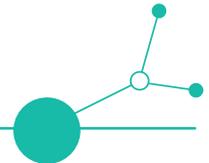


D4PACK Joint Strategy for Technology Transfer Services

D4PACK - Deliverable 1.5.1- Activity 1.5



Version 1
05/2025





D4PACK JOINT STRATEGY FOR TECHNOLOGY TRANSFER SERVICES

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D4PACK

PROJECT TITLE	Support the transition of the Central Europe food industry Towards Next-Gen Packaging models
PROJECT CODE AND ACRONYM	D4PACK - CE020082
DELIVERABLE TITLE AND NUMBER	D4PACK Joint Strategy for Technology Transfer Services (TTS) - D1.5.1
ACTIVITY TITLE AND NUMBER	D4PACK Joint Strategy and Action Plan action plan to provide new Technology Transfer Services about next generation packaging solutions - A.1.5
COMPLETION DATE	30/05/2025



Introduction

The food industry is at a crucial turning point as sustainability becomes a central concern for businesses, policymakers, and consumers alike. Packaging, a key component of food production and distribution, is under increasing scrutiny due to its environmental impact. While large corporations are progressively integrating sustainable packaging solutions, Small and Medium Enterprises (SMEs), which make up over 90% of the European agri-food sector, and 99% of the 291.000 food and drink industries in the EU, often struggle to transition due to limited knowledge, financial constraints, and regulatory complexities.¹

The D4PACK Strategy was developed to address these challenges by providing SMEs with the tools, knowledge, and structured decision-making frameworks necessary to identify and adopt sustainable packaging solutions. The project fosters a transnational and cross-sectoral collaboration among industry experts, research institutions, and business support organizations across Central Europe, ensuring that regions with lower innovation capacity have access to the same opportunities as highly developed areas.

The final goal of the D4PACK joint strategy is the development of a new Technology Transfer Service (TTS), which serves as a structured guidance system for SMEs, enabling them to evaluate different packaging options based on economic feasibility, regulatory compliance, and technical suitability. The Electronic Guidance Tool (EGeT), through which deliver the TTS, will allow SMEs to perform self-assessments and receive tailored recommendations, ensuring that even businesses with limited expertise can access the transition toward sustainable packaging effectively.

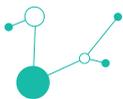
By leveraging real-world pilot testing, collaborative research, and the latest insights on consumer preferences and regulatory trends, the D4PACK jointly developed Strategy and Action Plan provide a practical, scalable, and industry-aligned approach to advancing sustainability in food packaging. Therefore, this strategy ensures that SMEs are not left behind in the shift toward eco-friendly packaging, empowering them with the knowledge and resources needed to make informed and financially viable decisions.

1.1. Problem definition

The development of the D4PACK Joint Strategy for sustainable transition in the packaging sector is coherent with the most relevant sustainable development strategies of the European Union and it is of critical importance for the European Union's sustainable economic development.

As a matter of fact, the agri-food sector is both critical to European economy and problematic in the path towards green transition. According to the 2022 Single Market

¹ "Transition pathway for the agri-food industrial ecosystem" European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, completed in March 2024



annual report, the value added produced by the agri-food industrial ecosystem (farmers, fishers, aquaculture producers, agricultural cooperatives, the **food and drink industry**, agriculture and **food and drink associations**, food retail and wholesale, and food services) is equal to €603 billion in 2019 and employed around 16.08 million employees. In this context, for the **food and drink industry the value added corresponded to €229 billion and employed 4.6 million people**². Due to the significance of the food and drink industry to the European economy, it is crucial to ensure that this sector too adapts to the sustainable development strategies developed and implemented at EU level.

The **European Green Deal**, which aims at achieving climate neutrality by 2050, addresses the problems related to overpackaging and packaging waste through policies and legislative initiatives aimed at reducing waste, increasing recyclability, and promoting sustainable materials. These initiatives include:

1. **Packaging and Packaging Waste Regulation (PPWR)**: approved in December 2024, this regulation updates and strengthens the existing Packaging and Packaging Waste Directive (PPWD), by setting binding targets for packaging reduction, reuse, and recycling by 2030 and 2040. This regulation aims to make all packaging recyclable by 2030, and it encourages the adoption of biodegradable, compostable, and recycled materials.
2. **Single-Use Plastics Directive (SUPD)**: this directive, enforced since July 2021, bans certain single-use plastic products like cutlery, plates, and straws and it introduces extended producer responsibility (EPR) schemes to make companies responsible for plastic waste management. The directive requires plastic beverage bottles to contain at least 30% recycled content by 2030.
3. **Circular Economy Action Plan (CEAP)**: the action plan promotes a closed-loop system where packaging materials are reused, repaired, and recycled instead of being disposed of. Moreover, it introduces eco-design measures to improve the sustainability of packaging materials, and it encourages harmonized labelling to improve consumer understanding of recyclability.
4. **Farm to Fork Strategy**: particularly relevant for the D4PACK project and its jointly developed strategy, it promotes sustainable food packaging to reduce waste and improve food preservation, supporting the phasing out of non-recyclable packaging in the food sector and encouraging investment in biodegradable and bio-based packaging solutions.
5. **Plastic Tax and Producer Responsibility**: the EU plastic levy, introduced in 2021, imposes a tax on non-recycled plastic waste, encouraging companies to adopt more sustainable packaging solutions and promoting the development of innovative materials such as bioplastics and fibre-based packaging.

² “Transition pathway for the agri-food industrial ecosystem” European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, completed in March 2024



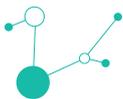
Another extremely relevant document for the SMEs in the food packaging sector is the “**Transition pathway for the agri-food industrial ecosystem**”, published in March 2024 by the European Commission. The document aims to address the specific issues of the agri-food sector in the green and digital transitions, confirming the approach adopted by the D4PACK Strategy: the “Transition Pathway for the Agri-Food Ecosystem” touches upon the topic of food packaging within the broader framework of sustainability and the green transition of the agri-food sector. Although packaging is not a central theme, it is acknowledged as an important component in achieving the goals set out by the European Green Deal and the Circular Economy Action Plan.

Specifically, the document highlights the need to move towards more sustainable packaging practices across the food supply chain. This includes reducing the environmental footprint of food packaging by adopting recyclable, reusable, or biodegradable materials. Such changes essential to support circular economy objectives and to align with new EU regulatory frameworks aimed at waste reduction and improved resource efficiency.

In addition to environmental concerns, the document emphasizes the role of packaging in relation to consumer expectations and market trends. **Sustainable packaging is increasingly influencing consumer behaviour**, as more people are seeking transparency and environmental responsibility from the brands they choose. As such, food companies are encouraged to innovate in packaging design, not only to reduce environmental impact but also to respond to changing demand and to enhance brand image.

In line with the project main goal, the Commission hints at the future potential of smart and digital packaging solutions, which could play a role in improving traceability and information flow along the food supply chain. The transition toward greater sustainability for SMEs in the agrifood sector must necessarily be accompanied by a digital transformation and support. The adoption of these digital tools, that are part of a wider digitalization effort promoted throughout the agrifood transition strategy, is pivotal for enhancing the competitiveness of SMEs. Digitalization provides companies with **simplification tools and decision-making support**, helping them tackle specific critical challenges within their operations. The **D4PACK Strategy** aims to develop a framework that enables SMEs to embrace the sustainability transition while fully aligning with EU objectives—without losing sight of **economic sustainability**.

The implementation of these policies and strategic goals is particularly significant for companies within the European Union, especially in sectors like food packaging that dominate the packaging market. According to Eurostat (2022), the plastic packaging recycling rate varies widely across member states—ranging from 31% in Hungary to 51% in Czechia, with Italy at 48%, Slovenia at 50%, and the EU average at 41%—highlighting



both the scale of the challenge and the uneven progress toward sustainability³. The Eurostat highlight the current state of plastic packaging recovery across Europe. These figures are relevant in the context of PPWR (Article 52), which sets targets for plastic packaging recovery. By 2025, the goal is to achieve 50% recovery, with an increased target of 55% by 2030. The data thus reflects the progress needed across different countries to meet these ambitious targets.

Despite advancements in research and the introduction of innovative food packaging materials (biobased and/or biodegradable), sustainability faces several structural barriers. From a regulatory perspective, as previously mentioned, the sector is undergoing rapid legislative changes, for instance with the Packaging and Packaging Waste Regulation (PPWR) and Implementing Decision 2022/162, imposing restrictions on single-use plastics. While companies in the Fast-Moving Consumer Goods (FMCG) sector and large retailers are adopting innovative solutions, the transition to sustainable models is more complex for agri-food SMEs, which represent over 90% of European producers. Moreover, at global level, despite growing Research and Innovation (R&I) investments in agri-food, the EU food and drink industries invests less than several extra-EU competitors in R&I⁴.

Small and medium-sized enterprises are at a disadvantage compared to large corporations, as they are required to adopt sustainable packaging solutions but often lack the expertise as well as financial resources necessary to do so.

Especially for SMEs in peripheral regions of Central Europe, one of the primary difficulties in the adoption of sustainable packaging solutions and practices lies in the **lack of knowledge** about available sustainable packaging materials and their real impact on production processes. Furthermore, many SMEs, especially those in the food sector, lack dedicated personnel who can research and evaluate these alternatives, often leaving such responsibilities to quality control teams already burdened with other critical tasks. Additionally, the widespread presence of misleading environmental claims and greenwashing makes it difficult for SMEs to distinguish truly sustainable solutions from those that only appear environmentally friendly.

Another crucial issue concerns the **economic feasibility** of transitioning to sustainable packaging. New materials that offer the same level of performance as conventional ones often come at a higher cost, which can be prohibitive for smaller businesses. The financial burden is further exacerbated by the potential need to adapt or replace packaging machinery, an investment that is often difficult to justify given the uncertain return. Furthermore, many SMEs struggle with **market acceptance** of sustainable packaging. Large-scale distributors impose strict packaging requirements, limiting the autonomy of smaller suppliers. In cases where environmentally friendly materials are

³ “Packaging waste by waste management operations” Eurostat 2022, [\[env_waspac\] Packaging waste by waste management operations](#)

⁴ “Transition pathway for the agri-food industrial ecosystem” European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, completed in March 2024



used, consumers may not always be willing to accept the resulting price increase, particularly for lower-cost goods such as fresh produce. This dynamic creates a paradox where sustainable solutions exist but are not financially viable for many businesses.

Additionally, regulatory complexity remains a significant challenge. Although the EU's Packaging and Packaging Waste Regulation (PPWR) is directly applicable across all member states, the large number of obligations it introduces—combined with the fact that many specific provisions are yet to be defined through delegated and implementing acts—creates uncertainty for businesses. This lack of clarity can discourage especially SMEs from making long-term investments in new packaging solutions.

These challenges are particularly pronounced in sectors such as **meat, dairy, and fresh produce**, because of the link between packaging solutions, food quality, and food safety—areas that are highly regulated and subject to strict compliance standards. Therefore, in these industries, transitioning to new materials involves not only cost considerations but also rigorous testing to ensure that packaging maintains product integrity under various conditions, such as refrigeration and transport.

Addressing these issues requires a structured and strategic approach.

Within the D4PACK project, Work Package 1 (WP1) specifically focused on a set of key activities aimed at understanding these sector-specific needs and constraints.

The results of the following activities have been essential in shaping the D4PACK strategy and will guide the development and implementation of the TTS:

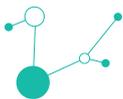
Activity 1.1: Analysis of agrifood companies' technical needs and level of readiness with respect to new technology transfer solutions.

This activity allowed the partnership to gain a deep understanding of the primary concerns and obstacles SMEs face when adopting next-generation packaging solutions. By engaging directly with SMEs, the project identified key challenges such as cost, regulatory compliance, technological limitations, and market acceptance.

This insight forms the foundation for designing a TTS that effectively addresses the real needs of SMEs, ensuring the service is relevant and impactful.

When shaping the strategy, we have to take into consideration that most companies already use next-gen packaging solutions and are willing to explore new solutions but, given the lack of internal know-how and financial resources, they don't face this issue with a systematic and holistic approach. Consequently, SMEs of the three subsectors need to be guided in their decisions through a tool, such as the one we want to develop, that considers technological, environmental, regulatory and consumer/client aspects.

Although all of the SMEs interviewed are open to future cooperation in the piloting phase of the project, proving that they would really need proper assistance and guidance in their packaging decisions, the next-gen solution has to be thoroughly defined by them. It goes without saying that when selecting the challenge to be solved



by the TTS, it has to be realistic, based on proper data and having a short/mid-term effect. The TTS has to deal with an existing challenge which has great importance in the portfolio of the relevant SME, causing therefore significant improvement in its future performance.

Activity 1.2: Development of a database on the most relevant R&D and applied research influencing innovative next generation packaging solutions.

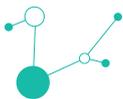
Through this activity, the project created a comprehensive list of sustainable packaging solutions currently available in the market, as well as those under development in ongoing R&D projects. This activity provided a solid base of knowledge regarding the packaging options that can be presented to SMEs. Activity 1.2 aimed to explore the research and market landscapes to identify trends and list the potentially available next-generation packaging materials for food SMEs. This activity involved a thorough investigation of both ongoing research and existing market solutions to provide a comprehensive overview of the current state and future directions in packaging materials. As a result, two comprehensive databases were created.

Database of R+D Projects: This database compiles information on various research and development projects focused on innovative packaging materials. It highlights the directions of innovation, showcasing the latest advancements and experimental approaches in the field. These projects are often funded by prominent initiatives such as Horizon 2020 or Horizon Europe and involve extensive research into biobased materials, recyclability enhancements, and sustainable packaging solutions. The database serves as a valuable resource for understanding the cutting-edge developments that could shape the future of packaging.

Database of Marketed Products (“roadmap”): This database presents a curated list of packaging solutions that are already available on the market and ready for application. These products have been developed and commercialized, offering practical solutions that can be immediately adopted by food companies. The database includes detailed information on the properties, benefits, and potential applications of these marketed products, providing food SMEs with a range of options to enhance their packaging strategies. It covers various types of packaging materials, including biopolymers, lightweight materials, all designed to meet the demands of sustainability and functionality.

Activity 1.3: Analysis of consumer needs and demands and identification of their role in influencing agrifood companies to undertake a transition to greener packaging.

Understanding consumer needs and preferences was key to ensuring that sustainable packaging solutions presented by SMEs were in line with market expectations. This activity focused on collecting data on consumers’ needs and requirements for sustainable packaging and their willingness to support more environmentally friendly products. A survey conducted among consumers in Northern Italy, Poland, the Czech



Republic, Hungary and Slovenia showed that packaging - its components and features - is considered an important factor in food purchasing decisions.

These consumer insights played an important role in shaping the common strategy developed by the D4PACK Interreg project. By analyzing regional similarities and differences in consumer preferences, the project partners were able to formulate a more coherent and focused strategic framework that supports SMEs across Central Europe.

These results could form the basis for developing recommendations on design, material selection, labelling and messaging, ensuring that packaging innovations can not only be environmentally sustainable but also in line with consumer needs and requirements. This alignment increases the market readiness of SME solutions and increases the likelihood of successful adaptation in different regional markets. In this way, consumer research has become the basis for cross-border cooperation and harmonized activities within the project, enabling a common roadmap towards more sustainable and consumer-friendly packaging throughout Central Europe.

Activity 1.4: Creation of permanent consultation networks among partners and S3 managers for analysis of national and regional innovation strategies.

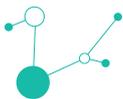
This activity examined the financial frameworks and Smart Specialisation Strategies (S3) of the regions involved in the project. It provided a clear picture of the financial incentives, subsidies, and funding opportunities available to SMEs for adopting sustainable packaging solutions. Furthermore, it highlighted the role of regional and national policies in supporting SMEs' innovative efforts.

The activity fostered cooperation among the consortium partners, promoting dialogue and exchange of views between the public authorities of Hungary, Slovenia, the Czech Republic, and Northern Italy on the smart specialization strategies adopted to encourage innovation in food packaging. One of the most significant elements of this activity was the realization of a transnational thematic focus group held on January 25. On that occasion, the 4 different smart specialization strategies were presented, along with the financial tools available to SMEs in their respective regions.

Particularly important were also the meetings with the individual S3 managers' authorities, who were able to get to know the D4PACK project more closely and understand the priorities of SMEs regarding the need to innovate in food packaging, as well as the necessity of local financial policy support to aid the transition toward more sustainable packaging.

1.2. Definition of the overall goal of the Strategy

The D4PACK strategy has been developed to address a critical challenge faced by small and medium-sized enterprises (SMEs): the difficulty in identifying and implementing sustainable packaging solutions within their production processes. Many SMEs lack



access to structured knowledge, making it challenging to compare different packaging alternatives and assess the implications of such choices. This uncertainty often leads to delays in decision-making or reluctance to transition towards more sustainable practices due to perceived innovation risks, economic constraints, and the complexity of adapting existing production layouts. In a landscape where information is often fragmented, overly technical, or geared towards large corporations, SMEs need practical instruments that can guide them step-by-step through this complex transformation.

Therefore, the long-term objective of the Strategy is to drive a tangible shift in how SMEs approach packaging innovation, fostering a widespread transition towards more sustainable production practices. By bridging the knowledge gap and providing businesses with a reliable decision-support tool, D4PACK will help SMEs reconfigure their packaging systems in a sustainable way without compromising their economic stability. This structured approach aims to accelerate the adoption of sustainable packaging solutions, contributing to a broader transformation of supply chains and strengthening the role of SMEs in the transition towards a greener and more responsible economy.

The strength of the Technology Transfer Service (TTS) and its digital extension, EGeT, lies in their capacity to integrate multidisciplinary expertise into a single operational framework. These tools allow SMEs to explore alternative packaging options while simultaneously assessing technical feasibility, economic viability, and regulatory compliance—through an intuitive and accessible platform specifically designed for companies with limited internal resources.

Unlike static databases or generic guidelines, EGeT offers dynamic, tailored recommendations based on real data and sector-specific indicators. This approach transforms the abstract concept of sustainability into a concrete and actionable path. Moreover, by involving SMEs directly in the pilot and validation phases, the service is continuously refined in response to real-world challenges and feedback, ensuring a high degree of alignment with actual business needs.

Ultimately, the strategy does not merely offer a technological solution—it provides a structured, participatory methodology that empowers SMEs to navigate the green and digital transition with greater clarity, confidence, and competitiveness. It also contributes to closing the innovation gap in less developed regions of Central Europe, reinforcing economic cohesion across the EU.

1.3. Definition of the Strategy's specific goals

In order to achieve this objective, the project outlines a series of **intermediate objectives** that will serve as key milestones in guiding SMEs through the transition process to more sustainable packaging. The first step involves the development of a



Technology Transfer Service (TTS), which will act as a centralized decision-support tool for SMEs. This innovative tool is designed to help SMEs explore and evaluate sustainable packaging alternatives in a targeted way, aligning with their specific operational and production needs. The TTS will provide precise, detailed information, enabling SMEs to identify technically feasible packaging solutions, assess innovation-related risks, and make informed decisions about the potential implementation of these solutions. This well-structured approach will not only help SMEs overcome knowledge gaps but will also provide them with a step-by-step guide through the entire decision-making process, reducing risks and increasing the security of the choices made.

In addition to enabling SMEs to select sustainable solutions, the TTS will also be designed to assess the technical feasibility, economic implications, and regulatory requirements of each proposed packaging option. This will allow companies to understand potential challenges, costs, and required modifications to their production layout before making a final decision. This tool will help reduce uncertainty and perceived risks, enabling SMEs to approach the transition to sustainable packaging with greater confidence and awareness. In this way, the goal is to accelerate the adoption of sustainable solutions within the sector, contributing to the creation of a greener, more responsible, and innovative supply chain.

The TTS will be tested and validated in a real-world environment with a selected number of SMEs, representing the most critical and relevant sectors, such as the food industry (specifically meat, dairy, and fruit/vegetable processing). The pilot phase will involve 12 SMEs, aiming to refine the methodology and ensure that the TTS is adaptable to the specific needs of various business models. This pilot process will gather crucial data to improve and optimize the tool, ensuring its effectiveness and applicability in different contexts. Subsequently, the Early Guidance electronic Tool (**EgeT**) will be developed as a digital extension of the TTS, providing SMEs with a platform to automatically assess and select alternative packaging solutions. **EgeT** will be capable of offering personalized recommendations based on sector-specific data and best practices, ensuring a simplified decision-making process focused on adopting more sustainable packaging solutions.

The integration of the TTS into a broader technological decision-support system will allow SMEs to model different decision-making parameters related to adopting sustainable packaging solutions. **EgeT** will not just provide a list of alternatives but will conduct a comprehensive analysis of the technical and economic feasibility of each solution, considering operational constraints, economic implications, and necessary structural modifications. This approach will enable companies to anticipate potential difficulties and opportunities associated with each choice, supporting them in selecting the solutions best suited to their specific needs.

Finally, one of the fundamental goals of the **D4PACK** strategy is to ensure the **scalability** of the solution by expanding access to the TTS to a larger number of SMEs, particularly those from regions less exposed to innovation. The project aims to involve



at least 60 SMEs from different Central European (CE) countries. To ensure this solution is widely accessible, the project also includes awareness-raising activities, support, and dialogue with regional and national authorities to explore funding schemes and policy incentives that can facilitate the transition to sustainable packaging. Accessibility and scalability of the solution will thus be a priority, with the intention of including SMEs operating in regions with lower rates of innovation adoption.

In conclusion, by achieving these objectives, the **D4PACK strategy** will provide SMEs with a structured, evidence-based approach to support them in adopting sustainable packaging. This will not only contribute to the transformation of industry towards more sustainable production models but will also ensure alignment with European environmental goals, facilitating SMEs' transition towards a greener, circular, and responsible economy.

1.4. Definition of target groups

The primary target group of the D4PACK strategy consists of small and medium-sized enterprises (SMEs) in the agri-food sector, with a particular focus on those operating in the meat, dairy, and fruit and vegetable processing industries. These businesses represent the backbone of the European food value chain and are the final users for whom the TTS and EGeT have been designed.

These businesses will gain direct access to tools and resources that facilitate the selection and adoption of sustainable packaging solutions, helping them overcome economic, technical, and regulatory barriers.

What distinguishes the D4PACK approach is that SMEs are not simply recipients of the service—they are co-creators and test users. Their meaningful involvement across the definition, development, and validation phases is essential to ensure that the solution is truly aligned with their concrete needs, operational limitations, and internal decision-making dynamics. By engaging SMEs directly in the co-design and pilot testing stages, the project ensures that the tool is grounded in actual working conditions, effectively addresses everyday challenges, and remains accessible even to users with limited technical expertise. This collaborative, user-centered development model guarantees that the final service is not only technically sound, but also practical, intuitive, and highly relevant for SMEs with varying levels of digital readiness.

Beyond SMEs, other stakeholders will also benefit from the project. **Packaging producers and suppliers** will have the opportunity to be supported by **industry associations** in this transition by facilitating dialogue, streamlining compliance processes, and advocating for policy measures that incentivize sustainable practices. These important stakeholders for the D4PACK tool, will be involved in the future through communication and dissemination activities. Their involvement will be crucial for the future update of the tool and its implementation.



The **SMEs themselves**, directly engaged throughout the project, represent the core of the strategy's success. By focusing on the specific needs and challenges of SMEs from diverse regions, the project avoids creating a solution that, while technically sound, might not be effective in addressing the practical and local realities of these businesses. This bottom-up approach ensures that the services developed are tailored to meet the actual needs of SMEs, maximizing their relevance and impact.

Lastly, **consumers** stand to gain from the increased availability of sustainable packaging options, which align with growing environmental concerns and demand for responsible consumption. By making eco-friendly packaging more accessible and affordable, the strategy ultimately aims to drive a larger shift toward sustainability across the entire food supply chain.

1.5. Transnational cooperation



D4PACK cooperation area

Transnational cooperation is a foundational pillar of the D4PACK strategy, ensuring that the technology transfer service is not only scalable and inclusive, but also grounded in the diversity of experiences, contexts, and needs that define the Central European agri-food sector. From the outset, the development of the strategy followed a structured co-creation pathway involving a wide range of stakeholders from different regions and backgrounds. This approach enabled the integration of knowledge and perspectives from across five countries, ensuring that the resulting service reflects the varying levels of innovation readiness, regulatory environments, and market dynamics present in Central Europe.

The process that led to the creation of the strategy was informed and shaped by a comprehensive mapping of needs and requirements from four key stakeholder groups. Firstly, SMEs themselves provided direct input on the real and perceived challenges they face in the green transition. These companies were selected as representative samples of their local territories, and the aggregation of their responses offered a



nuanced, context-specific understanding of regional realities. This contributed significantly to the partners' ability to design a service aligned with practical needs and limitations.

Secondly, technology transfer centres contributed technical and scientific insights into available alternative packaging solutions. Their collaboration, notably transnational in nature, allowed experts from three countries to align their approaches and consolidate their knowledge into a shared database of innovative packaging materials and technologies. This collaborative effort ensured that the solutions proposed by the strategy were based on the latest market and R&D developments, and could reflect different national regulatory and industrial contexts.

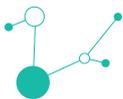
Thirdly, the perspective of consumers—highlighted also in the "Transition Pathway for the Agri-Food Industrial Ecosystem"—was taken into account. Understanding consumer expectations is essential for designing sustainable packaging solutions that are not only environmentally sound but also accepted and valued in the market. Given the variability in consumer awareness and preferences across countries, the project sought to identify and integrate these differences to improve the alignment between packaging innovations and market demand.

Lastly, the project investigated financial frameworks and the engagement of Smart Specialisation Strategy (S3) managers. This mapping activity assessed the availability of funding schemes and the prioritisation of sustainability and digitalisation across different regions. It revealed both opportunities and systemic gaps, including the lack of integration and coordination across territories, which could hinder the effective dissemination of best practices and delay innovation.

The composition of the D4PACK partnership itself reflects this ambition. D4PACK is built on the synergy between **eight partners from five Central European countries** (Italy, Czech Republic, Slovenia, Poland, and Hungary), each bringing complementary expertise to create an innovation ecosystem. The geographical distribution of the partners has been strategically planned to ensure a balance between regions with varying levels of innovation capacity. This approach enables the development of a TTS that is tailored to the diverse production and regulatory contexts faced by SMEs.

Each D4PACK partner brings invaluable expertise and adds significant value to the cooperation and joint implementation of project activities:

- Research institution
 - **UEK (Poland):** Investigates consumer needs and demands regarding sustainable agri-food packaging, analyzing their impact on SMEs' decision-making. UEK also evaluates the risks associated with adopting sustainable packaging solutions and provides valuable insights into consumer preferences.
- Technology partners



- **COBRO-LIT (Poland):** A leading research institute specializing in packaging materials and technologies. COBRO-LIT plays a central role in selecting new sustainable packaging materials, supporting SMEs in assessing their safety, toxicity, shelf-life, and regulatory compliance, while ensuring food quality preservation and security.
 - **CBHU (Hungary):** A major consultancy service provider for food companies in Central and Eastern Europe, CBHU specializes in food safety, product development, and process optimization. In D4PACK, CBHU focuses on the processing phase of new packaging solutions.
 - **PROMA (Italy):** Specialized in technological foresight, PROMA categorizes advanced packaging solutions from R&D centers and industry leaders, evaluates the scalability of new technologies, and supports regulatory compliance through a smart-search database. PROMA also develops strategies to enable SMEs to align with the **Environmental Product Declaration (EPD)** framework.
 - **CEVI (Italy):** Leads the design of the SWOT analysis and innovation risk methodology for the TTS. CEVI applies risk assessment methodologies, helping SMEs make informed decisions regarding alternative packaging solutions.
- Agri-Food business support organizations

These partners are essential for the effective implementation of the TTS within SMEs. They ensure that the needs and requirements of SMEs are met, supporting real-business applications and regional deployment:

- CEVI (Italy) - CEVI, the service company of Confindustria Verona - the General Confederation of Verona Manufacturing and Service Enterprises - supports over 2,000 local enterprises. In addition to companies from the Verona area, CEVI benefits from a strong territorial network, ensuring effective regional deployment through its involvement in innovation clusters, R&I projects, and strategic partnerships.
- FFDI (Czech Republic) - the Federation of the Food and Drink Industries of the Czech Republic (FFDI) plays a crucial role in implementing and validating the pilot testing of the new Technology Transfer Service (TTS) and the digital EGeT tool in the Czech Republic. FFDI represents the interests and activities of Czech food and beverage producers, encompassing virtually 100% of companies in the national food industry. Leveraging its extensive network and active cooperation with companies, FFDI provides essential expertise in legislation, consulting, and practical support for adopting new technological solutions. In terms of broader collaboration, FFDI will actively engage relevant regional and national stakeholders such as professional associations,



regional development agencies, and research institutions. Moreover, FFDI will facilitate communication with European institutions through its membership in FOODDRINKEUROPE. Through this comprehensive approach, FFDI significantly contributes to achieving the project's objectives, particularly accelerating SMEs' transition towards innovative and sustainable packaging solutions in the food industry.

- CCIS-CAFE (Slovenia) The Chamber of Agricultural and Food Enterprises operates within the Chamber of Commerce and Industry of Slovenia and brings together companies from the agricultural and food sector. Its core mission is to represent the interests of its members, promote competitiveness and sustainability, and foster cooperation with policymakers, research institutions, and consumers. CCIS - CAFE actively participates in legislative processes, prepares expert bases, and implements development projects in the fields of food, packaging, and the environment. It also provides its members with access to information, consulting, and networking at both national and international levels. The chamber currently has 240 members from the agri-food industry.
- INNOSKART (Hungary) - as a digital cluster with 76 members, Innoskart is a founding member of Hungarian Cluster Alliance therefore is strongly connected to the Hungarian cluster ecosystem covering all smart specialization areas including food (packaging). Also, inside the cluster several food and packaging companies are represented.

These organizations test and validate the integrated service for sustainable packaging and establish a permanent consultation network between stakeholders and S3 managers to align technology transfer goals with regional and national innovation strategies.

The governance framework of the joint strategy developed under the D4PACK project is based on a collaborative and multi-level model, ensuring a clear assignment of responsibilities for the implementation of the planned activities. The overall leadership of the project remains under the responsibility of the **Lead Partner CEVI**, which will continue to oversee the strategic coherence across work packages and ensure alignment with the overarching vision of the project.

In terms of the concrete implementation of the strategy and management of the **pilot activities**, the operational coordination has been entrusted to **COBRO (LIT)**. COBRO will be responsible for monitoring the implementation of the strategic actions, ensuring adherence to the agreed timelines and expected outcomes. As such, COBRO will act as a facilitator among partners, ensuring that all steps of the roadmap proceed as planned.

The **other project partners** will provide active and complementary support, contributing their specific technical and territorial expertise to the execution of the activities. Each partner is assigned a defined role in the delivery of the various steps of the strategy, in line with their institutional strengths and area of specialization.



The detailed breakdown of roles, responsibilities, and implementation timelines for each individual partner will be further elaborated in the **Action Plan**, which serves as the operational roadmap of the present strategy. This structure ensures transparent and effective management, while maintaining the flexibility necessary to adapt actions to the specific needs and contexts of the Central European regions involved.

The success of the **D4PACK Strategy** hinges not only on the collaboration of project partners but also on the active involvement of various key stakeholders, which will play a crucial role in shaping an innovative and truly useful service for SMEs. These external stakeholders, including **consumers, local authorities, regional bodies, and sector-specific actors**, will help build a strategy that is responsive to the real needs of SMEs, ensuring the project outcomes are both practical and widely applicable.

The participation of these diverse stakeholders creates a collaborative ecosystem where **SMEs** and external actors work together to refine and test the solution. This collective approach guarantees that the solution is tailored to meet the diverse needs of SMEs in Central Europe, while also allowing for adaptability to other regions. By bringing together a range of expertise, the D4PACK project fosters an inclusive, bottom-up approach that prioritizes the needs of SMEs while also responding to larger market and regulatory trends.

While the project partners bring their specialized knowledge in packaging innovation, SME support, and policy engagement, the **participation of external actors** ensures that the solution developed is relevant, accessible, and sustainable. The **consumers** are particularly important in this process as they are the ultimate recipients of the products packaged with sustainable materials. Their preferences and behaviors have a direct impact on SMEs' decisions to adopt alternative packaging solutions. By involving consumers in the process, the project gains critical insights into consumer demand for sustainability, which will, in turn, inform packaging choices, making the solutions more aligned with market trends and consumer expectations.

Additionally, the participation of **local and regional authorities** is fundamental in ensuring that the project aligns with broader **policy frameworks** and **financial incentives** available to SMEs. These authorities play a pivotal role in enabling the transition to sustainable packaging by offering guidance on regulatory compliance, they could facilitate access to financial resources, and foster innovation-friendly policies that create a supportive environment for SMEs to implement change.

Moreover, the involvement of **sector-specific partners** and **associated organizations** that have shown interest in the project provides further expertise and credibility. These organizations, ranging from trade associations to research bodies, help reinforce the strategy's robustness by bringing in their insights and experience in the field. Their collaboration ensures that the D4PACK service is not only technically sound but also socially and economically viable.



The associated partners of CEVI represent a strategic group of national and European players in the agri-food and innovation sectors, each playing a key role in raising awareness about the TTS among companies. Veneto Innovazione S.p.A., as the regional in-house agency for Research and Innovation, shall be able to support the translation of project results into the regional related policies and could promote the TTS through technological transfer and regional innovation initiatives.

SEVT (Federation of Hellenic Food Industries), representing the food sector in Greece, can contribute to the transnational dissemination of the TTS, engaging member companies and amplifying the communication impact in the Balkans.

SEVT is able to lead the dissemination and technology transfer to ensure promotion of the project results at Greek level.

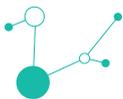
Spread European Safety and Sustainability GEIE, being a European network dedicated to food safety and sustainability, can integrate TTS promotion into training activities, thematic events, and EU projects focused on sustainable transition. Food For Life Spain and Food For Life France, as national platforms linked to the European Innovation Partnership in the agri-food sector, can raise awareness among their members and stakeholders on a national level, promoting TTS through their channels and project initiatives.

Federalimentare Servizi Srl has a direct relationship with the Italian food & beverage industries and can act as a multiplier in communication and adoption of the TTS. The National Agrifood Cluster (CL.A.N.), a cluster of companies, universities, and research centers, can promote systemic dissemination of the TTS, facilitating synergies between research and industrial applications. Finally, RIAV, the regional agri-food innovation cluster coordinated by CEVI, could serve as a strategic channel to engage Veneto-based SMEs in the agri-food supply chain, enabling direct outreach, fostering awareness, and supporting the concrete adoption of the TTS at the local level.

In **Hungary** the following stakeholders are planned to be involved: CSAOSZ (Hungarian Association of Packaging and Material Handling, Central Transdanubian Regional Innovation Agency (CTRIA), STRIA (South Transdanubian Regional Innovation Agency) FÉSZ (Federation of Responsible Hungarian Food Industries), NKFI (National Research and Innovation Office), MATE (Hungarian University of Agriculture and Life Sciences, University of Óbuda).

CSAOSZ is the largest national association for packaging with a very strong network in food packaging. Therefore, they can directly get access to their members and inform them about TTS developed within D4Pack.

CTRIA is the most well-connected Hungarian regional development agency with a very wide accessibility to Hungarian SMEs. They have been constantly looking for innovative solutions in all economic areas, including food, which is a major sector in the region of



Central Transdanubia. In parallel, they have participate in more than 15 European projects, therefore they are indirectly connected to thousands of European companies. The South Transdanubian Regional Innovation Agency (STRIA), also known as DDRIU, is a nonprofit organization dedicated to fostering innovation in the South Transdanubian region of Hungary. Its mission is to create a conducive environment for innovation and support the innovative activities of economic actors, thereby linking sustainable development, quality of life, and competitiveness to innovation and knowledge dissemination.

STRIA engages in various activities, including consultancy and enterprise development, providing support and guidance to businesses to enhance their innovation capabilities. It also facilitates networking and proposal writing, helping stakeholders connect and prepare project proposals. Additionally, STRIA manages projects and offers training to improve skills related to innovation.

Recently, STRIA has launched two new European Territorial Cooperation projects. The first, CIREVALC, aims to introduce and disseminate circular economy models in regional value chains within the food, hospitality, and packaging sectors. The second project, PROMOTER, focuses on promoting sustainable mobility through green energy prosumer hubs.

FÉSZ, is the largest horizontal food industry advocacy organization in Hungary. It aims to represent the interests of food manufacturers, regardless of their size or ownership structure, and to promote responsible business practices that create value for Hungarian consumers and the national economy. The association emphasizes the importance of sustainability, consumer interests, and long-term viability in the food industry. The organization's goals include successful advocacy, improving sector competitiveness, increasing the market share of Hungarian food products, and enhancing consumer awareness. FÉSZ also focuses on corporate responsibility towards society, the environment, and the national economy

The mission of the Hungarian Innovation Agency is to increase Hungary's innovation performance and capacities. They pursue this goal by enhancing the pipeline of innovative entrepreneurs and researchers, facilitating the access of innovative SMEs and startups to international markets, fostering an innovation-driven environment and enhancing the global visibility of the ecosystem. Taking on the role of a catalyst, the Agency prioritizes the promotion of cooperation between ecosystem actors and provides up-to-date, data-driven information on the innovation ecosystem, its actors and achievements.

MATE is the major Hungarian university of education in the food sector. TTS developed by our consortium might be relevant for their operation, it might be a useful best practice for students.



Slovenian associated partner is the Jožef Stefan Institute (IJS) - Slovenia's largest research institution, specializing in natural sciences, engineering, and interdisciplinary studies. It conducts cutting-edge research in physics, AI, biotechnology, environmental sciences, and automation. IJS collaborates with companies, leads international projects, and supports young researchers. As a key player in innovation and policy advising, it bridges research and industry while promoting sustainable development. The institute is instrumental in advancing science and technology in Slovenia and globally, contributing to solutions for complex societal and technological challenges. Given its expertise in AI IJS can promote and enhance the use of TTS. We will also involve Ministry of the Environment and Spatial Planning which has already been informed about the project's progress and has also participated in D4PACK activity 1.4. SRIP HRANA is a long-term Strategic Research and Innovation partnership for Sustainable Food Production. It has developed into a dynamic community of agriculture holdings, companies, cooperatives, research institutions, investors and other interested parties, whose main interests are focused on improvement of research and development activities in the companies for the purpose of agri-food sector development. Global advantage of SRIP HRANA is its vast array of partners. The partnership associates are members from organizations operating in the field of agriculture and food, Universities and research institutions. SRIP HRANA can promote the use of TTS among its members.

The **Polish** Chamber of Packaging plays a vital and multifaceted role in the packaging industry in Poland. As an organization, it serves as a representative body for packaging materials producers, but its influence extends far beyond simple advocacy. It actively contributes to shaping the future of the packaging sector by participating in the development of national and international regulations and standards. This includes input into the legal framework surrounding packaging waste management, recycling processes, and environmental sustainability. One of the Chamber's key responsibilities is to ensure that the interests of packaging materials producers are considered when new regulations and industry standards are proposed. This can include lobbying for more favorable policies that promote innovation and competitiveness within the industry, as well as advocating for the implementation of fair and sustainable practices.

Through this collaborative effort, D4PACK ensures that the TTS will be widely applicable and beneficial to SMEs across Central Europe and beyond. The active involvement of external stakeholders strengthens the project's foundations, ensuring that the outcomes are relevant, innovative, and accessible to a broad audience of SMEs ready to embrace a more sustainable packaging future.

Representing the Czech Republic, two significant associated partners will be actively involved in the D4PACK project: the Czech Technology Platform for Foodstuffs (ČTPP) and the Czech Institute for Agri-Food Research and Innovation (CIAFRI). ČTPP acts as a key platform promoting innovation in the food industry by connecting businesses, research institutions, and universities, thus significantly contributing to the



dissemination of knowledge and awareness about sustainable and innovative packaging solutions among companies. CIAFRI, as a specialized centre focused on agri-food research and innovation, provides scientific support and expertise in developing, testing, and applying new technologies, including sustainable packaging. The involvement of these associated partners will ensure broad awareness, effective technology transfer, and successful implementation of the Technology Transfer Service (TTS) among Czech food industry SMEs.

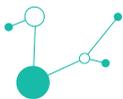
1.6. Tangible product that will be developed

The **EGeT** will be the main output of the project, serving as the digital backbone of the TTS. This digital platform will support SMEs by providing specific recommendations on sustainable packaging solutions. The tool will integrate multiple decision-making parameters, allowing businesses to conduct a self-assessment of their needs and identify viable packaging alternatives based on economic, regulatory, and technical criteria. The validity of this tool is confirmed by the fact that, to promote the green and digital transition, the European Commission funded the creation of a Transition Pathway Platform for the agri-food ecosystem, as dissemination of accessible information and experiences is seen as a solution for implementation of sustainable practices.

The **EGeT** will provide SMEs with a structured, data-driven decision-making framework for evaluating sustainable packaging solutions. This tool will:

- Offer SMEs a web-based interface where they can input key business information related to packaging needs.
- Generate customized recommendations based on objective and subjective criteria, including technical feasibility, economic impact, and regulatory compliance.
- Include a **risk assessment framework**, evaluating potential obstacles related to the adoption of alternative packaging materials.
- Be validated through a **two-phase testing process**, involving an initial pilot with 12 SMEs and an extended trial phase with 60 SMEs to refine usability, scalability, and industry alignment.

The **EGeT** tool will be iteratively improved based on real-world feedback, ensuring that it remains an accessible and effective resource for SMEs transitioning to sustainable packaging.



1.7. Definition of activities (Action plan)

The **D4PACK Action Plan** outlines a structured approach to implementing the TTS and EGeT tool, divided into two key phases:

Phase 1: Pilot Testing of the TTS in 12 SMEs

The first phase aims to refine the methodology behind the TTS through direct engagement with 12 SMEs. These pilot companies will be selected across three key food industry sectors: meat, dairy, and fruit and vegetables. The activities in this phase will include:

- **Selection of SMEs:** each project partner will identify three SMEs per sector, prioritizing those previously involved in D4PACK activities. If necessary, an open call will be launched to expand participation.
- **Data collection:** SMEs will provide key business information related to packaging needs, existing materials, production constraints, and sustainability objectives. This data will form the basis for selecting alternative packaging solutions.
- **Evaluation of packaging solutions:** SMEs will be presented with up to three alternative packaging options tailored to their sector. A risk index will be calculated for each option, incorporating regulatory, technical, and economic considerations.
- **Final selection and implementation:** based on a structured decision-making process, SMEs will select a preferred packaging alternative, with potential mitigation measures recommended for implementation challenges.
- **Pilot test evaluation:** the results of the pilot phase will be analyzed, identifying strengths and weaknesses of the TTS approach. These findings will inform the development of the EGeT tool in Phase 2.

Phase 2: Development and Testing of the EGeT Tool with 60 SMEs

Building on the results of Phase 1, the second phase will focus on the development and validation of the EGeT tool, ensuring that it effectively translates the in-person methodology of the TTS into a scalable digital platform. Activities in this phase include:

- **Development of the Technological Tool:** The EGeT will be structured into two stages:
 - **Identification of technical solutions:** SMEs will provide input through structured questionnaires, allowing the tool to suggest up to three optimal packaging alternatives.
 - **Evaluation and risk assessment:** The tool will assess potential solutions based on financial, regulatory, and operational risks, providing SMEs with a clear framework for decision-making.



- **Selection of SMEs for testing:** A total of 60 SMEs will be selected across various food industry sectors through an open expression of interest, ensuring balanced representation from different regions.
- **Tool testing and refinement:** SMEs will interact with the EGeT tool independently and in guided testing sessions with partners. Feedback will be collected to refine usability, accuracy, and the overall decision-making experience.
- **Validation and finalization:** The final version of the EGeT tool will incorporate refinements based on SME feedback, ensuring that it is adaptable, easy to use, and aligned with real-world business needs.

Through this structured two-phase approach, the D4PACK strategy ensures that SMEs receive both hands-on and digital support in transitioning to sustainable packaging, reducing barriers to adoption and fostering industry-wide change.

1.8. Outcome indicators

To measure the impact of the strategy, the following key performance indicators (KPIs) will be monitored:

- **User engagement and feedback** from pilot testing, including usability and effectiveness of recommendations.

By systematically tracking these indicators, the D4PACK Strategy will ensure continuous improvement and scalability, ultimately supporting a broad-based transition to environmentally responsible packaging solutions.

1.9. Future developments and opportunities

The D4PACK Strategy holds significant potential for growth, as it addresses one of the European Union's most pressing challenges: advancing a green and digital transition without undermining economic growth and competitiveness. This challenge lies at the heart of the EU's forthcoming programming period, during which the development and implementation of solutions to make European SMEs greener and more competitive will be actively supported through both policy initiatives and funding instruments.

This vision aligns closely with the framework laid out in the European Commission's Competitiveness Compass, which positions the green and digital transitions as key drivers of Europe's future economic strength. Far from being solely environmental or technological in nature, these transitions are integral to a broader strategic agenda that aims to secure Europe's position as a global economic leader.

To remain competitive in a rapidly evolving global landscape, the EU must undergo a profound transformation. Climate change, digitalisation, and geopolitical tensions have



exposed structural vulnerabilities within the European economic model. Yet these same challenges also present unprecedented opportunities for renewal. The shift toward sustainability and digital innovation offers a unique chance to modernise Europe's industrial base, stimulate its innovation capacity, and reduce its reliance on external actors.

The green transition offers a dual promise: achieving greater energy independence while simultaneously fostering industrial leadership. Investments in clean technologies, renewable energy, and circular economic models not only reduce dependence on fossil fuels but also pave the way for new high-value sectors and quality employment. Efforts to decarbonise energy-intensive industries and expand smart mobility are already generating demand for advanced manufacturing and engineering capabilities, reinforcing Europe's industrial strength.

At the same time, digital transformation is emerging as a powerful catalyst for productivity and innovation across all sectors. Technologies such as artificial intelligence, cloud computing, and data-driven systems are reshaping how value is created. Embracing digital solutions enhances operational efficiency, reduces costs, and unlocks new business models. The EU's strategic investments in "AI factories," next-generation cloud infrastructure, and digital innovation hubs signal a clear intent to lead globally in key technological domains.

These twin transitions underscore the necessity for a unified and innovation-led economic strategy. Europe's long-term success will depend on its capacity to develop, produce, and commercialise high-tech, sustainable solutions. This requires tackling persistent barriers such as fragmented markets, limited access to venture capital, and skills shortages. At the same time, building resilient supply chains—particularly in areas like semiconductors and clean energy—will be critical to ensuring Europe's strategic autonomy.

Crucially, the green and digital transitions are not isolated trajectories but deeply interconnected. Digital technologies can accelerate environmental goals, from smart grids and AI-powered resource management to precision agriculture, while sustainability imperatives can guide the development of future technologies in ways that respect planetary boundaries.

Within this comprehensive vision, a strategy for sustainable food packaging naturally fits. While the Competitiveness Compass does not explicitly focus on packaging, it provides a strategic framework where such an initiative is not only relevant but essential. Sustainable packaging contributes directly to the EU's goals of decarbonisation and circularity, offering immediate impact through improved material efficiency, emissions reduction, and industrial innovation. Promoting recyclable, reusable, or bio-based packaging solutions aligns with the broader effort to modernise Europe's industrial landscape and reduce reliance on virgin raw materials.



In addition, the Competitiveness Compass champions investment in advanced technologies, including biotechnology and innovative materials—both crucial for the evolution of next-generation packaging. Supporting R&D in this field reflects the EU’s ambition to close its innovation gap and reinforce its leadership in strategic sectors. Packaging, particularly when integrated with clean technologies and smart functionalities, becomes a concrete example of how innovation can drive competitiveness.

The Strategy also responds to the Compass’s call to foster lead markets for clean and circular products. Clear regulation, targeted incentives, and public procurement can help sustainable packaging solutions scale, positioning European companies as global standard-setters in a space where environmental concerns increasingly shape consumer behaviour and market dynamics.

Moreover, sustainable packaging is an area where SMEs can thrive, and the Competitiveness Compass recognises the importance of empowering smaller businesses within a unified, innovation-friendly Single Market. Easing regulatory barriers, improving access to finance, and supporting innovation uptake are all measures that would enable food packaging innovators to flourish within this strategic context.

In this light, a sustainable food packaging strategy becomes a direct embodiment of the Competitiveness Compass. It supports Europe’s environmental and industrial ambitions, fuels innovation, strengthens economic autonomy, and positions the EU as a global leader in clean, future-oriented technologies and markets.

Given the strong alignment between the D4PACK Strategy and the EU’s overarching direction for economic development, the strategy is well positioned to expand and evolve in the coming years. This strategic coherence not only reinforces its relevance within the EU policy landscape but also significantly enhances its potential for growth, replication, and long-term impact.

As the EU continues to channel investments into initiatives that combine sustainability, innovation, and industrial competitiveness, strategies like D4PACK will increasingly benefit from targeted support. The alignment with key EU priorities—such as the green and digital transitions, circular economy, and SME empowerment—makes the strategy particularly attractive for inclusion in future funding programmes at both European and national levels.

In this context, **additional funding opportunities are likely to emerge**: this financial backing will enable the D4PACK Strategy to scale its impact, strengthen partnerships, and contribute more actively to the EU’s vision of a competitive and sustainable future.

Conclusion

The D4PACK Strategy represents a tangible, structured approach to overcoming the challenges that SMEs face in adopting sustainable packaging solutions. By providing



SMEs with practical decision-support tools, access to relevant research and industry insights, and a collaborative transnational network, the project lays the foundation for a wider adoption of next-generation packaging models within the Central European food industry.

The TTS and the EGeT will play a crucial role in equipping SMEs with the means to make informed, data-driven choices regarding their packaging solutions. Through pilot testing, business support mechanisms, and knowledge-sharing initiatives, the project ensures that SMEs can confidently evaluate and implement packaging alternatives that align with sustainability objectives while remaining economically competitive.

Although the project is limited in scope, its impact extends beyond the direct beneficiaries. By documenting best practices, engaging with stakeholders, and creating a replicable decision-making framework, D4PACK provides a model that can be extended to a broader network of SMEs across different regions and industries. Furthermore, by working in alignment with EU sustainability policies and market trends, the strategy ensures that SMEs are well-positioned to meet future regulatory requirements and consumer demands.

Ultimately, D4PACK is not just about developing tools and solutions—it is about fostering a long-term shift in the way SMEs approach packaging sustainability. By equipping businesses with the necessary knowledge, networks, and guidance, this project supports a more resilient, sustainable, and innovation-driven future for the food industry in Central Europe.