply
  - » sewer for discharge
  - » storage for chemicals
- Porta cabin/services
- Permits
- Plug and Play

Address demosite:  
Simmerdyk 8  
8601 ZP Sneek

#### More information:

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wateralliance

wetsus  
european centre of excellence  
for sustainable water technology

WETTERSKIP  
FRYSLÂN

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- The Dutch Ministry of Economic Affairs, Peaks in the Delta
- Northern Netherlands Provinces
- The Province of Fryslân



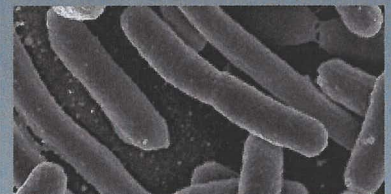
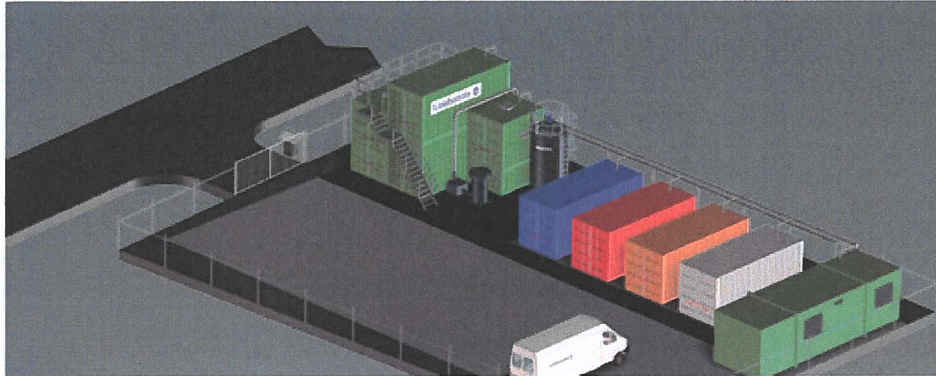
Ministry of Economic Affairs

provinsje fryslân  
provincie fryslân



# Demosite Hospital Waste Water

## Antonius Hospital Sneek, The Netherlands



### Characteristics of Hospital Waste Water

Sampling period December 8-12, 2014

			Mixed hospital waste water *		Black water**	
Bacterial count (CFU/mL)***	Mean		4,83E+06		5,67E+06	
	min-max		1,47E+06	1,01E+07	1,03E+06	1,82E+07
chemical oxygen demand (COD) (mg/L)	Mean		484		1823	
	min-max		339	689	254	2880
Chloride (mg/L)	min-max		735	479	8.61	30.4
Nitrite (mg/L)	min-max		<0.05		<0.05	0.29
Nitrate (mg/L)	min-max		<0.10	0.64	<0.10	0.27
Phosphate (mg/L)	min-max		1.28	2.41	0.55	2.31
Sulphate (mg/L)	min-max		0.94	2.11	0.62	1.81
Calcium (µg/L)	min-max		2330	4340	1760	1760
Copper (µg/L)	min-max		<25	472	<25	38.2
Iron (µg/L)	min-max		<50	-	<50	-
Potassium (µg/L)	min-max		1580	3110	1310	2500
Magnesium (µg/L)	min-max		840	1530	529	1100
Sodium (µg/L)	min-max		-	>10000	6820	>10000
Nickel (µg/L)	min-max		<25	75.4	<25	73.4
Phosphorus (µg/L)	min-max		394	765	241	770
Sulphur (µg/L)	min-max		333	779	320	1300
Silicon (µg/L)	min-max		868	1670	866	1500
Zinc (µg/L)	min-max		<25	181	<25	168
Cesium (µg/L)	min-max		<25	-	<25	-
<b>Antibiotics (µg/L)</b>						
Augmentin	Amoxicillin	min-max	<2	<2	<2	4
	Clavulanate	min-max	<5	6	<5	105
Cefotaxime		min-max	<1	1,6	<1	x
Ciprofloxacin		min-max	10	33	286	856
Doxycyclin		min-max	<10	-	<10	36

\* filtered 0.5 mm

\*\* toilet water from wards internal medicine and pulmonary diseases

\*\*\* total counts (CFU/mL) of E.coli , KESC and ESBL-producing E.coli and Klebsiella are available on request

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