

THE WAY TO CIRCULARITY

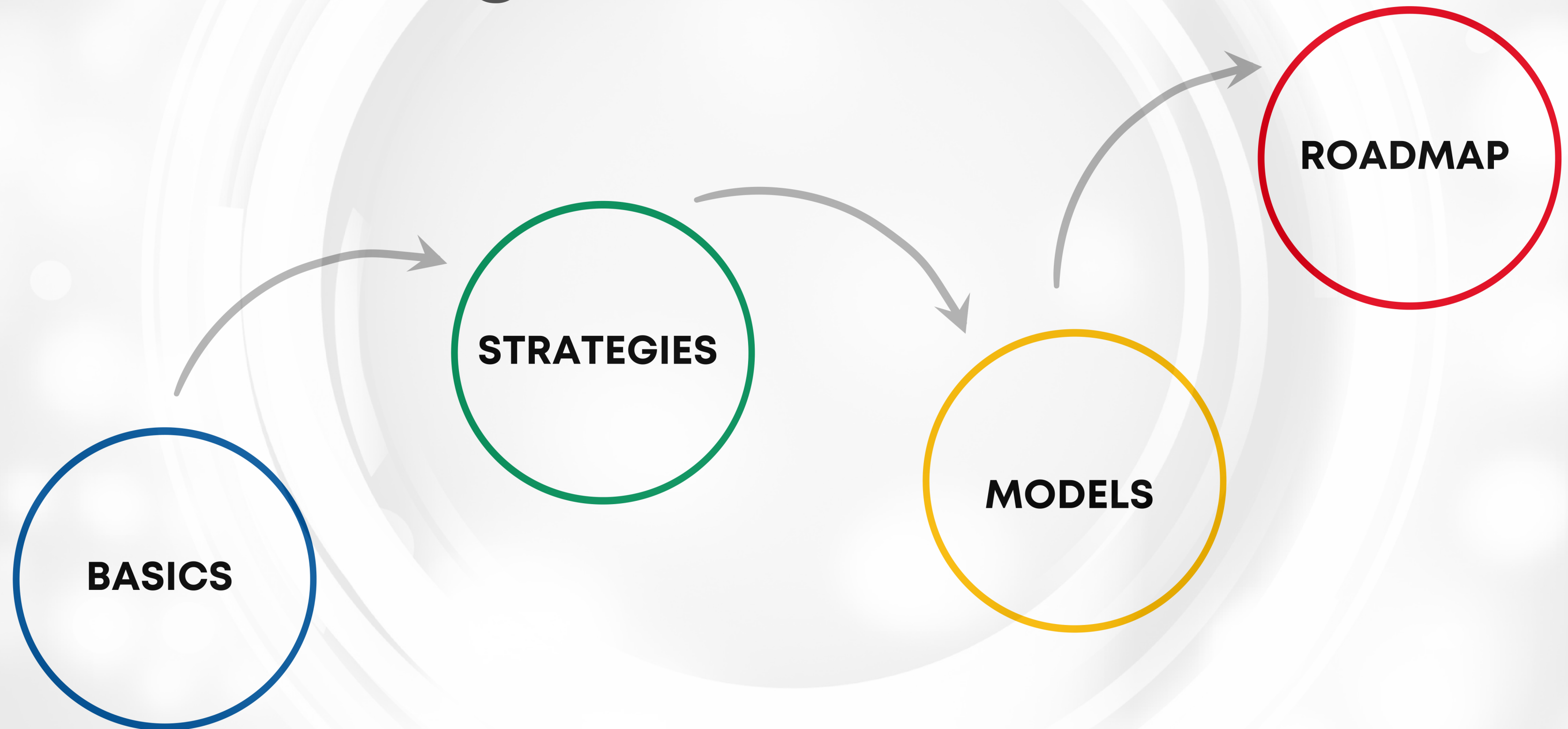
Basics | Strategies | Models | Roadmap

„Humanity has the ability to make development sustainable — to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.“

Definition Sustainability:

World Council on Environment and Development | Brundtland Report | 1987

Circular Agenda



Circular Basics

Circular Economy Definition

A circular economy decouples economic activity from the consumption of finite **resources**. It is a resilient system that is good for **business, people and the environment**. The circular economy is a systems solution framework that tackles global challenges like **climate change**, biodiversity loss, waste, and pollution (Defined by Ellen MacArthur Foundation).

FOCUS RESOURCES

- 70 % resources were consumed in 2021 than the Earth can safely refill.
- Linear business models offer few opportunities to stop consumption of resources and bring materials used into cycles.
- Circular Economy is the economic model of the future.

FOCUS PRODUCT CARBON FOOTPRINT

- Circular Economy uses different strategies such as reduce, reuse and recycle, which together eliminate waste, reduce material and resource consumption and reduce greenhouse gas emissions.
- The measurability of the product carbon footprint is important for the sustainability of the circular activities.

FOCUS SUSTAINABLE MANAGEMENT

- For companies, Circular Economy means acting sustainably in accordance with economic, ecological and social goals.
- The basis is a living and measurable Corporate Social Responsibility (CSR).
- The fixed sustainability goals are further defined with a focus on the circular business development (Circular Horizon).

FOCUS TRANSFORMATION

- Alignment with circular business models only succeeds with knowledge of the required elements.
- In addition to the knowledge of the circular strategies and models, a mindshift process in the company is essential.
- Servitization describes this path from product orientation to service thinking and forms the basis for building successful circular business models.

Circular Strategies

R-Strategies and Closing Loops

The **9R-framework** is an environmentally preferred hierarchical approach for closing product loops. The tighter the loop (lower R), the lesser external inputs are needed to close it, and the more circular the strategy. The longer the loop (higher R), the less circular it is.

Circular economy	Strategies	
Smarter product use and manufacture	R0 Refuse	Make product redundant by abandoning its function or by offering the same function with a radically different product
	R1 Rethink	Make product use more intensive (e.g. by sharing product)
	R2 Reduce	Increase efficiency in product manufacture or use by consuming fewer natural resources and materials
Extend lifespan of product and its parts	R3 Reuse	Reuse by another consumer of discarded product which is still in good condition and fulfils its original function
	R4 Repair	Repair and maintenance of defective product so it can be used with its original function
	R5 Refurbish	Restore an old product and bring it up to date
	R6 Remanufacture	Use parts of discarded product in a new product with the same function
	R7 Repurpose	Use discarded product or its parts in a new product with a different function
Useful application of materials	R8 Recycle	Process materials to obtain the same (high grade) or lower (low grade) quality
	R9 Recover	Incineration of material with energy recovery
Linear economy		

SHORT LOOPS

R0 – R2: They eliminate the waste as the design stage itself through strategies like smart manufacturing, designing for disassembly and digital product passports.

MEDIUM LOOPS

R3 – R7: These are applied to extend the lifespan of products and their parts. Although the recovered products may not be compatible with the new technology and market standards - repairing, refurbishing, or remanufacturing can elongate the reusing of products (parts) and their lifespan.

LONG LOOPS

R8 – R9: Compared to other R-strategies, these do not maintain the original structure or value of the products.

Circular Models

Model Options - Circulation & Business

The understanding of R-strategies is necessary to develop a circular model. The role of design thinking, the importance of circular product requirements, the availability of digital product information and the selection of the right circular business model will determine the economic success of the company.

CIRCULATION MODELS

Lead position - Design

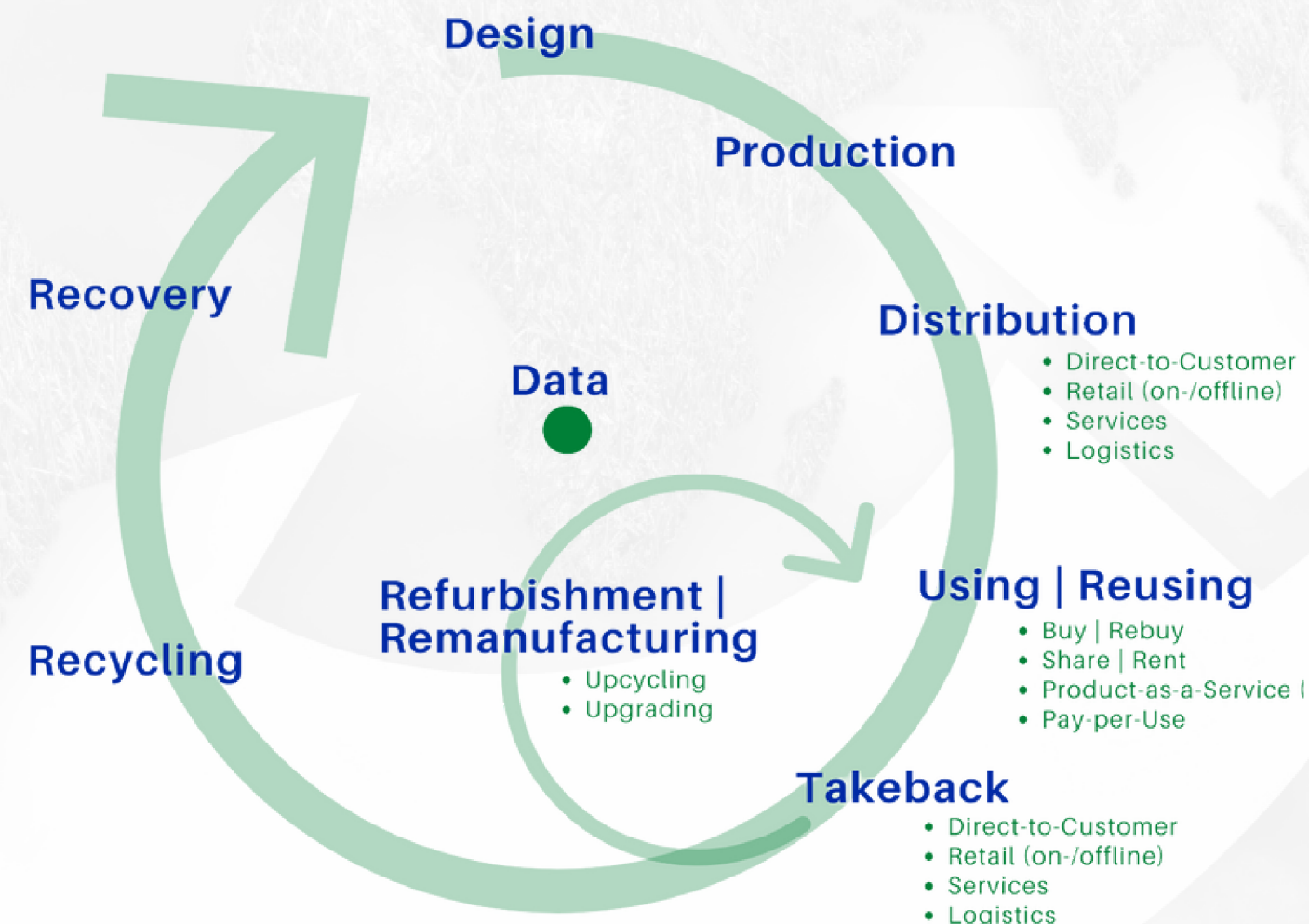
- It all starts with design. For the development of corporate philosophies and business models. For the development of products.

Circular basic criteria

- Durability
- Modularity
- Repairability

Data - Form Circle to net

- Data exchange is required between the elements and all participants in the cycle. The digital product passport (DPP) will be of great importance for data transparency.



Source: Circulation Model Furniture + DPP, lab of rent

BUSINESS MODELS

Be a Gamechanger

- From driven to driver - the new position
- Less is more - the better value approach
- Competitive advantage & stability factor

Be a Decisionmaker

- From selling to using - the new role of products
- Role models: Rent | Product-as-a-Service | Pay-per-Use
- Hybrid as a start-up scenario

Be a Pioneer

- "Grandchildren-capable" business model
- Innovation as USP

Circular Roadmap

From Linear To Circular

The roadmap shows the starting points for an orientation of a lived, transparent sustainability via the implementation of the complex transformation process up to the circular design of a company's business model

Sustainability

Development of sustainability strategy

Sustainability basics

- SDG's UN | DNS Germany 2021
- Three-pillar concept CSR
- Definition of Sustainability
- Sustainable Goals
- Net Zero Strategy

Sustainability strategy

- Introduction & definition {Overview}
- Types and components
- Procedure | Milestones & Timeline

Map of Sustainability

- Regulations (e.g. Green Deal EU | Right to Repair | SPI | DPP)
- Measurability & Reporting (e.g. CSRD Sustainability Report)

Transformation

Implementation Mindshift Process

Change Management

- Focus Corporate Social Responsibility (CSR)
- Focus USP Innovation - „Service First“
- Focus Thought Leadership

Service Design

- Focus Customer Journey - "how i met my customers need"

Servitization

- Focus on service philosophy and service strategy
 - Service diversity & quality
 - Service model & level
 - Service dynamics

Circularity

Building a circular business model

Circularity basics

- Objectives | Mechanisms & requirements
- Importance & identification of R-strategies
- Design & structure of circulation models
- Target definition "Circular Horizon"

Circular Business Models

- Types and specifics
- Cooperation & coopetition (stakeholder map)
- Conception of product & service criteria
- Rollout scenarios

Map of circularity

- Regulations (e.g. EU Circular Economy Action Plan | CEID)
- Measurability & Reporting (e.g. CSRD Sustainability Report)