



Faculty of Design

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Designing Open Innovation Ecosystems for Small and Medium Enterprises

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Designing Open Innovation Ecosystems for Small and Medium Enterprises

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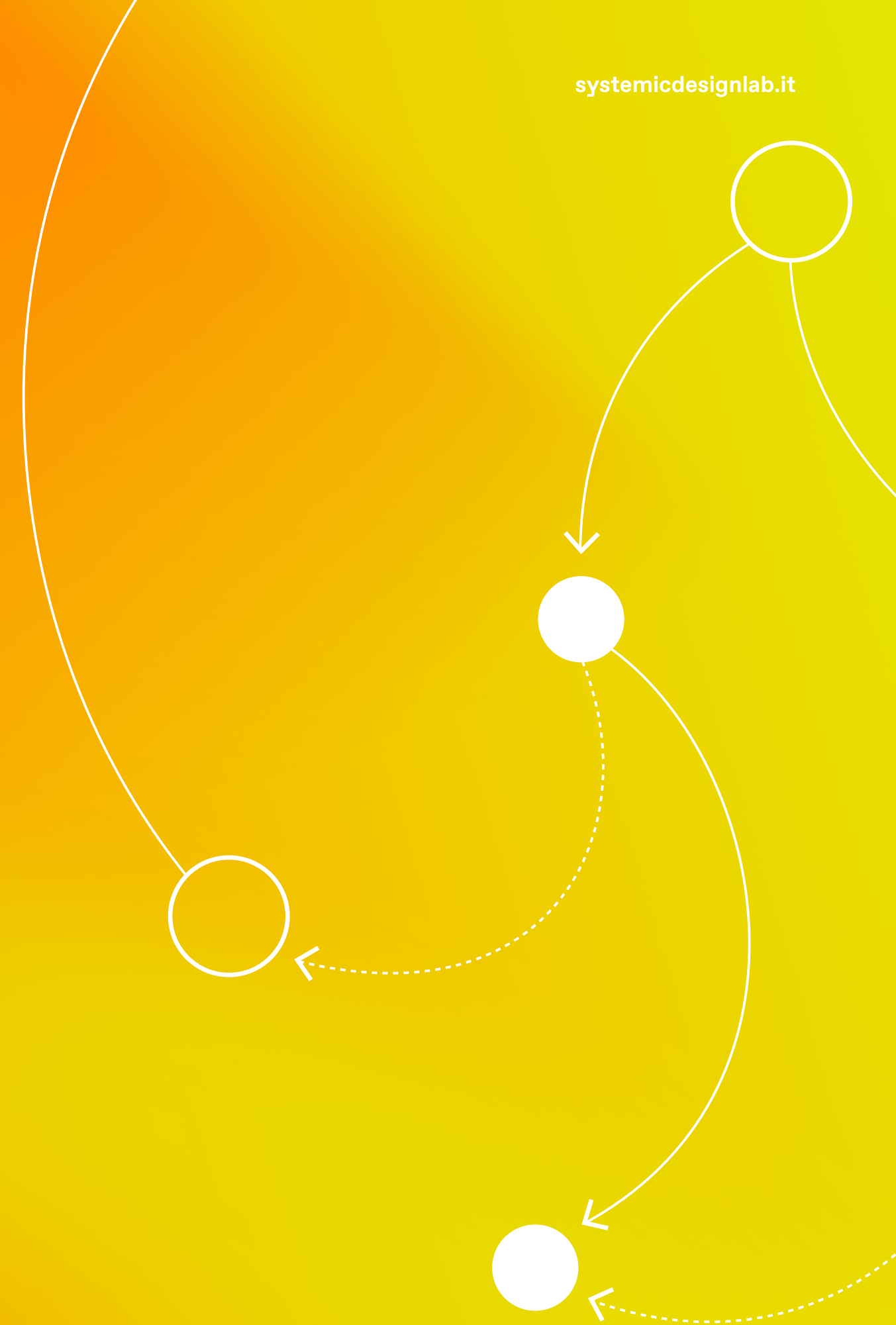
Silvia Barbero

Associate Professor at PoliTo



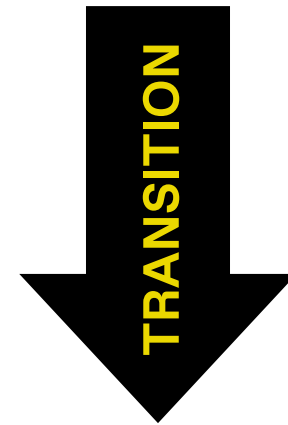
RSD11 | Brighton University

October 13th, 2022

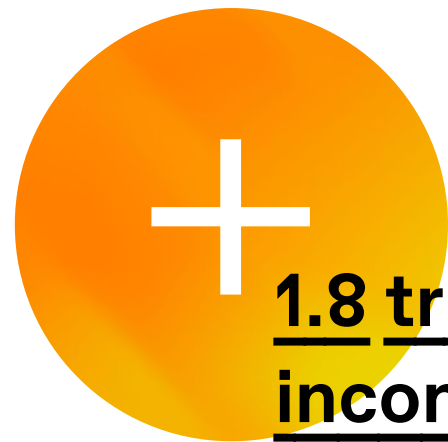


capitalist linear model

capitalist linear model



circular economy model



1.8 trillion euros
income by 2030

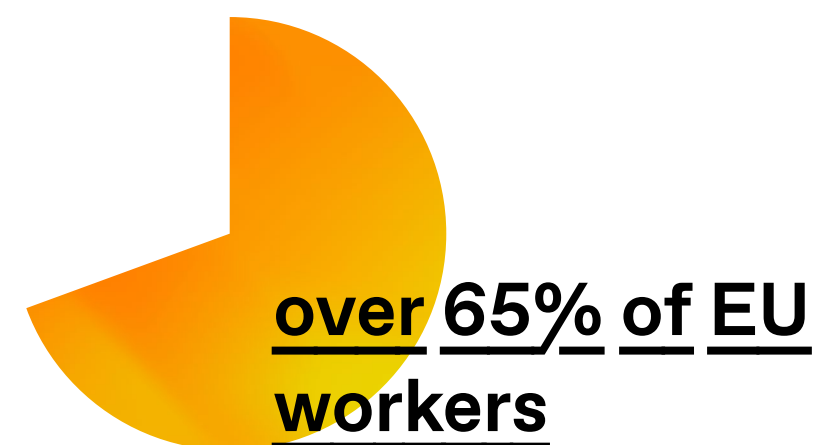
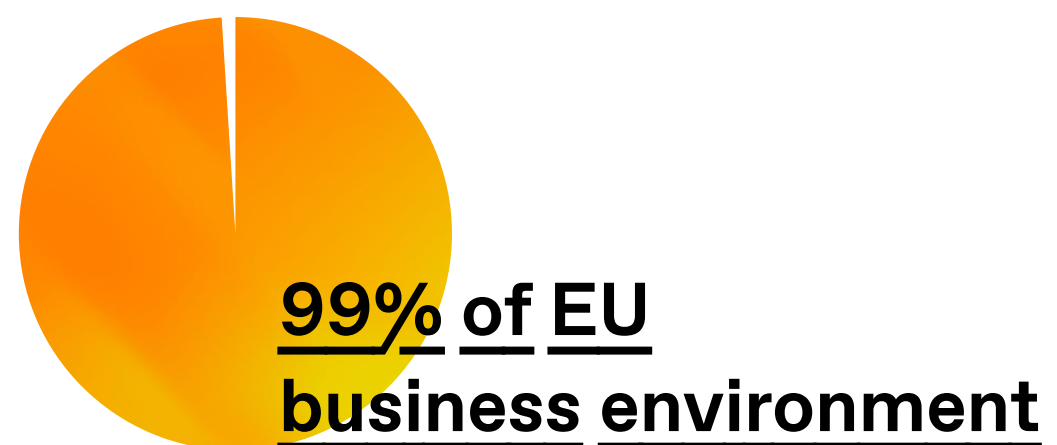


1 million
new jobs by 2030

circular economy model

data: Ellen MacArthur Foundation, 2015

SMEs represent



source: Rizos et al., 2015

Barriers to SMEs transition to circular economy

Limited environmental culture of companies

Limited technical and technological know-how

Lack of collaboration across the value chain

Lack of available capital to make necessary investments

Poor government support and ineffective legislation

Administrative hindrance due to bureaucratic complexity

source: Rizos et al., 2016

Two main challenges

1

need for legislative and administrative actions to support industries

2

foster collaboration between different stakeholders, facilitating the exchange of skills and knowledge

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DIGICIRC

2020-2023

European Cluster-led accelerator for
Digitisation of the Circular Economy
across key emerging sectors

Horizon 2020 Research and Innovation programme

It aims at creating innovation ecosystems using digitisation and digital data to support SMEs' transition to a circular economy.

<https://digicirc.eu/>



DIGICIRC

Four innovative digital tools to foster collaboration among local and EU stakeholders

Three specific calls to support SME consortia in developing circular projects and businesses



Systemic Design contribution

BARRIERS TO SMEs TRANSITION TO CIRCULAR ECONOMY



DIGICIRC CONTRIBUTION



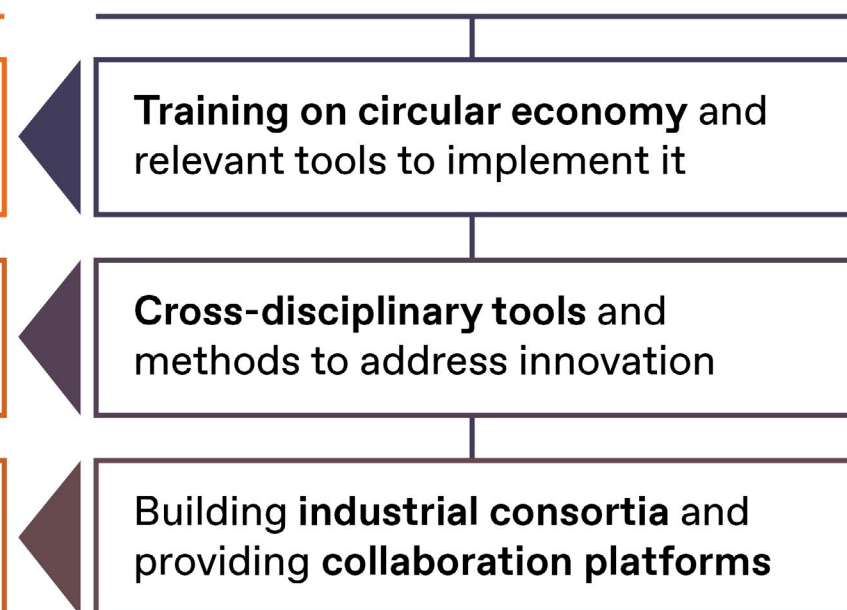
(Rizos et al., 2016)

Systemic Design contribution

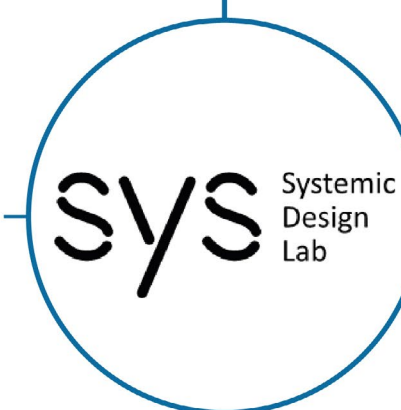
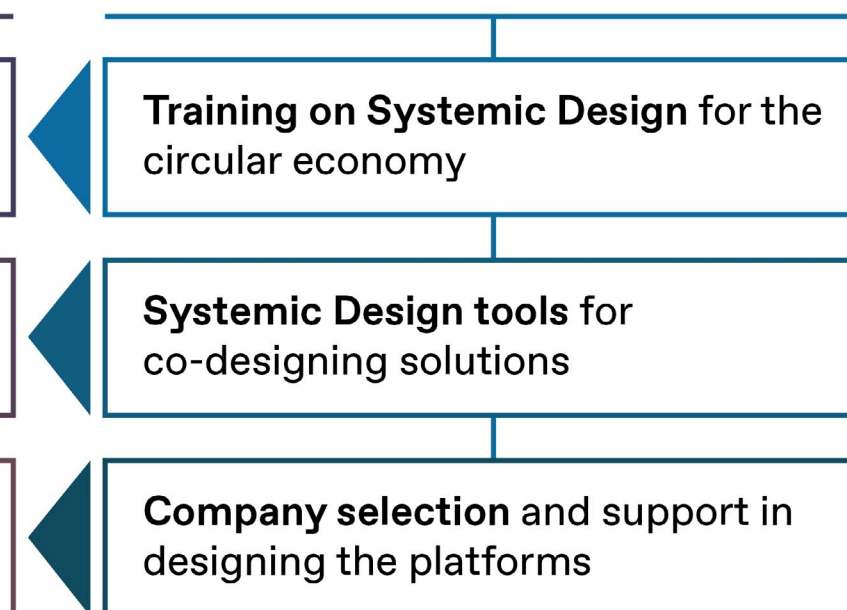
BARRIERS TO SMEs TRANSITION TO CIRCULAR ECONOMY



DIGICIRC CONTRIBUTION



SYSTEMIC DESIGN CONTRIBUTION

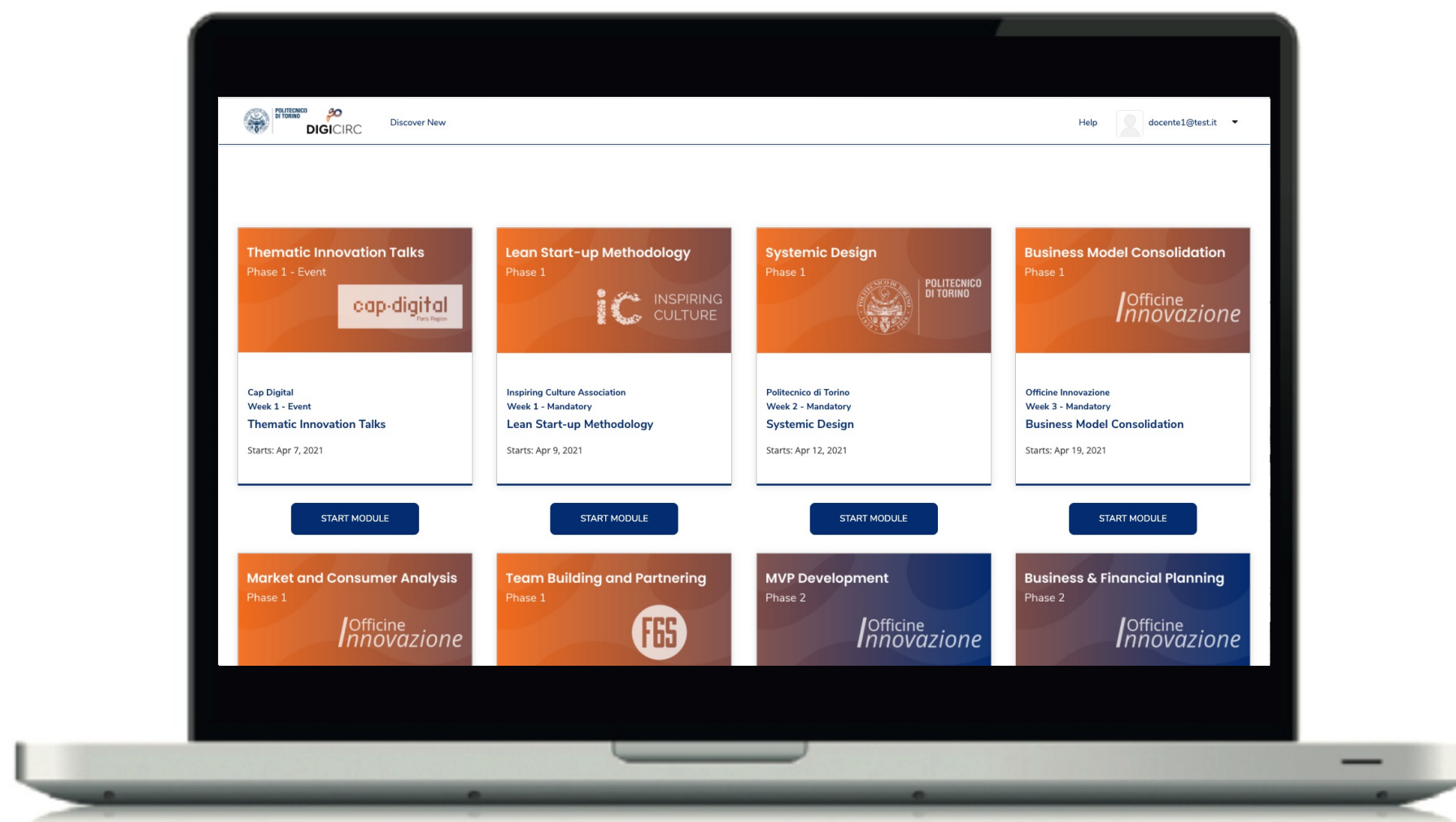


(Rizos et al., 2016)

Systemic Design contribution

1

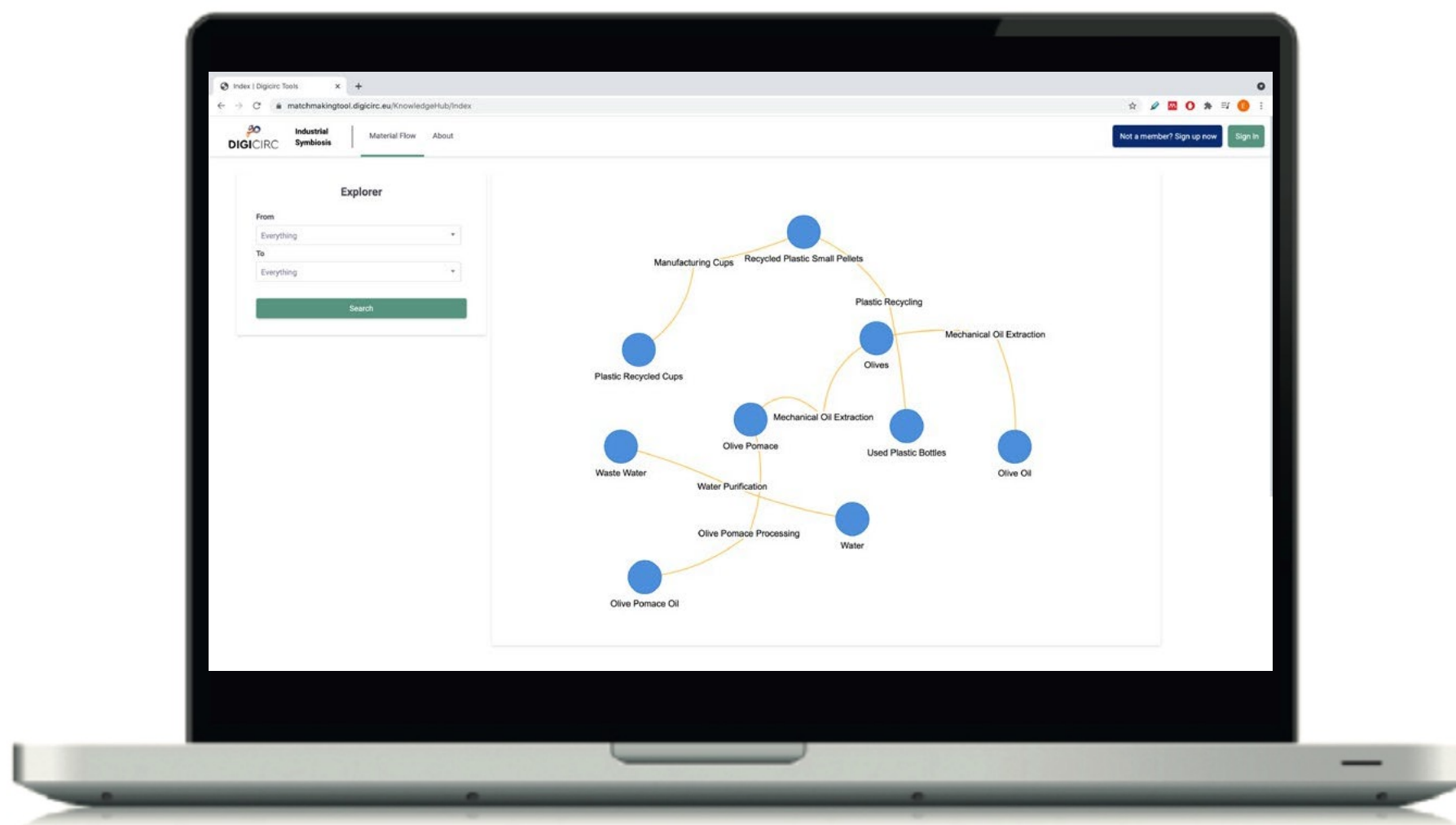
Training on Systemic Design for the circular economy



Systemic Design contribution

2

Systemic Design
tools for co-
designing solutions



Systemic Design contribution

3

Company selection
and support in
designing the
platforms



Circular cities



Blue economy



Bioeconomy

DIGICIRC

SECTORS

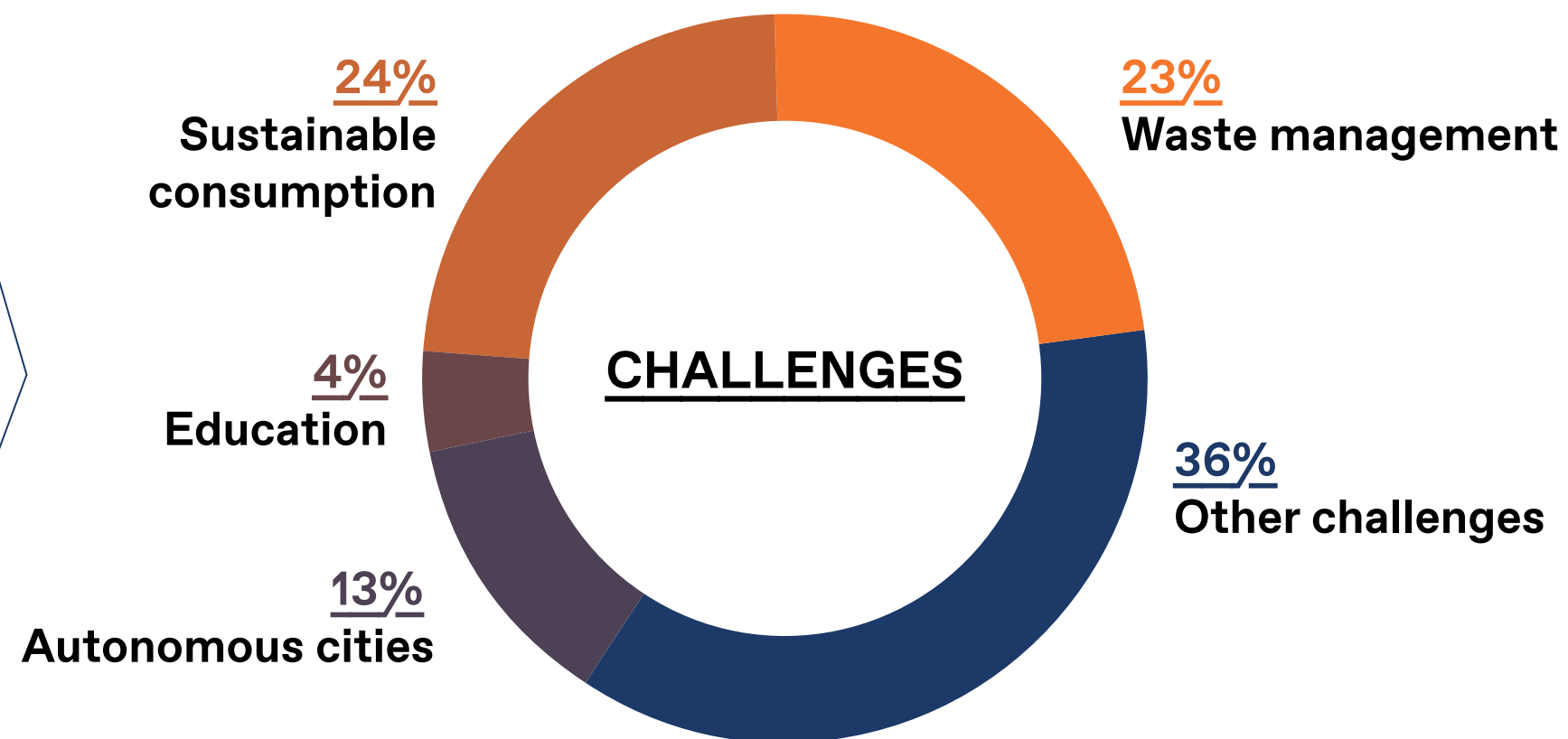
Food	●	●	●	●	●	●
Environmental monitoring	●	●	●	●	●	●
Energy	●	●	●	●	●	●
Maritime transport	●	●	●	●	●	●
Water	●	●	●	●	●	●
Building and construction	●	●	●	●	●	●
Plastic	●	●	●	●	●	●
Textile	●	●	●	●	●	●
Sustainability monitoring	●	●	●	●	●	●
Waste collection	●	●	●	●	●	●
Furniture and appliances	●	●	●	●	●	●
Ho.Re.Ca supplies	●	●	●	●	●	●
Pharmaceuticals	●	●	●	●	●	●
Smart cities	●	●	●	●	●	●
Sustainability assessment	●	●	●	●	●	●
Sustainable mobility	●	●	●	●	●	●
Telecommunication	●	●	●	●	●	●
Tourism	●	●	●	●	●	●

DIGICIRC

SECTORS

Food	● ● ● ● ● ●
Environmental monitoring	● ● ● ● ● ●
Energy	● ● ● ● ● ●
Maritime transport	● ● ● ● ● ●
Water	● ● ● ● ● ●
Building and construction	● ● ● ● ● ●
Plastic	● ● ● ● ● ●
Textile	● ● ● ● ● ●
Sustainability monitoring	● ● ● ● ● ●
Waste collection	● ● ● ● ● ●
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Sustainable mobility	● ● ● ● ● ●
Telecommunication	● ● ● ● ● ●
Tourism	● ● ● ● ● ●

49 CONSORTIA OF SMEs



OPEN/FUTURE ISSUES

Can digital training and collaboration tools be effective over time?
Or are they tied to in-person tutoring?

Can professionals who are not designers learn and successfully use systemic design tools in the short, medium and long term?



Politecnico
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Thanks!

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