Study Report 3: Sharing Platforms

REDUCES – Rethinking Sustainable Development in European Regions by Using Circular Economy Business Models

REDUCES
Interreg Europe

European Union
European Regional Development Fund

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Content

1. Focus of the report

The report presents the third study report for Interreg Europe project REDUCES dealing with the circular business models on "Sharing platforms". This report is based on the 4th interregional meeting and the presentations and discussions that took place during this event, as well as on the evaluation of the cases that was done in the weeks afterwards. The meeting was set to take place in Sofia, Bulgaria, but was reorganized to an online meeting as a consequence of COVID-19 restrictions.

As stated in reports 1 and 2, Circular economy (CE) can mean many different things for different actors in different fields. Common denominators are designing out waste and pollution (waste reduction), keeping products and materials in use (upscaling and keeping the value), regenerating natural systems (loops, transition), and social aspects like creating well-being.[1] This broad context requires the focus on specific business models which were introduced and developed during the REDUCES project 1st interregional meeting.

In the next chapter, the business model "Sharing platforms" is introduced in the context of the REDUCES project. The third chapter reports the highlights of the 3rd interregional meeting of the REDUCES project. The fourth chapter presents the good practice cases that were presented and discussed during the 4th interregional meeting. In the weeks after the meeting a peer review evaluation was set up between the partners. The fifth, and last, chapter is a representation of this evaluation.

REDUCES brings together six European regions.

1 Ellen MacArthur Foundation. 2017. The concept of a circular economy. https://www.ellenmacarthurfoundation.org/circular-economy/concept.

2. Description of the Business Models

2.1 Regional background

The selected best practices within the REDUCES project are part of a project that aims to understand and improve regional policy instruments for a CE. The six regions involved in the REDUCES project have selected the following policy instruments:

- Southwest Finland: Sustainable growth and jobs 2014–2020 – Finland's structural funds programme.
- Utrecht, Netherlands: Chances for West 2: Operational Programme ERDF West-Netherlands.
- Greater Manchester, UK: Greater Manchester European Structural and Investment Funds Strategy 2014–2020.
- Valencia, Spain: DC09 Regulations on Habitability in Housing.
- Bulgaria: Operational Programme "Environment" 2014–2020.
- Maramures, Romania: Regional Development Plan of North West Region 2014–2020.

The overall common objective of the policy instruments is to adopt more environmentally sustainable ways of production, reducing the negative environmental impacts of economic development. CE business models should contribute to this objective. The next paragraph gives more information about the business model central to this study report: "Sharing platforms".

2.2 Business Model Definition

During the previous Interregional meetings the project partners concentrated on Sitra's conceptual definition of the different business models from Circular Economy which were selected for the REDUCES project. In the first and second study reports in total three business models were presented: "Product Life Extension", "Product-As-A-Service" and "Renewability". Following descriptions by Sitra,[2] the models are explained respectively as: 'using products according to their original purpose for as long as possible or enabling multiple instances of reuse through means such as maintenance, repair and refurbishment'; 'providing services instead of products'; and 'using renewable and recyclable materials as well as renewable energy in product design and manufacturing'.

2 For the definition by Sitra and Finnish examples, please see: https://www.sitra.fi/en/projects/interesting-companies-circular-economy-finland/#what-is-it-about.

These categories stem from a division of circular economy business models in five types: 1) renewability; 2) sharing platforms; 3) product-as-a-service; 4) product-life extension; and 5) resource efficiency and recycling. In practice, it is sometimes difficult to categorize a specific company as various elements of different business models can be found. At the same time, it has proven useful to discuss business models that fit the category and therefore share specific elements.

The "Sharing platforms" business model is seen as a promising model for enabling a circular economy because it promotes collaboration among users to increase the usage and value derived from products. The primary feature that defines a Sharing Platform business is that the company does not make or own any goods.

Sharing platforms maximize the usage of goods and resources and extend their life cycles by using digital platforms for renting, selling, sharing and reuse, for instance.

For more examples of the business model under discussion in this report, please see for the Finnish examples in Sitra's report.[3]

3 Sitra: https://www.sitra.fi/en/projects/interesting-companies-circular-economy-finland/#business-examples

3. Fourth REDUCES interregional meeting

On 10th of December 2020, the Euro Perspectives Foundation (EPF) and the University of Mining and Geology (UMG) in Sofia hosted the 4th interregional REDUCES meeting. The event took place online. The overall objective of the meeting was to highlight the regional development issue in Bulgaria as reflected in the policy instrument and in the context of the sharing platforms business model. In addition, all partner regions learned from each other from the case studies presenting sharing platform business models, their environmental impacts and their development potential in each region. The online event was attended by more than 40 participants from the partner regions.

The meeting was opened by Prof. Dr. Eng. Ivaylo Koprev, Rector of the University of Mining and Geology "St. Ivan Rilski", who presented the University and its work in the direction of circular economy.

The morning session was dedicated to the key developments in Bulgaria in the field of circular economy – strategies and national plans. Mr. Anton Peychev from the Ministry of Environment and Water presented the current situation of circular economy and single use plastics challenges in Bulgaria. Tsvetomir Kalchev, Manager Magisterium Ltd in his capacity as beneficiary under OP Environment 2014–2021 told the story of a newly awarded pilot project for the establishment of a sharing platform for smart waste management in Bulgaria.

Sharing platforms and smart solutions in the energy sector were presented by Vesela Malinowska, Vice President of Marketing ADD Bulgaria.

The morning program included also two partner regions' sharing platforms examples from South West of Finland and Maramures, Romania. From Finland, Tomi Virtanen, owner of Doerz, presented a platform for offering and purchasing local experiences when traveling. Local guides, local experiences and better visits are among the authentic travel experiences the service platform offers.

In Maramures, Romania, the presented case was a development project that made first steps in creating the infrastructure for electric vehicles in Baia Mare. The charging station network was build to promote transition to more sustainable mobility and to improve air quality.

The afternoon on December the 10th offered the participants of the Sofia Interregional Meeting four more examples that showed how sharing platform business models can boost the circular economy in the EU regions.

Matmap from Valencia offers a decentralized platform for the sale of recovered ceramics for construction. It matches business with ceramics waste and customers who want to buy it.

Insert – market place for reusable building materials, trees and plants was presented from Utrecht. The sharing platform has great impact on the reduction of waste.

Sharing Platforms are helping to move us from ownership to usership as demonstrated by @ ZoomEV from United Kingdom. The platform centers on sharing electrical vehicles through Peer to Peer.

The participants heard also about the CozZo App, an innovation from Bulgaria to help with food waste. CozZo provides a food, home and personal supplies manager that helps you to avoid food waste by tracking what food you have and when it expires.

The REDUCES project aims to exchange experiences and knowledge within and between the regional authorities in order to take informed action to improve their policies. This is key in developing the best action plans to support environmentally sustainable business models and policy instruments in each region. For this reason, participants and moderators were asked to distill learnings from the sessions held. The learnings were summed up as follows:

1. Sharing platforms CE business model is based on the use of information technology, which requires certain skills from the consumers.
2. A key determinant in the success and adoption rate of peer-to-peer sharing platform business models is the culture and features of the local and international markets.
3. Building trust, providing a guarantee for proper service provision and easy access are core elements of this business model.
4. Ease of use makes it possible to train the customers into certain areas.
5. The sharing economy shows a vastly different approach to commerce and consumer behaviour than conventional industries do.
6. The digital sharing economy offers individuals opportunities to find temporary jobs, generate additional revenue, increase reciprocity, increase social interaction, and access resources that cannot otherwise be achieved.
7. Start-ups can benefit from the uptake of the sharing economy trend because it provides them with opportunities for entrepreneurial activity in a wide variety of markets.
8. The required amount of resources and technology for companies to set up peer-to-peer platforms is up to 100 000 EUR per REDUCES partner region. Most companies employ less than 10 FTEs and the required skill base is limited to well-trained software developers, programmers and marketers.
9. In general, there is a lack of tailored policy frameworks for regulating new sharing economy industries and policy makers might inappropriately apply conventional industry standards and legislation
10. European and national subsidy programmes could be tailored to be more in line with this new approach to entrepreneurship.

On the second day of the Interregional meeting, December 11th, a workshop on development of Action Plans was arranged by the Euro Perspectives Foundation team.

The main points of discussion were activation and stakeholder involvement, determination of a region's potential and priorities, and definition of the activities in the Action plan. The session set aside time for each partner to start thinking about their own action plan and to identify possible good practices for transfer in order to improve the progress of circular economy in their regions.

4. Selected regional GP cases

In essence, the REDUCES interregional meetings are about learning from CE Good Practices across Europe. In this chapter, the regional GP cases that were introduced during the 4th interregional meeting in December 2020 are presented. There were more cases collected and evaluated by the partners (see part 5). More information about each case can be found on the REDUCES website: https://www.interreg-europe.eu/reduces/good-practices/.

Southwest Finland

Doerz – a service platform for authentic travel experiences

Presenter: Tomi Virtanen, owner
Moderator: Vihra Andonova, EPF

Doerz is a Finnish service platform and community building the bridge between travelers and locals. The idea originates from the founder's own experience and desire to try authentic activities with locals, instead of traditional tourism services. However, it was hard to find these experiences and service providers at the time. In addition, the company identified preliminary changes for global tourism, which includes a new way of buying experiences and the need of platform economy. From the start, the company has considered itself to be implementing a sharing economy, especially a platform economy.

Doerz did a pilot test in Finland and noticed that there was demand for such service. At first, external technology was used to run the company's platform but in 2017, Doerz developed its own sharing platform for the service.

Doerz works as a technology supplier to experience providers and offers a platform for their use. The provider, or a "doer", offers an experience to the platform and Doerz links customers to it (local or tourist). The customer can be, for example, a US tourist in France or a local person in Utrecht. Experiences on the other hand can be, for example, a wine tasting held by a local person, a sport experiment, or a walking tour in the city. Doerz also helps the customer in marketing and search engine optimization. Doerz handles the payments and feedback channels, which makes the administrative side for the customer easier. Otherwise, Doerz does not take part in the business activities. In 2020, Doerz operates mainly in 6 countries in Europe.

For the cities, municipalities and other businesses, Doerz offers a software as a service model (SaaS). The customer buys the license to use the Doerz platform for offering their regional experiences. Some Finnish municipalities are already using the platform and Doerz is keen on exporting it further to other European cities as well.

There are three main target groups: end-users buying the experiences, experience providers (either a private person or a company), and B2B customers, such as the cities/municipalities. Other stakeholders include other local partners, e.g. airline companies or hotel chains as well as the investors.

Cross border green transport network – CGTN project, implemented by Baia Mare Municipality

Presenter: Michaela Lite, REDUCES project manage
Moderator: Vihra Andonova, EPF

Promotion of environmental transport by facilitating the use of electric vehicles in Baia Mare through development of platform of 6 electric charging stations.

The city of Baia Mare managed to join international initiatives to promote clean mobility in urban agglomerations. Traffic in Baia Mare has increased significantly in the past years generating high levels of pollution. The population is reluctant to change the type of vehicles and move from diesel/petrol to other types of fuels. Therefore, the municipality aims to encourage electric mobility by providing the required infrastructure.

The main idea is to reduce pollution in the city of Baia Mare, which has a long history of toxic contamination from mining activities. The municipality is strongly committed to joining the European efforts to reduce carbon emissions and provide clean air to its inhabitants. The project is a first step in creating the infrastructure for electric vehicles in Baia Mare and other project partners.

The main outputs:

1. Installation of 6 of 22 kW charging stations for electric vehicles in Baia Mare
2. Training in high schools regarding the sustainable use of natural resources and methods to reduce carbon emissions.

The project was developed by a consortium of partners: Lead partner Ivano-Frankivsk City Council and NGO "Teple Misto" from Ukraine, Municipality of Baia Mare (Romania), Town of Michalovce (Slovakia) and Municipality of Nyíregyháza (Hungary).

CozZo food, home & personal supplies manager

Presenter: Ivo Dimitrov, company owner
Moderator: Vihra Andonova, EPF

CozZo App is a food manager, combined with a versatile shopping and cooking planner that helps to avoid food waste by tracking what foodstuff you have and when it expires.

According to UN data, one third of the food that the world produces is discarded. The largest source of food waste is households, accounting for 53% of the total, 19% comes from food processing, 12% from restaurants and catering, 11% from initial production and 5% from retail and wholesale. Last but not least, food waste contributes to global warming. Food waste in plastic bags, along with

other plastic, paper, metal and glass waste deposited at landfills releases large amounts of methane and carbon dioxide, gases that are directly related to global warming.

CozZo is an intuitive store-to-fork groceries management app for families that seek a smart way to plan, shop and track food so as to avoid wasting it. An additional benefit for the application users is that it helps the proper planning of purchases, saves money and optimizes the way a households is managed. CozZo combines a smart shopping list with a pro-active inventory catalogue that makes it possible for the users to manage their kitchens with the efficiency of a first-class restaurant. The app tracks food expiration dates and sends reminders at the right time to ensure that no food will be wasted.

The customers find the pantry-inventory CozZo app very helpful and easy to use.

The stakeholders involved are the citizens, research institutions, local authorities and waste management operators.

Greater Manchester, UK

Zoom EV: a peer to peer car sharing platform for Electric Vehicles

Presenter: James Jean-Louis, Chief Commercial Officer, Zoom EV
Moderator: Vihra Andonova, EPF

The future of mobility is shared

Zoom EV is a start-up established in 2018 with the mission to enable the flexible use of electric vehicles (EV), to provide the best EV benefits to drivers and to reduce CO2 emissions from transportation.

The vision of Zoom EV is to make moving to electrical vehicles easier. Three solutions are offered by the company: an electrical vehicle sharing platform, an EV driver benefits bundle, and an EV insurance. Mobility-as-a-service addresses consumers' demand moving from ownership to usership.

The EV sharing platform is built to enable the flexible use of EVs when and where the customer needs them, rather than owning an idle asset. The benefits of Zoom EV aim to make moving to EVs easy and save the users even more money. The fundamental mission is to play a leading role in reducing CO2 emissions and helping to improve air quality on a global scale.

The purpose is to provide the best EV benefits to drivers, enable the flexible use of Electric Vehicles, provide a better EV insurance experience, reduce CO2 emissions and improve air quality.

Since the start of the Zoom EV sharing platform, 1.13 tons of CO^2 emissions have been saved, thus contributing to clean air in the UK cities recorded through a special tool available on at the sharing platform. The business model development is boosted by the UK Government decision to ban the sales of diesel and petrol vehicles by 2030. The company predictions are that global EV sales will rise from 2 million in 2018 to 28 million by 2030. Only in the UK, sales of EVs' has risen to 6,6% of the new car market in Q1 2020. The predicted size of sharing economy in UK is to be £ 140 billion by 2025.

The customers/stakeholders using the Zoom EV services range from local authorities offering it to their employees during evenings and weekends, UK car dealers, housing associations and private sector fleets.

COVID-19 has further accelerated the drive for global change in attitude towards mobility and improved air quality.

Insert – market place for reusable building materials, trees and plants

Presenter: Mr. Peter Kreukniet
Moderator: Vihra Andonova, EPF

Insert is an online market place for building materials, trees and plants for (semi-)public spaces. It is a space for resources to be reutilized after dismantling or renovating a site.

The Foundation Insert started in 2018 from a cooperation between demolition companies and engineering companies in the industry. The objective of Insert is to create a network that enables repurposing resources and materials from demolition projects. At a later stage, gardening companies joined the platform, broadening the focus to plants, bushes and trees for (semi-)public spaces. Companies from both sectors found that materials and resources from their projects mostly ended up as waste, instead of getting a purpose in new projects.

The core of Insert's proposition is an online marketplace (marktplaats.insert.nl) for materials and resources. On this online marketplace, companies can post or look for available resources and materials from a wide range of categories, such as trees, heating installations and ceiling systems. In addition, Insert provides material and resource inventories and storage facilities, and consults on circularity and applying reused materials. The combination of the online platform and services provided enables the Foundation Insert to reach its circular ambitions.

The main stakeholders of Insert are its co-founders and partners. In addition, companies such as demolition companies, architects, builders, contractors and project developers make use of the marketplace. They post and buy resources and materials.

Matmap, decentralized platform for the sale of recovered ceramics for construction

Presenter: María Martínez, CEO
Moderator: Vihra Andonova, EPF

Matmap is an online platform that connects those offering recovered construction materials, work surpluses, stock remains or ecological materials with buyers.

MatMap's philosophy is to renew the production model of the construction sector, making it more sustainable, favoring materials that would potentially be discarded and are reincorporating them into the construction sector.

The online platform (of decentralized sales) facilitates connecting professionals who have recovered construction materials, have work surpluses, stock remains or produce ecological materials, with buyers. The platform is specialized in ceramics materials, although there are also other materials available.

The business model of the platform is based on a small percentage of each transaction. Matmap does not have warehouses so its costs are very low, which allows them to work with low percentages.

The platform makes it easier for companies offering materials (manufacturers, warehouses, builders, and demolitionists) to gain visibility by reaching an even greater number of clients and allowing to obtain benefits from materials that were to be discarded and withdrawn from the market, at the same time reducing the costs associated

with their recovery. Clients interested in developing more sustainable and circular projects find more competitive prices compared to other newly produced materials. The platform aggregates the offer of warehouses, demolition companies, distributors etc. that work with recovered materials, which also reduces the customers' search time. In addition, the logistical management for materials transportation is included in the service.

5. Evaluation of selected GP cases

REDUCES evaluates the collected good practices applying the methodology defined at the beginning of the project. The goal of the evaluation in the project is to assess the quality of the Circular Economy business cases in the contexts of their environmental impact, replicability and upscaling potentials. It is also done to get a better picture of the CE practices in the partner regions and their impact in transitioning to sustainable economies. The evaluation highlights the success factors of different business cases, crucial for replication and upscaling in different regions.

5.1. REDUCES evaluation framework and evaluation results

In order to assess the potential impact of each good practice collected, an evaluation framework was devised, including assigning indicators to demonstrate potential impact of each GP. The REDUCES assessment framework is structured around the UN Sustainable Development Goals (SDGs) and their targets. The UN Sustainable Development Goals indicate the most relevant global sustainability challenges of the moment, ranging from poverty and justice and to climate change and environmental degradation. There are 17 interconnected Goals and the UN tries to achieve them by 2030.[4] Applying a methodology by Schroeder et al. (2018)[5], the most relevant Goals in relation to the circular economy were identified. Each GP was evaluated in relation to the SDGs, with additional indicators outside the SDGs assigned to a GP when needed. Mapping of the goals showed that the REDUCES Sharing Platform Good Practices mostly contributed to the following SDGs:

- SDG 8 Decent work and economic growth: The goal is to promote inclusive and sustainable economic growth, employment and decent work for all. The goal includes for example a target for decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- SDG 9 Sustainable Industrialization and use of resources: The goal aims to build resilient infrastructure, promote sustainable industrialization and foster innovation. The goal includes for example a target for promoting inclusive and sustainable industrialization and significantly raising industry's share of employment and gross domestic product.

4 United Nations. Sustainable development goals. https://www.un.org/sustainabledevelopment/sustainable-development-goals/

5 Schroeder, P., Anggraeni K., and Weber, U. 2018. The relevance of circular economy practices to the Sustainable Development Goals. Journal of Industrial Ecology.

- SDG 11 Sustainable cities and communities: The goal aims to make cities inclusive, safe, resilient and sustainable. The goal includes for example a target for reducing the adverse per capita environmental impact of cities, for example by paying special attention to air quality and municipal and other waste management.
- SDG 12 Sustainable consumption and production patterns: The goal aims to ensure sustainable consumption and production patterns. The goal includes for example a target for substantially reducing waste generation through prevention, reduction, recycling and reuse.
- SDG 13 Climate Action: The goal entails taking urgent action to combat climate change and its impacts. For example, the goal targets to improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
- SDG 17 Partnerships: The goal aims to revitalize the global partnership for sustainable development. For example, SDG 17 aims to encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

Particular emphasis was placed on the following aspects of the GPs applying an impact scale from 1 to 3 (low-medium-high):

- Potential sustainability impact
- Potential for upscaling
- Potential for replication

A peer review was conducted between partner regions to allow for a thorough analysis of the sustainability impact of each GP and to validate the conclusions made by the partner submitting each GP on each of the stated aspects. A joint online meeting was then held to discuss the evaluation results in the Evaluation Coordination Team (ECT). These conclusions are summarized on the following pages case by case.

Note that case CozZo food, home and personal supplies manager from Bulgaria was presented in the interregional learning event but was eventually not included to GP database after ECT meeting.

City mobility with SPARK (Bulgaria)

Estimating potential impact of GP (SDG indicators reflected)

Spark is the first car and sharing company fully equipped with electric vehicles for getting around Sofia. SPARK's consumers can rent an electric vehicle for 15 minutes or a few days. After using the service, the car is left in one of the designated Spark areas in Sofia, including the central part of the city, which is free for electric cars. A mobile application provides access to the electric vehicles. SPARK also includes a wide network of charging stations in Sofia.

The practice helps to make cities and human settlements inclusive, safe, resilient and sustainable and ensures sustainable consumption and production patterns. The impact of the practice to SDGs has been considered as **high**. This good practice contributes to improving air quality and reducing the emission of pollutants.

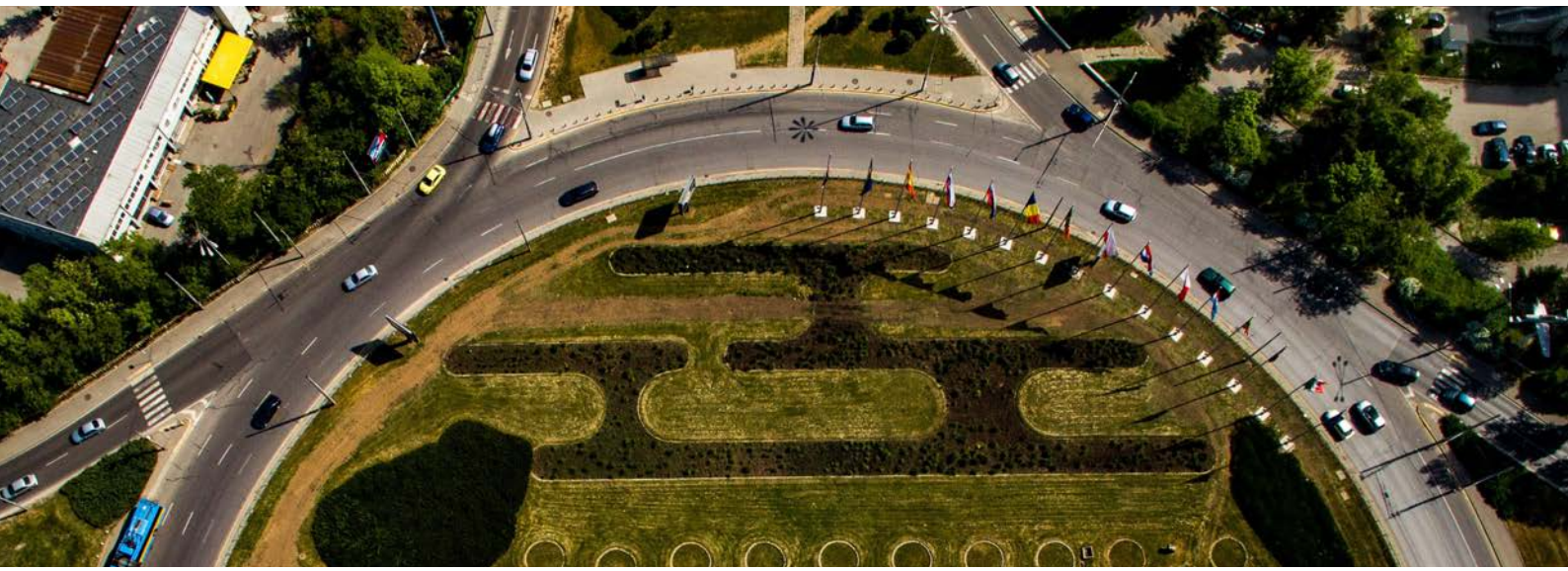
The GP contributes also to an improved CE attitude and knowledge of businesses, municipality and citizens.

Potential for upscaling

It seems reasonably easy to scale up the practise once the existing company is established. Advantage can be taken of the applications developed and the infrastructure available to offer other types of vehicles (motorcycles, electric scooters, etc.). This practice has therefore **high** potential for upscaling.

Potential for replication

There are other companies operating around Europe with similar models. Difficulties in replication can be found in the existing competition in other regions where there are already companies offering similar services. It was however concluded that the practice has **high** potential to be replicated in other regions.



Circular Arts Network (Greater Manchester, United Kingdom)

Estimating potential impact of GP (SDG indicators reflected)

Circular Arts Network (CAN) is a sharing platform created to support the arts by helping artists to reuse and recycle easily and to enable donating organisations of unwanted materials to support the arts. The initiative in itself makes for more volunteer jobs. For a specific network the impact of job creation might be low – however the initiative aims at local/regional networks, so when scaling up the potential growth of the impact is rather substantial. For the creative industry the CAN initiatives focus on the impact to sustainable use of materials is quite high. Artists are being facilitated to reuse and recycle unused materials. In the last half year, this resulted in 340 transactions and an estimated carbon saving of 275 kg. With a growing network that becomes more active, this number can increase tenfold on the short term. The impact on SDG's is then considered to be **medium to high**.

Potential for up-scaling

For the focus group – creative industry – the initiative seems be having a growing impact. At the same time the initiative seems to be specifically focused on artists and therefore the potential for scaling up is assessed as limited to these type of entrepreneurs, being **medium**. However, the initiative can scale up to other regions by creating networks/hubs in other cities.

Potential for replication

The initiative seems easy to replicate, and one region involved in the project has already showed interest (Madrid) and another one is being explored (Manchester). Depending on the open source character of the Circular Arts Network, other communities can easily implement the initiative in their region, although there might be technical issues for replication. Overall, replication potential is however considered **high**.

ZOOM EV (Greater Manchester, United Kingdom)

Estimating potential impact of GP (SDG indicators reflected)

Zoom EV is a peer-to-peer electricvehicle car sharing platform ing in the UK. The sharing principles lead to two substantial benefits where the impact is deemed to be **high**: 1) because of the car sharing principle less infrastructure, especially parking facilities are needed; 2) sharing of cars leads to substantially less ownership of cars, having **high** impact on less consumption of goods. What is more, focusing on electric vehicles, the company has a positive impact on decreasing emissions. When using sustainable energy for charging of the vehicles, this will also have a **high** positive impact on climate goals.

Potential for upscaling

Being a platform, scaling up should be relatively easy as few additional resources are needed. At the same time, platforms have trouble with scaling up because acquiring a bigger network and having growing customer support needs do ask for a growing company and staff. With this limitation in mind, the potential for scaling up was considered **high**, as there is a growing market of people wanting to use cars on a pay-per-use basis instead of having ownership over a car.

Potential for replication

In principle, the ZOOM EV business model will be replicable to other regions. Still, it might be the case that there is a saturated market as similar car sharing services do exist in other regions. Besides, other car sharing platforms operate on an international level and might thus be hard to compete with. The unique selling point of ZOOM EV is the focus on electric vehicles and thereby on a possible niche market, depending on the region. In general, the potential is therefore estimated to be **medium**, but for regions where these kinds of service do not exist the impact could be high. Only a new car sharing platform is needed that can invest and then find partners to cooperate with.

Cross border green transport network – CGTN (Maramures, Romania)

Estimating potential impact of GP (SDG indicators reflected)

The practice consists of the promotion of environmentally friendly transport by facilitating the use of electric vehicles in Baia Mare through development of a platform of 6 electric charging stations. The main idea is to reduce pollution in the city of Baia Mare which has a long history of toxic contamination from mining activities. The municipality is strongly committed to joining the European efforts to reduce carbon emissions and provide clean air to its inhabitants. Baia Mare installed of 6 charging stations of 22 kW for electric vehicles and implemented a training campaign in high schools regarding the sustainable use of natural resources and methods to reduce carbon emissions. Although promising, the data provided seems to be negatively affected by the COVID-19 pandemic since it has strongly affected the target group, businesses and tourism activity.

The GP is linked with the target to reduce the adverse per capita environmental impact of cities, e.g. by paying special attention to air quality and municipal and other waste management. The information provided is the CO2 emissions reduction, estimated in 267,5 tons. Although other vehicle emissions (PM2.5, PM10) have not been monitored and provided, the potential impact was considered high.

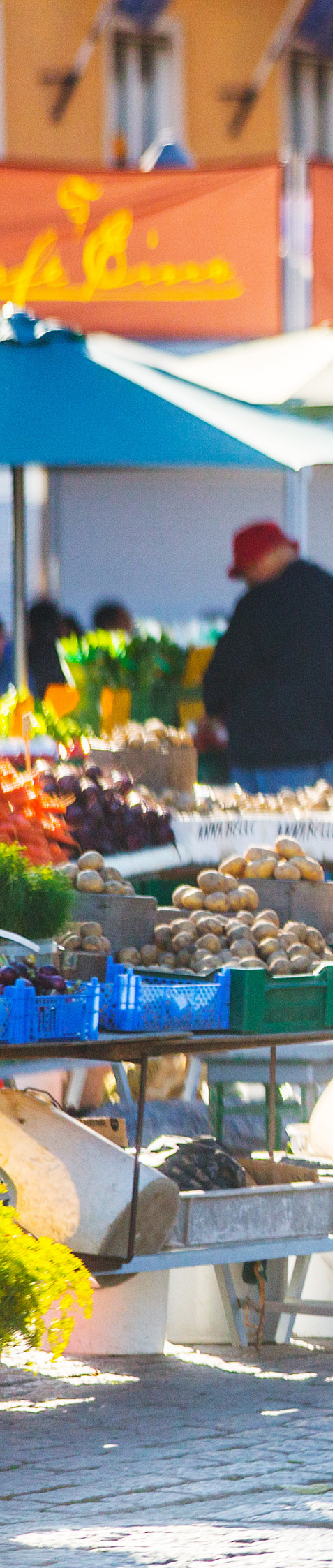
The good practice clearly contributes to the creation of jobs and the creation of a more circular economy. The impact on this indicator was estimated as **medium**.

Potential for upscaling

The practice entails **high** potential for scalability. In fact, as noted, the municipality already plans to increase the number of charging stations in the municipality. However, one must not lose sight of the fact that electric vehicles continue to present a series of barriers (price, autonomy, charging time etc.) that must be addressed to achieve success and mobilize behavior change towards this type of vehicle.

Potential for replication

The practice has **high** potential to be replicated in other regions. In fact there are other municipalities and regions developing similar infrastructures at the moment.



Foodhub-Distribution channel for local food (Southwest Finland)

Estimating potential impact of GP (SDG indicators reflected)

The Foodhub good practice on sharing platforms refers to the establishment of a digital distribution center and channel for local food in Finland. The platform brings together local food producers and consumers. The business model initiated as a project among Sitra's key area of circular economy in 2017–2018 and has continued since with different types of project financing. The business model enables transparency in food production and food chains, food distribution and increased food appreciation. It demonstrates guidance and dissemination of new ownership models such as field cooperatives.

It was concluded that the local character of this business model and the aim to keep the business small or medium sized translates to **medium** potential impact as measured by sustainable production and consumption, as well as good jobs and economic growth SDG goals. The seasonality of the business model also limits the size of the business. However, the fact that the platform demonstrates a short supply chain and is local, with identified producers and consumers, limits the generation of food waste along the food chain. For this reason the impact on food waste reduction was considered **high**.

Potential for upscaling

For this practice, scaling up is limited by the number of and type of products and suppliers. For this reason, as well as the locality of the practice, the practice was considered to entail **medium** potential for up-scaling.

Potential for replication

The practice has great potential to be replicated in other regions. The concept has already been tested within a smaller market (in Kemiönsaari). It has demonstrated the benefits of supporting and building a network of local producers selling their products in shared platform. This concept promotes local food production well and can be applied in different regions as a model to support local economies. The practice was thus considered to entail **high** potential for transfer.

Topinpuisto – A sharing platform for companies to share ideas and pilot (Southwest Finland)

Estimating potential impact of GP (SDG indicators reflected)

Topinpuisto is a sharing platform for the regions' companies in a so-called industrial ecology setting where they can share ideas, experiment, pilot, exchange know-how and do project and development work together. Industrial symbiosis (industrial ecology) has sought to combine actors in order to make more efficient use of resources and energy. Business co-operation has started around waste centers or old landfills elsewhere in Finland and the managers & employees of waste facilities have exchanged ideas in the field.

The practice provides a possibility to improve the employability and competitiveness of the companies involved. In addition, the practice demonstrates an industrial symbiosis and secures more efficient use of resources and energy. It also ensures sustainable consumption and production patterns, having reached a number of 52 research projects and pilots so far. Hence it was estimated that the practice entails **high** potential impact on the SDG goals of promoting good jobs and economic growth, making the cities and human settlements in SW Finland inclusive, safe, resilient and sustainable, as well as ensuring sustainable consumption and production patterns.

Potential for upscaling

The network structure of the practice provides a basis to be transferred also to other areas of activities. The upscaling potential of the practice was thus regarded as **high**.

Potential for replication

The practice has good potential to be replicated in other regions. In fact, there are other similar sharing platforms aiming to boost cooperation and innovation areas of clean tech, circular economy and others. Thus, the replication potential was concluded to be **high**.

Doerz – Service platform offering authentic experiences while travelling (Southwest Finland)

Estimating potential impact of GP (SDG indicators reflected)

Doerz is a Finnish service platform and community that aims to build a bridge between travelers and locals. The sharing platform model of Doerz helps businesses and individuals to provide authentic local experiences for their customers. At the moment there are already almost 500 experience providers around Europe and over 758 activities are being offered via the platform. In addition, a total of 64 cities and municipalities in Finland are using the software-as-a-service (SaaS) model. The platform offers a new way of buying experiences for tourists, following global changes in the tourism industry.

The platform economy model offers opportunities to slightly increase employability in CE (8/2 years) but more importantly it provides a ground for start-up entrepreneurs in CE (500 in 4 years) and improved knowledge about CE and the ability to create new jobs through sharing platform. This allows many individuals to easily start a business and provide services that support the development of CE. In addition, by providing knowledge to customers and local authorities about CE through the platform (758 activities / month - record 1000/month in July 2020), the model contributes to a reduced carbon footprint. For this reason the potential impact on reaching the SDG goals of good jobs and economic growth and ensuring sustainable consumption and production patterns was considered to be **high**.

Potential for upscaling

This practice has potential to be upscaled assuming other type of experiences from different sectors are offered. At this point it specifically focuses on local experiences in the tourism sector. The upscaling potential of the practice was thus regarded as **medium**.

Potential for replication

The platform provided by Doerz can be deployed anywhere in any city or region and provides an easy way to sell local experiences. At the moment there are already almost 500 experience providers around Europe and over 758 activities are being offered via the platform. For the reason the practice was considered to entail **high** potential for replication.

Experimentation of electronic means of mobility for Turku city employees (Southwest Finland)

Estimating potential impact of GP (SDG indicators reflected)

In Turku, a mobility experiment was realized within the scope of H2020-funded CIVITAS ECCENTRIC project, providing a possibility for Turku city employees to test electric mobility services. The aim was to raise awareness on alternative modes of electric mobility and by doing so to reduce the use of cars for work-related trips and commuting, especially for trips of less than 10 kilometres. The trial period took place from August 2018 to October 2019. The trial period was 2 weeks per person. The testers got the chance to use the e-vehicles on trips to and from work, work-related trips, and leisure time, and to report user experiences using a form to be completed at the end of the trial period. After a period of use, the device was moved to the next person. In total 9 different electronic means of transport were selected for the experiment; 2 were electric bikes and 2 light electric scooter, an electric light car, a four-wheeled electric scooter, an electric kickboard and a seated electric kickboard.

Altogether 105 experimenters and 89 reported user experiences of light electric vehicles were gained from the pilot. All in all, 4897km were driven with the LEVs tested. Based on average car CO2 emissions (158g/km), 0,7t/a CO2 was saved when substituting car use with LEVs. The lessons learned from the pilot were carefully analysed and will be applied in further planning the mobility services of the City of Turku. The practice served to promote sustainable consumption and production patterns – or at least to have provided an opportunity for testing measures to promote such the field of transport and mobility in cities. Due to the minor observable impacts of the pilot, the practice was however estimated to entail only **low** impact in terms of reaching SDG goals. Potential follow-up actions of the pilot will determine its eventual impact.

Potential for upscaling

The pilot project has potential for upscaling provided different types of electrical vehicles are included in the scheme and a wider range of potential users are included. For this reason the practice was considered to entail with **medium** potential for replication.

Potential for replication

A similar sharing model could be implemented and adopted in other organizations and urban units in different regions. Considering similar models for implementing urban climate programs will also contribute to climate goals and bring savings in CO2 emissions. The potential for replication of any kind of e-mobility was regard as **high**.

MatMap: Online platform for the decentralized sale of recovered ceramics (Valencia, Spain)

Estimating potential impact of GP (SDG indicators reflected)

The MatMap represents an example of an online platform for construction materials, connecting professionals with buyers and offering recovered materials, work surpluses, stock remains or ecological materials with a focus on ceramics. This practice contributes to renewing the production model of construction sector, making it more sustainable and circular by reusing materials, reducing the recovering costs, avoiding warehousing and improving competitiveness, thereby helping to ensure sustainable consumption and production patterns. Five people are now working for MatMap, hence it shows impact on promoting good jobs and economic growth. Overall, it was concluded that the practice has **medium** potential impact measured by SDGs.

Potential for upscaling

The sharing platform good practice for the construction sector developed by MatMap is the only platform operating under this model in Spain. In 3 years of activity, the company has reached more than 650 clients and a significant increase in turnover. This good practice can be extended by enlarging the range of materials and products available on the platform, favoring materials with potential to be discarded. The scalability can also be influenced by increasing the customers' interest for recovered materials and involving more warehouses, demolition companies, distributors, etc. that work with recovered materials and developing the transportation services. Therefore, the practice was thus considered to entail **high** potential for upscaling.

Potential for replication

The MatMap model can be easily transferred to other regions, taking into consideration the current development of electronic commerce in the construction sector. Advantages on the market could be created following the MatMap approach and applying for EU funds or other accelerator programs. The main difficulties encountered by this platform and any other company working with recovered materials are related to meeting the requirements for construction products: CE markings, performance etc. Another challenge is to improve the awareness on environmental issues and circular economy among customers and professionals. Overall, the potential for replication was considered to be **high**.

La Masovera: Professional organization that seeks to further a cooperative work-for-rent housing market (Valencia, Spain)

Estimating potential impact of GP (SDG indicators reflected)

La Masovera is a sharing platform in Valencia that supports affordable and sustainable access to housing by linking the demand and supply of alternative housing. The platform addresses the owners of empty buildings or apartments with low possibilities for rehabilitation, and the entities activating in the social and solidarity economy that work to promote affordable, social or emergency housing. Vulnerable people with difficulties in accessing affordable and decent housing are another group benefiting from the platform. La Masovera platform is managed as a cooperative society, the owners offering buildings for rehabilitation and other members ensuring funds for renovation and maintenance. The platform ensures the contact with people who are looking low price house for renting, so all involved parties gain. La Masovera has been recognized by the municipality of Valencia as a social and urban innovative project, being granted with 47.638,75 €.

Nine professionals work for this ethical real estate platform and for example in 2021, 7000 m2 of buildings will become more circular. Under La Masovera platform, 42 apartments are offered below market prices and 126 persons have access to those houses. It was concluded that this practice has a **medium** impact on creating new jobs in the circular economy and a **high** impact in making the region and human settlements more inclusive, safe, resilient and sustainable, as well as ensuring access for all to adequate, safe and affordable housing and basic services and upgrade slums.

Potential for upscaling

The scalability of this practice refers to extending the network of interested factors including local authorities, raising awareness on the benefit of alternative and cooperative housing, and e.g. promoting sustainable housing. The upscaling potential was concluded to be **high**.

Potential for replication

This initiative can be easily replicated in other cities, including for renewing old buildings located in city centers or in degraded areas. The success depends on attracting EU and regional financing. Overall, the potential for replication was considered **high**.

Insert: A market place for reusable building materials, trees and plants (Utrecht, the Netherlands)

Estimating potential impact of GP (SDG indicators reflected)

Insert is an online market place for building materials, trees and plants for (semi-)public spaces. It is a space for resources (e.g. doors, bathroom items such as sinks or toilets, roofing, stairs) to be offered for reuse after dismantling or renovating a site. Created in 2018, it operates as a foundation and currently has 32 partners which fund the platform, including waste management companies, building companies, demolition companies etc. All items are checked and itemized for listing with full descriptions of number available, weight, size, color, materials used etc.

Overall, the nature, design and usership of the platform enable significant impact across a number of Sustainable Development Goals. The practice is profitable and providing employment (although limited at the moment with 4 staff or 3FTE). Partners pay for the website/service. There is potential for growth of the number of partners in the Netherlands and also potentially increased reach of the service which could further increase the number of jobs. Reducing building materials costs is potentially saving jobs in the industry through cost savings. Thus the practice was estimated to entail **medium** potential impact on the promotion of good jobs and economic growth, with the potential to increase.

There is some evidence of students using the case in Utrecht to examine innovation with materials from the site, rethinking project use and design. On the goal of building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation, the practice was hence currently estimated to have **medium** impact, with the potential to increase.

The practice clearly contributes to making cities and human settlements inclusive, safe, resilient and sustainable due to the high amount of building waste, the number of partners engaged and the materials being rerouted to new building projects across the whole of the Netherlands. The potential impact on this goal was hence estimated to be **high**.

To date, the platform has engaged 130 building projects between 2018–2020 and has 32 partners, with 800 types of material traded. In the future, it could also be possible to calculate the reduction of the amount of waste ending up in the landfill. Thus it was estimated that the potential impact of the practice on ensuring sustainable consumption and production patterns is **high** locally and in the Netherlands.

Unexpected partnerships between companies and organisations that wouldn't normally take place, upcycle and downcycle, have been occurring. This is critical to enable a CE future and is facilitated through a partnership approach. Subcontractors become a partner from the start of a new contract to demolish or build, bringing them directly into the partnership. Waste Management companies are at the core of the partnership and driving the waste reduction. For these reasons, the potential impact of the practice on strenghting the means of implementation and revitalizing (global) partnerships for sustainable development was considered **high**.

Potential for upscaling

Insert is currently operating across the whole of the Netherlands but not yet outside. However, some of the partners involved are international companies which have a presence in other regions. This could potentially aid persuasion and take up in other regions through internal structures in the company. Consideration of how to scale up across borders needs to include language and location (postcodes) and redesign of the website to account for locations outside of the Netherlands. Attention would need to be paid to national rules on standards and quality of materials, as well as health & safety rules for buildings etc. Upscaling may be possible by engaging more national partners also, and if across national borders, by the scalability of the concept rather than the exact same website. It was thus concluded that the upscaling potential of the practice case is **high**.

Potential for replication

The building and demolition industry is one of the major consumers of raw (virgin) materials, and also the major contributor of waste. This is the case for the Netherlands, as well as for other European countries/regions. Transferability vs Replication needs to be considered - to adapt to local situation, rather than the wholesale transfer in the same state. Transferability and adoption in other regions would be possible in the terms identified above and also with the correct buy in and participation from local companies and authorities. Essentially, Insert makes building materials cheaper, which creates an opportunity in regions where costs are increasing. Overall, the potential for replication was considered **high**.

5.2 Transversal success factors

The transversal success factors of each GP were reviewed in more detail by carefully assisting the interview process of businesses with a list of aiding questions based on eight factors presented in an article by Rizos et al 2016[6]. This list of questions aims to assist the project partners in examining in more detail why a particular good practice has proven successful. Transversal factors also aim to shed light to the possible connecting success factors and learning points between five different CE business model types examined during the REDUCES project. Three questions concerning transversal factors that may have played a role in the success of the practice were posed to the interviewees and these factors were then analyzed jointly on all the GPs.

The main success factors that arose in relation to the **sharing platforms** business models were the following:

- **Company cultures/values** in 7 GPs
- **Local/sectoral networks/participation in communities of practice/likeminded networking** in 7 GPs
- Leadership/individuals within the company (eg understanding of CE, passion, commitment etc) in 8 GPs

In the REDUCES regions it seems that leadership/individuals within the company, company values and local/sectoral networks in communities have a significant role in the success of the sharing platform based businesses. The important role of leadership and individuals and company values is overall common with almost every CE business model. In sharing platform companies where the platform is usually digital, the role of younger generation entrepreneurs and employees and customers as first adapters is significant. Networks are important to sharing platforms, particularly when the range of the platform is local, like in car sharing or in a food hub. The local customer base appreciates nowadays products that are supplied or shared as close to the customer as possible.

6 Rizos V., Behrens A., van der Gaast W., Hofman E., Ioannou A., Kafyeke T., Flamos A., Rinaldi R., Papadelis S., Hirschnitz-Garbers M., and Topi C. 2016. Implementation of Circular Economy Business Models by Small and Medium-Sized Enterprises (SMEs): Barriers and Enablers, Sustainability 2016, 8, 1212.

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