

Circular materials for furniture: market insights and opportunities

Briefing note



AFRANCESCA

Circular Efficiency in Furniture
A Horizon Europe Initiative

WHY CIRCULAR MATERIALS MATTER

Building the next generation of circular furniture

The transition towards a circular furniture industry depends on more than replacing conventional materials with sustainable alternatives. Manufacturers need solutions that combine environmental performance, technical reliability, commercial availability and compatibility with existing production processes.

Today, identifying suitable circular materials remains a major challenge. Information is often fragmented, technical data are difficult to compare, and many innovative materials have not yet reached sufficient market maturity for industrial deployment.

To address this challenge, FRANCESCA carried out a comprehensive European market assessment to identify and evaluate circular materials with potential for furniture applications. The study provides an evidence-based starting point for selecting materials that can support the development of more circular furniture products while remaining compatible with industrial needs.

At a glance

The assessment generated one of the most comprehensive overviews of circular materials currently available for furniture applications in Europe.

93	Circular materials assessed
56	Materials pre-selected for further evaluation
7	Functional material categories analysed
≈80%	Already at industrial commercial maturity (CRL 6-7)
Multiple	Environmental certifications and declarations identified

How were materials assessed?

The assessment did not focus solely on environmental claims. Each material was analysed against a combination of technical, commercial and circularity-related criteria, including:

- Circularity potential and resource efficiency.
- Suitability for furniture manufacturing.
- Commercial readiness and market availability.
- Environmental certifications and technical documentation.
- Potential contribution to future circular business models.

This multidimensional approach helps bridge the gap between innovative material development and practical industrial implementation, ensuring that the most promising solutions can progress towards technical validation within the FRANCESCA project.

Why this matters for industry

The study demonstrates that Europe already offers a growing portfolio of circular material solutions for furniture manufacturing. However, successful adoption requires reliable technical information, transparent market data and validation under real industrial conditions.

The pre-selected materials identified through this assessment provide the foundation for the next stages of FRANCESCA, where their technical performance, manufacturability and suitability for specific furniture applications will be further evaluated before integration into demonstrators.

WHAT THE STUDY FOUND

A diverse and increasingly mature portfolio of circular materials

The market assessment identified a broad range of circular material solutions capable of supporting the transition towards more sustainable furniture manufacturing. Following a structured evaluation process, 56 materials were pre-selected for further technical assessment, covering the main components used in furniture production.

Circular material landscape

Material category	Main findings
Wood-based panels	Growing availability of panels incorporating recycled wood fibres, agricultural residues and alternative lignocellulosic feedstocks.
Coatings & adhesives	Increasing number of low-emission, water-based and bio-based formulations with improved environmental profiles.
Textiles & upholstery	Expansion of fabrics manufactured from recycled fibres and renewable raw materials, supporting more circular upholstery solutions.
Foams & cushioning	Emerging alternatives incorporating recycled content and renewable feedstocks while maintaining comfort and functional performance.
Structural materials	Wider availability of recycled metals, plastics and composite materials suitable for furniture components.
Hardware & connectors	Components designed to facilitate repair, replacement and disassembly, supporting longer product lifetimes.
Materials for digital manufacturing	New recycled and bio-based materials compatible with additive manufacturing and advanced production technologies.

Key market trends

The analysis identified several common trends across material categories:

- **Higher commercial maturity.** Approximately 80% of the pre-selected materials are already commercially available or close to full industrial deployment (Commercial Readiness Levels 6-7), demonstrating that many circular alternatives are moving beyond the research stage.
- **Growing environmental transparency.** Many suppliers already provide Environmental Product Declarations (EPDs), FSC® or PEFC certification, recycled content declarations or other recognised sustainability credentials, making material comparison easier for manufacturers.
- **Bio-based and recycled solutions are expanding rapidly.** The market is evolving beyond conventional recycled materials, with increasing availability of alternatives

derived from agricultural by-products, industrial residues and renewable biological resources.

- **Design for circularity is becoming a competitive advantage.** Materials are increasingly being developed to facilitate durability, repair, disassembly and future recycling, supporting emerging circular business models within the furniture sector.

An encouraging market – but not without challenges

The assessment confirms that the European market already offers a substantial portfolio of promising circular materials for furniture applications. However, selecting the most appropriate solution still requires balancing environmental performance, technical suitability, commercial availability and regulatory requirements. For this reason, the FRANCESCA project will now move from market screening to technical validation, ensuring that the most promising materials can be successfully integrated into real furniture products and industrial processes.

CHALLENGES AND OPPORTUNITIES

Although the market is evolving rapidly, companies still face several barriers when selecting and implementing circular materials. At the same time, important opportunities are emerging that can accelerate the transition towards circular furniture production.

Key challenges

- **Balancing sustainability and performance.** Manufacturers must identify materials that combine environmental benefits with the mechanical, aesthetic and durability requirements expected by the furniture market.
- **Access to reliable information.** Comparing circular materials remains difficult due to differences in technical documentation, environmental data and product specifications across suppliers.
- **Industrial implementation.** Even commercially available materials require validation within existing manufacturing processes to ensure compatibility, quality and cost-effectiveness.
- **Regulatory compliance.** Companies must prepare for evolving European legislation, including requirements related to product sustainability, transparency and digital product information.

Emerging opportunities

- **Growing market availability.** The increasing number of commercially mature circular materials demonstrates that sustainable alternatives are becoming a realistic option for furniture manufacturers.
- **Innovation through bio-based and recycled materials.** New material solutions derived from renewable resources and secondary raw materials are expanding design possibilities while reducing dependence on virgin resources.

- **Competitive advantage.** Companies adopting circular materials can strengthen their environmental performance, respond to customer expectations and anticipate future regulatory requirements.
- **Digital and circular value chains.** Improved material traceability and the future implementation of Digital Product Passports will facilitate more transparent and circular furniture value chains.

LOOKING AHEAD

The market assessment confirms that circular materials are no longer a niche opportunity but an increasingly viable option for mainstream furniture manufacturing. Europe already offers a growing portfolio of commercially available solutions capable of supporting companies in reducing environmental impacts while maintaining product quality and industrial competitiveness.

However, material selection is only the first step. Successful implementation will depend on validating technical performance, manufacturing compatibility, cost-effectiveness and market acceptance under real production conditions.

Within FRANCESCA, the materials identified in this study will now undergo technical feasibility assessment, industrial testing and integration into demonstrators, generating practical evidence that will help manufacturers make informed decisions when adopting circular materials.

By combining market intelligence with industrial validation, FRANCESCA aims to reduce uncertainty, accelerate the uptake of circular materials and support the transition towards a more competitive, resilient and resource-efficient European furniture industry.

Learn more

Visit the FRANCESCA website and follow the project on LinkedIn to stay informed about upcoming results and publications.



www.francesca.eco



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