

Lessons Learned Over 4 Years of Boosting Swiss Circular Economy

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**APPLIED
CIRCULAR
SUSTAINABILITY**



Quotes Across the 4 Years

„This challenge showed me that you can achieve more with combined forces and different skills than you would expect from two days.

The format of this challenge with this crew really impressed me: the open communication, mutual support and shared ambition made for a motivating and productive environment.“

Stephan Muntwyler, CEO Gabs

„In our programme, we are looking for ideas that are not just attractive for one company, but ideas that can change an entire industry, entire sectors.

In the circular economy, it is extremely important that material cycles can be certified and monitored in a traceable manner.“

Adrian Burri, Leading House Innovation Booster IB ACS

„We were very focused on the topic of mobility, goods mobility. Now we have learnt from the participants, who come from different areas, that there is much more to it, such a multi-use of a vehicle. We didn't have that on our horizon before.

We would never have had the time or the people to develop such ideas. In this respect, I have learnt a lot and gained many new ideas and inspiration.“

Björn Lindner, Head of Innovation Planzer Transport

„It's incredibly great to see what different people and what different skills are gathered around a table like this - and this simply gives rise to completely new, exciting ideas that you wouldn't have thought of on your own.“

Isabelle Metzler, Responsible Communication Location Promotion Kanton Zürich

„The Innovation Booster helped us to get in touch with other Swiss textile companies that had the same vision as us and that's how we came into contact with Säntis Textiles and Neumühle. Above all, the exchange with the experts helped us enormously to sharpen our value proposition and define our next milestones in order to use our technology in a circular context.“

Johanna Kallfelz, Project Manager Haelixa



Content

- 1 About the IB ACS
- 2 Abstract
- 3 Funding Formats
- 4 Founded Teams: Sector Overview
- 6 Insights into Overcoming Key Hurdles
- 7 Hurdles & Hypotheses



Consortium

About the IB ACS Expertise from Four Areas

The program supported Swiss startups and established companies with funding and through the transfer of knowledge, supporting them to transform their systems and our society from a linear to circular economy.

Circular Economy

Our society and industry are facing a variety of challenges such as the climate and resource crises. The transformation from a linear economy to a circular economy is one possible answer to these crises. The circular economy is listed in the sustainable development goals and the EU's circular economy action plan, among others. We have launched our Booster to initiate and drive forward the transformation in Switzerland.

Consortium

The IB ACS consists of a strong consortium of experts from the four following areas:

- Life Cycle Assessment
- Material Science
- Business Modelling
- Product and Process Development.

In comparison to other funding instruments, our booster has focussed on providing concrete technical support to participants in all areas relevant to the transformation.



Abstract

From 2021 to 2024 the Innosuisse Innovation Booster «Applied Circular Sustainability» has been promoting the implementation of 100% circular concepts and solutions in Switzerland. Over 50 Swiss startups and established companies have been funded and supported on their way from linear to circular business.

The participating teams and the Booster's Consortium are looking back at quite some Lessons Learned, over the course of these four years. Through more than 30 workshops with 50 circular pioneers, 10 major hurdles in achieving circularity were identified, spanning regulatory frameworks, material innovation, business models, and more.

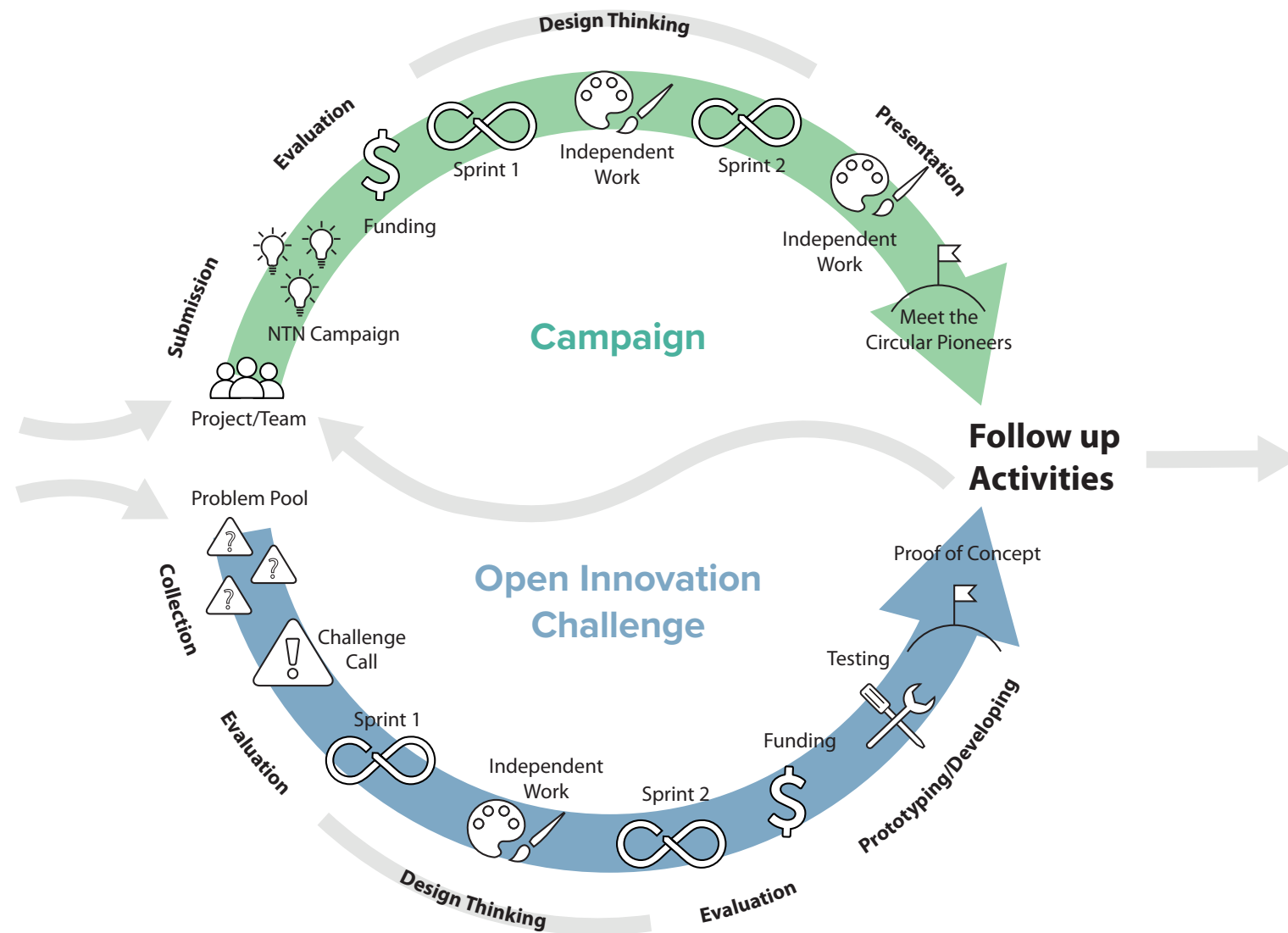
The Booster's Consortium believes those hurdles are crucial when it comes to not only conceiving circular economy, but realising it. Some of them will hopefully enlighten you, some might surprise you, and some you might find simple, even trivial at first glance. In hindsight, many learnings are obvious, the hard part is implementing them consistently - this is particularly true for circularity.

Below the Consortium would like to introduce each lesson with its hurdle, meaning the very challenges and motivation for such.

Then, by a few examples we want to provide vivid insights into how each hurdle was faced within the Booster's «Campaigns» and «Challenges». Finally, for each hurdle the Consortium noted a hypothesis, providing recommendations to be shared - beyond the diaspora of the Innovation Booster «Applied Circular Sustainability».

We hope our Lessons Learned will provide useful insights, for all of us today, and for future circular enthusiasts, to realize the shift from linear to circular in Swiss economies, policies and societies.

The Consortium would like to address its deep gratitude to all participants and everyone involved, foremost for the open innovation attitude that makes these Lessons Learned possible.



Programm Workflow

Funding Formats: Campaign & Open Innovation Challenge

The program promoted the implementation of 100% circular concepts in Switzerland. The Innovation Booster worked with an adapted Design Thinking methodology. There were two formats, the Circular Campaigns and the Open Innovation Challenges. The aim was to find and work on radically innovative ideas in the field of the circular economy. Following the Open Innovation methodology, all the findings are available to the wider audience.

Circular Campaign

The Circular Campaign supports startups and established companies with a circular idea in a two days workshop. This format connects the companies with a panel of experts from the following four fields of expertise:

- Life Cycle Assessment
- Material Science
- Business Modelling
- Product- and Process Development

These sprints served to illuminate the various aspects of the circular economy and helped them to develop their ideas, taking all perspectives into consideration: products and services with circular business models, which have 100% closed biological and technical material cycles and are in line with the cradle-to cradle principle.

Open Innovation Challenges

The Open Innovation Challenges on the other hand, is based on the identification of an overarching problem. In workshops, relevant stakeholders who are affected by the problem and are part of the value chain are brought together. Thanks to design thinking tools, the problems were analysed and vision statements were developed. New teams were formed and the development of new ideas was supported.

Funded Teams: Sector Overview

Which sectors do the participants come from?



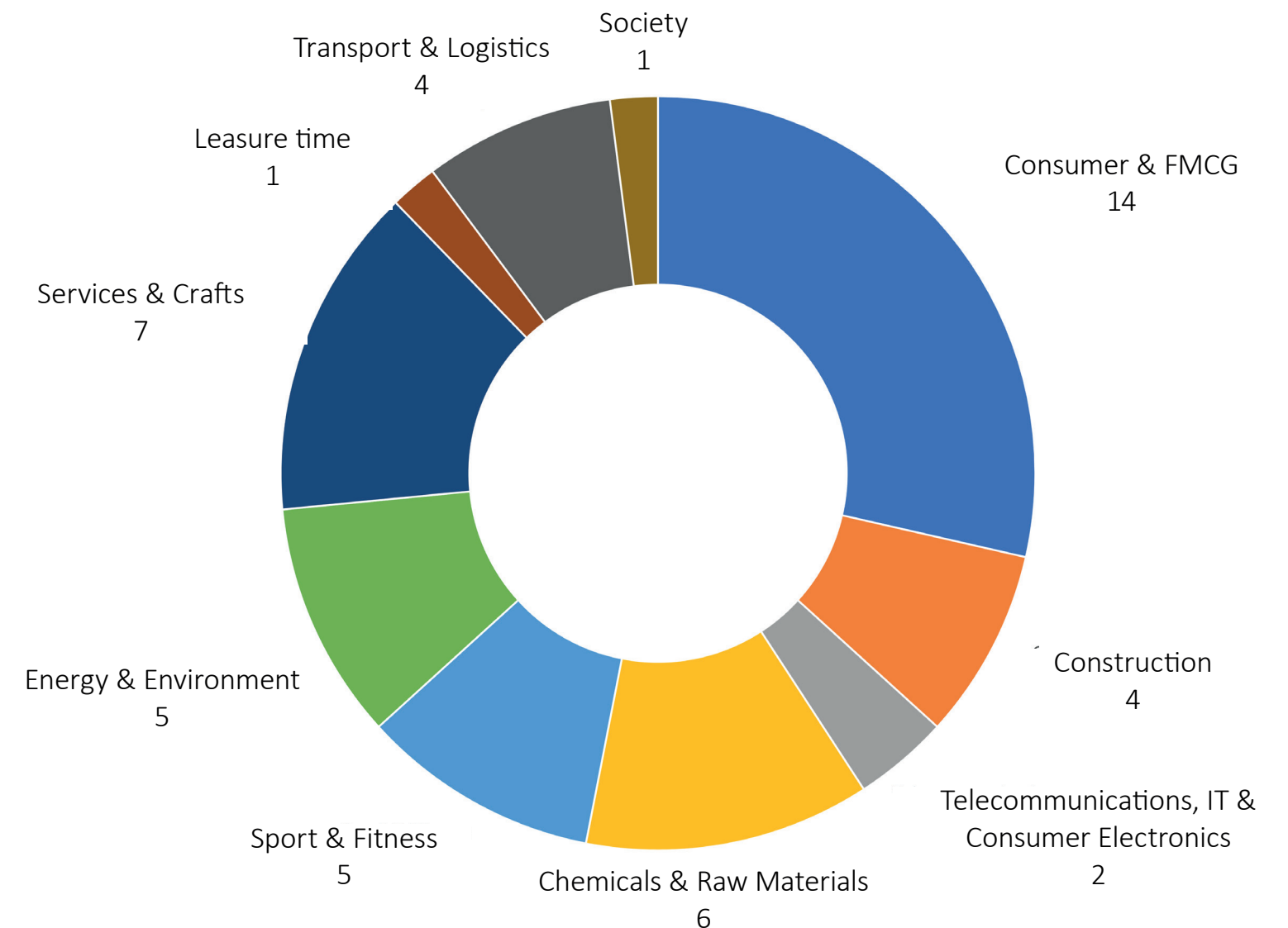
The Innovation Booster Applied Circular Sustainability has funded over 50 different ideas in the last four years. The diagram on the right-hand side shows the number of grants in relation to the following sectors:

- Society
- Consumer & Fast-Moving-Consumer-Goods
- Construction
- Telecommunications
- IT & Consumer Electronics
- Chemicals & Raw Materials
- Sport & Fitness
- Energy & Environment
- Services & Crafts
- Leisure time
- Transport & Logistics

The Consumer & FMCG sector accounts for the largest share of funding with 14 projects. This is followed in second and third place by funding in the Services & Crafts (7) and Chemicals & Raw Materials (6) sectors. In addition to these three, there were a further 7 industry sectors that received funding.

The result clearly shows the relevance of our topic, as all parts of society are confronted with challenges that need to be solved together.

Number of Projects by Sector



sectors as suggested by Statista

Funded Teams: Needs

What overarched hurdles have been identified?



In order to categorise the needs of the applicants, these first had to be described in the application. The subsequent discussions with the experts made it possible to identify further needs.

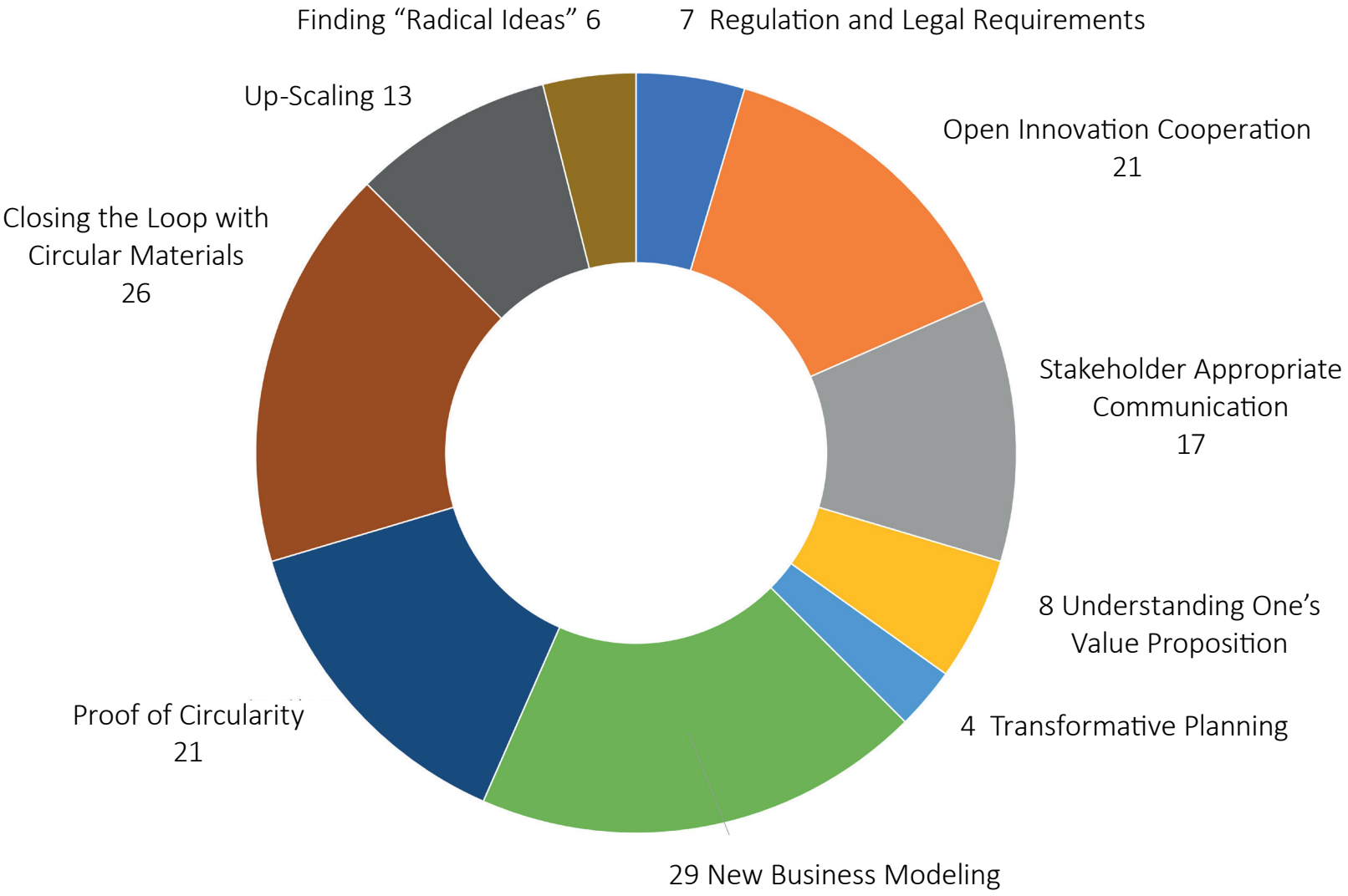
In many cases, as yet unknown challenges were assigned that were not yet present to the grantees and which redefined the focus of the work.

The graphic shows 10 hurdles that the teams had to deal with. In many cases, their own challenges are a combination of different hurdles.

The greatest need for support in recent years has been in circular business modeling. Established companies in particular continue to face major challenges when switching from a linear to a circular economy. Start-ups that are being founded from scratch seem to have it easier here.

The individual hurdles are analysed in more detail in the following pages.

Number of Projects by Hurdle



10 Hurdles of Applied Circular Sustainability



Insights into Overcoming Key Hurdles to Circular Economy

This brochure takes you on a captivating journey of transforming Switzerland’s economy from linear to circular, guided by the IB Applied Circular Sustainability Booster. Through 31 pivotal events, we identified 10 major hurdles to achieving radical circularity, spanning regulatory frameworks, material innovation, business models, and more.

How was this approached?

By empowering startups and established businesses, the Booster fostered ground-breaking ideas and practical solutions, offering invaluable lessons from real-world case studies and cross-industry collaboration. Academics, policymakers, and practitioners alike will find this resource a comprehensive guide to understanding the complexities of circular transformation and drawing inspiration from innovative approaches that pave the way for a sustainable future.

10 Hurdles

- 1 Regulations and Legal Requirements
- 2 Open Innovation Cooperation
- 3 Stakeholder Appropriate Communication
- 4 Understanding One’s Value Proposition
- 5 Transformative Planning
- 6 New Business Modeling
- 7 Proof of Circularity
- 8 Closing the Loop with Circular Materials
- 9 Up-Scaling
- 10 Finding „Radical Ideas“

Regulations and Legal Requirements

Individual companies have barely influence on a change in legislation that encourage innovative solutions for circular economy.

Today's legislation frameworks are still reflecting the linear economy, e.g. by the definitions of waste and how it must be treated. They prevent innovative solutions for the circular economy, e.g. by requiring some products to be incinerated after use instead of offering a path to recycling. Such aspects are laid down both in overarching legislation and in specific regulations. Changes to these are very time-consuming, political processes, which individual companies can hardly initiate.



Milani & Nucan



„A change in regulation is necessary to enable the recycling of contaminated medical devices and to encourage the reuse of recycled materials in medical devices.“

Robert Matovinovic, EPEA-Switzerland



technology (clinics) must be taken into account. Thus it is not only the medical device which is sold, but the user experience over all process participants involved.

Nucan

Today aluminium aerosol cans cannot be used for recycling and there is no established take-back system for them. This shall be overcome by establishing a simple take-back system and a recycling process, which handles the cans and their contents appropriately.

Under current legislation aerosol cans which contain for example hairspray and deodorants are hazardous materials regardless of their filling state, because of the propellants and the liquid products the cans contain. There is also no consistent information about the return of aerosol cans, which results in a lot of them being discharged in the municipal waste.



Milani

Medical device legislation encourages single-use products in terms of contamination. Contaminated single-use products cannot be recycled under current waste legislation. The regulatory approval of recycled materials is more complex, as their quality and composition must be ensured.

A whitepaper shall provide potential circular solutions as an alternative to the current use of disposables in hospitals, with their negative climate and resource impacts.

Contribution Innovation Booster

Regulatory changes require sector wide initiatives. In order to reintroduce reusable medical devices or medical devices made of recycled material, the processes of the major end customers of medical

Contribution Innovation Booster

Direct contact established with the Swiss Recycle association so that the issue can be tackled with combined forces.

Hypothesis 1

„Legislation should enable and encourage the recycling of all products, regardless of the technology used, as long as it is ensured that the collection and recycling processes are safe and the recycled materials are of high quality. “



Hurdle 2

Open Innovation Cooperation

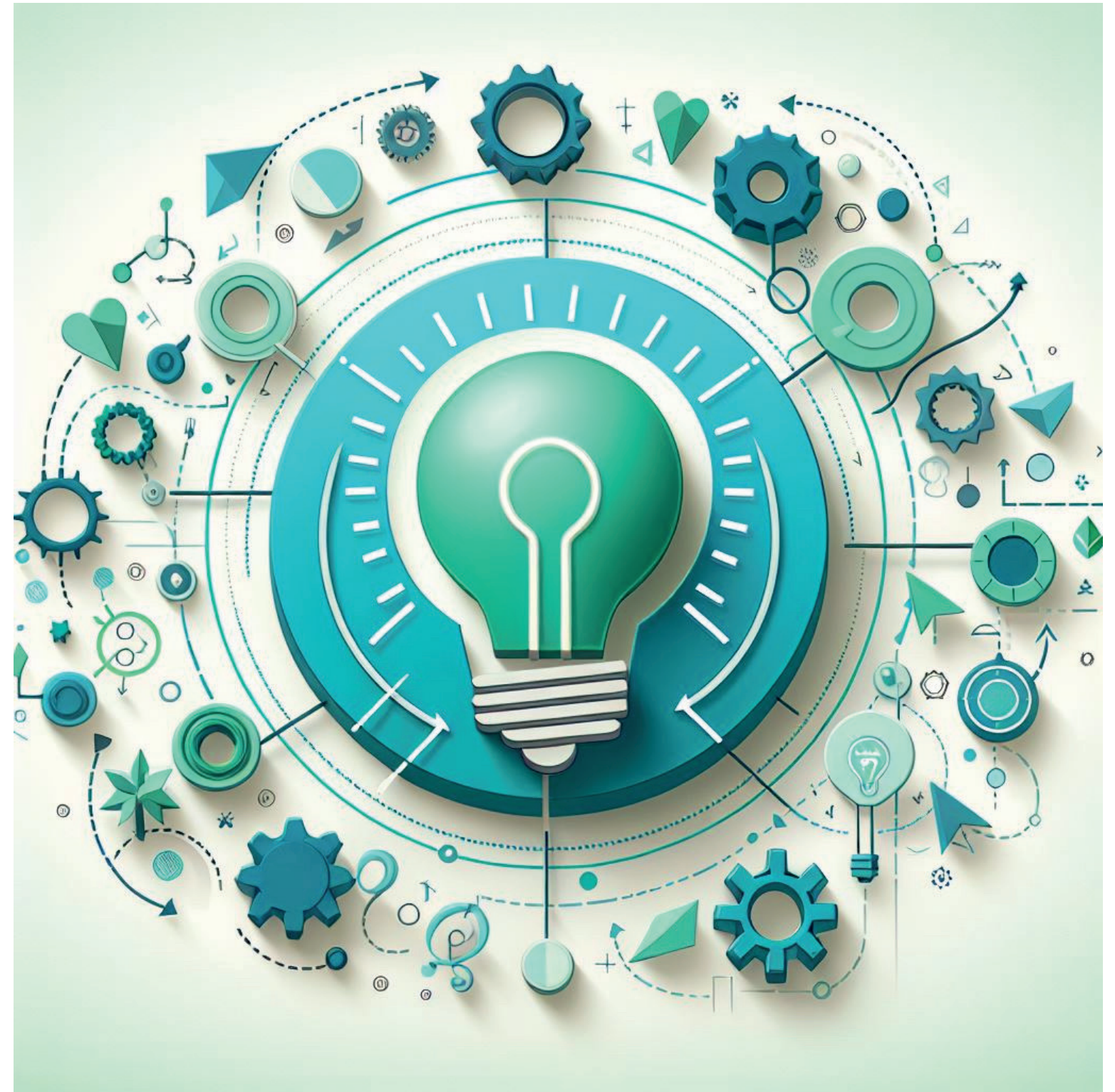
Circular economy requires the involvement of all stakeholders.

Stakeholders change their role from supplier or customer to partner in a collaborative solution.

Cooperation with the (former) competitor strengthens the implementation of the circular solution.

The openness to want to change, to tackle problems at their core and to break down boundaries is an important basic characteristic when it comes to realising the circular economy.

No company can overcome the complexity of the circular economy on its own, whether a large corporation, SME or start-up. Circular economy changes the economy, the behaviour of users and an entire ecosystem.



Vertical greening & Go Circular in Life Science



„The Open Innovation Challenge was the initial spark for the funding of a cross-company association in the medtech sector.“

Adrian Burri, Leading House IB ACS



Go Circular in Life Science

Market-leading medical technology companies struggle to solve circular businesses on their own, due to a variety of complex challenges.

Contribution Innovation Booster

The Innovation Booster organised an Open Innovation Challenge with more than 20 companies from the medical technology sector. Together they explored material selection, logistics, recycling and the approval of secondary materials in the medical industry. The challenge resulted in the creation of the „Go Circular in Life Science“ alliance and a pilot project to demonstrate the traceability of medical devices.

<https://www.gocircularinlifescience.com/>



Vertical greening

The greening of cities, especially built walls, would sustainably improve the urban climate in many respects. However, a lack of knowledge, experience and concerns on the part of society, authorities or architects, building owners and the public are holding back the further spread and realisation of this idea.

Contribution Innovation Booster

The Innovation Booster organised an Open Innovation Challenge with more than 20 companies in this ecosystem. Together they developed a very good basic understanding of the existing problems around this topic. Many cross-company project ideas were generated. The Innovation Booster was able to support two of these ideas. The results will be presented at Phaenomena 2026 in Dietikon.

<https://www.phaenomena.ch/>

Hypothesis 2

„The circular economy is pioneering work - also in terms of social transformation. Therefore, its implementation will not work without the involvement and co-design of different stakeholders in the ecosystem: first and foremost, business and industry, which primarily refers to the supposed „competition“. However, certain alliances can also be decisive for success in education and science, politics and the public.“



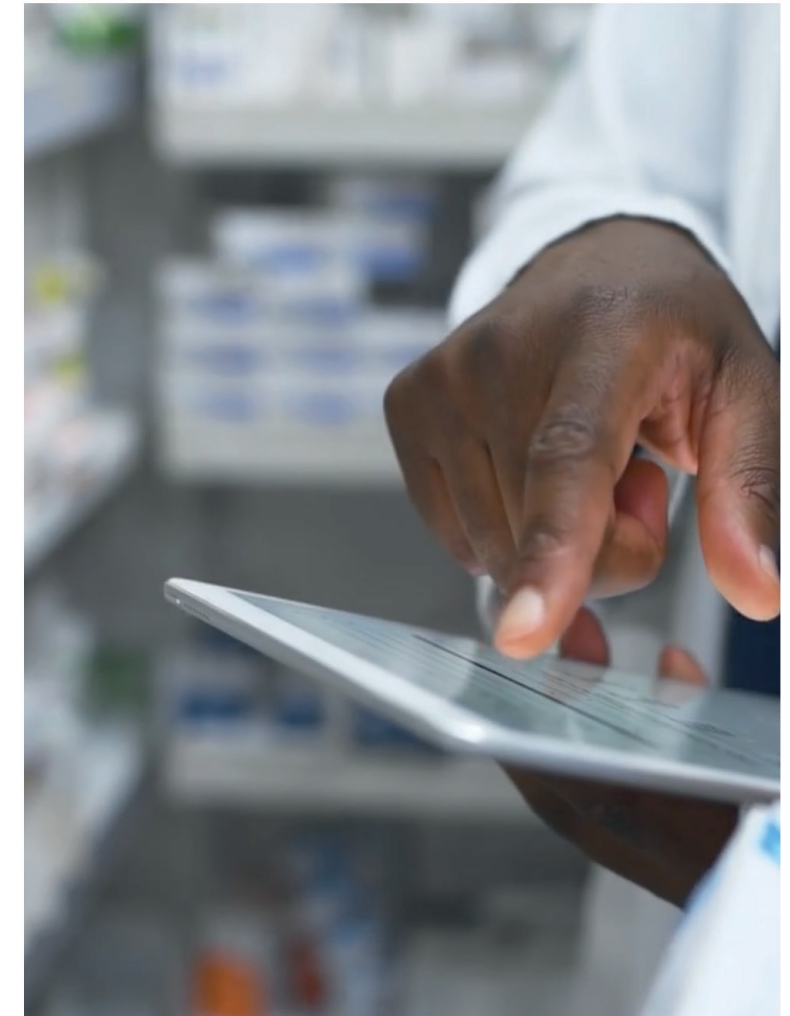
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GO CIRCULAR IN LIFE SCIENCE

Our goal is to create engagement of key players in a collaboration platform to practically implement circular economy and share best practices.

[Go Circular in Life Science](#)



Hurdle 3

Stakeholder Appropriate Communication

Not every aspect of a circular idea is equally relevant for every stakeholder.

A lack of understanding of the different priorities reduces the chances of successful collaboration.

Communicating from your own perspective slows down the chances of partnerships and customer acquisition.

Circular products and business models have many aspects and many advantages, but these are of varying importance to different stakeholders.

It is essential to recognize and name the respective benefits for the relevant stakeholders. Communication that is not stakeholder-oriented reduces the chances of success of collaborations, as it does not take sufficient account of the needs, expectations and priorities of those involved.

This can lead to misunderstandings, dissatisfaction or a lack of prioritization, which makes collaboration more difficult or even blocks it.



RePan & Odlo



„For us, the first sprint was very valuable because of the composition of the experts - it fitted exactly where we still had gaps, although our project is already quite defined. We were still looking for partners and connections and got them directly, so that we can now realise what we had planned.“

Johanna Heimlicher, Odlo



Thanks to targeted networking with a professional well connected chef, further doors are now open, as well as the opportunity for best-case examples that can attract further customers.

Odlo

Odlo and DePoly are exploring whether high-quality PET yarn can be created from cut-off materials of Odlo sports underwear through chemical recycling. During the sprint, the challenge of finding local partners capable of spinning and knitting small quantities of the recycled material proved to be a greater focus than communication.

Contribution Innovation Booster

During the workshops, it emerged that stakeholder-oriented communication could help to attract future investment for series production.

Stakeholder mapping was used to identify various benefits for the stakeholders and possible priorities were identified and named.

The Innovation Booster's recommendation was to develop various communication scenarios.



RePan

RePan offers the recoating - the refurbishment of pans and sells already recoated pans directly from stock.

Opening the door to the gastronomy scene as an „industry outsider“ proved to be extremely challenging. Various attempts went unanswered.

During the workshops, the focus was on challenges related to financing and

distribution, as well as the question of how customers can be reliably acquired.

Contribution Innovation Booster

The stakeholder mapping-method was used to create an overview and focus on the needs of the target groups. By understanding the added value of the RePan solution, the gastronomy sector could be specifically addressed.

Hypothesis 3

„Recognizing and naming the priorities of stakeholders to address them in an appropriate communication is helpful for attracting fellow campaigners, investors and enthusiastic customers.“



Odlo & De Poly

Understanding One's Value Proposition

A question to answer is “What is it that the company should never source out?” The answer should be developed in an easy-to-understand wording - preferably from the perspective of an end customer with a bit of utopia.

Circular business pioneers need to prioritize, especially start-ups with limited resources. Many of them believe that this means to concentrate on technical aspects or on proofing circularity in the lap. However it is important, to early on focus on one's value proposition marks the basis for finding partners, conceiving a communication strategy or patent issues. The added value sometimes is different than from what you think, or it changes as the business evolves - once you know it, you know your stakeholders.



BRAva & CompPair



„Defining three main tasks in the first sprint and then discussong these tasks with the experts, who habbe different backgrounds, helped us to really make progress and focus on the most important aspects to take our idea further.“

Eléonore Wild, CompPair Technologies



CompPair

CompPair aims at sourcing its raw materials from composite-recycling companies to implement the re-entry of recovered carbon fibres into the market and facilitate the creation of a circular economy in the composites industry. The companies approach can be called radical - it has scaling potential and disruptive power for the composites industry. However, its benefits are difficult to summarise in simple language, even though b2b. The company seemed more concerned with material details than the core of its product.

Contribution Innovation Booster

Methodologically, the Business Model Canvas was also successful in this case: In addition to contacts to research/sciences, the Booster was able to help CompPair identifying its USP - or the variety of possible USPs - and translating it to potential customers, which marked the beginning of a storytelling strategy.



BRAva

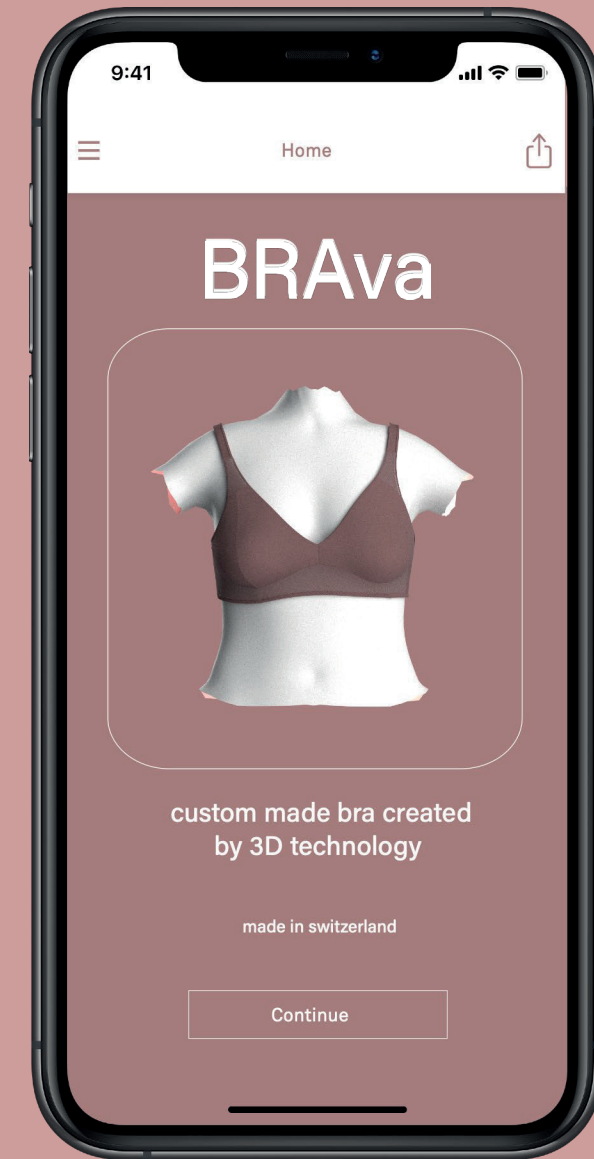
BRAva sells bras online which are produced in a resource-efficient way, and can be individually configured via an app. BRAva considers the finished bra as its product and its business as B2C, from resource sourcing to customer satisfaction. However, they struggled to establish themselves in the market, and their business stagnated.

Contribution Innovation Booster

In terms of methodology, the Booster helped BRAva to develop a Customer Journey and a Circular Business Model Canvas. Both showed that the product/service was too broad, which made it difficult to establish it on the market. BRAva carefully assessed and recognized its value proposition: It did not necessarily include the app, it thus was outsourced. In financial terms, the Booster provided BRAva time to further develop.

Hypothesis 4

„A company should understand the value proposition of its product at an early stage, preferably using a layered approach - once the core is understood, it should never be abandoned.“



The seamless and most comfortable bra for your individual needs

BRAva

Hurdle 5

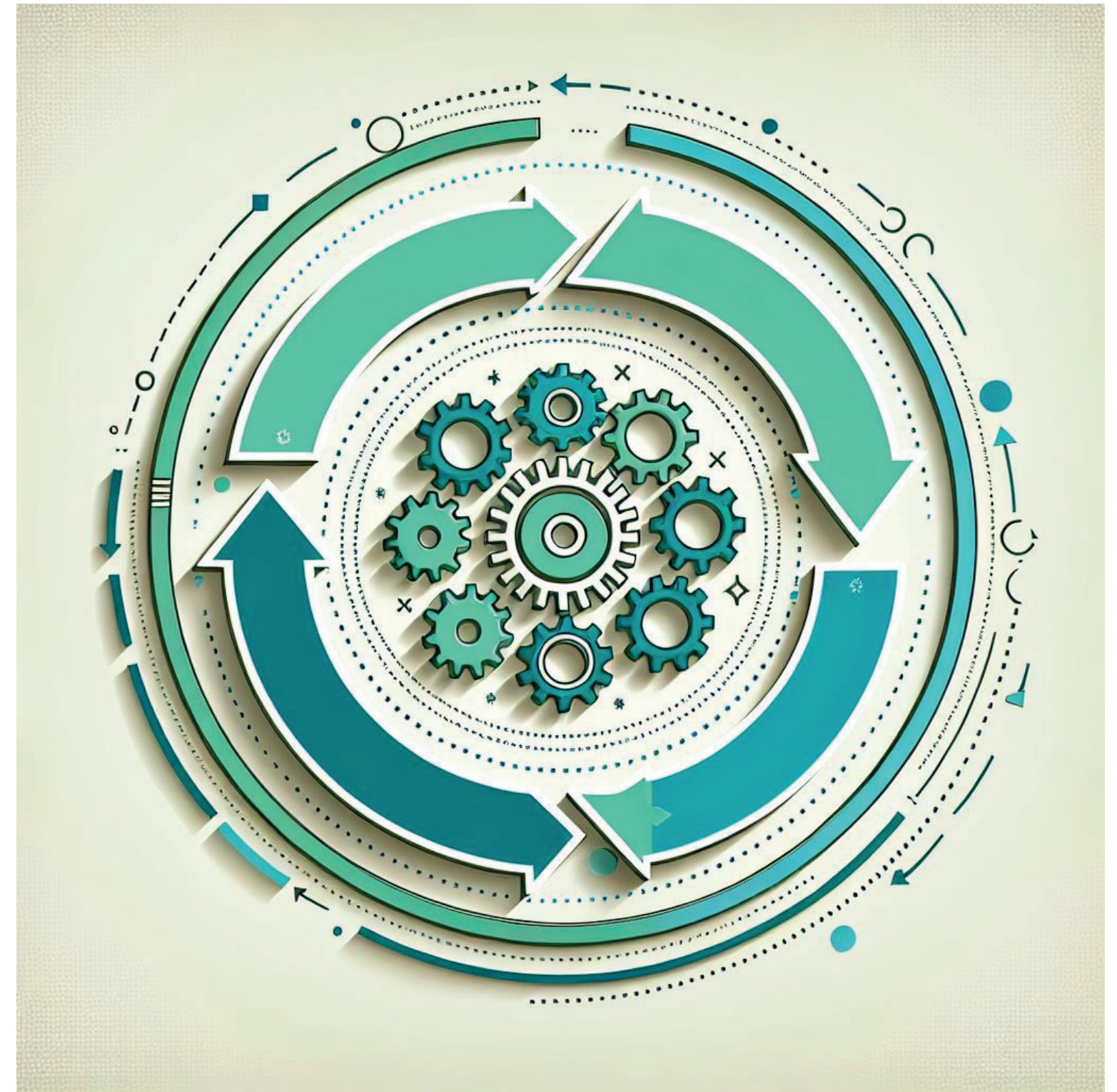
Transformative Planning

Stagnation or failure means opportunity

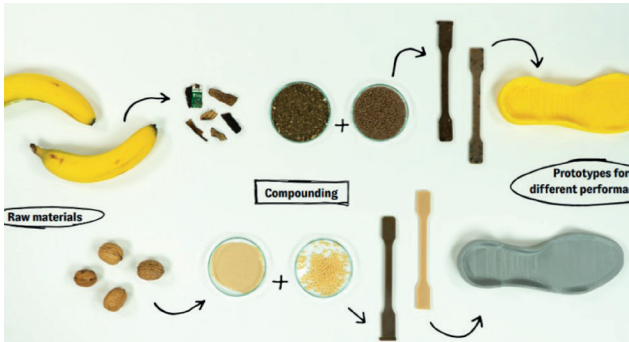
No circularity without agility and flexibility – including how to develop products and businesses.

Circular economy is pioneering work, i.e. an ecosystem that is difficult to predict and that requires agility and flexibility - after all, the aim is to at least transform, perhaps even revolutionise. Its pioneers therefore find it hard to plan their products or services in scenarios. Which holistic and systemic structures etc. are suitable to make each transition from linear to circular?

The good news: Every failure means opportunity - to gain suppliers, to break even or to be attractive to investors. This not only affects the product, but can also have a far-reaching impact on the structures and organization of a company.



Restemöbel & Kuori



„Since being funded by the Booster, the networking and exchange with other teams has definitely been the highlight. The opportunity to share experiences, receive feedback and learn from the successes and challenges of others has been invaluable to our growth and development.“

Sarah Harbarth, Founder Kuori



Kuori

Kuori approached the Booster in 2022 with a promising product and the desire to get their business off the ground. Investors and partners were willing, but the plan to get the product into mass production didn't seem to be working. They asked the Booster “Should we go for the most sustainable material or the biggest market?”

Contribution Innovation Booster

The jointly found answer was “as well as”. Using different methodologies, Kuori and the coaches thought outside the box, moving away from the idea of a finished, specific product to the underlying material. This had great potential for scaling and industry transfer, so it was necessary to develop and plan in scenarios, starting from the desired end point. Kuori rose to the challenge of thinking through every (im)possible R-strategy.



Restemöbel

Restemöbel approached the Booster asking for support with marketing and potential investors, as they had reached a point of stagnation and were unable to sell their re-use furniture in sufficient numbers despite a lot of commitment.

Contribution Innovation Booster

The Booster's coaches and Restemöbel analyzed the sources of this stagnation and discovered that the company did not recognize the potential that lies in the current problematic situation, turning the reasons for failure into new starting points. Restemöbel aimed for a transformation among the end customers, thus first had to transform its own business model. From the scratch, business options were scenarized such as franchising and mergers with other workshops so that competition could become part of the solution.

Hypothesis 5

„Achieving circular economy requires more than “just” a technological innovation and a product circle - systemic and integrated planning of desired future(s) is essential!“



Kuori

Hurdle 6

New Business Modeling

No universal recipe: Circular economy (CE) defies a one-size-fits-all approach—business models must be tailored to unique value propositions.

Innovation demands agility: Developing circular solutions requires boldness, continuous testing, and the flexibility to pivot.

Collaboration drives progress: Both within and across industries, partnerships are key to crafting innovative CE business models.

Circular economy challenges traditional business modeling by requiring highly individualised approaches. Unlike linear models, there is no off-the-shelf solution; each model must align with specific, often complex value propositions. Success in CE depends on a willingness to embrace experimentation, adapt flexibly to new findings, and maintain the courage to innovate. Moreover, fostering collaboration—both inter- and intra-industry—is crucial for generating and scaling transformative ideas.



Nuole & Rotavis



„Asking apparently absurd questions and reorganising traditional supply chains and stakeholders is crucial.“

Yvonne Radecker, Material-Archiv



Nuole

Nuole developed innovative soap and shampoo that can be diluted in water, reducing waste and transportation emissions. However, creating a suitable dispenser posed challenges in both design and financing. Partnering with industry stakeholders was crucial to scale production, ensuring the dispenser met functional, sustainable, and economic demands.



Rotavis

Rotavis designed an ergonomic chair that sets new standards for dynamic and healthy sitting with compact dimensions and spine-friendly support. However, its placement in the higher price segment posed challenges in attracting customers. Additionally, developing a rental and return model required demonstrating value while maintaining circularity and ensuring economic feasibility.

Contribution Innovation Booster

Through the Booster program, Rotavis explored how a circular business model could lower entry barriers for customers, offering flexibility and sustainable use. They also refined strategies to communicate the chair’s long-term value, highlighting its durability, functionality, and health benefits. The program enabled them to align customer-centric solutions with circular economy principles and competitive positioning.

Contribution Innovation Booster

Through the Booster program, Nuole explored economies of scale and tailored material solutions for various market needs. Options ranged from reusing customers’ bottles to compostable materials. They learned that circular products require long-lasting functionality, timeless design, and clear end-of-life strategies to succeed across diverse scenarios, fulfilling CE principles.

Hypothesis 6

„A tailored, collaborative approach that embraces experimentation, fosters inter- and intra-industry partnerships, and integrates flexible business models like rental and return can effectively align circular economy solutions with unique value propositions and market needs.“



Hurdle 7

Proof of Circularity

True circularity may require the integration of different R-strategies and partners.

R-strategies can be implemented at all levels - from individual materials to the whole system.

Demonstrating true, sustainable circularity requires transparency and measurability at all levels.

To be truly circular, the entire product and its life cycle must be considered. This may include, for example, materials and the supply chain, as well as return or reuse. This may require the integration of several R-strategies at different levels, the implementation of which may not always correspond to the company's own competencies (e.g. repair, recycling).

Transparency is also needed to demonstrate true circularity, which can be achieved by disclosing and assessing sustainability, including the different R-strategies.



MAMMUT & VYN



„During the workshops you are getting input, are discussing, taking notes and trying to find solutions. I think this was the key benefit from us: to really have the focus, where you don't look at your emails you are not taking care of other projects - you really have this time to move your project forward.“

Sophie Renot, Innovation Manager MAMMUT



VYN

VYN approached Booster with the aim of significantly increasing the circularity of their sneakers. On the one hand, the selection of materials, including their logistics, was to be addressed for a completely recyclable shoe. Furthermore, the reparability as well as the transparency regarding the sustainability of the sneakers was to be increased.

Contribution Innovation Booster

The work in the booster and with the experts led to a rethink at VYN. It was recognised that the recycling of all materials and sustainability transparency were necessary to achieve true circularity. Proposals for new, more recyclable materials were therefore developed. The booster also recommended the use of Life Cycle Assessment to transparently determine environmental sustainability.



MAMMUT

Mammut set itself the goal of making climbing ropes 100% circular. This goal also included taking back used ropes - neither of which is one of the company's core competencies.

Contribution Innovation Booster

Mammut was able to recognise in the booster that changing the recycling process can make it easier to find a new partner. New partners were also considered for the return logistics. This developed a fundamental understanding that a strong and competent partner network may be necessary to achieve 100% circularity. The Booster was therefore tasked with finding a partner for recycling and building up expertise in return logistics.

Hypothesis 7

„Genuine and sustainable circularity requires both the inclusion of the entire life cycle of the product, including all materials, and the transparency and measurability of sustainability.“



MAMMUT



Hurdle 8

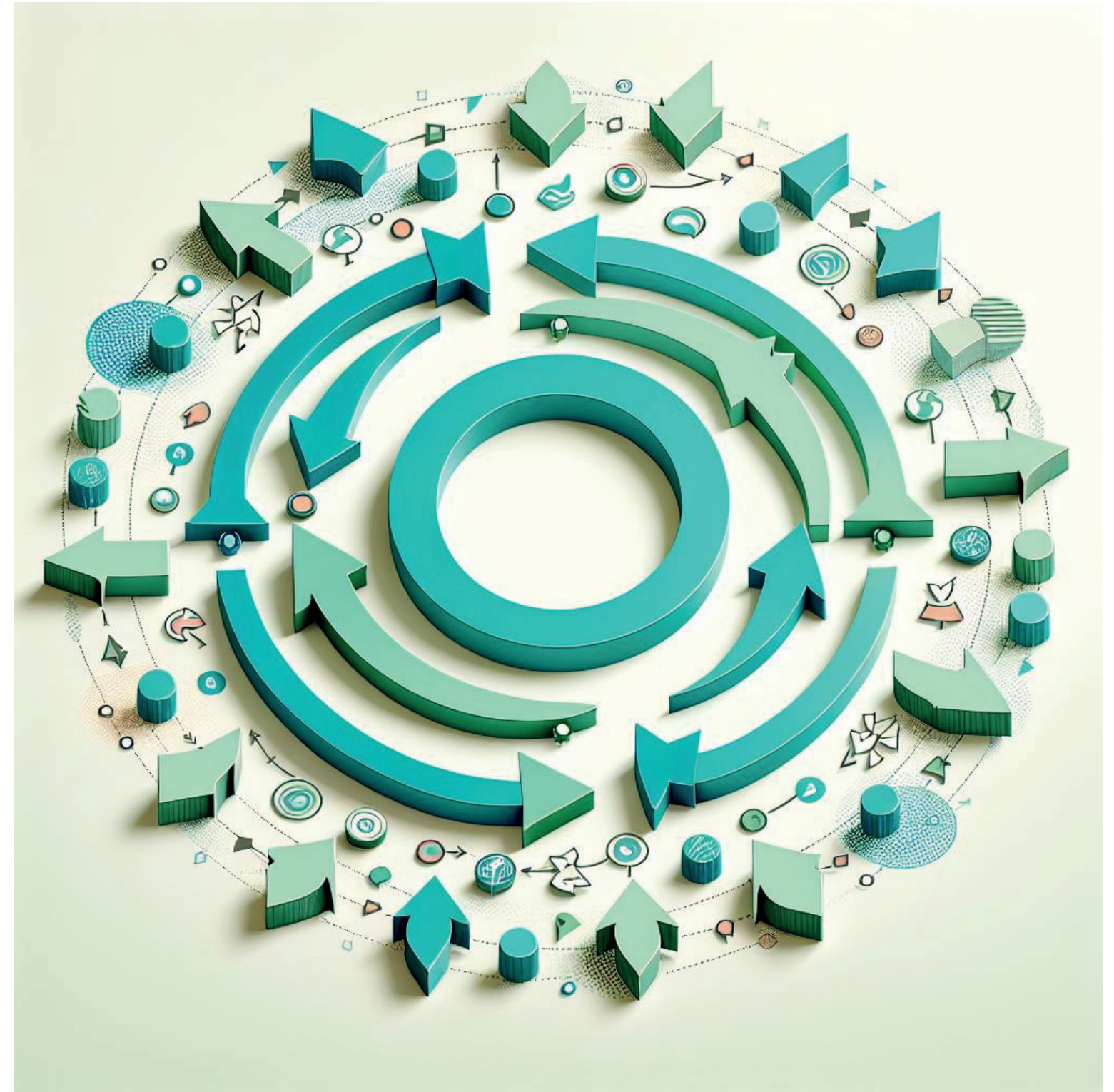
Closing the Loop with Circular Materials

The core element of any circular solution is to close material loops.

Depending on the material type and quantity, different solutions are required.

Product design is the central starting point for a viable solution.

Depending on the product, the lifespan can vary from a few days (packaging) to many decades (buildings). It is therefore important to select materials at the product design stage in such a way that they can be returned and reused, especially for products with a short life, such as packaging. For products with a long lifespan (e.g. bicycles), durability and repairability play a dominant role.

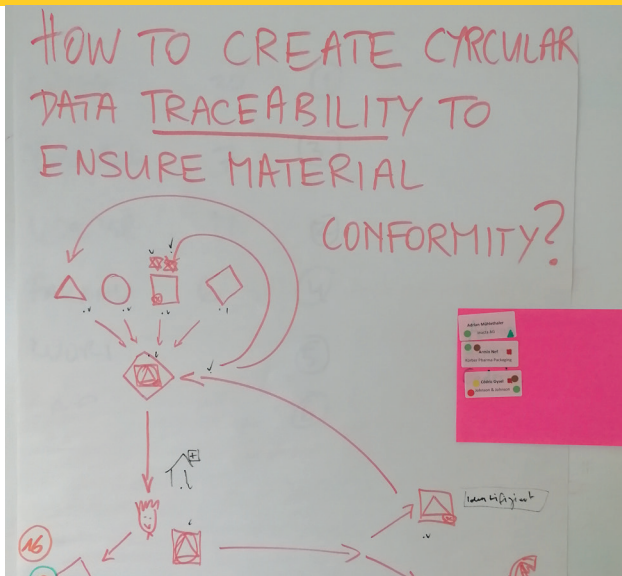


Haelixa & SCOTT Sports & Neumühle



„I really liked that the experts came from different areas. They were able to give us good insights and help us with possible improvements. The sprints were very intense and there was a lot to tackle but we can now use the lessons in the long term.“

Josephine Prattiwi, Haelixa



Haelixa

Haelixa’s patented DNA technology marks and traces raw materials from source to finished product.



SCOTT Sports

SCOTT Sports introduces circular goggles and faces the challenges of closing the loop.

Contribution Innovation Booster

In order to obtain high quality materials in sufficient quantities, it makes sense to manufacture other products from the same materials and even to collaborate with competing companies and agree on a common choice of materials.

Neumühle Switzerland

The clothing brand ambitiously pursues the goal of producing and selling 100% recyclable products. The right choice of materials is crucial.

Contribution Innovation Booster

The Innovation Booster experts worked with Haelixa to further conceptualise, develop and challenge their business case in order to find use cases and partners for their technology.

Contribution Innovation Booster

Neumühle Switzerland worked intensively with the company to find a solution for designing a complex garment such as a winter waistcoat in such a way that it can be made from a single, recyclable material. There are two options: To make everything from a biodegradable material or to make everything from a technically recyclable material. The use of PA6, which is already used in large quantities by other companies and enables a 100% safe closed loop, was the breakthrough for Monovest.

Hypothesis 8:

„Products must be manufactured in such a way that it is worthwhile to take back the materials as valuable substances. Easy separation of material types and labelling must be ensured.“



Neumühle

NEUMÜHLE
SWITZERLAND

Hurdle 9

Up-Scaling

Radical ideas start small, but can only realise their potential effectively if they are scaled up.

New sustainable materials often require new production facilities, which also need to be developed.

Circular business models require upfront investments that small start-ups and SMEs cannot afford.

New and particularly radical ideas can be inspiring with simple prototypes and initial test customers, demonstrating the potential of the idea. To compete with an established, usually cost-effective and linear solution, it is necessary to scale the solution. This is where the hurdles of non-existent production technology, low market access or necessary up-front investment come into play. These hurdles must be overcome in order to advance ideas that are suitable for a circular economy.



Rheiazymes & Groam Tech



„What I particularly liked about the booster is that it really focuses on circularity and sustainability. We were able to benefit and learn from the intensive collaboration with the experts during the well-organized sprints.“

Suzana Sediva, Groam Tech



Groam Tech

Groam Tech aims to revolutionise the polymer foam industry by introducing sustainable, multi-sector foam solutions, providing biodegradable foam materials for fast disposable products made from agricultural waste.

Groam has sought to scale its technology by outsourcing production and distribution. This is possible because it is compatible with industry standards and existing infrastructure.

Contribution Innovation Booster

The network opened up opportunities to take the idea out of the lab and produce larger quantities of sustainable foam. The hurdle is well illustrated by this example. Existing production facilities within companies are integrated into their existing processes and are not available for external experimentation.



Rheiazymes

With its proprietary Molecular Bio Recycling technology, Rheiazymes provides the complementary piece needed to close the recycling gap for difficult-to-recycle mixed materials.

The problem was to find lighthouse partners from industries with difficult to recycle composites, such as the textile

industry, to develop a minimum viable product for the market.

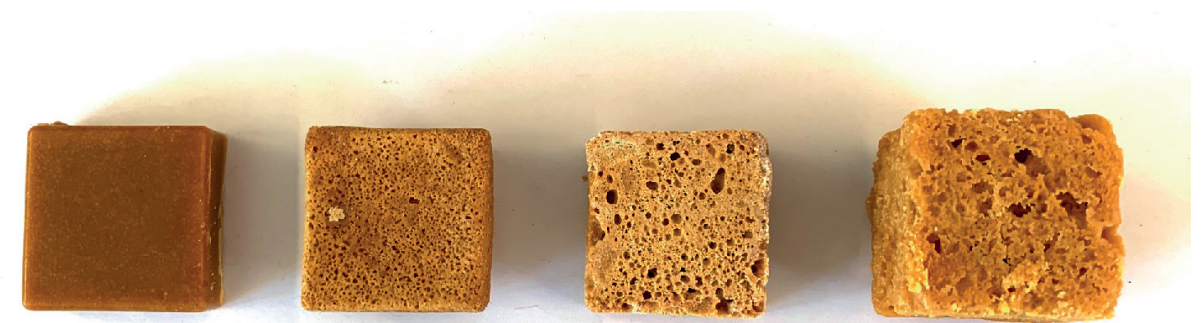
Contribution Innovation Booster

Our experts helped the young company to establish collaborations with larger companies in the textile industry as early as possible. On the one hand, to gain access to their production technology and, on the other hand, with a fashion label that is striving for a closed material cycle for its products.

Hypothesis 9

„Circular ideas based on new materials and processes must be able to be quickly scaled up from the laboratory to relevant quantities. To this end, it would be useful to have access to a large and diverse range of machines for free use and experimentation.“

NTN Circularity Booster - Prototypes



Achieved:

- biodegradable
- organic
- porous structure

Ongoing:

- testing with vertical farms (growth, plant yield, pH stability, ...)
- antimicrobial properties

Future:

- labor cost reduction
- waste disposal cost
- continuous production

Groam Tech

Finding “Radical Ideas”

From lab to market, one needs to think radically in terms of the entire ecosystem of a potential product.

Irmos technologies & SmartBreed



„During the two sprints we really worked on our circular sustainability model.

We got a lot of feedback to our idea, potential solutions to make it more circular and this is really great.“

Dr. Cyprien Hoelzl, Irmos Technologies Chief Innovation Office



SmartBreed

SmartBreed has indeed radically rethought viticulture: the company has developed a technology that can be used to convert waste streams into valuable resources on an industrial scale. Not only is the potential for disruption huge on consumers and competitors, but also is the company’s ability to transform. SmartBreed approached the Booster with material and technology questions, but in fact is a very good example of finding radical ideas.

Contribution Innovation Booster

The founders of the start-up have not only networked extensively but have also radically rethought and scenario-played their potential product on several levels: from the search for high-quality fertilizers, oils etc, to the attempt to co-solve the EU’s long-term food problem due to migration. The Booster encouraged them in their far-fetched thinking and was able to provide recommendations and valuable contacts to industry, associations, cooperatives and public authorities.

> 50 % of our bridges have “expired”



Irmos technologies

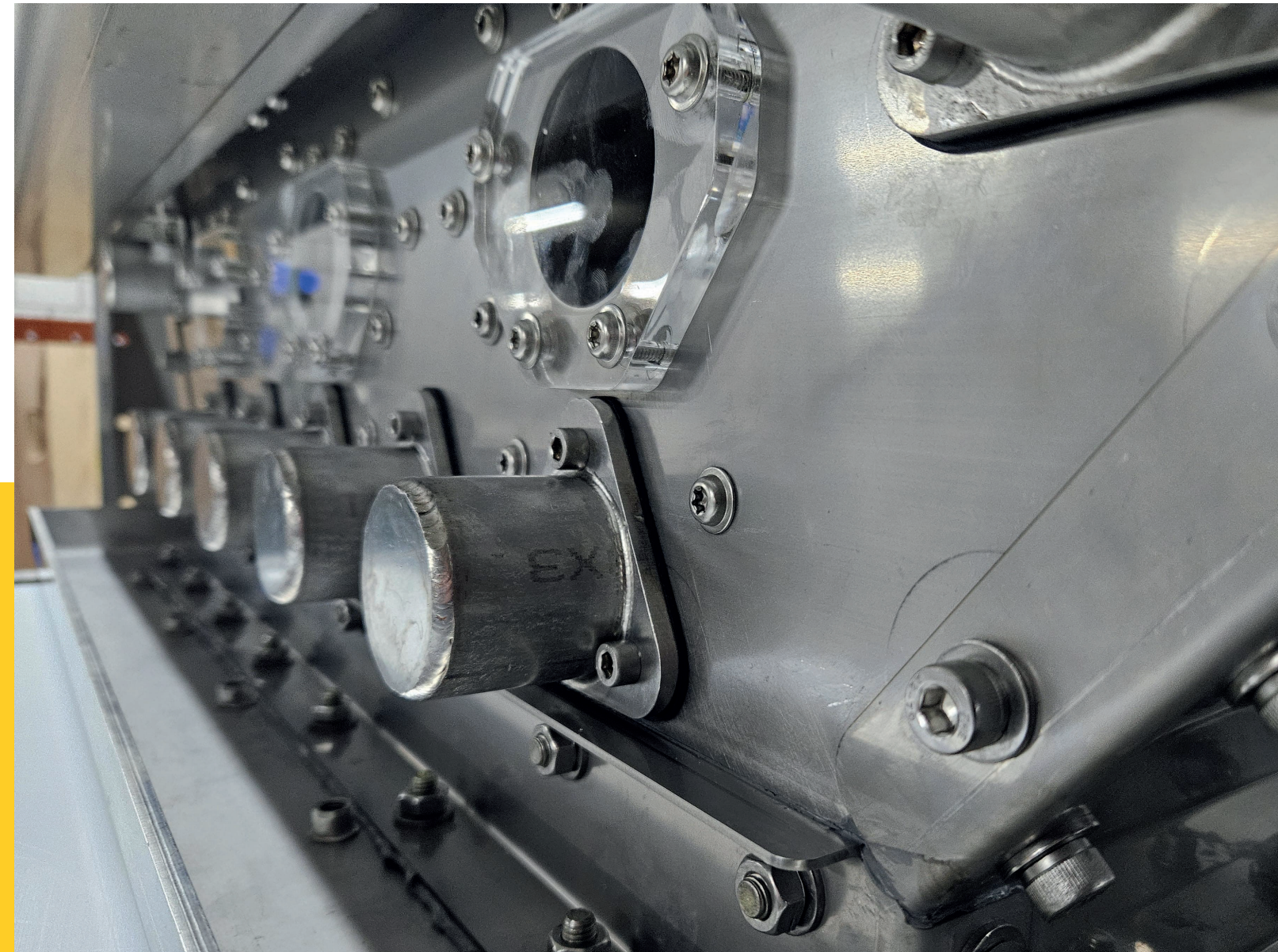
Irmos technologies offers a data-based service to extend the life of bridges and minimise their CO2 emissions. This idea, in the spirit of the circular economy, was met with a lot of resistance from the industry and the established players, not only due to a lack of trust, foresight or idealism.

Contribution Innovation Booster

The booster showed that the service idea was not radically thought through to the end, i.e. it was not disruptive. It seemed to have been adapted to the traditional, linear circumstances of the life cycle, which is often the case. In a kind of restart of the design process, Irmos technologies found out what would shake up this well-established ecosystem, for example an existing Irmos customer who quantitatively communicates the competitive advantage he has thanks to the service.

Hypothesis 10

„There are many ideas that have radical potential - the key is to be equally radical in their realization and implementation.“



SmartBreed

Funded Teams

Many thanks on behalf of the ACS consortium to all the dedicated circular pioneers who have shared their ideas with us, inspiring and impressing us over and over again.

Team	Projektname	
	VYN	VYN the first self repairable circular sneaker system
	CIVAG	CIVAG - Die nachhaltige Mietcommunity für Möbel
Neumühle Switzerland	Circle Vest	Circle Vest - 100% circular
	Loopi	Loopi - Kinderwagen optimiert für die Verwendung im Nutzungsrecht
Timber Structures 3.0	Timbase	Timbase - Carbon Storage in Timber Basements
	C3	Crocable - the 1st repairable & sustainable charging cable
	Haelixa	DNA tracing technology for transparent sustainable supply chains
Timber Structures 3.0	Scrimber CSC	CO2 einsammeln, Altholz nutzen
	Groam, c/o ETH	Groam, sustainable foam for the future
	smartfilaments	100% bioabbaubare oder rezyklierbare Zahnbürste
	earlybird skis	Eco-friendly circular Ski
	Rotavis	Circular chair - a dynamic office chair made of wood and PET
	Kly	Ressourcenineffizienz Getreideproduktion beseitigen
	UpBoards	Hochsteife Recyclingplatten aus Mischkunststoffnebenströmen
	CAP Watch	100% zirkuläre Eco industrielle Uhr
	Mammut	Close the loop From rope to rope
	CompPair	Closing the loop with Self-healing recycled composites materials
	Yarn to Yarn	Rheiazymes molecular bio-recycling of hard-t-recycle mixed-materials
Erdmann Solution	Go Circular	in Life Science - Collaboration Plattform
	Inacta	ProofX - Traceable Sustainability
	eightinks	eightinks - making next generation lithium ion batteries recyclable by design
	essento	Sustainable, healthy and tasty ingredients from edible insects Cirkla "Strasse der Wiederverwendung": A practitioner's toolbox for re-use in construction
	cirkla	
	naturloop	NaturLoop: Transforming agricultural by-products into wood-based panel A Circular
	kuori	Shoe Sole
	Capt'n Greenfin	Capt'n Greefin revolutioniert die Fischerbranche
	Cyclix	Keep riding - mit massgeschneidertem Reparaturservice für Velos
	cross-ING	Reparier- und Servicierbarkeit von Haushaltsgeräten
	SCOTT Sports	SCOTT's Goggle-Recycling Project
	Ponera Group Sagl	Smart Modular Packaging: waste to valuable assets
	Restemöbel	Modulare Möbel aus Materialresten The First Circular Soap Dispensers for the first
	Now Care	Swiss made powdered Soaps
	Stöckli Swiss Sports	ERSki: Efficient recycling of skis
	CLB Schweiz	Bio-based sandwich panel from timber and mycelium
	blanco ad architectural studio	Green Earth Ink: 3D printing regenerative active elements for the built environment
	Groh Technologies	From Waste to Wow: Optimizing Biowaste for Sustainable 3D Printing Materials
	Irmos-Technologies	Intensive care for bridges
	Haelixa	Behind the label: 100% traceable recycled T-shirt
	Studio Stoklossa / BRAvathebra	BRAva - custom made bra created by 3D technology
	URBNC3	URBNC3 3D-printed sandals
	Rheiazymes	Recovering the fashion industry's most valuable Polymer
	StadtOase GmbH / Kohlenkraft	Climate positive building materials
	SmartBreed	Rethinking Circular Economy in Wine Production
	ODLO	ODLO and DePoly Collaborate on Closed Loop Base Layer Using Chemical Recycling
	Nussbaum	Nucan: Kreislaufwirtschaft für Aluminium Aerosoldosen
	Matratzen-Allianz	Closing the Loop - Matratzen Recycling
	Milani	Medical devices in the hospital – circular solutions beyond disposables
	RePan	Recoating frying pans
	ZHAW, Dept. A, IBP	Demonstrator Urban Green Trail
	Hunziker Betatech	Konzept Urban Green Trail
	AMAG	Highli Automated on Demand Hub
	Planzer Transporte	Handwerkerbox on Demand

Consortium Members

A big thank you to our committed, strong consortium.
Thank you experts for your relentless efforts and motivation to
bring the vision of the circular economy into the world.

We would like to extend our heartfelt thanks to Innosuisse for providing us with
the opportunity to conduct and lead this unique program, which has significantly
boosted circular ideas. Your financial support has been invaluable in making this
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Basel	Olena Bolger
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Quotes Across the 4 Years

„Every time you explain an idea to someone new, you learn new things about it and it helps to sharpen the project. Every person from the outside has a different perspective.“

Johanna Heimlicher, Sustainability
Director Odlo

„I believe that stories like the ones we have experienced as part of this challenge are hugely important. I think it's generally important for our country to get back to the action, to perhaps make mistakes and learn from them. We could all benefit from a little less theory.“

Roger Bachmann,
Stadtpräsident Dietikon

„The support from IB ACS helped us to sharpen our business case, get to the heart of our value proposition much more clearly and create a lifecycle analysis.

The best thing we were able to take away from the radical open innovation approach is the exchange with the experts, especially because they come from different specialist areas, bring in strategic knowledge, communication knowledge, but also science and engineering knowledge. Being able to tap into this in such a compact format was incredibly valuable for us.

The Innovation Booster also resulted in a very specific collaboration with the ZHAW in the form of a student project.“

Sandra Grimmer CEO & CO-Founder
Yarn-to-Yarn, Rheiazymes

„The sprints encourage you to keep working on the project and drive it forward. The expert discussions alone have already given us a huge amount of input, as well as from other participants, and we've been able to benefit from the many contacts in terms of networking.“

Nando Schmidlin,
Project Manager Milani Design

„I see the advantages of this format in the fact that different people with different functions come together and cool ideas can emerge that would otherwise not arise in a bubble.“

Simon Bloem, Participant Open Innovation Challenge