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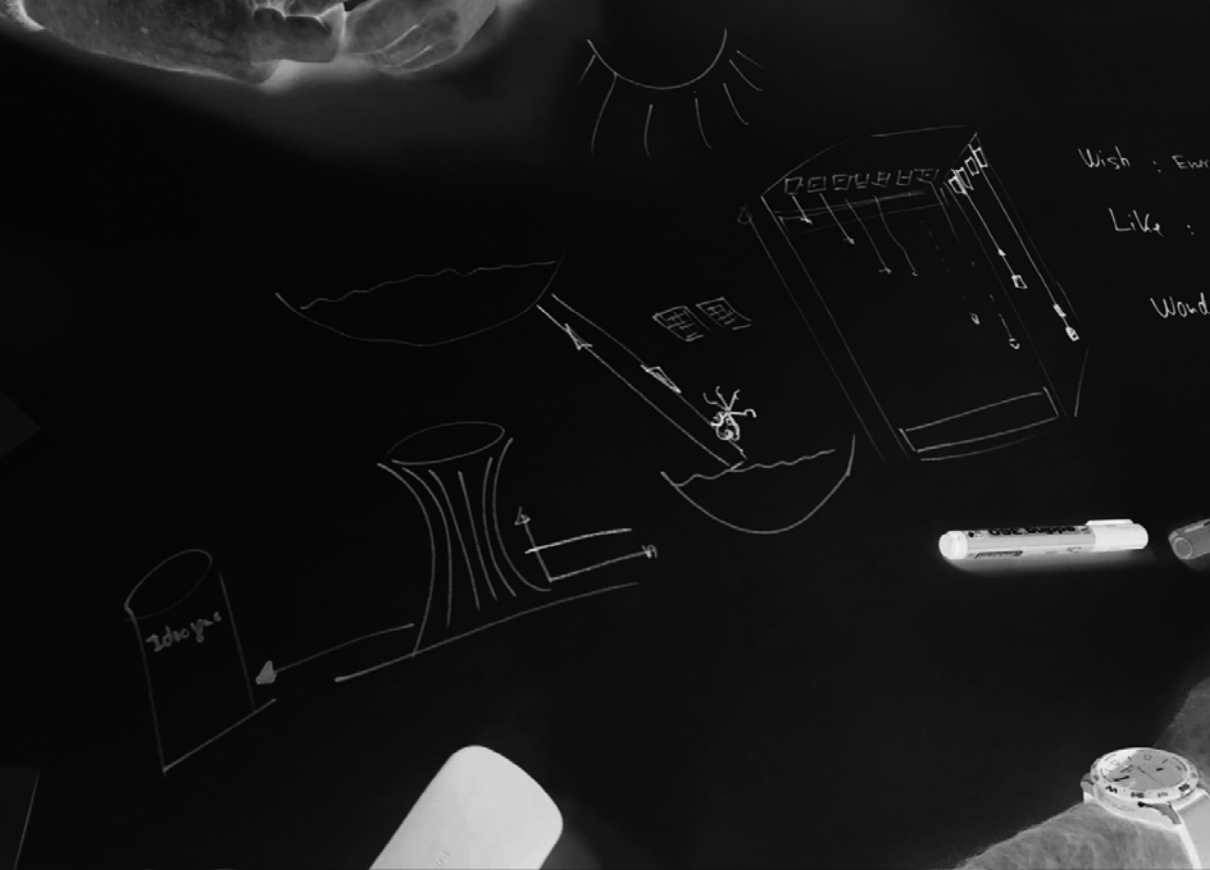
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Boosting Sustainable Consumption Behaviour Through Consumer Education in the Fashion Retail and Service Environment

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Abstract

Due to the growing environmental impact of the fashion industry, the demand for sustainable consumption is currently an urgent issue. The exponential increase of textile waste and the progressive reduction of product lifespan call for a shift to circular models, and in this context, consumer awareness has also become crucial.

The retail environment, driven by an increasing shift towards a servitisation of the consumer experience, with its associated Product-Service Systems (PSSs), can provide a compelling opportunity to nurture consumer awareness, thus acting as a proactive mechanism to induce more responsible and sustainable behaviour. Within this framework, retail design is emerging as a key driver for sustainable behavioural changes in fashion consumption.

This article, therefore, reflects on how fashion brands are actively orchestrating strategies within retail, defining dedicated PSSs to promote responsible consumption practices involving informative content, empowerment tools and co-creation initiatives that, going beyond awareness, can evolve into advocacy.

Keywords

Retail design

Servitisation

Product-Service Systems (PSSs)

Fashion sustainability

Responsible consumption

Introduction

The fashion industry, the fourth largest industry with the most significant impact on the environment and on climate change from a global life cycle perspective, the third largest consumer area in terms of water and land use and the fifth largest in terms of raw material use and greenhouse gas emissions (*Textiles and the Environment*, 2022), is currently facing pressing sustainability challenges (*Fashion Is an Environmental and Social Emergency*, 2018).

Among the pressing issues in the fashion industry is the troubling problem of textile waste. Between 2000 and 2015, clothing production doubled, while utilisation decreased by 36% (Larsson et al., 2019). This phenomenon has resulted in the reduction of the life cycle of textile products. European citizens consume almost 26 kg of textiles yearly and dispose of about 11 kg. Used clothing may be exported outside the EU, but most are incinerated or taken to landfills (87%) (Šajn, 2022; Ellen MacArthur Foundation, 2017). The growth of fast fashion, also facilitated by the spread of social media and the industry pushing fashion trends to a more significant number of consumers at a faster pace than in the past, contributes massively to shortening the clothing lifecycle, while encouraging higher levels of consumption (Ozdamar-Ertekin, 2016).

In response to these sustainability challenges, research has predominantly focused on solutions that promote the acquisition of greener or recycled products, alongside sustainable disposal methods, particularly through textile recycling initiatives (Mukendi et al., 2020). Recycling textiles holds the promise of reducing the environmental impact of waste, but it fails to address the root causes of overconsumption and excessive production (Fletcher & Grose, 2012). The focus on recycling alone does not address unsustainable buying behaviour and the sheer volume of garments produced (Ozdamar-Ertekin, 2016).

Changing the linear model on which the textile industry is based (Rathinamoorthy, 2019), and tackling the issues related to environmental and social sustainability with circular business models to develop circular economies (Morrison, Petherick & Ley, 2019), has the potential to tackle negative environmental and social impacts. This can be achieved by reusing materials through recycling between post-use and production and by extending the life of products through services such as repair and remanufacturing (Bocken et al., 2016). The tendency now is to encourage business models that prolong the lifespan of garments, to use clothes made with renewable materials or recycle existing ones, and launch new retail business models (Atasu, Dumas & Van Wassenhove, 2021).

Consumers are acknowledged to play a crucial role in driving the transition to more sustainable fashion practices. In the new *Circular Economy Action Plan* (European Commission, 2020), part of the EU Industrial Strategy, one of the three measures is “Empowering Consumers”: it states how consumers will have access to reliable information on issues such as reparability and product durability to help them make environmentally sustainable choices. Consumers will benefit from a proper “Right to Repair”.

This growing environmental awareness has prompted consumers to demand greater responsibility from businesses. Con-

sumer behaviour, including purchasing choices, garment usage, and disposal habits, significantly influences the success and adoption of circular fashion models (Bianchi & Birtwistle, 2012). As consumers increasingly seek eco-conscious products and practices, businesses are called upon to take greater responsibility and align their strategies to meet these demands, recognizing that sustainability is a competitive advantage in the fashion market (Musova et al., 2021).

Within this framework, servitisation is recognised as a lever to improve resource efficiency and create positive environmental effects for society (Mont & Tukker, 2006; Tukker, 2015). Product-Service Systems (PSSs) are acknowledged as effective enablers for implementing circular economy processes through a better use of resources (Roy, Shehab & Tiwari, 2009; Vezzoli & Manzini, 2008; Tukker & Tischner, 2006) and positively influencing the extension of corporate responsibility (Pal, 2016). Servitisation processes generate new revenue streams, achieve new competitive advantages (Baines et al., 2009), and increase consumer awareness (Vezzoli et al., 2015). The design of product-service systems, e.g. related to rental, swapping, redesign, and repair, but also to the development of informational and educational content about sustainability, increases product longevity and resource efficiency (Ricchiardi & Bugnotto, 2019; Armstrong et al., 2015; Niinimäki & Hassi, 2011) and promotes more sustainable consumption behaviour.

In this regard, the present article focuses on the role of retail in implementing circular economy processes. In particular, on how companies can use the retail space as a fundamental key to foster actions and processes capable of accelerating sustainable transformation (Vadakkepatt et al., 2021) through the enactment of product-service systems geared towards educating consumers towards more responsible forms of consumption. Data was collected through desk research on the current servitisation practices that fashion companies are applying to promote circular and more sustainable business models at the European level; the study focused on identifying, in particular, those practices that have a relevant impact within the last part of the fashion chain, from distribution to use and finally to the disposal of garments. This first research phase collected 59 practices clustered according to the main circularity strategies (Potting et al., 2017). Subsequently, an in-depth qualitative analysis of the best practices allowed the extraction of the most relevant strategy for educating consumer behaviour, and the modelling of three main approaches to implement this effectively.

Retail spaces, in their more contemporary forms as physical, digital or phygital spaces (Iannilli & Spagnoli, 2021), and more generally within the omnichannel context, can capture changes in demand and foster the spread of good circular economy practices. Within the context of a deep transformation of the retail role in the fashion industry, driven by an increasing shift towards the servitisation of the consumer experience, the article proposes an interpretative framework to analyse and understand how fashion brands are exploiting retail and services to promote new models of consumer engagement, thus raising their knowledge and awareness of social and environmental sustainability.

Consumer Education for Fashion Responsible Consumption

The concept of responsible consumption is not new. Fisk, in 1973, already referred to it as “a rational and efficient use of resources with respect to the global human population” (Fisk, 1973, p. 24). This first and founding theorisation of responsible consumption brings to light, in nuce, some of the themes that will be the subject of research and debate in the following decades: on the one hand, the domain of application in terms of vagueness concerning the focus of attention — responsible production and/or responsible consumption — determining whether the primary emphasis should be on consumer behaviour and lifestyles or on the production of sustainable products (Jackson, 2004); on the other hand, the system of actors that concur to promote and govern responsible action, a triadic relationship involving government (in terms of public policy, institutions, and associations), business (in terms of companies and retailers) and consumers (Fisk, 1973). In the same years, and fuelled by the concurrent energy crisis, the concept of responsible consumption entered the policy agenda, from The Club of Rome’s *Limits to Growth* report in 1972 to *Agenda 21* from the Rio Earth Summit in 1992, until it was included within one of the UN Sustainable Development Goals (SDG 12 *Sustainable Consumption and Production*) calling for the collaboration of governments and citizens to “work together to improve resource efficiency, reduce waste and pollution, and shape a new circular economy” (UN Sustainable Development, 2023).

Although the concept has remained on political agendas for a long time, only recently has the attention to this theme grown significantly, and led to an increase in research in this regard.

The consumer’s role in the fashion industry is crucial both in orienting market and manufacturing choices and in determining the fashion industry’s value chain framework within a complex system of cultural, symbolic, identity and hedonistic values. So-called sustainable consumption behaviour is thus embedded within the broader context of the evolution of contemporary consumption practices, strongly influenced by digital transformation and the development of new forms of participation (Paltrinieri & Parmiggiani, 2017; Cova & Cova, 2002). At a time when the change in consumption demand in favour of greater sustainability and circularity is recognised as one of the levers to stimulate greater responsibility in company attitudes (Musova et al., 2021), several ideologies emerge under the umbrella of Sustainable Clothing Consumption, focused differentially within the different phases of consumption-acquisition, usage and disposal (Vesterinen & Syrjälä, 2022). These include, for example, slow fashion, Consume Less/Consume Better (CLCB), lowerism, use-oriented clothing economy.

Assuming industry responsibility and consumer responsibility as two distinct aspects that contribute to responsible consumption (Cavender, Lee & Wesley, 2021), research related to the post-retail life cycle of clothes has typically dealt either with the — lack of — circularity of the textile supply chain (Domina & Koch, 1997) or with consumer behaviour in terms of their habits of using and disposing of clothes (Bianchi & Birtwistle, 2012). The fashion industry’s involvement in the post-retail phase is relatively more recent (Kant

Hvass, 2014), and connected to the principle of Extended Producer Responsibility (EPR), currently a matter of attention and negotiation at the European regulatory level (European Commission, 2023).

The close connection and interdependence between industry and consumer responsibility in the post-retail phase becomes evident precisely in light of the recognition of the fashion industry's role within the circular economy and the acknowledgement of an increase in consumer awareness of circularity and sustainability. However, this increased orientation towards sustainability, observed mainly in the younger generations (Pauluzzo & Mason, 2022; Williams & Hodges, 2022), has elements of non-linearity. Indeed, consumer awareness of sustainable fashion does not necessarily result in a change in consumer behaviour (Brewer, 2019). The attitude towards sustainability should be supported and encouraged just like the consumer's sense of responsibility (Luchs, Phipps & Hill, 2015), and this joint effect should lead to significant change.

Within this context, the role of both design and fashion brands in the post-retail sustainability of garments is crucial (Kant Hvass, 2014). First, companies can promote consumer education opportunities to facilitate access to relevant sustainability-related information (Musova et al., 2021) and increase awareness through increased knowledge. Secondly, design can propose various strategies that can stimulate desired behavioural patterns or help avoid undesired ones (Zachrisson & Boks, 2012). In particular, design for behavioural change, insofar as it can enable, encourage or discourage specific practices from taking place, has consistently heightened its interest in the growth of environmental and social sustainability issues. While initially, the goal of sustainable design was to make products that consumed as little energy and raw material as possible and were recyclable, sustainable design now fully embraces behaviour design strategies to achieve effective change (Tromp, Hekkert & Verbeek, 2011).

Retail and the services offered in the sales and after-sales phases of the fashion product, especially in recent years, appear to be a promising and relevant setting for taking action in this direction and promoting behavioural change through informative, educational and collaborative design actions that can engage the consumer positively through the implementation of specifically targeted Product-Service Systems (PSSs) (Pal, 2016; Tukker, 2015).

From Sustainability Awareness to Sustainability Advocacy: Retail and Services Educating Responsible Consumption

Based on the analysis and clustering of recent and significant case studies, the article recognises three main approaches through which fashion brands orient their efforts. These approaches on the one hand highlight the different ways in which consumers are involved — in terms of implemented tools and defined objectives; on the other hand, they highlight the role that retail and service design — by defining dedicated PSSs — can express, as an activator of actions, experiences and new educational forms, for responsible consumption Fig. 1.

The first cluster of actions recognises the context of retail and service design as the primary place and opportunity to provide consumers with knowledge regarding the broader concept of circularity and sustainability: from supply chain management to product life cycle planning and disposal options. The second cluster of actions combines the transfer of knowledge — whose main objective is to increase sustainability awareness — with the provision to consumers of the tools they need to intervene and, in the most virtuous cases, to promote change. Finally, the third cluster focuses on the active relationship with the consumer through the implementation of processes of co-creation and co-production of value in the context of sustainability.

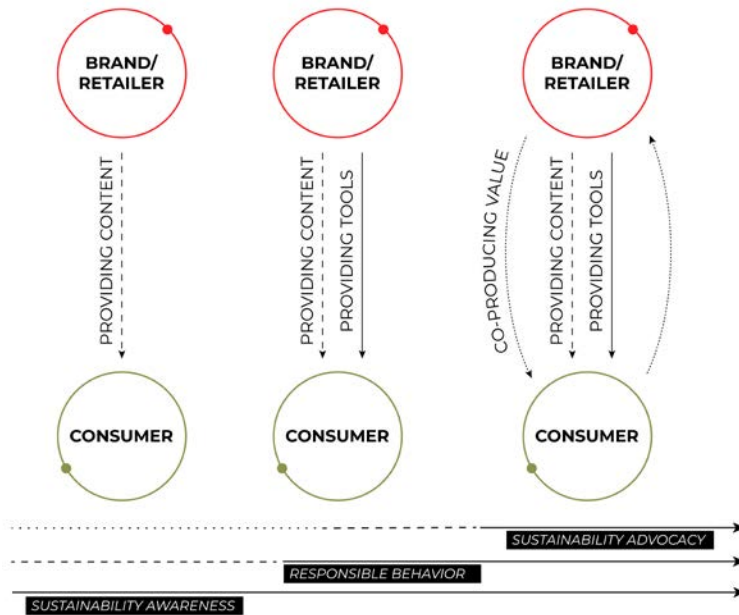


Fig. 1
Brand/retailer and consumer engagement models within the retail and services environment for responsible consumption (Authors' elaboration).

Providing Content to Consumers to Increase Sustainability Awareness

Since Patagonia's milestone "Don't Buy This Jacket" announcement in 2011, through which the brand proposed a message to raise awareness of the harmful effects of overconsumption, such initiatives have multiplied — with considerable growth in recent years — adopting increasingly sophisticated formats and contents. On the one hand, there are initiatives that seek to convey information and knowledge related to fashion supply chain management, to make it comprehensible and transparent. On the other hand, there are recognizable initiatives aimed at highlighting and informing the consumer about the environmental impact of his or her consumption habits, thus promoting individual responsibility for purchasing, using, and disposing of the fashion item.

The first cluster includes exemplary cases involving both the omnichannel and the physical dimension of retail. The physical-digital connection is exploited, for instance, by the smart labels sup-

ported by Renoon¹, a tool for measuring sustainability impact and communication, adopted by brands and retailers to collect in a single access point all information related to the supplier chain, adopted production standards, and related quality certifications. On the other hand, the relational and immersive potential of the physical retail space is the strength of Candiani Vision², a store conceived as a place to present Candiani Denim's Coreva technology and structured as a proper vertical dissemination space about sustainable denim issues that highlights the circularity of the chain, from the generation of fibres to their decomposition.

Finally, the second cluster includes awareness-raising initiatives aimed at showing the impact of consumer consumption habits, such as, among others, ThredUP's or Ethical Clothing's Fashion Footprint Calculator³. Based on the Life Cycle Impact Assessment of clothing, these initiatives aim to illustrate to consumers the environmental impact of their lifestyle and help them understand the areas of most significant impact to promote the awareness of more sustainable alternatives.

Providing Tools to Consumers to Enable Responsible Behaviour

The second cluster collects widely differing experiences, the common denominator of which is the aim to provide consumers with tools to activate proper sustainable or circular practices, thus promoting more responsible behaviour.

"Re-think your jeans" is a collaborative circular economy project promoted by the Rifò brand that involves reconditioning denim fibres to produce new garments from recycled material⁴. The first input to activating this circular chain is the collection, and subsequent sorting, of used or end-of-life garments discarded and donated by consumers. An essential element of the success of this programme is the granularity of the collection points, as well as the proactive action of consumers, the latter supported by incentive mechanisms in the form of discount vouchers.

Amongst the actions aimed at promoting the extension of the product's lifespan, one of the most significant and structured initiatives, similar to Patagonia's "Worn Wear" programme, is Freitag's comprehensive repair product-service system. The service is customised to the needs of the consumer and based on a multi-layered system consisting of a regional network of Repair Shops operated directly by Freitag, an online repair and maintenance consulting service for bags and a proprietary online marketplace for the distribution of spare parts, which can be ordered free of charge, coupled with instructions for use⁵. This product-service system — which also has extensions in the area of collaborative consumption such as swapping and renting — provides the consumer with a range of personalised and diversified possibilities to adopt sustainable alternatives to product disposal while at the same time increasing the value of the product and the sense of attachment. A pattern, the latter, which is spreading within the fashion industry and of which another valuable example is Nudie Jeans' "Free Repairs Forever" programme⁶ anchored, in this specific case, to a network of Repair Partners to increase coverage at the local level.

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<https://renoon.com/>

2
<https://candianicoreva.com/en/home#experience-section2>

3
<https://www.thredup.com/fashionfootprint/>;
<https://www.ethical-clothing.com/fashion-calculator/>

4
<https://rifo-lab.com/en/pages/riciclo-vecchi-jeans>

5
<https://www.freitag.ch/en/services/bag-repair>;
<https://www.freitag.ch/en/spare-parts/>

6
<https://www.nudiejeans.com/sustainability/sustainable-products#-free-repairs-for-life>

As highlighted above, educating consumers and raising their awareness of the possible negative impacts of their consumption behaviour is not directly proportional to adopting more sustainable consumption patterns. One of the most significant and promising approaches to fostering consumer willingness to support new circular models in the fashion industry is to involve the consumers in the co-production of fashion product value.

Within this context rest the various initiatives to re-think and re-signify capsule collections or customised garments that some fashion brands are experimenting with in collaboration with their audience, and that are mainly activated in the form of collaborative workshops exploiting the retail space as a creative and educational hub. Among the most recent initiatives is the temporary conversion of Tommy Hilfiger's Milan store into a Repair Shop with the collaboration of Wrad and the Culo Camicia team for the purpose of transforming old and used shirts into new shorts through consumer workshops. A proper upcycling project aimed not only at recovering end-of-life garments but, above all, at converting them into products with greater added value. The same co-creation design process between designers and consumers is a structural element of the Appcycled platform⁷, which connects a network of designers specialised in reusing textile scraps and end-of-life garments to produce new garments. In addition to being an upcycled fashion marketplace, the platform also provides a collection service for used garments and access to a customisation service that directly connects designers and end customers.

Finally, a comprehensive customisation and guided co-designing service for on-demand garments is key to Candiani Custom⁸, an in-store micro factory specialising in custom-made jeans. The store, built around its workshop area, offers the consumer a path to co-design his or her product guided by a team of tailors: the product choice variables — model, fabric, wash, and accessories — are fully displayed in the factory along with information on the denim supply chain, manufacturing technologies and the suppliers' network. In this case, the transparent process, combined with the involvement of the consumer, returns a valuable result both for the latter, who experiences a more responsible and sustainable consumption model and for the company, which reduces and minimises production waste and stock inventories.

Retail and Service Design Levers to Boost Sustainable Behavioural Change

In a context of increasing attention to the negative impacts of the textile-fashion supply chain and, jointly, of models based on over-production and overconsumption — for which fast fashion is mainly responsible — retail takes on its responsibility and role in the circular economy perspective and focuses on designing services and experiences that have the potential to become key in offering alternatives and more responsible consumption patterns while increasing the

competitiveness of fashion companies (Ruiz-Real et al., 2019; Vada-
kkepatt et al., 2021).

Adopting a design-led approach to embrace retail's complex ecosystem means understanding and harnessing consumers' increasingly relevant interest in sustainability to propose collaborative actions and processes — equally involving brands and consumers — that can guide and drive towards proper sustainability advocacy to have significant impacts on consumption patterns. Retail and service design, as both an enabling agent and an enabling context for the relationship between brand and consumer, can leverage several actions to scale up from sustainability awareness to sustainability advocacy (Fig. 2). The actions (displayed in the circle's middle) referring to sustainability awareness and presupposing the implementation of punctual measures with limited impact, gradually evolve towards more comprehensive interconnected actions (displayed on the circle's edge) aimed at increasing the degree of involvement and advocacy, both of companies and consumers, to foster systemic change in production and consumption paradigms.



Fig. 2
Retail and service design
levers to scale from
sustainability awareness
to sustainability advocacy
(Authors' elaboration).

Through the design of specific Product-Service Systems (PSSs), they are able to:

- Encourage a sustainable attitude by jointly providing incentive alignment mechanisms and tools, places and opportunities to promote responsible actions;
- Ensure transparent, appropriate and multi-level access to information related to the fashion supply chain, from suppliers' networks to quality control mechanisms;

- Offer expertise and, above all, tools to improve and extend the product's life cycle in the post-retail phase of use and disposal;
- Experiment with new service and use-oriented business models that favour product use over product ownership;
- Ensure fashion product design, production and distribution systems that are as consumer-centred as possible, tailored, and able to involve the consumer in the collective responsibility of the production process;
- Enable cooperative practices and processes involving the entire network of players in the retail ecosystem to stimulate new and more responsible consumption models based on the added value of products.

Within this framework and supported by the mapped current experiences, retail design has ample room for future intervention to promote sustainable consumption behaviour by educating consumers while experimenting and incentivising fashion companies to transition towards sustainability.

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The Open Debate section of this issue focuses on the complexity of Culture and Creativity ecosystems in terms of relations, economic aspects, social issues and technological evolution, which are experiencing multiple and unpredictable dynamics. We are interested in focusing attention on the contribution that the cultures and practices of design lend to this phenomenon, and how the bond between design, culture and creativity, in Europe, is indivisible.

The ninth Knowledge and Innovation Community of the EIT dedicated to Culture and Creativity is the European infrastructure devoted to unlocking the value generated by small players and large organisations and institutions in different fields (design, audio-visual, deep-tech, fashion, etc.), as an indispensable part of the European Innovation Ecosystem.

This issue expands the field of reflection and action previously set out in issue no. 73 of *diid*, with the aim of highlighting the impact that embedding culture and creativity generates in the various domains of innovation at the European scale.

Education, innovation, futures, the connection between art and technology are the spheres explored by the different contributions with the aim of supporting the hybridisation and cross-fertilisation between knowledge and between sectors in a transformative world.

Flaviano Celaschi

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