INEOS Inovyn

Catalisti & Moonshot Day 2025

DISSOLV consortium

Antwerp
27-11-2025

How did the idea for DISSOLV originate?

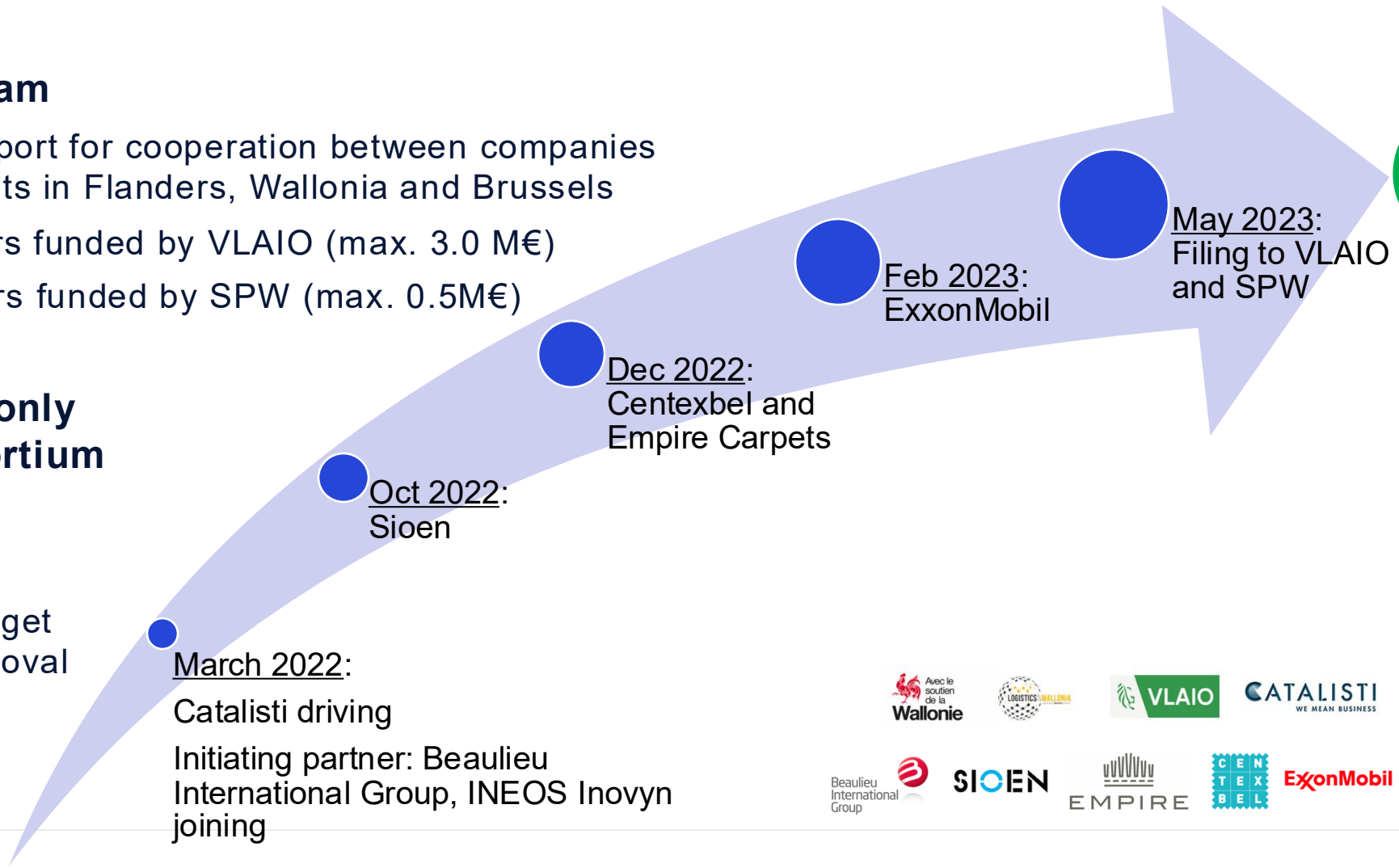
Catalisti as the accelerator of Innovation to Business in recycled PVC

BEL-COO Program

- Funding and support for cooperation between companies with business units in Flanders, Wallonia and Brussels
- Flemish's partners funded by VLAIO (max. 3.0 M€)
- Walloon's partners funded by SPW (max. 0.5M€)

DISSOLV is the only BEL-COO consortium

- Who is next?!
- Easy filing
- Short process to get from idea to approval



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Project innovation objectives

Objectives

1. Dissolution technology development to process PVC waste that can't be recycled mechanically
2. Efficient separation of PVC and PET
3. Purification of extracted PET
4. Effective extraction of plasticizers and additives, particularly those classified as SVHC[1]
5. Conversion and purification of extracted plasticisers
6. Technical assessment of rPVC, rPET and converted plasticisers

[1] SVHC: Substance of Very High Concern

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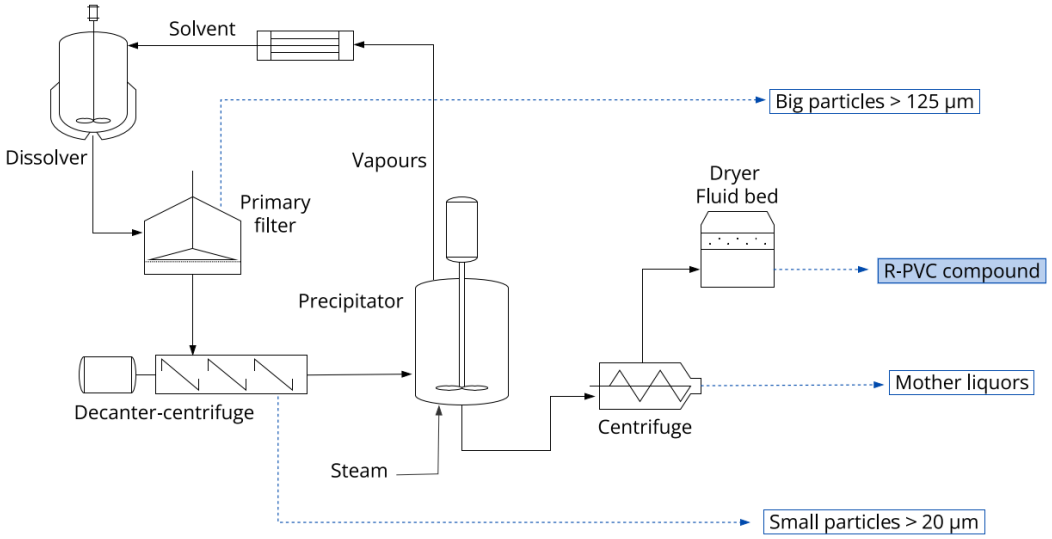
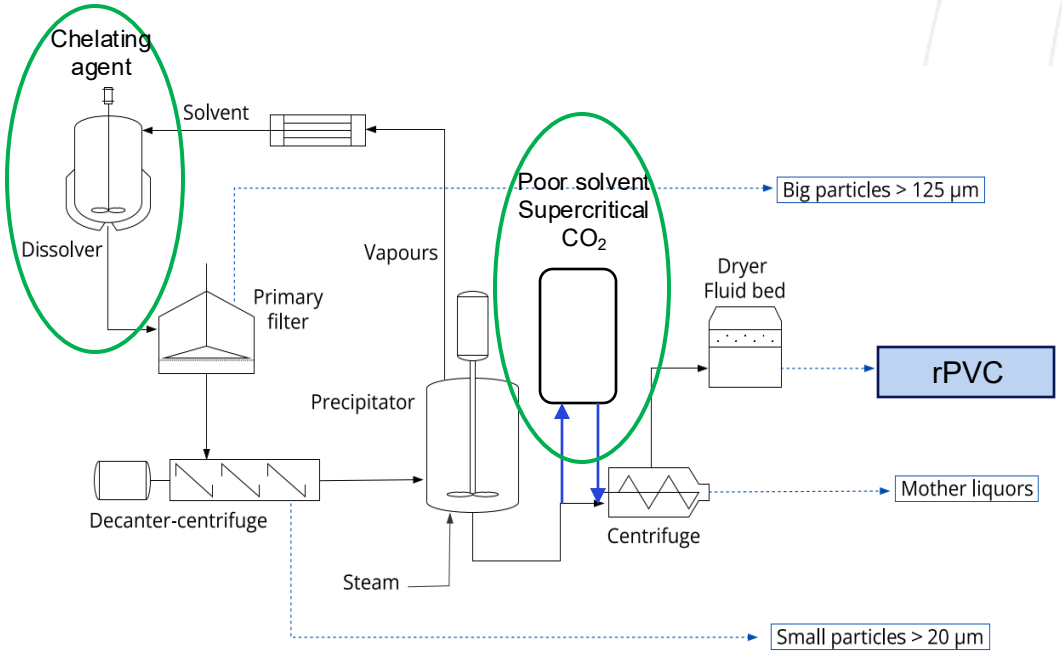
From Vinyloop^{tm} to Vinyloop^{tm} -D technology





Current results

From Vinyloop^{tm} to Vinyloop^{tm} -D technology

- Production of rPVC
  - Impurities extracted and PET/PVC separated
  - Extraction of all additives, but not (yet) 100% efficient in pigment extraction
- Technical assessment
  - rPVC: very promising rPVC results in plastisol flooring processing by BIG. Testing of plastisol tarpaulins processing being performed by Sioen
  - rPET: containing PVC residue (<2000 ppm)
  - Extracted plasticisers: detailed analysis performed, valorisation routes identified and testing being scheduled
- Next steps
  - Finalise rPVC development for Plastisol process
  - Upscaling from R&D to industrial scale for client's pilot plant and industrial testing
  - Review potential business cases

Business opportunities

Closed loop recycling of post-consumer PVC waste

- Target streams: flooring, tarpaulins and carpets
- Opportunities:
  - Closed-Loop Plastisol: produce rPVC with emulsion-like properties for new flooring and tarpaulin plastisols
  - Flooring & Tarpaulins Recovery: separate Fibers&PVC and recycle PVC for plastisol formulations
  - Multi-Stream Dissolution Hub: implement Vinyloop^{tm}-D to achieve an emulsion-grade rPVC
  - Additive Recovery: stabilisers, plasticizers & fillers for reuse
- Circularity benefits:
  - True closed-loop for plastisol applications
  - Reduces virgin emulsion PVC demand & CO_2 footprint
  - Aligns with EU Green Deal & EPR schemes

BEL-COO’s DISSOLV consortium

Conclusions

- **Catalisti** acts as a true accelerator, connecting companies for collaborative R&D
- **BEL-COO** programme fosters partnerships across Flanders, Wallonia, and Brussels
- **Fast approval:** once the file is complete, the 4-month approval process is highly efficient
- **Strong collaboration**: Flemish and Walloon partners move innovations from lab to pilot, enabling future scale-up
- **Progress**: After 2 years, results are promising though further steps are needed
- **Regulatory framework**: mandatory recycled content is key to creating guaranteed demand, unlocking economic value, and driving investment in collection, sorting and processing
- **EPR + recycled content**: together, they form a strong demand-supply loop, accelerating PVC circularity