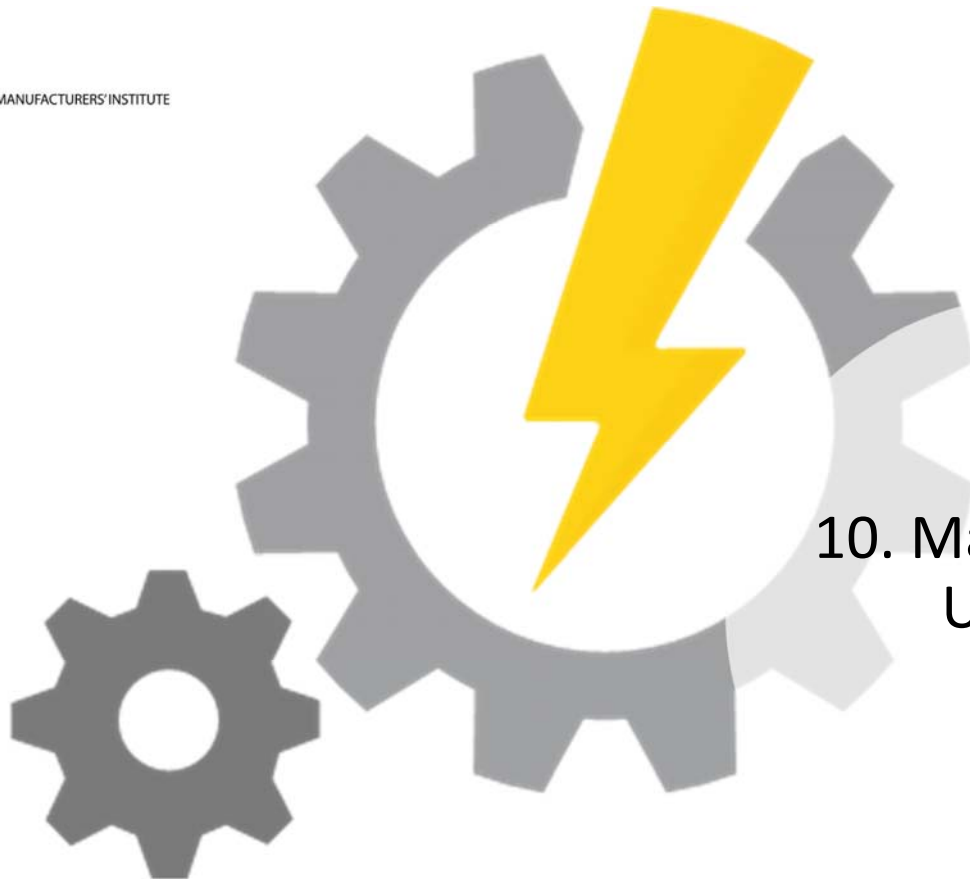


ERFMI.

EUROPEAN RESILIENT FLOORING MANUFACTURERS' INSTITUTE



10. Management Update

ERFMI.

EUROPEAN RESILIENT FLOORING MANUFACTURERS' INSTITUTE

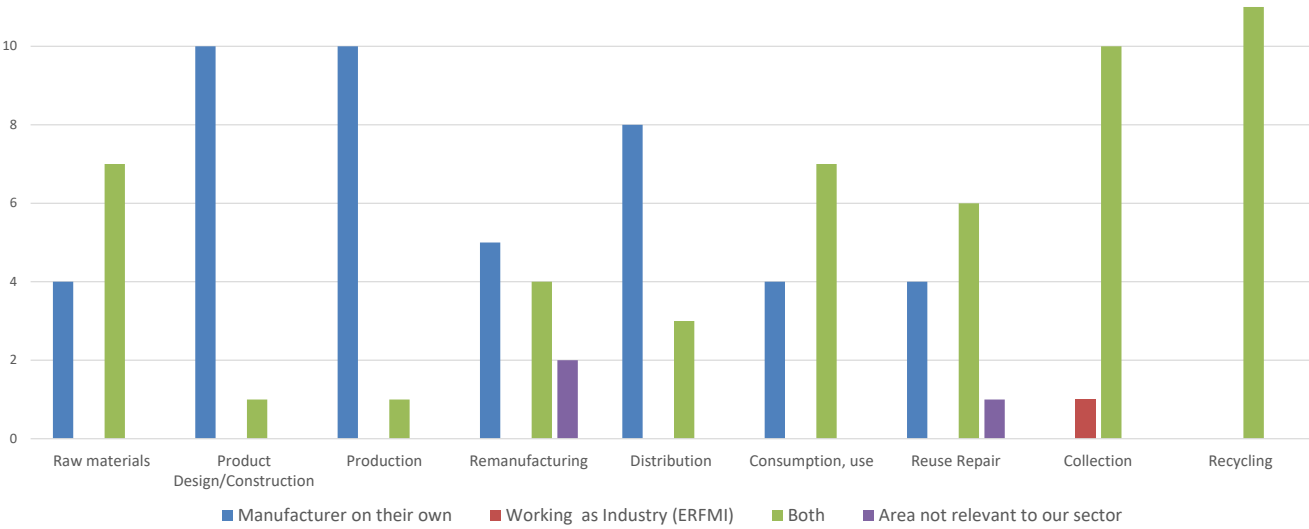
11. A. Circular Economy Workshop



Questionnaire

CE area	Who can influence or effect development towards a circular economy in each area?			Area not relevant to our sector
	Manufactures on their own	Working as Industry (ERFMI)	Both	
Raw materials				
Product Design/Construction				
Production				
Remanufacturing				
Distribution				
Consumption, use				
Reuse Repair				
Collection				
Recycling				

Who can influence development in each area of the Circular Economy?



List,evaluate and assess current recycling technologies
Including supply chain regarding collections
Collection logistics for highest volume, low...
Assess waste collection logistics nationally across...
Research new technologies
Business models to get back flooring with known...
Cost effective and efficient sorting
Trial new technologies for recycling
Seperation of products prior to recycling
Assess volumes arising
Options for traceability of material from manufacture...
Business models for reuse and remanufacturing
Communication
Set recycling targets
Provide guidelines for laying/deinstallation to...
Designing the ideal recycling plant
Better distribution options
Product passports
Impact of current distribution routes

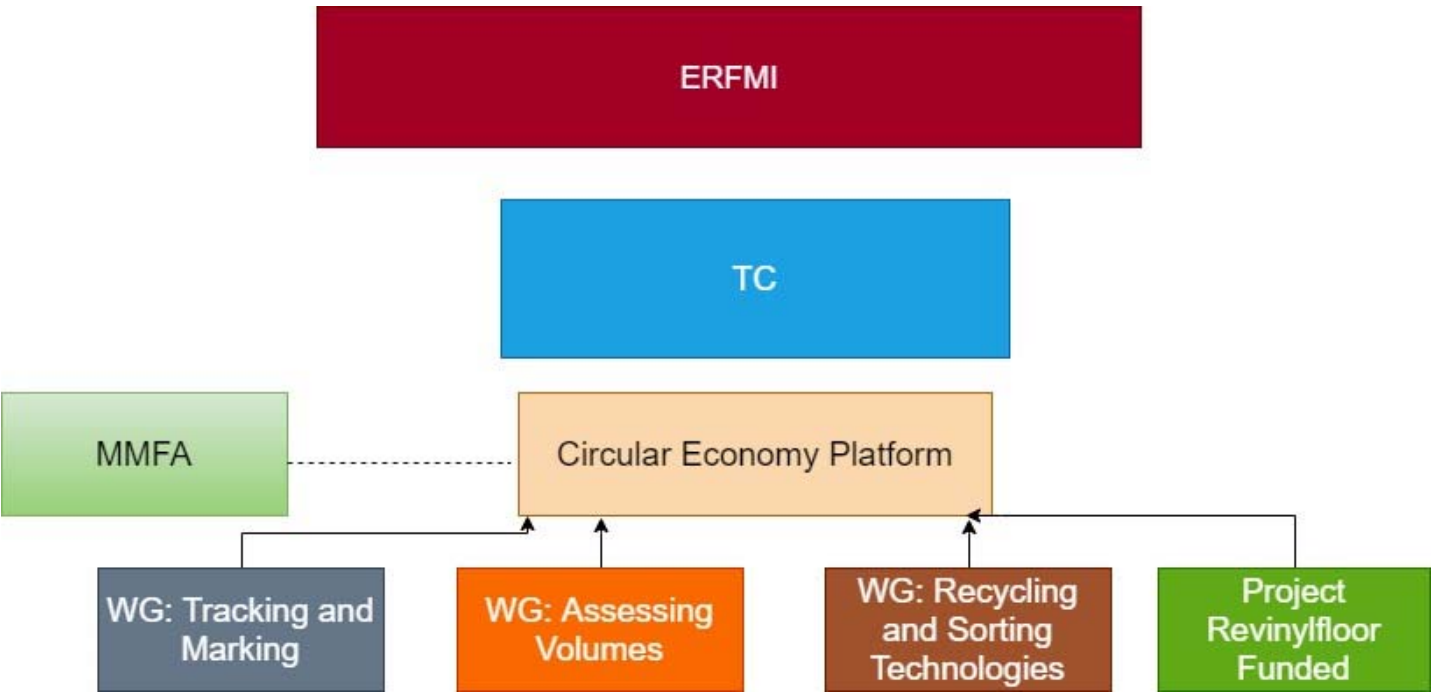


Identified priorities

Tasks	
1	List evaluate and undertake full assessment of current technologies for post consumer waste Trial current technologies
2	Identify Evaluate new technologies Trial new technologies
3	Investigate collection logistics for highest volume/low contamination
4	Sorting technologies
5	Find new markets
6	Traceability and data management

Structure of Platform- Cross material

Topic	PVC both rigid core and flexible construction	Linoleum	Rubber	Cork	Other Polymers
Recycling and sorting technologies	✓	✓	✓	✓	✓
Assessing volumes	✓	✓	✓	✓	✓
Tracking and marking	✓	✓	✓	✓	✓



Decisions to be made

- Circular Economy Platform will be part of TC and meet following TC meetings
- There will be adhoc subgroups as required based on matrix presented
- €50,000 set aside for circular economy projects
- Subgroup for PVC flooring with funding from VinylPlus
- ERFMI to collaborate with MMFA on circular economy

PVC Platform - RevinylFloor

- Revinylfloor project under ERFMI. First meeting after the Circular Economy Project and attended by Brigitte Dero, the General Manager Vinyl Plus.
- Submitted technical project for Revinylfloor on 15th September asking for a budget of 200,000 Euro to pursue circular economy projects.
- VinylPlus requesting Chair for the Revinylfloor project from Industry.
- CANDIDATE: Olivier Ceysson, Gerflor – AGREED BY PVC subgroup
- Plenary vote needed.

Overview Revinylfloor tasks

Tasks

Task 1 Gap analysis

Task 2 list evaluate and assess current recycling technologies

Task 3 List evaluate and assess current technologies for separating flooring

Task 4 Trial technologies from Task 2 and Task 3

Task 5 Establish additional end market for recycle from PVC Flooring

Task 6 Investigate existing systems for collection, define optimum collection systems for PVC flooring and trial collection system

Project overview



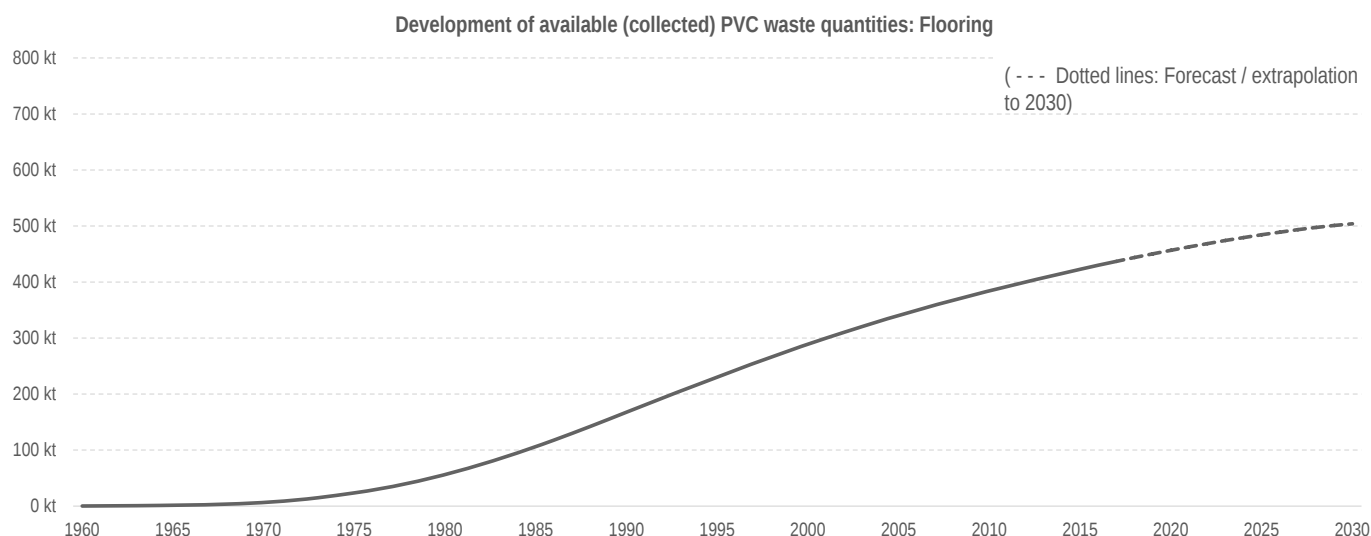
Project title	Organisation	Description	Timeline
Vinyl Plus Dynamic Waste Forecast Model	VinylPlus	Assessing Volumes of PVC waste arising, collectable and recycle 2020 -2030	March - December 2019
Horizon 2020 Circular Flooring Project	Horizon 2020 Consortium with ERFMI, Fraunhofer, Vinnolit and others	Separating PVC from legacy plasticisers in post consumer flooring using a dissolution process	June 2019 – June2023
Oréade	Vinyl Plus/ ERFMI members	Energy Recovery of flooring plus reprocessing of Sodium Chloride and Calcium Chloride	February 2020 – Dec 2020
EUPolySepProcess	PCE/EUPC/ Consortium /Horizon 2020	Separation of multilayer products	2019/2021

Vinyl Plus PVC Dynamic Waste Forecast Model



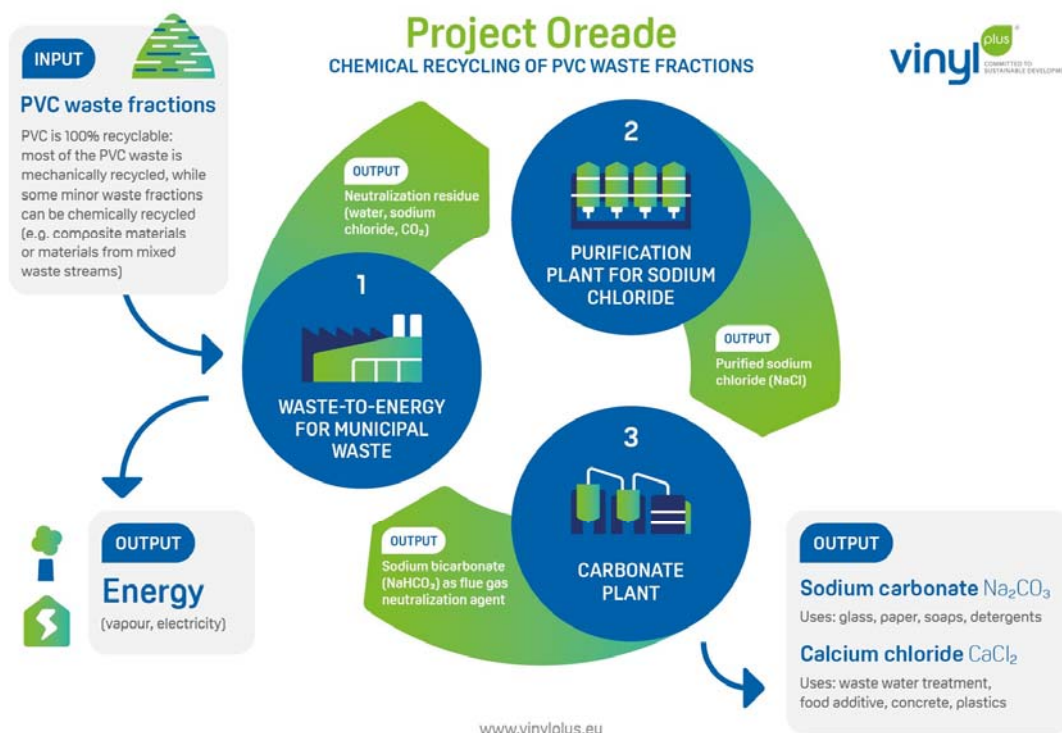
- Development of a dynamic model to:
 - **Predict the amount of post-consumer PVC waste arising, available and collectable in each year between 2020 and 2030, especially in 2020, 2025 and 2030**
 - The amounts from this available and collectable waste that can be recycled
 - Potential content of key additives (present and legacy) in the arising waste streams

Collectable Flooring Initial Result

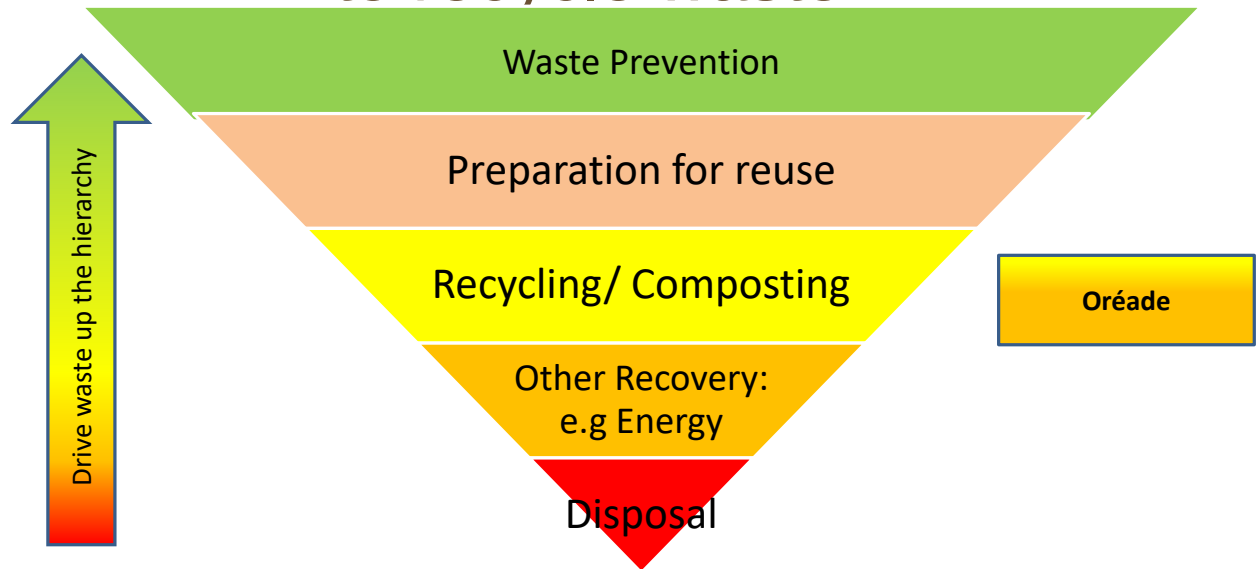


Oréade

- Incinerator run by Suez in France
- Project for difficult to recycle end of life flexible waste
- VinylPlus working with Suez to adapt their incinerator in Oréade - Both energy recovery and recycling
- VinylPlus seeking contribution of sectors towards gate fee 600 tonnes @ €150 per tonne = €90,000



Good option for large volumes of difficult to recycle waste



Circular Flooring Project H2020O

- H2020 project June 2019 to June 2023
- **Research objective:**
 - Circular use of plasticised PVC from waste flooring by developing recycling process that eliminates plasticizers including DEHP and BBP from the PVC matrix and recovers recycled PVC with highest quality.
- Results will be demonstrated by reprocessing eliminated plasticisers into **new phthalate free plasticizers** and reusing recycled PVC and additives in new flooring applications.
- 4 year project
- Total funding €5,38 million

Work Packages

ERFMI and its 7 linked third parties focusing on Workpackages 1 and 5:

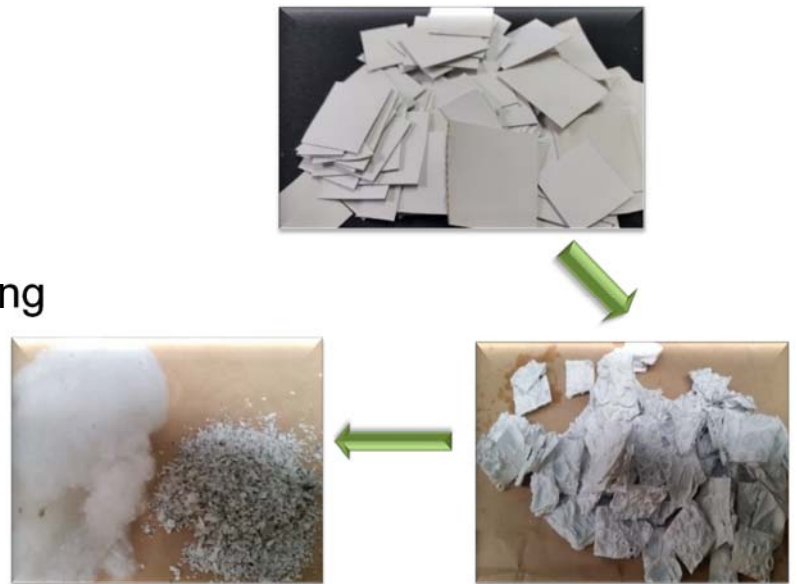
- **WP 1:**
 - Overview on postconsumer PVC floor covering waste and post-production flooring waste
 - Overview on the market acceptance of flooring that includes secondary raw materials
- **WP 5:**
 - Linked third parties test end product in flooring prototypes and provide feedback to reach optimum quality

Workshop at Vinnolit



EUPolySep Process

- Developed delamination process for multilayer polymers
- Trialled on flooring – separates PVC from backing layer



Next steps

- ERFMI sent out samples from members
- Members should have received separate samples back
- More successful for products such as PVC on felt
- PCE Looking for commitment from industry for €50,000 – €150,000 to build 150 kg pilot plant in Europe
- ERFMI proposing to work with EUFCA Horizon2020 project

