

DESIGN



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# Facilitators



**Jie Zhou**



**Jo Miller**



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# What is the circular economy?

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**What are the three  
principles of  
circular economy?**

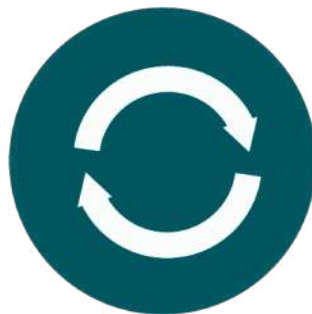


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# Circular economy principles



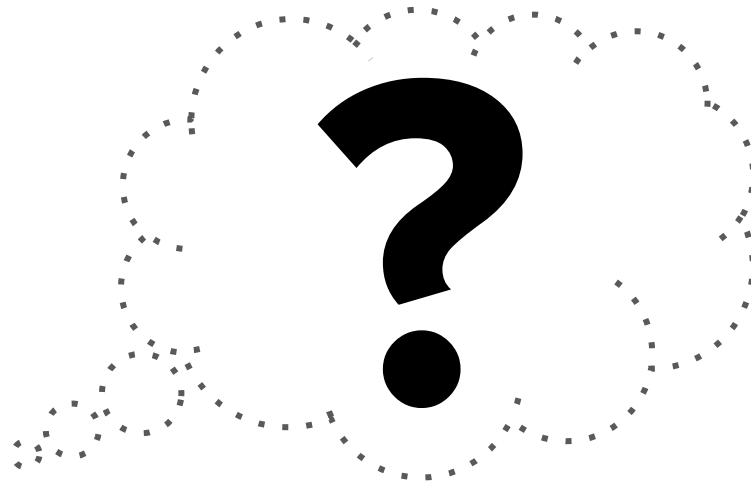
**Design** out  
waste and  
pollution



**Keep** products  
and materials  
in use



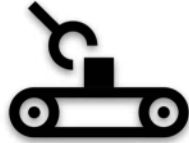
**Regenerate**  
natural  
systems



## The linear economy



Take >



Make >



Waste

## The circular economy



**Design out**  
waste and  
pollution



**Keep**  
products and  
materials in  
use



**Regenerate**  
natural  
systems



**Why is design essential for  
the circular economy?**



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**Everything** around us **has been designed** by someone.



**Important decisions** are made during the design stage



**Once designed, it's hard to reverse:** *"We can't unscramble an omelette"*





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Centennial light bulb

**117 years**

EUROPEAN  
SOCIETY  
OF GENEALOGISTS



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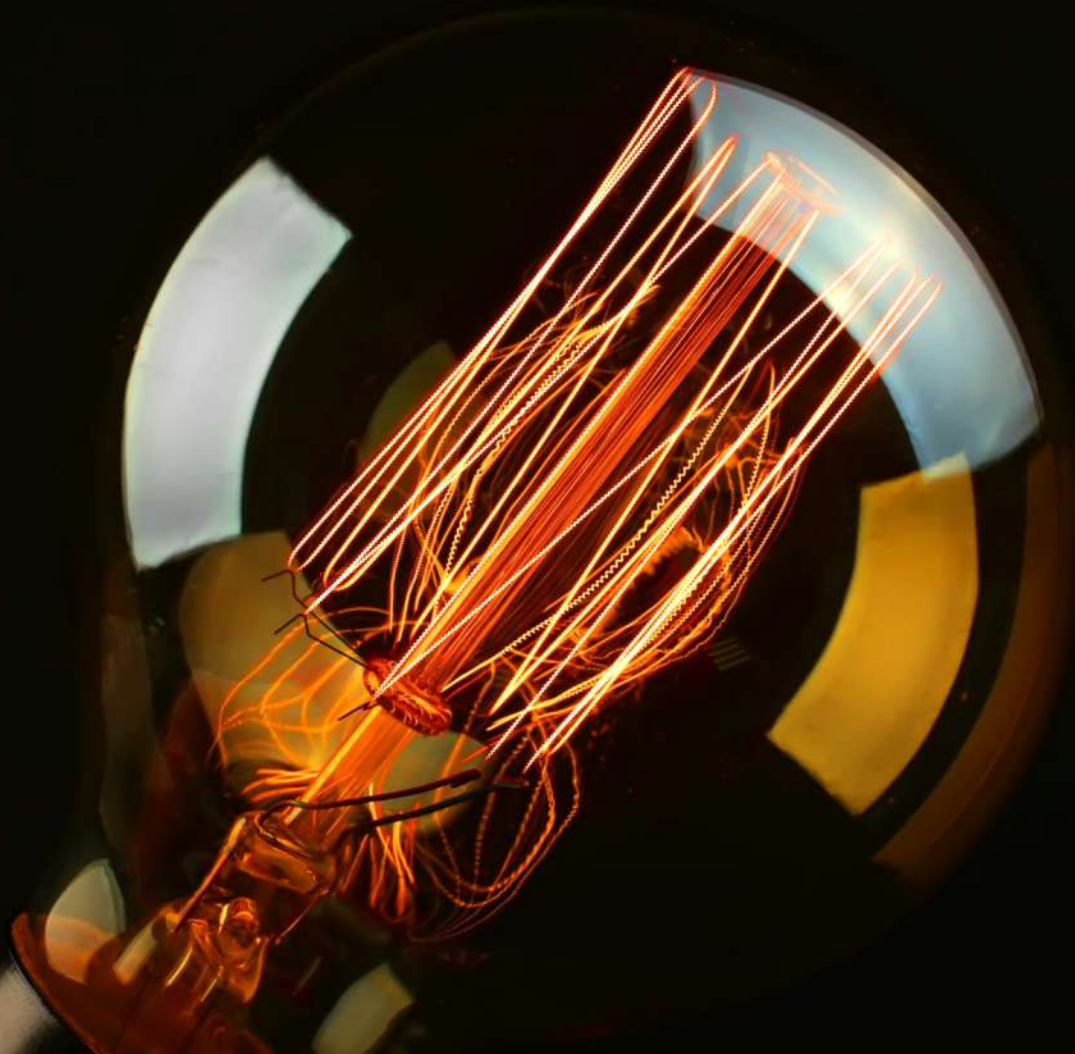
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Graphic  
designers

Service  
designers

Design  
engineers

Business  
model  
innovators

Architects

Disruptive start-  
ups

Design-led  
CEOs &  
policymakers

Digital  
designers

Product  
designers

Urban  
planners

Advertising  
designers

# 160m

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# LET'S REDESIGN!

REDESIGN

# Choose a product to redesign



OFFICE CHAIR



COSMETICS  
PACKAGING



TRAINING SHOE



KITCHEN  
ACCESSORIES

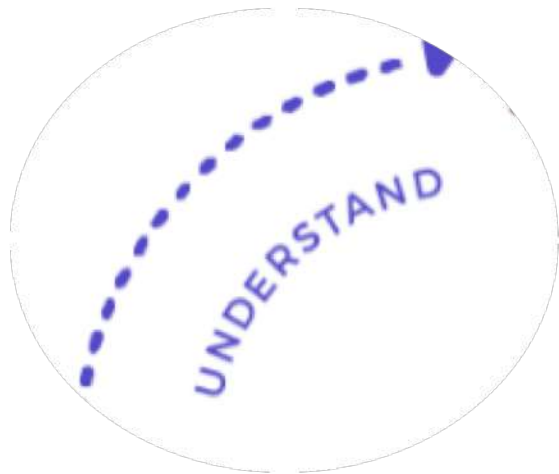


FOOD PACKAGING



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# Overview



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# Understand: User



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# Understand: the user

functional and emotional needs

**EMPATHISE  
WITH USERS**

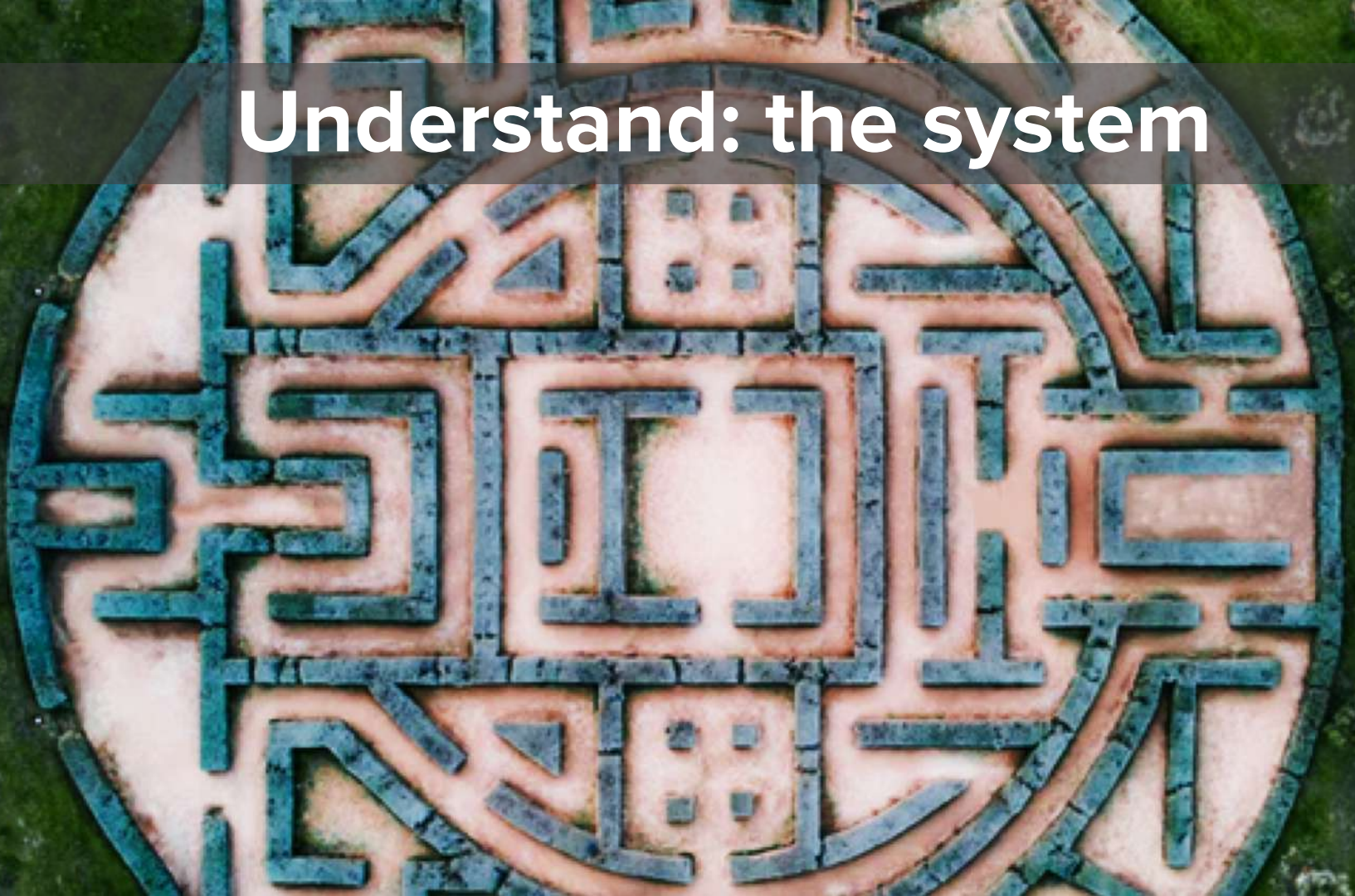
**UNDERSTAND  
THEIR NEEDS**





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# Understand: the system

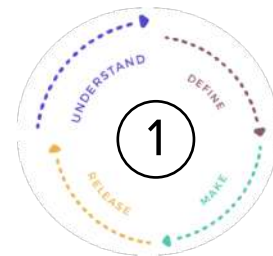


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# Understand: the system



How the design  
eliminate waste  
and pollution?



How to keep  
products and  
materials in use?



How to  
regenerate/restore  
nature system?






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# Pick a user in your team

The **user** should be an actual user of the product. While you typically would interview many users in a project, we will focus our design process today on this specific user.



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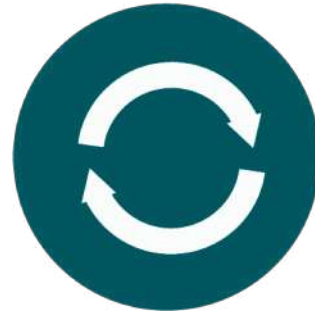


# Pick a circular economy advocate

*The advocate reminds the group of the 3 circular economy principles throughout the design process*



**Design** out  
waste and  
pollution



**Keep** products  
and materials  
in use



**Regenerate**  
natural  
systems



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# Before we start

Here some principles that foster the creative process.

1. Defer judgement
2. Encourage wild ideas
3. Build on the ideas of others
4. Stay focused on the topic
5. One conversation at a time
6. Be visual
7. Go for quantity

Source: [ideou.com/pages/brainstorming](https://www.ideou.com/pages/brainstorming)

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www.circulardesignguide.com

THE  
CIRCULAR  
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GUIDE

WORKSHEET

## Circular Strategies

Pick one of the  
following products:



OFFICE CHAIR



COSMETICS  
PACKAGING



TRAINING SHOE



KITCHEN  
ACCESSORIES



FOOD PACKAGING

### EXPLORE (10 MINS)

WHAT ARE THE FUNCTIONAL AND EMOTIONAL NEEDS AND REQUIREMENTS?

For example the underlying functional need of a car is to get from one place to another. Emotional needs might be a sense of freedom or a car as status symbol.

INTERVIEW A USER

*This yellow thing is a post-it*

[User]

needs \_\_\_\_

because \_\_\_\_ [compelling insight]

### IDEATE (20 MINS)

ARE THERE DIFFERENT OR BETTER WAYS TO MEET THESE NEEDS BY APPLYING CIRCULAR STRATEGIES?

Brainstorm to come up with as many ideas by combining the circular strategy cards.  
For example, for a car it may be car sharing service, car rentals, leasing, trade-in, remanufacturing, etc.

USE CIRCULAR STRATEGY CARDS FOR INSPIRATION

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# Understand: the user

## Tips

Interview the user. Take notes on **post its** as you listen. Get as many insights as possible.

- Tell us about the last/**first** time you used/bought/ate \_\_\_\_\_. **Why you kept using it?**  
**Why is it valuable for you?**
- Can you show us / walk us through your routine?
- What is important when it comes to \_\_\_\_\_?
- What are the best/worst parts?
- Can you tell us why that is important? Why?  
Why? Why?

## Tools: “Explore” template

### EXPLORE

WHAT ARE THE FUNCTIONAL AND EMOTIONAL NEEDS AND REQUIREMENTS?

For example: the underlying functional need of a car is to get from one place to another, emotional needs might be a sense of freedom or a car as status symbol.

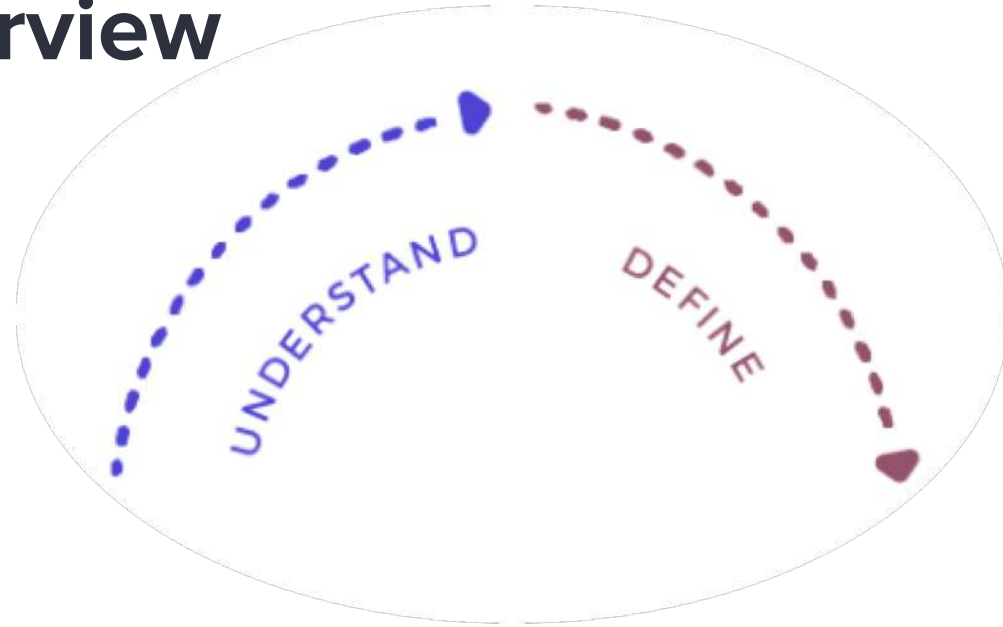
INTERVIEW A USER





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# Overview





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# Define

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# Define

## Importance of this step

Frame a **clear brief** of the design challenge after the UNDERSTAND phase

**Clarify intentions** for the design process: on a user and systems level

**Channel** the creative energy during the IDEATION phase

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# Define your design challenge



## Tips

Reflect on your insights

**What is your design challenge?**

Take a post it. Fill in the statement

## Tools: Post-it

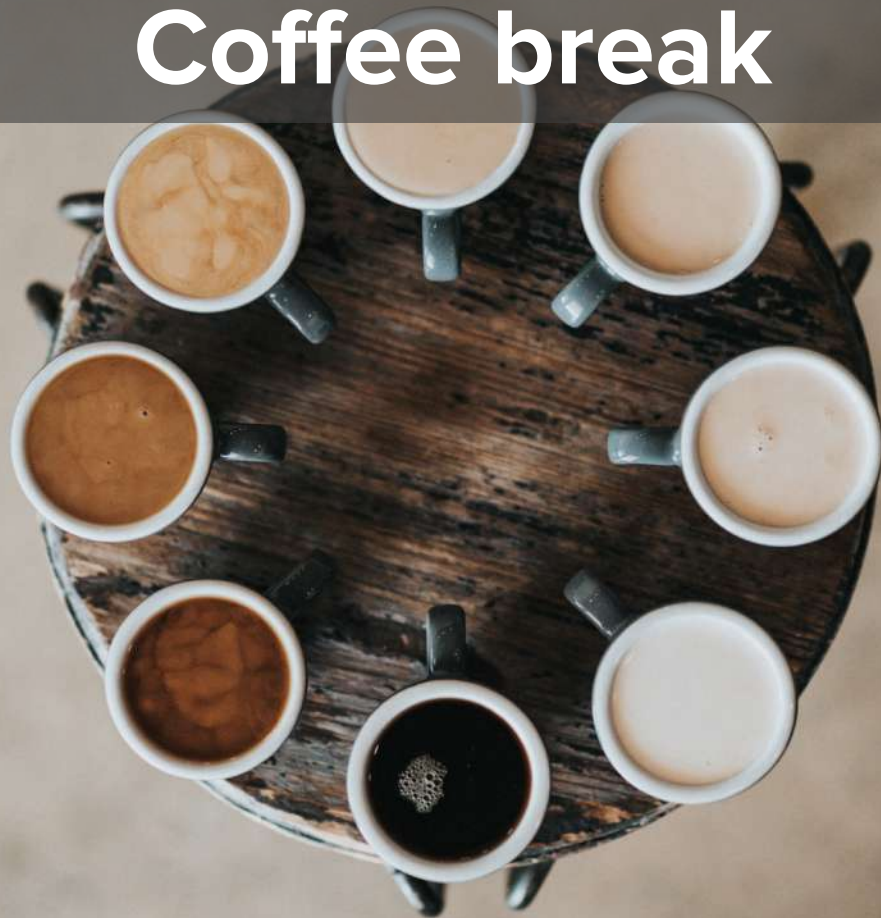
*This yellow thing is a post-it*

**[User]**

**needs \_\_\_\_**

**because \_\_\_\_ [compelling insight]**

# Coffee break





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# Overview





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# Make: Ideate



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# Ideate



**CIRCULAR STRATEGIES**

**Smart**

Consider treatment inputs, life or recycling.

*Pictured:* Products that receive post-use products as part of the back for rem...

**CIRCULAR STRATEGIES**

**Modular**

A design that of parts that can be upgraded and...

*Pictured:* Fairphone spare parts allowing its p...

**CIRCULAR STRATEGIES**

**Closed loop / Take-back**

Providing a service to collect products and recovering the materials by recycling or reuse to make new products.

*Pictured:* Desso created a take-back programme for its flooring materials that can be separated and used over and over again.

**CIRCULAR STRATEGIES**

**Product as a Service**

Offers that focus on leasing access solution instead of selling ownership product. Services can reduce upfront users, create stickier customer relationships and incentivise investment in the most resource-efficient technologies.

*Pictured:* Philips sells lighting as a retaining ownership of the lights as customers have no upfront installa...

**CIRCULAR STRATEGIES**

**Product**

Extending the they remain eco remain, manufacturing smart materials.

*Pictured:* Caterpillar components of condition, reduce and need for re...

**CIRCULAR STRATEGIES**

**Embedding intelligence**

Building technology into materials or products to gather user data and generate valuable insights to improve the customer experience.

*Pictured:* Bundles uses Internet of Things technology to provide customers with a pay-per-wash service on washing machines. The monthly tariff is adjusted retrospectively based on actual usage data.



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# FROM PRODUCT TO SERVICE



NEW  
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# PRODUCT LIFE EXTENSION



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# MODULARITY



**GERRARD  
STREET**

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# DESIGNING FOR INNER LOOPS: REUSE



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diapers

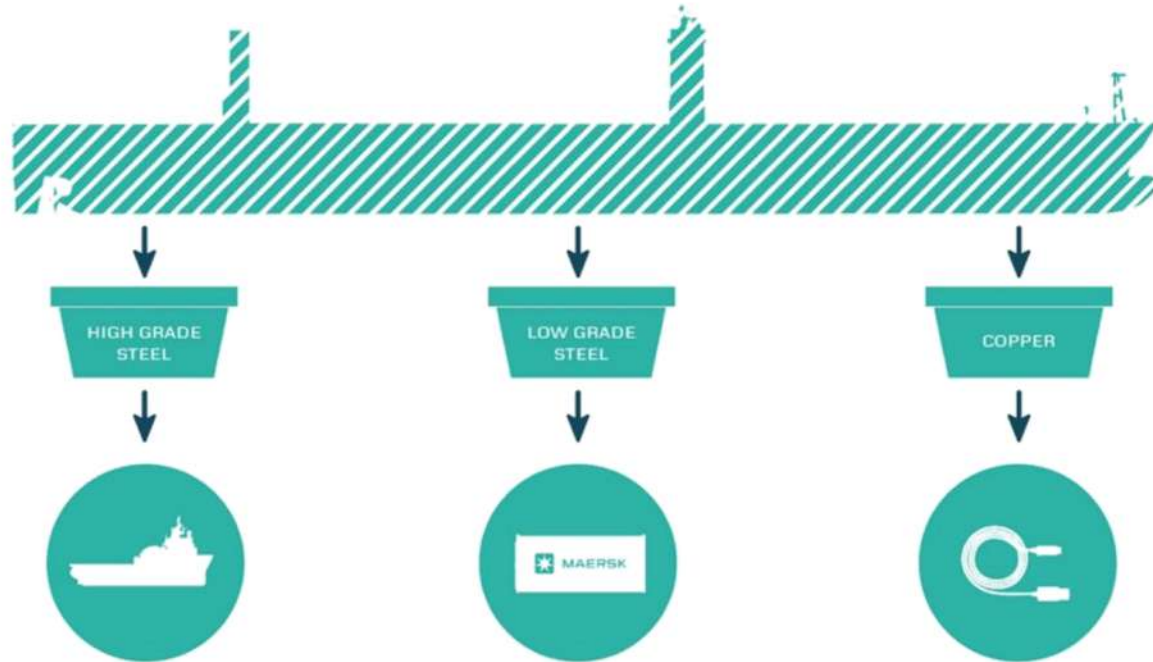


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# EMBEDDED INTELLIGENCE



# EMBEDDED INTELLIGENCE



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# Ideate

## Tips

Get familiar with the **strategy cards**. How can you use them to address your design challenge?

**Think:** Take 2 minutes to come up with **your own ideas on post its**

**Share:** Then convene as a group and try different **card combinations**

**Identify** the top ideas and converge towards the idea that best matches the top 3 user needs and is fit for circular economy

Keep the **principles of a circular economy** in mind

## Tools: “Ideate” template, 6 strategy cards



# Pick one idea



## Importance of this step

Convergent thinking. Reflect back on the design challenge: Which of the ideas (or a combination of them) best addresses the design challenge?

**Which idea addresses the user needs AND is fit for the circular economy?**

Time for the “circular economy advocate” and the “user” to contribute.





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# Make: Design & Prototype

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# Design & prototype

## Iterate. Iterate. Iterate



20 min





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# Overview





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# Release



EDUCATION  
SIGN

# Release



## Importance of this step

“Always in beta”. Release is the start of the next iteration.  
Embed **feedback loops**.

**Build a compelling narrative.** How does your design create opportunities for different stakeholders?

Design is never done. Allow for evolution in your design over time (modularity, modifications, etc.) and along the value chain.

# Release



## Tips

Prepare to share with the other groups

Unleash your creativity:  
Role playing.  
Storytelling.

Use your prototype

## Tools: Your prototype





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# Share your idea



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# Reflections



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# Reflections

What are you **taking away** from this workshop? What are the key insights?

How can this be useful for you **going forward**?

What will you **remember the most** from the workshop?

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# Next steps



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# Join the community: [tiny.cc/circulardesigners](https://tiny.cc/circulardesigners)

**Simon Widmer** Manager  
Joined group: Dec 2016  
[Manage group](#)

Your communities

Groups

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## Circular Design Guide

Standard group

Start a new conversation in this group

[Post](#)

**Marc Barto** • 2nd  
Creative Economy Programme Lead at British Council  
1d

Interesting opportunity for designers based in London: Join us for a workshop on circular design at the Design Museum

**Circular Strategies workshop**

12,056 members [See all](#)

99+

[Invite members](#)

### About this group

This group is about design & the circular economy. It's run jointly by IDEO and the Ellen MacArthur Foundation. Share your learnings, questions & success stories here.

We would like to the [Show more](#)

### Group rules

Welcome to the Circ group, a network of differently and are c economy based on Guide > [www.circularguide.com](http://www.circularguide.com)

**SCAN AND GO!**

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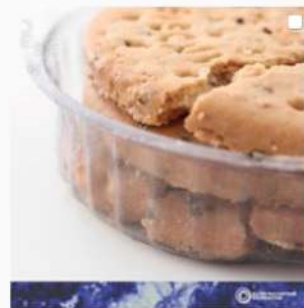
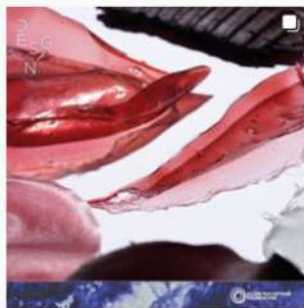


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Join

**#Circular  
Designers**

on the EMF  
Instagram



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Z/G



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# Thank you!



**Jie Zhou**



**Jo Miller**

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