

Interreg
Baltic Sea Region



Co-funded by
the European Union



CIRCULAR ECONOMY

Circular spaces

Circular business models



Methodological Notes

Summary

This education program provides a comprehensive understanding of circular business models, enabling participants to apply circular principles in their professional activities or entrepreneurship ventures. It is adaptable to different educational settings and can be customized to meet specific learning objectives and time constraints.

Duration: 4 hours

Training modes: in person; online; hybrid (both – in person and online)

Requirements for trainers

- Knowledge and experience in circular economy
- Green thinking, willing to change the way business operates

Methodological Notes

Target Groups

- Makers: Information and samples that can be used for transferring to circular economy
- Makerspaces: Inform makers about circular business models, help to use reusable materials in the prototyping faze.
- Suppliers: Offer more reusable materials
- Start-ups: reusable materials in the prototyping faze, circular business thinking in developing their product
- SMEs: Reuse of leftovers, rethinking the product cycle
- Business support organisations: Less materials that cannot be recycled, more businesses with less pollution in the region.

Training Outcomes

- Understanding of circular and linear business models
- Knowledge about types of circular business models
- Possibilities to transfer from linear to circular business models
- Recourses for information about circular economy

Methodological Notes

Training Tools and Resources

For trainer:

- Presentation
- Equipment for showing the presentation
- Access to video conferencing platform
- Paper and pens for activity

For trainee:

- Computer, good internet connection, headset (if attending online)

Methodological Notes

Ethical aspects of carrying trainings

- Inclusivity and Diversity
- Transparency and Honesty
- Voluntary Participation
- Informed Consent
- Confidentiality
- Competence of Trainers
- Avoiding Discrimination and Bias
- Feedback and Continuous Improvement

Introduction

Content of the lecture

- Introduction (*45 minutes*)
- Main topic – Circular business models (*2,5 hours*)
 - Circular business models and good practices
 - How to transfer from linear to circular business model
 - Task – Circular Business Model Innovation Challenge
- Summary (*45 minutes*)

Introduction

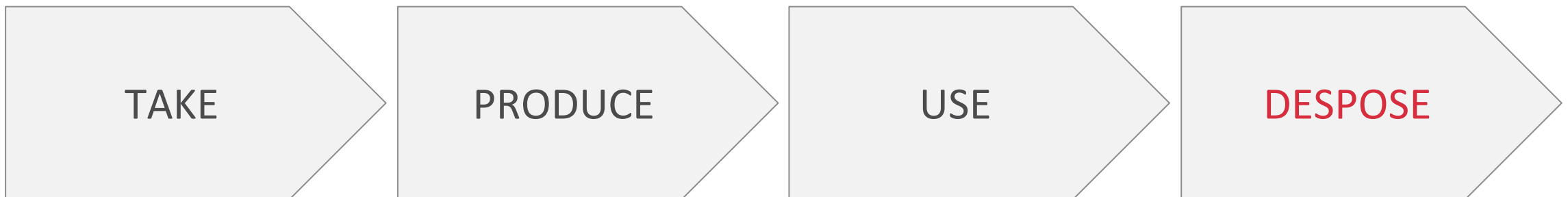
What are Linear and Circular Business Models?

Introduction

Linear Business Model

A linear business model is based on an approach «take, make, dispose», where resources are extracted, transformed into products, and then discarded as waste after use.

This model emphasizes short-term consumption and efficiency at the expense of sustainability and resource depletion.

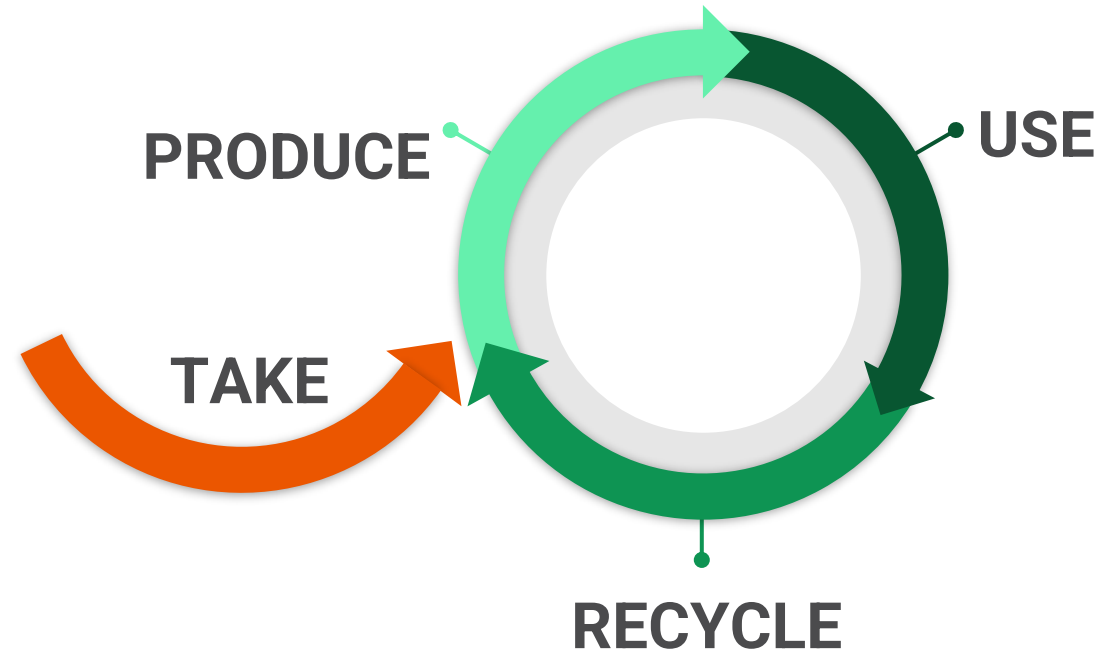


Introduction

Circular Business Model

A circular business model focuses on sustainability by keeping products, materials, and resources in use for as long as possible, reducing waste through reuse, recycling, and regeneration.

It aims to create a closed-loop system that minimizes environmental impact and promotes the efficient use of resources.



Introduction

Principles of the Circular business models

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems
- Rethink the business model
- Design for adaptability and disassembly
- Use waste as a resource
- Promote systems thinking
- Foster innovation and collaboration



Photo source: pexels.com

Introduction

Benefits of implementing circular business model

Environmental Benefits

- Reduced Waste and Pollution
- Conservation of Resources
- Lower Carbon Footprint)

Social Benefits

- Job Creation
- Improved Quality of Life
- Innovation and Collaboration

Strategic and Operational Benefits

- Enhanced Brand Image and Reputation
- Regulatory Compliance and Incentives
- Long-term Viability



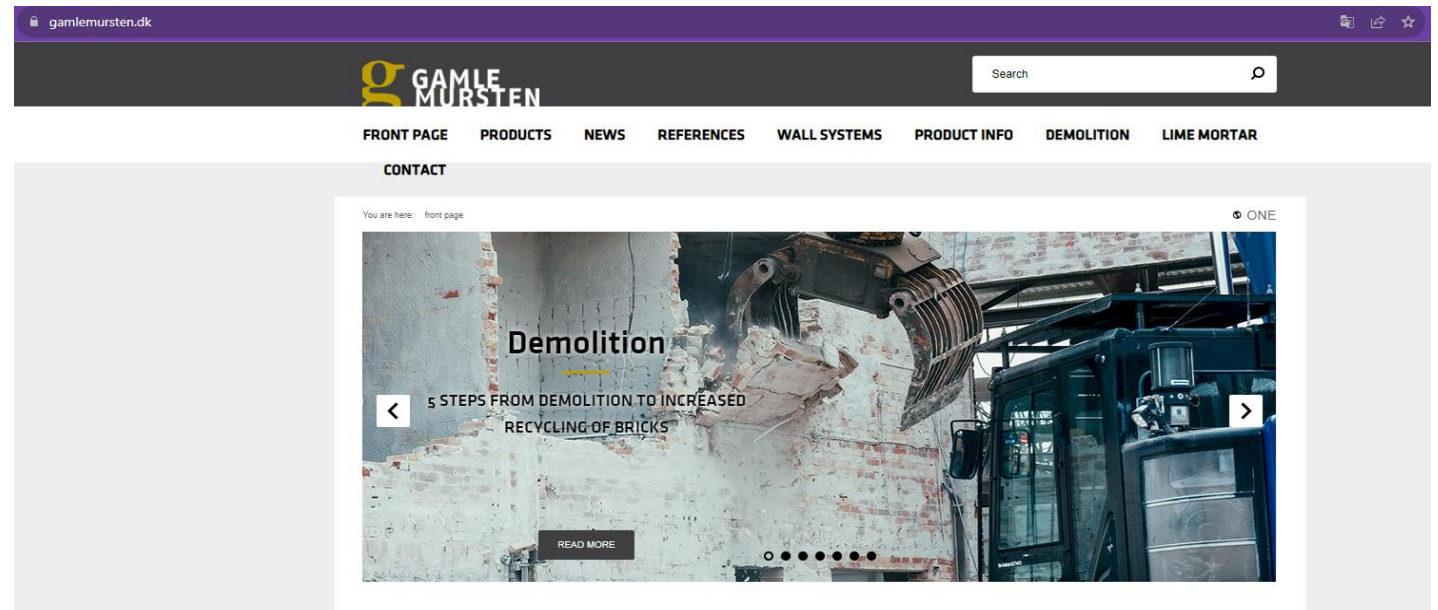
Circular Business Models

Circular Business Models and Good Practices

Circular Business Models

RECYCLING MODEL

Focuses on the recovery and reuse of materials from end-of-life products. It aims to bring materials back into the production cycle, thereby reducing the need for virgin materials and minimizing waste.

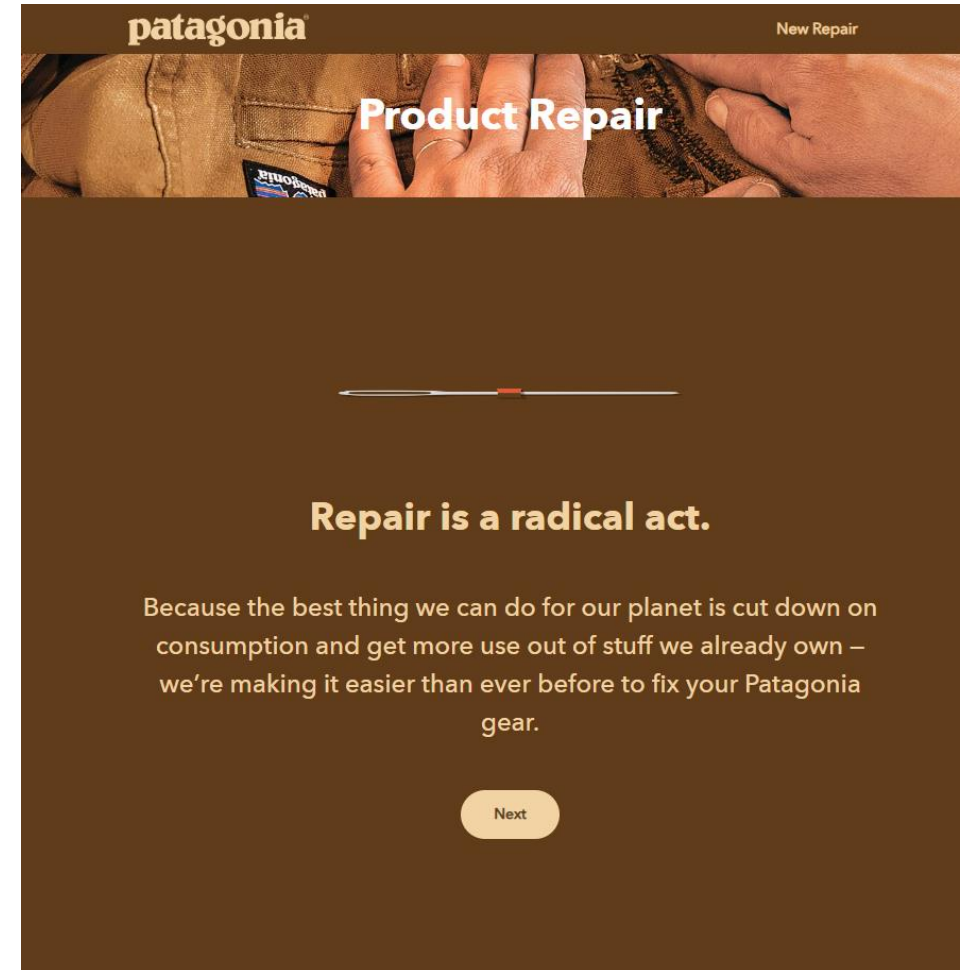


URL reference: gamlemursten.dk

Circular Business Models

REFURBISHMENT MODEL

This approach involves restoring used products to good condition. It extends the lifecycle of products and reduces the need for new resources.



URL reference: customers.eu.patagonia.com/en-US/repairs

Circular Business Models

REMANUFACTURING MODEL

This approach involves updating and upgrading items to a like-new condition. It extends the lifecycle of products and reduces the need for new resources.



Caterpillar's Circular Economy

Wherever possible, we keep resources in the Caterpillar value chain through a circular flow of materials, energy and water. Our focus on developing better systems optimizes our use of resources, maximizes the total life cycle value of our products and minimizes the cost of ownership for our customers. Viewing our equipment through a total life cycle lens allows us to make sustainable progress for communities, the environment and the economy.

Caterpillar strives to provide customers with quality equipment that provides the best economic proposition for their business. Our remanufacturing (reman) and rebuild businesses provide customers not only with an immediate cost savings, but also help extend life cycles and use materials more efficiently.



1 of 2

Remanufactured Products And Rebuilt Products

The Cat Reman® programs provide customers with lower-cost products, shorter downtime and quick, dependable service options.

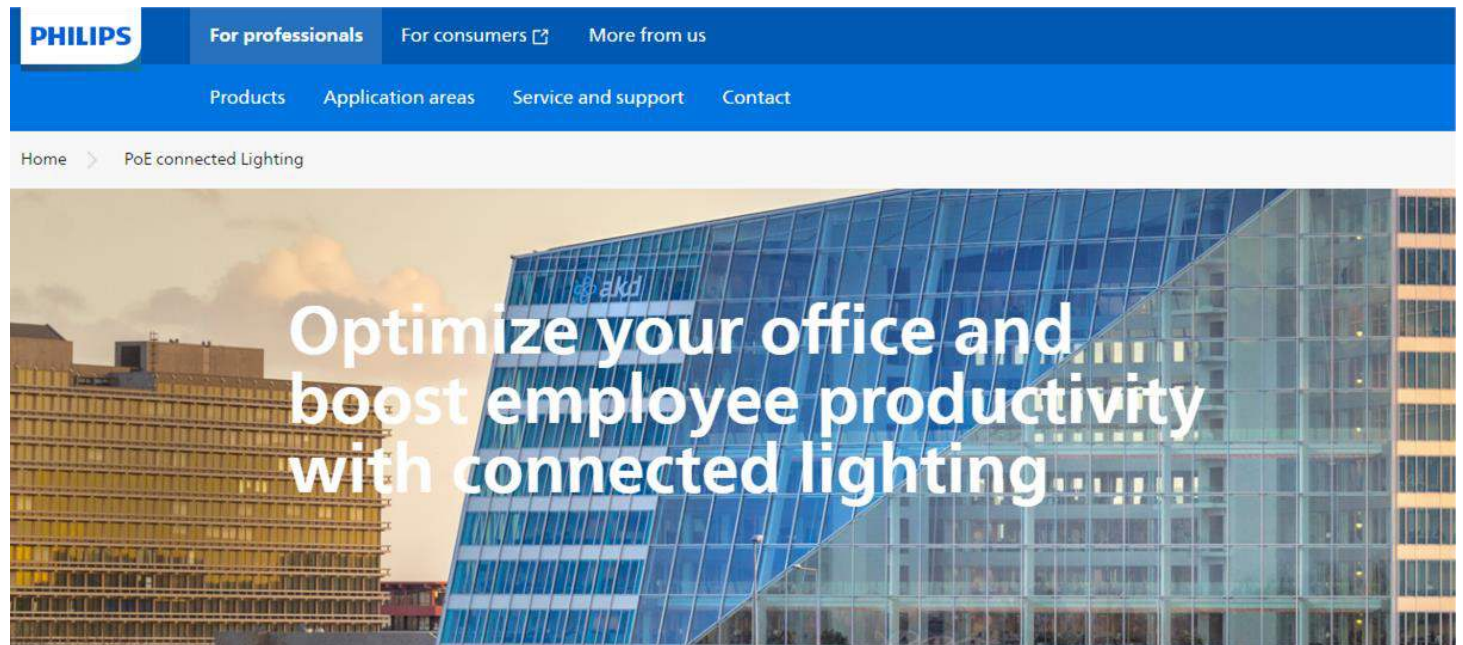
A leader in remanufacturing technologies and processes, Cat Reman returns products at the end of their serviceable lives to same-as-new condition. This helps reduce your owning and operating costs by providing you with same-as-new quality at a fraction of the cost of a new part. Through the remanufacturing process Caterpillar reduces waste, lowers greenhouse gas production and minimizes the need for raw materials.

URL reference: www.caterpillar.com/en/company/sustainability/remanufacturing.html

Circular Business Models

PRODUCT-AS-A-SERVICE (PAAS) MODEL

Instead of selling products, companies offer them as services. For example, instead of selling light bulbs, a company might sell lighting as a service. This model encourages companies to create durable, repairable products and to recycle or refurbish them at the end of their service life.



URL reference: www.lighting.philips.co.uk/oem-emea/products/connected-lighting

Circular Business Models

BIOLOGICAL CYCLES MODEL

This model involves designing products so that, at the end of their lifecycle, they can be safely returned to the environment. This approach is often seen in compostable products or materials that can be broken down naturally.



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Bolt Technology—

MEET MICROSILK™

Spiders produce silk fibers with remarkable properties including high tensile strength, elasticity, durability, and softness.

We've developed technology to sustainably replicate this amazing process at a large scale.

Microsilk can be produced with less environmental impact than traditional textile manufacturing, with the potential to biodegrade at the end of its useful life.



URL reference: boltthreads.com/technology/microsilk/

Circular Business Models

RESOURCE RECOVERY MODEL

This model focuses on extracting valuable materials from waste streams. This can involve technologies that convert waste into energy, or processes that extract raw materials from waste products.



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Renewable Waste-to-Energy

Waste-to-Energy is the sustainable alternative to landfills for waste disposal

[Modern Waste-to-Energy](#)  facilities divert waste from landfills to generate energy from the combustion of municipal solid waste. Our Waste-to-Energy facilities are designed to convert the waste that remains after recycling into electricity for homes and businesses and/or steam for export to industries.

Waste-to-Energy is a technologically advanced means of waste disposal that is widely recognized for reducing greenhouse gases—particularly methane—by eliminating emissions from landfills. NASA scientists have identified [landfills as super-emitters](#)  of [methane](#)  , a greenhouse gas that is 84 times more potent as a climate-warming gas than CO₂.

URL reference: [covanta.com](https://www.covanta.com)

Circular Business Models

INDUSTRIAL SYMBIOSIS MODEL

This model involves different industries working together so that the waste or byproducts of one process become the raw materials for another. This inter-industry collaboration helps create a closed-loop system where waste is minimized.



URL reference: www.symbiosis.dk

Circular Business Models

DESIGN FOR DURABILITY AND LONGEVITY MODEL

Products are designed from the outset to be durable, repairable, and upgradeable, thus extending their lifespan and reducing the need for replacement.



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Technique Store Forge News



\ Technique

Lifetime warranty

Materials

Technologies

Lifetime warranty

By purchasing any AUTINE made tool, you gain a tool that will serve you, and your children as well. Each instrument that comes from our forge, comes with a lifetime warranty, which covers all possible manufacturing defects.



JOHN
NEEMAN*

URL reference: www.autinetools.com

Circular Business Models

REPURCHASING OF GOODS

Products are repurchased and sold in second hand stores to reduce the consumption of newly produced goods.



The image is a screenshot of an IKEA newsroom article. At the top left is the IKEA logo, followed by navigation links for 'Stories', 'Jobs', 'Newsroom', and 'Our business'. On the top right, there is a yellow button that says 'Go shopping: ikea.lv (en)' with a dropdown arrow and a right-pointing arrow. The main content area features a photograph of a man in a yellow IKEA polo shirt standing in a store. A large green circular graphic is overlaid on the photo, containing a white circular arrow icon and the text 'Tada för en andra chans!'. To the right of the photo, the article title reads 'The world's first IKEA secondhand pop-up opens in Sweden'. Below the title, the text states: 'IKEA takes a step forward in its journey to become a circular business by 2030 with the opening of the first IKEA secondhand pop-up store in Eskilstuna, Sweden.' Further down, it explains: 'The pop-up store is located in the ReTuna Shopping Centre, where all products sold are reused or recycled. The new pop-up store, which will open initially for 6 months, is run by the existing IKEA Västerås store. The store will provide furniture and home furnishing accessories that for different reasons have been damaged. At ReTuna they will be repaired and given a second chance in a new home.' The final paragraph mentions: 'The collaboration with ReTuna will help IKEA understand why some IKEA products are turned into waste, what condition they are in when thrown away, why do people choose

URL reference: www.ikea.com/global/en/newsroom/sustainability/the-worlds-first-secondhand-ikea-popup-store-opens-in-sweden-201104/

Circular Business Models

RECYCLING OF GOODS

Products are accepted back and recycled, focusing on converting waste materials into new products or raw materials.

The only trends worth following? Recycling and repairing.

Here's a not-so-fun fact: Today, less than 1% of the materials used to make clothes get recycled each year. This means that thousands of tonnes of textiles end up in landfills. By reusing or recycling fashion, we can turn that around.



Our Garment Collecting programme is the world's biggest of its kind. It was rolled out globally in 2013.

Want to keep an old favourite? Take care.

Over 10% of a garment's total impact on the climate happens after you've left the store. Things like how often you wash your clothes or if you toss them in the rubbish instead of recycling, have an effect. So, how you take care of them really matters! Learn how you can make your clothes last longer with our Take Care concept, available in all online stores.

URL reference: www2.hm.com/en_us/sustainability-at-hm/our-work/close-the-loop.html

Circular Business Models

EQUIPMENT AND TECHNOLOGY SHARING MODEL

This model promotes the sharing of equipment and technology, such as workshop premises and tools. It maximizes the use of products, reduces the need for individual ownership, and often leads to reduced resource consumption.

Ventspils Design workshop RADE

To find out more about Ventspils design workshop RADE services, we invite you to contact us!

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Ventspils design workshop "RADE" is a production unit room where both individual users and entrepreneurs can create a variety of products. The workshop has various production units meant to transfer any design to either clothing, plastic, metal or wood, acrylic, various composite materials and other accessory types, print photos, make stickers and create packaging for any product created here. Attendance at the workshop is possible by prior arrangement.

URL reference: <https://www.vatp.lv/en/rade>

Circular Business Models

Each of these models contributes to the overarching goal of a circular economy, which is to create a sustainable economic system that reduces waste and minimizes environmental impact.

They are often used in combination to achieve the best outcomes for sustainability.

How to Transfer from Linear to Circular Business Model

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Assess current practices (1)

Begin by evaluating your current business model, focusing on how resources are used and waste is generated. Identify areas where changes can lead to more sustainable practices.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Set clear goals and objectives (2)

Define specific, measurable objectives for the transition. These could include reducing waste, increasing the recyclability of products, or implementing a take-back program for used products.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Rethink product design (3)

Design products for longevity, repairability, and recyclability. Consider using modular designs that allow for easy repair or upgrading parts instead of replacing whole products.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Implement resource-efficient processes (4)

Optimize manufacturing processes to minimize waste and resource use. This might involve adopting new technologies or rethinking production techniques to be more efficient.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Develop new business models (5)

Consider models like Product-as-a-Service (PaaS), where you offer services rather than selling products, or leasing models where products are returned for refurbishment and reuse.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Establish closed-loop supply chains (6)

Create or join networks for recovering and reusing materials. This could involve setting up systems for returning used products or collaborating with other companies to utilize each other's waste products.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Engage with suppliers (7)

Work with suppliers who are also committed to circular principles. Ensure that the materials you use are sustainably sourced and can be recycled or composted at the end of their life.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Educate and engage customers (8)

Inform your customers about the benefits of a circular model. Encourage them to participate in take-back schemes, recycling programs, or other initiatives that support the circular economy.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Leverage technology for efficiency (9)

Use technology to track resource flows, manage reverse logistics for returned products, and optimize the lifecycle of your products.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Monitor, evaluate and adapt (10)

Continuously monitor the impact of your changes. Collect data on resource use, waste reduction, and customer feedback to evaluate your progress and make necessary adjustments.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Promote a Circular culture internally (11)

Foster a culture of sustainability within your organization. Educate employees about the importance of circular practices and encourage innovation in this area.



Photo source: AI generated

Circular Business Models

HOW TO TRANSFER FROM LINEAR TO CIRCULAR BUSINESS MODEL

Collaborate and build partnerships (12)

Engage in partnerships with other companies, governmental bodies, and NGOs to expand the reach and effectiveness of your circular initiatives.



Photo source: AI generated

Task

Circular Business Model Innovation Challenge

Circular Business Model Innovation Challenge

1. **Divide** into small teams (3-4 people each).
2. **Use** the circular business model principles to rethink the assigned scenario.
3. **Present** circular business model solution, explaining how it addresses the principles of the circular economy.
4. **Discuss** how these circular business model innovations can be applied in real-world contexts to drive sustainability and economic value.

Summary

Challenges and Considerations

- Upfront Investment and Cost
- Consumer Acceptance and Behavior
- Supply Chain Complexity
- Regulatory and Policy Barriers
- Technical Challenges
- Market Demand for Recycled Materials
- Design Considerations
- Intellectual Property and Data Security
- Logistics and Infrastructure
- Cultural and Organizational Change



Photo source: AI generated

Summary

Opportunities

- Innovation in Product Design and Development
- Creation of New Business Models and Revenue Streams
- Cost Reduction and Efficiency Gains
- Competitive Advantage
- Access to New Markets and Customer Segments
- Regulatory Compliance and Leadership
- Enhanced Supply Chain Sustainability
- Social and Environmental Impact
- Attracting Investment
- Building Resilience



Photo source: AI generated

Summary

Conclusion – The Future is Circular

- Emphasize the importance of transitioning to circular business models for sustainable development.
- Encourage the audience to consider how businesses can innovate and transform to contribute to a more sustainable and economically viable future.



Questions and discussion