



E U R O P E A N

RESILIENT FLOORING MANUFACTURERS'

I N S T I T U T E

Circular economy for resilient floor covering – time to act!

Carpet Recycling UK Conference

Jane Gardner, ERFMI

10.07.2024

Overview

Who we are and what we do



Why is it time to act now?



What ERFMI is doing: Our vision and approach to the circular economy



Collaboration with other flooring sectors?

About us

- European trade association for resilient floor covering sector
- PVC, Rubber, Linoleum, and other polymers
- 15 members placing ~320 million m² of flooring per year on the European market



Hospitality and
Leisure



Healthcare



Residential



Transport



Industry



Education



Retail



Business offices

Our members



altro

amtico

artigo



ASPECTA™

A NEW DIMENSION IN FLOORING

**BEAU
FLOR®**
we decorate your floor

 Designflooring



FLOORING SYSTEMS

Gerflor®
theflooringgroup



mFLOR®

nora®
by Interface®

POLYFLOR™
COVERING THE WORLD



 **UNILIN**
FOR SMART LIVING


windmöller
PIONEER THINKING

Associate members

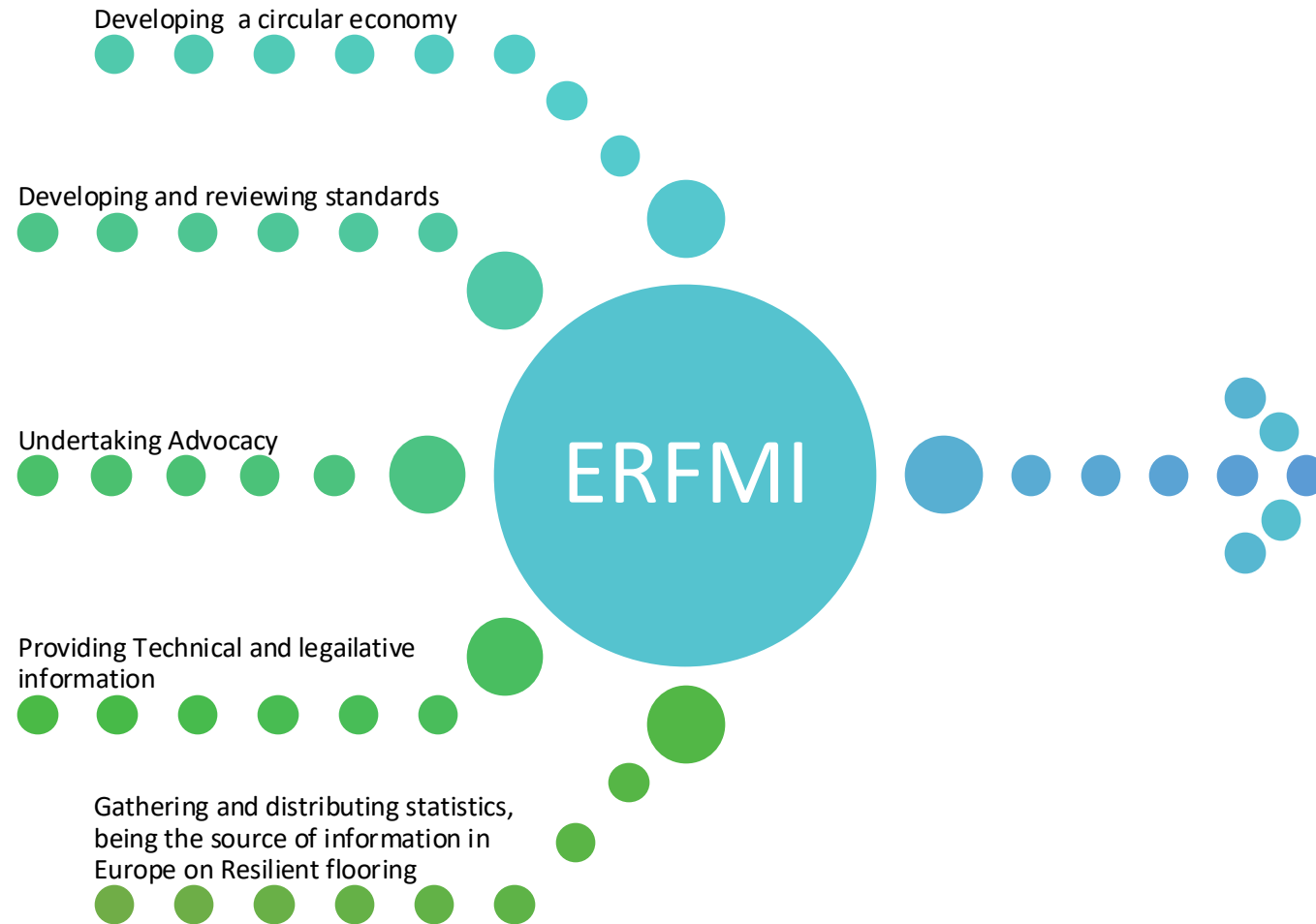


kaléi

Entreprises de revêtements
techniques et décoratifs



What we do



Circular Economy: Now is the right time to act



Politically

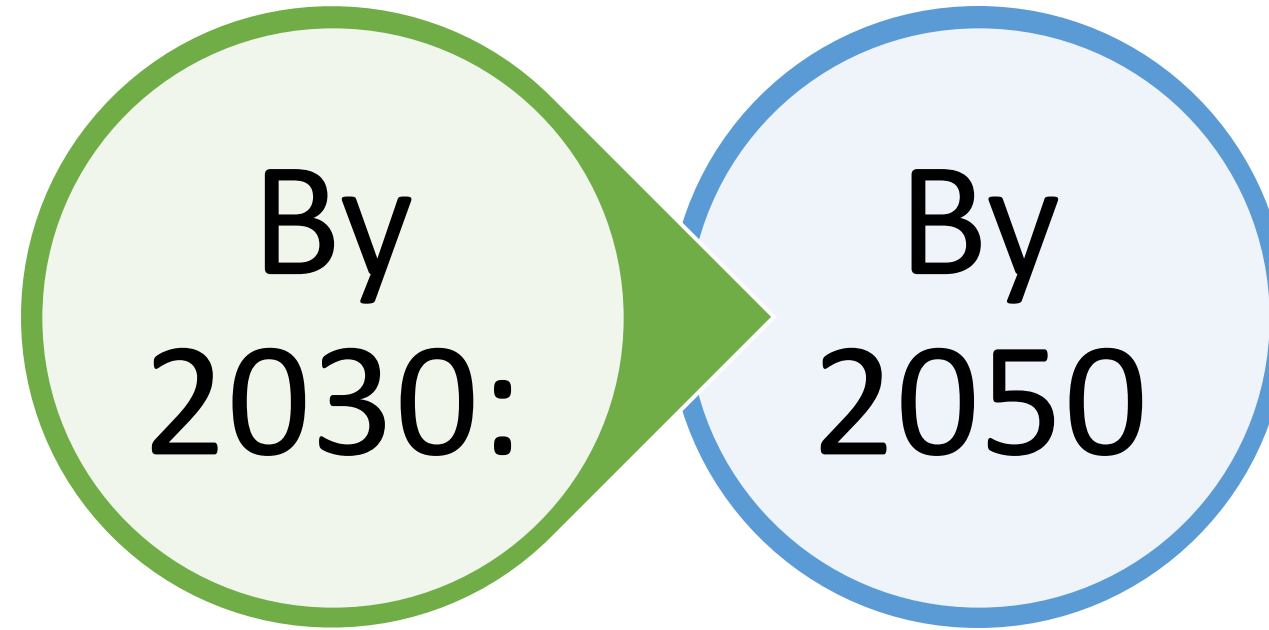
Legislatively

Technologically

European Policy – Shapes our actions



EU Green Deal Targets



- Reduce net Greenhouse Gas(GHG) emissions by at least 55% compared to levels in 1990

- Climate neutrality – net zero GHG
- Circular economy-economic growth decoupled from resource

Policies, initiatives and communications in the sphere of the EU Green Deal related to construction



<https://www.construction-products.eu/initiatives/>

[illegible]



- Need to develop a circular economy for floorcovering
 - To be relevant as an industry to the policy makers
 - To be transparent
 - To take responsibility of our products from design to recycling

Circular economy



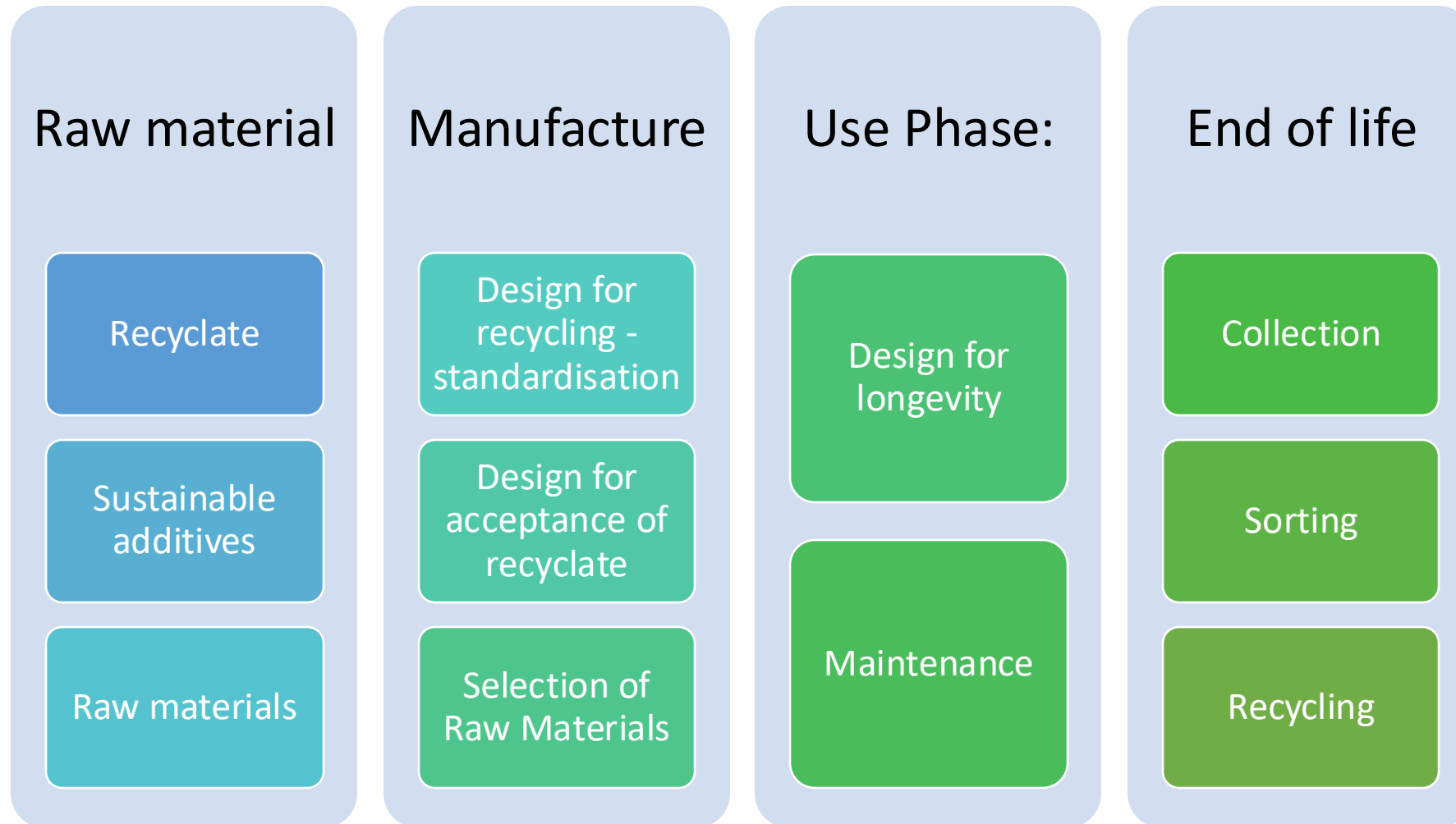
- **Reduce and reuse** materials before **recycling** them.
- New business models
- Digitalisation: e.g. electronic product passports
- Green Public Procurement
- **Increase recycled content**
- Extended producer responsibility – France, Netherlands?

ERFMI's Strategic Vision

To achieve circularity and enhance environmental performance in the PVC flooring industry.



Circular Economy – our areas of focus



Involvement in key projects



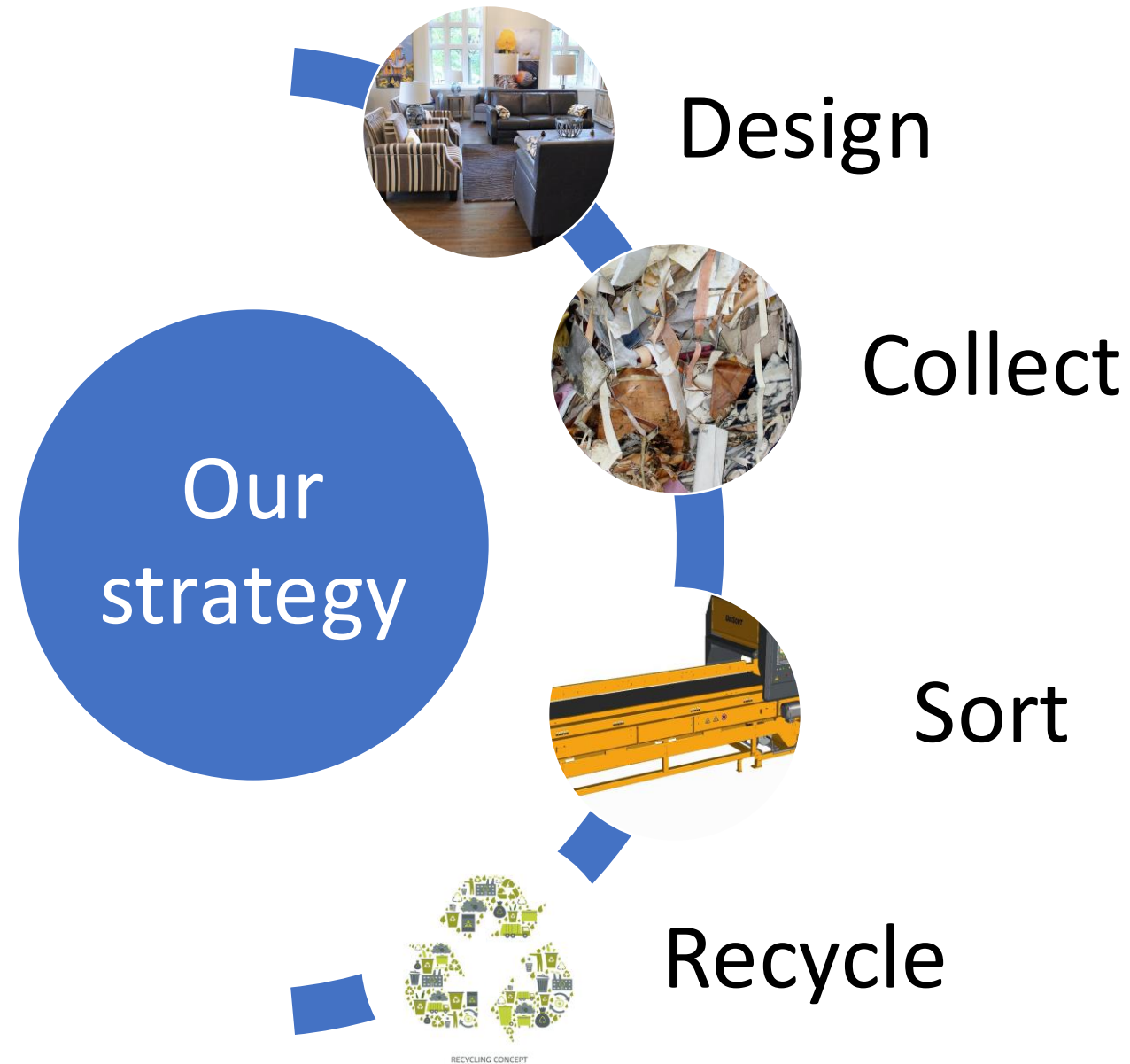
EU funded Horizon 2020 Project Circular Flooring to ensure that we are able to put PVC flooring at the core of circular economy in the EU



Projects co-funded by VinylPlus for PVC – Revinylfloor - that focus on identification and sorting, extraction technologies, and collection



As part of European Floorcoverings Association (EUFCA), an EU funded Horizon 2020 Project Circular Sustainable Floorcoverings – CISUFLO



Design for circularity

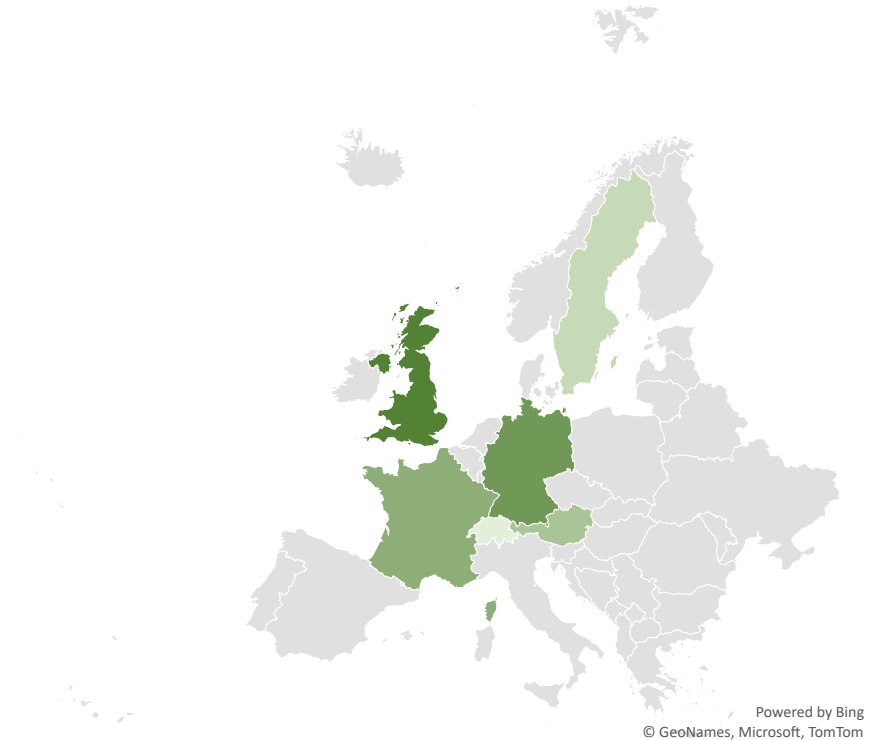


- **Standardisation:**
 - Design for circularity guidelines within CEN TC 134
- **Workshop on Design included discussion on:**
 - Reuse
 - Refurbishment
 - New business models
 - Need to think differently

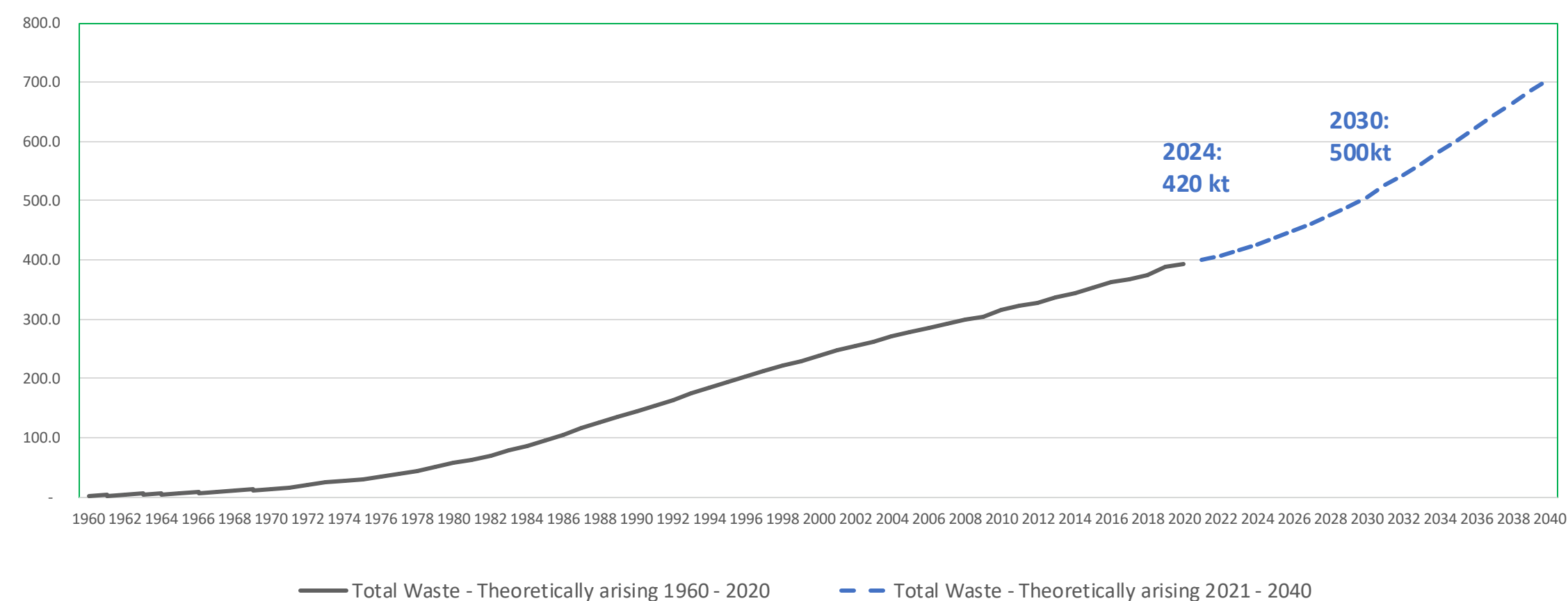
Current status of collection

- Manufacturers have internal reprocessing and recycling facilities
- Collection programmes for post-consumer material in many countries
- Many manufacturers take back flooring from their own projects
- Industry owned recycling production plant – AgPR, based in Troisdorf
- In 2023 ERFMI members recycled 120,000 tonnes of PVC flooring waste via the **RecoTrace** data collection system
- Mainly pre-consumer
- Need to focus on **post- consumer waste**

Countries with dedicated collection and recycling schemes for PVC floorcoverings



Estimation of Post consumer PVC flooring waste arising



Challenges in Collection and Recycling

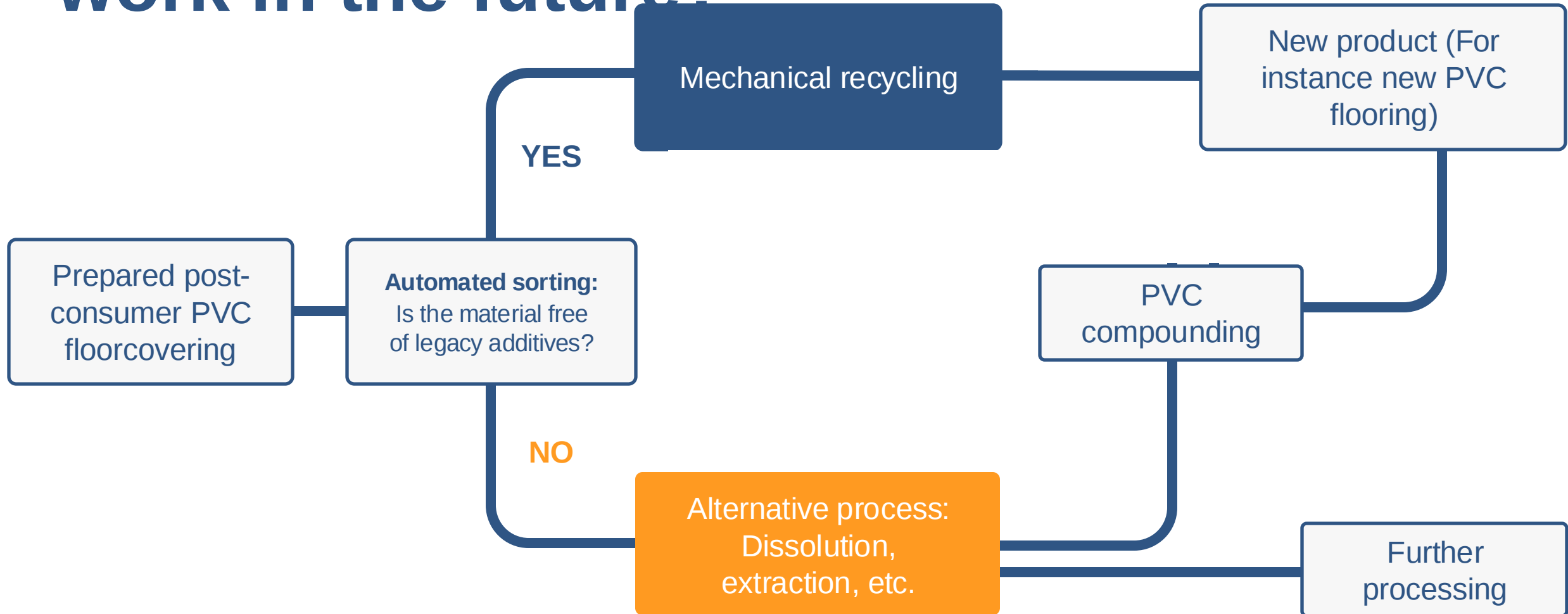


Collection is a challenge as flooring arises in small volumes across large geographical areas



Legacy chemicals in post consumer flooring

How could post-consumer recycling work in the future?



Sorting Challenges

Sorting resilient flooring types from each other

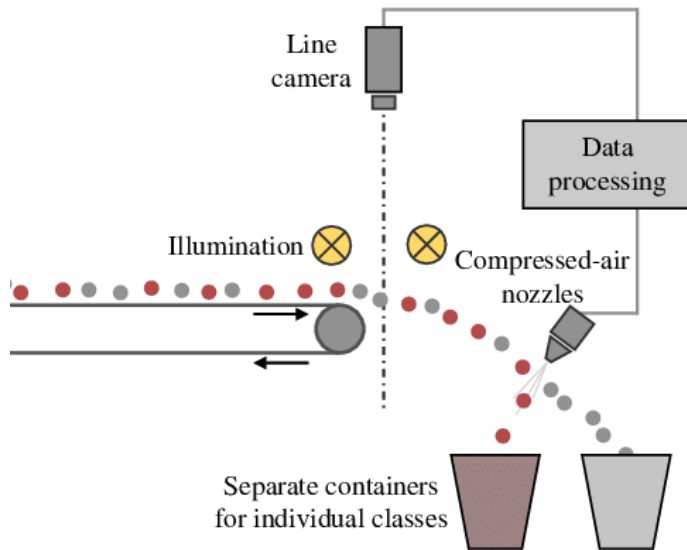
- Back layer is often black which NIR cannot see through
- The top and bottom layer may be different materials

Sorting PVC flooring with and without legacy additives

- Training the technology to identify the various plasticisers used in flooring – past and present

Sorting trials

Working with specialist sorting companies to separate material with and without legacy plasticizer
Initial trials have been promising with less than 0.1% of legacy additives left in the final product



Researching technologies that can extract legacy materials

- Horizon 2020 project Circular Flooring using the Fraunhofer Institute proprietary technology Creasolv®
- Supercritical CO2 extraction



Business plan



2024

Business Plan for a Sorting and Recycling System for PVC floorcoverings

- Developed by Oakdene Hollins based on work previously undertaken
- Pulling together all the information to produce a high-level plan
- Next steps – fine tune viability and economics of each of the processes



Collaboration is key

At supply chain level

Manufacturing



- ☐ Manufacturers
- ☐ Raw material suppliers
- ☐ Additive producers
- ☐ Adhesive manufacturers

Specifying and fitting



- ☐ Main contractors
- ☐ Flooring contractors
- ☐ Wholesalers / retailers
- ☐ Retailers

End of life



- ☐ Waste companies
- ☐ Collectors
- ☐ Recyclers



Cooperation with the carpet sector? Similar issues; same supply chains; waste arising from same places?

With other flooring materials

- Same supply chains
- Frequently same manufacturers
- Waste arises in same places
- Combined collection and sorting where appropriate?
- Flooring sorting hubs?





At Global level

- All our members are global players
- Regular online meetings with the **Australian Resilient Flooring association** and the **Resilient Floorcoverings Institute in the US**.
- Learning from each other and collaborating where possible

Conclusion

- Our strategy
 - Standardisation
 - Recycling technologies
 - Collection
 - Sorting
- Have set up Circular Economy Working Group within ERFMI
- Recognise need to collaborate with other actors in the supply chain
 - Waste management companies
 - Recyclers
 - Raw material suppliers

Let's act together now!



ERFMI – working together to develop a circular economy for resilient flooring

Thank you for listening

Contact:

Jane Gardner

Jane.gardner@erfmi.com

