

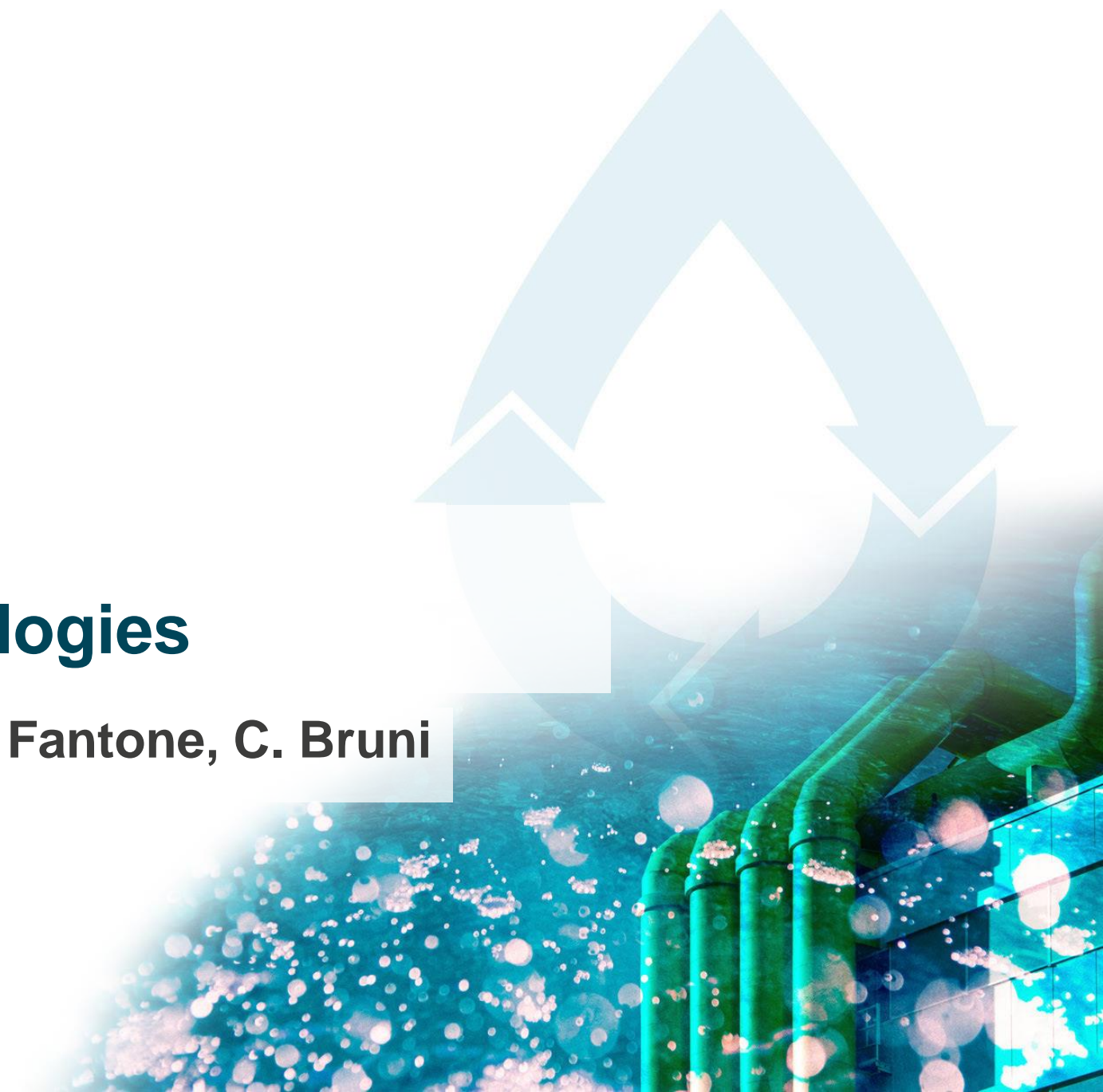


WATER SMART INDUSTRIAL SYMBIOSIS

## Online seminar on innovative biogas technologies

A. Kleyböcker, S. Casa Garriga, F. Fantone, C. Bruni

October, 30th 2020





# Ultimate (June 2020 – May 2024): Industry water-utility symbiosis for a smarter water society

- Promotion, establishment and extension of **Water Smart Industrial Symbioses**
- Development and demonstration of **innovative technologies** for symbioses
- **Assessment** of the technologies and development of **digital „support tools“**
- Development of **new business models** towards marketability

## 9 Symbioses between:

### Industrial sectors

- Agro-food
- Beverage
- (Petro)chemical
- Biotech

### Service providers

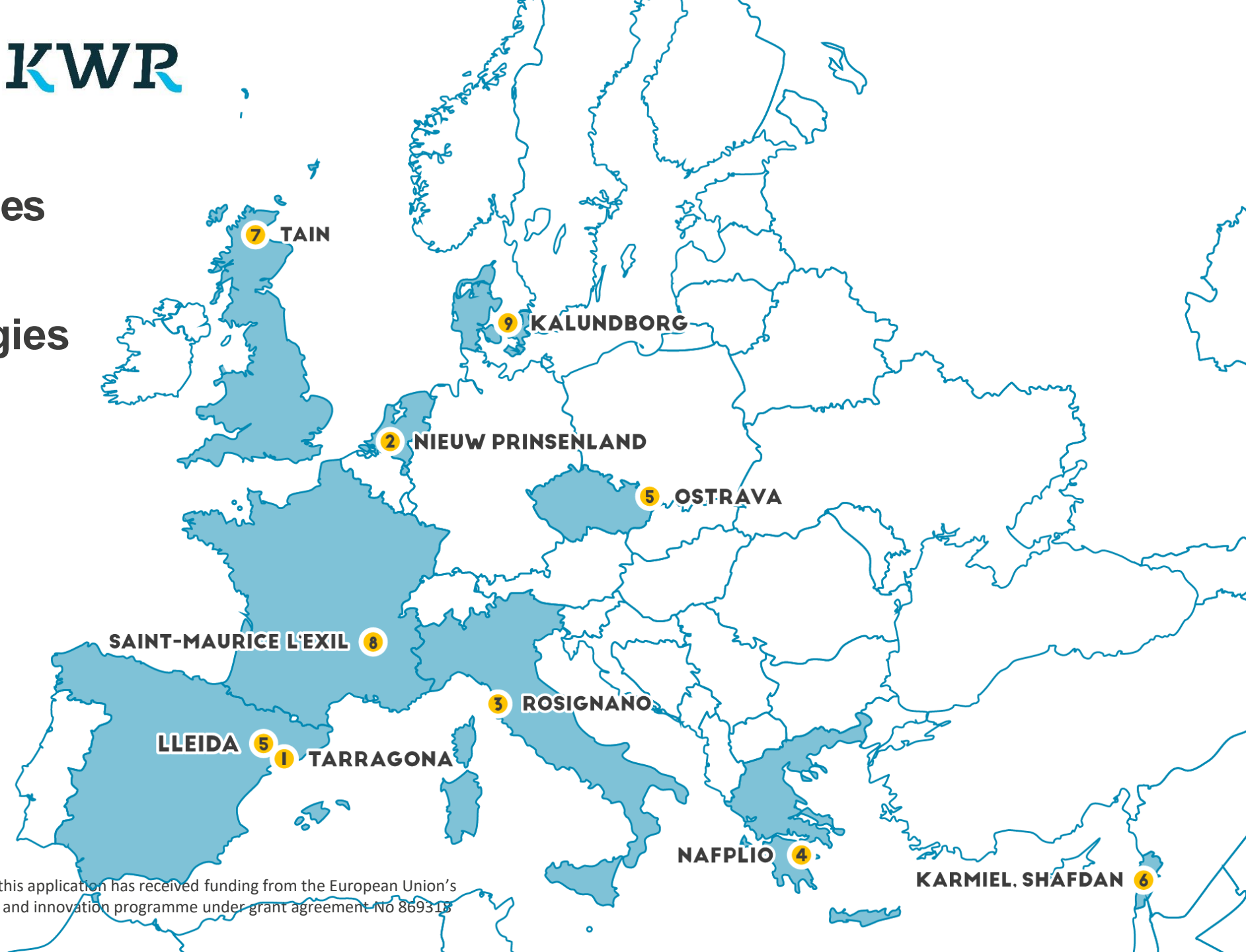
- Municipal utility
- Multi-industry utility
- Specialized SME
- Water services provider





Coordinator: **KWR**

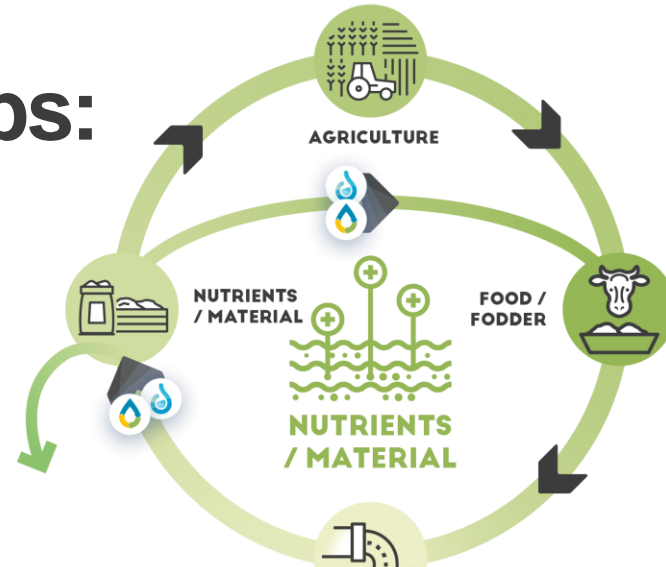
**9 Case Studies**  
**27 Partners**  
**37 Technologies**



The project leading to this application has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 869318



# 3 Cross-cutting Technology Groups: 9 Topics



F. Fatone C. Bruni

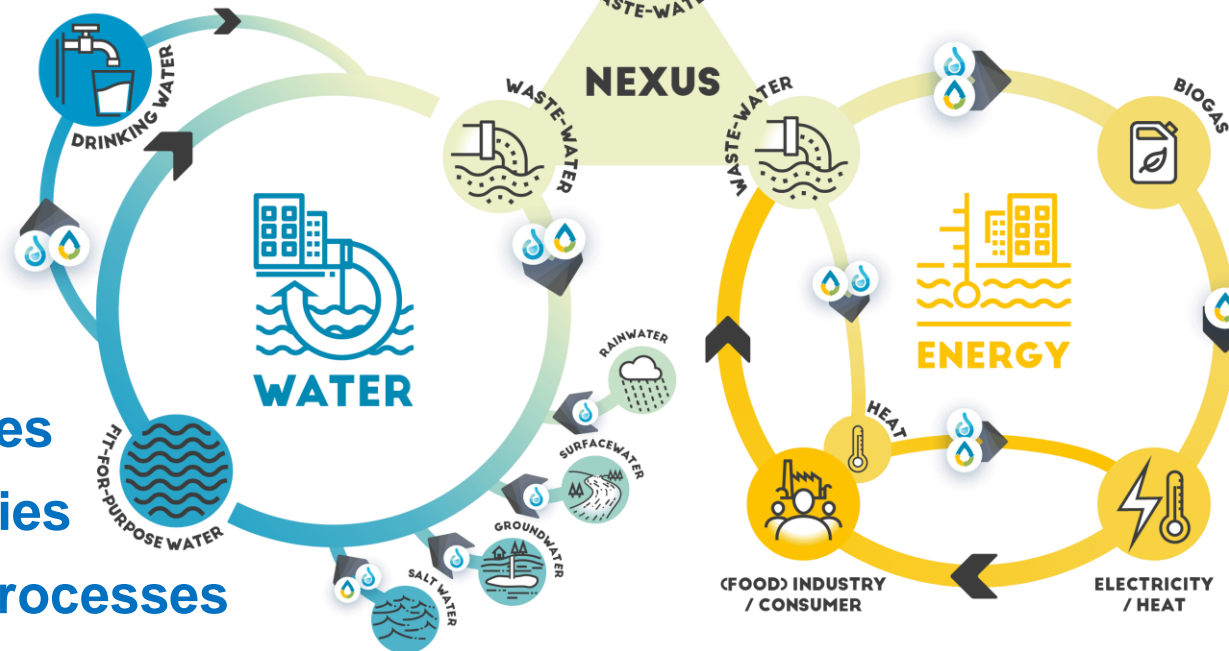
- Nutrient recovery
- High added value products
- Metal recovery



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S. Casas



A. Kleyböcker

- Biogas technologies
- Heat recovery
- Digitalization

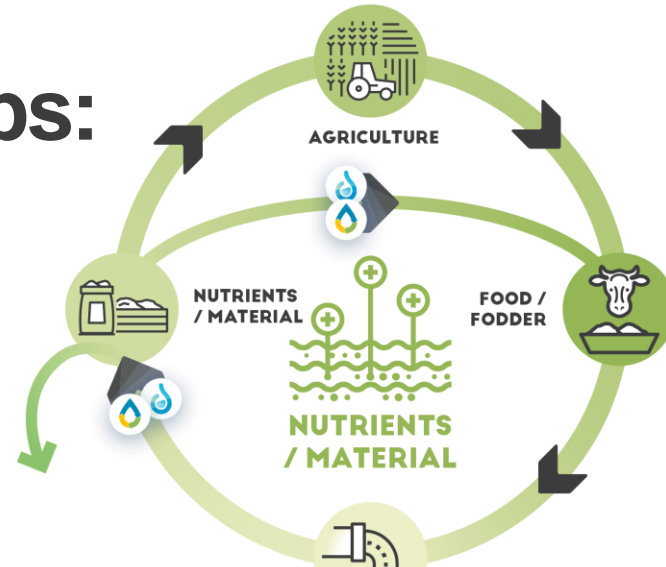
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- Membrane technologies
- Adsorption technologies
- Advanced oxidation processes



# 3 Cross-cutting Technology Groups: 9 Topics



F. Fatone C. Bruni



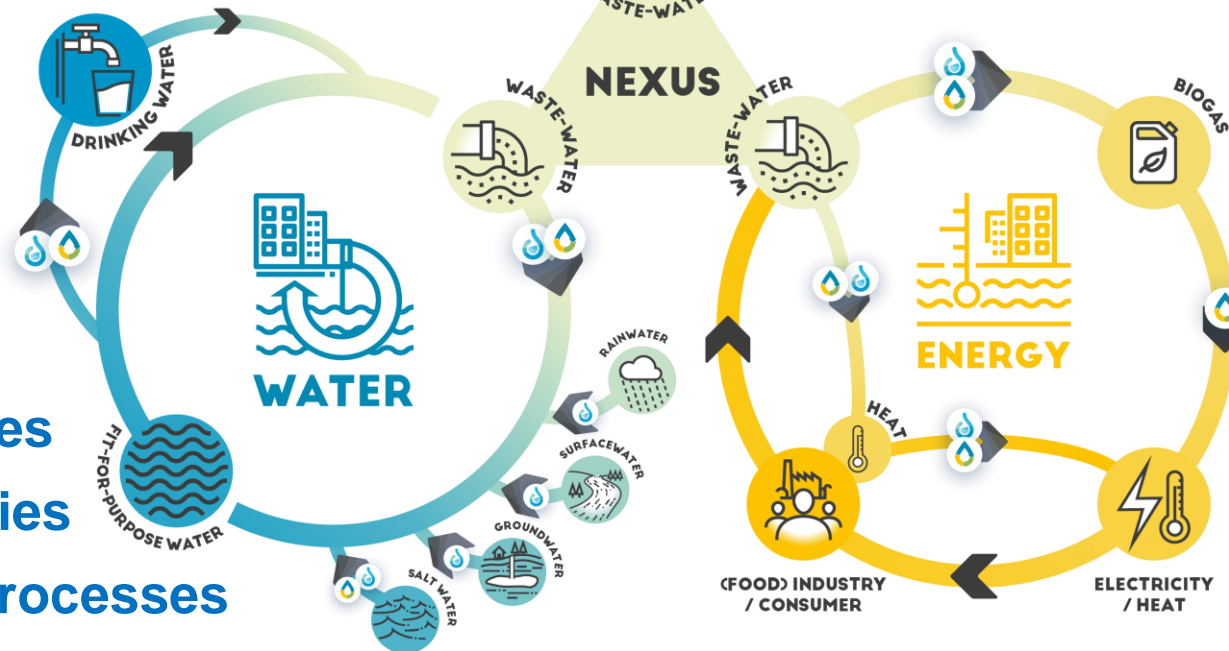
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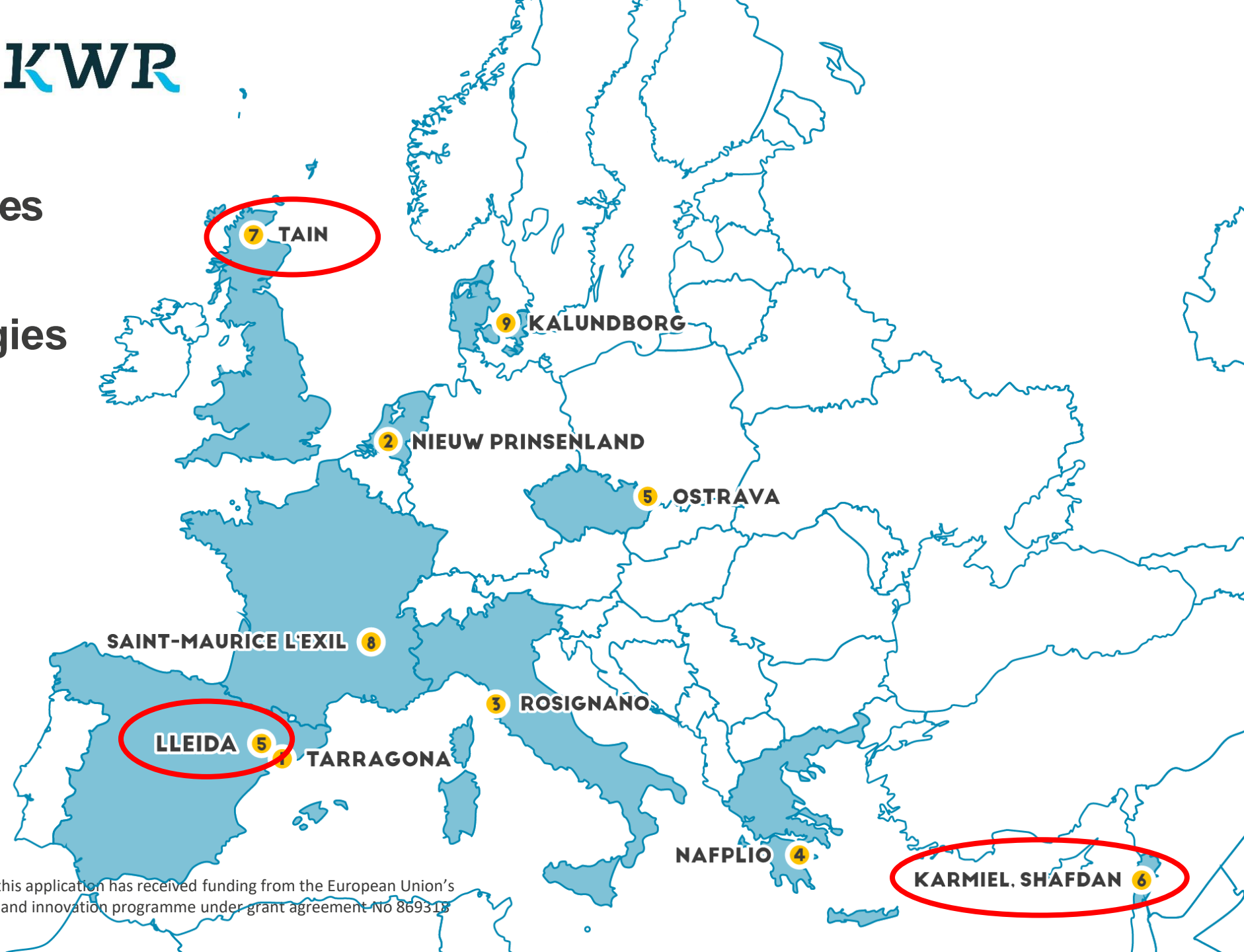
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- 10:15      **Biogas production in CS7 Tain:** Biogas production in an anaerobic membrane bioreactor (AnMBR) from distillery effluent  
*Marc Pidou (Cranfield University)*
- 10:30      **Biogas production in CS5 Lleida:** AnMBR versus bioelectrochemical fluidized bed reactor (BEFB)  
*Antonio Giménez Lorang (FCC Aqualia)*
- 10:45      **Biogas production in CS6 Shafdan & Karmiel:** Immobilized high rate anaerobic system (AAT) & biogas process stabilizing measures (PAC)  
*Isam Sabbah (The Galilee Society)*
- 11:00      **NextGen:** Anaerobic treatment of weak effluents at low temperatures  
*Ana Soares (Cranfield University)*
- 11:30      **SmartPlant:** Biogas recovery in primary treatment with a polyfoam biofilter (AAT)  
*Isam Sabbah (The Galilee Society)*
- 12:00      **End**