

# »MAKE IT CIRCULAR! A GAMIFIED INTRODUCTION TO CIRCULAR BUSINESS MODELS IN A CORPORATE SETTING«

## Facilitation guide for using the strategy game in a corporate workshop

The Circular Economy holds great potential for companies.

The “Make it circular!” strategy game is intended to support the transformation towards a Circular Economy and to enable companies to examine their existing business model with the aim of orienting it towards circularity.

This document contains background information on how to use the strategy game in a workshop and is intended to assist the facilitator in leading the workshop and guiding participants through the game.

### 1. INTRODUCTION

The content of the strategy game is based on the 2021 report from the “Circular business models” working group under the umbrella of the Circular Economy Initiative Deutschland (CEID). Building on the content of CEID’s business model typology, the game was developed by acatech – National Academy of Science and Engineering together with WWF Germany and Johannes Kepler University Linz funded by the German Federal Environmental Foundation (DBU).

The report is available online here. It can provide additional in-depth information on the background of the game but there is no need to be familiar with it to use the strategy game.



[tinyurl.com/3fhxu6k7](https://tinyurl.com/3fhxu6k7)

The strategy game is played in an on-site workshop setting. All materials are accessible online, independently usable and available for free use. The strategy game is industry-independent and therefore relevant to companies from various sectors of the economy.

## 2. WORKSHOP GOALS

The use of the strategy game in a workshop setting is intended to achieve the following goals:

Participants ...

- ... are informed about the most important aspects of a Circular Economy and circular business models.
- ... are able to examine their existing business models in the light of different circular business strategies and orient them towards circularity.
- ... have developed concrete ideas for a selected circular business model for their company and have given drafted an implementation plan.

## 3. OVERVIEW OF THE TYPOLOGY'S CIRCULAR BUSINESS MODELS

The strategy game is based on different roles of actors in value cycle and allows role-specific orientation and knowledge transfer on circular business models. Business model sub-patterns are used to show how circularity can be expanded from a product-oriented via a use-oriented to a results-oriented service level.

The following table offers an overview of the content of the strategy game based on the CEID circular business model typology. Depending on role in the value cycle, there are 22 different circular business model patterns. This results in 43 business model sub-patterns which have different service levels - the business model can be product-, use- or result-oriented.

| Actor's main role                          | Circular business model pattern             | Circular business model sub-pattern (service level 1 to 3) |   |   |
|--|---|--|---|---|
|  |   | 1 - Product-oriented<br>                                   | 2 - Use-oriented<br>                            | 3 - Result-oriented<br>                       |
| <b>A</b> Supplier (molecules/materials)    | <b>A1</b> Circular raw materials supplier   | <b>A1.1</b> Molecule & material recycling                  | <b>A1.2</b> Materials bank                      | -   |
|  | <b>A2</b> Process molecule service provider | -  | <b>A2.2</b> Molecule & material leasing         | <b>A2.3</b> Molecule & material performance   |
| <b>B</b> Supplier (mechanical engineering) | <b>B1</b> Machines/components 'as new'      | <b>B1.1</b> Machines/components 'as new' sales             | <b>B1.2</b> Rental machines/components 'as new' | <b>B1.3</b> Pay per reman machine performance |
|  | <b>B2</b> Machine /component remarketing    | <b>B2.1</b> Used machines/component sales                  | <b>B2.2</b> Rental machines/components          | <b>B2.3</b> Pay per reman machine performance |

| Actor's main role                  | Circular business model pattern          | Circular business model sub-pattern (service level 1 to 3) |   |  |                  |                                 |   |                     |   |   |
|------------------------------------|--|--|---|--|------------------|---------------------------------|---|---------------------|---|---|
|                                    |  | 1 - Product-oriented                                       |   |  | 2 - Use-oriented |                                 |   | 3 - Result-oriented |   |   |
|                                    |  | 1  | 2 | 3                                      | 1                | 2                               | 3 | 1                   | 2 | 3 |
| <b>C</b> Producer                  | <b>C1</b> Proprietary material cycles    | <b>C1.1</b> Waste cherry picking                           |   | <b>C1.2</b> Materials bank partnership |                  | <b>C1.3</b> -                   |   |                     |   |   |
|                                    | <b>C2</b> Product 'as new'               | <b>C2.1</b> Selling products 'as new'                      |   | <b>C2.2</b> Product leasing 'as new'   |                  | <b>C2.3</b> Total care producer |   |                     |   |   |
|                                    | <b>C3</b> Used product remarketing       | <b>C3.1</b> Used product sale                              |   | -                                      |                  | -                               |   |                     |   |   |
|                                    | <b>C4</b> Out-of-warranty repair service | <b>C4.1</b> On-demand repair                               |   | <b>C4.2</b> Leasing producer           |                  | <b>C4.3</b> Total care producer |   |                     |   |   |
|                                    | <b>C5</b> Upgrades, spares & accessories | <b>C5.1</b> Modules & accessories shop                     |   | <b>C5.2</b> Upgrade subscription       |                  | -                               |   |                     |   |   |
|                                    | <b>C6</b> Maximising product uptime      | <b>C6.1</b> Fee-based maintenance                          |   | <b>C6.2</b> Leasing producer           |                  | <b>C6.3</b> Total care producer |   |                     |   |   |
| <b>D</b> Retailer & service points | <b>D1</b> Retailer as cycle manager      | <b>D1.1</b> Retailer as cycle manager                      |   | <b>D1.2</b> Materials bank partnership |                  | -                               |   |                     |   |   |
|                                    | <b>D2</b> Retail remarketing & reman     | <b>D2.1</b> Used goods on sale                             |   | <b>D2.2</b> Rent-a-wreck fleet manager |                  | -                               |   |                     |   |   |
|                                    | <b>D3</b> One-stop shop (retail)         | <b>D3.1</b> Integrated service point                       |   | <b>D3.2</b> Rental retail              |                  | <b>D3.3</b> Total care retail   |   |                     |   |   |
| <b>E</b> Repair provider           | <b>E1</b> Repair gap exploiter           | <b>E1.1</b> Repair transaction                             |   | <b>E1.2</b> Repair-based rental        |                  |                                 |   |                     |   |   |

| Actor's main role   | Circular business model pattern              | Circular business model sub-pattern (service level 1 to 3) |   |                                  |                  |   |   |                     |   |   |  |
|---|--|--|---|----------------------------------|------------------|---|---|---------------------|---|---|--|
|   |  | 1 - Product-oriented                                       |   |                                  | 2 - Use-oriented |   |   | 3 - Result-oriented |   |   |  |
|   |  | 1  | 2 | 3                                | 1                | 2 | 3   | 1                   | 2 | 3 |  |
| <b>F</b> Prosumer   | <b>F1</b> Prosumer support system            | <b>F1.1</b> Do-it-yourself repair                          |   | <b>F1.2</b> Peer-to-peer sharing |                  |   |   |                     |   |   |  |
| <b>G</b> Logistics provider   | <b>G1</b> Material reverse logistics         | -  |   | -                                |                  |   | <b>G1.3</b> Pay per recycling logistics performance |                     |   |   |  |
|   | <b>G2</b> Refurb logistics services          | -  |   | -                                |                  |   | <b>G2.3</b> Pay per refurb performance              |                     |   |   |  |
|   | <b>G3</b> Spare parts management             | -  |   | -                                |                  |   | <b>G3.3</b> Pay per spare part performance          |                     |   |   |  |
| <b>H</b> Recovery manager   | <b>H1</b> Revitalised products               | <b>H1.1</b> Used goods bargain                             |   | -                                |                  |   | -   |                     |   |   |  |
|   | <b>H2</b> Coordinator of informal collection | <b>H2.1</b> Fair-trade recycles                            |   | -                                |                  |   | -   |                     |   |   |  |
| <b>I</b> Intermediary   | <b>I1</b> Recycling platform                 | <b>I1.1</b> Recycling platform                             |   | -                                |                  |   | -   |                     |   |   |  |
|   | <b>I2</b> Used goods & sharing platform      | <b>I2.1</b> Used goods platform                            |   | <b>I2.2</b> Sharing platform     |                  |   | -   |                     |   |   |  |
| <b>J</b> Emerging roles e.g. non-technical service providers, banks and financial service providers, circular design agencies, certification bodies |  |  |   |                                  |                  |   |   |                     |   |   |  |

## 4. COMPONENTS OF THE WORKSHOP

The workshop consists of five modules. These can be put together flexibly, depending on the company's level of knowledge and structure as well as the time available:

### → Module 1: Introduction to the Circular Economy

- **Goal:** Joint knowledge building and common understanding of the Circular Economy, in particular of circular business models
- **Format:** Presentation using the slide deck
- **Option:** The content of this introduction can also be completed by self-study of the slides.

### → Module 2: Getting to know the strategy game and circular business models

- **Goal:** Relaying the formats and content of the strategy game in a quick run-through on the basis of an example
- **Format:** In the workshop using game materials; directed by the facilitator

### → Module 3: Applying the strategy game to the participants' own company

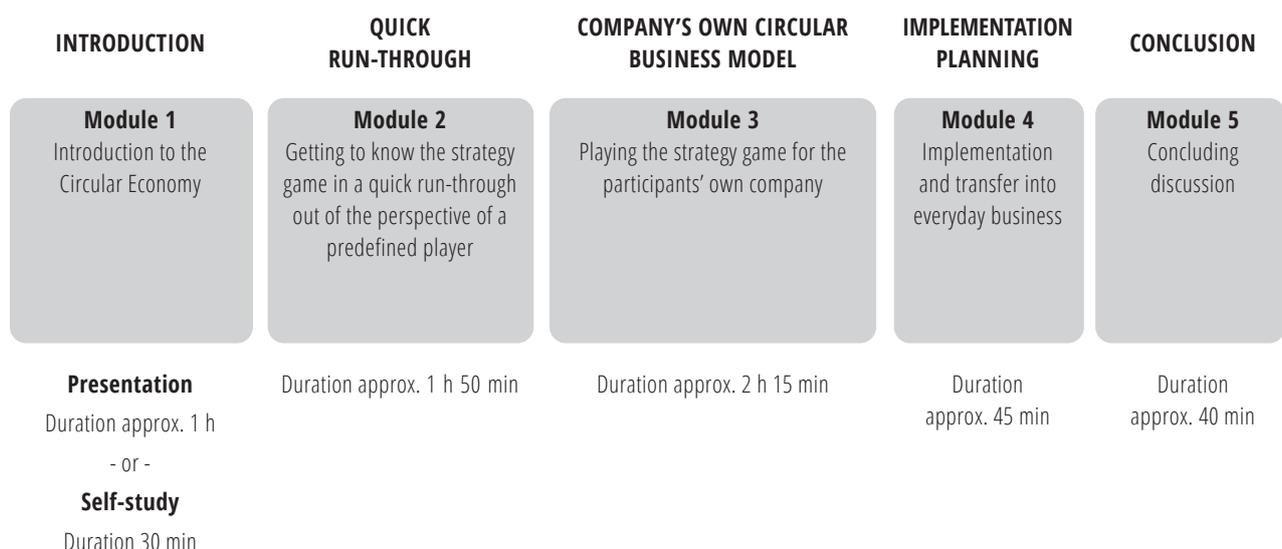
- **Goal:** Identification of a circular business model solution for the participants' own company and consideration of possible partnerships, enablers and barriers
- **Format:** In the workshop using the game materials

### → Module 4: Planning implementation of the new circular business model

- **Goal:** Establishing concrete steps for implementing the selected circular business model
- **Format:** In the workshop using the accompanying materials

### → Module 5: Concluding discussion

- **Goal:** Joint reflection on the workshop content
- **Format:** Flash feedback and plenary discussion



## 5. WORKSHOP DURATION AND SCHEDULE OPTIONS

The total duration of the modules is about seven hours. This means that the workshop can in theory be completed in just one day. To facilitate learning, however, it is recommended to divide the workshop modules over two days.

This facilitation guide gives an example schedule for a workshop duration of two days. Day 1 begins in the afternoon with modules 1 and 2, building shared knowledge by familiarisation with the Circular Economy, exploring the complexities of circular business models, and getting a grasp of the methodology of the strategy game in a quick run-through. On day 2, the participants return to the workshop refreshed, having been able to digest the new content. Modules 3 to 5 are now the order of the day. The new knowledge is applied to the participants' own company and innovative circular business models are developed.

The example schedule including microtiming for facilitating the workshop over two days can be found on page 12.

### OPTIONS

#### **Option 1: Shortened playing time in a company**

There are various options for making the workshop shorter:

- The workshop can be compressed to just one, albeit very intensive, day.
- Module 1 can be worked through in self-study prior to the workshop.
- Module 2 on getting to know the materials can be omitted and participants can proceed directly to the game round applying it to the participants' own company.

This results in a duration of about three hours for applying the strategy game to the participants' own company (modules 3 + 4).

#### **Option 2: Theoretical use for knowledge building in mixed groups**

The strategy game can also be used in mixed groups of companies and stakeholders to build knowledge about the Circular Economy:

- Module 1 will be run through together and the content discussed.
- Module 2 will then be played together on the basis of the example case.
- Modules 3 to 5 and consequently application to the participants' own company are omitted.

This results in a duration of about three hours for theoretical knowledge building (modules 1 + 2).

## 6. WORKSHOP FUNDAMENTALS

### **Role of the facilitator**

- A facilitator leads the participants through the workshop.
- This person will have viewed, downloaded and printed out the game documentation before the start of the workshop.
- He/she will additionally have acquired a basic knowledge of the Circular Economy with the assistance of the documentation provided and can share this with the participants in module 1.
- The workshop is designed so that anyone can facilitate it. The facilitation role can accordingly be taken on not only by a person from strategic development or the sustainability department but also by an external facilitator. No specific prior knowledge is required.

- The facilitator is responsible for preparing the workshop and game documentation (see “7. Preparation of the workshops and materials”, see below).

### **Participants**

- The number of participants per game set is 5 to 8 people.
- A number of game sets can be used within the same workshop which means that it is possible to design a workshop for 5 to 100 participants.
- The strategy game can be played within a team, across teams and departments, and even with key partners in the value chain.
- A broad range of participation by colleagues from different company divisions (e.g. logistics, strategy, product management, sustainability management etc.) and the inclusion of people from different levels of the organisation is desirable in order to achieve wide-ranging Circular Economy capability development in the company and to generate the greatest possible variety of ideas for business models.
- The strategy game can also be played repeatedly and with different participants in order to obtain as many helpful results as possible for the company’s circular business model or even to identify further new circular business models.

### **Room requirements**

- A projector is required for the introduction to the Circular Economy in module 1.
- The workshop itself requires a room with a sufficiently large table to set up the game board (A1) and all further documents. There should be enough space for 5 to 8 participants to gather around the game board.
- Copies of the game set can be made for playing simultaneously at any number of tables. One set of materials is required per table.

## **7. PREPARATION OF THE WORKSHOP AND MATERIALS**

The following information is intended for the facilitator and contains an overview of all the necessary materials as well as instructions for setting up the game and associated preparation.

### **Game materials**

As facilitator you are responsible for printing and preparing the materials and the room. The following game materials are part of the documents in each game set:

- Game board
- Game instructions
- “Background and information” card
- Inspiration for round 6: “Key digital technologies for the Circular Economy” list
- Inspiration for round 7: barrier list
- For round 8: project chart, partner canvas and experimentation canvas
- For round 9: transfer into everyday business
- There are **five categories** of cards:



9 ×  
**Actioncards**

Card description:  
»ACTION CARD«  
1–9

10 ×  
**Roles in value creation**

Card description:  
»ROLE in value creation«  
A–J

22 ×  
**Circular business model patterns**

Card description:  
»PATTERN«  
A1–I2

22 ×  
**Case examples**

Card description:  
»CASE EXAMPLE«  
A1–I2

43 ×  
**Business model sub-patterns**

Card description:  
»SUB-PATTERN«  
A1.1–I2.2

The following additional materials are required (per playing group):

- Sticky notes in three colours: yellow, green, pink
- Pens (bold) for all participants
- 1 DIN A4 envelope
- Note-pad

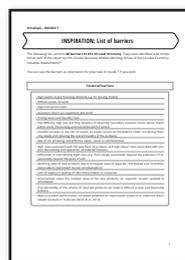
### Setting up the game

Since the game materials must first be printed and cut out, preparing and setting up the game for the first time can take 5 to 6 hours. Get help from another person for this if necessary.

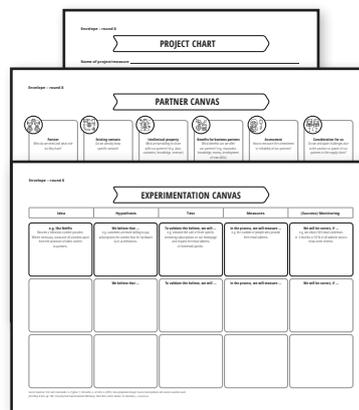
1. Download and print out the game materials as follows:
  - Facilitation guide, game instructions and documents – on normal DIN A4 paper, in black-&-white or colour
  - Game board and canvas – on normal DIN A3 paper, black-&-white
  - Playing cards on DIN A4 card (e.g. 200 gsm), double-sided, in colour
2. Put all the documents marked “Envelope” in the envelope. These include:



For round 6:  
**INSPIRATION:**  
**Key digital technologies for the Circular Economy**



For round 7:  
**INSPIRATION:**  
**barrier list**

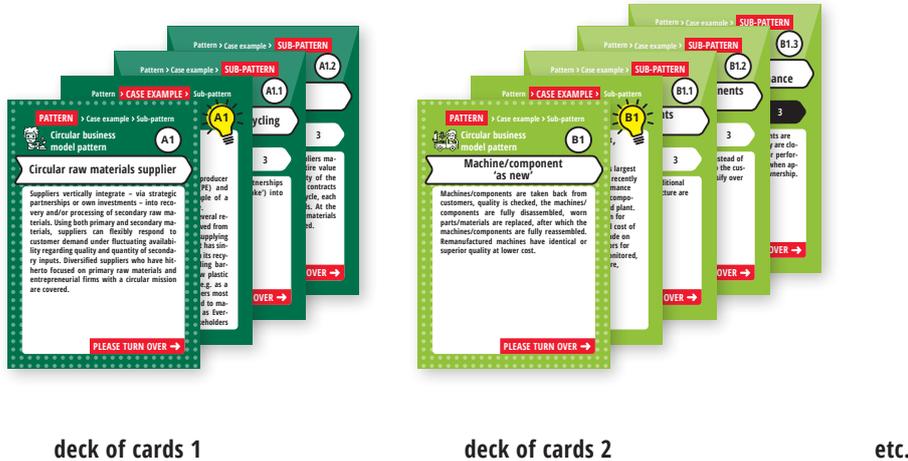


For round 8:  
**Project chart, partner canvas and experimentation canvas**



For round 9:  
**Transfer into everyday business**

3. Assemble the game board according to the markings shown such that a DIN A1 game board is obtained from the four printed DIN A3 sheets (see Setting up the game diagram, page 10).
4. Cut out the cards and arrange them as follows:
  - Sort the “Role cards” from A to J and the “Action cards” from 1 to 9 and make a stack of each.
  - Make small stacks of the “PATTERN”, “CASE EXAMPLE” and “SUB-PATTERN” cards in the stated order according to their respective colour, letter and number. The key at the top of each card provides guidance.



5. Now set out all the cards as follows:
  - “Role cards” bottom left on the “Role cards A–J” box;
  - “Action cards” top left on the “Action cards rounds 1–9” box.
  - Slide all the assembled stacks, each stack consisting of the “PATTERN”, “CASE EXAMPLE” and “SUB-PATTERN” cards, half way under all around the sides of the game board.
6. Place the sticky notes, pens, note-pad, game instructions, and envelope next to the game board.
  - See page 10

### Further steps for preparing the workshop:

You will also need the following materials to carry out the workshop:

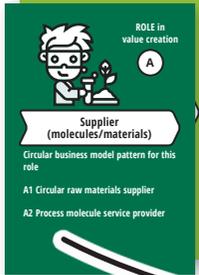
- Flip chart including pens
- Projector and screen
- Optional timer for timekeeping during facilitation (e.g. mobile phone, wall clock or workshop clock with a large display)
- Decide how you want to conduct module 1. If you opt for the presentation, find a volunteer speaker from management, another department, or take on this role yourself. Comments in the notes section of the PowerPoint presentation help with the familiarisation with the slides. A period of 3 to 4 hours for familiarisation with the slide content is recommended. Comments in the notes area of the PPT help with the familiarization with the slides.
 

**Tip:** If you conduct module 1 as a presentation, cover the assembled game sets during the presentation so that they do not distract the participants. The game sets are then revealed to everyone at the start of module 2.
- Write the agenda for the workshop on a flip chart.

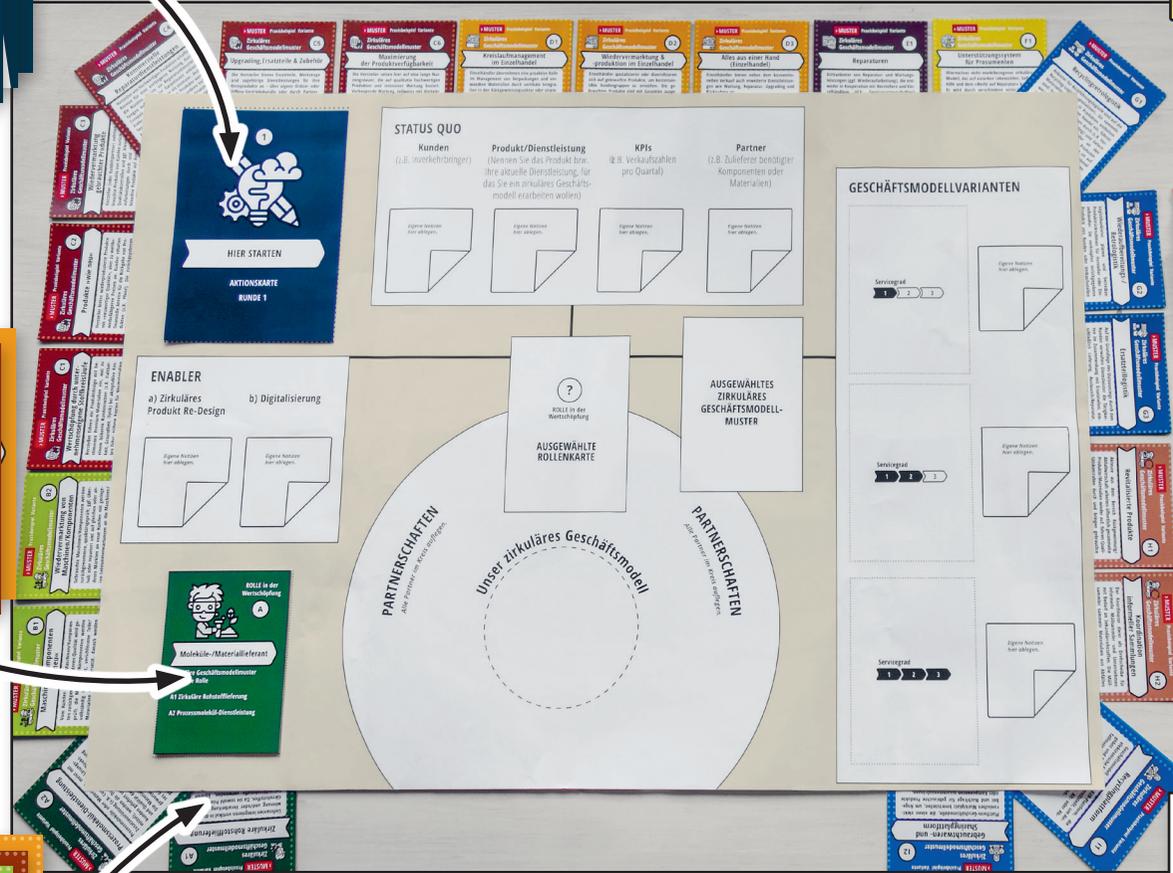


Action cards, sorted from 1-9

Role cards, sorted from A-J



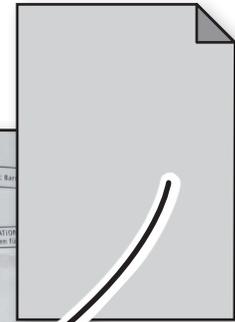
Stacks of pattern, case example and business model sub-pattern cards



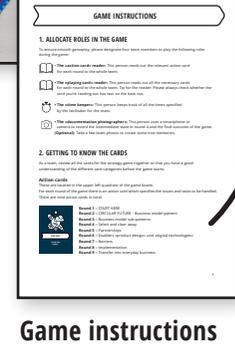
Sticky notes



Envelope



Pens



Game instructions



Note-pad

## 8. FACILITATION TIPS

As facilitator you are responsible for good team dynamics, answering (process) questions and timekeeping (modules 2–5) and optionally imparting the relevant basic knowledge (module 1).

The following tips might be helpful:

- Having roles within the team makes the game flow more freely – these roles are described in the game instructions which are available to the participants.
- You can offer the participants two styles of facilitation and clarify the preferred style with a couple of key questions:
  - a) How much guidance do you want from me?
    - a1) Self-facilitated team using action cards with team roles
    - a2) Self-facilitated team with accompanying team facilitation
    - a3) Presentation of the action cards by the facilitator and continuous facilitation
  - b) How many timing prompts do you want me to give you?
- Clear timelines should be defined before each round and can be visually displayed by a workshop clock.
- Encourage creativity and inclusion of all workshop participants. You can do this, for example, by addressing individuals by name and thus actively involving them, or by asking participants to give advice or contribute their expertise.

### Gameplay

The team starts the game by one player reading out the action cards in order, starting with round 1. Depending on the team's work culture, Modules 2 to 4 can be largely self-moderated. However, be prepared to step in supportively in the event of questions in the quick run-through and intervene in a facilitating capacity when team dynamics demand it (e.g. if speaking time is being unfairly shared).

## 9. EXAMPLE SCHEDULE INCLUDING MICROTIMING

Time frame for recommended modules split over two days:

day 1 - afternoon: 13:00-17:15

day 2 - morning: 09:00-13:30

Key to colours:

|         |       |       |
|---------|-------|-------|
| Plenary | Teams | Break |
|---------|-------|-------|

| WHERE?             | TIME  | DURATION | WHO?                                   | WHAT?  |
|--------------------|-------|----------|--|--|
| Day 1: 13:00-17:15 |       |          |  |  |
| Plenary            | 13:00 |          | Facilitation                           | Start  |
|                    | 13:00 | 10 min   | Facilitation                           | Leeway   |
|                    | 13:10 | 25 min   | Facilitation                           | <b>Welcome, agenda for today</b><br><b>10 min</b> Welcome, optional greeting from management<br><b>15 min</b> Presentation of agenda, housekeeping announcements, objective of the afternoon: knowledge building by familiarisation with the Circular Economy and the complexity of circular business models   |
|                    | 13:35 | 45 min   | Speaker from management or facilitator | <b>Module 1: Introduction to the Circular Economy</b><br><i>Slide deck</i><br><b>10 min</b> Why is there a need for a Circular Economy?<br><b>10 min</b> What is a Circular Economy?<br><b>10 min</b> What does it take to implement it?<br><b>10 min</b> What do circular business models involve?<br><b>5 min</b> Presentation of the strategy game  |
|                    | 14:20 | 15 min   | Everyone                               | <b>Module 1: Discussion with case examples</b><br><i>Discussion, cards with case examples</i><br><b>1 min</b> Illustrate theory with case examples <ul style="list-style-type: none"> <li>• Distribute three cards with case examples to the audience, the first volunteer reads out the case example</li> </ul> <b>9 min</b> After each case example, discuss three questions <ul style="list-style-type: none"> <li>• “Is there anything you don’t understand?”</li> <li>• “Can you summarise the business model again in a single sentence?”</li> <li>• “What is innovative about this business model?”</li> </ul> Read out the next case example; repeat questions<br><b>5 min</b> Discussion around the overarching topic of circular business models <ul style="list-style-type: none"> <li>• “Let’s zoom out - have you learned anything new about circular business models?”</li> <li>• “What surprised you?”</li> <li>• “What will you take away?”</li> </ul> |

|       |       |        |          |  |
|-------|-------|--------|----------|--|
| Teams | 14:35 | 5 min  | Everyone | <p><b>Module 2:</b><br/> <b>Getting to know the strategy game in a quick run-through (about 110 min in total)</b><br/> <i>Discussion, cards with case examples</i></p> <p><b>5 min</b> Start/introduction:</p> <ul style="list-style-type: none"> <li>• Optional: Offer different facilitation styles (see Facilitation tips) a) “How much guidance do you want from me?” b) “How many timing prompts do you want from me?”</li> <li>• Note: “You can see a very large number of cards around the game board. Don’t be overwhelmed by them. You’ll only need selected cards in the quick run-through and also later when you’re playing the game for your own business.”</li> <li>• “Imagine you’re a manufacturer of ordinary televisions. Begin the game by reviewing the game instructions together and reading out the action card for round 1. Read out the relevant action card at the start of each further round. In this quick run-through, please just write down keywords and do not discuss at length. The aim of the quick run-through is to get to know rounds 1 to 7 within 100 minutes. Tomorrow we’ll have twice as much time to play through the game in detail.”</li> </ul>   |
|       | 14:40 | 20 min | Everyone | <p><b>Round 1 – Start here</b><br/> <i>Game instructions: Provide an overview, allocate team roles, refer to glossary</i></p> <ul style="list-style-type: none"> <li>• Round 1: Text of the action card<br/>       “One player picks up all the role cards and reads out just the title in each case.<br/>       a) What is our primary role/function in the value cycle?<br/>       Discuss and place the appropriate role card in the ‘Selected role card’ box in the middle of the game board.<br/>       Tip: If multiple roles primarily apply to you, decide on one role on the basis of a product or service.<br/>       b) What is the essence of our current business model with regard to customers, product/service, KPIs, business partners?<br/>       How would you explain your customers, product/service, KPIs and business partners to a neighbour? Fill in the ‘Current situation’ box with one yellow sticky note per aspect.”</li> <li>• Give the team a moment to gather their thoughts and start the game.</li> </ul> <p>➔ Possible solutions for comparison. <b>Can be read out to the participants after each round, if desired (there are also hints about the respective aspects on the game board):</b><br/>       Customers: Media users, distributors<br/>       Product: Sale of ordinary, non-circular (!) televisions<br/>       KPI: Quarterly sales figures<br/>       Partners: Suppliers of electronic components</p> |

|  |       |        |                 |   |
|--|-------|--------|-----------------|---|
|  | 15:00 | 15 min | <b>Everyone</b> | <p><b>Round 2 – Circular future   Business model patterns</b></p> <ul style="list-style-type: none"> <li>• Say to all teams at the start of round 2:</li> </ul> <p>»<b>Important note about round 2:</b> Please take a shortcut here and select <b>business model pattern C6. For practice purposes, please still read out ALL business model patterns from C1 to C6.</b>«</p> <p>Round 2: Text of the action card<br/>         “One player reads out all business model patterns for the chosen role (e.g. all with ‘C’).<br/>         a) Which circular business model pattern could suit us? Discuss and choose a pattern. Now place the pattern on the far right on the ‘Selected circular business model pattern’ box. Put all other pattern cards aside.<br/>         b) Case example<br/>         One player reads out the example relating to the business model pattern.<br/>         Afterwards, working together, summarise the case example in one sentence and discuss what is innovative about it. Do you know of any other examples?”</p> <p>➔ Solution for comparison:<br/>         a) Pattern C6 “Maximisation of product availability”</p>  |
|  | 15:15 | 15 min | <b>Everyone</b> | <p><b>Round 3 – Business model sub-patterns</b></p> <ul style="list-style-type: none"> <li>• <i>Note:</i> The business model sub-patterns have text on the back. Please read that out as well.</li> </ul> <p>Round 3: Text of the action card<br/>         “One player reads out all the business model sub-patterns for the selected business model pattern (e.g. all with ‘C6.1, C6.2, C6.3’) and places them on the ‘Service level 1–3’ boxes (see arrow on the sub-pattern).<br/>         a) What would the business model sub-patterns with the respective service level look like in our company? Write down your answers as keywords on yellow sticky notes and stick them next to the corresponding sub-pattern.<br/> <i>Note:</i> If there are fewer than three sub-patterns, feel free to browse the sub-patterns for other pattern cards. Then also place the card(s) on the ‘Service level 1–3’ boxes (see arrow on the sub-pattern).<br/>         b) Which business model sub-pattern is realistic and feasible for us now and which are not (yet)? Write down your answers on yellow sticky notes.”</p> <p>➔ Possible solutions for comparison:<br/>         a) C6.1 Maintenance for a fee = Sale of redesigned, i.e. circular (!), televisions including repair service<br/>         C6.2 Product leasing = Rental of circular (!) televisions for example for 3 years (3 year rental) including services such as technical upgrades<br/>         C6.3 Total care manufacture = Content provider with subscription model for international news, premium documentaries and live concerts with allround and upgrade service; product component optionally fully outsourced – included in service fee: either circular, cradle to cradle-inspired televisions “Econova” from Philips or circular projector with screen and cradle to cradle-certified “Beosound Level” loud-speaker system from BANG &amp; OLUFSEN</p> |

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|  |       |        | <p>b) Open-ended, depending on group discussion, for example: "C6.2 is most realistic because it can be combined with our current business model and our management is somewhat risk-averse."</p>  |
|  | 15:30 | 10 min | <p><b>Everyone</b></p> <p><b>Round 4 – Select and clear away</b></p> <p>Round 4: Text of the action card</p> <p>"Now select just one realistic business model sub-pattern to think through in more depth in the following steps. Give it a snappy title and write it down in the 'Our circular business model' box.</p> <p>Optional: If you want, you can take a photo of the intermediate state of the game board.</p> <p>Clear away all the business model sub-patterns (including the associated sticky notes) which are not (yet) realistic for you at this point in time.</p> <p>4 of 9 rounds have now been played. Well done!</p> <p>After 4 rounds you have...</p> <ul style="list-style-type: none"> <li>• established your role in value creation including the current situation,</li> <li>• visualised a basic circular business model pattern suitable for your company and got to know a case example,</li> <li>• selected the business model sub-pattern which you as a team now see as having the greatest potential to be implemented in your company.</li> </ul> <p>Now it's time to get down to the brass tacks for your selected business model. Good luck!"</p> <p>It's going well so far, let's keep it up.</p> <p>➔ Possible solutions for comparison:</p> <p>a) We take C6.2, we write our circular business model "3 year rental of circular (!) televisions including annual technical upgrades" in the dashed circle, document and clear away the redundant sticky notes.</p> |

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|  | 15:40 | 15 min | <b>Everyone</b> | <p><b>Round 5 – Partnerships</b></p> <p>Round 5: Text of the action card<br/>         “One player picks up the remaining role cards. Starting from your own position, you as a team now place them around the ‘Partnerships’ circle in such a way as to model the value creation of the current model.<br/>         a) Which existing and new business partners (internal and external) do we need for our selected business model sub-pattern?<br/>         Inspiration: See ‘Possible partnerships’ on the back of the selected sub-pattern card.<br/> <i>Note:</i> If you find you need a second or further copies of a role card or if you have perhaps even identified a completely new role, simply add the missing role(s) with a green sticky note.<br/>         b) How should cooperation be structured?<br/>         Discuss and record your findings on each role card with yellow sticky notes.”</p> <p>➔ Possible solutions for comparison:</p> <p>a) Partnerships: D, E, F, G, H, I, J, A, B<br/>         b) D – Retailers: Exclusive partnership for example only with Media Markt: “The exclusive electrical waste-free home cinema rental subscription”<br/>         F – Prosumers: Incentive for low-threshold take-back<br/>         B – Machinery supplier: Collaborative development process for circular, modular upgradable televisions and upgrade components which can be separated by type for recycling</p> |
|  | 15:55 | 15 min | <b>Everyone</b> | <p><b>Round 6 – Enablers – product design and digitalisation</b></p> <p>Round 6: Text of the action card<br/>         “Discuss and write down your answers as bullet points on green sticky notes in the ‘Enablers’ box.<br/>         Brainstorming: How, in specific terms, do we need to redesign our product for circularity at the product and component level and adapt it to our circular business model?<br/> <i>Inspiration:</i> Design for recycling, exclusion of Substances of Concern, repairability, durability, modularity, technology upgrade, disassembly etc.<br/> <i>Note:</i> If you are playing on the basis of a service, decide as a team whether or not you can address this task.<br/>         If not, just move on to the next brainstorming task.<br/> <i>Brainstorming:</i> Which key digital technologies can help us make the selected business model sub-pattern a reality?<br/>         Inspiration: See ‘Key digital key technologies for the Circular Economy list’ in the envelope.”</p> <p>➔ Possible solutions for comparison:</p> <p>Product design = for example exclusion of materials involving health risks, materials which can be separated by type, Modular (product) structure, product is repairable or upgradable.<br/>         Key digital technologies = for example IoT and product passport to predict service life and commonest repairs.</p>                                      |

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|                | 16:10 | 10 min | <b>Everyone</b>     | <p><b>Round 7 – Barriers</b></p> <p>Round 7: Text of the action card<br/>         “One player opens the envelope and takes out the ‘Barrier list’ for round 7 and reads out just the barrier categories. The listed barriers are for inspiration.<br/>         a) Which barriers do we face with regard to:</p> <ul style="list-style-type: none"> <li>• selected business model sub-pattern?</li> <li>• partnerships?</li> <li>• enablers?</li> </ul> <p>Discuss and record the results as bullet points on pink sticky notes in the appropriate ‘Business model sub-patterns’, ‘Partnerships’ or ‘Enablers’ box.<br/> <i>‘In the middle of difficulty lies opportunity.’ Albert Einstein</i><br/>         → Possible solutions for comparison:<br/>         Barriers with regard to selected business model sub-pattern = for example prefinancing of service revenues<br/>         Barriers with regard to partnerships = for example partnership with Media Markt partner commission, lower revenue than sales<br/>         Barriers with regard to enablers = for example modular design – loss of performance, communication problem with Asian manufacturers</p> |
|                | 16:20 | 5 min  | <b>Facilitation</b> | <p><b>Facilitator’s wrap-up</b></p> <p>»Congratulations. Please finish off. That was the quick run-through. In the real strategy game we would still have round 8 ‘Implementation’ and round 9 ‘Transfer into everyday business’ to complete. Let’s hear it!«</p>   |
| <b>Break</b>   | 16:25 | 20 min | <b>Everyone</b>     | <p><b>Coffee break</b></p> <p>»Coffee break until 16:45«</p>  |
| <b>Plenary</b> | 16:45 | 15 min | <b>Everyone</b>     | <p><b>Conclusion in plenary session: “Your feedback on day 1”</b></p> <p><b>5 min</b> Silent reflection: Participants write their individual feedback legibly on sticky notes.</p> <ul style="list-style-type: none"> <li>• What was good about today?</li> <li>• What are you hoping for tomorrow?</li> <li>• How can your hopes be realised?</li> </ul> <p><b>10 min</b> Feedback in plenary session: Sticky notes are stuck up in order and briefly read out as the facilitator requests</p>   |
|                | 17:00 | 5 min  | <b>Facilitation</b> | <p><b>Facilitator’s wrap-up for the day</b></p> <p>The day’s objectives achieved today: knowledge building by familiarisation with the Circular Economy and the complexity of circular business models</p>  |
|                | 17:05 | 10 min | <b>Facilitation</b> | <b>Leeway</b>   |
|                | 17:15 |        |                     | <b>End</b>  |

| WHERE?            | TIME  | DURATION | WHO?         | WHAT?  |
|-------------------|-------|----------|--------------|--|
| Day 2: 9:00–13.30 |       |          |              |  |
| Plenary           | 09:00 |          | Facilitation | Start  |
|                   | 09:00 | 15 min   | Facilitation | <p><b>Welcome, agenda for today</b></p> <p><b>5 min</b> Welcome back!</p> <p><b>10 min</b> Presentation of agenda, housekeeping announcements, objectives of the day: application of knowledge and materials in participants' own company and elaboration of business models, remembering team roles and reading out the action cards.</p>   |
| Teams             | 09:15 | 5 min    | Everyone     | <p><b>Module 3:</b></p> <p><b>Applying the strategy game to participants' own company</b></p> <p><b>Rounds 1–7 (135 min in total)</b></p> <p><i>Cards, game board, game instructions, envelope with documents, sticky notes, pens</i></p> <p><b>5 min</b> Start/introduction:</p> <ul style="list-style-type: none"> <li>• "Please sit down as a team around a table. As far as possible carry out your own facilitation. I'm here to answer method questions and keep an eye on the time. Begin the strategy game by reviewing the game instructions and reading the action card for round 1. Read out the relevant action card at the start of each further round. Goal for today: To creatively think through a business model sub-pattern for your own company to the point of implementation."</li> </ul>           |
|                   | 09:20 | 20 min   | Everyone     | <p><b>Round 1 – Start here</b></p> <p><b>About 5 min</b> a) What is our primary role/function in the value cycle?</p> <p><b>About 15 min</b> b) What is the essence of our current business model with regard to customers, product/service, KPIs, business partners?</p>  |
|                   | 09:40 | 20 min   | Everyone     | <p><b>Round 2 – Circular future   Business model patterns</b></p> <p><b>About 15 min</b> a) Which circular business model pattern could suit us?</p> <p><b>About 5 min</b> b) Case example</p>   |
|                   | 10:00 | 25 min   | Everyone     | <p><b>Round 3 – Business model sub-patterns</b></p> <p><b>15 min</b> a) What would the business model sub-patterns with the respective service level look like in our company?</p> <p><b>10 min</b> b) Which business model sub-pattern is realistic and feasible for us now and which are not (yet)?</p> <p>➔ <i>Note:</i> This round could be particularly challenging for the teams. Watch out for teams which need your support.</p> <p>Suggested approach for 3a):</p> <ol style="list-style-type: none"> <li>1. As a team, write down ten different ideas as to how the business model sub-pattern might be implemented in a circular way.</li> <li>2. Select the top 3 and write down two strengths and two weaknesses for each.</li> <li>3. Select the sub-pattern you want to continue working with.</li> </ol> |

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|              |       |        | Alternative approaches: <ul style="list-style-type: none"> <li>• “If you had one wish and money and workforce were no object, what would it look like?”</li> <li>• “Imagine you were tasked by the board to create a radically circular startup with unlimited seed money.”</li> </ul> |   |
|              | 10:25 | 10 min | <b>Everyone</b>  | <b>Round 4 – Select and clear away</b> <ul style="list-style-type: none"> <li>• Now select just one realistic business model sub-pattern to think through in more depth in the following steps. Give it a snappy title and write it down in the “Our circular business model” box.</li> </ul> <p>➔ Tip: Don’t forget to taken the documentation photo!</p>  |
|              | 10:35 | 15 min | <b>Everyone</b>  | <b>Round 5 – Partnerships</b> <p><b>5 min</b> Which existing and new business partners (internal and external) do we need for our selected business model sub-pattern?</p> <p><b>10 min</b> How should cooperation be structured?</p>   |
|              | 10:50 | 20 min | <b>alle</b>  | <b>Round 6 – Enablers – product design and digitalisation</b> <p><b>10 min</b> <i>Brainstorming:</i> How, in specific terms, do we need to redesign our product for circularity at the product and component level and adapt it to our circular business model?</p> <p><b>10 min</b> <i>Brainstorming:</i> Which key digital technologies can help us make the selected business model sub-pattern a reality?</p>   |
|              | 11:10 | 20 min | <b>alle</b>  | <b>Runde 7 – Barriers</b> <p>Which barriers do we face with regard to:</p> <ul style="list-style-type: none"> <li>• selected business model sub-pattern (<b>6 min</b>),</li> <li>• partnerships (<b>7 min</b>),</li> <li>• enablers (<b>7 min</b>)</li> </ul> <p>➔ Tip: Make sure to use pink sticky notes for the barriers to make things clearer.</p>   |
| <b>Break</b> | 11:30 | 15 min | <b>Everyone</b>  | Break   |
| <b>Teams</b> | 11:45 | 25 min | <b>Everyone</b>  | <b>Module 4: Implementation planning for the circular business model in participants’ own company  Rounds 8 + 9 (45 min in total)</b> <p>Round 8 – Implementation</p> <p>“One player takes the ‘experimentation canvas’, ‘partner canvas’ and ‘project chart’ documents for round 8 out of the envelope.</p> <p>a) How do we want to approach implementation?</p> <p>On the basis of the most pressing and important barriers, decide which canvas will support your implementation well and fill it together.</p> <p>Option 1: Experimentation canvas</p> <p><i>Inspiration:</i> For addressing challenging barriers with regard to the selected business model</p> <p>Option 2: Partner canvas (recommended)</p> <p><i>Inspiration:</i> For addressing challenging barriers with regard to partnerships</p> |

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|         |       |        | <p>Option 3: Project chart<br/><i>Inspiration:</i> For addressing challenging barriers with regard to enablers</p> <p>→ Tip: Each team only has time to discuss one canvas in depth. Which one makes the most sense right now with regard to moving forward?</p>   |
|         | 12:10 | 20 min | <p><b>Everyone</b></p> <p><b>Round 9 – Transfer into everyday business</b><br/>         “One player takes the ‘Transfer into everyday business’ document from the envelope and places it on the note-pad.<br/>         a) Evaluate how feasible, how innovative and how circular the circular business model is that you have worked out. On the note-pad draw a scale from 1 to 10 for each of the characteristics ‘feasible’, ‘innovative’ and ‘circular’ and record your results.<br/>         Recommendation: Assess the time dimension of feasibility by drawing a timeline as a fourth scale with the following time periods:<br/>         short term (in the next 1 to 3 years),<br/>         medium term (in the next 5 years) and<br/>         long term (in the next 5 to 10 years). Record your results.<br/>         b) Based on today’s experience, what three specific steps do you as a team actually want to take as a starting point in your company?</p> <p>Record your three specific steps on the ‘Transfer into everyday business’ document. To increase accountability, designate one person in the group to send everyone calendar invitations for these defined steps.</p> <p><b>Congratulations!</b><br/> <b>YOU HAVE SUCCESSFULLY COMPLETED THE GAME.”</b></p> <p>→ Tip: Don’t forget to take a final documentation photo!</p> |
| Plenary | 12:30 | 40 min | <p><b>Everyone</b></p> <p><b>Module 5: Concluding discussion</b><br/>         Wrap-up »Great job!«<br/>         Flash feedback: “Each person in turn offers a lightning fast sentence expressing how they found the workshop overall”</p>  |
|         | 13:10 | 5 min  | <p><b>Facilitation</b></p> <p><b>Wrap-up of the day</b><br/>         Objectives of the day hopefully achieved today: application of the knowledge and materials in your own company, development of business models<br/>         Thank you for taking part in this workshop!</p>   |
|         | 13:15 | 15 min | <p><b>Facilitation</b></p> <p><b>Leeway</b></p>  |
|         | 13:30 |        | <p><b>End</b></p>  |