

**9TH FOOD TECHNOLOGY
INTERNATIONAL SYMPOSIUM**

Compounds of interest in wastewater from food processing industries: H2020 Afterlife project

AFTERLIFE

**Advanced Filtration TEchnologies for the
Recovery and Later conversion of relevant
Fractions from wastEwater**



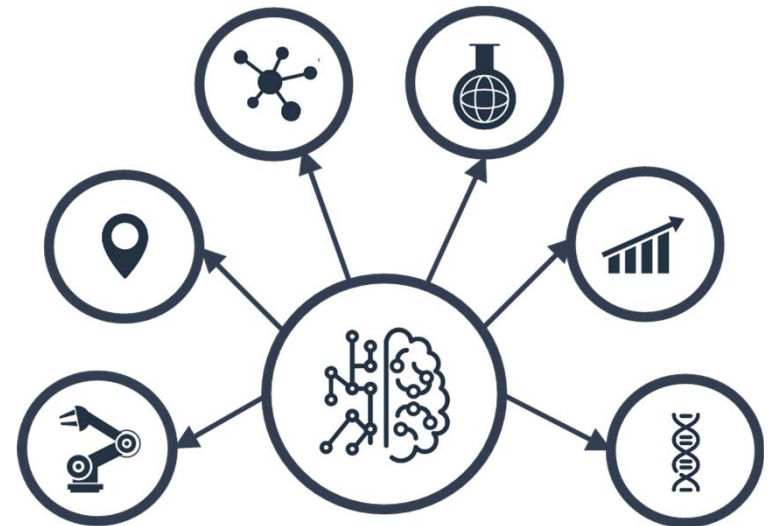
**Horizon 2020
European Union Funding
for Research & Innovation**

AFTERLIFE has received funding from the Bio-Based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation program under grant agreement No. 745737 .

- **IDENER (a private research SME)** (founded as spin-off of the University of Sevilla) and **IDENER foundation**
- Headquartered in **Sevilla** in Aeropolis, Aerospace technology park

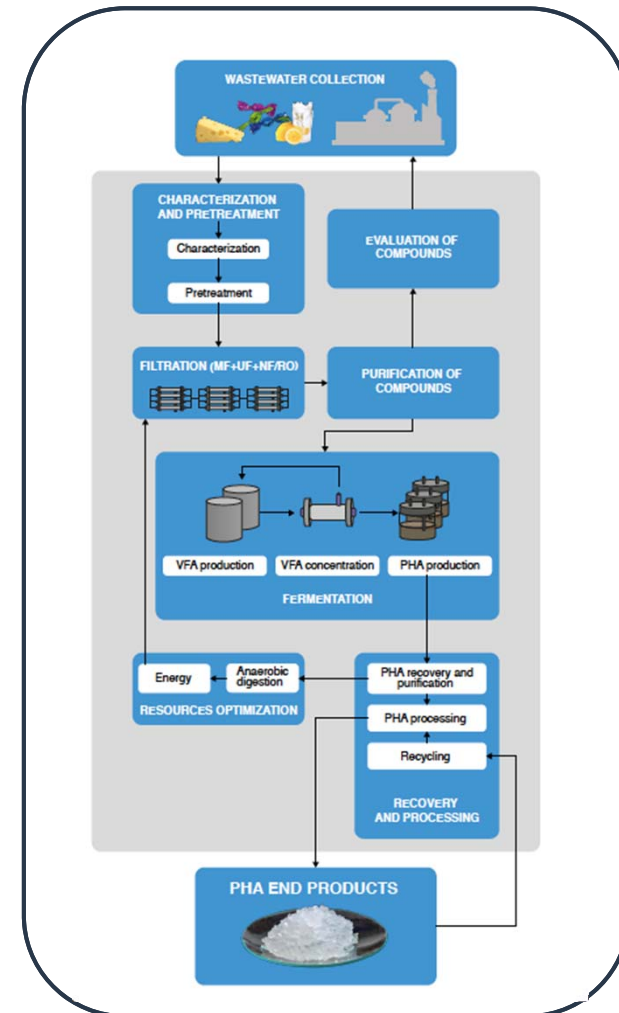


- **Team: 20 members** (phD-holding and MSc-holding engineers)
- Participation in projects : **17 European y 2 national projects**
- **Top-5 Spanish SME** in approved projects and funding



- The AFTERLIFE project proposes a flexible, cost- and resource-efficient process for recovering and valorizing the relevant fractions from wastewater
- It will represent an advance on existing approaches to wastewater treatment, which rely on physic-chemical and biological methods
- The AFTERLIFE process will separate out the different components of value using a series of membrane filtration units that will separate all the solids in the wastewater
- These will then be treated to obtain high-pure extracts and metabolites or, alternatively, to be converted into value-added biopolymers; polyhydroxyalkanoates (PHAs)
- In addition to the value extracted from the solids, the remaining outflow of the water will be ultrapure and ready for re-use

- Develop the filtration system for recovering suspended and soluble solids in wastewater by using membrane filtration units.
- Develop the process for recovering and purifying valuable compounds in the concentrates extracted in the filtration step.
- Develop an anaerobic/aerobic process for converting the low value-added organic matter into PHAs.
- Design and optimise the process from a holistic perspective following a Multidisciplinary Design Optimisation (MDO) approach
- Demonstration at pilot scale using real industrial wastewater to generate the end products
- Prove the economic and industrial feasibility for the process along with a comprehensive Lifecycle Analysis (LCA) and cost assessment



AFTERLIFE process



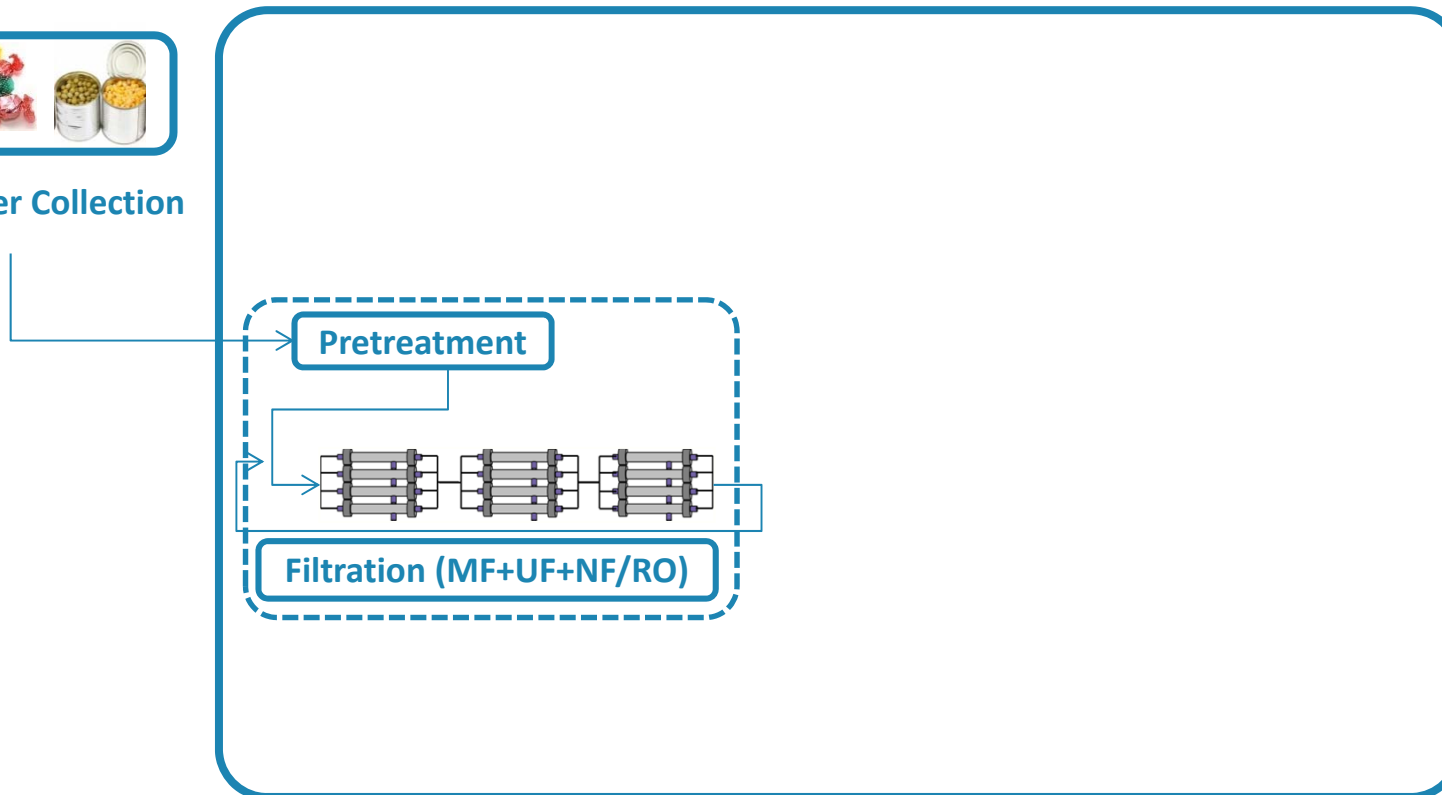
Wastewater Collection

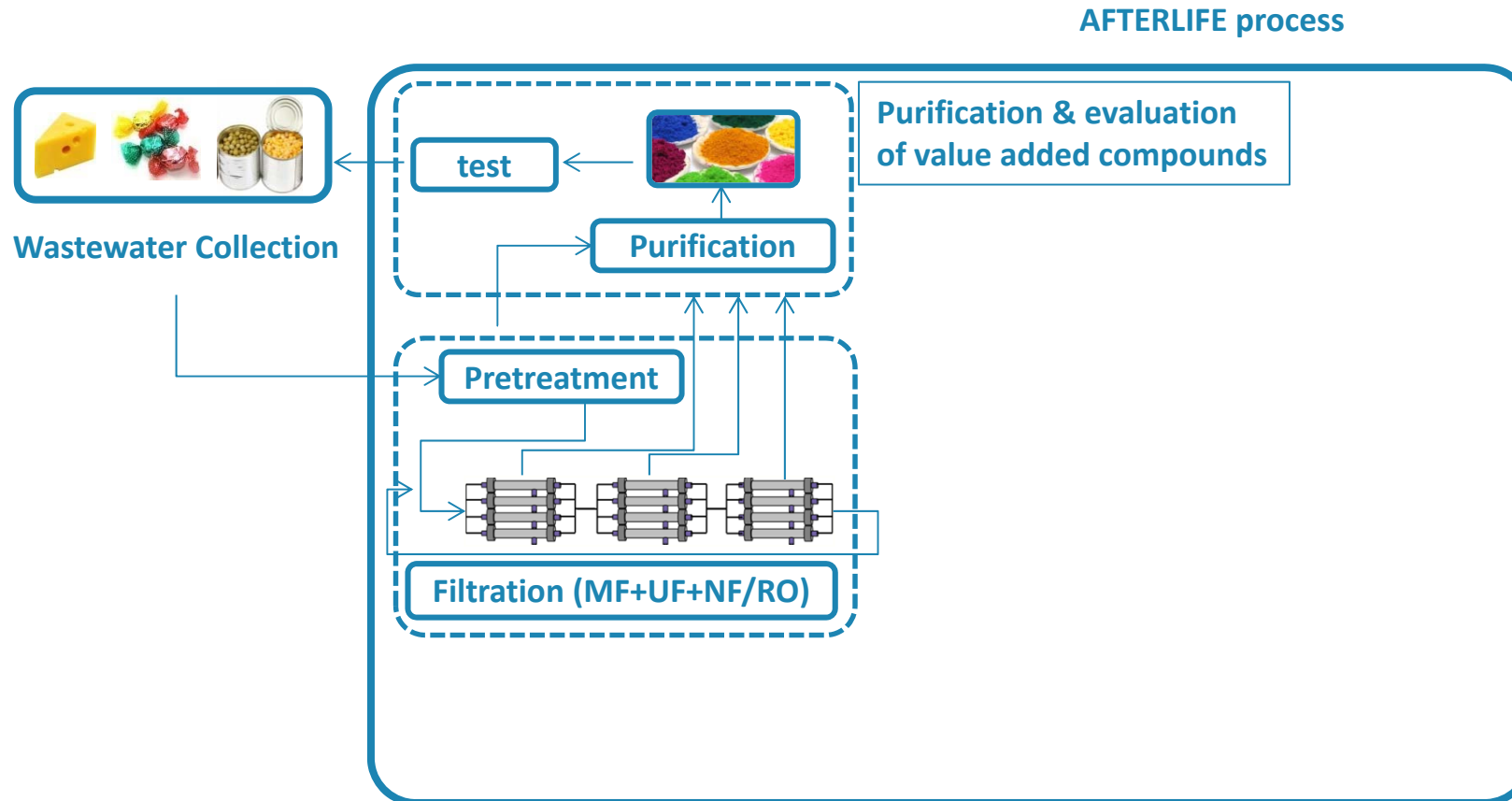


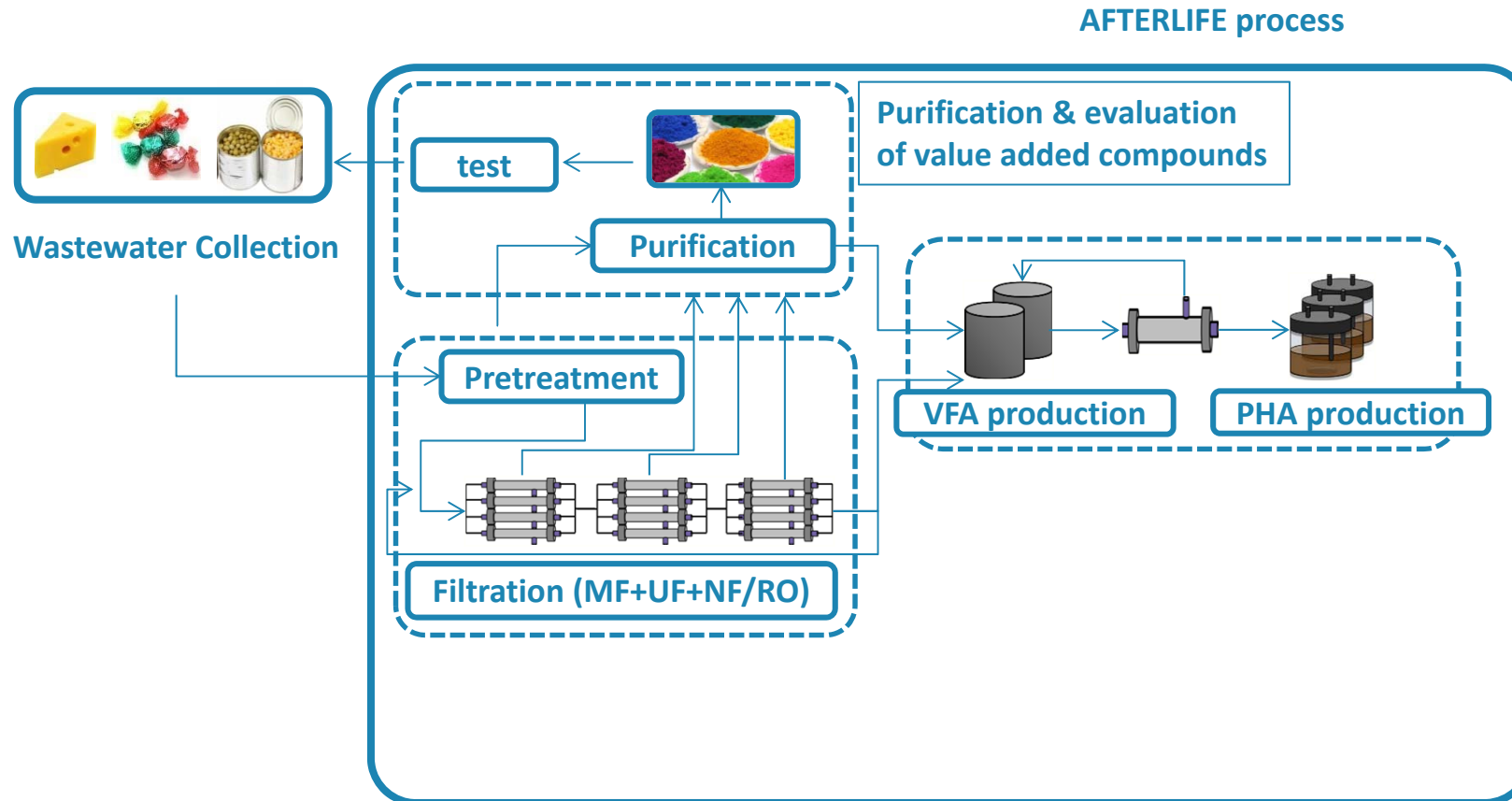
AFTERLIFE process

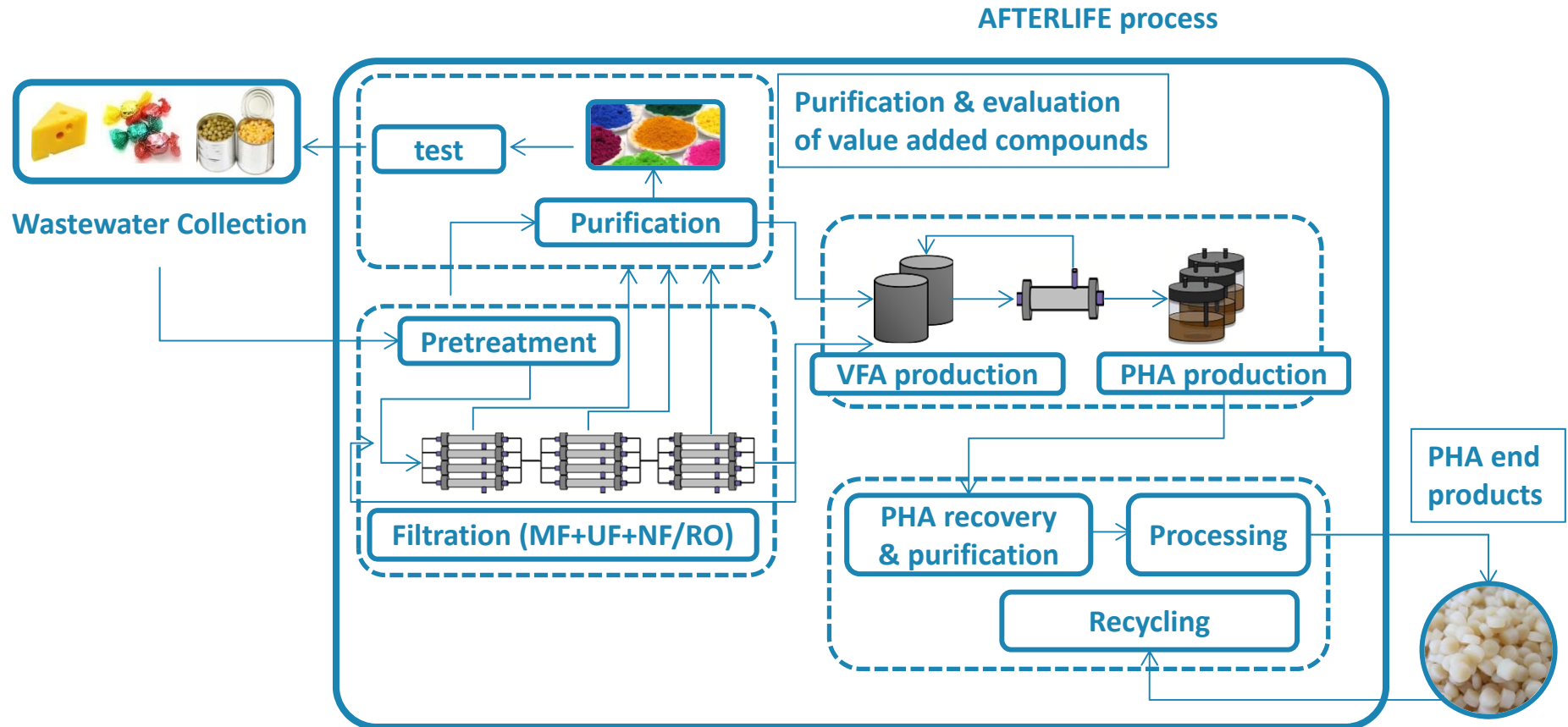


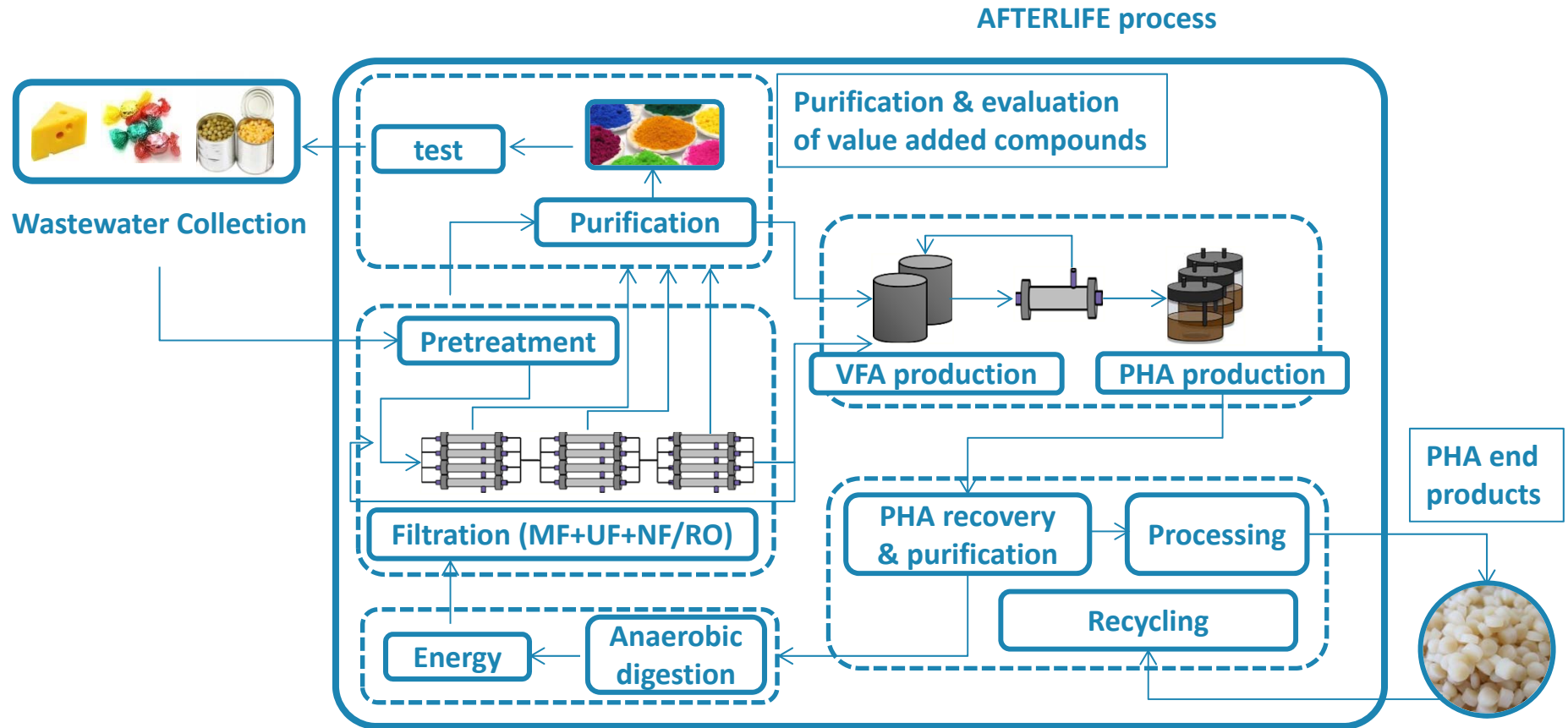
Wastewater Collection












- Validate that AFTERLIFE provides recovery rates that are comparable to, or better than, those of competing technologies
- Successfully recycle or reuse 100 percent, in dry weight, of the suspended solid fractions
- Create a new cross-sectorial interconnection in bio-based economy clusters
- Create cooperation projects through cross-industry clusters
- Set the foundations for at least one new bio-based value chain and one new bio-based material
- Lead to 30 new consumer products by 2020
- Attract broad participation from SMEs



 4 Duration (Years)	 3.890.000 Max. grant amount	 15 Partners	 7 Countries
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CONSORTIUM

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