Higher Education in Smart Specialisation (HESS)

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Fryslân: land of Milk & Water
Innovation Ecosystems become more important
Connecting Talent

lifelong learning

Primary education:
- 3 Water Days
- 8+ Program
- Water Wonder Lab

Secondary education:
- Honours program
- Teaching material
- Profile Selection Test

Vocational education:
- Training and education professionals
- Empowering vocational education

Applied sciences water:
- Bachelor of
  - Environment
  - Biotechnology
  - Chemical Engineering

Master water technology:
- MSc Water Technology (joint degree)

PhD:
- Research schools

Business education:
- MBA Program
- Masterclasses
- Business Challenge
Talent Program

Wetsus Interactive Excursions
- 120 schools per year
- Excursions to water companies
- Educate Teachers

Excellent program
- Top talented students (300 kids)
- Advanced program water technology
Secondary schools

Practical toolkits Water
- Chemistry
- Physics
- Biology

200 schools
Secondary Education: Honours Program Water

**Age ➔**

10 - Water Learning Programme
25

**Excellent program in waterlabs Wetsus/WAC (300 students)**

- Start: 14 years
- Strict selection criteria
- WaterCampus Facilities

**Water experts**

- Supervise student projects
Upgrading to international science fairs

- Stockholm Junior Water Prize
- ESE 2014 Slovakia
- Google Science Fair
Programme Applying Top Technology
Mbo Life Sciences: developments at intersections

Laboratory technician
Analyst: medical, biological, chemical
Lab worker

Food & Technologie
Operator, level 2, 3 and 4, Food specialist,
Food Manager, Quality Coordinator
Tailor-made courses

Process technician
Technical operator
Process technician

Water and Environment
Environmental mgmt, Environmental Officer
Water management, Water Technology

CIV Food

Energy College
Strengthening regular education

- Day school (BOL) and Part time (BBL)
- Quality
- Increase recruitment intake
- MBO minors for many topics
- Innovative projects
- Efficient route to HBO (CEW)
Tailor-made Training

- (Re)training, Life Long Learning
- Quality
- Flexible and tailor-made
- Developed in partnership
- Innovative projects
Lector network water technology applied research

Lectureship Water Technology

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Water Application Centre
Demosites to facilitate scale up of technologies

- WetSalt Desalination / Blue Energy
- Hospital Waste Water
- Drinking Water+ Distribution
- Municipal Waste Water Treatment
- Sensoring

Wetsus
Water students in Leeuwarden

BSc

MSc
PhD’s at Wetsus
Co-funding of regional, national and international programmes

Marie Skłodowska-Curie Actions
2015 – 2020
10 co-funded PhD’s/year
3.34 M€
Research projects

1.1 Extracting selectively metals from waste water using green organic solvents - chemistry, chemical engineering - For this project we will look for collaboration with a Dutch or European university

1.2 Recovery of valuable polymeric solutions by lowering the salinity using electrodialysis - physical chemistry or chemical engineering - Promotor: Prof.dr.ir. Huub Rijnarts (Wageningen University, Environmental Technology)

1.3 Sodium selective removal from irrigation water - chemistry or chemical engineering Promotor: prof. dr. Francesco Picchioni (University of Groningen, Department of Product Technology)

1.4 Electrochemical sewage water treatment to remove and recover phosphate - chemistry, chemical engineering - Promotor: Prof.dr.ir. Cees Buisman (Wageningen University, Environmental Technology)

1.5 Adaptive pores in next generation membranes - (chemical) engineering - Promotor: Prof. dr. ir. Rob G. H. Lammertink (University of Twente; Soft Matter, Fluidics and Interfaces)

21 projects
WaterCampus
Water Business Challenge
Talent needed create Growth and Jobs

![Graph showing turnover in billions (€) and number of jobs from 2012 to 2040. The graph indicates an increasing trend for both turnover and jobs over the years.]
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