PACKALL

PackAlliance:
European alliance for innovation training
& collaboration towards future packaging

R4.1. – Established PackAlliance Hubs

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Glossary of terms, abbreviations and acronyms

Abbreviation / Acronym / Term	Description
CE	Circular Economy
CHAINs	CHAllenges INnovation teams. Collaborative teams of students of the PackAlliance postgraduate programme to work on a specific industry challenge
EACEA	Education, Audiovisual and Culture Executive Agency
HEI	Higher Education Institution
PackAlliance Hubs	Physical places where the academia-industry collaboration within the project will take place
WP	Work Package

Partner Info

Partner short name	
P1-Campus Iberus	Partner 1 - Campus Iberus (Spain)
P2-Ecoembes	Partner 2 - Ecoembes (Spain)
P3-AGH	Partner 3 - AGH University of Science and Technology (Poland)
P4-Synthos	Partner 4 - Synthos Group (Poland)
P5-TAMK	Partner 5 - TAMK Tampere University of Applied Sciences (Finland)
P6-Pyroll	Partner 6 - Pyroll Group (Finland)
P7-Proplast	Partner 7 - Consorzio per la promozione della cultura plastica - Proplast (Italy)
P8-UNISA	Partner 8 - Univeristà degli Studi di Salerno (Italy)

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1. Introduction

This document will provide an overview of the 4 PackAlliance Hubs established in the participating countries. It will include contact details, information of infrastructure, participants, and specialised services offered.

The PackAlliance project (funded by Erasmus+ Knowledge Alliance programme in 2020-2022) intends to contribute to modernising the Higher Education curricula by enhancing its alignment with the labour market needs of plastics packaging. The Knowledge Alliance project brings together academic and industry partners from Spain, Poland, Finland, and Italy, in order to foster academia-industry collaboration for innovation and competence building in innovative and sustainable packaging. This is seen as a key element for the transition to the circular economy (CE) within the plastic packaging industry.

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2. Established PackAlliance Hubs

An overall concept of the PackAlliance Hubs is to establish cooperation spaces at national Level involving academia and industry towards innovation and competence building within the plastics packaging sector.

To ensure viability and long-term sustainability of the hubs, the consortium will take advantage of already created infrastructure, as mentioned earlier, in order to provide new services related to the project thematic area.

Each country has reserved a space in its facilities for the development of the hubs, not only looking at the CHAINS considering the innovation activities that will take place.

This section includes the reserved spaces and their main characteristics to carry out all proposed activities.

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2.1. Spain (Ecoembes & Campus Iberus)

TheCircularLab will be the space reserved for CHAINS in Logroño. TheCircularLab was opened in 2017.

TheCircularLab is an innovation and start-up centre located in Logroño (Spain) focused on studying, testing and developing best practices in the field of packaging and its subsequent recycling.

Work in TheCircularLab is divided into 4 innovation areas:

- Ecodesign: 'Best waste is no waste'. This idea should encourage us, as a society, to defend a reduction in the use of non-renewable raw materials, thus promoting responsible consumption. In collaboration with companies and manufacturers, TheCircularLab works in the field of ecodesign, identifying new sustainable materials and incorporating recycled components to production processes in order to minimize the environmental footprint of the future packaging. In this sense, the laboratory's mission is to validate the integral design of packaging –recyclability, sustainability, smartness- as well as its impact on citizens –eco-labelling and user experience.
- Smart Waste: In order to improve the efficiency of the collection and rise therefore the percentage of recycled waste, TheCircularLab works on the development of Smart Waste, an innovative technological and information and management platform that applies artificial intelligence and big data in order to improve the efficiency of the collection, selection and recycling of packaging processes. The objective of Smart Waste is to move forward in the implementation of an effective model of smart city starting from a data collecting tool that's able to amplify the knowledge about the impact of waste management.
- Citizen Science: Citizens play a key part in recycling since it is them who start the process by throwing their waste in the right container. Through citizen science, TheCircularLab has established a direct, continuous and efficient communication system that increases the involvement of people in recycling, optimising selective collection and thus reducing inappropriate behaviour.

  In addition, aiming to raise social awareness, TheCircularLab has developed an information platform using Big Data capabilities to know and segment the habits and attitudes of citizens as regards recycling. It has equally deployed a series of solutions that can facilitate understanding and spreading of recycling. Moreover, it outlines environmental education plans seeking to identify, at any time, the most effective channels and messages to reach citizens.

- Entrepreneurship: TheCircularLab has set itself the challenge of devising, incubating and accelerating entrepreneurial programs. To achieve this, it is supported by Ecoembes open innovation program which aims to develop innovative solutions designed to facilitate collaborative work in the generation of new products and services related to the circular economy. In this line, 'circular' projects or business ideas are identified and generated in order to be supported, developed and accelerated once their technical and economic feasibility is verified.

Partners	Ecoembes & Campus Iberus
Country	Spain
Space	TheCircularLab
Located at	Parque Municipal de Jardinería, Carretera del Cristo, 15
Postal code	26005
City	Logroño
Country	Spain
Square meters reserved for CHAINS	350
People capacity	24
Opening hours	8:00 – 19:00

2.1.1. Services Offered

- **EU Observatory for future packaging**

One of the main objectives of TheCircularLab is to investigate what the packaging of the future will look like, always with the aim of reducing its environmental footprint and making them as sustainable as possible.
The Observatory of the Packaging of the Future is a platform of knowledge about packaging, which collects and analyzes news and trends that appear worldwide.

- **Open innovation with entrepreneurs**

Collaboration with entrepreneurs in projects that optimize the plastic packaging value chain. These collaborations are formalized through projects in order to test new technologies.

- **Periodic workshops**

TheCircularLab hosts periodic workshops. The objective of these workshops is to obtain ideas from entrepreneurs in exchange for teaching them new methodologies for product & services development.

- **Co-working space**

Entrepreneurs are offered the possibility of using TheCircularLab facilities as a workplace.

- **Mentoring service for CHAINS students**

Mentoring service is offered for students, currently

2.1.2. Pictures


The Circular lab


LAB CIUDADANO

2.2. Italy (Università di Salerno & Proplast)

PROPLAST is a technology centre focused on research and innovation in the polymer and composite field, whose mission is the creation of a multidisciplinary network, by integrating the industrial and academic worlds and harmonizing their competencies, approaches and needs. Proplast was created in 1998 and is organized as a Cluster (recognised at European level - ESCA silver labelled), that nowadays includes 166 enterprises, 7 industrial associations and 1 foundation, and 11 academic members.

Proplast facilities include pilot lines of the main technologies for polymer production and processing, i.e. extrusion and compounding, injection moulding and thermoforming, fibres reinforced composite production. Several pieces of equipment are specifically dedicated to recycling (milling, filter-supported extrusion, filter test, etc.). Moreover, Proplast has an advanced design lab (CAD/CAM, FEM analysis, structural analysis, and processing simulation) and material characterisation laboratories.

Experience, specialised skills, a quality-oriented mind-set, versatility and a collaborative approach allow Proplast to be an important player in the plastics world for all activities - design, research, technical support and training. Our whole team is committed on a daily basis to achieve goals and share with our customers and our cluster's members.

Therefore, Proplast has been involved in several collaborative research projects at European (Plasticircle, Newpack - H2020) and national level (Reciplast, Prime, Deflect – Piedmont Region), and in different collaborative cluster projects at European Level (4zeroPlast and PackAlliance – ERASMUS+ Programme, S3-4AlpClusters – Alpine Space Programme, Materialix- H2020 and WIINTECH- Cosme Programme).

Since 2008, Proplast is recognised as the managing body of the new materials innovation cluster, which since 2016, changed into "CGreen - Green chemistry and advanced materials" in Italian Piedmont region.

Partners	Università di Salerno & Proplast
Country	Italy
Space	Proplast Cluster
Located at	Proplast headquarter Via Roberto Di Ferro n. 86
Postal code	15122
City	Alessandria
Country	Italy
Square meters reserved for CHAINS	185 sq (all Proplast around 3000 sq)
People capacity	20 in presence, 30 virtual
Opening hours	8:30 - 17:30

The packaging sector industries in Italy are located throughout the territory. The main clusters are located in Piedmont and south Italy. In addition, the distance between Italian partners involved in PackAll can be overcame using a virtual platform.
In this way, students/stakeholders from Italian regions can collaborate and share ideas using the platform optimazing time and costs resources.
This virtual HUB is vital during pandemic situation.

2.2.1. Services Offered

- **R&D services for packaging sector**

The cluster will help all the companies that need to boost their competitiveness offering dedicated R&D services.
In the material area some example are: development or selection of new materials to meet environmental requirements; creation of new packaging to improve shelf life, durability; reducing materials or using more environmentally friendly materials in packaging, or introducing new or alternative materials to improve packaging.
In the process area we may support in the selection of most suitable process able to enhance production efficiency and packaging performances.
Last class of services are related to the development of a new and improved package design that can provide a longer product life but also for an improved recyclability; the test of new packaging using 3D CAD modeling, 3D printing, and prototyping.

- **Collaboration with entrepreneurs in projects that optimize the packaging value chain**

Thanks to the cluster structure, the typical approach used in the project development permit to develop a strong collaborating with different actors of the packaging value chain like suppliers, marketing people, legal and regulatory agency, regional packaging teams, tool makers, design agencies, test houses, universities and creative start up.

- **Workshops for entrepreneurs of packaging sector**

A certain number of workshops will be annually organised on specific thematic area of interest where the entrepreneurs can exchange experiences, present their ideas find new partner for collaborative projects.

- **Training courses for employees and unemployed in packaging sector**

Permanent training paths will be prepared on different thematic areas: materials, process, design. Companies that need to increase employees' knowledge will have the possibility to build their specific training program.

- **Mentoring service for the CHAINS STUDENTS**

Once the CHAINS are in place, qualified mentors will help students to develop their skills during the work in multidisciplinary teams. Throughout the section of real business case using state of the art and entrepreneurship tools they will guide the students to develop, test and pitch their ideas.

- **Support of the evaluation and definition of the packaging recyclability**

Two parallel instruments will be used for the evaluation of recyclability.
Support for the verification Evaluation protocols for recyclability developed by European associations (RecyClass) and USA association (AIPIA) throughout the process and analytical evaluation of the steps of the standards.
Life cycle approach (LCA) will be used a preliminary tools to assess whether a prevention activity to reduce waste production is actually environmental sustainable and can provide decision-making support in the field of packaging waste management.

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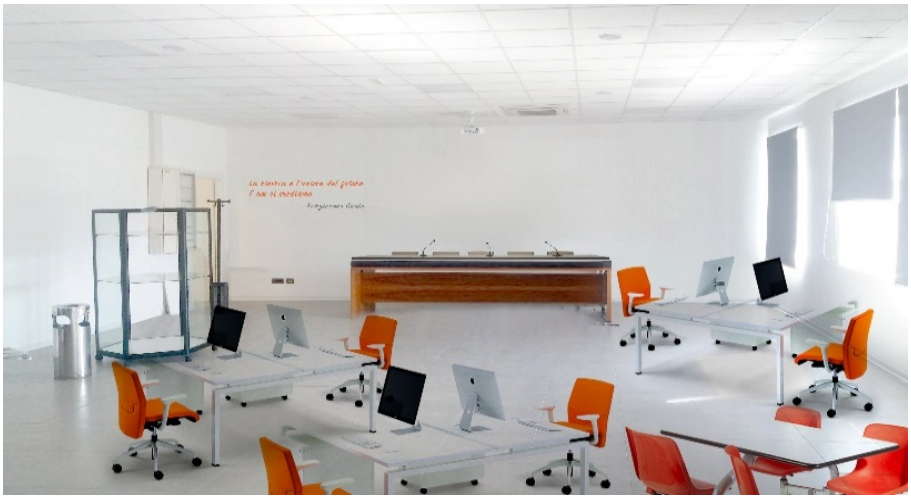
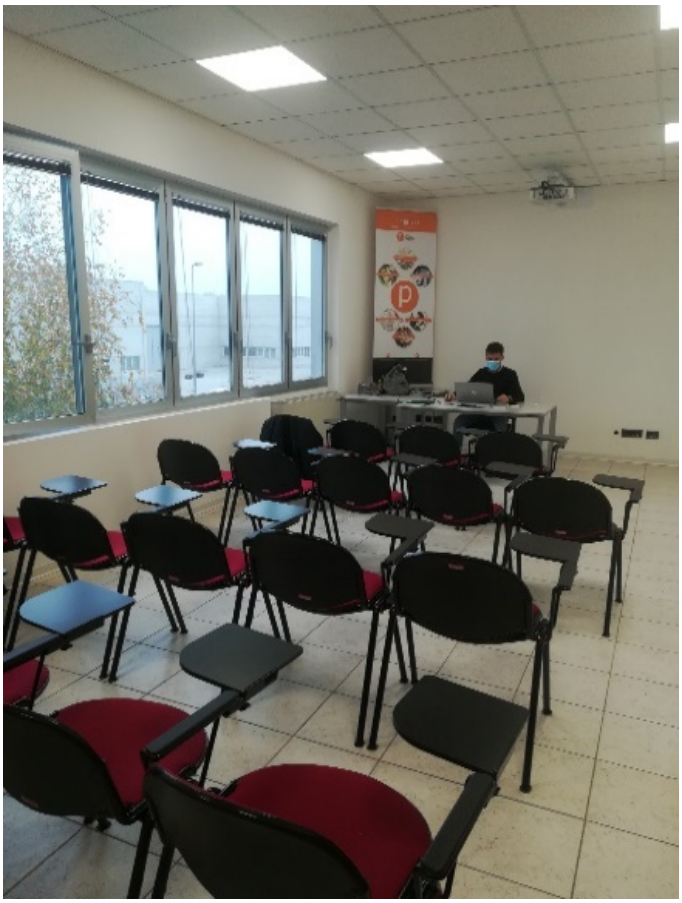
2.2.2. Pictures





2.3. Finland (TAMK & Pyroll)

TalentFactory is a new kind of learning environment that was established in the Bioengineering degree programme at Tampere University of Applied Sciences in spring 2017. The aim of TalentFactory is to develop the students' problem-solving skills and creativity parallel to professional skills with easy connection to working life companies. This type of learning is offered to the first-year students and it is based on team learning and coaching pedagogy. TalentFactory consists of student teams, team coaches, sponsoring companies, as well as thematic learning weeks and learning tasks according to the themes. Each team of 6-7 students has their own sponsoring company and a coach to support learning.

The development of business communication skills is of key importance at TalentFactory. Reports, press releases, abstracts and memos are written in Finnish and English. Teacher coaches create learning situations, work-based tasks and problems to solve, guide, encourage, and provide feedback and assessment. Sponsor companies in the bioproducts and process industries play a valuable role in TalentFactory. They enable the student team to visit the company, provide information, support learning, and make materials available to the student team. Many students also found employment with these companies for their first internship.

In the current format, the student teams are organised for the different task responsibilities for the time of 15 weeks to study two courses: Basics of Bioproduct and Process Technology, 10 ECTS and Engineer's Business Competence, 10 ECTS (1 ECTS equals to an average of 27 hours of student's work). The studies consist of the most important processes, products and environmental issues in the bioproduct and process industry, as well as the basics of corporate and business, quality management, safety and communications. In addition to the current courses, the PackAlliance CHAINs module can be very well suited to this learning environment.

Partners	TAMK & Pyroll
Country	Finland
Space	TalentFactory (TAMK main campus)
Located at	Kuntokatu 3 (The location of the TAMK main campus is about 3 km from the city centre)
Postal code	FI-33520
City	Tampere
Country	Finland
Square meters reserved for CHAINS	147
People capacity	43
Opening hours	8:00 - 19:00

2.3.1. Services Offered

- **R&D services for packaging sector**

In connection with the TalentFactory, TAMK paper and packaging laboratories, as well as other TAMK laboratories, provide various R&D services for the companies and stakeholders from different parts of the packaging value chain.

- **Workshops for entrepreneurs and stakeholders of packaging sector**

TalentFactory has been utilised in organising workshops for entrepreneurs and stakeholders in packaging sector as well as for other R&D projects and events organised at TAMK.

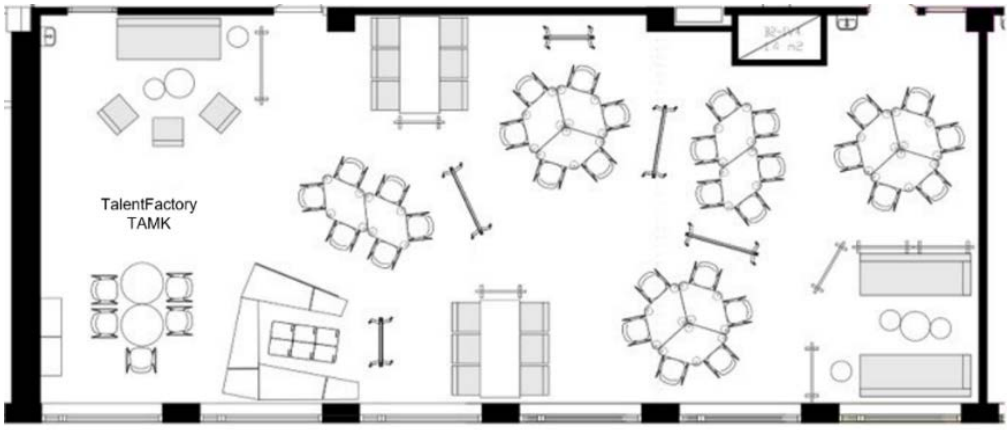
- **Collaboration with entrepreneurs in projects that optimize the packaging value chain**
- **Co-working spaces**

TalentFactory together with other facilities at TAMK can has been used as for example, as a project work collaboration space.

- **Mentoring service for the CHAINs students**

The TalentFactory will be used as the CHAINs collaboration space in the PackAlliance training programme. This space is closely connected to the TAMK laboratory infra and other collaboration spaces at TAMK taht can be utilised during the programme.

2.3.2. Pictures



2.4. Poland (AGH University of Science and Technology & Sytnthos)

Faculty of Management of AGH University of Science and Technology is one of the first in AGH which introduced the course on circular economy for the master students. However, faculty is still developing various activities and programmes related to the circular economy among others due to the plastic packaging industry. Offer correspond to the needs of individuals and employers. Therefore, faculty cooperates with industry by organising conferences, trainings, and implementing different projects ordered by industry and cooperates with the biggest virtual institute in Poland (The Highway to Technology and Innovation Institute). The scientists have experience in the mentoring the students in the creative projects, R&D services. The Faculty offers the infrastructure spaces and tools which are necessary for development of the support of innovations ideas.

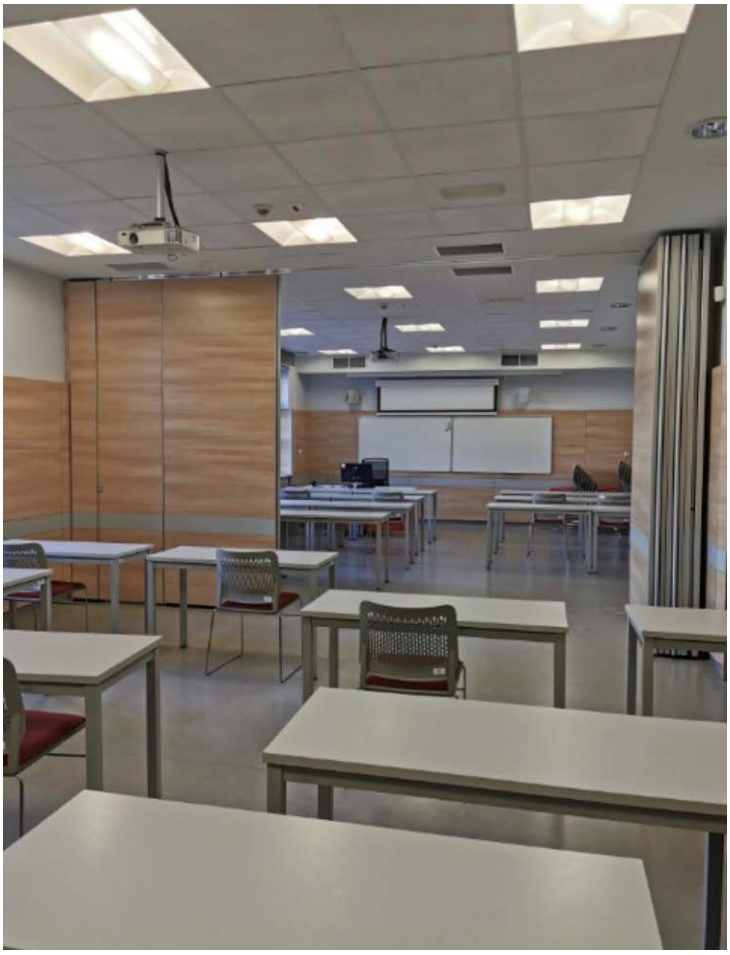
Partners	AGH University of Science and Technology&Sytnthos
Country	Poland
Space	Faculty of Management
Located at	AGH Campus Antoniego Gramatyka 10
Postal code	30-067
City	Kraków
Country	Poland
Square meters reserved for CHAINS	100
People capacity	50
Opening hours	

2.4.1. Services Offered

- **R&D services for packaging sector**
- **Collaboration with entrepreneurs in projects that optimize the packaging value chain**
- **Holding periodic workshops in different cities to solve challenges.**
- **Co-working spaces**
- **Mentoring service for the CHAINs students**
- **Space for students which are involved in the Project**

- **Access to virtual platform is possible for all the student which are involved in the project on the side of AGH.**

2.4.2. Pictures



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