



**UNECE**

# FOSTERING CIRCULAR SOLUTIONS THROUGH INNOVATION



**70<sup>th</sup> SESSION OF THE COMMISSION**

DIGITAL AND GREEN TRANSFORMATIONS  
FOR SUSTAINABLE DEVELOPMENT  
IN THE REGION OF THE ECONOMIC COMMISSION FOR EUROPE  
VIRTUAL SIDE EVENTS | 3-5 APRIL 2023

**3 APRIL 2023**

11.00 - 12.00 CEST, ONLINE

## Meeting Report

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## I. Event overview

Innovative products and business models, which are profitable but also socially and environmentally responsible, are a cornerstone of the circular transition. This is doubly true for the many economies in the UNECE region (including the participating countries of the UN Special Programme for the Economies of Central Asia - SPECA) that are dependent on exports of natural resources. An effective innovation ecosystem, where both the public and private sectors are actively involved, is critical for the development of such innovative products. Governments and business support institutions (such as business incubators and accelerators) in the UNECE region have made progress in promoting this type of innovation, but much more needs to be done.

In order to discuss challenges and opportunities in this context, UNECE organized on 3 April 2023 a policy dialogue on "**Fostering Circular Solutions through Innovation**", as part of the side events of the 70<sup>th</sup> session of UNECE. This online meeting was dedicated to the empowerment of start-ups to innovate for the green and circular transition in the UNECE region. It provided a platform for peer learning and the sharing of experiences and inspiring examples.

Ms. Elisabeth Türk, Director of the Economic Cooperation and Trade Division of UNECE, moderated the session. Speakers highlighted the importance of networks, breaking down silos, and support mechanisms in transitioning to a circular economy. They also shared their experience and success stories, which can inspire UNECE program countries in Central Asia, Southern Caucasus, Western Balkans, and Eastern Europe.

The event was organized under the SPECA Network of Business Incubators and Accelerators for Sustainable Development, which aims to provide entrepreneurship support institutions in the SPECA region with a platform for peer learning and capacity building. It was financed by the UN Development Account (UNDA) project "Strengthening innovation policies for SPECA countries in support of the 2030 Agenda for Sustainable Development" administered by UNECE. It was decided to also invite participants from outside the SPECA sub-region in order to hear from a wide base of relevant experience.

Simultaneous interpretation was provided into English, French and Russian. 216 participants attended the session.

This document, containing a summary of discussions during the event, has been prepared by UNECE, with the goal of elaborating further support measures and building new partnerships in support of UNECE programme countries in the area of innovation and entrepreneurship for the circular economy. It was drafted by Ms. Anastasia Pankova, international consultant, under the supervision of Ms. Elif Kizildeli, manager of the above-mentioned UNDA project.

## II. Key messages and recommendations of the session

Circularity happens across value chains, sectors, and ecosystems. **Collaboration between start-ups and big companies can speed up the shift towards a circular economy** and accelerate the innovation process. Big companies have resources, financial support, industrial equipment, experience in managing complex supply chains, and brand recognition. Meanwhile, start-ups provide innovation, agility, flexibility, and an entrepreneurial spirit that can change the culture and mindset of big companies.

While sustainability is important, it is also necessary to **make circular economy practices profitable** for companies to ensure their participation. Start-ups need to provide feasible solutions that offer a financial incentive for companies to invest in the circular economy.

Governments should **accelerate start-ups through programs and partnerships with leading international research institutions and universities** to create profitable business models in the circular economy.

A **consistent approach and a whole-systems perspective** are crucial for circular technological and business solutions to reach scale, including through active consultation process between private and public sectors.

Governments should **integrate the circular economy more deeply into the educational process**, especially in university-based business incubators and accelerators. Universities and industries should work closely together to transform processes and use more circular economy elements.

While it may take years for new **research and technology** to reach the business level, they will **have a huge impact on the circular transition**.

Commercialisation of innovative ideas for the circular economy is a challenge in the UNECE region. Promotion of **collaboration between scientists and entrepreneurs is required**.

There is currently **a lack of focus on long-term scenarios in R&D for the circular economy**, which risks hindering progress in the future.

### III. Summary of discussions

#### Creating an enabling environment for start-ups in Kyrgyzstan



**Ms. Aisuluu Mustapakulova**, Head of the Innovation and Strategic Development Department, State Service of Intellectual Property and Innovation of the Kyrgyz Republic (Kyrgyzpatent), confirmed that **Kyrgyzstan recognizes the importance of innovations and start-ups in the development of a circular economy**. Business incubators and accelerators are playing an important role in the development of circular economy and green production start-ups in Kyrgyzstan.

The country has **policies** to develop start-ups, and innovation infrastructure is one of the key elements in this area. The country has adopted a **Programme on green economy**, a **law on intrapreneurial activity** and **the law on creative industry**. Kyrgyzstan has an effective **law on high technologies** and all technology parks have necessary conditions to develop start-ups and businesses.

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Kyrgyzstan has now established State-led innovation infrastructure with different elements. One of them is the **Fab Lab**, which supports the development and testing prototypes for use by start-ups and inventors in producing new innovative products.

Kyrgyzpatent conducts **events to stimulate growth and awareness of innovation and technology** in the development of a circular economy. One of these events is the "**Startup Kyrgyzstan**" competition, which has funded over 12 start-ups that are now operational in Kyrgyzstan and other countries.

Kyrgyzpatent supports **regional innovative projects** and start-ups for the development of a circular economy. They have initiated the "**40 projects – 40 regions**" project, and eight winners have been selected to receive more than 1,000,000 KGS in funding. The winning projects aim to develop different regions of Kyrgyzstan, including in eco-product areas, and promote wasteless production. Kyrgyzpatent aims to

develop all 40 districts in the country by utilizing the circular economy concept.

Kyrgyzpatent also supports student-led start-ups through projects in different **universities** of Kyrgyzstan. Business incubators in universities are used to develop entrepreneurial innovation in the country and support the growth of start-ups. Kyrgyzpatent hosts student start-up competitions among universities, with over 200 applications this year. The winners are determined each year, and the role of these student start-ups is significant in the development of the economy, as they interact with the industry and private sector.

Kyrgyzstan is establishing innovative infrastructures in different regions to develop a circular economy and holds training sessions on innovative entrepreneurship. **Kyrgyzstan stands ready to exchange experiences with countries that have already introduced circular**

**economy and that export goods produced using green technologies.** Ms. Mustapakulova requested UNECE to provide expert support in this area. **The country is eager to develop a circular economy and is open to sharing and learning from others to continue their activity in the future.**

Kyrgyzpatent expressed gratitude to UNECE for supporting their efforts in developing start-up related events in Kyrgyzstan via the trainings offered under the SPECA Network of Business Incubators and Accelerators for Sustainable Development, as well as the Roadmap for the Development of the Innovation Ecosystem of Kyrgyzstan until 2025, which UNECE and Kyrgyzpatent jointly developed in 2021. This support has given Kyrgyzstan an opportunity to establish an ecosystem of start-up centers not only in universities but also throughout the country.

## Connecting circular economy start-ups with big companies in France and beyond



**Mr. Raphaël Masvigner**, Co-Founder and Sustainability Board Member, Circul'R (France), explained that their mission is to accelerate the

transition towards a circular economy by connecting circular economy start-ups worldwide with big companies that want to accelerate on the topic. Circul'R started with a world tour to meet 150 circular economy entrepreneurs in 22 countries, which resulted in the establishment of a global network of more than 1000 circular economy solutions. Today, Circul'R works with more than 120 French and international companies to accelerate the transition to a circular economy, by connecting them with start-ups to build pilot projects and scale them up. Circul'R has also created the Circular Club with the Ministry of Ecological Transition of France to host events where big companies meet with circular economy start-ups and build partnerships for scaling up the circular economy.

Mr. Masvigner explained that collaboration between **big companies and start-ups is beneficial as both parties have strengths that complement each other.** Big companies have resources, financial support, and industrial

equipment that start-ups often lack. They also have experience in managing complex supply chains and dealing with partners. Start-ups, meanwhile, can benefit from the brand recognition and media attention enjoyed by big companies, thus gaining valuable exposure. Such collaboration is becoming increasingly common and can help start-ups overcome challenges and accelerate their growth.

By collaborating with start-ups, big companies can benefit from their innovation abilities and adapt to new sectors more effectively. Big companies often struggle to innovate and change their supply chains due to their size and complexity. **Start-ups bring strengths in innovation and provide plug-and-play solutions** that can be quickly implemented within big companies to accelerate the innovation process. **Start-ups are also agile and flexible**, which enables them to adapt to changing markets faster than big companies.

The third strength of start-ups is their **entrepreneurial spirit and mindset**, which can bring about a positive change in the culture of big companies. While big companies often have a competitive mindset, start-ups tend to have a more cooperative mindset. When big

companies collaborate with start-ups, this can lead to a shift in the culture and mindset of the big company, although this change may not always be easy.

**Three success stories were shared by the speaker.** The first one was about Eurostar, which wanted to experiment with the first zero-plastic train in Europe. Circul'R identified start-ups and NGOs in London and France that could provide solutions. The project took nine months and resulted in a pilot project for the first zero-plastic train in Europe. The focus was on both environmental impact and financial feasibility, as big companies need to see a return on investment in order to invest in circular economy solutions.

The next success story related to collaboration between Circul'R and the French Agency for Development (AFD) to create a circular economy assessment tool for a Turkish bank, TSKB. The tool was created to ensure that credit loans are given only to start-ups developing circular solutions. Thanks to this tool, TSKB was able to receive a EUR 80 million loan from AFD to invest in start-ups in Turkey. This

success story shows that **tools for financial and environmental assessment can help circular economy start-ups secure loans and financing.**

Cicul'R has also collaborated with French incubators to promote the circular economy through a project with Citeo (an extended responsibility producer company for packaging in France). They organize the Circular Challenge, an annual event that identifies the best circular economy start-ups worldwide with solutions for packaging and seeks to invest in and help them grow in France and other countries. This initiative aims to source the best solutions from Africa, South America, and Asia, in order to encourage local growth and circular economy practices.

Mr. Masvigner also mentioned the Circular Talks podcast which highlights successful collaborations between big companies and start-ups. The podcast provides insights into the challenges and key success factors of these collaborations, which can be a source of inspiration for others. The goal is to scale up these solutions and share them more widely.

## Support opportunities for impact entrepreneurs across developing countries



**Ms. Ljupka Mitrovskaja**, Co-founder and Global Program Director, Accelerate2030, presented the Impact HUB network which is a large entrepreneurial network focused on impact at scale with over 100 locations worldwide.

These provide physical co-working spaces where innovators, entrepreneurs, and freelancers can come together to generate positive social or environmental impact. Accelerate2030 is a global program hosted by Impact HUB Geneva and the UN Development Programme, aimed at finding entrepreneurs from developing countries who have solutions towards achieving the Sustainable Development Goals (SDGs), and helping them scale up their impact. The program was launched in 2016 with the core belief that entrepreneurs can catalyse the transition to a more regenerative and distributive economy and help achieve the SDGs.

The Accelerate2030 program has been implemented in 32 countries, supporting over 470 intrapreneurs and engaging with more than 200 partners. They work by implementing a **national scale-ready program in each location, in collaboration with local accelerators and incubators.** The program includes agnostic bootcamps, mentorship, and expert support. A selected cohort with international scaling potential is invited to Geneva to connect with the UN, investment and business communities, and the program guides the cohort in its international expansion strategy.

Accelerate2030 has integrated circular economy as a core pillar, drawing from the Swiss experience with the circular economy transition as well as from its wide knowledge and expert network. It has developed courses and tools to help entrepreneurs integrate circular economy principles in their work and has also developed a toolkit for other business support organizations to do the same. This is important

because a significant amount of impact happens in the design stage, and **support organizations thus need to be able to provide these principles to companies prior to that stage.**

Accelerate 2030 helps start-ups connect with larger industry players. Ms. Mitrinovska provided an inspiring example of a Turkish start-up, Whole Surplus, which addresses food waste and surplus by offering holistic solutions such as donation, secondary sales, animal feed, and biogas production. It also helps reduce food waste at stores by providing analytics and other technological solutions. The start-up has a clear business model in place and has saved over 16,000 tonnes of food, donated to over 1.1 million people in need, and saved 53,000 tonnes of carbon emissions in just four years. Ms. Mitrinovska highlighted the **importance of collaboration**, as Whole Surplus had to collaborate with the Turkish Parliament to change laws that made it cheaper for companies to throw food away than to donate it,

thus bringing a systems perspective to circularity.

Another example is the Serbian company Ekofungi that has developed an innovative circular mushroom production model, using local cellulose-based waste from within a 30-kilometer radius to produce 20 tonnes of organic specialty mushrooms per year. The company has also created a replicable model that can be used by other organizations globally and has already brought it to Africa. The model is sustainable, promotes local production, and incorporates energy-efficient innovations, making it an excellent example of a circular business solution.

Ms. Mitrinovska announced the launch of the 5th edition of a program at Accelerate2030 aimed at promoting circularity among companies. The program is open to collaborations with governments interested in taking an action-oriented approach to support circularity within their own countries. She invited those interested to get involved in the program.

## Experience from Georgia on developing a start-up ecosystem



**Mr. Irakli Kashibadze**, CEO, Future Laboratory and Startup Central Eurasia Coordinator, introduced the work of the Future Laboratory in Georgia and in the region. In Georgia, Future Laboratory runs a leading start-up acceleration program called "You Just at a Factory" and several corporate acceleration programs. It has invested in and supported several start-ups focused on circular economy, including a project that helps reduce food waste and supports supermarkets and shops in distributing food that is near its expiration date. Mr. Kashibadze also presented a joint partnership between Future Laboratory and UC Berkeley to start an innovation and entrepreneurship master program in Georgia. One of the topics offered to students is "deplastify the planet", which aims to teach students how to use green solutions and reduce plastic pollution with the help of UC Berkeley experts.

The speaker shared his past experience managing Georgia's Innovation and Technology

Agency (GITA) and working with the Massachusetts Institute of Technology to establish the Lab for Bits and Atoms, which introduced the concept of Fab Labs and the Fab City Global Initiative that uses digital tools to create self-sustainable cities. Over 24 FabLabs have been initiated in Georgia with the support of GITA. The initiative also focuses on creating start-ups that incorporate elements of the circular economy.

Mr. Kashibadze emphasized the importance of **education in the start-up journey** and highlighted the challenges of changing the culture and promoting **collaboration between scientists and entrepreneurs**. There is an abundance of biotech inventions and innovations in Georgia that could contribute to circular economy and waste reduction, but many scientists do not know how to commercialize their ideas.

Mr. Kashibadze noted that **the circular economy should be integrated into the educational process. Local universities should work more closely with industries to transform their processes and use more circular economy**

**elements.** To have a bigger impact, the circular economy should be transformed into a profitable business, and efforts must be made to establish all the elements of a functional **start-up ecosystem**, including more venture capital in the industry. He emphasized the need to **accelerate startups** through programs and partnerships with leading international research institutions and universities, in order to create more profitable startups in the circular economy.

The speaker also emphasized the **need for more venture capital funds in the circular economy industry.** He suggested teaching students and entrepreneurs how to create venture funds and provide co-financing to encourage the development of such funds.

## Setting up long-term circularity goals in research and development in UK



**Mr. Zhongyun Fan**, Professor of Metallurgy and Founder and Director, BCAST at Brunel University, introduced BCAST, which works on innovative solutions in the metal industry.

Metals are essential for manufacturing and the economy, but their extraction is energy-intensive and produces significant GHG emissions. The long-term goal is to achieve fuller circulation of metals, re-utilizing what is already available instead of extracting minerals. BCAST has been working on this goal for the last 20 years, and has received over £30 million in research grants, cooperating with over 100 companies including SMEs and large companies in the automotive sector.

Mr. Zhongyun explained that the research activities at BCAST have three pillars. The first is closing the loop, which is about a holistic approach to recycling metals. BCAST aims to develop new alloys that are more easily recyclable, and technologies that deliver better recycling processes. The second pillar is developing alloys and metallic materials that are multi-principal and can deliver higher strength with

less material, narrowing the flow of metallic materials. The third pillar is redeveloping technologies for making metallic components much longer, slowing down the whole flow loop.

BCAST has been implementing a UK government-funded project, that aims to develop technologies to lengthen the lifespan of components as well as recover severely worn or broken components with proper technology. This service, which is freely available to all, aims to achieve three objectives: return, recover, and repair. This technology will not be translated into business quickly, and it may take 20-60 years. However, it will still significantly contribute to increased circularity in the interim.

The speaker stressed that **commercialisation is a major challenge for the circular economy transition, particularly for start-ups. A systems approach in research is required to find long-term solutions to environmental challenges.** There is currently a lack of focus on long-term scenarios in circular economy research, which could hinder progress in the future.