

Introducing circular economy into higher-education design curricula

Overview of the training needs, state of the art



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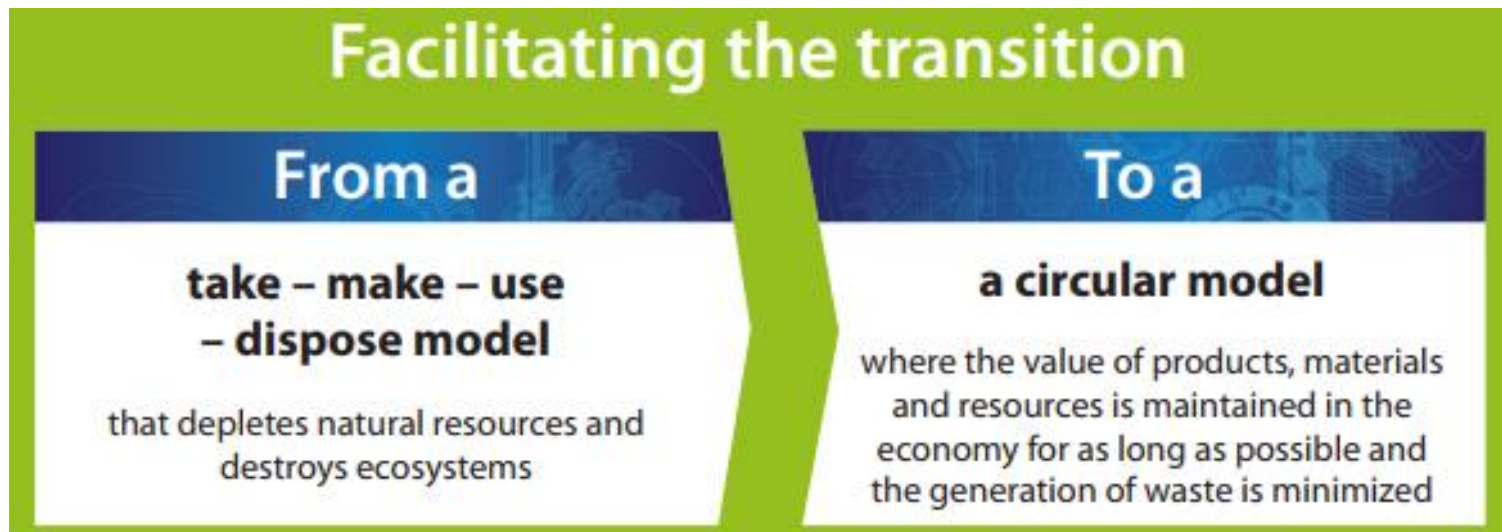


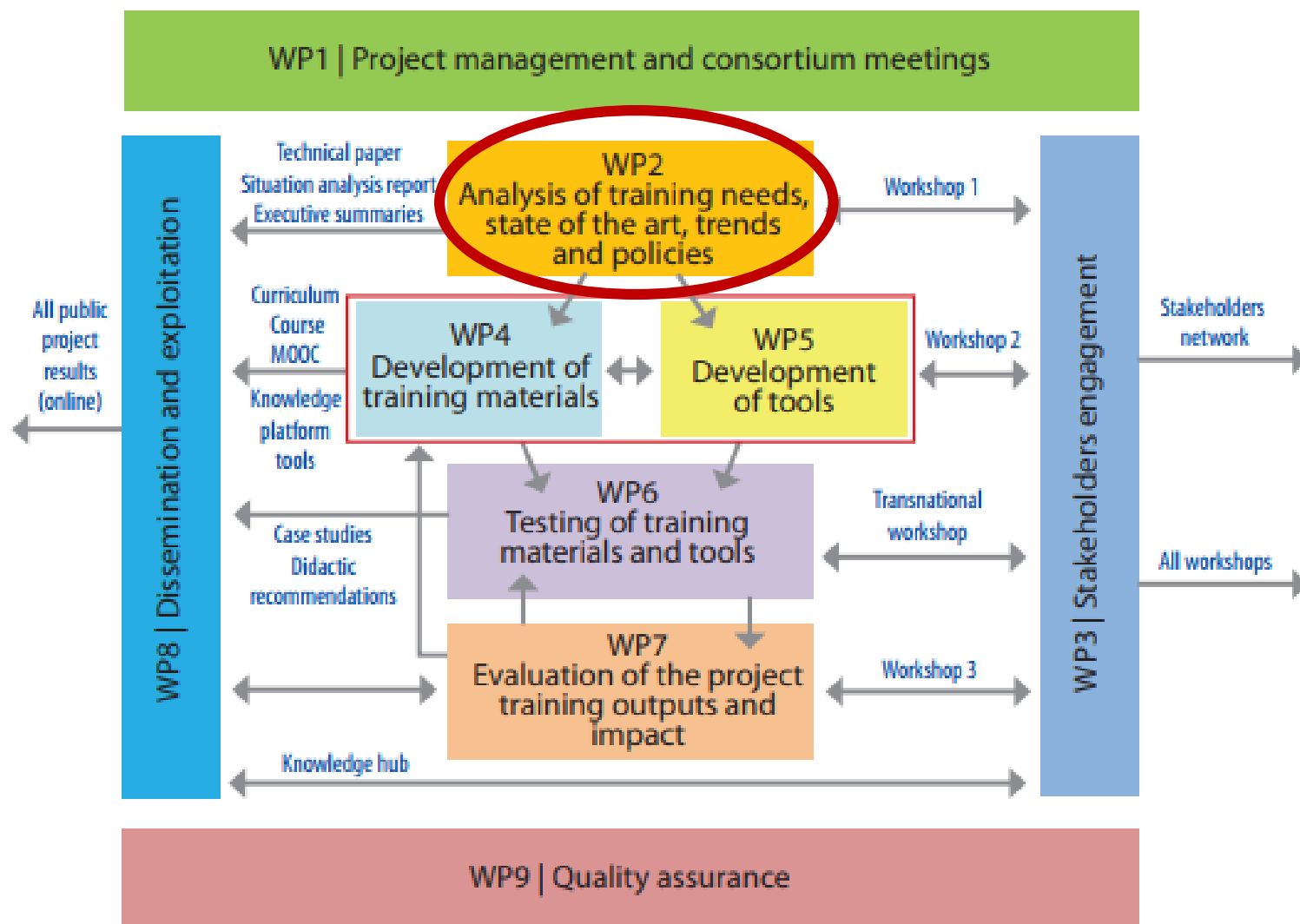
ERSCP 2017

Skiathos, 1st to 5th of September 2017

Some remind issues about KATCH-e.....

KATCH_e is a Knowledge Alliance between Higher Education, companies and research centers to build competences in the field of product-service development for the circular economy (CE) and sustainability in the construction and furniture sectors.





Analysis of training needs, state of the art, trends and policies

Identification of the **training needs** of companies and **educational offers and needs** on CE and SD

Objectives

Identification **new model business** and **entrepreneurial skills** required to promote transition to CE

To design an educational programme and higher education training material to encourage cross curricular learning connections (designers, engineers and other stakeholders)

Methodology to develop the Situation Analysis:



Review policy trends



“CEopportunity to **reinvent our economy**.....**benefits** for European businesses, industries, and citizens **ambitious measures** to **cut resource use, reduce waste** and **boost recycling**.”
(http://ec.europa.eu/environment/circular-economy/index_en.htm)

EU Action Plan for the Circular Economy 2015



Brussels, 2.12.2015
COM(2015) 614 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Closing the loop - An EU action plan for the Circular Economy



Key initiatives for 2017

- ✓ Strategy for plastics
- ✓ Improved interface between chemicals, products and waste legislation,
- ✓ Legislative proposal on water reuse
- ✓ Monitoring framework on circular economy.



Brussels, 26.1.2017
COM(2017) 33 final

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

on the implementation of the Circular Economy Action Plan



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The Commission and the European Economic and Social Committee in 2017

European Circular Economy Stakeholder Platform

“Network of Networks” going beyond sectorial activities and highlighting cross-sector opportunities and challenges, gathering knowledge on CE and dialogue among stakeholders.

Structure:

- Pillar I: Policy dialogue gathering stakeholders' input and views.
- Pillar II: Circular economy-related multistakeholders (networks/platforms; trade unions, networks of national, regional and local public authorities, research communities, universities.....
- Pillar III: Virtual venue for dissemination of circular economy-related content such as national strategies and good practices. Dynamic database with contacts, published studies and events relevant to circular economy.

Review training offers and literature



Books, Guides, Related projects,
Databases, Software, Ecolabels, Tools,.....



University Training Offers



In total.... KATCH_e has compiled around 200 references!!!!



KATCH-e Resource Center

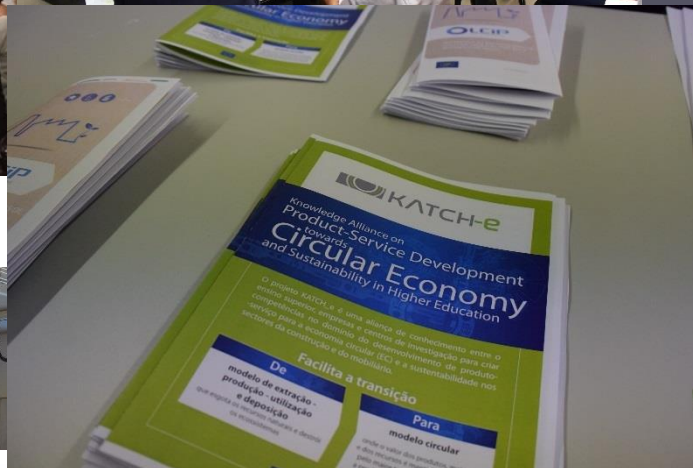
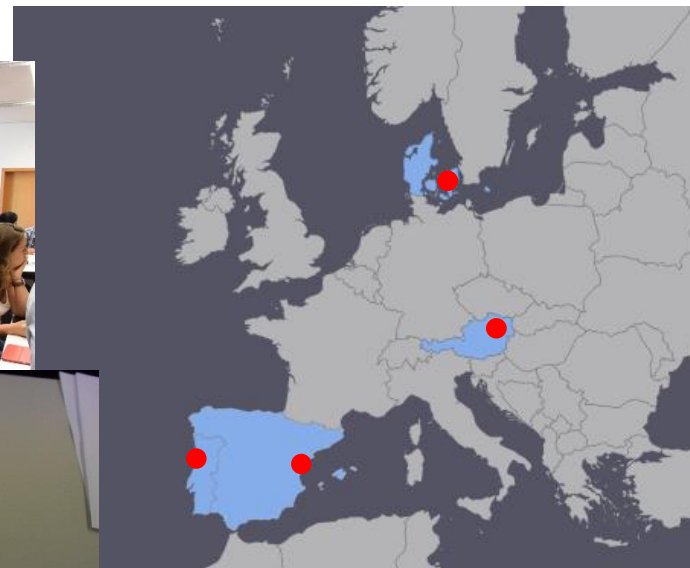
Interviews and workshops



Number of interviewees


	Portugal	Austria	Denmark	Spain	TOTAL by target
Students	-	1	-	4	5
Professors	1	7	2	1	11
Researchers	2	1	2	3	8
Business people	4	3	2	3	12
Associations	1	1	1	3	6
Public authorities	2	-	1	2	5
NGO's	1	-	-	1	2
TOTAL by country	11	13	8	17	49

Workshops



Workshops

	Discussion about:
Portugal	<ul style="list-style-type: none"> - Priority challenges, products and services for design for the CE in the construction and furniture sectors - Needs in terms of skills and training for the design and development teams
Austria	<ul style="list-style-type: none"> - The current status of CE-related initiatives (research projects, business practices) - Potentials/barriers for implementing CE in KATCH-e sectors - Need for competences.
Denmark	<ul style="list-style-type: none"> - Circular business models in the furniture sector, and the related need for competences - Challenges related to design, business development and sustainability.
Spain	<ul style="list-style-type: none"> - Potentials and barriers for the transition towards circularity in Spanish companies - Need for competences



Results

Understanding and perceptions of CE

Familiars with the concept:

- Referred to the model from Ellen MacArthur Foundation
- Highlight the strong focus on the economy and new business

STUDENTS

Reuse
Recycling
Resource cascading
Efficiency
Durability

PROFESSORS

Social innovation
Business models
Cradle to cradle design
Sustainable design
Resource efficiency

ASSOCIATIONS

Resource efficiency
Sustainability
Innovation
Profitability

***What three words
would you say best
describes "Circular
Economy"?***

PUBLIC AUTHORITIES

Economy and employment growth
Collaboration of different business

RESEARCHERS

Enlarging lifespan
Closing the loops
New business model

Not familiar with the concept:

- Something related to recycling
- Difficulties in seeing the innovations compared to related topics

CE implementation

In Higher education

CE topics are included in subjects related to sustainability

Students: CE training is insufficient considering its relevance and future projection

Professors: knowledge is low, the introduction should be horizontal

In Companies

Similarities between countries

Spain and Portugal:

Isolated strategies
No systematic implementation

Austria and Denmark:

Great focus on CE
Strategies at business level

CE promoting actions

Professors


Participation in different projects, seminars, etc.

Associations

Participation in committees, networks, working groups, platforms, etc.

Public Authorities

Development of specific legislation, funding schemes, tax incentives, dissemination activities, etc.



Denmark
Report with 27
recommendations

Demands and needs on CE

Professors

Institutional support to:

- Change curricula
- Adapt learning approaches
- Create new content
- Test in industry

Students

- Business understanding
- Creative in problem solving
- Create solutions

Researchers

- Clear objectives from authorities
- Knowledge in: LCA, DfS, social aspects, indicators

Business people

- Knowledge in BM, markets, industrial symbiosis
- Cross disciplinary competences

Public authorities

- Adaptation of policies
- Concerted actions between departments

NGO's

Integration of CE, its social benefits in all types of curricula

Drivers in present and future

Legal requirements

Market development

Education of next generations

Resource scarcity

Social pressure

Tax incentives

Barriers in implementing CE

From professors point of view:

- Lack of University commitment
- Lack of time and motivation to update contents
- Multidisciplinary requirements

From companies point of view:

- Lack of awareness
- Lack of knowledge, skills and capacities
- Legal barriers
- Stuck in daily business
- Low demand from market (low recognition, low acceptance)

Recommendations

Understanding CE with social developments and trends

KATCH-e should:

- 1. Contribute to a better understanding of the CE concept and related issues**
- 2. Promote CE with clear information for the final user**

Understanding CE with policies and trends

KATCH-e should:

1. Identify EU policies and regulations on CE that can be articulated with global competition
2. Address how to make companies more competitive and simultaneously make the economy more circular.

Combination of design and business models solutions

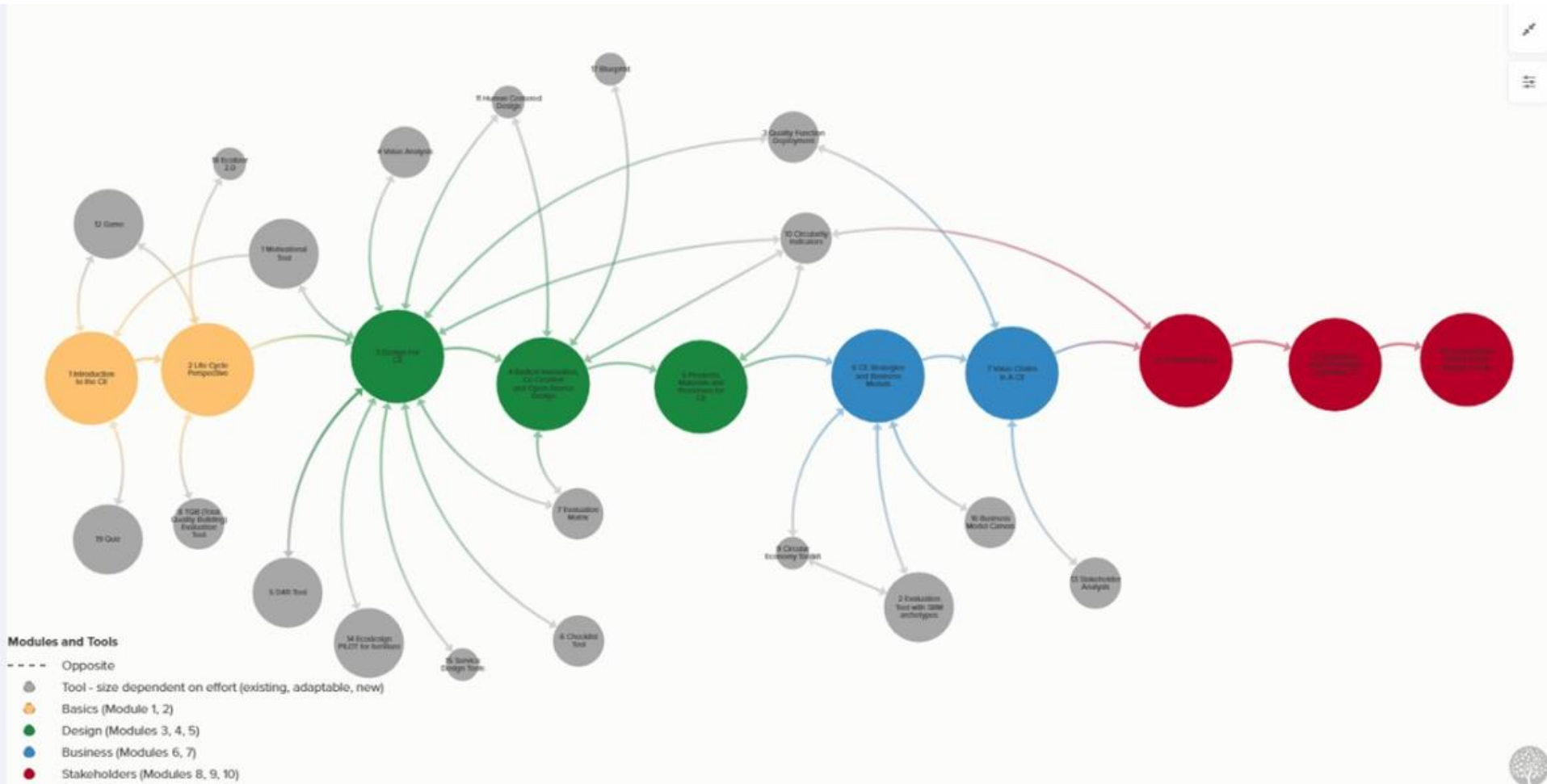
KATCH-e should:

1. Include case studies and practical examples
2. Include information about new business models
3. Introduce value chain analysis, rather than sectoral approach

Learning approach

KATCH-e should:

- 1. Promote a multidisciplinary approach to teach, implement and test**
- 2. Stimulate the participation of stakeholders in the design process**
- 3. Compile the relevant sources on CE for the target sector**
- 4. Develop simple and easy tools and methods to perform**





CONTACT



STAKEHOLDER
NETWORKS



NEWS AND EVENTS

KATCH-e website: www.katche.eu

Implement

Circular economy as a business opportunity





www.katche.eu



Irina Celades
Irina.Celades@itc.uji.es



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