

A white circular logo consisting of two concentric circles, with the space between them forming a ring.

CIRCULAR
DESIGN Learning for Innovative
Design for Sustainability

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THE UL TEAM

WHO WE ARE



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ABOUT



The SRWMO coordinates the implementation of the Southern Region Waste Management Plan 2015 - 2021 and is a knowledge resource for all stakeholders with the capacity to promote higher order waste actions in the areas of prevention, reuse, resource efficiency and recycling.

Its role is to facilitate and service the regional waste steering committee in the implementation of the objectives set out in the Southern Region Waste Management Plan 2015 - 2021. They do so by coordinating and assisting the implementation of these objectives, policies, actions and targets. They are also in charge of preparing annual reports on the performance of each policy as well as proactively promoting prevention, minimisation, re-use and recycling of waste.

THE PEOPLE



Pauline McDonogh
Regional Prevention
Officer

pauline.mcdonogh@srwmo.ie



Philippa King
Regional Waste
Co-ordinator



Margaret Murphy
Regional Resource
Efficiency Officer

YOUR THEME

Waste is wealth! Although waste is a globally discussed issue from its hazardous effects on nature to loss of valuable resources, it requires locally specific solutions on the city or regional scale to uncover its potential to be repurposed in a locally meaningful way. Food waste is one of the main concerns with this regard; it needs to be understood from both the individual-consumer micro-level perspective as well as community-local opportunities at macro-level perspective. **Throughout this internship, you will work with Southern Region Waste Management Office (SRWMO) as your main stakeholder. You are expected to reimagine the food waste management in Limerick City and explore ways of preventing, repurposing and/or upcycling the locally produced waste in a locally beneficial way.**

YOUR CHALLENGE

Your solutions need to take into account the above-mentioned challenge on two levels. First you need to have an understanding of the dynamics of the community, and its needs and preferences on the city scale, as well as the local food waste streams and their potential in creating socially meaningful outcomes. Then, you will need to understand individuals' needs, preferences and habits with regards to food waste, understand the potentials and limitations on the micro level, and come up with innovative solution(s) that makes use of these potentials.

Local Waste Streams: You need to understand how and in what context food waste is generated within the city. Also, the existing food waste management processes in the Limerick City need to be revealed to identify various stakeholders involved, their capabilities and weaknesses and the potential in their repurposing and/or upcycling.

Local Empowerment: The waste produced in the city should be repurposed for the city, with its local opportunities. This project puts a great emphasis to the local-scale, local opportunities and local well-being.

STAKEHOLDERS

Behaviour Change for Food Waste: How food is disposed of will be one of the biggest challenges you will face during this project. It is important to create awareness on food waste disposal and steer people to change their disposal behaviours in line with your solution (i.e. prevention, repurposing and/or upcycling).

The Needs of Limerick City: Understanding the local needs and responding to them in a meaningful way is the most important aspect of this project. You are expected to develop sustainable mechanisms that will continue to be used over a long period of time to transform waste into beneficial outcomes.

INTELLECTUAL PROPERTY

Any potential Intellectual Property rights arising from the Circular Design internship project reside with the client company. As such all information should be treated with confidence unless there is agreement from the client.

WHO THEY WORK WITH

The SWRMO works with various agencies and organisations in order to promote recycling and better waste management. There are also many projects that go toward this same goal. Here are some stakeholders that you can get in touch with during the research phase of this project. *Please consult SWRMO on how to get in touch with stakeholders.*



Environmental Protection Agency
Odile le Bolloch
odile.lebolloch@epa.ie



Stop Food Waste Programme
Colum Gibson - (Clean Technology Centre) colum.
gibson@ctc-cork.ie



Green Business
James Hogan (Clean Technology Centre) james.
hogan@greenbusiness.ie



HSE - Environmental Health Officers
HSE, 2nd Floor, Ashbourne Business Park, Dock Road, Limerick



Department of Communications, Climate Action & Environment (DCCAE)
Bernie Kiely
Bernie.Kiely@dccae.gov.ie



Limerick Chamber of Commerce
+353 61 415180
info@limerickchamber.ie

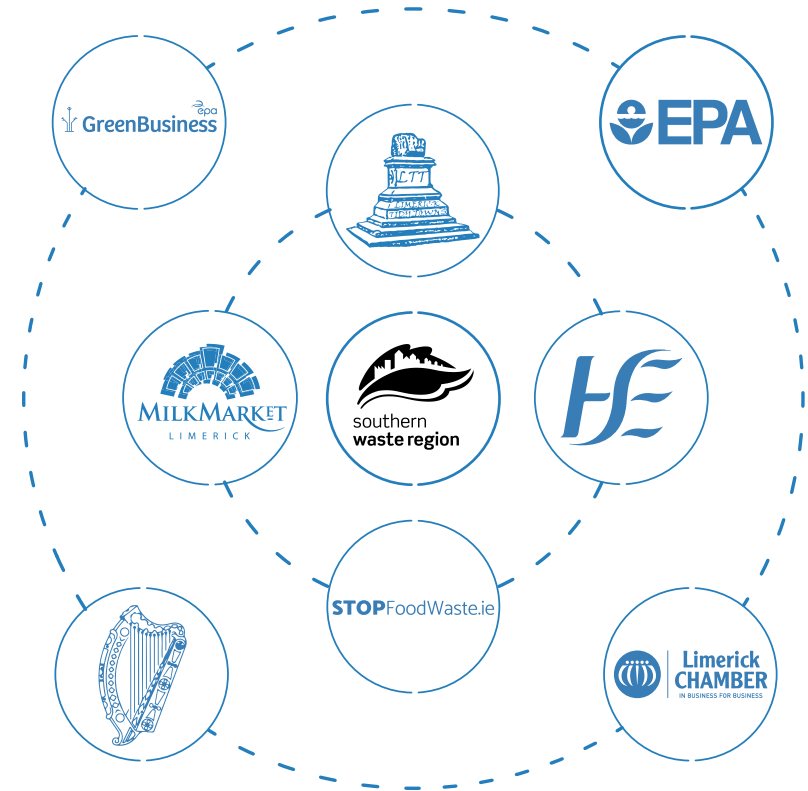
MAP



Limerick Tidy Towns
<http://limericktidytown.com/>



Milk Market Trustees
Market House,
Mungret Street, Limerick City
info@milkmarketlimerick.ie
061 214782



Here is a link to A Google map with more details on the stakeholders location:

 <http://urlz.fr/5JGA>

SCHEDULE

DATE	TOPIC	DELIVERABLE
Phase 1		
Sept 1st	11:00 Kick-off meeting: - An introduction to L4IDS Erasmus+ project - Interns introduction	
	12:30 Lunch: - Along with a walk around the campus	
	14:00 Team members introduction: - Individual mapping - Establishing rules of engagement	
	16:00 Project Briefs: - Introducing project topics	
Sept 1st Sept 4th	Assignment: - Go through the First-timers/Basics and First-timers/ Indexes-Reports OERs	
	Assignment: Prepare a 5 min presentation for your brief choices : - With your team members, align yourself with one of the project briefs. Highlight the skills and interests of team members that make your team compatible with the project brief you selected. Also, state your second and third choices as well.	
Sept 2nd	Scheduled FabLab Training: - One-day training on additive and subtractive manufacturing tools in FabLab	
Sept 4nd	10:00 Presenting Project Brief Choices: - If everybody selects different projects, there is no problem. But if any two groups end up aiming for the same brief, the project brief assignment will be done according to these presentations.	Pitch
	14:00 Meeting the key contacts in industry: - Key contacts will present their businesses - Go through the project briefs and schedule with key contacts	

Sept 5th	9:30 Masterclass : Understanding Material Flows and Stakeholders in Circular Economy by Sharon Prendeville, Loughborough University, UK	
Sept 5th Sept 15th	Assignment: Gathering information on local material flows, stakeholders and key contacts: - Getting in contact with key contacts and specified stakeholders	Presentation of your findings Other media (Photos,videos, sounds, etc.) Report on your findings
	- Understanding the material flows and available processes of key contacts and other stakeholders - Pointing out possible intervention points in the flows	
Sept 14th	Workshop on analysing/interpreting the field data	
Sept 18th	9:00 Presentations - Research outcomes: - Each team presents their outcomes - Comments for other project teams	Presentation
	14:00 Group Discussion	
Sept 18th	Assignment: Check out First-timers/Approaches to Sustainability OERs	
Sept 19th	9:30 Masterclass: Approaches to Design for Sustainability by _____	
	10:30 Workshop: Refine the design brief	
Phase 2		
Sept 19th Oct 8th	Idea-generation	
Oct 7th	Scheduled FabLab Training: - One-day training on additive and subtractive manufacturing tools in FabLab	
Sept 25th Oct 8th	Building mock-ups	
Oct 9th	Presentations: Initial ideas presented to representatives of key contacts, lecturers and other professionals	Mock-up(s) Presentation

Phase 3

	Planning: - Deciding on a direction for the projects - Meetings with every team on how to continue the project, defining shortcomings and planning the further steps.	
Oct 10th	Group Discussion	
Oct 11th	Masterclass: - Sustainability in the Broader Context by Simon O'Rafferty, EPA	
Oct 11th Oct 31st	Design detailing	
Oct 20th Oct 31st	Initial assessment of final design solution for Sustainability and fine tuning	
Oct 30th	Bank Holiday	
Oct 31st	Assignment: Key Contact Visit: Presenting the detailed design solution and assessment and gather feedback	Presentation
Nov 1th	Presentations: Finalized design solutions & their initial assessment Group Discussion:	Mock-up

Phase 4

Nov 6th Nov 17th	Prototyping (DFLab resources)	
Nov 19th	Masterclass: - Presentation & Pitching by Nexus Innovation Centre	
Nov 20th Nov 24th	Final assessment of ideas	
Nov 20th Nov 27th	Preparing communication material	
Nov 28th	Final presentations and exhibition	Posters Presentation Prototype
Nov 29th	Group Discussion	

EXPECTED OUTCOMES



During this project, you will be asked to develop, within your group, a **process book**, which will document your entire design process, from research, ideation and initial concepts, to your final concept and its development. This document will take the format of printed A3 paper as well as a PDF version which you will hand us over at the end of the internship. It will also feature the logo of your partner, of the University of Limerick and of the Circular design project. Those will have to be at least 3 cm large.

For the final presentation and exhibition of your project, you will be asked to create **posters** to present your project next to your prototype. Those will be the synthesis of your research, ideation and creation process. It will show your design process from your initial research up to your final project. The format of the posters will be decided during the internship. It will also feature the logos as previously indicated.

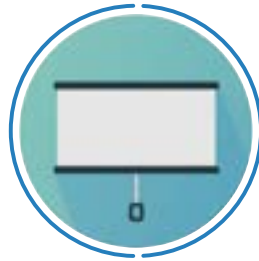


During the Phase 2 of this project, it will be expected that you develop one or more **mock-ups** to represent your initial ideas. To build those, you will have access to the UL workshop and to the Limerick FabLab (depending on its availability). Those mock-ups can be physical ones as well as slide shows, video, interface, etc., or any medium that best represents your ideas. You will then present your mock-up(s) and initial ideas to your partner.



Prototype : At the end of your internship, you are expected to have built a prototype of your design solution. Although the specifications of your prototype will change according to your design solution, you are expected to build one as close to the real thing as possible, using the department workshop and FabLab Limerick.

For each phase of the project, you will be presenting the advancement of your project to your partner, the UL team or external professional experts. The **presentation** medium is yours to choose (slide shows, videos, etc.) The only obligation you have is to feature the logo of your partner, the logo of the University of Limerick and the logo of the Circular design project. Your names should also be visible. You should also make sure your presentation's file is as small as possible.



A FEW RECOMMENDATIONS FOR YOUR PRESENTATION

- Don't use more than **6 lines of text**, the less text the better
- Use **sans serif fonts**, you can still use a creative font for a slide title but avoid using it for body text
- Maintain a **strong contrast** between text and background.
- Use no more than **5 colors**, you can use a tool like **Adobe's Kuler** to help you choose the colors.
- Use no font size smaller than **18 point** (24 is preferred) and you can go up to 35-45 points for title.
- Don't forget to integrate the **logo of your partner**, of the University of Limerick and of the Circular design project.
- **Test your slide-show** beforehand to adjust the colors, font sizes and bugs.

WORKSHOP

The school workshop will be available to you and is on the ground floor. Here you will be assisted by Robert Whelan and Donal Ryan. The workshop is usually open from **8:30 am to 5 pm** and you are required to wear a **white coat and protection glasses**. You will have access to the following machines depending on your previous training and workshop capabilities:

- ✓ Pillar drills
- ✓ Band saws
- ✓ Milling machine
- ✓ Lathe
- ✓ CNC Roto drilling machines
- ✓ Bench grinder
- ✓ Disc hand sander
- ✓ 3D printers
- ✓ Scroll saw
- ✓ Sewing machine
- ✓ Strip heater
- ✓ Thermoforming machine
- ✓ Paper guillotine
- ✓ Light box
- ✓ Photo booth
- ✓ Painting booth

THE PEOPLE



Robert Whelan
Technical support



Donal Ryan
Technical support

ABOUT LIMERICK

FAB LAB

Fab Lab Limerick started in 2012 as an elective course at the School of Architecture, UL in which open source 3D printers, CNC routers and laser cutters were built. In 2014 this self-build equipment was moved to an empty building in the city centre. Since then, Fab Lab Limerick has evolved into **a fully functional digital fabrication laboratory that offers cultural, educational and research programmes on digital fabrication**, bridging the gap between these technologies and creatives from all disciplines.

THE PEOPLE



Javi BuronGarcia
Director



Ger Walsh
Education Officer

Find more information on the website :

 <http://fablab.saul.ie/>

We are delighted to welcome you to the University of Limerick for the first CIRCULAR DESIGN: Learning for Innovative Design for Sustainability. Below is some useful information before you travel.

TRANSPORT TO/FROM AND AROUND LIMERICK

University of Limerick [UL] and Limerick City are easily accessible for travellers to the West of Ireland. It has its own airport (Shannon- 30 minutes' drive) as well as easy transport routes (motorways) from other parts of the country (Dublin, Cork, Galway etc.). Ryanair and Aer Lingus (as well as many other carriers) offer low priced flights into Ireland. Flights operate to Shannon from the UK, Europe (including European hub airports) and the USA. Dublin Airport also offers a wide variety of destinations, also covering Asia, and is around a 2hr drive from the University. Cork Airport is also just a 1hr 45 min drive away.

Public transport such as trains and buses operate regularly (mostly every hour) from Dublin to Limerick. Taxis and a regular bus service operate from Shannon Airport to Limerick. Prices range from €10 return on coaches, €15.00 return on trains (all from Dublin). Local taxi prices from Shannon Airport to UL are around €45.00, and coaches from €6.00 return. Car hire is available at all airports.

Plan your journey to Limerick and around Ireland here :

 <https://www.transportforireland.ie/>

Bus Options:

Bus Eireann is Ireland's public bus service www.buseireann.ie. There are connecting buses from all towns and cities. You can get a bus from Dublin Airport to the University of Limerick (Dublin to Limerick -Route number 12)

A number of independent bus operators transfer between Dublin Airport and Limerick City.

M7: Get bus from Dublin Airport to the Red Cow Luas Stop. Transfer bus to continue your journey to University of Limerick-the bus runs from 06:15 in the morning with the last bus leaving Dublin (Red Cow Luas Stop) at 00:05

 www.dublincoach.ie

Eireagle: Operate a direct bus from Dublin Airport to Limerick City, the Hurlers Cross stop will leave you close to the University.

 <http://www.eireagle.com/>

Rail Options:

Similarly Irish Rail trains connect Ireland's major cities. The train stations are accessible by bus from the major airports where you can get connecting trains around the country. <http://www.irishrail.ie/>

From Dublin airport: Take bus from Dublin Airport (Dublin Bus- Airlink Express) to Heuston Rail Station. Direct trains to Limerick Colbert Station operate regularly throughout the day.

 <https://www.transportforireland.ie/>

THE LIMERICK REGION

The “Wow” Factor

Ireland's Shannon Region is famous for being the home of High Kings, Castles and the Cliffs of Moher, ideally positioned in the southwest to be your gateway to the Wild Atlantic Way, conference delegates are sure to be wowed; uninterrupted vistas, tourist hotspots, bucket list locations and some of the best food and drink in Ireland.

The Place

Limerick City is a thriving urban area with an eclectic mix of past and present. Explore age old castles, walk along the banks of the famous Shannon River, immerse yourself in the local art scene with mini glass making workshops, or grab an easel and enjoy an afternoon of watercolour

painting overlooking Peoples Park in Limerick's Georgian Quarter. Dive head first into modern life in Limerick by enjoying afternoon tea in the city centre, sipping on a Guinness by an open fire or shopping till you drop in the fashion quarter. Easily walkable and simple to navigate be sure to build in lots of rest stops in some of the local cafés, Limerick's Milk Market with artisan food providers and enjoy the coffee culture.

Our Neighbours

In neighbouring County Clare you can find Medieval Banquets, a thriving traditional music scene and some of the most iconic landmarks on the island of Ireland, The Burren and The Cliffs of Moher, all on our doorstep. This Burren's karst stone landscape covers over 300km fascinating geologists from all over the world. The rugged, lunar like territory carved into the Irish landscape by the glacial activity in the ice age which began over 1 million years ago is home to a unique variety of alpine and Mediterranean plants and flowers that have flourished in this diverse environment. This space is not just famous for its natural beauty though. You can also find megalithic tombs, Celtic crosses, a ruined Cistercian Abbey and more than sixty wedge tombs here.

Get Wild

Ireland's Shannon region sits along the Wild Atlantic Way, the longest European coastal drive opens you up to life on the edge of the Atlantic Ocean. Experience the outdoors like never before, mountain biking, surfing, horse-riding, famous links golf courses and breath-taking views and meet those who are making craft beers, smoked salmon, seaweed beauty products and much more from the land around them.

Dynamic

A young and dynamic city that is home to some of the largest international industries combined with three higher education institutes in Limerick means that industry and research can work side by side.

ADDITIONAL HELPFUL INFORMATION

Clothing:

Ireland is generally informal about clothes. Warm sweaters, comfortable walking shoes and rainwear are advisable throughout the year.

Credit Cards

Credit cards are widely used in Ireland and all leading credit cards are accepted.

Currency

Like other countries in the European Union, the Republic of Ireland's currency is the euro (€). Bills (notes) come in denominations of 5, 10, 20, 50, 100, and 500 euros. You will also commonly see one and two euro coins, as well as 5-, 10-, 20-, and 50-cent coins (100 cents to the euro). Exchange rates vary daily. You can check the latest values at :

 <http://www.irishtimes.com/business/exchange-rates>

Frequent travellers find it most convenient to withdraw cash using ATMs, where the exchange rate is most favourable, rather than exchanging money at the airport. Confirm with your own bank that your ATM card will work. Inform them in advance of your travel plans, so that your access should be simple. Check with your bank for any cost associated with using the ATM network while in Ireland. There may be a foreign transaction fee in addition to the regular bank fee. If you want to exchange your currency in Ireland, a main bank is the best place to change currency. Bureau de change counters in banks usually offer better exchange rates—but be sure to check for local Bank Holidays when they will be closed.

Driving

A valid licence is required for driving in Ireland. Driving is on the left and seat belts must be worn at all times. In the Republic of Ireland the speed limits are 50km/h in built up urban areas, 80km/h on rural Regional roads (R) and Local Roads (L), 100km/h on the National Roads(N), including Dual carriageways and 120km/h on the motorways(M). The signposts denoting speed and distance are in kilometres per hour. All signposts and place names are displayed bilingually in both Irish and English.

Emergency Numbers

Republic of Ireland Emergency Police, Fire, Ambulance: Telephone: 112 or 999

The fire, ambulance and police services in Ireland are all contactable via the above numbers. When calling emergency services you will be asked to provide:

- The exact address of the incident or emergency and/or any noticeable

landmarks nearby

- Directions to the scene of the emergency
- The telephone number you are calling from
- Details on the incident itself, the number of persons involved, the description of any visible injuries and knowledge of any pre-existing medical conditions Try and stay calm and listen to the call taker's instructions. It is also important to keep your own phone on as the emergency service may need to contact you for further information.

Shopping

Shops are generally open Monday to Saturday from 9.00am to 6.00pm with late night shopping until 8.00 or 10.00pm at many of the larger stores. On Sunday, many supermarkets and some of the bigger shops will open from midday until 6.00pm. There are several supermarkets within walking distance of the University. Local stores will have the essentials (bread, milk etc.)

Low-cost- Lidl, Aldi.

Mid-range- Supervalu, Dunnes, Tesco.

Smoking

Since 2004 smoking is prohibited in the general workplace, enclosed public places, restaurants, bars, cafes, education facilities, healthcare facilities and public transport. It is legal to smoke outdoors.

Tipping

The customary tip in Ireland is 10 to 20 per cent. Many hotels and restaurants add it in the form of a service charge on the menu or bill. It's not customary to tip in pubs unless you have table service. Tipping porters, taxi drivers, hairdressers etc. is a good idea.



UNIVERSITY
of
LIMERICK

&



southern
waste region