



RIS3 enabling the Transition Towards a Circular Economy

S3 National Event Slovenia
2016-04-07

Pieter de Jong
EU Liaison Officer
pieter.dejong@wetsus.eu



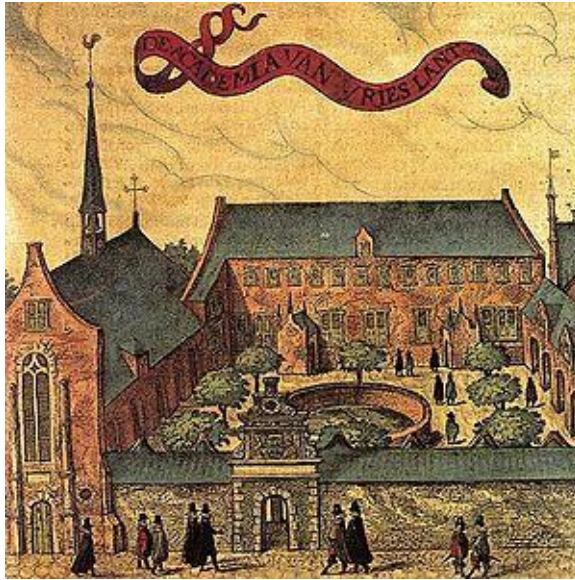


7th Century:
North Sea (or
the Frisian Sea)



It was the Frisians who
reinvented useful
money, and taught their
ideas to the Franks
under Charlemagne.



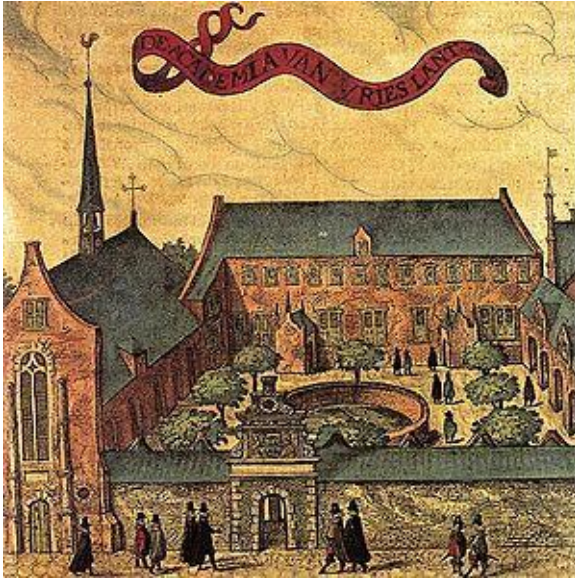


**258 years of
academic experience**

**University of Franeker or Academy of Friesland
(Latin: Academia Franekerensis)**



Stop your smart
regional
specialisation !



**University of Franeker or Academy of Friesland
(Latin: Academia Franekerensis)
Active 1585 – 1843 (258 years)**



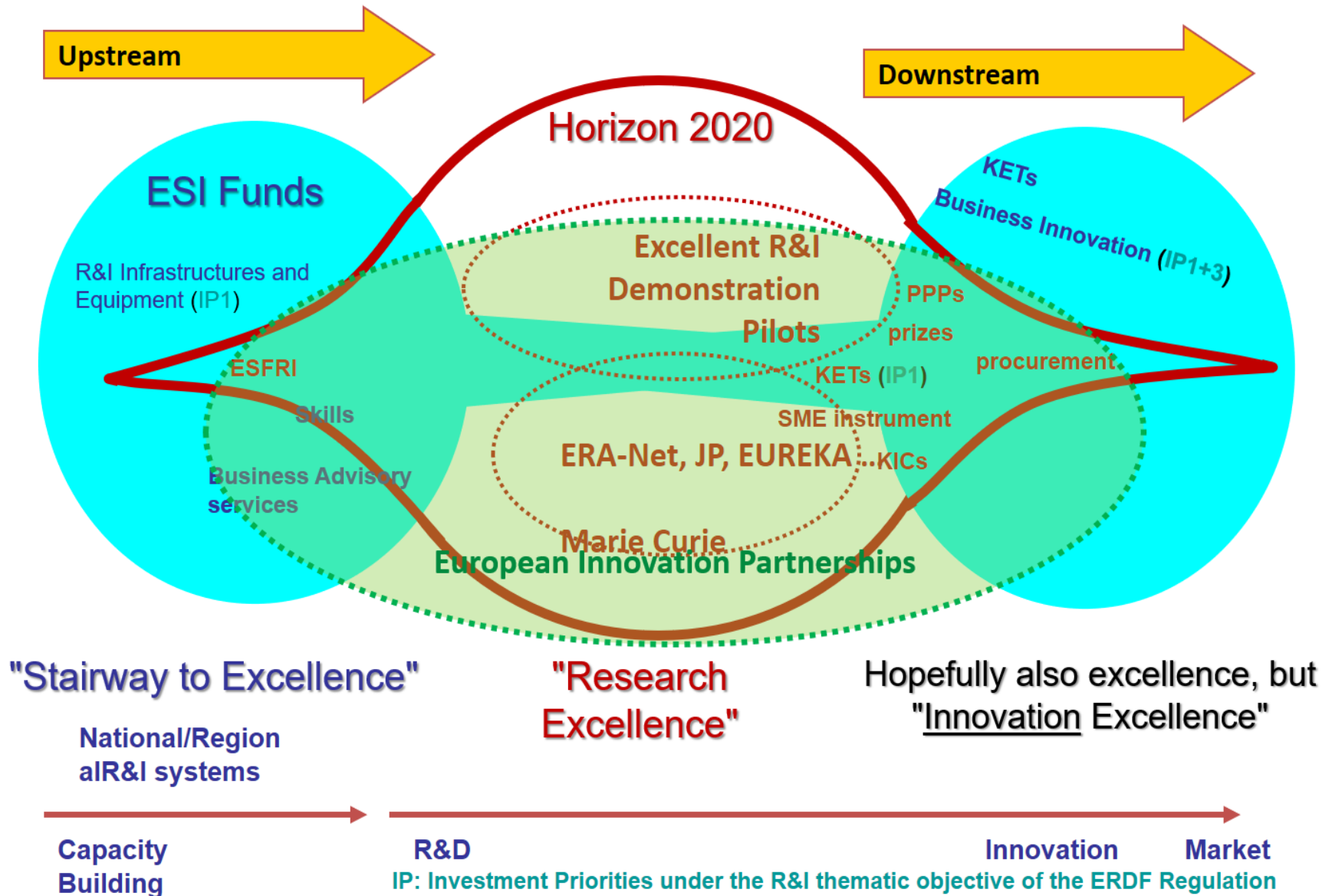
Water and Milk



Water in the Circular Economy

- “Water is the single most important shared resource across all supply chains, and wastewater is the largest untapped waste category—as big as all solid-waste categories taken together—it is the natural starting point for the circular revolution.”
- (Stuchtey, McKinsey company1).

Synergies with Horizon2020?



Wetsus PPP-model: a decade of growth through synergy in funding (2003-2017)

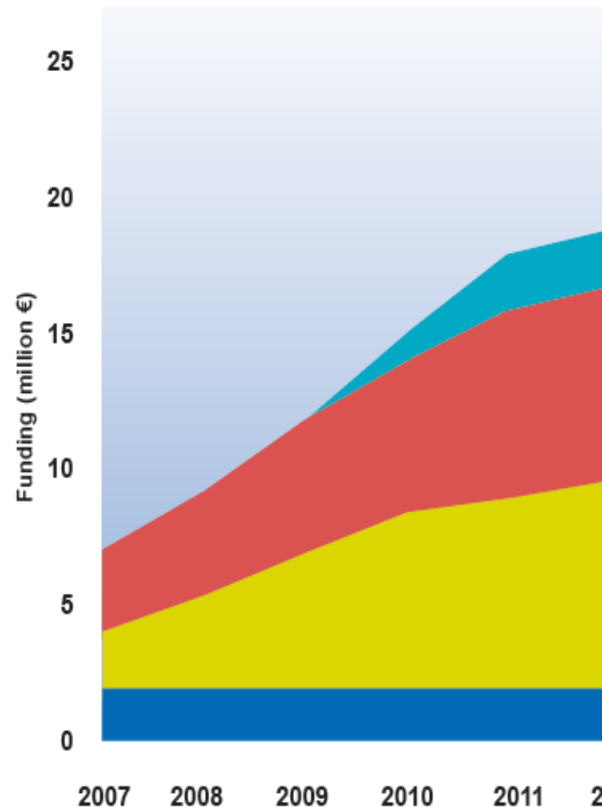
**Vitens
Shell
Alliander
Unilever**



**2003: ERDF
Begin RIS3**



Wetsus PPP-model: a decade of growth through synergy in funding (2003-2017)



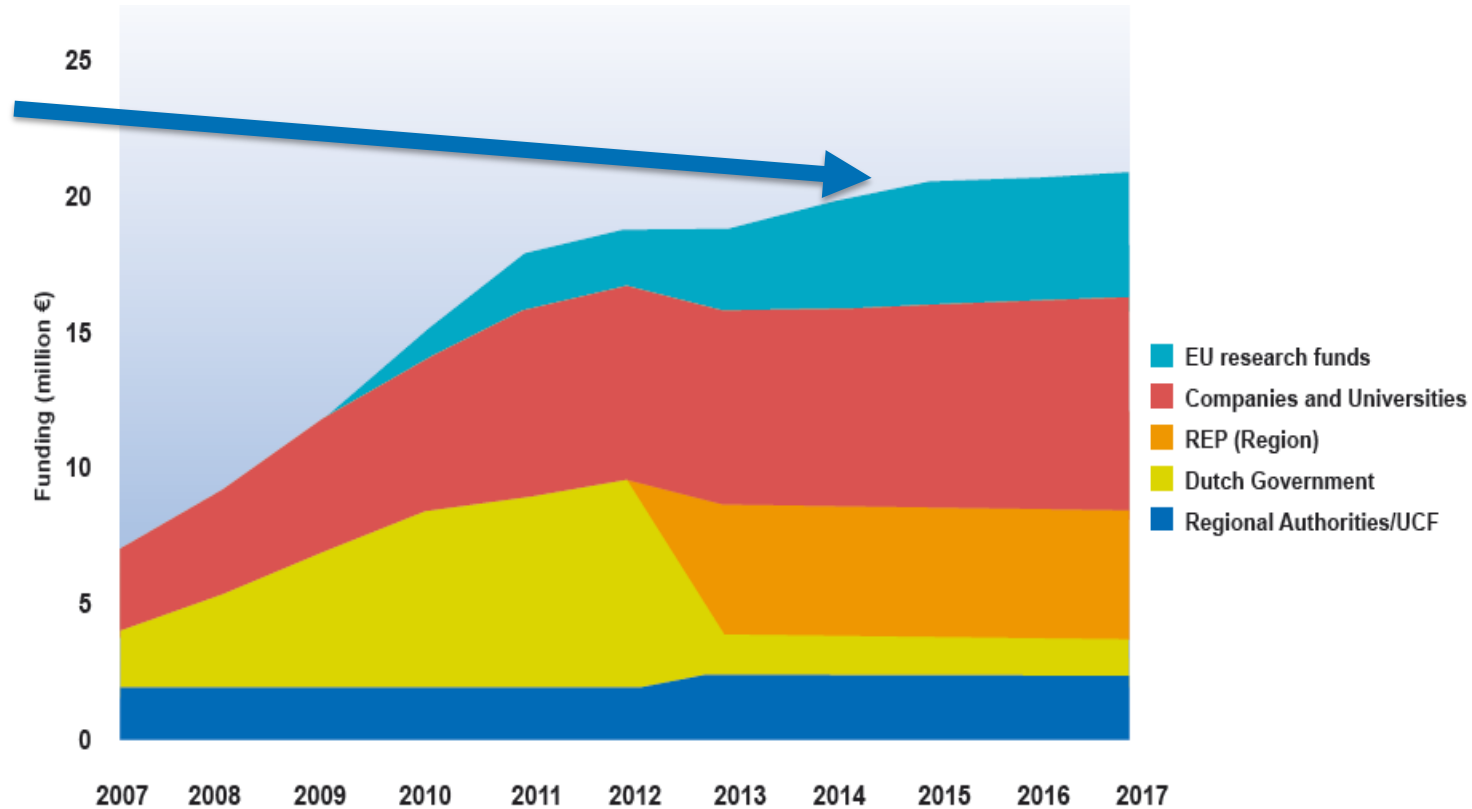
capm̄ix:

ValuefromUrine



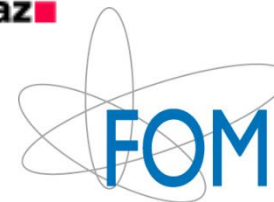
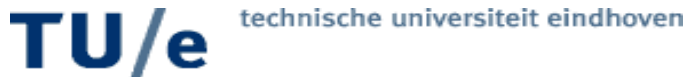
BioElectroMET

Wetsus PPP-model: a decade of growth through synergy in funding (2003-2017)

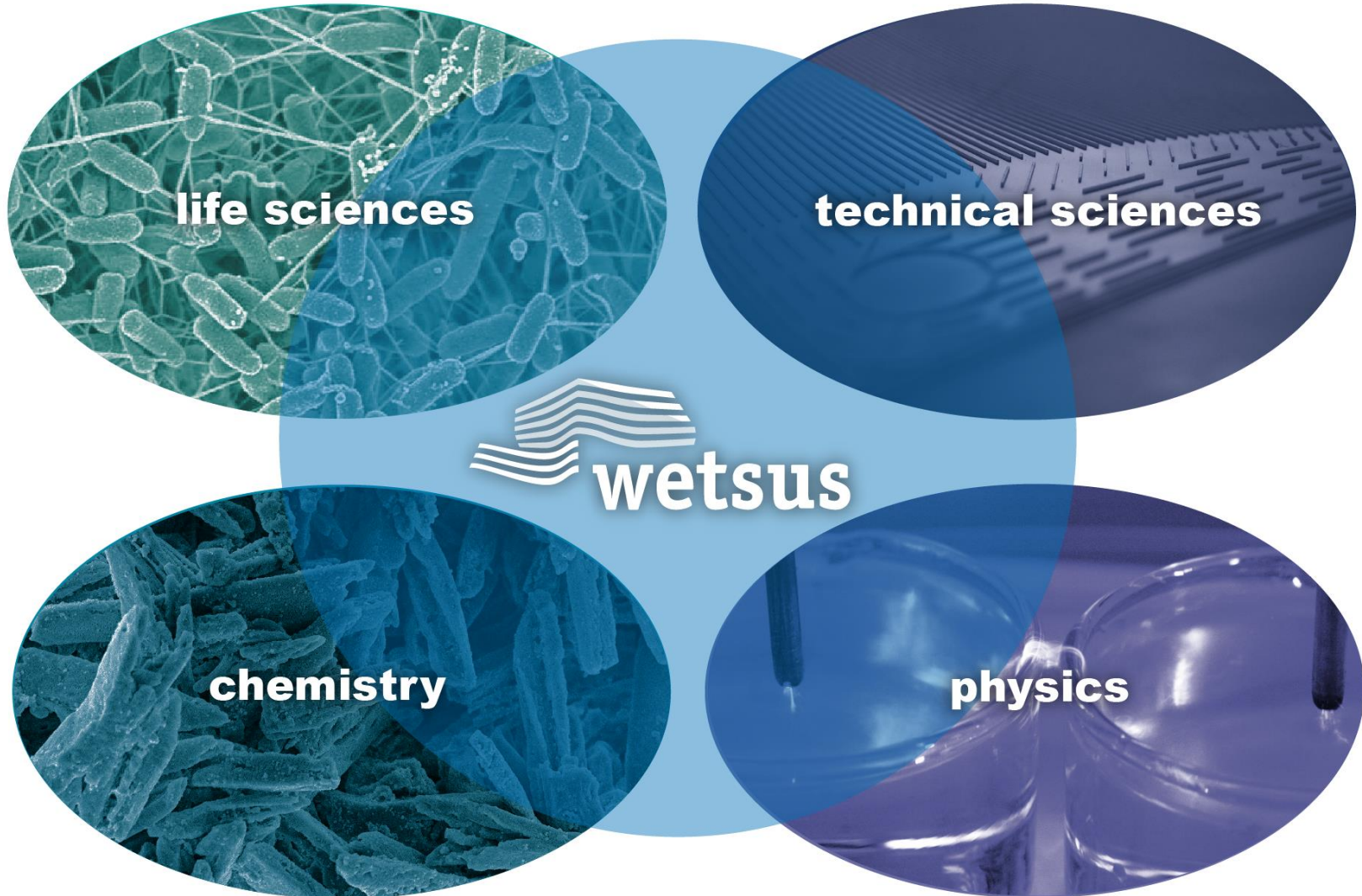


2003: ERDF
Begin RIS3

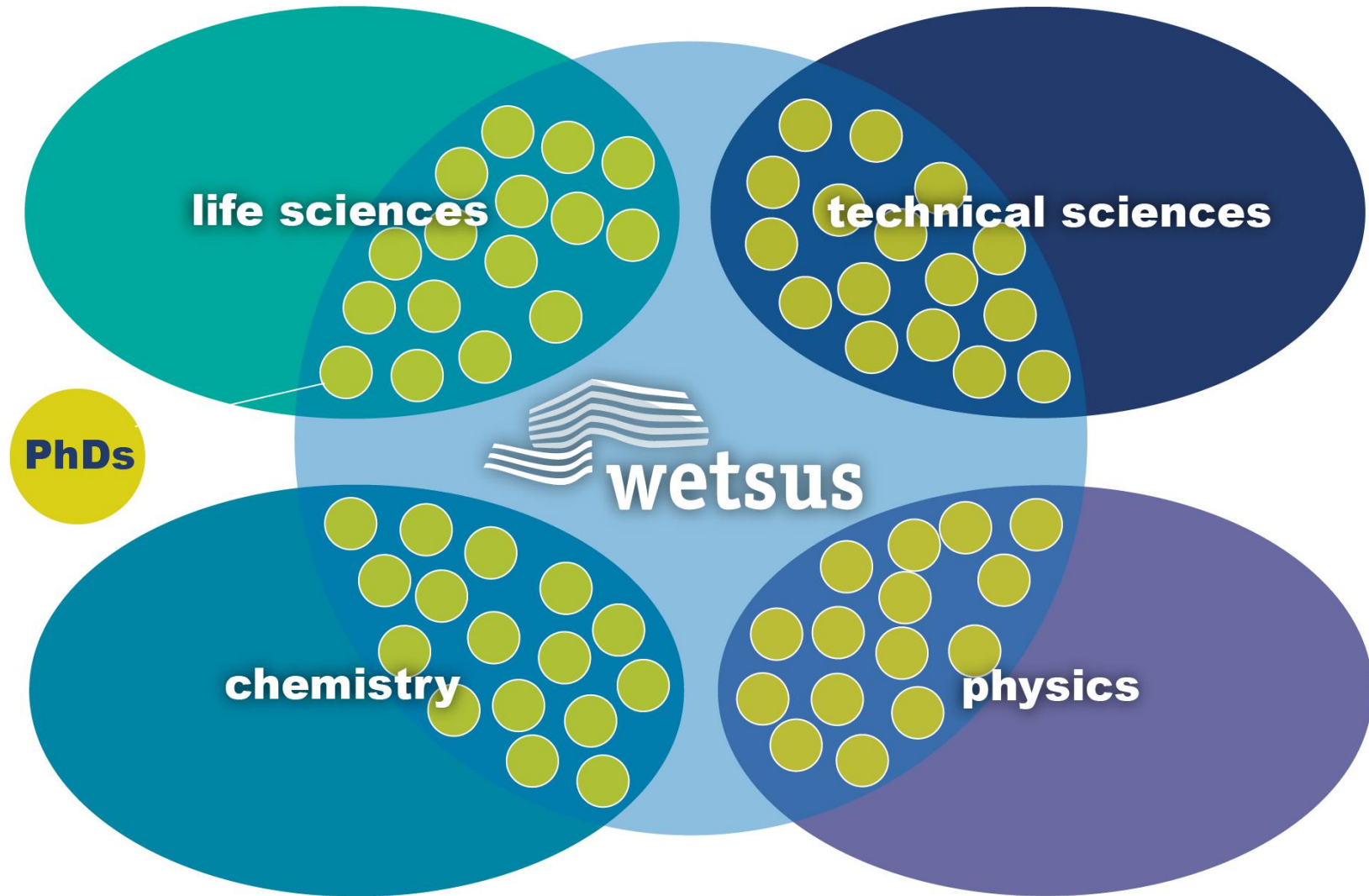
Multidisciplinary via knowledge partners



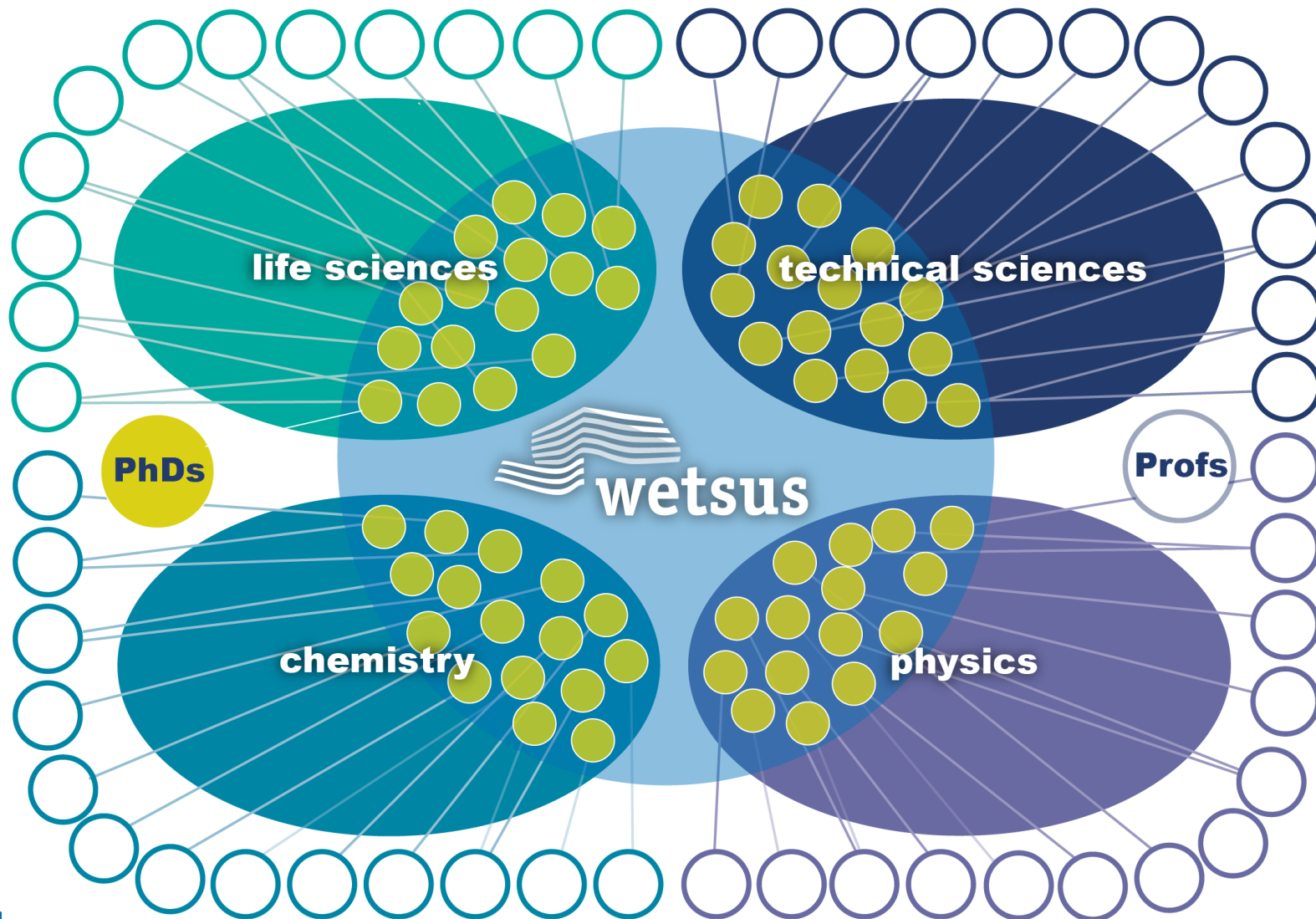
How to organize multidisciplinary



PhD's in one independent lab



Connecting 50 professors



Strategic long term cooperation with >100 companies

2003

Alliander
Vitens
Shell
Unilever

2004

Bioclear
Magneto
Energy Valley
Landustrie/Hubert
Pentair/X-flow
Grontmij
Heineken

2005

Esco/Frisia Zout
Waterb. Groningen
Waterm. Drenthe
Paques
RoyalHaskoningDHV
Evides
Rabobank
Wetterskip Fryslân
Bright Spark

2006

WS Hunze en Aa's
TCNN
Friesland Campina
Lionix
Kurita

2007

Aquacare
PWN
Brabant Water
Dow Chemicals
Stowa
Trojan UV
EasyMeasure
CvO-BTO

2008

Fuji Film
Oasen
Neste Oil
AF&F
Feyecon

2009

Philips
Dutch Rainmaker
Arcadis
Avebe
Purac

2010

Pure Green Techn.
Biaqua
Van Remmen
MAST Carbon
IPF/Grander

2011

Water Alliance
General Electric
A. Hak Construction
Algae Biotech
Aqua Nirvana Foundation
O2 Environmental
EFCseparations
Paqell
Voltea

2012

Anglian Water
WS Noorderzijlvest
Berson UV
Brightwork
Kuraray
Duplaco
De Friesland Zorgverzekeraar
Abengoa Water

2013

Kemira
Skion
Veolia Eau
CEW
REDstack
Stork Veco
DeSaH
BioTrack
BioCompact

2014

WML
DMT
HDM Pipelines
Metalmembranes
HAPSS
Waterschap Zuiderzeeland
Waternet
High Voltage Water
ICL
Sabic
Somut

2015

Izore
Yara
Grundfos
DC Water
Biostream
European Water Stewardship
Oosterhof Holman
SNT
HHNK
Van Der Knaap
AquaBattery
Izer

International partners Wetsus

UK

Anglian Water
HAPPS
Mast Carbon
Berson UV

USA/Canada

General Electric
DOW
DC Water
Trojan UV

Japan

Fuji
Kurita
Kuraray

Israel

ICL

Spain

Abengoa

Germany

Skion
Esco Salt

France

Veolia Eau
Aqua Nirvana
Laborelec-Engie

Austria

IPF
SNT

Finland

Kemira
Neste Oil

Denmark

Grundfos

Saudi Arabia

Sabir

Ireland

O₂Environmental

Norway

Yara

Research Theme: Blue Energy

Companies (8)

Alliander
Eneco
Magneto
Landustrie
Fuji Film
Mast Carbon
A.Hak
REDstack



Maarten van Riet
Theme manager



Universities 6 projects (4 PhD, 2 post-doc)

University Twente
Wageningen University

Blue Energy = Salinity gradient Energy



+



= 2.4 kJ

1 L of fresh
water

Large amount
of sea water

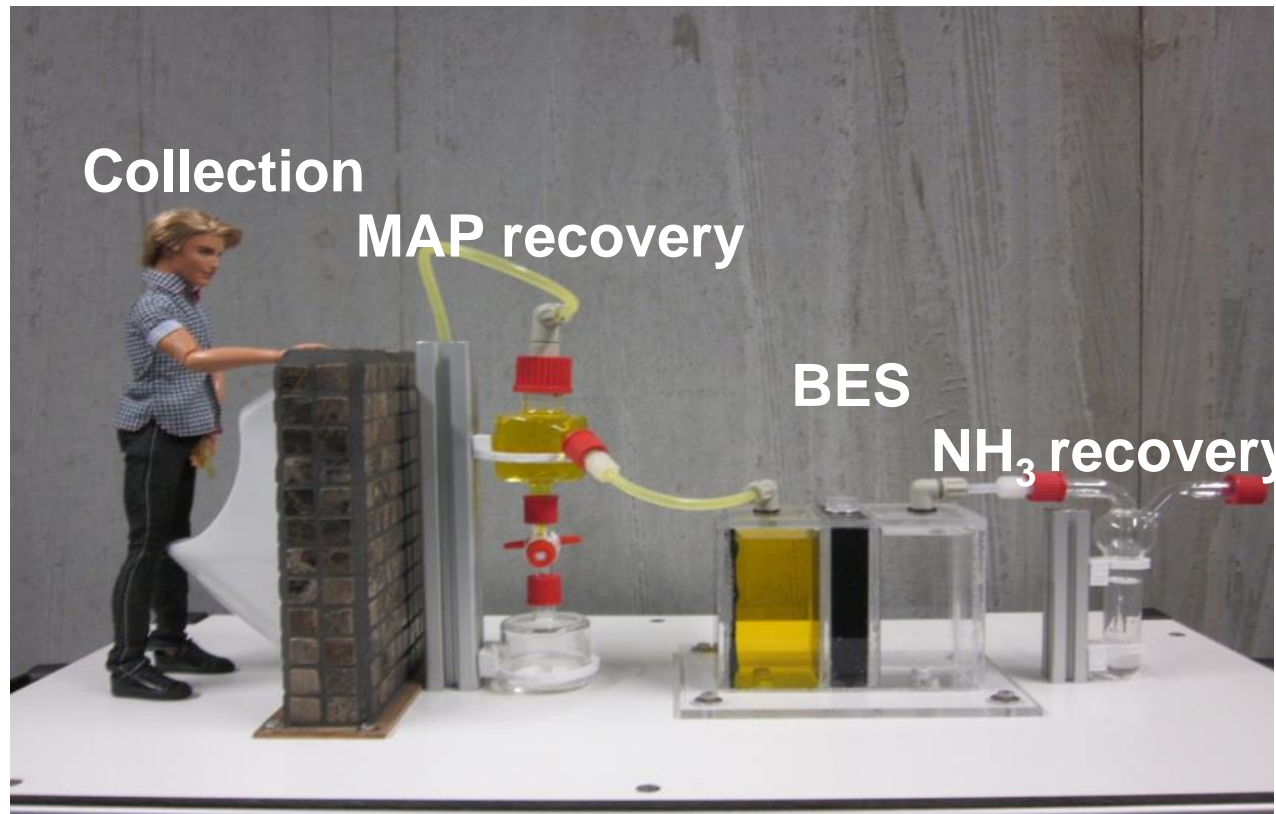
Salinity Gradient Energy

RED STACK





Breakthrough research and Innovation leading to Systemic Changes

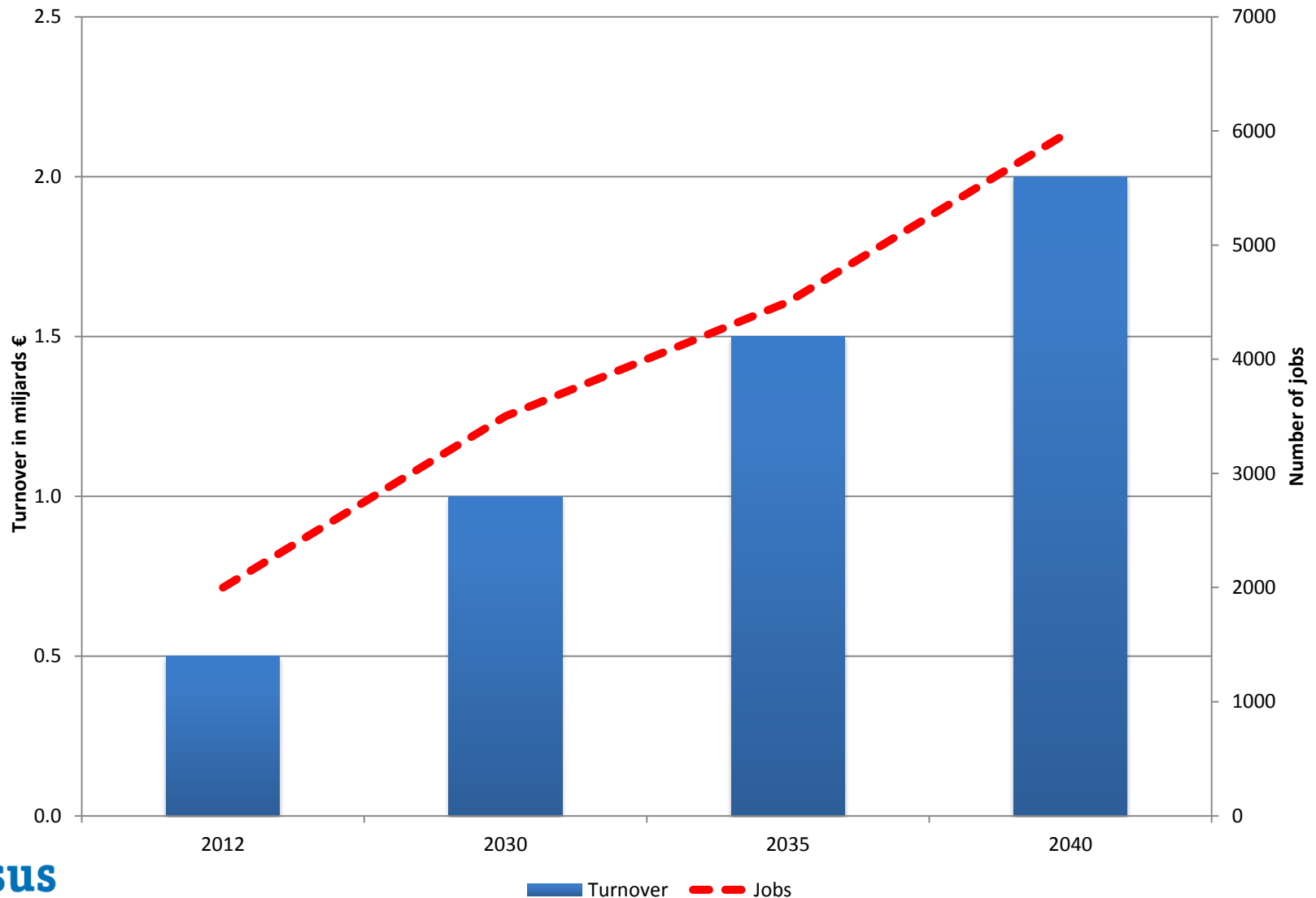


2007 – 2015: 80 patents and 25 spin-off companies created

Wetsus spin-off companies

• REDstack	• Automatic Electric Europe Special Products
• DeSaH	• HydrOwashr
• Westt	• Salttech
• Aqua Explorer	• Biotrack
• Dutch Rainmaker	• TailTec
• EasyMeasure	• ExtIns Technologies
• Water ProMaSys	• Aiforo
• Capilix	• Duplaco
• Pure Green	• Somut
• Smart Frequencies	• Wisect
• Water Waves	• Djipper
• Metal Membranes	• High Voltage Water
• AquaBattery	

Watertech *jobs* and turnover in *Fryslân*





Study track water Leeuwarden



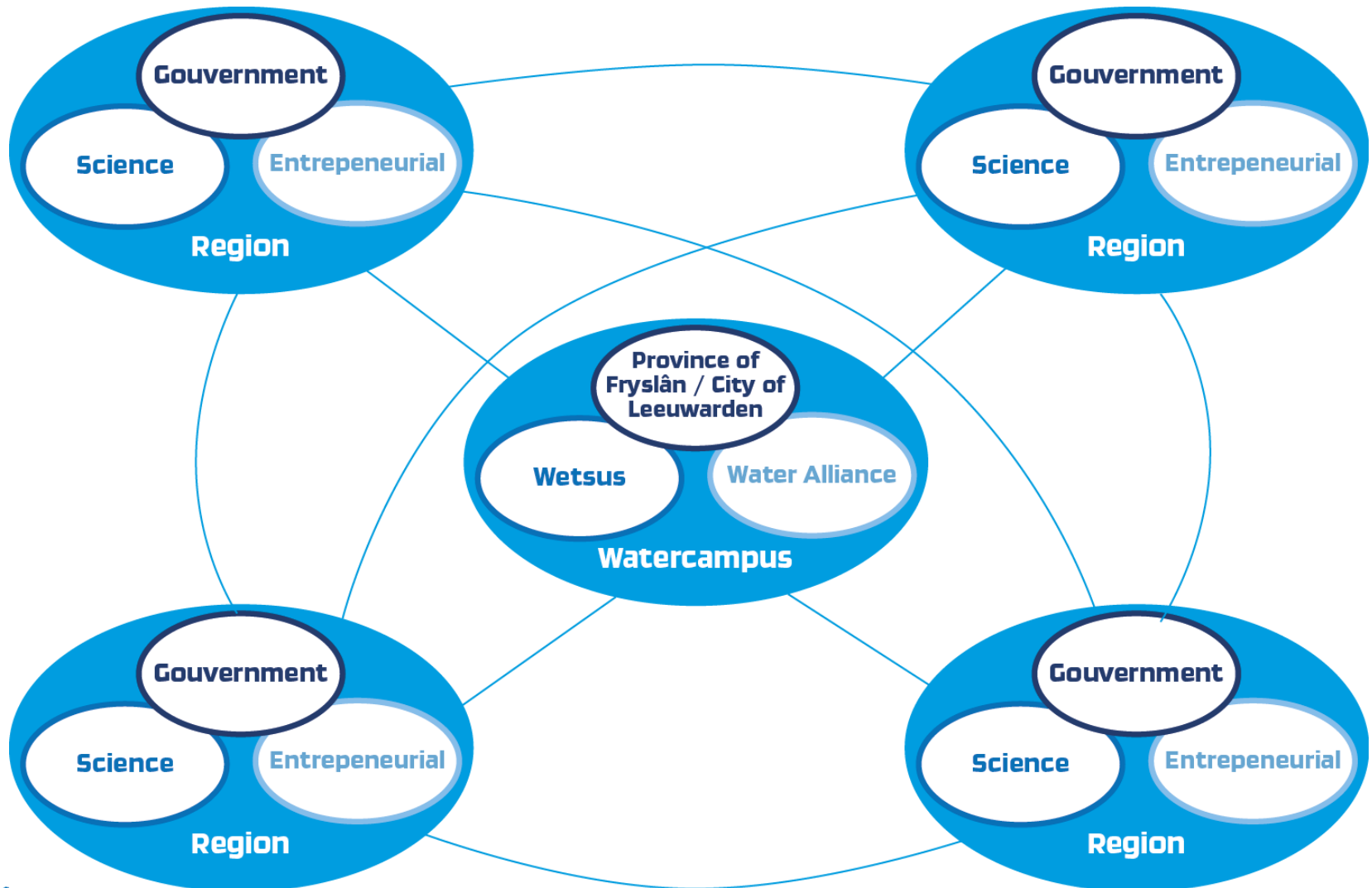
Wetsus: European Centre of Excellence for Sustainable Water Technology



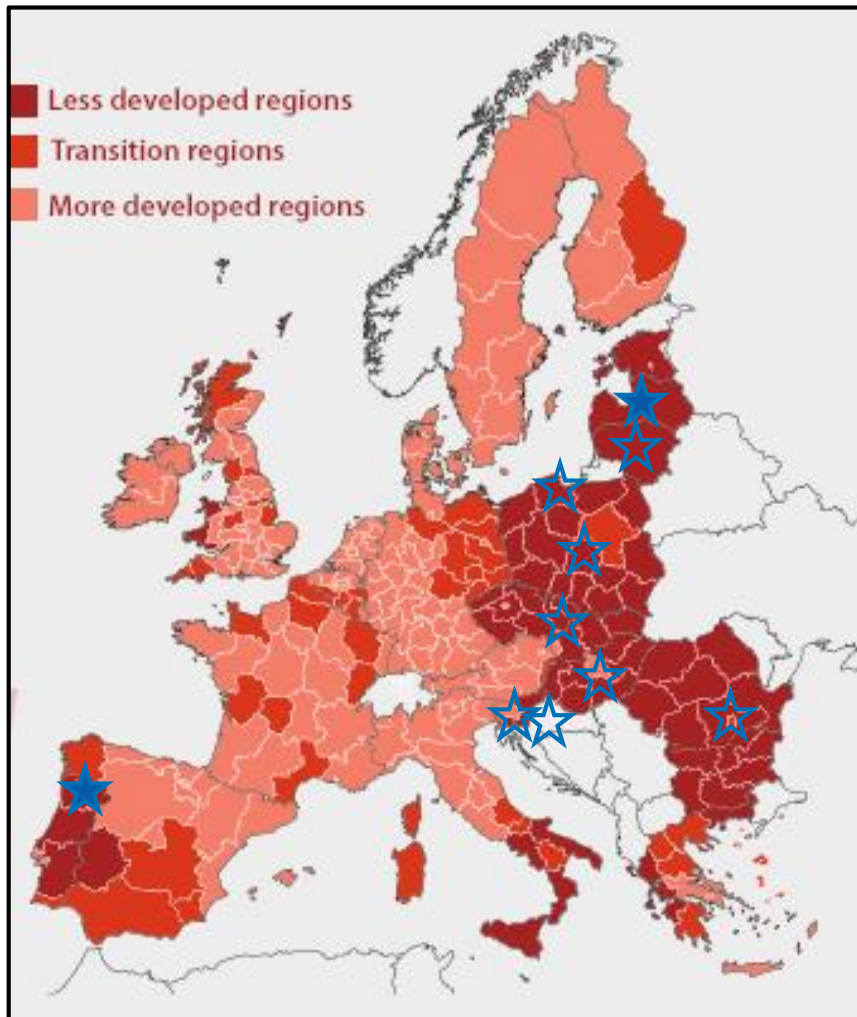
Innovation chain



Transition to a circular economy



Bilateral cooperation with regions



10 potential regions:

- Latvia (lv)
- North-Portugal (pt)
- Slovenia (sl)
- Lithuania (lt)
- Pomorskie (pl)
- Łódź (pl)
- Budapest (hu)
- South Moravia (cz)
- Bucharest (ro)
- Croatia (hr)

www.wetsus.eu
www.watercampus.nl
www.topsectorwater.nl

Wetsus is co-funded by:

- the Dutch Ministry of Economic Affairs (TKI-Topsector Water, Peaks in the Delta)
- the Dutch Ministry of Infrastructure and the Environment
- the European Union (European Fund for Regional Development and Seventh Framework Programme), investing in your future
- Northern Netherlands Provinces (REP-SNN)
- the City of Leeuwarden, the Province of Fryslân and University Campus Fryslân



Ministry of Economic Affairs



Ministry of Infrastructure and the
Environment

