CIRCULÉIRE

Circular by Design

Building capacity for circular design innovation across Ireland's textiles and apparel industry

Read About:

- **Ireland's textiles industry currently operates in a linear 'take-make-waste' model, and generates 35% more waste per person than the EU average.**
- **Approximately 80% of a product's environmental impact is decided at the design stage, before production even begins. Therefore, designers are critical enablers of a circular textiles industry.**
- **Circular by Design is a first-of-its-kind professional training programme, developed and delivered by DCCI and the Creative Futures Academy at NCAD to support Ireland's textile sector's adoption of circular design principles in their practice.**
- **As a result of the pilot, 11 leading Irish textiles businesses across 8 counties developed and tested new circular materials, products and business models.**
- **The resultant prototypes and plans were showcased at the first-ever circular design Innovation Festival in November 2022, to a total audience of 745+ national and international stakeholders from industry, academia and government.**
- **Pilot learnings and case studies are published in an open access digital Circular by Design toolkit.**

Background

The fashion and textiles industry is responsible for 10% of global carbon emissions, more than all international flights and shipping combined[1]. Textiles is one of the most pollutive and wasteful industries on earth, primarily following a linear 'take-make-use-waste' model. Upstream, textile production is water, land, energy and chemical-intensive and reliant on finite resources. Downstream the impact of fast-fashion can be seen in the growing volume of low-quality textile production, consumption and waste with few end-of-life solutions.

The growth of post-consumer waste similarly characterises Ireland's textiles industry. Ireland is a net importer of 292,000 tonnes of new textiles per annum, generating about 35kg of textile 'waste' per year, per person, almost 35% higher than the EU average. Approximately 65% of post-consumer textile waste is not reused or recycled but rather collected as household, commercial or industrial waste and goes to waste to energy plants or landfill[2].

Transitioning to a circular textiles industry attempts to address this challenge. In a circular textiles industry, waste and pollution are designed out, products and materials are kept in use for as long as possible, and natural systems are regenerated. However, the transition from linear to circular requires new attitudes, knowledge and skill-sets. This is particularly true for designers.

---

[1] Ellen MacArthur Foundation, 2017 A new textiles economy: Redesigning fashion's future, Available here

[2] EPA, 2021, Nature and Extent of Post-Consumer Textiles in Ireland Study Report, Available here

The Circular by Design Innovation Demonstration Project has been delivered in collaboration with: The National College of Art and Design, The Creative Futures Academy and Design & Crafts Council Ireland.

An estimated 80% of a product's environmental impact is decided at the design stage, before production even begins[3]. Decisions made early in the design process critically impact how products and services are used and handled at end of life. Consequently, designers play a pivotal role in the transition and, while design has typically been part of the problem, it has the potential to be part of the solution.

Circular Demo Pilot

Circular by Design (CbD) is a first-of-its-kind professional training programme, developed and delivered by DCCI and the Creative Futures Academy at NCAD. The pilot programme supports textile and apparel designers, brands and manufacturers transition to circular design practises in every step of their production process, value chain and business model. Kicking off in March 2022, the pilot ran for 9 months and focused on the following key objectives:

1. Build knowledge, capacity and industry demand for circular design innovation by equipping Irish textile businesses with the knowledge and skills needed to design for circularity.

2. Establish networks by connecting Irish textile and apparel businesses with peers, experts and innovators, nationally and internationally, through a Community of Practice (CoP).

3: Demonstrate and showcase circular design innovation by elevating the topic of circular economy and design across Ireland's industry, and disseminating best practices through an open-access Innovation Festival and Toolkit.

Key Impacts

In its pilot year, CbD trained 11 Irish textiles businesses on circularity and circular design, through a series of in-person and online Masterclasses. Upon completion of the programme;

- 87.5% of applicants felt that their knowledge of the circular economy and design principles had increased.
- 94% noted improved networking opportunities.
- 100% have developed and are testing circular solutions.
- 100% have committed to the circular design strategies as part of their future business goals.

Finally, over 5 months, the sectoral Community of Practice has grown to 45 members.

Key Lessons Learnt

- **We must align on what circular design is and isn't.** There is significant interest in the development and adoption of circular design guidelines and criteria, and more and more companies are developing their own definitions and strategies. To prevent a siloed approach, there is a critical need to develop a common understanding of, and language for, circular design on a sectoral level.

- **The designer needs to marry the garbageman.** There is a notable focus amongst Irish makers on designing for durability and longevity. This is an admirable ethos and circular strategy, however, it should not come at the expense of a full-life cycle perspective. Designers must also proactively address a product's inevitable end-of-life and simultaneously design for repairability, reusability and recyclability.

- **Circular design and business model innovation must go hand in hand.** There is no such thing as a circular product, only products that are designed for circularity. Product circularity is highly dependent on a functioning circular system and infrastructure around it. When training professionals on circular design, it is critical to also train them in the enabling circular business models and systems and to support them to assess and redesign both, in parallel.

[3] European Commission, 2014, Ecodesign your future : how ecodesign can help the environment by making products smarter,Available here

CIRCULÉIRE – The National Platform for Circular Manufacturing has a €1.5m ring-fenced innovation fund supporting circular innovation demonstration projects over 2020-2022. See www.circuleire.ie