

APPENDIX IV TO D.T2.1.1. Elaboration of the training process to support actors to raise knowledge and increase competence – Circular 4.0 Transformation Course (CTC) manual

CIRCULARITY ACCELERATION TRAINING COURSE 4.0 (CAT4.0)

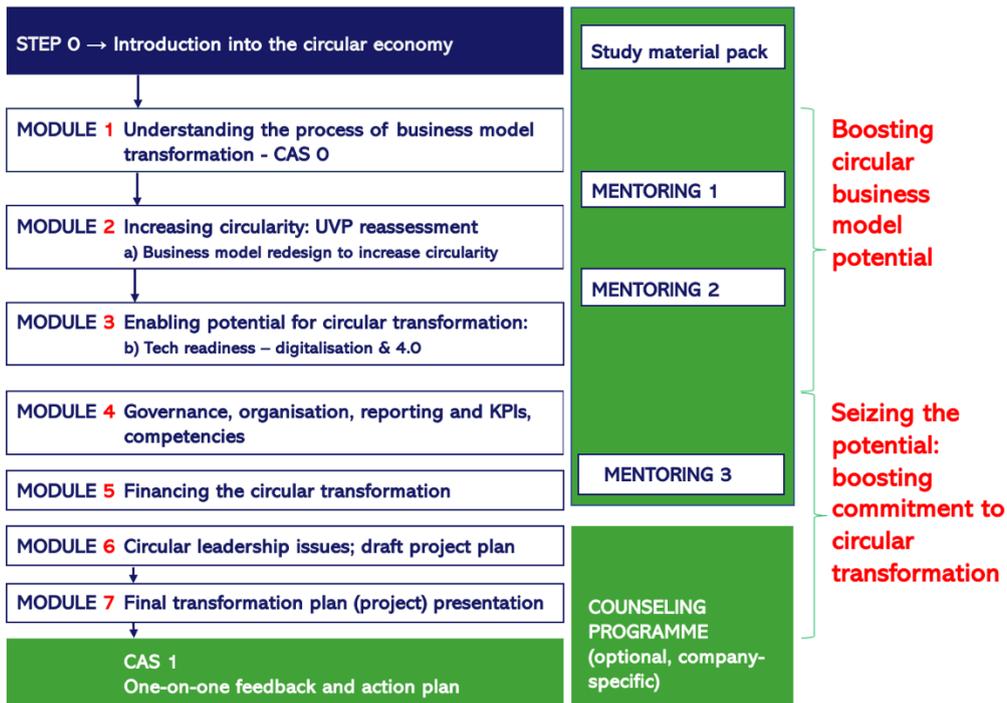
This document is an Appendix to the integral delivery of the D.T2.1.1 Training process Circular 4.0 - capacity building manual and toolkit and represents one of the tools deployed in the training process, which the Operators Training Course is dedicated to.

At the same time, it represents a tool developed under the task **T.2.3.1 Setting up the toolkit to support digitalisation processes to foster the CE in the Alpine space.**

The duration of each module depends on the circular / digital maturity of the company, the size, the pre-existing understanding of circular economy concepts etc., which will be assessed in the Training Needs Assessment. The minimal estimated time for delivering the entire course is 24 hours, depending on the criteria described above.

Course overview

Picture 1: CAT4.0 course modules



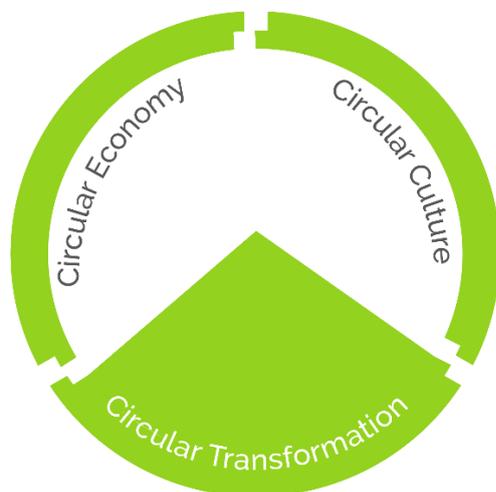
MODULE 0: Introduction to the circular economy

Topic / learning objectives:

- Introducing the concept of the circular economy, circularity
- **Defining a concept of the industry value chain and the “Value Hill”**
- **Understanding circular business models (circular product design, optimal use, value recovery), their importance for the circular transformation and their risk profiles**
- Introducing the roots of the circular economy and their current embedding in the legislative framework
- Establishing the connection between sustainability and circularity: from SDGs through sustainability strategy to circular innovation
- Understanding the meaning of business model redesign for a company and for the whole value chain
- Elaborating on opportunities, challenges and risks of a circular business model transformation
- Presenting tools for internal and external business environment analysis (PEST4.0, stakeholder mapping)
- **Redefining a competitive advantage in the context of circular transition**

Central concept: the circular triangle representing three dimensions of the circular transition

Picture 2: The Circular triangle*



Circular transition, an evolutionary process:

A multi-level economy- business- and societal (cultural) transformation
Innovation is imperative: it is embedded in the sustainability mindset:
Absolute limitations of resources
Re-thinking of the business purpose
End of growth as we know it: absolute planetary boundaries come before wellbeing (welfare), which comes before growth

Source: Circular Business Academy, Gm (copyright)

The shift to a circular economy requires companies to rethink not only their use of resources but also to redesign and adopt new business models based on dematerialisation, longevity, refurbishment, remanufacturing, capacity sharing, and increased reuse and recycling. Reference is often made to three circular business model categories, each of which focuses on a different phase of the **value chain**:

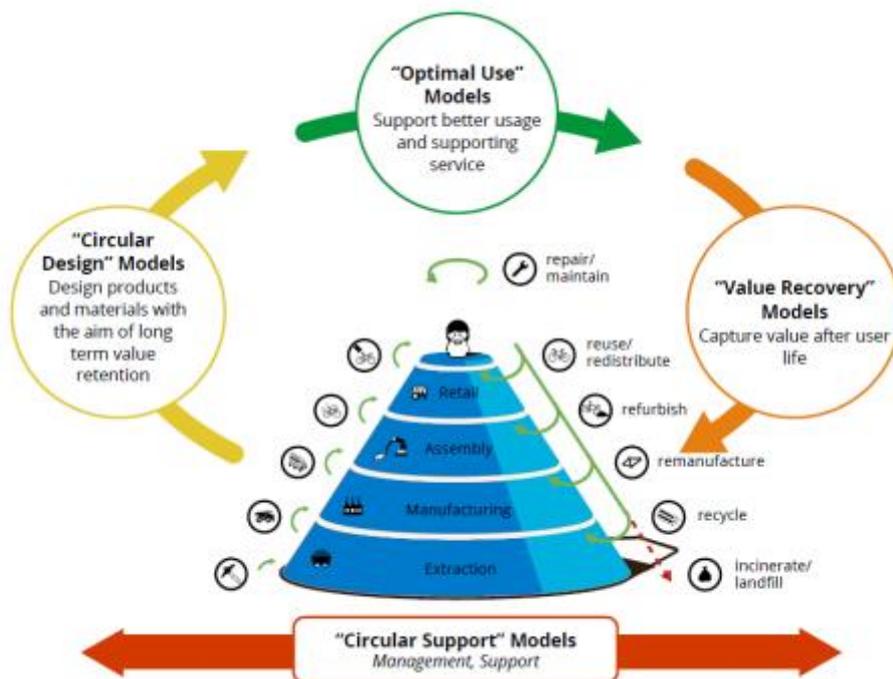
(a) the design and manufacturing phase;

- (b) the use phase; and
- (c) the value recovery phase.

These different CE business models are illustrated in Picture 2.

To help businesses position themselves in a circular context and develop future strategies for doing business in a circular economy, the Sustainable Finance Lab, Circle Economy, Nuovalente, TUDelft, and het Groene Brein convened to create the Value Hill.

Picture 2: Different circular business models in a Value Hill



Source: Achterberg Elisa, Jeroen Hinfelaar, Nancy Bocken: The Value Hill Business Model Tool: identifying gaps and opportunities in a circular network, 2016

MODULE 1 - CAS 0: Understanding the process of business model transformation

Module 1 is implemented in the form of a workshop allowing for enough time for participants to understand the Circularity Assessment Score (CAS) tool and fill in the questionnaire.

Topic / learning objectives:

- ☐ Overview of the circular transformation journey
- ☐ The CAS tool (what it is and how to apply it in a company setting)

Central Concepts:

1. The 10-step circular transformation journey
2. The Circularity Assessment Score (CAS)

Picture 3: The 10-step circular transformation journey



Key steps:

- Leadership: visioning a new purpose
- Selecting your pilot
- Stakeholder engagement
- Internal transformation
- Business model innovation
- Scaling up to a circular business

Source: „Circular Business, Collaborate and Circulate, by Bocken, Kraaijenhagen, Van Oppen, 2016

MODULE 2: Increasing circularity: Unique Value Proposition (UVP) reassessment

a) Business model redesign to increase circularity

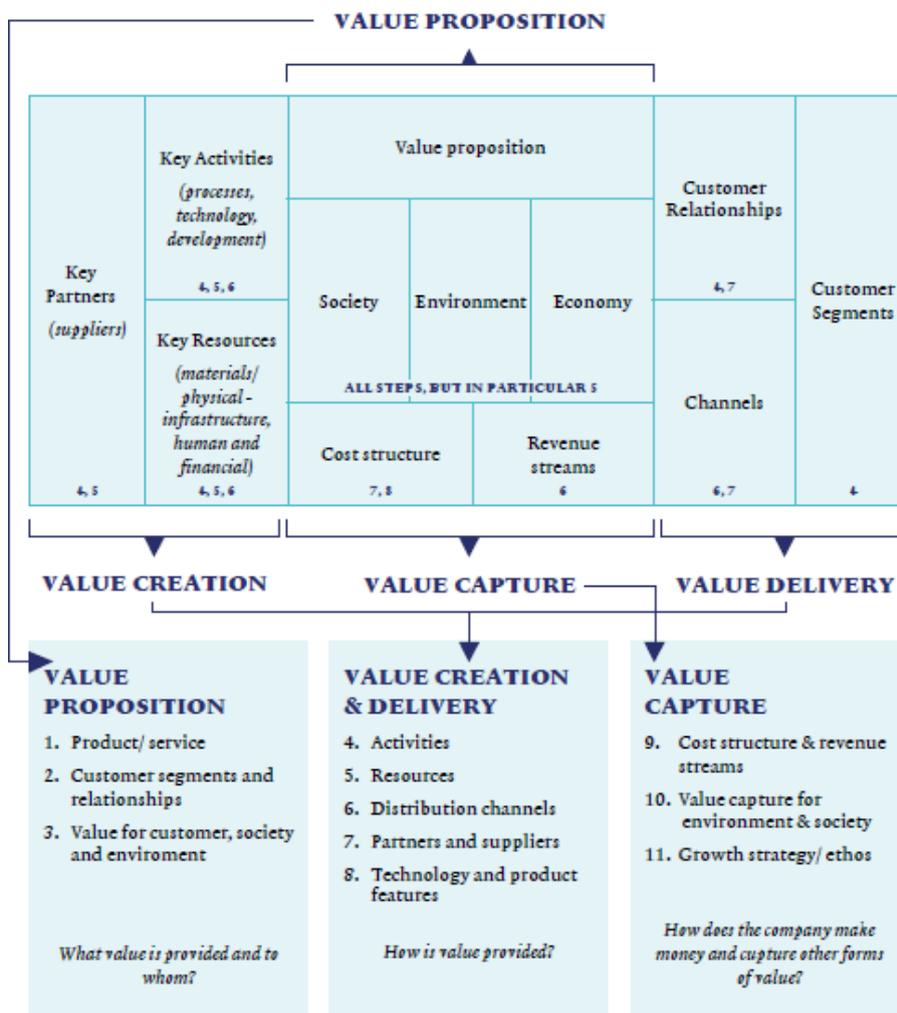
We use the adapted business model canvas, in which we expose the issues of circularity, simultaneously reassessing the UVP against all three dimensions of sustainability.

- ② The understanding of the **value chain** in the context of circularity
- ② The understanding of the **typology of circular business models** (circular design, circular use and recovery)

We carry out Module 2 in the form of a workshop, also possible as a webinar.

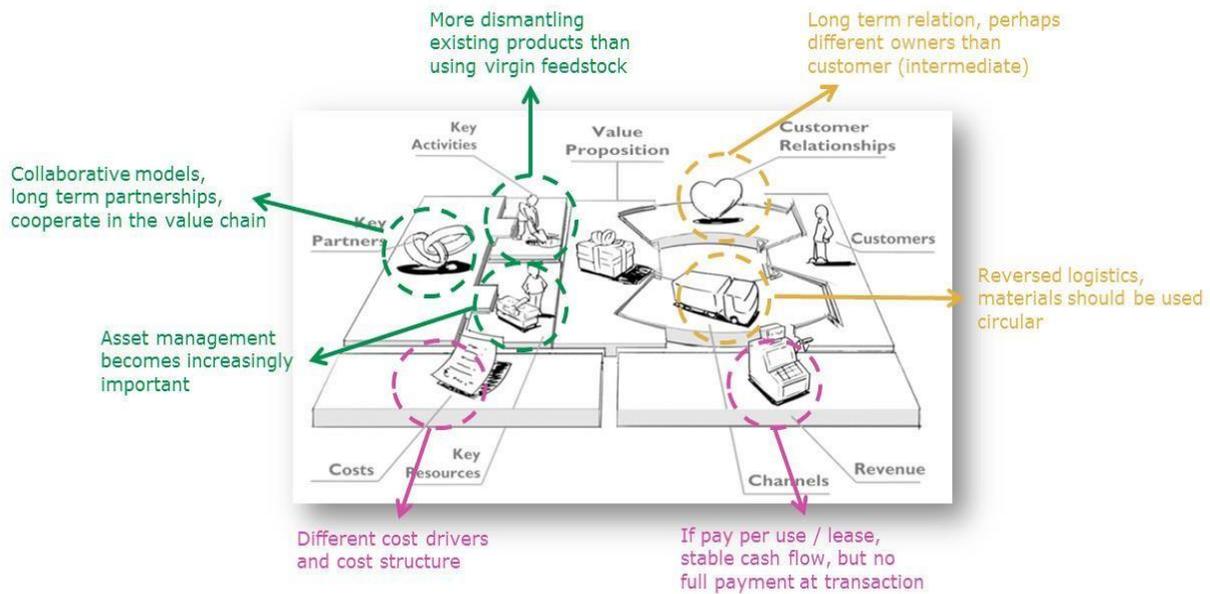
Central concept: the adapted business model canvas

Picture 4: Adapted business model canvas



Source: Bocken and Short, 2016; adapted from Richardson, 2008; Osterwader and Pigneur, 2005; Bocken et al, 2014; Short et al., 2014

Picture 5: Seven implications of circular business model transformation



Source: Adapted from “Business model canvas” (source: Osterwalder & Pigneur, 2010).

MODULE 3: Enabling the potential for circular transformation

b) Tech readiness – digitalisation & 4.0

Topics / learning objectives:

- ❑ Digital Maturity Assessment tool (DMA)
- ❑ Sector and company specific application of a DMA tool (outlining key enabling technologies and assessing company through key performance indicators for digitalisation)

Overview of available DMA tools: <http://e2-owncloud.ijs.si/owncloud/index.php/s/rc17RxI7bd7Kw8d>

MODULE 4: Governance, organisation, reporting and KPIs

Topics / learning objectives:

Internal transformation:

- ❑ Organisation redesign
- ❑ Overview of specific competencies
- ❑ Development of specific competencies

MODULE 5: Financing the circular transformation¹

Topics / learning objectives:

- ❑ How to finance your business model transformation
- ❑ The peculiarities of financing circular business models – the relation between the business model typology and risk profiles
- ❑ Understanding linear and circular risks
- ❑ Scaling the pilot
- ❑ Financial analysis and financial management
- ❑ Available funding options for transforming business models (national, European)
- ❑ Financing circular business models and enabling further growth: approaching external financing opportunities

MODULE 6: Circular leadership issues - integrating the pilot - draft project plan

Topics / learning objectives:

- ❑ Scaling the pilot
- ❑ Advanced circular transformation
- ❑ Leadership challenges
- ❑ Structure of the project plan

MODULE 7: Final transformation plan (project) presentation

Topics / learning objectives:

- ❑ Presentation
- ❑ CAS 1
- ❑ One-on-one feedback and SME action plan
- ❑ Closing ceremony and awarding of certificates

Having completed all core modules, participants are awarded the certificate “Circular Transformation Manager”.

¹ In relation to the task T.2.4. Defining investment models and instruments to support the CE.