

WHITE PAPER
SUMMARY

Learning from CIRCO

Written by
Jeroen Hinfelaar

*With contributions from
22 CIRCO co-creators
and reflections from the
scientific community*

September 2023

CIRCO is a multi-year programme contributing to the transition towards a circular economy. CIRCO operates from the conviction that this transition can only take shape bottom-up.

(How) can one accelerate this bottom-up development? How do you motivate a large number of parties to adjust their ways of thinking and actually start working (together) differently?

CIRCO employs a design-driven approach, which has proven effective. What does this approach look like, and to what extent can it be used to accelerate other transitions? A description *and* exploration.



CIRCO

MANAGEMENT SUMMARY

CIRCO catalyses the transition to a Circular Economy

CIRCO is a multi-year programme of TKI CLICKNL. Its goal is to catalyse the transition to a Circular Economy through the application of Circular Design. CIRCO was initiated in 2015, is a part of the National Circular Economy programme (NPCE), and is funded by the Ministry of Infrastructure and Water Management (I&WM), among others.

CIRCO works from the belief that the Circular Economy will grow bottom-up and that knowledge and application of circular design principles are crucial in this process. To this end, CIRCO has developed an action-oriented methodology for its target groups, (manufacturing) companies and designers. This methodology provides them with a new conceptual framework and circular design principles, offering a concrete action plan. The objective is to entice and empower them to design, do business and collaborate circularly going forward.

To reach and mobilise as many businesses and designers as possible, CIRCO has developed an ecosystem of dozens of partners. CIRCO is active both in the Netherlands and internationally in sectors such as manufacturing, plastics, construction, and consumer goods.

In the period up to and including 2022, more than 1,300 companies have been mobilised and trained in the Netherlands. Research by Technopolis and TNO (2019) shows that two-thirds of the companies participating in CIRCO actually start with circular design and entrepreneurship, and another quarter say they intend to do so. Thus, step by step, new circular products, services and business models emerge. And circular value chains. The circular economy grows, bottom-up.

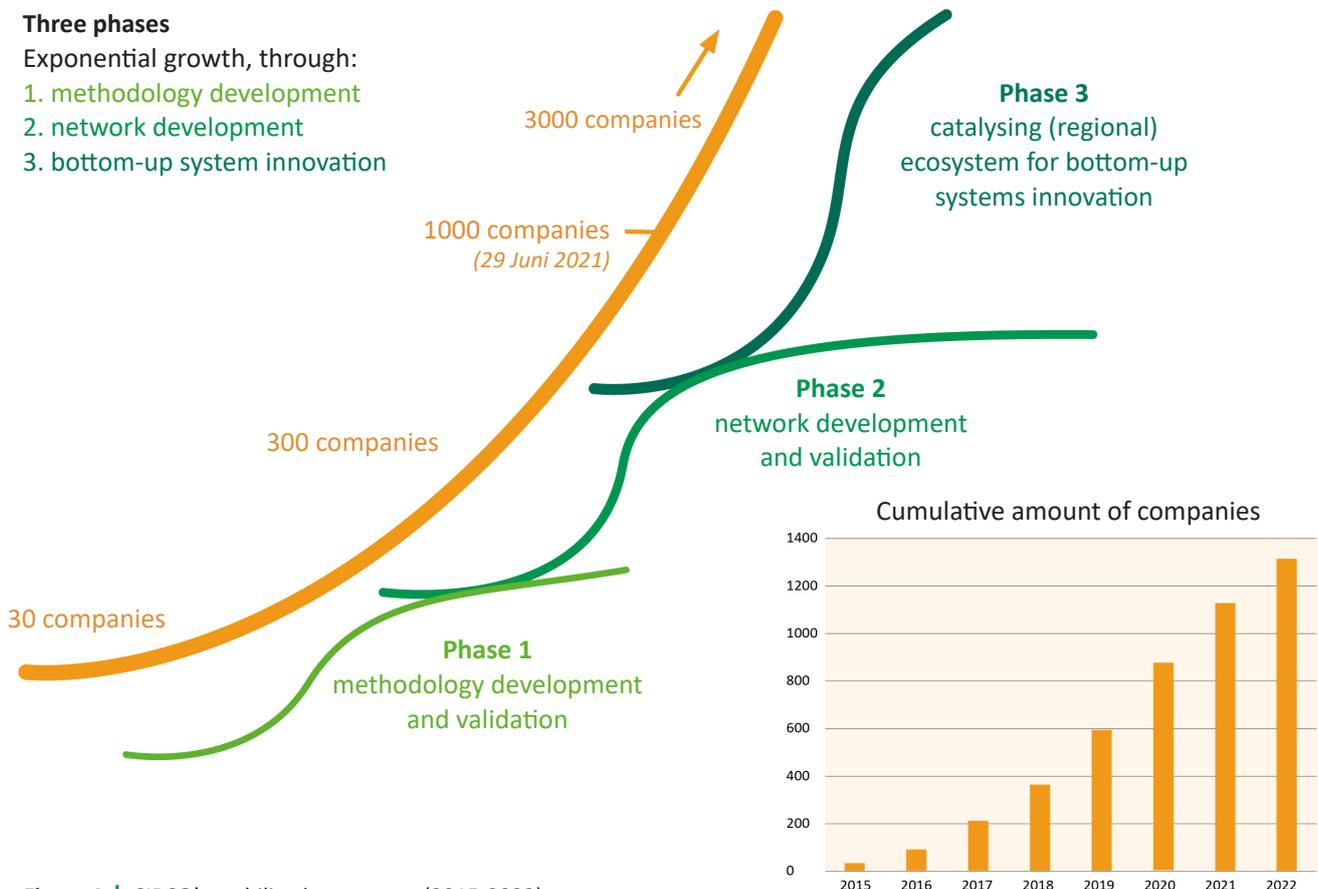


Figure A | CIRCO's mobilisation strategy (2015-2022):
three phases, exponentially growing number of participating companies.

Various parties see CIRCO as a successful programme that actually contributes to accelerating the intended transition to the Circular Economy. The fact that CIRCO won the Dutch final of the European Enterprise Promotion Award in the ‘Sustainability’ category in August 2023 and has subsequently reached the European final reaffirms this perception.

Three phases, ten elements

There is a presumption that the approach developed within CIRCO is (partially) reusable to initiate and catalyse other transitions. For this reason, the developed and proven CIRCO approach has now been analysed and described retrospectively. Over twenty CIRCO experts have contributed to this. The essence of the analysis is that the CIRCO approach (in hindsight) can be described based on three phases and ten elements. See Figure B.

THREE PHASES	TEN ELEMENTS
Phase 1: methodology development and validation	 1. divers core team, enterprising, designing
	 2. big ambition, exponential growth curve
	 3. transformative, action-oriented methodology
Phase 2: network development and validation	 4. dynamic network of networking organisations and trainers
	 5. the future generation: students (and teachers)
	 6. digital technology, co-creation and e-learning
Phase 3: catalysing ecosystem for bottom-up system innovation	 7. (inter)national network of regional hubs + embedding
	 8. shared knowledge platform
	 9. connecting micro-meso-macro via learning loop
	 10. funding: decentralised where possible, centralised where necessary

Figure B | Essence of the CIRCO approach: three phases, ten elements

PHASE 1

Methodology development and validation, three elements



ELEMENT 1

Diverse core team, entrepreneurial and design-driven culture

CIRCO was developed from a compact core team consisting of young, senior, and various disciplines and competencies. Everyone is characterised by their entrepreneurial attitude. This means: entrepreneurial spirit, thinking in opportunities, eager to learn by doing, and consistently focused on target groups and collaboration. This attitude proves to be of great importance in every phase.



ELEMENT 2

High ambition, exponential growth curve

CIRCO has chosen an ambitious goal: to ultimately mobilise 4,000 companies through an exponential development, namely an annual doubling of the number of participating companies. The way to achieve the goal is not yet clear at the start. This 'man on the moon'-like tension makes the programme particularly appealing to entrepreneurial individuals.



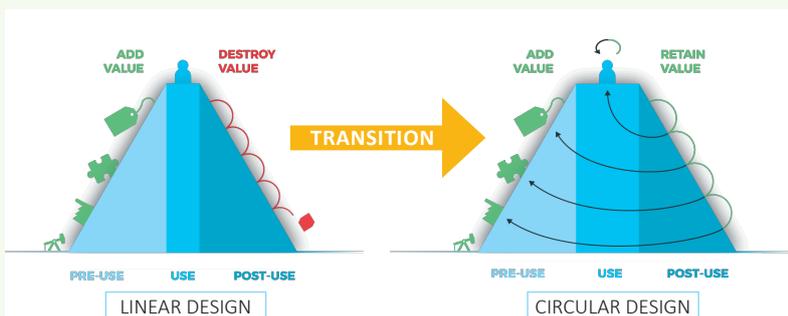
ELEMENT 3

Een transformatieve, actiegerichte methodiek

In collaboration with others, CIRCO develops a three-day workshop programme for groups of companies: the CIRCO Track. In a Track, companies systematically work with a circular design process. Crucial to the approach is creating new design space by challenging participants to look differently at the reality they take for granted. For this purpose, CIRCO, together with others, has created its own model: the Value Hill Model (see box). With the Track's programme, the macro-goal (circular economy) is translated into a concrete action framework for companies and designers. Every CIRCO participant develops a first circular proposition (composed of product, service, and business model) and a roadmap to actually realise it.

Broadening the perspective: Value Hill Model

The Value Hill model, a core component of the CIRCO methodology, provides companies with a new conceptual framework and opens up new design space. The model starts with the current reality (the existing value chain on the left slope) and demonstrates (on the right slope) that a lot of value is lost when products are thrown away after use (destroying value). Thought-provoking questions assist in gaining a new perspective: who profits from your product after you've sold it, and why aren't you the one profiting? Why does the customer stop using your product? The right slope in a circular design setting reveals numerous opportunities to retain the value of products longer (from repair, reuse, refurbish, and remanufacture to recycling). Armed with these insights, participants can take the next step and develop a tangible concept for a newly designed circular product, service, and/or business model.



“The Value Hill model opens new space in the mind: you see things differently. And space in the mind is a seed for a transition.”

Marien Korthorst, CIRCO-trainer

PHASE 2

Network development and validation, three elements



ELEMENT 4

Dynamic network of networking organisations and trainers

One of the biggest challenges surrounding a transition is to involve an increasing amount of people. For CIRCO too, the autonomous demand from companies for circular design knowledge is not yet there. In Phase 2, CIRCO recruits participants for the Tracks through networks (of other national programmes and industry organisations): by offering CIRCO mini-workshops and creating new Tracks for new target groups. The result: the first few hundred participants. A group of CIRCO trainers is being trained and certified.



ELEMENT 5

The future generation: students (and their teachers)

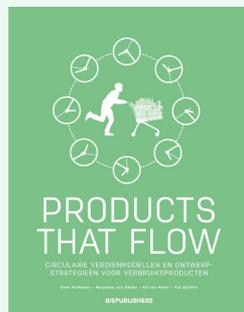
Collaboration with educational institutions, especially universities of applied sciences, ensures that students are introduced to new frameworks and design principles at an early stage. In the case of CIRCO, these are circular design principles. Teachers can use a specially developed Curriculum Kit for Circular Design in their classes. CIRCO is training teachers with the CIRCO Teacher Class.



ELEMENT 6

Digital version of the methodology, for co-creation and e-learning

The introduction of e-learning tools makes the transfer of knowledge more accessible and also more flexible for participants. Since the end of 2020, CIRCO has been offering a blended version of the CIRCO Track methodology: 50% of the Track now takes place in the participants' own time, via self-service modules. Participants receive tailored content, they can repeat modules or follow in-depth modules. Trainers can easily monitor participants and provide targeted advice. The lower costs associated with the digital version of the programme is important for further scaling up.



The books *Products that Last* (by Conny Bakker and Marcel den Hollander, among others) and *Products that Flow* (by Siem Haffmans and Marjolein van Gelder a.o.) provide archetypes of circular business models and design strategies within the methodology (element 3).

PHASE 3

Catalysing ecosystem for bottom-up system innovation, four elements

A circular economy grows bottom-up: a catalysing ecosystem can accelerate this growth process. CIRCO developed such an ecosystem to achieve this ambitious goal both quantitatively and qualitatively.



ELEMENT 7

(International) network of regional hubs, regional integration

Spreading new frameworks and design principles requires the organisation of larger execution capacity. CIRCO does this by setting up regional CIRCO hubs, under the assumption that a regional approach will lead to the activation of more companies. Additionally, each hub maintains relationships with stakeholders in the region, such as the provinces, regional development agencies, municipalities, universities of applied sciences, and regional branches of national trade associations. From this regional infrastructure, companies are often also supported in follow-up actions after participating in the CIRCO Track. This frequently leads to the creation of new circular value chains. The CIRCO hub concept is also being implemented internationally.



ELEMENT 8

Shared knowledge platform

Setting up a knowledge platform that is developed in co-creation with the target group, facilitates the pooling and broad dissemination of substantive knowledge. The CIRCONNECT platform, initiated by a diverse group of partners, plays a pivotal, connecting role in accumulating and spreading knowledge about circular design. The platform builds deep relationships between knowledge and application partners.



ELEMENT 9

Connecting micro-meso-macro, closing the 'learning loop'

A closed 'learning loop' ensures the most optimal progression possible for a transition. Parties involved in a transition primarily learn from each other when all layers (micro/meso/macro) are effectively interconnected. Within CIRCO, the core team (meso) was positioned to make connections and provide policymakers (macro) with insights from businesses (micro), and vice versa: informing companies about upcoming policies.



ELEMENT 10

Smart funding: decentralise where possible, centralise where necessary

Funding flows aimed at driving transitions shift over time from a centralised to a decentralised level. For CIRCO, the programme's initial funding comes entirely from the Ministry of Infrastructure and Water Management. Later, decentralised activities and their associated costs are also financed at the local level by various entities, including provinces, municipalities, and Rabobank. This trend aligns closely with the 'sense of ownership' of the transition. Participating businesses invest €1,000 per company for two participants in a Track.

CIRCO's impact

In October 2019 (during phase 2), research firms Technopolis and TNO examined CIRCO's impact. Two-thirds of respondents indicated that they had actually started working on a circularly designed proposition (product, service, business model) after participating in CIRCO. Another quarter of the respondents plan to do so. (research by Technopolis and TNO, 2019).

By mid-2023, all the infrastructure is in place to achieve CIRCO's intended objective in the coming years. An important precondition for this is that more directive government measures are developed and deployed for the transition.

Analysis of the CIRCO approach and estimation of reusability

An analysis of the CIRCO approach, through the lens of the Six-aspect model from KIA MV (Knowledge and Innovation Agenda for Social Earning Capacity) and the DRIFT X-curve model, shows that the CIRCO approach fits well with existing transition theory and builds on many of its aspects. A point of attention is that CIRCO, given its strong meso position between government and companies, could have taken the initiative earlier to (try to) influence circular policymaking. With such influence, the conditions needed to accelerate the circular transition (for example through standardisation, pricing and/or incentives) might become more favourable more quickly.

An initial exploration of the possible reusability of the CIRCO approach for other transitions paints an encouraging picture: this could well be the case, provided the respective 'other transition' has certain specific characteristics and a number of preconditions apply. But the proof of the pudding is in the eating. The reader is cordially invited to consider for her/himself whether and to what extent the CIRCO approach can also be useful for catalysing intended transitions in their own field of expertise.

In conclusion

Dear reader, I hope you can use the knowledge about (the development of) the CIRCO approach and its ecosystem to catalyze other transitions. The full version of the white paper (62 pages) can be found via this link: <https://tinyurl.com/2pxkpx6c>. If you feel the need for a sparring session, further explanation or interactive presentation based on this document, please let us know. Together we learn faster. Enjoy reading!

Jeroen Hinfelaar

Systems innovation catalyst

from 2015 - April 2022 CIRCO Programme Manager NL

www.jeroenhinfelaar.nl

info@jeroenhinfelaar.nl

WHITE PAPER
SUMMARY

Learning from CIRCO



CIRCO