

BIOPROCESS  
PILOT FACILITY

## Shared Pilot Facilities & Lessons learned about Interregional cooperation

*Have your process scaled up at BPF,  
a reliable and experienced pilot scale partner.*



Investing in your future.  
The Bioprocess Pilot Facility is partly financed  
by the European Regional Development Fund  
of the European Union.

*ECRN workshop*

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# Bioprocess Pilot Facility (BPF)

## A Shared Pilot Facility

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- Located in Delft, Netherlands (close to Rotterdam / The Hague)
- Accessible to everyone
- Able to perform almost any biobased process at pilot scale
- Non-profit
- IP remains with the client (i.e. not a knowledge institute)
- Equipment (>200 pieces) already operational
- Experienced operators and engineers (35 FTE total BPF)



# Piloting

## When and why to use a pilot?

- Pilot: De-risk your scale up
- Scale up of lab
- High-risk changes to commercial process
- Every pilot run is a consideration:

Costs of the pilot  
vs.  
Risks if you don't



# SMART Pilots (Interreg Europe project)

## SMART Pilots recommendations for policy makers

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1. **Invest wisely** and focus on maintaining and further developing existing facilities to keep their state-of-the art equipment up-to-date.
2. Create mechanisms to encourage **usage of already existing shared pilot facilities**, even if these are located outside their own region.
3. Increase coordination and collaboration between pilot facilities, improve users' awareness of the available facilities and **avoid overlapping investments** in Europe.
4. Encourage companies to work together with SPFs from an early stage on, for example by offering small and medium-sized companies **vouchers** for such collaborations.



Project website:

<https://www.interregeurope.eu/smartpilots/>

Youtube, 3 minutes:

[https://www.youtube.com/watch?v=PMR6HG\\_MEi8](https://www.youtube.com/watch?v=PMR6HG_MEi8)

# European bottlenecks in piloting

## The Big Picture

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- The smaller the company, the bigger the challenge
- Large Multinational:
  - Piloting costs very small compared to investment of commercial process
  - Good investment to de-risk
- Small start-up:
  - Costs are very significant compared to annual turnover of start-up
  - Piloting is unaffordable without subsidies

## Allow subcontracting via vouchers

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- Plenty subsidies (e.g. H2020, Interreg, etc.) at TRL 4-8...
  - But subcontracting often discouraged
  - Subsidies not designed for financial break-even
  - Participation as partner is financially not interesting (if you want no IP)
- How can a start-up get access to a Shared Pilot Facility?
- Answer: subsidies where subcontracting is allowed
  - E.g. voucher schemes

# Vouchers

## Budget still available

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- Simple application
  - Simple forms + signed quotation from BPF
- First-come-first-serve system
- Three vouchers:
  - 15 k€ voucher at 0% co-funding for pre-pilot (lab) work
  - 50 k€ voucher at 50% co-funding for the pilot work
  - 15 k€ voucher at 50% co-funding for use of BPF or Planet B.io lab/office space (Delft)
- Open to any SME from the EU-27 (!)

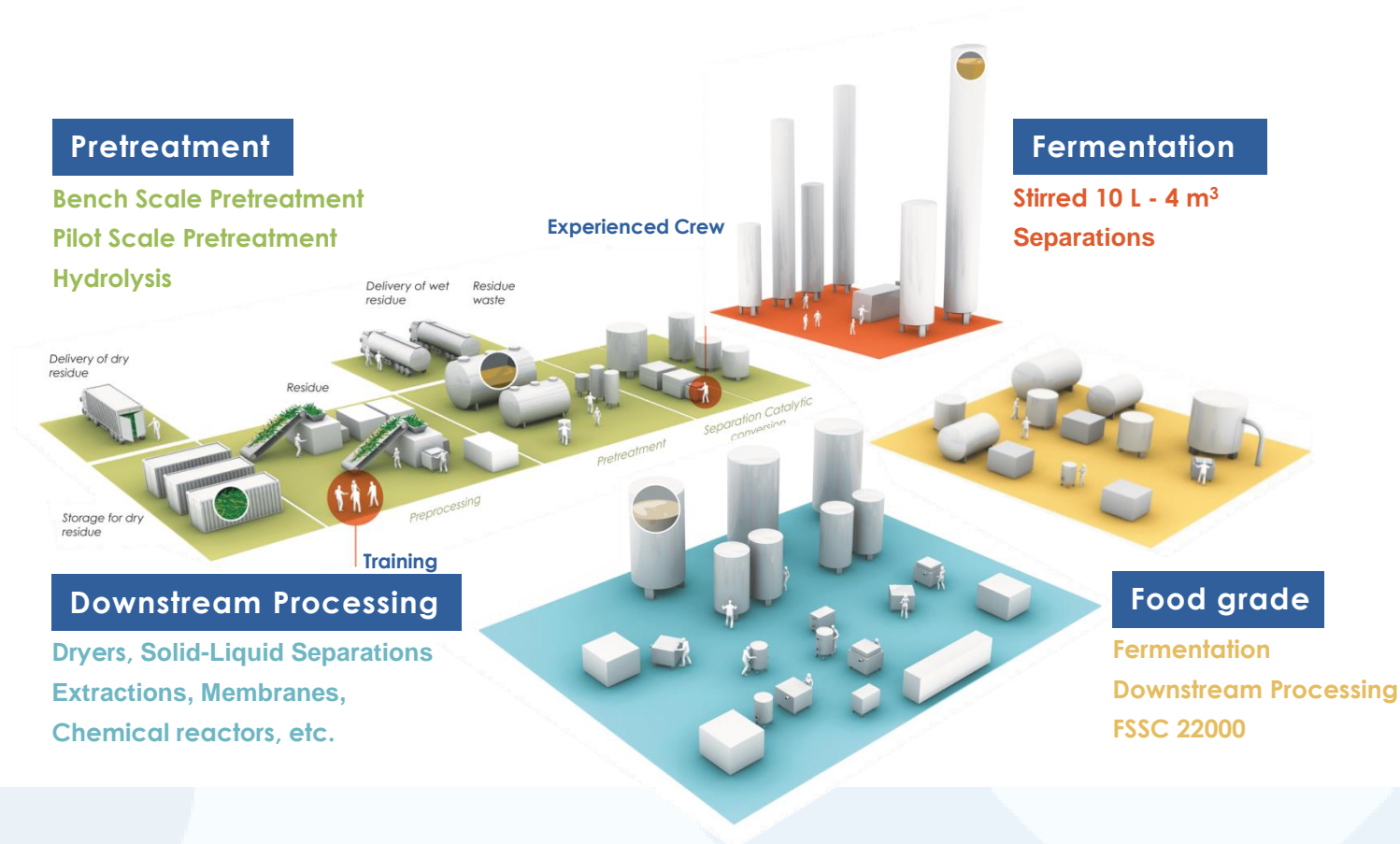


Link (scroll down for English): <https://www.kansenvoorwest2.nl/nl/subsidie/openstelling-vouchers-biobased-industries/>



# BPF facilities

## An entire value chain at pilot scale





# BPF equipment

## Extensive and flexible

- Continuous pre-treatment equipment
  - Steam explosion & mild acid/alkaline pretreatment
  - 40 kg/h
- Fermentation capacity up to 4,000 liter
- Extensive downstream processing (DSP) equipment
- Food-grade (certified) fermentation & DSP



*Continuous Steam Explosion reactor*



*Feed vessels of fermentation department*

# Eco-system at Biotech Campus Delft

## Over 10 companies, and growing

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-  • The vibrant, south-west part of the Netherlands with plenty of talent and economic activity
-  • Educational programs and network from Delft University of Technology and Yes!Delft incubator
-  • A vibrant ecosystem with common workspaces, restaurant, gym and events to facilitate collaboration
-  • High-end competences in genetics, analysis, process development and food application
-  • 3000 m<sup>2</sup> office and lab space (ML1/ML2) for rent on site (also at BPF)
-  • >9 hectares greenfield location for new buildings or production facilities





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**BPF is a truly multi-purpose pilot facility**

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