

# Urban Resource Centres

A classification of local approaches to waste prevention, re-use, repair and recycling in a circular economy

**URBAN**  
**AGENDA**

FOR THE **EU**



CIRCULAR ECONOMY

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# 1 Introduction

The **Pact of Amsterdam** was adopted in the first half of 2016, during the Dutch Presidency of the Council of the EU, by the EU Ministers responsible for Territorial Cohesion and/or Urban Matters. The Pact strives to involve Urban Authorities in achieving Better Regulation, Better Funding and Better Knowledge.<sup>1</sup> The relevance of this involvement is highlighted by the statistic that cities and urban areas now house more than 70% of all Europeans.

In addition to being the drivers of innovation and the economy, cities are also the battleground for many societal struggles of the 21<sup>st</sup> century, as emphasised in the United Nations agreements both the New Urban Agenda<sup>2</sup> and the 2030 Agenda on Sustainable Development<sup>3</sup>. The **Urban Agenda for the EU** helps ensure that these facts are acknowledged and reflected by EU legislation, funding and knowledge sharing.

The Urban Agenda is composed of **14 priority themes** essential to the development of urban areas. Each theme has a dedicated partnership. These partnerships bring together cities, EU Member States and European institutions. Together, they aim to implement the Urban Agenda by finding workable ideas focused on the topics of EU legislation, funding and knowledge sharing. One of these partnerships is the **Partnership on Circular Economy**.

Cities play an essential role in the development of a circular economy; they act as enablers of potential measures by which they can influence both consumers and business. European cities are uniquely positioned to address complex problems through practical experimentation and innovation. The transition to a circular economy requires multi-level governance and new visions of what the future city could look like. Therefore, involvement at a local level is crucial for the transformation from the traditional linear approach to a circular strategy.

This report is part of the Partnership on Circular Economy implementation of the Action plan<sup>4</sup>, specifically the Action “Promote **Urban Resource Centres** for waste prevention, re-use and recycling”.

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<sup>1</sup> Pact of Amsterdam (2016) [http://ec.europa.eu/regional\\_policy/sources/policy/themes/urban-development/agenda/pact-of-amsterdam.pdf](http://ec.europa.eu/regional_policy/sources/policy/themes/urban-development/agenda/pact-of-amsterdam.pdf)

<sup>2</sup> New Urban Agenda (2016) <https://unhabitat.org/new-urban-agenda-adopted-at-habitat-iii/>

<sup>3</sup> 2030 Agenda for Sustainable Development (2015) <http://www.un.org/sustainabledevelopment/development-agenda/>

<sup>4</sup> Urban Agenda Partnership on Circular Economy (2018) [https://ec.europa.eu/futurium/en/system/files/ged/ua\\_ce\\_final\\_action\\_plan\\_part\\_i.pdf](https://ec.europa.eu/futurium/en/system/files/ged/ua_ce_final_action_plan_part_i.pdf)

## 2 Background information

To enable the circular economy transition in cities, a much stronger focus is needed on the role of waste prevention, re-use, repair, and recycling, as opposed to disposal. In addition, cities must play an active role in facilitating sustainable, circular consumption and efficient resource management.

The choices made by citizens in their everyday lives can either support or hamper cities' transition to a more circular economy. Cities are in a position to help, motivate, or nudge citizens in the right direction. Therefore, **cities are in a position to enable citizens to reduce waste and develop more sustainable consumption patterns**. An initial consultation<sup>5</sup> with the Partnership on Circular Economy as well as a number of other cities, shows how the social and behavioural side of the transition towards a circular economy, and the involvement of citizens in the transition process, are not yet adequately addressed at the local level. Additionally, cities currently lack the knowledge to be able to work effectively with waste prevention measures to facilitate sustainable consumption.

In addition, there is a need to develop and “future proof” the local recycling stations found in cities today, implementing the priorities of the waste hierarchy on the ground. Recycling stations in cities receive, sort, and recycle vast amounts of resources eligible for new uses. Some of these resources can be re-used, repaired, and re-furbished, in local systems, stimulating the local economy and job creation. This way of implementing the waste hierarchy at a local scale should be investigated further.

Through this collection of cases, the Partnership seeks to showcase different local approaches to waste prevention, re-use, repair, and recycling, by presenting selected cases from European cities where so-called “Urban Resource Centres” have been established. The classification of cases serves as the first step in collecting information about on-going initiatives, enabling also the exchange of knowledge between cities and other local actors working with Urban Resource Centres. The centers are classified according to their functions and focus, their organisational structures, their barriers, and their success factors.

Such initiatives are popping up all over European cities, taking different shapes and forms, yet all of them capturing the innovative drive of cities striving for sustainable change at the local level. Through its work, the Partnership identified a need for further knowledge exchange between the frontrunners and the cities looking for effective ways to promote

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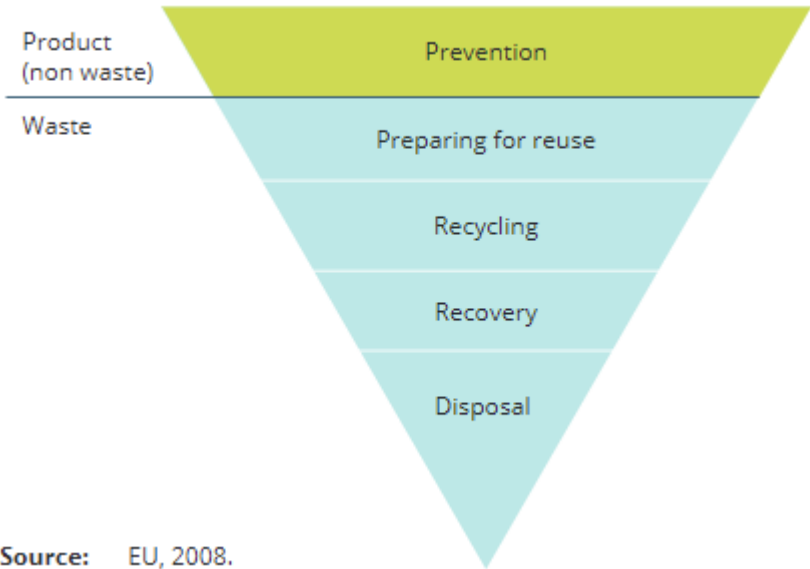
<sup>5</sup> Jan Jonker and Naomi Montenegro (2018) “Circular City Governance: An explorative research study into current barriers and governance practices in circular city transitions across Europe”  
<https://circulareconomy.europa.eu/platform/sites/default/files/circular-city-governance-an-explorative-research-study-into-current-barriers-and-governance-practices-in-circular-city-transitions-across-europe-2018.pdf>

circular consumption, waste prevention, re-use, repair, and recycling. This classification seeks to promote the importance of a continued exchange of knowledge and best practices among these actors, by presenting the experiences, successes and challenges, of 12 Urban Resource Centres found across Europe.

### 2.1 Policy Framework

Article 4 of the Waste Framework Directive 2008/98/EC<sup>6</sup> establishes the waste hierarchy as the overarching principle governing waste policies in the EU and EU Member States.

Following the waste hierarchy prevention has the highest priority, followed by preparing for re-use, then recycling and other recovery. Waste disposal is the least favourable option (see Figure 1).



Source: EU, 2008.

Figure 1 Waste Hierarchy

Article 11 of the Waste Framework Directive requests EU Member States to ‘take measures, as appropriate, to promote the re-use of products and preparing for re-use activities, notably by encouraging the establishment and support the re-use and repair networks, the use of economic instruments, procurement criteria quantitative objectives and other measures’ (EC, 2008).

The Waste Framework Directive requires EU Member States to establish national waste prevention programmes by the end of 2013. However, the national prevention strategies published thus far rarely appoint specific tasks to specific actors. Research by Zacho and

<sup>6</sup> Waste Framework Directive 2008/98/EC [accessed 12.07.2018] <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0098&from=EN>

Mosgaard<sup>7</sup> shows that local waste managers are rarely mentioned in these programmes as responsible or relevant actors. By the same measure, **local waste management authorities are rarely obliged to integrate the national waste prevention programmes into the local waste management plans.**

In 2015, the European Commission launched their Circular Economy Action Plan<sup>8</sup>. The Circular Economy Action Plan includes various legislative proposals and measures in the areas of production, consumption, and waste management, as well as concrete targets for waste management, including recycling. The legislative changes in the Waste Framework Directive were adopted on 30 May 2018<sup>9</sup>.

In addition to new recycling targets, the newly adopted amendment to the Waste Framework Directive also includes changes to Article 9 “Prevention of Waste”. EU Member States should take measures to promote and support sustainable production and consumption models. They are also to monitor and assess the implementation of measures on re-use using the common methodology established by the Commission by 31 March 2019. By 31 December 2024 the Commission is set to examine the data on re-use as provided by the EU Member States, with a view to ‘consider the feasibility of measures to encourage the re-use of products, including the setting of quantitative targets’. The Commission shall also ‘examine the feasibility of setting other waste prevention measures, including waste reduction targets’.

## 2.2 Present state of affairs

Following Article 9(5) of the Waste Framework Directive 2008/98/EC, the European Environment Agency (EEA) publishes an annual report describing the evolution as regards waste prevention for each EU Member State and for the EU as a whole. In the latest report<sup>10</sup>, published in 2018, the EEA points to three main conclusions following an assessment of EU Member States’ re-use activities, based on their national waste prevention programmes.

Firstly, they state that re-use bridges waste prevention and circular economy, in the way that it has both environmental and social-economic benefits. It requires insight into technical aspects, economic incentives, and especially consumption patterns. Secondly, national

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<sup>7</sup> Zacho, K. & Mosgaard, M (2016) “Understanding the role of waste prevention in local waste management: A literature review”, *Waste Management & Research* 34(10):980-994

<sup>8</sup> Closing the loop - An EU action plan for the Circular Economy [accessed 12.07.2018] <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0614&from=EN>

<sup>9</sup> Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste [accessed 12.07.2018] <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L0851&from=ES>

<sup>10</sup> European Environmental Agency (2018) *Waste Prevention in Europe – Policies, status and trends in re-use in 2017* accessed [20.09.2018] [https://www.eea.europa.eu/publications/waste-prevention-in-europe-2017/at\\_download/file](https://www.eea.europa.eu/publications/waste-prevention-in-europe-2017/at_download/file)

approaches are very diverse yet rely mostly on voluntary arrangements; where EU Member States have initiated re-use networks, voluntary agreements are the most frequently mentioned policy measure in the programmes. Lastly, the EEA concludes that there is a need for new measures to strengthen re-use and extend the lifespan of products, as most re-use activities focus on specific niche markets, frequently operated by social enterprises. In other market segments, economic incentives could be strengthened through market-based instruments, support for innovation, and 'green procurement'.

Waste prevention and re-use have traditionally been considered to be beyond the traditional obligations of the local waste management actors, therefore many local waste authorities still lack the required knowledge and expertise in the field.

Most cities today operate larger recycling stations that receive, sort, and recycle large amounts of waste annually. These stations are often located on the outskirts of the city, accessible by car, and focus on the sorting and recycling of waste.

### 2.3 Scope of the classification

The classification aims to assist local authorities and other stakeholders by providing them with information about already existing initiatives and approaches to waste prevention, re-use, repair, and recycling found in European cities today. The classification will also, in presenting the current state of affairs, provide information about how some cities have chosen to approach waste prevention and re-use activities at local level.

The classification will make several references to the concept of "Urban Resource Centres", which, for the purposes of this document, may be understood as follows:

**Urban Resource Centres** are physical centres that help facilitate sustainable consumption, waste prevention, re-use, repair and recycling in urban areas. These centres can be designated multi-functional places, following and implementing the waste hierarchy. Urban Resource Centres (including re-use centres and recycling stations) bring together a wide community of stakeholders to find alternatives for managing key waste streams generated at municipal/inter-municipal/regional level.

Through the collection of cases and information, there has been a specific focus on identifying barriers and success factors. This is true to the aim of the Urban Agenda for the EU, of which the ambition is to point to specific barriers experienced at the local level and find ways to address these at the European level. In the same vein, prominent success factors arising from these cases should also be highlighted so as to find the potential for replicability and transferability across other cities in Europe.

The following three questions have been central in the process of analysing the cases:

- What are the different approaches to Urban Resource Centres?
- What are the experienced barriers and success factors?
- Are some of these barriers and success factors common to several of the cases?

The classification aims to present the current state of affairs without necessarily proposing solutions to these barriers and success factors. The next step in the work of the Urban Agenda Partnership on Circular Economy will be to establish a platform, where these barriers and success factors could be further elaborated, and where stakeholders could discuss potential solutions as well as how the concept of Urban Resource Centres could be promoted and brought to other European cities.

### 3 Data collection and analysis

The classification is based on information which was gathered in two steps. Firstly, information about the different initiatives and centres was collected through an online survey, which was sent out to relevant organisations (so-called “Urban Resource Centres”) working with waste prevention and re-use. Secondly, the relevant actors were contacted for in-depth interviews about their work and experiences.

The online survey was designed to gather key information about the different centres and initiatives. It was distributed through a call for cases, which was sent out through the monthly newsletter of ACR+<sup>11</sup> and also via direct e-mail contact. The recipients were asked to follow the link to the online survey, and in total 13 responses were collected. The call for cases and the survey may be found under Appendix 6.2 and Appendix 6.3, respectively.

To deepen the understanding of the different cases, interviews with selected representatives from these cases were conducted. In the end, 12 interviews were carried out (see the detailed list of contacts under Appendix 6.1). The interviews all followed the same interview structure (see Appendix 6.4) and were conducted over the phone or Skype, in all cases except for one, which was carried out in person.

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<sup>11</sup> ACR+ (Association of Cities and regions for sustainable resource management) is an international network of cities and regions sharing the aim of promoting a sustainable resource management and accelerating the transition towards a circular economy on their territories and beyond. ACR+ is partner in the Urban Agenda Partnership on Circular Economy.



## 4 Cases

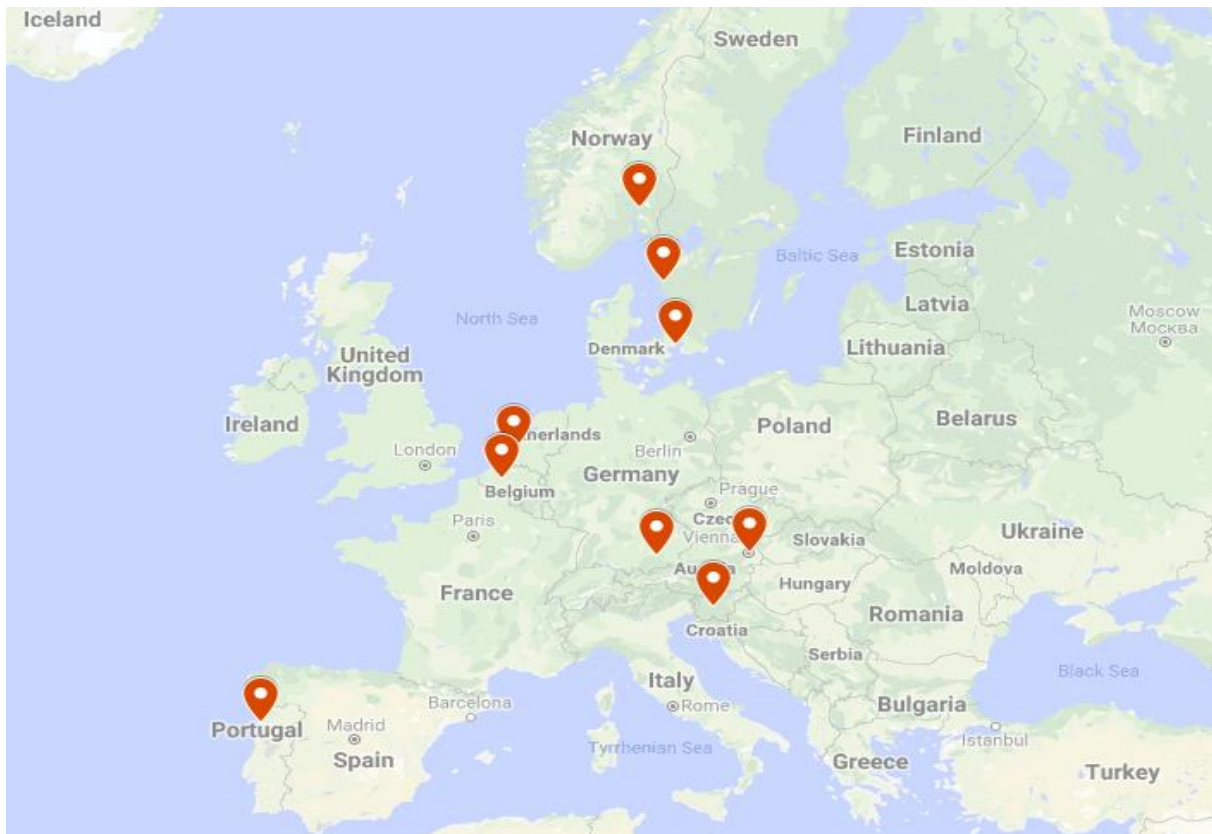


Figure 2 Geographical distribution of cases

The classification contains cases based on 12 interviews conducted in 2018 and 2019. The cases are all city-based approaches to waste prevention, re-use, repair, and recycling. Some of these are traditional recycling stations with a special focus on waste prevention and re-use, others are organised as second-hand shops, while other cases are examples of networks of repair centres or initiatives. The cases are varied, but similar in their circular nature; taking new steps to transition from a linear to a circular economy.

The cases all underline the organisational structure of the centres, their objectives, and their measured impact of the activities. There are also clearly stated barriers and success factors, which may be of special interest for urban policy makers working to establish similar concept in other cities.

## 4.1 Guldminen – Copenhagen, Denmark



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The purpose of the Goldmine at Vasbygade genbrugsstation (recycling station) has been to develop new business models within the circular economy and to be a temporary project to develop knowledge towards establishing Sydhavn Genbrugscenter. Through this Goldmine wanted to increase their ability to re-use and recycle waste streams delivered to this recycling station, and learn about the potentials of collaborating with NGOs, private individuals, and companies.

As of August 2018, the Goldmine as a whole has managed to re-use and recycle altogether around 1% of the waste streams delivered from small businesses and private people. The Goldmine closed at the end of November 2018, as Sydhavn Genbrugscenter was set to open in 2019.

The Goldmine is a warehouse placed on a recycling station with storage facilities around the building.

**Location:** Copenhagen, Denmark

**Population:** 770 000

**Organisational structure:** Public-Private Partnership

**Funding:** Through a Public-Private Partnership

**Main activities:** Housing temporary projects to increase re-use rates in the public recycling stations in Copenhagen.

<http://www.guldminenkbh.dk/>

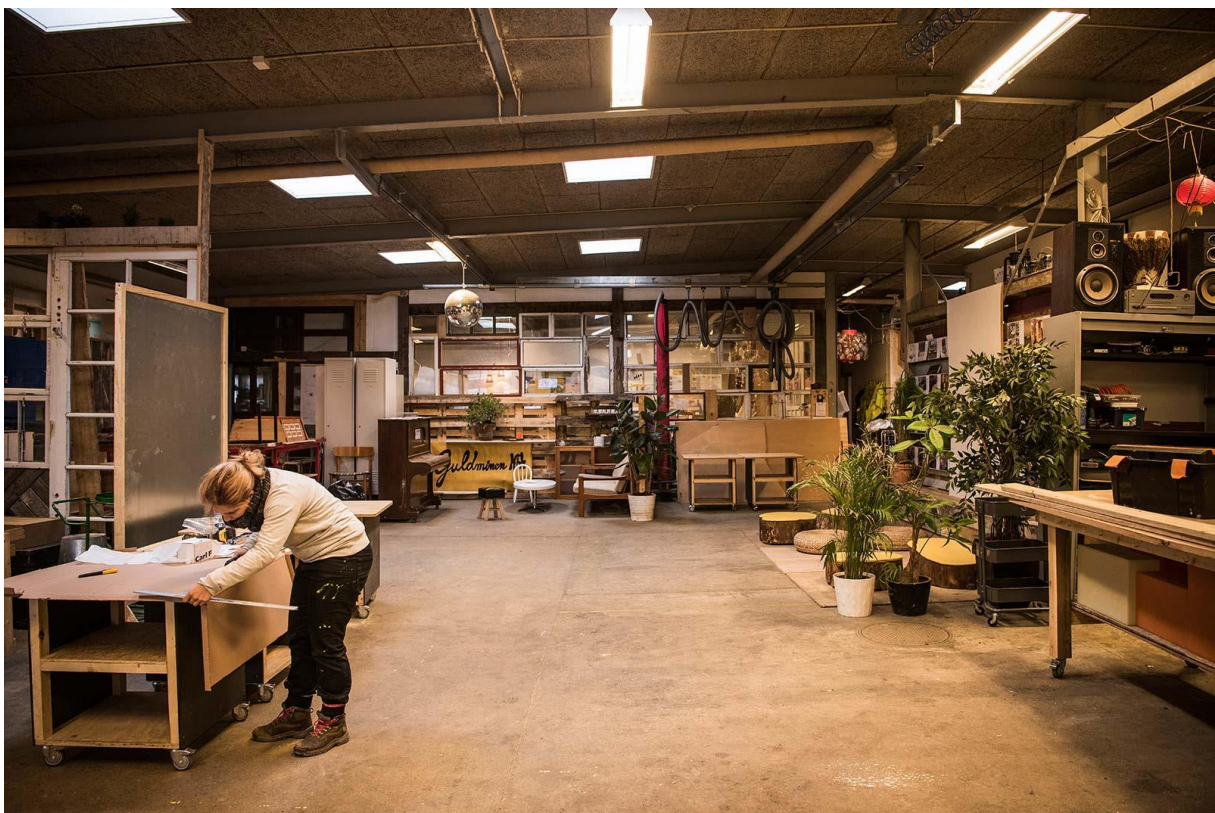
The Goldmine has been established by The Technical and Environmental Administration, and the City Development, Resources and Waste Planning division at the City of Copenhagen, the division responsible for developing and planning the future solutions for waste and resources in the City of Copenhagen. Some of the targets for the City of Copenhagen are to:

- Waste no resources by 2025
- Be CO2-neutral in 2025
- Become a city free of waste in 2050

The Goldmine is aligned with working towards many of these targets.

The Goldmine has been established in close collaboration with [Amager Ressourcecenter](#) (ARC) and through open calls, with NGOs, companies and private individuals – “the Golddiggers”.

Inside the building, the Golddiggers have access to a wood workshop, workshop areas / teaching facilities (used also for teaching school classes about waste prevention), an office space, an area for storing materials, and kitchen / bathroom facilities.



Copyright: Thorbjørn Hansen



The Technical and Environmental Administration pays for the rent and utilities, while the ARC makes the waste streams available to the Golddiggers. The Golddiggers cover their own expenses and produce knowledge and / or are part of the day-to-day running of the Goldmine as their way of generating value towards The Technical and Environmental Administration.

Vasbygade genbrugsstation receives roughly 2,500 tons of waste per year.

The ambition of Sydhavn Genbrugscenter is to develop business models within the circular economy through increased re-use, recycling, and upcycling, as well as the creation of green growth. Successful models will be scaled up and adapted by other recycling stations. The quantitative goal is to increase the direct re-use of everything that is delivered to this recycling station from 4% (the average for the recycling stations in Copenhagen currently) to 20% by 2024.

## 4.2 Vollebekk Fabrikker – Oslo, Norway



### Introduction

Vollebekk Fabrikker is a newly established temporary project in the eastern part of Oslo, located in an old industrial area that will soon be transformed into a new residential area. The project is located inside a factory, which contains a hall and an office building. Vollebekk Fabrikker is a community and co-working space for social innovators, green entrepreneurs, musicians, and artists stemming from the private, public, and voluntary sectors. The project's main activities are based on the triple bottom line, which means that everything refers back to social, environmental (or ecological), and financial performance.

Vollebekk Fabrikker is a temporary co-creation by four different stakeholders in the area, namely the property developer Aspelin Ramm, the cooperative building association OBOS, a sustainable development network called Pådriv, and the local borough Bjerke. By July 2018, Vollebekk Fabrikker was hosting 21 businesses and organisations.

Together, OBOS and Aspelin Ramm plan to build around 800 new apartments in this area, transforming the area into an urban and sustainable neighbourhood. Through the transformation process, the old factory was left empty, and together with the two other partners, Pådriv and the local borough Bjerke, it was decided to start a project for the temporary use of the factory.

**Location:** Oslo, Norway

**Population:** 660 000

**Organisational structure:** Public-Private Partnership

**Funding:** Individual contributions of the involved stakeholders

**Main activities:** Co-working space, conference venue, and incubator for circular start-ups and local initiatives.

<https://vollebekkfabrikker.no/>

Vollebekk Fabrikker opened up in March 2018, and plans to stay in the area for at least the next two years. They have invited entrepreneurs and local businesses, that have a circular and sustainable focus, to bring their activities into the space. The factory holds a conference venue, meeting rooms, office spaces, a café, and a large industrial workshop. Activities range from growing oyster mushrooms on waste coffee grains, building tiny houses from re-used building materials, storing vintage furniture, to hosting the local dance crew.

### Organisation and activities

The concept is built around the ideas of co-creation, social entrepreneurship, and the circular economy. The four partners met during a URBACT<sup>12</sup> network meeting in the sub>urban network<sup>13</sup>, and the idea for the project came up. All involved parties have a mutual interest in creating more activities and attracting businesses and local start-ups to the area, building on the principles of sustainable urban development.

The public administration in the local borough Bjerke has also been invited to be part of the project. The Bjerke borough contributes local knowledge and helps with coordinating the different needs in the area. They also use the project as a means to establish vocational training for unemployed people. Local schools are also invited to visit, learning about innovation and social entrepreneurship. Pådriv is a network helping bring in innovative and sustainable solutions for the development of the area.

Together, the four partners contribute their resources in different ways; some contribute their knowledge, network, and human resources, while other partners provide monetary resources.

### Objective and impact

Vollebekk Fabrikker is a temporary space for innovation - an incubator for solutions within the area of re-use, repair, and sustainable production. By offering access to a workshop and office space at a low rent, they seek to enable local citizens, businesses, and entrepreneurs to experiment and test different sustainable solutions. In addition, the actors involved make their contribution through increased knowledge exchange, providing training and inspiration to develop a more sustainable way of business in the area. This is also why the factory has its own conference centre, where people can meet and experience new, circular solutions in practice. Vollebekk Fabrikker believes that through connecting citizens, start-ups, and more

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<sup>12</sup> URBACT is a European exchange and learning programme promoting sustainable urban development. URBACT is jointly financed by the European Union (European Regional Development Fund) and the Member States.

<sup>13</sup> Sub>urban. Reinventing the fringe is a network facilitated by URBACT aiming to solve the challenges of increasing population densities in cities instead of expanding urban territory <http://urbact.eu/sub.urban>

established businesses, they can create more awareness and interest for the circular economy and the potential that lies within this concept.

Vollebekk Fabrikker seeks to develop a living and dynamic work environment, where projects and solutions can be tested. The projects should be related to solutions within the realm of a circular economy, a collaborative economy, through re-use, repair, and creative workshop processes. The factory manager underlines the importance of involving a diverse and broad set of actors, each viewing the same process from a different angle.

As the project is newly opened, it does not yet have an established way of reporting and measuring its operations. However, the factory manager has clear ideas about what should be measured. It is planned to have an overview of the number of people visiting the factory and of how much material has been re-used. From March until June 2018, they estimate that around 3 000 people have visited the factory and that about 5 tonnes of goods have been re-used.

In addition to this, they want to learn more about how to measure changes in their visitors in terms of their awareness and knowledge about sustainable and circular solutions. As the factory is temporary, it is also important that the businesses use the opportunity to develop sustainable business models and are able to generate income. Being able to have an economically sustainable business, as well as measuring both the environmental and social impact of the business' activities, is at the core of this idea.

### **Relevance for the circular economy**

*Economic function:* The project is focusing on the innovation, by offering small and local start-ups an opportunity to develop their own business model. The projects will have access to a workshop as well as office rent at a very low price, albeit for a limited time, which will serve to provide a boost in the early phase of development for the businesses. The objective is for all businesses to develop economically sustainable business models that have the potential for growth and will contribute to the circular economy at a local level.

*Environmental function:* The project primarily focuses on the environment, as it is working within the transition of waste into resources, moving towards a more circular economy and extending the lifespan of products. Additionally, the factory seeks to be a space for activities promoting a sustainable lifestyle in the local area. This is part of the strategy to make the new property development into a green space for the city.

*Social function:* The project will contribute to local job creation, through supporting local business initiatives present in the factory. The partnership with the local borough Bjerke also serves to ensure that the project has a social function, providing vocational training for

unemployed people in the local neighbourhood. In addition, the factory acts as an incubator and networking space, where new connections and partnerships are created that local citizens may join. In this way, the factory also contributes to strengthening the social fabric of the Bjerke borough.

### Barriers and success factors

The reported barriers included:

- When asked about the challenges faced in the process of establishing and opening Vollebekk Fabrikker, the factory manager specifically mentioned **creating a common language and understanding** among the four partners involved. The partners include a representative from the public sector, a private property developer, a housing cooperative, and a volunteer network, meaning that they all have different perspectives and approaches to the project. However, this is also highly important to the success behind the project, as being able to have four different actors involved helps bring in different perspectives, enabling co-creation.
- As this is a **temporary project**, located in a building planned to be demolished, there are some elements of insecurity to the process. The initiatives located at Vollebekk Fabrikker need to be flexible, as they find themselves in the middle of a largescale property development.

The success factors are:

- Focusing on the successes, the factory manager underlines that having the local borough as one of the key stakeholders have also been important. The local borough has contributed with a project coordinator, and the Bjerke Borough has function as a liaison between other public actors and coordinated and encourages synergies within the City of Oslo. It has also helped to strengthen the social impact of the project, by facilitating for vocational training in collaboration with the social welfare department within the city borough and accessing the local community in a larger scale.
- Bringing the public, private, and volunteer perspectives to the project provides it with a more solid foundation.
- The Factory manager highlights the interaction with the local community and **the positive behavioural effects that these types of initiatives have on the local citizens.**



### 4.3 Återbruket at Alelyckan Recycling Park – Gothenburg, Sweden



#### Introduction

Återbruket is a re-use centre for construction and building materials run by the City of Gothenburg as part of their Recycling Park Alelyckan. The Agency for Water and Waste Management manages two separate facilities at Alelyckan, namely the recycling station and Återbruket centre. The centre is co-located with other re-use and recycling initiatives run by private companies and NGOs. Located at Alelyckan, together with Återbruket, one can find a second-hand shop for clothing and furniture, a reception centre for recycled plastic bottles, and Returhuset - a café where they repair and upcycle products, such as old bikes.

**Location:** Gothenburg, Sweden

**Population:** 560 000

**Organisational structure:** Public

**Funding:** Through sales and the waste management fee

**Main activities:** Reception and sales of second-hand building materials.

The overall goal of Återbruket is to increase the re-use of building materials that are received by the recycling station, and which are eligible for re-use. Återbruket has been run by the public waste authorities for the past 11 years, and is funded through the sales that the centre generates. They focus mainly on building materials and office furniture.

## Organisation and activities

The recycling station at Alelyckan is one of five public recycling stations in Gothenburg, where citizens can come to dispose of all types of waste. Alelyckan differs from conventional recycling centres in that visitors are, upon arrival, asked by staff as to whether they have something to donate to second-hand sales. Donated products that are in good condition are transferred to second-hand shops, where they are sold, possibly after repair, as used goods; the rest is sorted into different waste categories – recycling of materials or energy recovery – and processed by Gothenburg's waste management company.

Reusable building materials and office equipment are transported to Återbruket. The operations at Återbruket are financed through the revenue they generate from selling the reusable goods. The economic requirement is that the centre has enough revenue to cover their costs, but it should not generate profit. Återbruket has 4 full-time employees and 2 part-time employees. They have around 26 000 paying customers annually, generating around 6 000 000 SEK (€63 000) in revenue and in 2010 managed around 350 tonnes of re-used building materials. They report to the Agency for Water and Waste Management for the City of Gothenburg.

Both at the recycling station and at Återbruket, vocational training is offered for unemployed people. Återbruket collaborates with larger building companies that provide them with large amounts of reusable goods from demolition and construction projects. They upgrade and repair what can be fixed and sell their items at a relatively low price.

## Objective and impact

Alelyckan is the first facility of its kind in a metropolitan area in Sweden, for which the objective is to shift the focus upwards along the waste hierarchy, thereby contributing to a circular economy. Other recycling centres across Gothenburg provide citizens with the possibility of leaving things for re-use, but in Alelyckan this context becomes clearer and the procedures are more efficient.

There are no specific targets set for the operation. Even though the activities at Återbruket have an economic, social, and environmental impact, the centre does not report directly on the environmental or social impact of their operations. For the moment, the main priority is to increase sales and reach out to a broader segment of the population. One of the main objectives is to make the services and products sold at Återbruket known outside of the regular, second-hand customer segment.

## Relevance for the circular economy

*Economic function:* Återbruket provides citizens with an economic benefit as they are able to access re-used construction and building materials at a lower cost.

*Environmental function:* The project primarily focuses on the environment, with an overall objective of facilitating an increase in re-use and waste prevention, moving towards a more circular economy and extending the lifespan of products. The facility was the first of its kind in Sweden, and has also inspired other cities wanting to facilitate for more re-use.

*Social function:* Återbruket also has a social function, working with people who experience difficulties entering the job market by providing them with vocational training.

## Barriers and success factors

As Återbruket has been operating for over 11 years, they have gained much experience working with the re-use of construction and buildings materials. The Head of Unit, responsible for Återbruket, emphasises that there are still some barriers to overcome, but also some lessons to be learnt that can be of value to others wishing to follow their example.

The reported barriers included:

- Being a public provider of this service has some limitations. One of the barriers is the **limited ability to make investments in the operation**, due to the need to maintain a balanced budget. This means ensuring that the revenue covers the cost, but does not generate profit.
- The city administration has also worked towards opening a second facility similar to Alelyckan recycling park and Återbruket. However, as **space is a limited resource** in most cities today it has proven difficult to find a suitable area. For such an initiative, a lot of space is required, and a central location is preferable. Many cities nowadays experience the same sort of challenge.
- Lastly, the centre still aims to **broaden their target group of citizens**. The Head of Unit emphasises, that the goal is to make second-hand building materials the natural choice for all consumer segments, not only customers in need of lower price alternatives. This is needed in order to be able to increase the share of re-use, as well as increase sales and turnover and secure more revenue to invest in the Återbruket facilities at Alelyckan.

The success factors are:

- **Co-location** with both the recycling station and other re-use and repair initiatives has been highlighted as a key success factor. In this way, when citizens arrive at the

recycling station to discard their old items, they are immediately presented with the option of donating their waste to re-use and repair. It illustrates the value of the waste that is handed in to the recycling station, as many of the items still have a lot of potential, and the city is able to get the items back into the loop.



## 4.4 RLab – Porto, Portugal

### Introduction

RLab is a centre for repair and recovery of WEEE (Waste Electrical and Electronic Equipment), located in the region of Porto, and established in 2013. RLab is one of several waste prevention projects initiated by Lipor<sup>14</sup>, where they actively try to promote waste prevention and the re-use of different waste fractions. RLab focuses specifically on repair and re-use of WEEE. This project is a partnership

**Location:** Porto, Portugal

**Population:** 230 000

**Organisational structure:** Public

**Funding:** Through a Public-Private Partnership

**Main activities:** Repair and recovery of WEEE and professional training in repair for students.

between Lipor and ERP Portugal, aiming to create new possibilities for waste prevention. RLab is designed to be an innovative project and to enhance awareness of the need to manage waste, particularly WEEE. It includes a re-use lab that promotes re-use and recovery of electrical and electronic equipment, as well as supports research and development.

RLab has developed partnerships with educational institutions, with the aim of training young people in the repair of WEEE, as part of a trainee program at the public school. The recovered equipment is then delivered to social solidarity institutions, or made available for internal use.

### Organisation and activities

RLab is located at the facilities of Lipor in the greater region of Porto. The centre receives electrical and electronic waste collected at local drop-off points. The waste is then screened to be identified as suitable or unsuitable for repair and re-use. The waste that is suitable is then sent on to the centre for repair. The centre employs one technician that works with repair and also provides training for students.

One of the most important functions of the centre is the training for students in the repair of WEEE. The students are young people that come from several professional schools, some of them facing social issues. They are given the opportunity to work as trainees at RLab, learning the skills for the repair of WEEE.

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<sup>14</sup> Intermunicipal Waste Management of Greater Porto is responsible for the management, recovery and treatment of the Municipal Waste produced in the eight associated municipalities: Espinho, Gondomar, Maia, Matosinhos, Porto, Póvoa de Varzim, Valongo and Vila do Conde.

Lipor provides all the technical devices and equipment needed for the recovery process. ERP Portugal made an initial investment, but is also involved in the project activities as this helps ERP achieve their goal of achieving 5% re-use for all the WEEE collected.

The social component of the project is also important, as the centre donates the repaired devices to solidarity organisations. In this way, they help make electrical and electronic devices available to be used again free of charge. They mainly work with smaller appliances, as these are often easier to handle and do not require much specialised equipment or new components.

### **Objective and impact**

There are three stated objectives for this project. Firstly, the overall aim is to reduce the amount of WEEE generated and to increase the re-use and repair of WEEE. This follows the overall objective of actively working with waste prevention. Secondly, there is an educational objective, through the partnership with the schools. Through this partnership the project builds local competency in the field of repair and recovery of WEEE, as well as provides young people with vocational training and technical skills. Lastly, the objective is to raise awareness among the citizens about waste prevention and the consumption of electric and electronic equipment.

RLab have not set any specific targets for their operation yet. At the same time, they are working with several ways of measuring their impact and performance. Firstly, they weigh everything that they take in and everything that they repair. In this way they weigh their performance in kg of WEEE recovered. They also measure how many trainees they have in a year. In 2017, 74 trainees received training in the repair and recovery of WEEE at RLab. Lastly, they try to account for the money saved from repairing the WEEE, compared to the alternative of consumers buying new electrical and electronic products.

Lipor is now working to develop their concept further, investigating several ways to scale the project up in order to handle greater amounts of WEEE. One of the goals of this project is to learn from the experience at RLab, to be able to establish a network of similar centres in the area. One important aspect of this is to investigate potential new business models that ensure a sustainable organisation of the centres, of any size. Their current organisation is possible due to the low volume of WEEE repaired, but this needs to be sustainable for all volumes. Therefore, they are currently working to establish a project to study the costs of the centre and test out different business models.



## Relevance for the circular economy

*Economic function:* The project donates the recovered appliances to solidarity organisations, creating the economic benefit of people accessing re-used electric and electronic products free of charge.

*Environmental function:* Because of the complex mixture of materials and components – including hazardous substances – WEEE poses a serious environmental and health problem. It is one of the fastest growing waste streams in the EU, and to improve the environmental management of WEEE, the re-use and repair of electronics at the end of their life is essential. RLab contributes to improving the environmental management of WEEE by trying to develop new models for re-use and repair of this fraction of waste.

*Social function:* The project has a clear social function through their collaboration with local educational institutions, providing work and training in the repair of WEEE for local youths. In addition to this, the appliances repaired at RLab are donated to social solidarity institutions.

## Barriers and success factors

The reported barriers included:

- **The availability of the technician** has been a concrete barrier that they are working to solve. The technician is responsible for training the youth, sharing knowledge, and checking the quality of the repaired appliances before Rlab sends them to the solidarity organisations. This requires time, and reduces the ability of the technician to spend their time repairing. To try and balance the workload, Lipor has set a maximum requirement for new centres. They would have to guarantee 1 technician per 5 students in order for them to be able to start a new centre.
- Still, there are other **issues related to the scalability** of the project that need to be addressed. Ensuring a sustainable business model for large scale operations is one of them.
- Another barrier faced is the **low quality of the received WEEE**, which in many cases makes their repair and eventual re-use difficult.

The success factors are:

- The **training of young students** has been emphasised as a great success. Collaborating with the schools and students to provide them with work, training, and skills in repair and the technical understanding of electronics has been very valuable for the community.

## 4.5 Halle 2 – Munich, Germany



Copyright: AWM

### Introduction

Halle 2 is a multi-purpose space in the city of Munich, which opened its doors in October 2016. It is located in a 1,400 m<sup>2</sup> space that was once a shoe shop. By selling goods that are collected at 12 recycling centres in the city, Halle 2 extends the lifespan of useful everyday items. This 're-use lab' actively supports sustainable lifestyles and works with the citizens of Munich to provide them with ways to be more environmentally- and resource- friendly in their daily lives.

Halle 2 has also become a hub for stakeholders of the city's sharing and circular economies. Here new services can be tested, knowledge exchanged, and citizens inspired to try out new ideas for improving the processes

**Location:** Munich, Germany

**Population:** 1 540 000

**Organisational structure:** Public

**Funding:** Revenue from sales and the Waste Fee

**Main activities:** Sales from second-hand goods and repair cafés, promotion of sustainable consumption, and waste prevention activities.

<https://www.awm-muenchen.de/abfallvermeidung/halle-2.html>



involved in collecting, evaluating, and selling used goods. From sustainability seminars to Saturday auctions, the shops shows what the circular economy looks like in action.

### **Organisation and activities**

The Munich Waste Management Cooperation (AWM), which is owned by the municipality, has been the driving force behind the city's pioneering approach to waste reduction. Halle 2 is owned and financed by the AWM, and the €1 000 000 budget for renovating and marketing the centre came directly from the waste fee paid to AWM by every Munich household for collecting and managing their waste. AWM aims to increase the volume of re-sold items by 100%, through information campaigns and stronger cooperation with local companies, with the aim of eventually being able to cover the annual costs for rent and staff, of €900 000, through revenue from sales.

At Halle 2, citizens can, for example, learn how to fix their own bike and enjoy a cup of coffee at a repair café, or buy a bike repaired by a social enterprise that provides vocational training for unemployed youth. They can purchase electronic devices that have been repaired and checked by specialist social companies. Alternatively, they might be inspired to get creative by the many examples of upcycled products and exhibitions of art made from waste.

The centre hosts different initiatives, which have been selected through tenders. This includes social entrepreneurs and NGOs. It has been important for AWM not to provide a service that is in direct competition with already existing re-use and repair services. They aim to gather these stakeholders once a year to discuss the cooperation model, developments, as well as common barriers and successes. For the services required at Halle 2, AWM announce tendering contracts for all the stakeholders. For example, there is a separate repair café at Halle 2. The repair café is managed by a social organisation, and they have their facilities at Halle 2 free of charge. To avoid State Aid issues, these opportunities are put on tender for organizations to apply for.

### **Objective and impact**

The objective of Halle 2 is to be a partner for citizens in promoting a sustainable lifestyle, where they encourage and promote re-use and repair, but also provide citizens with information about different sustainable initiatives. Halle 2 is now firmly established as a strong brand in the city and as one of the best places for second-hand shopping and for social enterprises to make their activities more visible.

Seven months after its launch, Halle 2 had agreements with 11 cooperation partners, giving them confidence in their future revenue and making it possible for them to recruit and train additional people. It had also repaired and sent around 3600 electronic devices to be

checked, making €50 000 from their sale, and selling a total of 3250 items, which generated an additional €350 000 in revenue. In a survey conducted at the time, customers gave Halle 2 a 90% rating for the quality of their goods and a 98% for satisfaction with the centre's staff.

With Halle 2, the city has implemented several successful and sustainable circular economy initiatives, such as activities from waste separation and motivation campaigns. As a platform for the voluntary engagement of citizens, non-profit companies, charities, schools, and universities, it is also playing an important role in supporting Munich's sustainability agenda. AWM attributes to its success the early, inspiring communication with potential social enterprise partners, radio, and print marketing campaigns aimed at citizens, as well as research collaborations with university partners focused on optimising the area's recycling infrastructure and raising the recycling quota.

The team behind Halle 2 remains very driven and has set ambitious targets for the next three years: to grow monthly sales from €50 000 to €90 000, monthly visitors from 3200 to 6000, and the number of items sold each month from 14 000 to 24 000. By raising their sales to over 1 million per year, they would be able to cover all the costs of their operation. To ensure these goals are met, the team plans to connect with more of the city's non-profit businesses and launch a city-wide waste avoidance campaign. Also in the pipeline are ideas to introduce new services, such as the rental of tools, and opening another Halle 2 shop in another district of the city.

They also work actively to create a change in the awareness among the citizens of Munich. Together with the Munich Business School, several projects were carried out with the aim of learning more about citizens' awareness related to the topic of waste and any changes in their behaviour.

### **Relevance for the circular economy**

*Economic function:* Halle 2 helps facilitate the activities of local entrepreneurs and social organisations dedicated to working with environmental issues, waste prevention, and raising awareness. Providing the organisations with free access to the facilities at Halle 2, local innovation and business development are stimulated. In terms of sales, Halle 2 is a success, which also adds to the centre's economic function.

*Environmental function:* The project mainly has an environmental focus, reflecting the overall goal of the city's waste management company to reduce the amount of reusable goods that become waste. By extending the lifespan of products, the project helps facilitate a more circular economy. Additionally, the centre seeks to be a space for activities which promote a

sustainable lifestyle in the local area, reaching beyond the traditional boundaries of waste management activities and encouraging citizens to adopt more sustainable lifestyles.

*Social function:* The centre contributes to local job creation and supports social entrepreneurs and local NGOs working to facilitate a more sustainable lifestyle among citizens. Through the partnership with the local social entrepreneurs, the centre also indirectly supports the social economy, by partnering with actors who provide vocational training. By allowing the Munich Business School to use Halle 2 as a testbed for research projects, the centre is able to stimulate knowledge creation and benefit from learning from this project.

### Barriers and success factors

The reported barriers included:

- First and foremost, **finding a suitable space to locate the centre is challenging.** In a city, a central location with enough space is hard to get a hold of. It needs to be somewhere that is easy for citizens to access, yet also have sufficient space for the activities to run smoothly. Halle 2 is located inside what used to be a shoe shop, some kilometres outside of the city centre, and is accessible by car or bus. Even though the AWM might consider opening a second location similar to the Halle 2 in the east side of the city, gaining access to a suitable space will be challenging.
- Secondly, **the initial investment in these kinds of re-use and resource centres needs to be clarified from a political standpoint.** As the main objective of the AWM is to handle waste, the money from the waste fee that is then spent on waste reduction measures needs to first be run by the local politicians. There is a local Bavarian law which regulates how much a waste authority can spend on waste reduction measures. So long as the operation's costs outweigh the revenue, there are some barriers to making additional investments. To overcome this, AWM has organised the Halle 2 project as a profit centre, seeking to make the project economically sustainable in the long run. Indeed, **a business model that creates revenue is essential** to ensure the effectiveness of projects aiming to stimulate a circular economy model.
- Thirdly, the city has spent a lot of resources advertising the services at Halle 2. It is important to **attract citizens' attention in order to reach a broader segment of the population** to that which is typical for a second-hand shop. As the centre is not only a second-hand shop, but also arranges seminars on sustainable lifestyles and organises repair cafés, there are many activities which aim to include a larger group of potential customers. If the centre could have been located in the city centre, the

need and arising costs for advertisement and communication might have been reduced.

The success factors are:

- The importance of **political support for the project**. There is broad support for the initiative among the local politicians and the city council. Without this political support, it would have been challenging to get approval for the initial investments into a new approach to waste prevention. As a result of the successes at Halle 2, Munich was awarded the EUROCITIES Cooperation Award for 2017.
- Another success factor has been involving many different activities at the centre. In order to attract visitors, much effort has been expended in **making the centre an important meeting place** for social gatherings addressing issues of sustainability. By involving different actors, and having smaller social entrepreneurs bid on tenders, Halle 2 has been able to **cooperate with a wide range of different stakeholders**.

## 4.6 Mini recycling stations – Oslo, Norway



### Introduction

The City of Oslo has ten “Mini recycling stations”, managed by the Agency for Waste Management, which aim to place a focus on waste reduction, re-use, repair, and recycling. The objective is to improve the quality of residual waste, food waste, and plastic waste, from households, by getting people to discard of bulky waste at the stations. Therefore, the mini recycling stations are placed in the city centre, in the proximity of where greater concentrations of people live, allowing them to access the stations easily by bike or on foot. In 2017, the Agency for Waste Management won a prize for the most innovative project for having developed these mini recycling stations. Through these stations, or centres, the city tries to encourage activities like repair workshops or trade days to promote waste preventive activities and values, by actively interacting with the local community.

**Location:** Oslo, Norway

**Population:** 660 000

**Organisational structure:** Public

**Funding:** Waste management fee

**Main activities:** 10 mini recycling stations located in central areas of the city, promoting waste prevention, re-use, repair, and recycling.



## Organisation and activities

The concept of a mini recycling station started with the introduction of source separation of household waste in Oslo. Today, citizens of Oslo sort their waste in green bags (bio waste), blue bags (plastics), and residual waste in normal plastic bags. To prevent too much bulky waste from ending up in the bins and causing the bags to rip, the city introduced the mini recycling stations; a local alternative for discarding bulky waste for citizens who live in the city centre. The mini recycling stations should be accessible on foot or by bike, and places where greater numbers of people in the city centre live or frequent.

There are some variations to the organisation of the ten mini recycling stations. There are the smaller ones, which mainly receive bulky waste for recycling, and include a corner where citizens may leave or take re-useable items for free. These facilities are considered to be space-efficient and user-friendly. New kinds of stations have been introduced that can be operated as required, by providing the residents in the area with a digital key to access the facilities outside of normal opening hours.

Another approach to the mini recycling stations is built around collaboration with the local boroughs. Through cooperation with the local boroughs' administration, several services and activities can be included in the same location, which also enables the station to become a social arena for the local community. The Lindeberg station has been a successful example of this approach. At Lindeberg, the venue is specifically dedicated to re-use activities, and through active collaboration with local organisations Lindeberg has become a place where residents can learn more about sustainable consumption, re-use, and repair activities. The Lindeberg station hosts meetings of the local chess clubs as well as baby song groups, all in addition to hosting seminars and local meetings on waste and environmental issues. In this way, they are able to reach out with information about waste management activities and promote re-use and waste prevention to the wider local community.

## Objective and impact

The main objective of the mini recycling stations is to improve the quality of waste, increase recycling rates, and encourage more waste preventive activities, reflecting the waste hierarchy. The establishment of the mini recycling stations has contributed to increasing the overall level of re-use in the city. In 2016, more than 195 tonnes of reusable goods were exchanged at the mini recycling stations, in addition to the 310 tonnes of waste collected for material recovery. The overall goal for re-use in 2018 was for 0,8 % of the total amount of all waste received by the facilities to be re-used. The exact percentage ended at 0,69 %, which makes up 1 499 ton of re-useable goods.

These mini recycling stations also have an impact on the local community, in that they create a space for citizens to learn about waste reduction, repair, and re-use. This makes them important meeting points, where the city authorities can more easily distribute information about the City of Oslo's work with regards to re-use, recycling, and waste management in general.

### Relevance for the circular economy

*Economic function:* The stations are funded by the waste management fee and in some cases also in collaboration with the local city boroughs. The centres do not have any activities that would generate revenue. In this way, they do not have any specific economic function.

*Environmental function:* There are clear environmental benefits to collecting more bulky waste separately, as this increases the quality of the waste fractions collected from citizens and also facilitates re-use.

*Social function:* The centres can play an important role as a meeting spot in the different boroughs in Oslo, providing citizens with a place to meet and learn more about the waste management system, and especially its importance, in the city.

### Barriers and success factors

The reported barriers included:

- When establishing these mini recycling stations, it has been highlighted as important to think about the actual space and surrounding area of where a station should be located. Through the processes of establishing ten different centres within the more central parts of the city, **access to space became a significant challenge**. City authorities must also take a long term perspective when it comes to finding appropriate locations, to ensure that these are accessible and in the proximity of where people live. A good practice is locating the stations close to public transportation nodes, where people pass by on a daily basis.

The success factors are:

- Other than spatial considerations, there have been relatively few challenges in establishing these mini recycling stations. Many of the mini recycling stations are frequently used by the local community, and have in some cases also opened their doors to share the space with other local actors that can help promote the station's activities. It is important to have a **good dialogue with the local community**, to

ensure that this is a space that can be used by and benefit the local community as well as the responsible party representing the city authority.

- **The use of new technology**, in particular digital technology, can make it easier to gain insight into the citizens' needs while also making the public services more accessible.
- In addition, **political support and a clear and stated mandate on re-use** as a focus area within waste management has been important. This has given a boost to this work.



## 4.7 48-er Tandler – Vienna, Austria



### Introduction

The “48er-Tandler” is a re-use shop with a modern design, initiated and run by the Municipal Department 48 (MD48) of the Vienna City Administration responsible for Waste Management, Street Cleaning and Vehicle Fleet. The “48er-Tandler” sells reusable goods collected at the city’s recycling centres and collection points.

### Organisation and activities

The “48er-Tandler” was opened up to the public in 2015, and is situated inside the garage of the MD48 office. The collection, sorting, checking, logistics, and sales of reusable goods are managed by the MD48 and funded through the sales, as well as the public waste management fee. The shop employs around 20 people to run the shop and related logistical operations. Reusable goods are collected at the 16 recycling centres managed by the City of

**Location:** Vienna, Austria

**Population:** 1 870 000

**Organisational structure:** Public

**Funding:** Revenue from sales and the waste fee

**Main activities:** Sales of second-hand goods and repair cafés, promotion of sustainable consumption and waste prevention activities.

<https://48ertandler.wien.gv.at/site/>

Vienna, where remodelled containers have been set up for citizens to deliver their items. These goods are then transported to the logistics centre 2-3 times a week.

At the logistics centre, the items intended for re-use are sorted and stored before delivery to the “48er-Tandler”. All of the goods are checked following standard procedures. Bicycles, for example, get checked and maintained in order to fulfil the legal requirements and standards for bikes. For checking WEEE, the MD48 collaborates with a local non-profit organisation and social business called “Demontage- und Recycling-Zentrum (DRZ)”. The DRZ provides the long-term unemployed with vocational training, while focusing on recycling, re-use and upcycling of electronic devices.

After the items intended for re-use have undergone the proper checks, items like furniture, second-hand clothes, electronic devices, books, art, musical instruments, and bicycles are sold on the 650 m<sup>2</sup> sales floor of the “48er-Tandler”. The shop is open from Wednesday until Friday, 10 a.m. to 6 p.m. Besides selling re-usable goods, the Tandler organises a variety of social events (e.g. concerts, re-use workshops, yoga sessions, etc.) to attract new visitors and educate them about waste prevention. Once a month, a talkshow on litterature is broadcast on public television from the charming book area at the centre of the shop.

### **Objective and impact**

The overall objective of the “48er-Tandler” is to meet the waste prevention targets, popularise re-use, and make it accessible by offering reusable items at a reasonable price for everyone. Since their opening in 2015, they have had over 450 000 visitors and sold over 430 000 reusable items. Each day the shop has about 800 visitors. The MD48 continuously works on improving the performance of the “48er-Tandler”. Each year, they try to improve collection rates and the quality of the items intended for re-use, as well as to increase the numbers of visitors, customers and items sold for re-use. They have also developed a benchmark to compare their performance with that of other second-hand shops in Vienna. Additionally, they regularly conduct surveys involving citizens and customers.

By being able to extract some of the waste, that would otherwise be recycled or recovered, from the traditional waste streams, the “48er-Tandler” aims to prolong the lifespan of the items eligible for re-use. The “48er-Tandler” regularly reports on the environmental impacts of their operations in terms of tonnes of recovered reusable goods. To do so they have analysed their re-use stream and developed a conversion factor as well as average weight for each of the product groups.

## Relevance for the circular economy

*Economic function:* The “48er-Tandler” has worked actively to develop a business model that can generate revenue and cover the cost of their operations. As an example, the market for refurbished WEEE is growing, and the “48er-Tandler” has been working on integrating new waste streams and preparing WEEE for re-use and resale at the shop.

*Environmental function:* By collecting the reusable items delivered to the recycling stations in Vienna, and repairing them to be able to re-enter the market, MD48 are able to prolong the lifespan of the products. The products are checked for safety and quality, and only high quality reusable items are made available at the shop. To educate citizens about the benefits of re-use, the shop also provides information about sustainable living and waste prevention and organises re-use and repair workshops.

*Social function:* The “48er-Tandler” contributes to the social aspect of the circular economy by preparing their WEEE for re-use through cooperation with the local social business DRZ. The DRZ works with long-term unemployed people, providing them with vocational training. The Tandler also serves as a social arena and meeting place for the local community, since they house various social activities and events.

## Barriers and success factors

The reported barriers included:

- Considerable effort has been expended trying to adjust certain aspects of the Austrian **waste legislation**. Vienna and other states are now engaged in developing a national handbook on how to examine the safety and quality of different re-use items in a standardised way. This is needed in order to ensure these items are handled properly according to the waste legislation.
- In terms of **quality and warranty issues**, the “48er-Tandler” provides a certificate for re-used electronic items, stating that the article has undergone a safety check in accordance with the relevant legal requirements. Understanding what exactly is required by law in terms of such a safety check, and providing customers with the correct information about the quality of the products, still demand a lot of time and resources.
- It is challenging to **compete on the market** selling second-hand goods. Customers have access to cheap and new products, therefore there is a need for economic incentives to be able to effectively promote and sell re-used goods.

The success factors are:

- The **marketing and branding** of the services at the “48er-Tandler” has been very effective. They have prioritised advertising, issuing printed advertisements for the public trams and waste collection trucks.
- **Organising social events** has proven to attract more people to the shop, even those who are not overly familiar with the topic of waste. Every year, the MD48 hosts a “Waste Party” in the city, where they gather families and other citizens and present to them the services provided by the MD48. For this occasion, the “48er-Tandler” sets up a big outlet, selling refurbished and reusable items that they have collected throughout the year. The Tandler recently added another room, built from re-used building materials (e.g. remodelled bricks), where it will be possible to host additional events and conferences.
- **A central location**, which also is connected to the public transport system, is crucial, as the centre needs to be easy to access.
- **Local political support**, in favour of environmental actions and waste prevention, is also essential, and this is something that the Tandler has been able to benefit from.



## 4.8 OPO'Lab – Porto, Portugal



### Introduction

OPO'Lab is a multidisciplinary centre and the first Fab Lab<sup>15</sup> in Portugal dedicated to think and explore the creative use of new technologies in architecture, engineering, design and other artistic fields, by promoting research, education and cultural activities.

### Organisation and activities

Since its founding year, 2010, OPO'Lab has contributed to the development and realisation of projects proposed by countless creative minds that seek to

**Location:** Porto, Portugal

**Population:** 237 000

**Organisational structure:** Private

**Funding:** Revenue from rental of co-working space, Fab Lab, consultancy and machines rental

**Main activities:** Exploring the creative use of new technologies in architecture, engineering, design and other artistic fields, by promoting research, education and cultural activities.

<http://www.opolab.com/>

<sup>15</sup> The Fab Lab Network is an open, creative community of fabricators, artists, scientists, engineers, educators, students, amateurs, professionals, of all ages located in more than 78 countries in approximately 1,000 Fab Labs. From community based labs to advanced research centers, Fab Labs share the goal of democratizing access to the tools for technical invention <http://www.fabfoundation.org/>.

challenge the limits. This project has a key strategic role in the context within which it operates, and works to establish important partnerships with other social actors, such as public authorities, schools, and associations for cultural and scientific advancement.

As a Fab Lab, OPO'Lab offers a small-scale workshop for personal digital fabrication, equipped with an array of flexible computer-controlled tools such as 3D printers, CNC, laser cutters and various materials, with the aim of making “almost anything”. OPO'Lab acts as a technical prototyping platform for education, innovation and invention, providing a stimulus to the local entrepreneurs and citizens. To be a Fab Lab means connecting to a global community of learners, educators, engineers, researchers and innovators; it is a knowledge-sharing network that spans 50 countries and 24 time zones. Because all Fab Labs share common tools and processes, the programme is building a global network, a distributed laboratory for research and innovation.

OPO'Lab has made an effort to promote the re-use of plastic waste, having developed open source equipment that has resulted in the creation of recycled plastic modelling technology. The technology developed and built in OPO'Lab consists of three machines of a simple design, which allows plastic to be milled and ground, heated, and modelled into filaments that can be used by 3D printers.

### **Objective and impact**

OPO'Lab's mission is to raise awareness among the general population about the benefits using digital technologies in helping materialise ideas into locally produced products that boost the local economy.

As a private initiative, OPO'Lab has different target groups, including start-ups, manufacturers, students, universities, companies, freelancers steaming from all areas (especially design, manufacturing, digital fabrication, architecture and engineering), as well as the general public.

Because OPO'Lab is run as a for-profit company, it explores multiple ways of securing funding, acting as a hardware incubator, a rental space for co-working, events and other, and offering multiple services including machinery and equipment rental, workshops, consulting, as well as research and development.

The co-working space has the capacity to accommodate up to 40 users simultaneously, with infrastructure to support the development of any activity related to design and construction or manufacturing. The offices and desks may be rented for a day or up to the whole month. In the same way, is possible to rent rooms for meetings, conferences, and workshops.

Other ways of funding occur through the organisation of internal or external events, such as lectures and public presentations, that can be hosted in adaptable spaces with large screens and projectors. This effectively enables OPO'Lab to host any kind of exhibition, festival, opening or other kind of event, with their own or in collaboration with external productions and organisations. OPO'Lab has more than a dozen partners, including universities, local authorities, and private companies stemming from different sectors.

### Relevance for the circular economy

*Economic function:* OPO'Lab is a private initiative, which means that it depends on customers and users for financing. It therefore focuses on ensuring the sustainability of the project, seeking to be place that can attract new entrepreneurs to develop their businesses using the co-working space and available equipment there to assist in the design and construction of prototypes, modular solutions or other DIY products. It acts as an incubator, enabling users to share ideas and experiences and create synergies. OPO'Lab thus helps build a sharing community, not only in terms of work benches and instruments but also in terms of ideas, which in turn helps the development of sustainable business models that can contribute to the circular economy at a local level. Furthermore, a local team part of OPO'Lab has designed an open source solution for upcycling plastic, offering multiple applications. The process consists of the creation, development and construction of three machines for grinding, heating and modelling plastic in order to create new products from plastic waste. On the recommendation from OPO'Lab, these machines can be sold or manufactured elsewhere, with the aim that this circular solution may be replicated the world over.

*Environmental function:* The project takes care of the organisation of the local Repair Café, where citizens can repair their old products or upcycle them. Through their Fab Lab and Precious Plastic initiatives, OPO'Lab also explores waste reduction. Young designers and the general public are invited to take part in these initiatives and rethink waste and its usability for new applications and for the development of new products. With initiatives like these, seeking to develop new models for re-use and upcycling, OPO'Lab can contribute to improving the environmental management of different streams of waste, especially for plastics and wood (the base working materials).

*Social function:* The project has a clear social function through the collaboration with local stakeholders, including universities, local authorities and private companies stemming from different sectors, and also through the provision of training and work for young, local entrepreneurs and students that wish to become more involved in their community.

### Barriers and success factors

The reported barriers included:

- The **involvement and engagement of citizens** in circular and sustainable initiatives has been difficult to achieve. The general public is still not very engaged in the re-use and recovery of products with the perspective of increasing the useful life thereof, in a way that would promote the use of Fab Lab / Repair café events and the rental of machinery and tools.

The success factors are:

- The **multiplicity of solutions and offers** at OPO'Lab is the main factor for its success.
- The current urban transformations, particularly in the city centre, marked by urban rehabilitation and very positive economic dynamics, are conducive for an **atmosphere of entrepreneurship, creativity and innovation**.
- OPO'Lab organises **various events across the city** to promote and democratise access to culture, technology, and design, for multiple target groups. These events also serve to share knowledge and experiences, enabling interactions between local and international creatives.
- The **multiplicity of users**, with their different backgrounds, knowledge and experiences, helps to create a rich and diverse community stimulating for the creative process of design.
- The **variety of stakeholders and partners** has been another key factor for OPO'Lab's success.



## 4.9 Made in Moerwijk – The Hague, Netherlands

### Introduction

Made in Moerwijk is a private foundation aiming to support the Moerwijk area through the improvement of employment opportunities while also having a positive environmental impact.

### Organisation and activities

Made in Moerwijk was established as an initiative by the City of The Hague, however functions as a foundation with no formal ties to the city. The foundation rents a space from a housing corporation. The City of The Hague initially provided funding to set up the foundation, and to renovate the rented space.

Six months following the establishment of Made in Moerwijk, two social entrepreneurs were appointed to run it.

Made in Moerwijk manufactures and sells products made from secondary materials. The foundation's core business is the upcycling of waste materials, thus contributing directly to the circular economy. Made in Moerwijk also provides the work force and sells the products for other companies that work with upcycling waste materials. For instance, Lekbelt (making belts from bicycle tires) and NRT (making bags, wallets, etc., from second-hand leather) make use of the human resources available at Made in Moerwijk. The foundation also offers a variety of services, including maintenance and clothing repair, at a very competitive price.

Made in Moerwijk works together with Middin, an organisation providing care and support for over 4000 people with disabilities. Through this collaboration, they provide work for local people with disabilities. As an example, this work includes making good quality, durable shopping bags from the plastic shopping bags.

With 'Sparkle in Style', an in-house learning company aimed at vulnerable youths, Made in Moerwijk provides a course for aspiring beauticians. For this project, the foundation collaborates with the city so as to reach and help as many vulnerable youths as possible. These youths may later become employees at Made in Moerwijk. The goal of the foundation in this respect is for the project to help lead 100 people to employment each year. In 2018, they came very close to reaching this goal.

**Location:** The Hague, Netherlands

**Population:** 530 000

**Organisational structure:** Foundation (private)

**Funding:** Mainly through revenue from sales and services, partly from public and private subsidies, and currently working with subsidised employment

**Main activities:** Provision of jobs and creation of products from secondary materials.

<https://www.madeinmoerwijk.nl/>

## Objective and impact

Made in Moerwijk currently employs around 20 people, with most of them subsidised by the City of The Hague. The trend for the subsidy is regressive, meaning it decreases with the growth in revenue made by the foundation. At the moment, fewer than 50% of the wages are subsidised. The goal of the foundation is to grow the number of employees, and to no longer have subsidised jobs within two years' time.

The financial situation of Made in Moerwijk is currently stable, however ensuring that revenues cover costs remains a struggle. Many projects are still financed by private investor (the social entrepreneurs) running the foundation. To become sustainable, the foundation needs to grow, and the aim is to become self-sufficient within two years' time. The foundation's means to that end is to produce more recycled goods, to expand their product range, and to increase their sales. Made in Moerwijk is currently looking for a building where it can open up a shop, as well as a larger building for their operations. To be able to move to a new location, the foundation is depending on subsidies from a charity fund.

The general philosophy of Made in Moerwijk is both a commercial and a social one. As the foundation is run by private investors (the social entrepreneurs), there is a commercial perspective to the operation. They are willing to produce everything from waste materials, however provided that this is profitable. In addition to the commercial focus on the production of recycled goods, however, "Sparkle in Style" is a social initiative which does not generate and revenue. Rather, it has a social focus to help vulnerable youths with vocational training and building their competences.

## Relevance for the circular economy

*Economic function:* Striving to become a profitable and sustainable business, the initiative adds to the local economy by generating revenue and providing employment.

*Environmental function:* By making use of local resources, Made in Moerwijk are producing recycled goods and products. The foundation also provides easy access to repair services, making it easier for the citizens in the area to repair their goods.

*Social function:* By providing vocational training to long-term unemployed people, people with disabilities, and vulnerable youths in the Moerwijk area, the initiative has a clear social impact.

## Barriers and success factors

The reported barriers included:

- An important barrier for Made in Moerwijk is the **(EU) waste legislation**. The legislation makes it extremely difficult to obtain resources directly from the waste collection companies. For instance, it was not possible to obtain discarded bicycle tires because these were defined as waste and would have required a special permit to be treated. The definition of waste, and the end of waste criteria as defined within EU waste legislation, sometimes prevents initiatives such as Made in Moerwijk from making use of local resources.
- **Access to space** for their operations is another barrier. As the company is expanding, getting access to an appropriate and affordable location is important. This can be a challenge in European cities today that are experiencing densification and pressure on developed real estate.
- Additionally, it can be rather **time-consuming and energy-intensive to make progress and see results when collaborating** with many different partners and stakeholders (which include universities, schools, and the municipality, among others).

The success factors are:

- **Finding the right partners** has been crucial for the success of the initiative. For instance, designers who work with secondary materials, and start-ups with good ideas but a lack of access to labour, could potentially make good partners for the foundation. As the foundation grows, also a partner providing secondary resources would become more important.
- Similarly, **support from the municipality** has been key. This is true both in regard to subsidised jobs but also other subsidies that supported the foundation its first 3-5 years. So long as the circular economy is not yet mature, initiatives like these depend on public support.

## 4.10 CPU Slovenia – Several locations across Slovenia



### Introduction

CPU Slovenia, where CPU stands for 'Center ponovne uporabe', can be translated into Centre for Re-use Slovenia.

The foundation was established in 2012, and manages eight re-use centres and three repair cafés across Slovenia today.

It is run as a social enterprise. The company was established with the aim of promoting social entrepreneurship activities in the field of nature conservation, the protection of resources, the development of a green economy, the promotion of local community

development, and the provision of support services for social enterprises.

**Location:** Slovenia

**Population:** 2 000 000

**Organisational structure:** Foundation (private)

**Funding:** Mainly through revenue from sales and services (B2C and B2B), partly from public and private subsidies

**Main activities:** Re-use centres promoting and selling second-hand products, provision of jobs and making new products from secondary materials.

<http://www.cpu-reuse.com/>

CPU Slovenia has a specific focus on the social aspects of their operation, providing vocational training to long-term unemployed people within their centres. They strive to maintain a social, but also economic and environmental focus, working to promote the green and circular economy. The company's main activities include preparation for re-use, and the provision of vocational training and the integration into the work force of the long-term unemployed.

### **Organisation and activities**

The company is set up as a social enterprise and is as such non-profit. There are two primary sources of funding; one is based on B2C "Business to consumer", where income is derived through the sale of re-usable goods. The second source stems from the social enterprise services of arranging social activities and providing vocational training. Vocational training which is provided for the long-term unemployed is funded by the government and local authorities.

CPU Slovenia collaborates with the municipal waste companies, where they receive re-usable goods from the local recycling stations and local drop-off points. These goods are checked and sold at the CPU Centres, where they also repair the goods as needed.

CPU Slovenia works to produce new and innovative products from used equipment, which they can then sell to other companies and consumers. They actively work with upcycling, both to create awareness about the value of secondary raw materials as well as to influence the design and production processes. CPU Slovenia has a specific focus on the innovative drive within these centres, which work on promoting new uses for waste materials in addition to their traditional second-hand activities. The purpose of CPU Slovenia is to establish a commercial line of products that would illustrate the processing and use of secondary raw materials, to raise awareness among consumers of the potential of re-used and recycled materials.

In addition to re-use and upcycling activities at the centre, CPU Slovenia also provides renovation services for underused buildings. They are contracted by the local authorities to renovate, but also set up re-use activities, in underused and abandoned buildings. Together with the local community, CPU Slovenia develops these services, focusing on local participation. They have thus far carried out around 10 different projects, focusing on the re-use of underutilised buildings and spaces, where they were also able to promote re-use activities and waste prevention.



## Objective and impact

CPU Slovenia works to promote re-use and upcycling for the purposes of improving the quality of people's lives, reducing resource consumption, reducing greenhouse gas emissions and the ecological footprint, and creating new employment opportunities specifically for the long-term unemployed. Their goal is to tap into the waste sector as a business opportunity, while providing employment to vulnerable groups on the labour market.

Another strategic goal of the foundation is to create innovative products from used equipment and potential waste for the purposes of improving people's lives, especially low-income families, people with special needs, children, and youth with health issues. They aim to showcase the opportunities for this within the green economy and the potential for innovative product design in the circular economy.

CPU Slovenia is dedicated to measuring the environmental, economic, and social impacts of their operations. They collaborate with the Ministry of Labour, Family, Social Affairs and Equal Opportunities on developing a method for measuring these impacts. The Institute for the Development of Social Responsibility (IRDO) have developed a specific framework for how to measure the social effects of social enterprises.

The below figures, from 2018, demonstrate some of CPU Slovenia's achievements:

- In 2018 CPU Slovenia had around 35 000 visitors, either taking part in repair and DIY-workshops, visiting the centres, or participating in meetings arranged with the local community;
- About 175 000 re-useable products were sold;
- About 467 tonnes of materials or goods were received for preparation to re-use;
- It is estimated that about 140 tonnes of waste were recovered through re-use;
- The foundation's sales amounted to €144 000;
- 12 persons were employed in CPU Slovenia.

CPU Slovenia contributes to the sustainable use of resources, and especially raw materials, since re-use does not require new materials. According to CPU Slovenia, in order to further a sustainable use of resources by 2018 it will be necessary to provide 6 kg per person for re-use. In 2020, this will grow to 9 kg per person. The issue is that currently only 1.5 kg per person are re-used. Waste can be an important resource for local jobs, since the collection, repair, re-use, etc., are all activities that can be carried out at the local level. For bulky waste, CPU Slovenia have estimated that around 8 % can be channelled into re-use activities.

## Relevance for the circular economy

*Economic function:* CPU Slovenia helps reduce structural unemployment by providing vocational training to the long-term unemployed. Through innovation, they create new resources out of waste, which increases the value of waste products. They promote social and economic development in the local areas where they are active. By stimulating new environmental services and green technologies, they also contribute to increased competitiveness and local added value.

*Environmental function:* Through the re-use centres, CPU Slovenia contributes to increasing the lifespan of products by promoting re-use and waste prevention. This also reduces the need for new products and the use of raw materials. The centres also promote a more sustainable lifestyle, addressing young people by promoting the consumption of second-hand products. They also encourage new business cases which focus on the use of secondary raw materials.

*Social function:* By providing jobs for the long-term unemployed, CPU Slovenia helps to reintegrate people into society. When selling re-usable products at a lower price, which are affordable also for low-income groups, they also contribute to evening out social inequalities. CPU Slovenia also contributes to creating a social platform for connecting people within the local community, through the organisation of workshops and other social events.

## Barriers and success factors

The reported barriers included:

- **Funding to maintain a sustainable business** is difficult to ensure. The centres still depend on extra activities and projects, as the revenue from the sales of re-useable products is not sufficient to keep the centres going. These funds are very often provided through public support.
- To be able to upscale and make the centres more profitable, CPU Slovenia emphasises the **need for better economic incentives to promote re-use and repair**. The incentives should focus on customers as well as public procurers.

The success factors are:

- CPU Slovenia provides activities which contribute to a local circular economy. They have developed a business model for material recycling and design which attracts attention and is seen as an **innovative and future-proof way of running a business**.



- The **social function** of CPU Slovenia's centres has been a success. By including social employment as one of their key functions, the business model is innovative and provides new opportunities for the centres as well as the local community.
- The **exchange of knowledge between other similar initiatives** has been useful. CPU Slovenia saw the benefits of joining European networks, such as the RREUSE network, emphasising the need for a platform where similar centres and initiatives can learn from each other.

## 4.11 De Kringwinkel – Flanders, Belgium



### Introduction

De Kringwinkel (the Kringwinkel) is a network of re-use centres in the region of Flanders. The network represents a strong re-use sector, developed over more than 20 years in collaboration between KOMOSIE<sup>16</sup> and the Flemish authorities. In the network there has been a strong link between the environmental benefits of re-use and the social economy, providing new jobs and supporting vulnerable target groups. In the beginning, the primary aims of the re-use centres included creating employment opportunities for low-skilled and long-term unemployed persons, and making inexpensive goods available to people from vulnerable groups.

Today, the network is an example of a successful collaboration between social enterprises and the regional authorities, working together to professionalise the re-use sector in Flanders.<sup>17</sup>

### Organisation and activities

In 1992, the first training programme for individuals wishing to start a re-use centre was arranged as part of the region's ambition to provide meaningful employment to the long-term unemployed. Later on, this idea developed into an effort to restructure the existing re-use activities into a consultative body that would represent the interests of the re-use sector and

**Location:** Flanders, Belgium

**Population:** 6 516 000

**Organisational structure:** Social enterprise

**Funding:** Mainly through revenue from sales and services, partly from public subsidies

**Main activities:** Promoting and selling second-hand products, and a strong social focus through providing vocational training and promoting local job creation in the re-use sector.

<https://www.dekringwinkel.be/index.html>

<sup>16</sup> KOMOSIE is an umbrella organization and network of non-profit organisations involved in recovery and energy-cutting activities in Flanders.

<sup>17</sup> «How to start a re-use shop? An overview of more than two decades of re-use in Flanders», OVAM (2015) [accessed 10.10.2018] [https://www.ovam.be/sites/default/files/atoms/files/2015\\_Folder-Kringloop-engels\\_LR.pdf](https://www.ovam.be/sites/default/files/atoms/files/2015_Folder-Kringloop-engels_LR.pdf)

further professionalise it. This led to the formation of the Federation of Flemish Re-use Centres (KVK) in 1994, which has been integrated into the Flemish Waste Management Plan since 1997.

Through close collaboration with the regional waste authority OVAM<sup>18</sup>, the network has worked to professionalise and streamline the re-use centres in the region. As the centres receive funding from the regional waste authority, they are, in return, required to report on their performance. They are required to support the Flemish waste prevention and recycling policy and to annually report their activities to OVAM. Today, the network of re-use centres is being further expanded, with the primary focus on quality control, professionalization, and sustainability. Repair services continue to be encouraged and these ambitions are embedded in the region's sustainable material policy.

In 2015, there were around 125 re-use shops in Flanders, communicating and operating in a uniform way through the Kringwinkel brand, which was established in 2002. More than 75 % of the total collection of used goods and items is carried out by the centres in a selective manner, whereby only re-usable goods are accepted. The centres offer individual collection, but they also organise collections at recycling stations and from different containers located in public areas.

The Kringwinkel network launches annual campaigns promoting their re-use centres, and highlights the benefits of buying second hand and supporting the centres' activities. By joining forces and establishing one common brand, the re-use centres are better able to market themselves and are more effective in raising awareness among citizens. Through a continuous effort to establish common quality requirements and systems, the Kringwinkel is now perceived as a quality brand name that generates trust and recognition among consumers and the general public.

### **Objective and impact**

The re-use centres in Flanders have three main aims. Firstly, the objective is to prevent the generation of waste by promoting the re-use of products. In 2014, it was estimated that the sold reusable goods accounted for a reduction of 65 000 tonnes of CO<sub>2</sub>. In addition, the centres set themselves a quantitative goal for 2015, of diverting 5 kg of waste for re-use per inhabitant. In 2016, this goal was increased to 7 kg per inhabitant by 2022. From 1995 to 2017, the centres moved from re-using 0,44 kg/per inhabitants to 5,3 kg/ per inhabitant. This equals to around 78 500 tons of re-useable goods in 2017.

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<sup>18</sup> The Public Waste Agency of Flanders, Belgium (OVAM).

Secondly, the centres aim to create employment for low-skilled and long-term unemployed persons. The re-use centres offer training and employment to over 5 000 individuals that, for different reasons, have difficulties finding opportunities in the job market. Thirdly, the centres aim to contribute to mitigating poverty by offering inexpensive quality goods to people living on limited resources.

The number of paying customers has gradually increased over the years, and in 2017 the centres had over 6 million such customers. The growing success can be partly attributed to a well thought-out communication strategy, coupled with the rising popularity of second-hand goods.

Measuring the performance of the centres has, as previously mentioned, been a key objective since the very start of the network. Annual reporting, and the use of uniform weight systems, have enabled OVAM and the re-use centres to group and process the collected data and calculate the percentage of re-use in a consistent way. Through benchmarking, the centres are able to exchange their knowledge and inspire to greater performance.

#### **Relevance for the circular economy**

*Economic function:* Making a profit is not a goal in itself for the re-use shops. Nonetheless, a healthy financial policy is a necessary condition to enable them to realise their other objectives. By being able to rely on their own resources, the re-use shops can minimise financial uncertainties. Since 2001, the re-use centres' turnover has increased to over €45 million annually. This is then reinvested in order to create more employment.

*Environmental function:* The aim of the re-use centres is to reduce the massive accumulation of waste through the recovery of reusable and recyclable fractions of waste. The centres also aim to raise public awareness of ecological issues, urging citizens to live more sustainable lives by embracing the re-use of products. Additionally, the centres actively work towards recycling all the non-reusable goods that are collected and as a result only 5 % of the goods received by the centres end up as residual waste.

*Social function:* The creation of social employment is the second fundamental objective of the Kringwinkel. The re-use centres offer training and instructional programmes that enhance people's chances of reintegration into the labour market. In addition, many of the centres collaborate closely with the public social welfare centres and present a product assortment that is attuned to the needs of the most disadvantaged social groups. Their offer may range from financial discounts in the product range of the shop, to offering products to newcomers free of charge.

## Barriers and success factors

The reported barriers included:

- **More subsidised personnel is needed.** The new Flemish regulation on social employment makes it more difficult for re-use centres to recruit sufficient personnel or personnel with the right qualifications. Most re-use centres do not have the means to recruit personnel from the regular job market, therefore looking for subsidies in this respect is necessary.
- **The decreasing quality of incoming goods is a challenge.** To reach the target, re-use centres will need to collect more potential re-usable goods. As they collect greater volumes of goods, however, the quality of the collected goods will invariably diminish. In addition, it is increasingly so that the quality of the new, “virgin” goods that are sold on the market is often too low to be able to give these goods a second life. Therefore, an increased focus on the eco-design of goods (making them easier to repair, to remanufacture, to re-use) is crucial to maintaining a stable re-use market with a steady supply of quality, reusable goods.

The success factors are:

- The success factors are: Linking **social employment and the re-use sector** has proven to be very valuable, as the collaboration is mutually beneficial.
- The incorporation of the re-use centres into the Flemish Waste Management Policy has ensured **re-use is embedded into the local waste policy.**
- The **formation of the Federation of Flemish Re-use Centres** served to bring together nearly all the re-use centres in the region, and became a driving force behind the development of the re-use policy in Flanders.
- The **professionalisation of the re-use centres** was important to consolidate the position of re-use within the waste policy.

## 4.12 Reparatur Netzwerk – Vienna, Austria

### Introduction

The Reparatur Netzwerk ('the Repair Network') is a network of over 80 small- and medium-sized enterprises specialised in the repair of products in the city of Vienna in Austria. The network was founded 20 years ago, in 1999, and works to promote the repair of products through organising different local repair specialists into a network.

The Repair Network was established to strengthen the focus on repair services and waste prevention. They work to enable and increase the sharing of knowledge among the different repair specialists, to promote the repair sector in the city, and encourage the Viennese to repair their broken products instead of buying new. They also keep citizens up to date on when the next repair café will be organised, and in general promote a more sustainable lifestyle.

**Location:** Vienna, Austria

**Population:** 1 870 000

**Organisational structure:** Public-Private Partnership

**Funding:** Through membership fees and public funding

**Main activities:** Promotion of repair and recovery of consumer goods, running awareness campaigns concerning the circular economy and a sustainable lifestyle.

<https://www.reparaturnetzwerk.at/>

### Organisation and activities

The network is coordinated by DIE UMWELTBERATUNG (Eco-Counselling Vienna), which is a local non-profit organisation providing information and counselling on environmental issues. The organisation is partly funded by the City of Vienna. The Repair Network receives funding from both the environmental protection department (MA22) and the waste and resource management department (MA48). Each of the repair companies who are part of the Repair Network pay an annual fee of about €85. The Repair Network has established certain quality requirements for the specialists who want to join. Most criteria are designed to ensure that the business is really focused on repairing and not on selling new products. By having a set of quality requirements, the membership of the Repair Network also works as a quality standard for the repair specialists.

The network has a website<sup>19</sup> which serves to promote and inform the wider public about all the different companies that are providing repair services. They also run a repair "hotline",

<sup>19</sup> Website Reparatur Netzwerk: <https://www.reparaturnetzwerk.at/>



which citizens can call to get information about where to get their items repaired. The services provided by the network are increasingly popular; in 2017, for instance, over 90 000 people visited the network's website and 2000 people called their hotline.

The main focus of the network is running joint public relations activities and creating platforms for knowledge exchanges. DIE UMWELTBERATUNG organises meetings between the different specialists to exchange their experiences on common challenges, or to develop their professional skills. They also promote the repair cafés and other events linked to repairing, and DIY activities taking place in Vienna. The network also uses its platforms to share simple DIY tips for citizens, to inspire more waste prevention activities.

### Objective and impact

The overall objective of the network is to encourage and promote waste prevention at a local level and support the repair sector in the city. Over the past 20 years, the repair sector has experienced significant competition from cheap imported products, making it more cost-effective for consumers to buy new products instead of repairing their old ones. The network is an initiative from the city to help preserve the jobs in the repair sector, and to promote their services.

To support their objectives, the network has taken steps to also be able to measure the impact of their activities. Through the network, the repair specialists annually report on the average number of items repaired every month, as well as the average weight of these items. In this way, the network is able to estimate the amount of waste prevented, in tonnes. The tonnes of waste prevented through repair, and the number of jobs created, is reported annually. In 2017, the network estimated to have prevented 750 tonnes of waste through their repair services, and that 52 400 products had been repaired in total. This helped preserve 223 jobs in the repair sector. These numbers are still increasing every year.

### Relevance for the circular economy

*Economic function:* The repair network contributes to preserving and creating jobs within the repair sector, which has a clear positive effect on the local economy.

*Environmental function:* In addition to preventing waste through extending the lifespan of products, the network also actively communicates how to live more sustainably, targeting all Viennese citizens.

*Social function:* The network also offers economic incentives to repair specialists who actively engage people with special needs or offer vocational training. If a repair specialist engages a person who is long-term unemployed, they are exempted from paying the annual membership fee for the Repair Network.

## Barriers and success factors

The reported barriers included:

- From the organisational perspective, **communication has been a challenge**. It has been challenging to find the right way to communicate with the repair specialists, and it has been a continuous process to streamline the communication that would suit both the repair specialists and the employees in the administration of the DIE UMWELTBERATUNG, which coordinate the network.
- Additionally, the coordinator of the network stresses that because the circular economy is so often portrayed in media as an issue of recycling, there is **still too little focus on the role of waste prevention and re-use**. This leads to a growing need to educate citizens on the differences between waste prevention, re-use, and recycling. When promoting the benefits of the Repair Network and the importance of the repair sector in a circular economy, this lack of focus is an important barrier.
- When asking the repair specialists what they consider to be the main barriers to their work, this was overwhelmingly reported to be the **direct competition with cheap consumer products**. Due to the relatively high wages in Austria, it is challenging to run an economically sustainable business within the repair sector while also making it profitable for the consumer to repair instead of buying new. In addition to this, there is also a general trend that the cheaper consumer products are, the harder they are to repair. The repair specialists in Vienna state that an increasing proportion of consumer products are becoming more difficult to repair.

The success factors are:

- One clear success factor for the Repair Network is **the engagement of the repair specialists**. They believe in the importance of the network and the role that the repair sector needs to play in the city.
- In addition to this, the **political support from the city council** has also had a positive impact on the network's operations.

## 5 Findings

### 5.1 Functions and focus of the different centres

The characteristics and concepts of the mapped centres demonstrate large variation. The centres differ in their size and physical location, as well as in their organisational structure, sources of funding, and objectives.

Some of the cases are not centres per se, but rather networks of centres. Some centres function in ways similar to more traditional, second-hand shops, while other centres might better fit the description of incubator. They all work with waste in some shape or form; some prevent waste through repair while other centres work actively to transform the waste into new products locally.

The latter three cases, namely CPU Slovenia, De Kringwinkel and Reparatuur Netzwk, are networks of centres. They are very relevant and interesting cases to follow, as they focus more on the upscaling of the business models and development of the services their centres provide.

What all of these cases have in common is a clear connection to the concept of circular economy, where circularity and resource efficiency are embedded in the very business model and structure of the centres. The centres' shared objective is to increase the focus on the higher levels of the waste hierarchy, addressing waste prevention and re-use as well as more traditional recycling activities.

The target audience for each of these centres are citizens; they communicate and seek to address the needs of the citizens directly. However, most of the centres do not target the citizens exclusively. A common feature for most of the centres is their diversified approaches and their involvement of a multitude of stakeholders.

We can divide the functions of the centres into three main categories:

Tabell 1 – Functions of the centres

SOCIAL	ECONOMIC	ENVIRONMENTAL
<i>Job creation</i> (new and lost skills) –Industry (SMEs) are increasingly calling for new and lost skills as well as partnerships on product design, production processes, and waste recovery alternatives. This enables job creation, and potentially also the reintegration of marginalised individuals with respect to the labour market;	<i>Transformation of industrial sectors</i> – Although this trend is still in its infancy in some industrial sectors, in others the transformation to the circular economy is already well under way;	<i>Waste prevention</i> – The first and most favourable level of the waste hierarchy, which goes from prevention, preparation for re-use, recycling and energy recovery through to disposal;

<p><i>Engaging the community in responsible consumption and disposal</i> – This serves to change consumer behaviour and stimulate re-use and repair to avoid waste. Marginalised groups are involved in the work, and platforms for knowledge sharing and education are created, for both marginalised groups as well as children.</p>	<p><i>Entrepreneurship and new business models</i> – The circular economy spurs the creation of emerging industries and services. Start-ups need support to develop their ideas and for a fast market uptake of their solutions.</p>	<p><i>Waste management</i> - From waste to resources; when it is not possible to prevent waste, the Urban Resource Centres seek to provide integrated and innovative solutions for improperly managed waste streams.</p>
<p><i>Improved quality of life</i> – Better and friendlier solutions for waste prevention, re-use and recycling. Re-used and second-hand goods give people from low-income households the ability to maintain good living standards at affordable prices.</p>	<p><i>Co-creation in a circular economy</i> - Users, together with researchers, engineers, and designers, can develop disruptive solutions and create their own ideas. The development of initiatives supporting a collaborative economy, which can encourage switching from providing goods to services, is enabled.</p>	<p><i>Boosting the market for secondary raw materials</i> – The creation of alternative and appealing solutions for the different resources steers the market towards adopting such solutions.</p>

## 5.2 Organisational structures

Each of the cases had a different organisational structure, falling within one of three categories; public, private and public-private. The majority of the cases are publicly organised centres, such as Halle 2 and Återbruket, meaning that the centre is operated by the city authority and very often the waste management unit within the city. However, examples like Halle 2 show that even though the centre is run by the city, it collaborates with a wide variety of stakeholders and actively involves them in the process of developing the centre and its services. Several of the centres actively involved stakeholders in being present at the centres through their operations or events. In this way, the centres were also able to attract more visitors, as they were able to run multiple activities at the same location.

Centres like Vollebekk and Guldminen were organised through Public-Private Partnerships, where private stakeholders had partnered up with the city administration to develop and operate the centres. What the Public-Private Partnerships had in common was that both parties deemed the collaboration to be beneficial, thereby making the process more dynamic. Both Vollebekk and Guldminen are organised as temporary projects, where the main focus lies on experimentation; to test new and innovative ways of making use of local resources.

There are four examples of a privately organised centre in this classification. OPO Lab is a combined FabLab and co-working space, dedicated to think up and explore creative uses for new technologies in architecture, engineering, design, and other artistic fields, by promoting research, education, and cultural activities. Made in Moerwijk, CPU Slovenia and De

Kringwinkel are also privately organised networks of centres, run by a non-profit social enterprise.

### 5.3 Barriers

Through the interviews, as well as several workshops with other stakeholders, we have gathered some of the main barriers that have been addressed when discussing the Urban Resource Centres.

The barriers described in the subsequent paragraphs are visualised in the figure below:

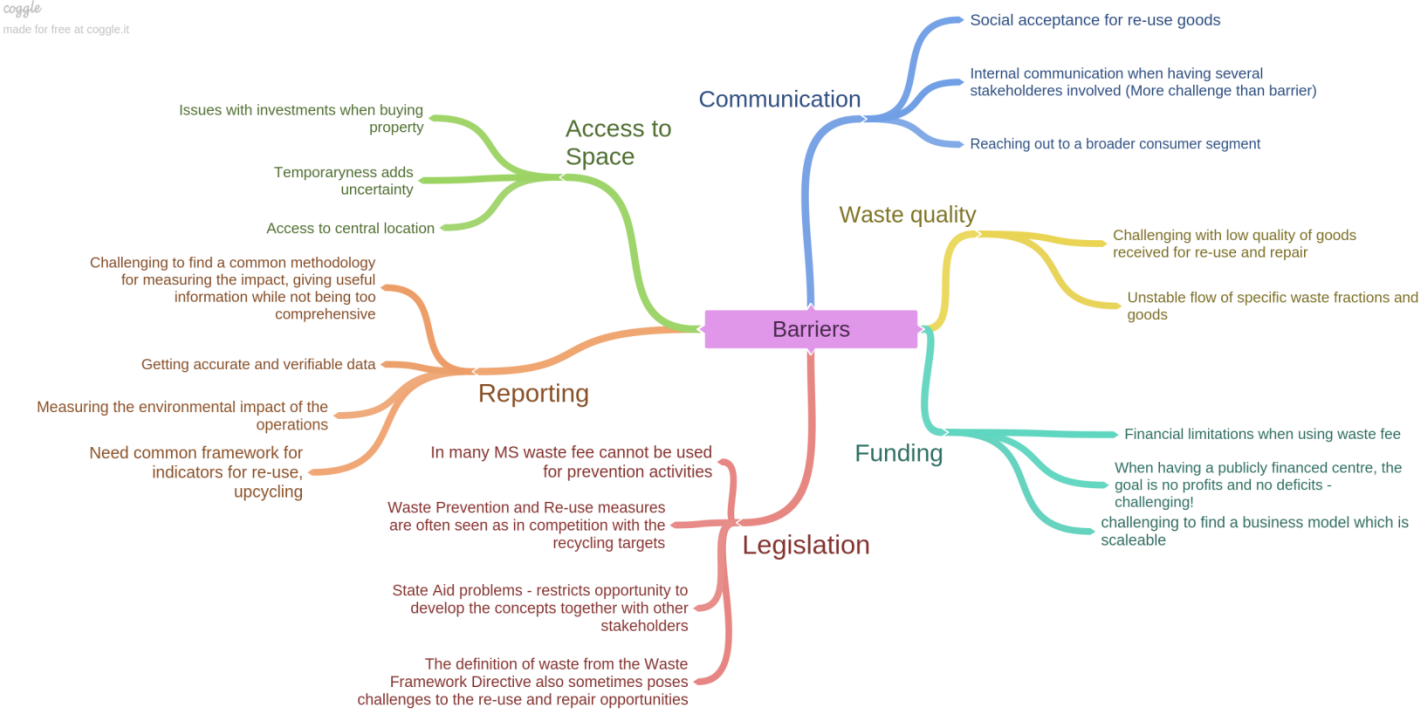


Figure 5 Listed barriers

#### Access to space

As European cities continue to grow, access to space becomes an increasingly important challenge and concern for cities. In response to this, cities like Paris have developed a service, which is based on temporary projects. They host pop-up events and pop-up re-use shops in buildings that are in some ways being transformed. The challenges varies across different European cities; some will be able to access central locations for their Urban Resource Centres with ease, while in other cities it is close to impossible to access space that is a good fit for the needs of a centre.

A way to tackle these challenges might be to develop a more temporary set-up for the centres. It will be necessary to further investigate how to make it easier to promote the



temporary use of space as a solution to this issue. In this respect, Vollebekk Fabrikker and Guldminen are good examples, as they both are temporary spaces which the city invites local start-ups to use for a limited time.

## **Funding**

Whether you have a public, public-private or private organisational structure, many centres have struggled to find a funding model which worked well for their operations.

A common problem for the publicly organised centres was finding a business model that creates revenue while also avoiding the creation of a service which competes with local businesses. There are also controversies related to public waste management authorities using waste management fees for waste prevention measures. This limits the opportunity local waste management authorities have to develop these kinds of services. It is not necessarily so that it is prohibited, but local waste management authorities might have little or no experience developing these kinds of centres, and may not know how to best procure financing for them in accordance with both national and European law.

Privately organised centres reported more insecure means of funding, based on revenue from sales, which resulted in an unstable flow of revenue and required the inclusion of several services and projects to their operations in order to achieve stability. Some centres stated that it is difficult to find a business model, which is scalable, without seeking large investments and resources from public authorities.

## **Communication**

Socio-cultural challenges arise when an Urban Resource Centre aims to increase their number of visitors. Furthermore, existing cultural norms create challenges when promoting more sustainable lifestyles, re-use, and waste prevention activities to the citizens. Most of these centres have citizens as their main target group, and there are still stigma concerning, for example, buying second-hand.

In cities this might be even more challenging, where the individual and material lifestyles is prominent. Globalisation and the flow of services and resources are not seen in relation to their environmental impact, as the distances are too vast. There are also large cultural varieties within cities, and this cultural diversity impacts the values, social practices, and lifestyles different citizens adopt.

Furthermore, citizens still lack information about the environmental impact of their consumer habits, which also reduces their incentive to take more environmentally conscious choices.

Many of the centres stated that they had a hard time reaching out to the public about their operations and services. This is especially true for the more traditional re-use centres. The re-use sector has traditionally been associated with people with fewer financial resources. A common goal for all of the centres was to promote their operations in a way that made it trendy and attractive to come to the centres. For example, the 48er-Tandler saw very good outcomes through marketing, as their focus on branding played an important role in the success of the centre. Additionally, by hosting social activities and providing a range of services at the same centre, they were able to reach beyond their regular customer group and in this way expand their scope.

Therefore, a greater emphasis on the sharing of knowledge, together with effective and illustrative ways of communicating the benefits of waste prevention, re-use, and repair to citizens, can open up a centre's services to a broader audience.

### Legislation

Issues have been identified, related to State Aid legislation. In some cases, State Aid legislation can be seen as a restriction to the ability to support and cooperate with local stakeholders. The collaboration can be seen as a way of granting some stakeholders an advantage and distorting the competition locally. It is not necessarily so that collaboration between the public actor and the local stakeholders is subjected to State Aid issues, but that it is rather a lack of knowledge of how to address this at local level. A solution to this could be to have a legal clarification of State Aid legislation, and specifically how this could affect Urban Resource Centres, from an EU and national level.

The definition of waste from the Waste Framework Directive may also hinder re-use and repair opportunities. As soon as products or materials enter the waste stream, a set of regulatory measures apply to protect human health and the environment against any harm from those products and materials. This regulation may thereby make it difficult to redirect fractions of waste back towards re-use or recycling. Where hazardous substances are concerned, these regulatory measures are absolutely necessary. There are, however, circumstances under which the rather strict nature of waste legislation can be counterproductive for the circular economy; when trying to redirect certain waste products back into the cycle, in collaboration with stakeholders who do not necessarily hold a waste permit.

Asking the publicly organised centres, some also had challenges linked to the waste management fee, and the legislation restricting the use of this waste management fee. In several countries, where waste management services are financed through a waste management fee, there are restrictions on what the public waste management authorities

can spend the waste management fee on. In Munich, there is a local Bavarian law regulating how much a waste authority can spend on so-called waste reduction measures. This effectively works against the priorities of the waste hierarchy, and can create local challenges.

### Waste quality

The amount of waste generated in cities is enormous, and many segments of the waste stream that are ideal for re-use, repair, and recycling are now being re-directed to Urban Resource Centres all over Europe. However, these centres are affected by the increasing poor quality of these waste products. Additionally, it is increasingly the case that the quality of the “virgin” goods sold on the market is often too low to someday give these goods a second life. This means that cheap consumer products of poor quality have a lower ability of regaining sufficient value through either re-use, repairing, or refurbishing. There is also a general trend that the cheaper consumer products are, the harder they are to repair. The repair specialists in Vienna stated that an increasing proportion of consumer products are becoming more difficult to repair.

Therefore, an increased focus on the eco-design of goods (easier to repair, remanufacture, and re-use) is crucial for maintaining a stable re-use market with a steady supply of quality, re-useable goods.

### Reporting

Even though this point was not raised specifically as a barrier by any of the respondents, it is evident that most of the centres lack a universal and effective way of measuring the impact of their operations. This concerns the amounts of waste re-used or repaired, the social value of their operations, and the economic and environmental impact that they have.

As part of the European Commission’s work on the revision of the Waste Framework Directive, they are instructed to consider the feasibility of the measures to encourage the re-use of products, including the setting of quantitative targets. The European Commission shall also examine the feasibility of setting other waste prevention measures, including waste reduction targets. In this respect, it will be interesting to see how Urban Resource Centres will be considered in measuring re-use and waste prevention.

Some centres report on their operations based on the numbers of items sold, the revenue from their sales, the tonnes of products re-used, the number of jobs provided, and the number of stakeholders involved in the activities. There is no common way of reporting on these activities. All of the centres, however, struggle to balance the time spent on reporting versus the implementing improvements on the basis of what the numbers tell them.

WRAP<sup>20</sup> have developed a method for how to measure the environmental impact of re-use, and this is a good starting point. However, there is definitely potential for developing smart indicators and ways of reporting performance, both in terms of environmental, social, and economic impact.

### 5.4 Success factors

It is important not to merely focus on challenges, but also on what have been the drivers of success for the different initiatives contained within in this classification. It is crucial to build on the good experiences of other cities, in order to facilitate the development of more Urban Resource Centres in cities across Europe. Through the interviews and discussions, several key success factors have been pointed out. Below, we highlight some of the most prominent ones. It is important to note that these factors might be good solutions to some of the barriers addressed in the previous section.

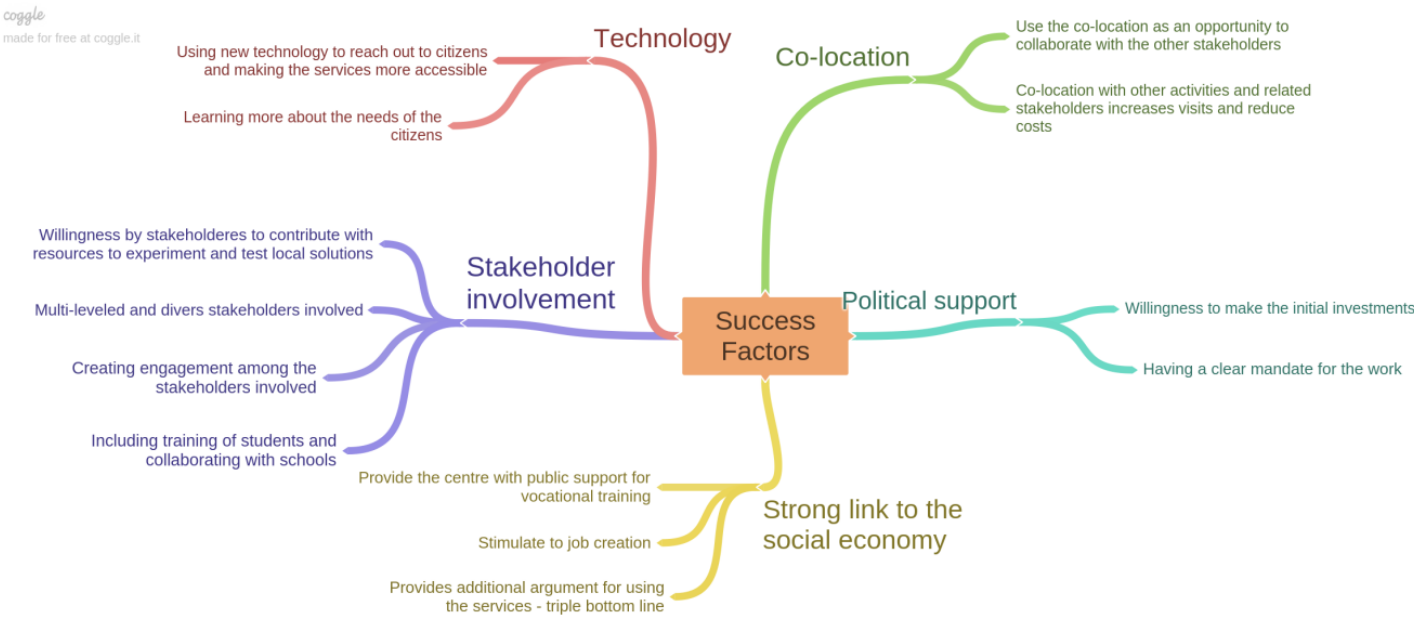


Figure 6 Listed success factors

<sup>20</sup> Methodology for measuring environmental impact of re-use from WRAP (2011) [accessed 08.02.2019] <http://www.wrap.org.uk/sites/files/wrap/Final%20Reuse%20Method.pdf>

## Stakeholder involvement

What all of these cases have in common is that they involve a large group of stakeholders in their operations, connecting and seeking alliances with actors with which they have mutual interests and can seek common solutions.

Several of the respondents mentioned that this also helps to create a more experimental dynamic, as one is able to involve several perspectives, needs and input, which can in many ways help develop activities and services that a single actor could not foresee on their own.

Vollebekk Fabrikker concludes that the multitude of stakeholders involved in the steering group of the project have been one of their key success factors. Bringing in the public, private, and NGO perspectives provides the project with a solid foundation. The different cultures among the different stakeholders sometimes lead to communication challenges; it makes it therefore even more vital to have a clearly stated objective that may be agreed on by all stakeholders.

This also emphasises the important role co-creation plays in a circular economy. These centres open up a platform where citizens, together with researchers, engineers, designers, NGOs, start-ups, and public authorities can come together and collaborate towards common solutions for a more circular city. In this way, these centres can facilitate the development of disruptive solutions based on their shared needs and ideas. The centres can function as “urban test-labs” for a circular economy, where a wide spectrum of stakeholders is involved.

## Co-location

As a response to the challenge of accessing space in expanding cities, the concept of co-location can be an important solution. As cities grow denser and access to space decreases, the concept of creating centres where several services are provided is a good idea. In this way, one is able to lower the cost of rental, and attract more visitors that are drawn to the centre for multiple reasons. The positive side-effects are also important. In the examples of Vollebekk Fabrikker and Guldminen, one can observe how the start-ups and projects invited into the centre benefit from the presence of other initiatives. In this way, the start-ups can develop collaborations with other start-ups that they did not even know existed, creating small ecosystems of initiatives that generate more value.

## Technology

As with the case of the mini recycling stations in Oslo, making use of new technologies has opened up new opportunities for the centres. Technology can be used for everything, ranging from increasing the access of citizens to the facilities, to learning more about the needs of the consumers.



There are also examples in other cities where apps and other social media channels have been used in order to reach out to the citizens to market their services and activities in the centres. Technology is also an excellent tool for improving the efficiency of the different types of resource centres, lowering costs and also enabling the involved stakeholders to develop smarter services.

There is a digital transition which is hitting European cities like a wave, and can provide unexpected opportunities so long as the stakeholders are open to it. Both machine learning and IoT (Internet of Things) are interesting technological developments that could play an important role in the circular economy and in improving the performance of the centres. As an example, the OPO Lab in Porto provides a workshop for personal digital fabrication, equipped with an array of flexible tools such as 3D Printers, CNC, Laser Cutters and various materials, with the aim of making “almost anything”. The workshop acts as a technical prototyping platform for education, innovation, and invention, providing a stimulus to the local entrepreneurs and citizens. This is a development worth following.

### **Political support**

Many of the most developed centres emphasised the need for political support in order to establish an Urban Resource Centre. This was highlighted especially by the centres which were publicly organised. Political will is needed at the local level in order to push for measures to promote waste prevention, re-use, and more circular resource management. Therefore, if there is a politically agreed upon strategy for a circular city, the issues of waste prevention and circular consumption are most likely addressed and perceived as a wanted development. This relates also to financing, as the initial investments into these types of centres require dedicated budgets to cover the investments. Having political support for these types of prioritisations is key for success.

### **Link to social economy**

The combination of environmental care and the employment of vulnerable and marginalised groups on the labour market has been emphasised as a very beneficial combination of interests. Circular economy initiatives are often seen in light of their environmental and economic impacts, however the social impact of the circular transition is at least as important. In Europe, millions of people are unemployed and outside of the labour market. Linking the social economy to the circular economy makes sense from both an economic and a social perspective. Unemployment causes a range of problems including poverty, health problems, and stress. It denies people the opportunity to take care of their families, to participate in society, and to develop their full potential.

From an economic perspective, unemployment indicates that human capital is underutilised. Therefore, it should also be beneficial to provide jobs and training to vulnerable groups in Europe today. Several of the cases in this classification have had a very specific focus on the social aspects of their operation, drawing on that as one of their most important success factors. As in the case of R'Lab in Porto, the involvement of students has been a key success factor. They stress that working with the schools and students to provide them with training and skills in repair and the technical understanding of electronics is very valuable.

## Concluding remarks and recommendations

To conclude this classification, we should revisit the three initial questions central to this process, mentioned under the description of the scope of the classification. We hope that through the previous sections, we have been able to answer them all:

- What are the different approaches to Urban Resource Centres?
- What are the experienced barriers and success factors?
- Are some of these barriers and success factors common to several of the cases?

We hope that this classification and the described cases have provided a good idea about the different concepts of Urban Resource Centres found across European cities today. The different approaches to Urban Resource Centres vary across function, organisation, funding, and focus. However, it is clear that the main functions could be divided into three; economic, environmental and social. There are many different experiences to learn from, and depending on the local context there might be a myriad of solutions that can fit the needs of a city. We have tried to highlight some of the common barriers as well as to underline the success factors as described by the interviewees, and this clearly shows that the centres in many cases share similar challenges and success factors.

## 5.5 Recommendations for further work

- **Space** - A possible solution to the challenge of access to space could be to investigate how to work with temporary use and create guidelines for centres functioning on a temporary basis.
- **Knowledge** – It would be beneficial to provide more knowledge about waste prevention, re-use, and repair, through training and the exchange of experiences on approaches to Urban Resource Centres. Still cities lack information about effective measures and the options available.

- **Funding** - There is a lack of knowledge at the local level concerning the legislation on State Aid. A solution to this could be to have a legal clarification of the State Aid legislation and how this could affect Urban Resource Centres, from an EU and national level.
- **Funding** – It would be recommended to investigate how it can be made easier for local waste management authorities to have the waste management fee cover waste reduction measures. Appropriate financing models for public, private, and publicly-privately organised centres would need to be looked into.
- **Communication** - More knowledge and examples of effective and illustrative ways to communicate the benefits of waste prevention, re-use, and repair to the citizens, would open up the services provided by Urban Resource Centres to a broader segment of citizens.
- **Waste quality** - An increased focus on the eco-design of goods (easier to repair, to remanufacture, and to re-use) is crucial to maintaining a stable re-use market with a steady supply of re-usable, quality goods.
- **Social** – It is important to consider the possibility of Urban Resource Centres being able to act as instruments for enhancing and empowering the population, not only in terms of employment and entrepreneurship but also in the sharing of experiences, recovery of lost skills, and as a means of promoting training for youth and unemployed adults. It is important to remember that the social aspect is not just “nice to have”, but that this is an important source of income and value creation.

## 6 Appendix

### 6.1 Table of contacts

Centre	Address	Contact person	Webpage
<b>Guldminen</b>	Vasbygade 26 2450 København SV Denmark	<b>Kristoffer Carr-Saunders</b> , Project Manager, <a href="mailto:JH69@tmf.kk.dk">JH69@tmf.kk.dk</a>	<a href="http://www.guldminenkbh.dk/">http://www.guldminenkbh.dk/</a>
<b>Oslo Mini recycling stations</b>	Several locations all over Oslo	<b>Ellen Halaas</b> , Head of Unit, City of Oslo in the Agency for Waste management <a href="mailto:ellen.halaas@ren.oslo.kommune.no">ellen.halaas@ren.oslo.kommune.no</a>	<a href="https://www.oslo.kommune.no/">https://www.oslo.kommune.no/</a>
<b>Vollebekk Fabrikker</b>	Brobekkveien 54, 0298 Oslo Norway	<b>Anne Dubrau</b> , Factory manager, <a href="mailto:anne@vollebekkfabrikker.no">anne@vollebekkfabrikker.no</a>	<a href="https://vollebekkfabrikker.no/">https://vollebekkfabrikker.no/</a>
<b>Återbruket</b>	Lärjeågatan 12 415 25 Gothenburg Sweden	<b>Per Hogedal</b> , Head of Unit, City of Gothenburg in the Agency for Water and Waste Management <a href="mailto:per.hogedal@kretsloppochvatten.goteborg.se">per.hogedal@kretsloppochvatten.goteborg.se</a>	<a href="http://goteborg.se/wps/portal?uri=gbglnk%3agbg.page.4b68fa2c-ed2a-4699-94d6-388af8266c33">http://goteborg.se/wps/portal?uri=gbglnk%3agbg.page.4b68fa2c-ed2a-4699-94d6-388af8266c33</a>
<b>RLAB</b>	LIPOR Rua da Morena, 805 4435-996 Baguim do Monte Portugal	<b>Maria do Céu Silva</b> , Senior Technician , Unidade de Apoio à Implementação de Projetos Operacionais, Departamento de Operações e Logística, Lipor <a href="mailto:Maria.Ceu@lipor.pt">Maria.Ceu@lipor.pt</a>	<a href="https://www.lipor.pt/pt/sustentabilidade-e-responsabilidade-social/projetos-de-sustentabilidade/rlab/">https://www.lipor.pt/pt/sustentabilidade-e-responsabilidade-social/projetos-de-sustentabilidade/rlab/</a>
<b>Halle 2</b>	Peter-Anders-Straße 15 81245 München-Pasing Germany	<b>Günther Langer</b> , Head of executives office at The Munich Waste Management Cooperation (AWM) <a href="mailto:guenther.langer@muenchen.de">guenther.langer@muenchen.de</a>	<a href="https://www.awm-muenchen.de/privathaushalte/abfallvermeidung/halle-2.html">https://www.awm-muenchen.de/privathaushalte/abfallvermeidung/halle-2.html</a>
<b>48er-Tandler</b>	Siebenbrunnenfeldgasse 3 1050 Vienna Austria	<b>Laurenz Stoisser</b> Waste prevention and European Affairs MA48, City of Vienna	<a href="https://48ertandler.wien.gv.at/site/">https://48ertandler.wien.gv.at/site/</a>

		<a href="mailto:laurenz.stoisser@wien.gv.at">laurenz.stoisser@wien.gv.at</a>	
<b>De Kringwinkel</b>	KOMOSIE vzw Regine Beerplein 1 2018 Antwerpen Belgium	<b>Veroniek Lemahieu</b> Coordinator of Kringwinkel at OVAM <a href="mailto:veroniek.lemahieu@ovam.be">veroniek.lemahieu@ovam.be</a>	<a href="https://www.dekringwinkel.be/">https://www.dekringwinkel.be/</a>
<b>Reparatur Netzwerk</b>	Buchengasse 77/4 A-1100 Vienna Austria	<b>Magdalena Schwärz-Pertiller</b> DIE UMWELTBERATUNG, Resources and Waste <a href="mailto:magdalena.schwaerz@umweltberatung.at">magdalena.schwaerz@umweltberatung.at</a>	<a href="https://www.reparaturnetzwerk.at/">https://www.reparaturnetzwerk.at/</a>
<b>OPO Lab</b>	Rua D. João IV 643 4000 - 303   Porto   Portugal	<b>João Feyo</b> OPO Lab   Oporto Laboratory of Architecture and Design <a href="mailto:joao.feyo@opolab.com">joao.feyo@opolab.com</a>	<a href="http://www.opolab.com">www.opolab.com</a>
<b>Made in Moerwijk</b>	Westhovenplein 46, 2532 BB Den Haag, The Netherlands	<b>Donne Bax</b> Director Made in Moerwijk  <a href="mailto:info@madeinmoerwijk.nl">info@madeinmoerwijk.nl</a>	<a href="https://www.madeinmoerwijk.nl/">https://www.madeinmoerwijk.nl/</a>
<b>CPU Slovenia</b>	Vrazova ulica 9 2270 Ormož	<b>Marinka Vovk</b> Director CPU Slovenia <a href="mailto:cpu.marinka@siol.net">cpu.marinka@siol.net</a>	<a href="http://www.cpu-reuse.com">www.cpu-reuse.com</a>

## 6.2 Call for cases

*The Urban Agenda Partnership on Circular Economy is planning to conduct a classification of different approaches to so-called “Urban Resource Centres” that work to enable waste prevention, re-use and repair and recycling on a local level in European cities. Case studies will be compiled for selected ‘Urban Resource Centres’ and published in a report showing good practices which can serve as inspiration to replicate these in further European cities.*

*‘Urban Resource Centres’ are designated multifunctional places within cities for waste prevention, repair, re-use and recycling. The scope of ‘Urban Resource Centres’ includes, but is not limited to, re-use centres.*

*The purpose of ‘Urban Resource Centres’ can encompass the following aspects:*

- *Stimulate education/communication/awareness raising amongst businesses and citizens;*
- *Encourage the social economy (including the collaborative economy) and social cohesion;*
- *Act as an incubator, collaborating with local companies to develop sustainable and circular business models.*
- *Encourage and enable more re-use, repair and recycling*

We are looking for centres that are either:

- Private;
- Public-Private;
- Public.

We seek to identify:

- Different business models and stakeholders
- Function of the centres
- Social, economic and environmental impact of the established centres
- Success factors
- Common characteristics (governance, focus, funding, location, organisational form etc.)
- Legislative and financial frameworks

To be selected as a case for the classification there are some criteria that should be fulfilled:

- Work to ensure a **more circular economy** – through promoting waste prevention, re-use and recycling
- Your activities should bring **benefit to the local community** or have concrete social objectives
- The centre should be located in an **urban area**
- You will be able to **share information** about the organisation, funding and impact of the centre

### **Why should you participate?**

- You will be given visibility as a best practice example in the report that will be disseminated at EU level through the Urban Agenda partners in order to enable knowledge-sharing and exchanges between cities
- Opportunity to attend / present at a networking event organised by the Urban Agenda



- Being referred to as a model for inspiration and replication in other urban areas
- Benefit from the expertise of other centres who have similar or complementary profiles

### **What will your participation entail?**

- First assessment through a questionnaire (linked in this document)
- Follow-up interview
- Final check of the information before publishing

## **Interested to share your case?**

**Please answer this short survey (3 minutes)**

<https://www.surveymonkey.com/r/89YPYX8>

**Contact for general questions:**

Siri K. Bellika, Urban Agenda Partnership on Circular Economy and City of Oslo

[Sirikarsen.bellika@ren.oslo.kommune.no](mailto:Sirikarsen.bellika@ren.oslo.kommune.no)

The selected cases will be contacted by the Urban Agenda Partners during summer 2018 to schedule in-depth interviews. The result of the interviews will be a report based on the findings with recommendations and best practices.

### **About the Urban Agenda Partnership on Circular Economy:**

The Urban Agenda for the EU was launched in May 2016 with the [Pact of Amsterdam](#). It represents a new multi-level working method promoting cooperation between EU Member States, cities, the European Commission and other stakeholders in order to stimulate growth, liveability and innovation in the cities of Europe and to identify and successfully tackle social challenges. The Partnership is one of twelve Partnership set within the Urban Agenda for the EU, which aim to bring together city government, national government and the European Commission to improve urban policy.

The Circular Economy Partnership aims to stimulate the re-use, repair, refurbishment and recycling of existing materials and products to promote new growth and job opportunities. The focus will be on: waste management (turning waste into resources), the sharing economy, and resource efficiency.

Visit Futurium for more information about the Partnership and the Urban Agenda here:

<https://ec.europa.eu/futurium/en/circular-economy>

**Members of the partnership:**

Oslo (NO, Coordinator), Flemish Region (BE), Kaunas (LT), Porto (PT), Prato (IT), The Hague (NL), Finland, Greece, Poland, Slovenia, European Commission (DG REGIO, DG ENV, DG CLIMA, DG GROW, DG RTD), Council of European Municipalities and Regions (CEMR), EUROCITIES, European Investment Bank (EIB), URBACT, Association of Cities and Regions for sustainable Resource Management (ACR+)

**6.3 Online survey**

Online Survey	
Question	Answer and options
What is the name of the centre?	Open
Where is the centre located?	Open
Which actor (private or public) is responsible for this centre?	Open
Please state the type of organisation of the centre	Public
	Private
	Public-Private
How do the centre contribute to the circular economy?	Through hosting waste prevention, re-use and recycling activities
	Through educating consumer on sustainable consumption
	Through collaborating with local actors, private companies and citizens to create circular solutions
	Through directly working in-house on resources to keep them in the closed cycle in an urban area
	Other (Please specify)
How is the centre funded?	Through public funding
	Through a public-private partnership
	Through private contributions/donations

	Through a business model generating income to the centre
	Through EU Funds
	Other (please specify)
Do you experience barriers working with waste prevention, re-use and recycling on a local level?	No
	If yes, please specify
Have you been able to measure any social, economic or environmental impact of the centres operation?	Yes, economic
	Yes, social
	Yes, environmental
	No
Who are your targeted audience?	Citizens
	Businesses
	Schools/Kindergardens
	NGOs
	Other (Please specify)
Please list your contact information below (name, e-mail)	Open

## 6.4 Interview structure

### *Urban Agenda Partnership on Circular Economy*

Cities are attractive starting points for making the transition to a circular economy. Therefore, as part of the EU Urban Agenda, 12 different partnerships have been established that seeks to identify innovative, feasible solutions addressing 12 different urban topics. One of them is Circular Economy. The Partnership started up in February 2017, and will end in 2019. It consist of six urban authorities, 3 EU Member States and several European institutions. The main goal of the partnership is to identify barriers to circular economy in cities, and propose legislative, financial and knowledge-based changes in the EU framework.

### *Urban Resource Centres*

One sub-theme of this circular city programme regards the work cities do on circular consumption, waste prevention, re-use, repair and recycling. In order to establish better knowledge on how cities work with waste prevention, re-use and recycling the Partnership has decided to conduct a classification of different approaches to so-called “Urban Resource Centres” that work to enable waste

prevention, re-use and repair and recycling on a local level in European cities. Case studies will be compiled for selected 'Urban Resource Centres' and published in a report showing good practices which can serve as inspiration to replicate these in further European cities.

'Urban Resource Centres' are designated multifunctional places within cities for waste prevention, repair, re-use and recycling. The scope of 'Urban Resource Centres' includes, but is not limited to, re-use centres.

The purpose of 'Urban Resource Centres' can encompass the following aspects:

- Stimulate education/communication/awareness raising amongst businesses and citizens;
- Encourage the social economy (including the collaborative economy) and social cohesion;
- Act as an incubator, collaborating with local companies to develop sustainable and circular business models.
- Encourage and enable more re-use, repair and recycling

### **Interview goal:**

Throughout Europe today it exist hundreds of examples of different types of Re-use/Recycling/Resource Centres. Through interviews with people representing the centres, the partnership hopes to gain insight into the different functions these centres can entail and how they contribute to the implementation of the circular economy in cities today. Also, the Partnership seeks to identify barriers that have been encountered in the process, as well as potential success factors in their operations. This information can be used as the empirical foundation for future centres and assist in opening up a discussion on the focus and impact of these centres. The report can function as a guideline and in the future, this guideline could be used by cities aspiring to facilitate for or establish so-called "Urban Resource Centres".

### **No disclosure**

The interviews will be recorded. These recordings will only be used for the sake of the specific research; no other form of disclosure will occur during or after the interview to any (third) party. Once the research has been concluded, the recordings will be deleted.

Every interviewee will receive a synthesis of the interview afterwards. In addition, a publically available report will be composed based on these interviews and additional publically available sources. This report will be distributed to the interviewees as well. If material from these interviews is used literally and not anonymously (e.g., quotes), permission will be asked in advance.

*The estimated interview time is approximately 1 hour.*

### **Background**

1. Name of interviewee, department, role
2. Relationship to the «Urban Resource Centre»

## Function

3. Can you tell me about this centre/station and what the main focus is?  
Ex:
  - a. Knowledge sharing?
  - b. Re-use?
  - c. Repair?
  - d. Recycling?
  - e. Co-creation space?
  - f. Collaboration with private sector
4. How many visitors do you have annually? Compared to general population?
5. What is your mission/objective?
6. Who is your targeted audience?
7. Are there some main waste streams/fractions in focus?
8. How does your centre contribute to the circular economy?
9. Does your centre contribute to the social economy?
  - a. Job-training for marginalised groups etc.
  - b. Other social aspects?
10. How do you work with the topic of waste prevention and re-use?
11. How does the focus on waste prevention and re-use fit with your overall objective?

## Organisation

12. Can you describe the ownership model of the centre?
13. Is the centre administrated at local, regional or national level?
  - a. Are there several agencies or actors involved?
  - b. What is the administrations role? Enabler? Coordinator? Funder? Executer?
14. Who are the main stakeholders involved?
  - a. Private businesses (Waste operators)
  - b. NGOs
  - c. Citizens
  - d. Knowledge institutions
  - e. Municipal utilities
15. Are you organised in a network of other centres?
16. Who are the main actors you collaborate with?

## Measuring impact

17. Who do you report to?
18. What do you report on?
19. Do you work with specific quality requirements?
20. Do you have specific targets set for your operations?
  - a. What are they based on?
  - b. Qualitative/Quantitative?
  - c. Are there other targets you could see as relevant?
21. How do you measure the impact of your operations?
  - d. Economically

- e. Socially
  - f. Environmentally
22. How did you develop the method for measuring this?
23. Potential for improvement? How to best measure impact of these kinds of centres?

### **Funding**

24. Can you describe the funding structure of the centre? Ex:
- a. Public funds
  - b. Grants
  - c. Private donations
  - d. Business model?
    - i. How does the business model work?
25. Do you have activities generating income at the centre?
26. Would you say that the funding structure works well for your operations?

### **Barriers**

27. Can you list some of the barriers you have experienced through the work establishing this centre? EX:
- a. Funding
  - b. Political support
  - c. Legislation
  - d. Public support
  - e. State Aid
  - f. Warranty issues
  - g. Authorisations
  - h. Involvement of citizens
  - i. Access to space
28. Which of these would you say is the most significant barrier?
29. What has helped/could help you to overcome the barriers?
30. Are there specific barriers working with waste prevention and re-use hindering you?

### **Success factors?**

31. Thinking about your operation, what would you say is your most important success factor?
32. Are there areas or topics related to your operations where you think information still is needed?
33. Would you see benefits from getting involved in a network of centres in other European cities?