



# The Replication Strategy of the PlastLIFE SIP Project



## LIFE21-IPE-FI-PlastLIFE

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# Clarification of terms of the strategy

Replication: Replication is used in this strategy to envisage actions taken to transfer the results of the project pilots to different areas and different sectors which weren't targeted as areas or sectors for dissemination work carried out within the project framework.

The replication means are presented within four dimensions each of which has a dedicated column in the strategy chart:

- Area for replication: an area where the project results are replicated to
- Sector: the sector of business or operation within which the project results are to be applied in or replicated to
- Funding means for replication: whether any funding means, calls or mechanisms are identified
- Transfer action: the way in which the action is to be replicated

Key action for replication: we have identified a special replication action that needed further clarification – it has been separated into a section onto itself where its replication strategy is further specified.



# Work Package 2

Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
Clean Beach Program	T.2.1.	Finland, Åland	Municipalities, educational actors, public	To be identified	Distribution through website, reports, social media campaigns, events and lectures
The monitoring method for plastic construction waste	T.2.2.	Finland, other countries	Construction and demolition industry, environmental authorities, cities and municipalities	To be identified	Dissemination of the report describing the monitoring method and pilot results directly to the construction and demolition industry and environmental authorities, as well as through national and international seminars and events



# Work Package 2

Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
Harmful plastic littering online solutions	T.2.3.	Other countries, Finland	Organisations and actors combatting plastic littering in other countries, other sectors interested in using citizen science solutions	To be identified	Dissemination through international meetings, seminars and events, publishing language versions of the online app, scientific paper published in an international journal on citizen science
Business and citizen surveys	T.2.3.	Other countries	Research institutes, universities, plastics industry	To be identified	It is expected that the surveys and the achieved results will raise interest nationally and internationally. The results will be published in articles and presented in suitable seminars and events to disseminate information. The surveys can be replicated in other countries and the results for Finland serve as good comparative data.



# Work Package 3

Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
A list of hazardous substances and methods to identify them and test their ecotoxicity	T.3.1 T.3.2 T.3.3	Knowledge will be offered nationally (chemical authority Tukes & networks), all EU-countries through EU decision makers, and globally to scientific communities	Plastics recycling, construction, agriculture, waste water treatment, environmental protection, research,	To be identified	Existing networks e.g. co-operation with SPIRIT-programme and Tukes
Risk assessment framework	T.3.1.	Knowledge will be offered for all EU-countries	All sectors that use recycled plastics (especially recycled plastics from construction and agriculture)	To be identified	Knowledge will be forwarded to authorities and groups responsible of standardization



# Work Package 4

Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
Composite material	T.4.3	Finland, maybe later also Europe	Many possible fields of industry	Funding alternatives shall be defined later.	Suitable partners will be defined
The utilisation of plastic waste from plastics converters	T.4.4.	Europe	Plastics converters	Funding alternatives shall be defined later.	Suitable partners will be defined and trained for the process, perhaps some developed products will be licensed to them.
Regional cluster	T.4.1.	Finland	Translatable to many fields, with sufficient actors	Funding alternatives shall be defined later.	Co-operators



# Work Package 5

Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
Work concerning infrastructure construction plastics	T.5.1.	Helsinki area and Lahti	Construction companies, research institutes, universities	Funding alternatives shall be defined later.	Cluster programme for circular economy (launched by the City of Helsinki) *

\* In the fall of 2023, the city of Helsinki will start an investigation regarding the possibilities of reusing and recycling discarded artificial grass carpets. Other cities, such as Vantaa, Espoo and Tampere, are invited to help guide the investigation. Helsinki also aims to pilot the new solutions found in the survey in the construction of sports facilities. The lessons learned in this process can be replicated in other cities.



Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
Piloted methods for recycling construction and demolition waste plastics	T.5.2.	Finland and Europe	Actors in construction and demolition sector	Mapping suitable funding instruments. Horizon Europe, Business Finland	Using existing networks to spread the obtained knowledge on the piloted methods. Using scientific articles for spreading the information to scientific audiences.
Results of the agriculture and horticulture plastic material studies	T.5.3.	Finland and Europe	Private waste recycling companies, and agriculture and horticulture sectors	E.g Business Finland, H2020	Making new products out of recycled plastics if they see enough business potential in it and can get financing for investments they may need. Farms and commercial gardens in Finland and in other EU countries can use the results to improve their own waste handling. Agriculture and horticulture advisory organisations in Finland and in other European countries can utilise the results in their own communication. Material studies, and agri-plastic collection and recycling pilots are conducted and reported so, that the results can be replicated in other countries in Europe (esp. regions where agri-plastic material recycling and reuse is not yet fully organised or conducted in a systematic manner).





Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
Communication and training materials on sustainable use of agri- and horticulture plastics	T.5.3.	Finland, Europe	Farmers, students, schools, agri- and horticultural field.	To be identified	Existing networks will be utilised to identify suitable target groups to be trained and who would benefit most of the information
Demonstration and co-development activities conducted in WP5, regarding the use of liquid mulch to replace black plastics in agriculture and horticulture	T.5.4.	Across the world		To be identified	Markets for well-functioning solution will not be the limiting factor



# Work Package 6

Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
Model of Sustainable Materials Clinic	T.6.1.	Finland	Finnish Plastics, food, machine building, agricultural, packaging and furniture industries	Muovipoli's own financing	Muovipoli will develop this tool for itself to use after project ends
Innovation toolkit	T.6.2.	To be identified	Sustainable businesses and value chains	To be identified	To be identified



Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
The managerial toolkit	T.6.2.	Finland	Plastic product manufacturing in Finland (more than 500 companies)	The toolkit may benefit primarily companies that already invest actively in innovation and business development in the area of sustainable plastics.	Workshops
New materials for packaging (material specific elaborations, see next slide)	T.6.3.	Finland, Nordic countries, other EU countries.	Primarily packaging material sector, focus on food packaging segment, vegetable packaging segment, flexible packaging market. Fibre-based new materials have also other uses than packaging, e.g., construction materials and different everyday small items.	Existing (RIA/IA phase) and new partners for the scale-up are searched during the project and additional (e.g. EU, CBE-JU) funding will be applied.	Luke has already previous interlinkages with many Finnish and EU research institutions and universities as well as private companies involved in packaging material business. Luke has also contacts in partners interested in replacement of plastics in construction materials.



# Key action for replication

T.6.3 will carry out the following case studies which include the use of various materials as food packaging materials:

- a) Fiber-based packaging material with unmodified or modified surface properties. Fibers form a rigid enough structure for the packaging material, e.g. lunch boxes. Improved surface properties (reduced water and oil/fat adsorption) could be achieved by paper/cardboard processing techniques and/or by surface coating with bio-based/natural polymers. Most of these can be reused or recycled as PAP/C
- b) Bio-based films made of biopolymers from sidestreams of food production. Films could replace thin plastic films often used as food contact material, acting as a moisture and dirt barrier. Biopolymers are combined/tailored to fit in current processing systems and end-uses.
- c) Styrofoam replacements. Packaging materials intended to transport of warm/heated foods and drinks should have proper insulation; and could be used as shock absorbents. Fungal biomass has a structure resembling Styrofoam. Similar structures can be achieved by extrusion processing of combination of various food production and industry sidestreams, e.g. from vegetable and milling industries.



# Work Package 6

Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
Packaging sustainability SCORE concept	T.6.4.	Finland and Europe	Other food product groups		The final decision of the use of SCORE is done by companies in the markets.
Criteria for biodegradability and recommendations for recycling of biodegradable bioplastics	T.6.5.	EU	Legislation		Development of voluntary based measures, standards or legislation nationally and in the EU legislation



# Work Package 7 and 9

Action	Task	Area for replication	Sector	Funding means for replication	Transfer action
Transfer actions for the envisaged waste stream organization to other sectors, for instance by using bio-based materials.	T.7.1 & T.7.3. + input from other tasks	Finland	Waste sector	PlastLIFE project funding and additional public sector funding when need be.	Discussions about the effects of new materials to waste stream organizations and other sectors including relevant industry stakeholders.
LCA methodology	T.9.4.	Finland, for some parts also EU or the world	Circular economy of plastics	Additional funding from public sources	Utilizing the developed LCA-based framework and data or parts of it for assessing impacts of CE of plastics (or parts of it).





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