

Feasibility Study for Urban Repair Centres

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Abstract

In the context of the present report, an Urban Repair Centre is a physical place that helps facilitate repair in urban areas, be it through direct repair or through education, communication, awareness-raising. The present report mainly focuses on URCs that would repair (small) home appliances.

The main challenge identified for such URCs is a financial one, and the report studies the economics behind several types of URCs: ones that act as Repair Studios where objects are actually fixed, one that organises escape games as a way to sensibilise the public to the challenges and benefits of repair, and one that is organised as a training centre providing workshops to acquire or improve one's repair skills.

These economic simulations indicate that the financial balance is hard to find for an URC, especially since customers are used to paying relatively cheap prices for brand new objects produced without taking into account negative externalities. Therefore, the report reflects on the importance of repair for a more sustainable society, establish a Circular Canvas that highlights all the positive impacts that result from repair, and ends up by suggesting several societal or political decisions that may boost the emergence of URCs and progress towards a circular economy into which repair is a key activity.

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Introduction

What is an Urban Repair Centre?

Since the purpose of the present document is to investigate the business model(s) that could be associated with an Urban Repair Centre (URC), the term “Urban Repair Centres” will be regularly used. For the purpose of this document in the framework of the SHAREPAIR project, the term “Urban Repair Centres” refers to an Urban Resource Centre with a big focus on repair related activities.

The above clarification does not clarify much if the term Urban Resource Centre is not understood by the reader. We like to reference the definition provided by the Urban Agenda during their work on the classification of urban resource centres. Their definition is the following: *“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. Urban Resource Centres bring together a wide community of stakeholders to find alternatives for managing waste streams generated at municipal / intermunicipal / regional level.”*¹

With this in mind, we can refer to Urban Repair Centres as **physical centres that help facilitate repair in urban areas**. The scope of Urban Repair Centres includes, but is not limited to the following aspects:

- Education, communication and awareness raising amongst citizens, businesses and organisations on the topic of repair.
- Encouraging the social economy (including the collaborative economy) and social cohesion.
- Act as an incubator / collaborator with local companies to develop sustainable and circular business models.
- Encourage and enable more repair and reuse.

In this context, the present report mainly focuses on URCs that would repair (small) home appliances with or without electronics involved. But the report does not tackle other types of objects, such as bikes, textiles, or furniture.

Feasibility of an Urban Repair Centre

As outlined by the project when investigating best practices², *“after-sales services of major brands (Vandenborre, Darty, etc.) and single-product repair solutions (Smartphone repair, IT) (...) are developing everywhere. We preferred to focus on more comprehensive repair projects which, at the same time, offer training or employment opportunities for people more*

¹ “Urban Agenda - A classification of local approaches to waste prevention, re-use, repair and recycling in a circular economy”, <https://futurium.ec.europa.eu/en/urban-agenda/circular-economy/library/urban-resource-centre>

² “Urban Repair Centres (URC) - Overview of best practices”, Deliverable D.T2.4.1 of the SHAREPAIR project, June 2021

or less distant from the job market because these projects better relate to the definition of Urban Repair Centres made earlier.”

Some of the conclusions of that report read:

- A different business model is needed if you work on repairing small appliances or big devices.
- Repair is often linked with a second-hand shop. This provides another solution if the device cannot be repaired. Ideally, these outlets should be located in commercial spaces, which are generally overpriced.
- Only repairing small home appliances does not seem profitable. That is why, up to now, only the easiest repairable devices are kept, others are thrown away and very rarely dismantled. We must therefore find a way to reduce the cost of repair (cost of repairer, room, spare parts) if we want to increase the quantity of repaired devices.

Along with other comments, these put the emphasis on the difficulty to find a business model that reaches breakeven (or better: some profitability). It is therefore the purpose of the present report to further investigate the associated financials and to identify ways to overcome these challenges, and to make sure it is feasible to establish such centres in various European cities.

Brief Market Description

A survey of the existing literature shows indeed that a lot of “repair markets” studies focus on the way major product distributors organise (or not) a repair service. This is however not in line with the above definition of URCs, not with the definition aforementioned. That aspect of the market will not be further investigated as such, only to highlight the way such actors are able to financially balance the costs of the repair services they provide (see further).

When googling the term, one can see that the concept of Urban Repair Centre is progressively spreading, and several initiatives or services do present themselves with this term. Yet, a lot of them are still considering it as an equivalent of a “fixman at your doorstep”, where the centre sends someone to your home, mostly to fix “big white” (i.e. relatively expensive) appliances.

Nevertheless, any observing citizen might have noticed these last years that the word “Repair” appears on more and more façades of buildings across European cities. It has been the case for temporary events organised by local Repair Cafés for quite some years, but the latest trend has been the emergence of repair shops dedicated to electronic devices: if companies like “Mister Genius” (in Belgium) have paved the way for quite some years for computers, the market of smartphones with their inherent fragility (especially the screen) has led to the apparition of many shops (either unique and local, but also small “chains” and franchises) to fix them (and by extension other computer devices). The common point to all those highly visible activities on the market is that they address devices for which the fixing cost makes sense with respect to the acquisition one: many customers agree to pay 100€ for replacing their broken screen (with a 6 month guarantee) of the smartphone they acquired 3 months ago for 899 € or more (the situation is different if the smartphone is already 18-months-old since the usage lifetime of a smartphone seems to decrease under 20 months). So, there is a market that has structured itself for high-price commodities. And it is

not only for high-end electronic devices. One may find similar approaches and services for “big white” appliances where one can also see innovative offers emerge, such as the one of [Murfy](#) in France which guarantees the device to be fixed, at home, for 85€.

But what about other, often cheaper, objects? There is an offer established by either “social” initiatives (often partly subsidised) but also by local independent workers who tackle not only big electrical appliances but usually with a minimal price for the diagnosis (typically 10€). They therefore only attract the broken devices whose acquisition value is worth a certain price (which may explain that people are keen to fix them).

In general, the market for small appliances is mostly driven by social economy initiatives, who can propose lower prices thanks to subsidies, lower wages, or benevolent workers (or even free services driven by Repair Cafés). There are also new original initiatives such as [Kapout](#) which aims at valorising broken devices through an e-platform.

Meanwhile, what does the industry do? The sector (of production, distribution, and sales of electric and electronic appliances) is moving. Slowly but surely. And in different directions:

- The warranty starts being extended (beyond the legal 2 years) on more devices while insurances are proposed to customers to cover all defects of devices for 5 years or more. Yet, such an offer is far too often based on a direct exchange, without even trying to actually repair the devices, and, despite the marketing claims, it is unclear what really happens to the defunct devices. But this is a first step, although imperfect.
- More interestingly, a company like [SEB](#) in France is proposing more and more appliances with a 10-year reparability guarantee: they guarantee to make all assembly plans available and to provide spare parts for those devices for 10 years after the last one is sold, and for a fair price. This is a key enabler for the repair initiatives.
- In line with the above approach, France had edicted an “anti-waste” law which has required manufacturers of several electronic devices to create a “reparability index”³. A similar approach should take place in Belgium in 2024, while Europe is also reflecting on the subject.
- And of course, there are also pioneers, often small structures, who propose devices conceived for maintaining them on the long run: this is the case of “[L’Increvable](#)” in France, but also the social [Papillon](#) initiative in Flanders supported by Bosch.

So, the market is moving although it is still mainly driven by the sales of new devices. This is a key factor to be considered when aiming at defining the business model of an URC.

Main Challenges faced by an URC

Actors aiming at creating such URCs are perfectly aware of the numerous challenges that are in front of them (cf. the first part of Appendix 1 which summarises the first partner’s workshop about the feasibility study). The main ones are briefly presented hereunder.

³ Cf. the main website (in French): <https://www.indicereparabilite.fr/>

(In)direct Competition

As outlined in the market description, there is some competition for high-end devices and “big white” appliances because those can provide cost-effectiveness. Yet, URCs aim not only at educating and raising awareness about the importance of repair, but also at increasing the quantity of repaired objects. This implies addressing more objects, including small electrical appliances. And then, the competition is not direct anymore but indirect since buying something new is just way “easier” than repairing it. Or at least it looks like that to many citizens both in terms of time to devote to find a solution to their broken device, and in terms of money. The two next challenges are associated with this “asymmetry” of the market.

Awareness

While any repair initiative with a social vision will struggle to balance its account (see below), it will also struggle to make the general public aware of its existence. This not only relates to the localisation of the repair place in a “fancy” (hence expensive) part of the town, but also to all communication and advertising means that are at stake.

An URC has a local approach, dedicated to the community living in and around the city where it is installed. On the contrary, object manufacturers and distributors have a much wider approach and audience, being usually national if not international actors. Aiming at a mass market with their devices, that also adopt mass market communication strategies, including radio, TV and billboard marketing campaigns. Hence, any citizen of the city where an URC is installed is submitted several times per week (if not per day) to information about big brands and all the devices they provide, while it will require a tremendous amount of energy from the URC for the citizen to hear about it once every quarter.

Financial Balance

Both previous aspects result in a real difficulty to make any URC breakeven. This is due to the nature of the activity and the willingness to promote repair for social and environmental reasons while purely economic ones do not advocate for “the cause”.

Indeed, most objects manufactured today are produced out of Europe in robotized or Taylorism-driven factories where workers earn very low wages (and work in extremely poor social conditions). Since prices of resources and energy (for manufacturing and transport) are also quite low, it results in brand new objects reaching European shelves with attractive, if not aggressive, prices. On the other hand, repair requires local manpower, one available at the place of repair. And repair is not a repetitive task but requires some time for dismantling, analysis and then fixing. 30 €/h wages (Belgian average) times half-an-hour (or one hour) results in prices which are high compared to the ones of brand-new equivalent objects.

Because this financial (un)balance is at the heart of the challenge to establish URCs or similar projects in European cities, the next few pages of the present report will exclusively focus on that aspect. The objective is to be able to draw economical conclusions and to decide on the feasibility of establishing “viable” URCs. Next, the report will further elaborate upon the social and societal outcomes of such initiatives.

Hypotheses for an URC Financial Plan

To move forward and investigate various business models for an URC, several hypotheses had to be taken into account first. Those can of course be modified⁴ but what was most important was to have a set of unified hypotheses across the various models and variations that were explored. Here are the key hypotheses that have been used through the rest of the document.

No Initial Investments

Setting up an URC, like any entrepreneurial initiative, requires some initial investments (for tools and machines, designing the workplace...). Those have however **not** been taken into account in order to concentrate the effort on the annual accounts of the URC (why invest if anyway the annual balance is negative each year?) and also because this is the part where the most help can be found (from donations to subsidies, from partnerships with existing actors to reusing things from previous initiatives).

Salaries

A variety of profiles is needed to run an URC, whose names are quite self-explanatory. For each profile, an associated annual cost has been set as per the table below:

Profile	Yearly Amount
Administrative person	55 000 €
Specialist engineer	75 000 €
Senior repair person	65 000 €
Junior repair person	48 000 €
Benevolent repair person	3 000 €
Coach/animator	55 000 €
Communication manager	60 000 €
Overhead cost on personnel	10%

As indicated in the last line, a hypothesis has also been set on a certain amount of overheads associated with all salaries. It has been set to 10%.

NB: a lump sum is planned for benevolents as, especially in case of recurrent (weekly, daily) occupation, it is usual to pay for some of their expenses, such as commuting ones.

Fixed Assets

Two main fixed assets are needed, in varying quantities depending on the exact activity of the URC. Those are a repair space where to have the URC installed, and the need (or not) for a vehicle. Hypotheses were also set for those:

⁴ And the interested reader is invited to use the Excel file associated to the present report and “play” around with it to align the hypotheses to the reality of his/her context.

Element	Yearly Amount
Space rental	24 000 €
Vehicle rental	7 200 €

Spare Parts & Consumables

Repairing any device usually requires some spare parts to be provided, and some consumables (grease, glue, wires, soldering tin...) to be used. Estimating those is extremely difficult since it varies a lot from one object to another, and from one repair situation to another. Therefore, to average those variations, the cost of those elements has been defined as a percentage of the final price of the repair service. In the rest of the document, here are the percentages used:

Element	Relative Amount
Spare parts	20%
Consumables	5%

Other Costs

Other elements which have been set identical for all simulations are:

- A Value-Added Tax (VAT) of 21% (mostly used to estimate the final cost asked to the end-customers)
- And various itemised charges:

Element	Yearly Amount
Energy (heating, elec...)	6 000 €
Administration	5 000 €
Communication (Internet, email...)	1 200 €
Communication material	3 000 €
Tools (annual renewal)	3 000 €

Repair Time

One critical aspect to be evaluated when discussing the financials of an URC, which involves a significant amount of manpower is the time devoted to repair one device. To this aim, we have relied on the statistics gathered by Cyreo during the first instalments of the *Repair Studio*. Those read as follows:

Data from RepairStudio	Fraction	Time Spent (min)
fixed by cleaning	4,93%	30
fixed with sparepart replacement	6,41%	45

fixed without sparepart	25,65%	45
unfixed: lack of spareparts	8,00%	20
unfixed: too old or impossible to open	55,00%	10
TOTAL/AVERAGE	100,00%	23,01

It shows that 37% of the objects brought to the place were actually fixed while 67% were not. It also highlights the fact that time is needed even for those objects that cannot be fixed, while 13% of the objects that can be fixed (4.93% of the total) simply required to be cleaned. The weighted average of these timings results in an average 23-minutes devoted to each object ($4,93\% * 30 + 6,41\% * 45 + 25,65\% * 45 + 8,00\% * 20 + 55,00\% * 10 = 23$).

Willingness to Pay

Latent to all models presented hereafter will always be the question of “how much is the customer ready to pay” for the service. Since the service will be quite different in each situation, such hypotheses will be elaborated upon case by case. It will systematically be put in perspective with respect to the actual costs of repair or in terms of effect on the required volume of services to find the financial balance.

Economic Simulations through Business Models

Based on all the above, four different business models have been explored in detail, along with several variations around those. More exist (cf. the creativity exposed in Appendix 1), but those four were identified collectively as the more meaningful ones, or the ones that appear reachable in a foreseeable future. What are they?

The first one, the nominal case, of course is a **Repair Studio** to which citizens (i.e. customers) come with their broken devices to get them fixed. Two variations of it have been investigated depending on the type of objects accepted for repair: small appliances, or big ones ? The results highlight what has been evoked in the market description and confirms, without surprises, why the market focuses on big ones.

A variation of this model is also discussed: a potential partnership with manufacturers and distributors through a proposition of “extended warranty”. Such a model would ease a lot the financial pressure, and is therefore discussed as a possibility to make the model economically viable. Yet, it does not consist of an immediate solution because it does not seem reachable in the foreseeable future, but is clearly a promising track for a longer term.

Since a “static” Repair Studio needs quite a significant number of objects to be tackled, one may emit doubts as to the capacity to attract such a high number. It has therefore been imagined establishing a **Mobile Repair Studio**, one on wheels that would wander in neighbourhoods and propose citizens to fix on the spot their devices. Doing so, it would address both the awareness challenge (cf. supra) and make it easier for citizens to repair. It is also expected that it would lower the costs and hence make the financial balance easier to reach? Hence, figures will indicate that it is not the case.

Two completely different tracks have then been investigated, with more emphasis on the education/awareness part more than the fixing of objects itself.

One approach is a **Fun and Education Centre** around Repair which welcomes individual visitors and schools for an “edutaining”⁵ experience, much like an escape game. In that case, no object is fixed by the Centre... because no object is brought to it. Through a game and accompanying information, participants are made aware of the importance of repairing devices with an emotional approach which aims at making the message more impregnate. And then can of course go back home with side information about other repair places and initiatives.

Another approach is a **Repair Training Centre**, which has a B2B approach to further educate and train people to optimally diagnose and repair objects. Conceived as a support tool to the repair community, the purpose of such a centre is to help people already active in the field (freelancers or employees of larger companies) or curious citizens willing to gain knowledge (e.g. to help in a Repair Café) to gain more skills.

Repair Studio

This is the first and most obvious idea: a URC is a place where customers (typically citizens) can come to have their appliances fixed. Accordingly, the customers would pay for a fee for the fixed devices, and potentially one for the first diagnostic (amount due whether the object is actually fixed or not).

Hypotheses

The first hypotheses to set concern the size of the team. Simulations show that it influences the final result since most of the cost is driven by the manpower, which immediately influences the available time for repair and therefore the number of objects that can be fixed. The main simulation has therefore focused on a relatively limited team for a “small” URC which includes:

- one senior repair person;
- two junior ones;
- a benevolent one.

Their work would be supported by a half-time administrative resource and a ¼-time for communication activities.

The idea is indeed not only to create employment but also to be able to deliver a professional service and not to operate as a Repair Café (exclusively with benevolent volunteers). In terms of marketing, it allows one to claim the URC as a professional “actor”, typically associated with a warranty on the service but also a certainty of being served: citizens would have the certainty to obtain a diagnosis within x days, while with Repair Cafés (which occur once a month or once a week) visitors have no guarantee that their object will be treated (lack of time if too many people come to the session).

⁵ Term used in the museum industry as the convergence of education and entertainment: edutainment

Considering that the workers operate 38 hours per week, 220 days per year, and are able to devote 80% of their time to repairing devices, it makes 5350 hours of work available to fix objects.

Costs

The cost of this “typical” URC are established as per the following table:

Element	Yearly Amount	QUANTITY	TOTAL Amount
Space rental	24 000 €	1	24 000 €
Vehicle rental	7 200 €	0	- €
Administrative person	55 000 €	0,5	27 500 €
Specialist engineer	75 000 €	0	- €
Senior repair person	65 000 €	1	65 000 €
Junior repair person	48 000 €	2	96 000 €
Benevolent repair person	3 000 €	1	3 000 €
Coach/animator	55 000 €	0	- €
Communication manager	60 000 €	0,25	15 000 €
Overhead cost on personnel	10%	1	20 650 €
Energy (heating, elec...)	6 000 €	1	6 000 €
Administration	5 000 €	1	5 000 €
Communication (Internet, email...)	1 200 €	1	1 200 €
Communication material	3 000 €	1	3 000 €
Tools	3 000 €	1	3 000 €
		TOTAL	269 350 €

Income Stream

The only source of income therefore is for customers to pay for the price of having their device fixed, potentially with an initial lump sum for the diagnostic, which remains due even if the object cannot be fixed (typically 5 or 10€).

In terms of revenues, the willingness to pay by the customers has been modelled as a percentage of the purchase value of their object. It is considered that they would typically agree to pay 20% of the initial value to get a broken or malfunctioning device back to work. It means that a customer having purchased for 100€ a kitchen blender is likely to pay 20€ to have it fixed when it fails, while the owner of a 500€ washing machine is ready to pay 100€ but the owner of a 40€ toaster is not willing to give more than 8€ to have it fixed.

Financial Learnings

The costs presented above allow to draw a first conclusion about the needed income:

- given our general hypothesis (above) about time needed to repair objects;
- given the available time of the intended team (5350 hours);
- it means that 13 951 objects could be handled by the URC, out of which 5162 would be actually fixed;

- and, in order to ensure the financial balance of the service (income equalling the costs), it means that:
 - if no fee is asked for the diagnostic of object, on average a price of 79€ (VAT included) should be asked for each object actually fixed;
 - if a diagnostic fee of 5€ is asked, each fixed object should be paid 68€;
 - if a diagnostic fee of 10€ is asked, each fixed object should be paid 58€.

This provides a first impression about the actual “price to repair” anything... Given our hypothesis that customers would agree to 20% of the initial acquisition price of their device to get it fixed, this means that the URC would be financially breakeven when fixing objects whose average price amounts between 290 and 395€ (depending on the fee asked for diagnostics).

This confirms all the difficulty of making such a centre viable, and explains the current market proposition where existing actors systematically focus on “big” appliances or quite expensive ones (such as IT devices). If the studio focuses on big appliances (350€ in average) with customers ready to pay 10€ for a diagnostic only and 70€ (20%) for a repair, the annual profit of the URC would be 12 403 €.

But the intention behind an URC is precisely to address all these small appliances which compose the vast majority of household devices! And simultaneously, URCs are not there to explicitly create competition with already existing professional services. So, one can use the model that has been established to analyse the amplitude of the financial issue it poses.

If one believes that the average object addressed by the URC is 100€, and that therefore customers are not willing to pay more than 20€ for repair (and 5 for diagnostics), then:

- either the centre needs to find 147 707 € each year to balance its accounts (this amounts represents 90% of the wages);
- or the time to fix an object must be reduced to 28 minutes (instead of 45) while only 3€ is devoted to spare parts.
- It would also mean that the centre tackles more than 30 000 objects over the year (and fixes 11 430 of them).

For objects with an average price of 60€ (and a repair ticket of 12€), it becomes:

- either a deficit of 181 836 €;
- either a fixing time reduced to 20 minutes (and 2€ for spare parts).

And for the many objects whose average price amounts to 40€ (willingness to pay 8€), it becomes a clearly impossible situation:

- with a deficit of 198 901 € (74% of the costs are not covered);
- or a time of 16 minutes per object, i.e. less than the time needed most of the time for diagnosing only while over the year the centre should cope with more than 50 000 devices (and fix 20 000 of those)!

Of course, plenty of intermediate situations are possible. But the main learning is that the model **heavily** relies on the price customers agree to pay, and this is definitely linked to the type of appliances. In addition to that, there is clearly also a marketing and traction challenge, because all of this relies on very large quantities of objects being brought to the

place (30 000 devices over the year means more than 130 devices each working day!), and this also does not seem really realistic as of today.

An Urban Repair Centre focusing on small appliances and electronic devices is definitely not viable.

Potential Partnerships

It is why having partners might be an interesting way to bridge the gap. Of course, such a partnership may take the form of direct financial support (gift, patronage) but this would not change the financial conclusions. Hence, the focus will be brought here on more business-oriented partnerships.

Important partners are:

- Spare parts provider;
- Fablabs able to print replacements parts when needed (unless the URC wants to conduct this by itself, but it raises other challenges from access to the drawings to the skills for the various machines, and it may requires enormous amounts of time to model the pieces when no 3D model is readily available on the Internet);
- Workforce provider, especially to hire skilled profiles, but also to further train the personnel;
- Public bodies or associations willing to support repair in various forms, and notable through support for the salaries. This is however probably mainly based on taxes or other mechanism that requires political decision, as will be outlined in the last section of the report (“Actions to Make Reparation Economically Viable”).

But manufacturers and distributors of the objects to be fixed are definitely interesting partners for an URC. Not only are they able to bring knowledge and spare parts for the objects to be fixed, but they could also contribute in various ways to the growth of repair attitudes and the emergence of URCs. Several tracks to be envisioned are:

- Producers can of course design objects in better ways, made for reparability (ease of dismantling, parts easy to replace, sturdy components...) in line with the ecodesign approach of circular economy (cf. the SEB reparability initiative already mentioned above);
- Producers could internalise the total environmental and societal cost of their products in the price, making the balance between repair and new objects more balanced. It is however unlikely for producers to take this aspect into account spontaneously, and this aspect will be addressed in the last part of the present report (cf. section “Actions to Make Reparation Economically Viable”).
- Distributors are also able to play a role with respect to repairing objects and to collaborate with URC. They are mostly able to intervene with complementary business proposals, the main one being an extended warranty, which is further described hereunder.

Variation of the Repair Studio: Extended Warranty Service

Indeed, a variation of the nominal case outlined above could be a strong partnership between an URC and one (or several) distributor(s), and maybe even some manufacturers.

The approach is that the URC acts as their “official” repairing body: the distributor (or manufacturer) is therefore the real customer of the URC, while it is the distributor (or manufacturer) who remains in contact with the customers. The URC is their service provider for the repair operations, acting as a subcontractor.

This is inspired from the value proposition that some of them are already establishing under the form of an extended warranty⁶.

What does it change ? Not much in terms of activities, except that such a partnership would most certainly allow to guarantee the needed volume of objects per year to make the centre viable. But, most importantly, the core advantage of such proposals is that customers pay beforehand, under the form of a warranty, and that it changes their willingness to pay. The psychological context is favourable because any customer is definitely willing to devote an extra cost at the time of purchase **to protect her or his new investment**, rather than paying when it is needed to fix an object already old and for which a new version exists on the market...

In that case, the repair “network” (distributor bringing the proposal to the customers and the URC assuming the actual repair operations) cashed the money in **before** any issue, and is able to staff the team depending on the amount of contracts sold, the estimated risk around objects (reliable or not, having to provide a replacement or a voucher... i.e. an insurance business model made on computing the risks).

It is believed that such a model is definitely a good way to make the Repair business profitable, especially if there is enough volume to spread the risk (hence probably the reason why only “big” distributors propose it).

And - although distributors already implementing it do not disclose any figure about that part of their business - one can reasonably assume that it is profitable, otherwise they would not propose it.

Yet, such a model is inaccessible to a URC alone since such a proposal can only be brought to the customer at the time of purchase, i.e. ideally in the shop itself where the customer is buying the new object. If partnership with a major distributor is not accessible to an URC, one with local shops or distributors in the urban region could be envisioned, but the question will be to know if the consortium will then be strong enough to bear the insurance risk associated with the proposal.

Again the ones applying it do not disclose any information about the performance of the service, but it is suspected that quite often the prices are set in order to plan for a direct replacement machine in case of trouble, and that the amount of repair is not maximised. This is what the partnership with an URC could pay attention to, in line with a strong circular

⁶ This is driven in Belgium by Vandenborre, with two propositions:

- a 5-year “Warranty +” proposal (more explanation in French or Dutch: <https://www.vandenborre.be/fr/conditions-vente-utilisation/vanden-borre-garantie-service-plus>)
- a “Life” Membership to protect the objects minimum 5 years (French or Dutch: <https://www.vandenborre.be/fr/info/service-vanden-borre-life>)

economy approach. But, again, given the price of new objects, this might not be the way to generate the most money for the distributors and the producers.

Accessing the financial details of such a model, discussing these and establishing partnerships is a process that will certainly take several years, but it is the conviction of the present report that there is something there that can solve the economical issue of repairing objects. Of course the next step would be to push manufacturers towards the functional economy with renting proposals of the devices and a permanent service of maintenance and repair (such as the [Papillon](#) social initiative in Belgium), but again this is a long-way forward.

Variation of the Repair Studio: Social-Purpose Enterprise

Making a social business for solving economical difficulties is definitely not an option, but the fact is that many initiatives tackling repair of small devices are socially-driven. It therefore seems important in the present research to take this fact into account and to further analyse why and how such initiatives manage to offer such a repair service.

A fact is that because their social objectives, and once recognized by the state as a “valid” player⁷, such actors may benefit from several forms of reduction on wages by having those wages 1. submitted to less taxes and 2. subsidised partly or entirely as a support to integrating people that would otherwise not find a job. And sometimes even a lump sum support to the activity depending on the policies of the local government and very often on specific criteria (such as a shared governance of the company with the workers).

It therefore reduces the salary approach, but at the cost of additional manpower devoted to accompanying those integrated workers into their daily activities and bearing with the additional administrative tasks that come with it. Overall, despite this extra personnel (social assistants, administrative personnel), it significantly reduces the salary budget with respect to a traditional company, also because the accompanying personnel often agrees -by conviction- not to have wages as high as in the private sector.

For the purpose of the present report, another simulation has been run with a modified staff and modified wages. What can be concluded from such investigations is threefold:

- it does slightly reduce the costs indeed, and does therefore limit the losses that have been presented here above;
- yet, because those workers being socially integrated require assistance by other personnel, there is a need for a certain size of the team to split those additional costs over many heads (a social assistant can typically support 8 workers⁸, while it is difficult to find one to accompany only 2 workers in a good way while working only at quarter-time);
- and ultimately, if it reduces the loss it does not make the finances balanced and the model suddenly perfectly viable.

⁷ For instance in Wallonia (Belgium) as “integration company”, part of the social economy. Description in French: https://economie.wallonie.be/Dvlp_Economique/Economie_sociale/EI/agrement.html

⁸ In the Walloon Region of Belgium, a subsidy is given to state-recognised integration enterprises for one half-time social assistant every 8 workers.

It is why one may notice that most of such existing initiatives usually combine repair with other activities⁹ (also with a social or societal impact). Their financial balance mostly relies on this other activity, while fixing small appliances offer an interesting complement that:

- can be flexible depending on the skills and availability of the existing team,
- develop more skills for the personnel,
- does not provoke important extra costs in terms of administration and communication,
- and diversifies the positive social impacts of the initiative while boosting repair and repair awareness, and offering citizens a (very) affordable way to fix their appliances.

This probably explains why such initiatives are the ones currently making the repair of small devices visible. But they do not *per se* offer an economically-viable solution for generalising the model and having it focused on repair only.

Variation of the Repair Studio: Collaborative Economy Platform

With the emergence of the collaborative or sharing economy¹⁰, Europe and several countries have amended their fiscal laws¹¹ to facilitate the emergence of platforms that facilitate the exchange of services between citizens.

There is therefore an opportunity for a Repair Studio to:

1. establish such an online intermediation platform that puts into contact citizens in need of fixing a broken device with skilled citizens able to repair;
2. the platform shall then be the one monetising the service and paying back the repair person;
3. the Studio can also provide the repair space along with tools and spare parts.

In such a model it is not so much the benefits from a percentage on all transactions which are of interest for the Repair Studio, but the fact that it provides repair personnel for a very small fraction of the cost of fixed personnel since taxes are drastically reduced.

It is definitely an option to keep in mind, but it requires a completely different approach and skills, since the Repair Studio has to develop and maintain a transactional platform to put citizens into contact. This is a completely different type of activity that is already endorsed by several platforms, such as [RingTwice](#) in Belgium, [Allo Voisins](#) in France, and similar initiatives in most European countries. The added value of having such a platform run by an URC instead of a dedicated actor on a national territory is probably limited, especially in terms of investment for the development of the intermediation platform itself.

Mobile Repair Studio

A Mobile Repair Studio is similar to a “fixed” one in terms of services since it intends to fix appliances from citizens, but with a mobile unit (purposely-designed cargo bike, small van...)

⁹ A lot of resource/recycling centres are first paid by cities to collect and manage objects, sorting what can be sold back (with or without repair), and organising thrift shops. Plenty of initiatives combine repair with other activities, such as [Cyreo](#) in Belgium whose core activity is to maintain cemeteries for municipalities.

¹⁰ “A collaborative economy is a marketplace where consumers rely on each other instead of large companies to meet their wants and needs”, as defined by [Investopedia](#).

¹¹ While Europe is analysing [how to encourage such new and innovative services](#), countries like Belgium have defined a clear framework which allows citizens working through recognized platforms ([detailed explanation in Dutch, French or German](#)) to earn up to 3830€ per year without being taxed.

that travels in the neighbourhoods of the city to fix devices at the doorstep of citizens or in the street.

The idea emerged when aiming to solve two constraints from the “fixed” version that has been presented above:

- On the one hand, since fixed costs are considered too high, the idea is to have the repair person on a cargo bike and therefore not need the investment into a full repair place. It turned out however that, if the size of the space can be reduced, it cannot be entirely suppressed as there is still a need for a storage room (for spare parts, devices waiting for a spare part to arrive...).
- On the other hand, it is also a way to go fetch customers where they are, while allowing them to save the time of the commuting trip to the URC. And therefore to maximise chances to actually handle the thousands (cf. above) of objects that need to be addressed to valorise the available hours of manpower and hopefully fix a lot of them while being paid. Doing so, it is even envisioned for such a Mobile RepairStudio to attract more citizens with a bundle offer such as “get 3 objects fixed at your doorstep for 50 €”, proposing them to come to their place to address that once many broken devices.

Hypotheses

The main change with respect to the “fixed” version above therefore is that the mobile version employs a unique repair person, preferably a senior one able to handle all repair situations), who is the one driving the mobile unit as well. Given the time needed for displacements in the surrounding area, that person can only devote 70% of his·her time to repair. It provides for 1170 hours available for repair work, and therefore a capacity to handle about 3000 objets (out of which 1100 would actually be fixed).

In order for the displacements of the mobile unit to be efficient, there would be a monthly itinerary which is announced in advance (“the mobile unit would be in this neighbourhood on days x and y”), and an appointment mechanism so that the mobile unit knows exactly where to go.

Most of the work occurs in the mobile unit: it directly organises the administrative aspects while the unit itself is a self-supporting marketing object (by making it highly visible and attractive). Therefore, administrative personnel and communication one are estimated at 1/10th of a full time each.

As mentioned above, a small storage and repair place is still needed to accommodate spare parts, store objects waiting for their spare parts, etc.

Costs

The cost of this “typical” URC are established as per the following table:

Element	Yearly Amount	QUANTITY	TOTAL Amount
Space rental	24 000 €	0,5	12 000 €
Vehicle rental	7 200 €	0,5	3 600 €
Administrative person	55 000 €	0,1	5 500 €

Senior repair person	65 000 €	1	65 000 €
Communication manager	60 000 €	0,1	6 000 €
Overhead cost on personnel	10%	1	7 650 €
Administration	5 000 €	1	5 000 €
Communication (Internet, email...)	1 200 €	1	1 200 €
Communication material	3 000 €	1	3 000 €
Tools	3 000 €	0,5	1 500 €
		TOTAL	110 450 €

Income Stream

Customers would pay the same amounts as in the “fixed” repair studio above. Yet, since they do not have to displace themselves, one may expect their willingness to pay to grow from 20 to 25% of the initial value of their object. They would still pay only 5€ for diagnostics resulting in a “non-fixable” verdict.

Which provides the following results for various categories of objects:

Initial object price	Deficit to be covered	Or modified time to fix objects (instead of 45)	And # of objects to be handled over the year
300 €	32 513 € (30% of the costs)	44 minutes	4 325
100 €	79 174 € (72% of the costs)	18 minutes	10 778
60 €	88 507 € (80% of the costs)	12 minutes	15 361
40 €	93 173 € (84% of the costs)	10 minutes	19 510

Financial Learnings

Without much surprise, it is again high-end objects that show a possibility to make the model balanced, hence the “fix at home” services that several private actors on the market already offer.

But the problem remains the same for smaller appliances. And, contrarily to the initial intention when modelling a mobile repair studio, costs are not reduced at all as expected. For instance, while the “fixed” Repair Studio was having a repair cost of 0,84 € per minute of repair¹², the Mobile Repair Studio presents a cost of 1,57€. Obviously, it is not helping as one was dreaming to.

Therefore, the idea of creating “bundles” for a lump sum, such as “get 3 objects fixed for 50 €”, will probably not help the mobile model more than it would help the “fixed” one. And

¹² By dividing the total costs per the total of minutes available for repair.

basically it only adds risks on the Urban Repair Centre because of the promise to get things fixed. What if it is not possible to fix one of those objects ? It means that people can (must?) bring an extra object to have it fixed ? Basically, based on the Repair Studio statistics that have been used, with a 37% fixing rate, it means that we should (in average) propose people to bring 9 objects to have 3 of those fixed, and the 6 other ones diagnosed as “not fixable”. Does that sound realistic?

Based on the financial model, it means that to be breakeven the Mobile studio should make a proposal at 294€ (6 x 5€ for diagnostics 3 x 88€ for repair) for such a deal... to balance the costs, and having 376 citizens to adopt this deal. The amount sounds however quite unrealistic to be attractive enough for citizens.

Fun & Education Repair Centre (B2C)

After having investigated business models linked to direct repair of objects, it has been decided to also explore models that relate to other purposes of an URC, that is “Education, communication and awareness raising amongst citizens, businesses and organisations on the topic of repair”.

Dedicated to education of citizens and families, the present section explores the idea of creating a fun (and educational) experience for them. The vision is not to be a full attraction park like [Kidzania](#), but the inspiration is similar with a willingness to make the repair “sector” a pleasant moment, a great “Sunday afternoon activity”. The purpose is to have people ready to pay not for the repair itself but for the social interaction around it and the learnings they would gain from the experience.

Hypotheses

The first and most important question is: is there a market for such an approach ? Should it go “full fun” or rather be focused on guidance with repair in a “funny” spirit? And what would the target audience be for such a place ? Are people willing to pay for such an “experience” only or do they want to have something actually fixed? Would citizens pay to learn or should instead be paid to learn?

The approach decided in this study is to be “pure fun”, with no intention to fix anything at all. The idea is rather to propose a fun and gaming experience under the form of an escape game on the theme of Repair. One for which citizens would pay the same as for any other escape game.

Hence there are no persons with actual repair skills in the team. On the contrary, it requires to have personnel with welcoming and animation skills¹³.

Yet, a complementary way to exploit the concept is to be able to welcome school classes. This is something that is already asked for by schools to various SHAREPAIR partners:

¹³ It most probably also requires this with dedicated contracts in terms of working hours (typically week-end) and flexibility (depending on bookings for the place).

having kids introduced to the importance and the challenges of “fixing”. The model therefore also plans for schools to participate to the escape game during sessions, which implies:

- to have 4 rooms available with the same escape game so that an entire class can go through the experience in parallel (4 groups of 4 to 8 kids);
- to have for this formula a dedicated price such as the one displayed by museums for school visits.

Costs

Costs of such a Fun Centre are therefore made of the following elements, with a strong emphasis on animation and also communication which is highly needed to make the centre visible and regularly remind people that there is a unique experience to be lived.

Element	Yearly Amount	QUANTITY	TOTAL Amount
Space rental	24 000 €	2	48 000 €
Administrative person	55 000 €	0,5	27 500 €
Coach/animator	55 000 €	3	165 000 €
Communication manager	60 000 €	1	60 000 €
Overhead cost on personnel	10%	1	25 250 €
Energy (heating, elec...)	6 000 €	1	6 000 €
Administration	5 000 €	1	5 000 €
Communication (Internet, email...)	1 200 €	1	1 200 €
Communication material	3 000 €	3	9 000 €
		TOTAL	346 950 €

Income Stream

The success of escape games is tremendous and such places pop up in all major European cities. Based on a successful place like [Escape Rush](#) in Brussels, one can learn about the prices and most probably about the willingness to pay by the customers since the industry has clearly already adjusted to find its market.

One can see that even though they have more margins with bigger groups, they aim at a base income of 100 € per hour of activity. And one hour between each activity: in our case this one hour would be dedicated to more “classical” discussions about repair... before or after the escape game in order to answer questions and/or to provide the audience with more facts.

For schools, for which a longer educational time would be devoted before and after the game itself, prices need to be adjusted to what is feasible, and 100€ for the entire class sounds the usual practice¹⁴.

Based on these assumptions, revenues from citizens and from schools are described in the two tables here below.

¹⁴ As it is for instance the case for the Museum of Natural Sciences in Brussels with a school price of 120€: <https://www.naturalsciences.be/en/museum/schools/educational-offer>

PRIVATE VISITORS	
Number of rooms	4
# open nights during the week	2
# of night sessions	2
# sessions during the week-end	8
price per session	100 €
fill in rate nights & WE	80%
Earnings per week	3 840 €

SCHOOLS	
Number of rooms	4
# open days during the week	5
# school session per weekday	3
price per class	100 €
fill in rate during the week	50%
Earnings per week	750 €

Financial Learnings

The balance remains nevertheless quite complex, with schools not covering the costs of their part of the service, but allowing one to exploit the place more often and to create full time jobs over the entire week while boosting the educational impact of the centre.

Yet, to be breakeven, the centre would need to open 76 weeks per year, which is clearly impossible. To make it balanced, such a centre:

- either needs to have the visits of schools subsidised or sponsored;
- or needs to restrict itself to private visitors only (100€ per session), while may be opening only on week-ends and on Friday (and Thursday?) nights.

NB: additionally, one has to remember that the present study focuses on running costs exclusively. But there would obviously be quite significant costs to prepare the place with the needed settings to make it an attractive escape game.

Potential Partnerships

Skills are needed to design the experience, and to “disneyfy” it. In the same spirit, the URC workforce will have to be hired very accurately since more “experience” skills are needed than literally repair ones. For both these aspects, partners with expertise in the field are a must-have.

Training Repair Centre (B2B)

Another idea linked to educational purposes is to establish a training centre for people willing to repair more and better, whether they make a living out of it or not. In this model, the URC

does share knowledge and know-how mainly through workshops organised all year-round to teach and train how to fix several types of devices.

Hypotheses

For such a training centre, the approach then is to prepare and communicate around a large portfolio of workshops, animated by skilled technicians able to educate the participants and answer all their questions. Especially for professionals, which would be the main revenue base for the centre, it is important to have high-end and hands-on dedicated workshops which provide more added value than all the tutorials available for free on the Internet.

Costs

In such a situation, costs are mainly driven by the personnel against, and split as per:

Element	Yearly Amount	QUANTITY	TOTAL Amount
Space rental	24 000 €	1	24 000 €
Administrative person	55 000 €	0,5	27 500 €
Specialist engineer	75 000 €	1	75 000 €
Senior repair person	65 000 €	1	65 000 €
Communication manager	60 000 €	0,5	30 000 €
Overhead cost on personnel	10%	1	19 750 €
Energy (heating, elec...)	6 000 €	1	6 000 €
Administration	5 000 €	1	5 000 €
Communication (Internet, email...)	1 200 €	1	1 200 €
Communication material	3 000 €	1	3 000 €
Tools	3 000 €	1	3 000 €
		TOTAL	259 450 €

Income Stream

Participants to the workshops pay a fee to attend, and are split in three categories:

- Employees of companies assuming repair and maintenance, typically major distributors of small appliances that want to hire a well-trained workforce, or some of their subcontractors. They participate in dedicated half-day sessions, by groups of 4 people maximum, for which their company typically pays 300€ (VAT excl.).
- Independent repairmen willing to be more knowledgeable and/or to get an official degree or certificate on several techniques or types of objects. They also participate in half-day workshops by groups of 4, but are asked “only” 150€ (VAT excl.) per session.
- And finally, citizens willing to gain knowledge on repair techniques are also welcome, be them entirely novice or already active in the field (typically in a Repair Café). Experience of such sessions by some Sharepair partners indicate that such workshops can be organised for 8 simultaneous participants, but with a maximum of 20€ per participant.

Based on these prices assumptions, all costs are covered by organising workshops in the centre 40 weeks per year and respectively addressing each week:

- 3 workshops for professionals,
- 4 workshops for freelancers,
- 4 workshops for citizens.

Income is then estimated at 261 157 €, while the team of two trainers (the specialist engineer and the senior repair person) only devote 53% of its time to the workshops (provided that only one of them is needed to animate each workshop).

Financial Learnings

Such simulations and variations around it indicate that such a small training/education centre is viable. It nevertheless means that, given the above income assumptions, it needs to find 480 professionals (in 120 workshops), 640 freelancers (160 workshops) and 1280 citizens (another 160 workshops as well).

The approach therefore seems financially sound, but the main question is: can it be run full time ? Because it would mean to find a great number of participants over the years. Is there such a number of people willing to learn repair skills in a circle of 50km around an URC?

Potential Partnerships

Partnerships are probably needed with schools and education institutions that could also bring a complementary public to the workshops. Yet, the financing model would be completely different since it would involve public funds for education.

Another pending question relates to the importance, or not, of an accreditation for the centre, depending on whether trainees expect a degree or diploma after the workshops. It may indeed become important in the future for the industry/market of repairers. In such a case, partnership would be needed with some institutions that can provide for such an accreditation and have the centre recognized for the quality of its training or for the diploma it delivers.

Last but not least, a partnership with a fablab, in terms of building but also equipment and personnel might be a good idea since many topics and knowledge areas overlap between the daily activities of a fablab and what a training centre would provide.

Economical Conclusions

In a nutshell, the various economic simulations indicate that running an Urban Repair Centre is anything but trivial. More than an incredible amount of expenses, it is the difficulty to monetize the results that make it unbalanced. Indeed, influenced by the relatively low price of new objects (which are produced far away, with wages and social work conditions that most Western european citizens would not agree with), such customers are not eager to pay a price which is enough to meet the local repair expenses, which are strongly depending on the (European) salaries. As a side effect, it is therefore also quite unlikely to attract high volumes of customers to the various services of an URC.

Variations of the model that rather focus on education or training therefore present more balanced financial situations, although not without challenges.

Intuitively, one feels that the solution could consist in mixing the approach and providing a combination of actual repair with some fun and educative activities and also training ones. Yet, a combination of loss-making activities will not miraculously result in a profit-making solution. If, like the social approach to the “traditional” repair centre has revealed¹⁵, it is possible to partly address the repair of small appliances, it is usually achieved with a conviction that it is important to do so, without a sound financial equation behind it that allows to spread the model. So, is repair of such “small” (mainly quite cheap) objects an idea to forget about once and for all?

How to Trigger the Desired Societal Change ?

Abandoning repair is not only a bad idea, but definitely one that would go against the latest policies promoted by Europe in its various plans, from the Post-COVID recovery plan to the path towards a circular economy. In all such plans, repair is quite high in the value chain and a key strategy for reaching the objectives¹⁶.

And repair is not only a strategic activity *per se*, but also one that enables many of the other strategies for a circular economy:

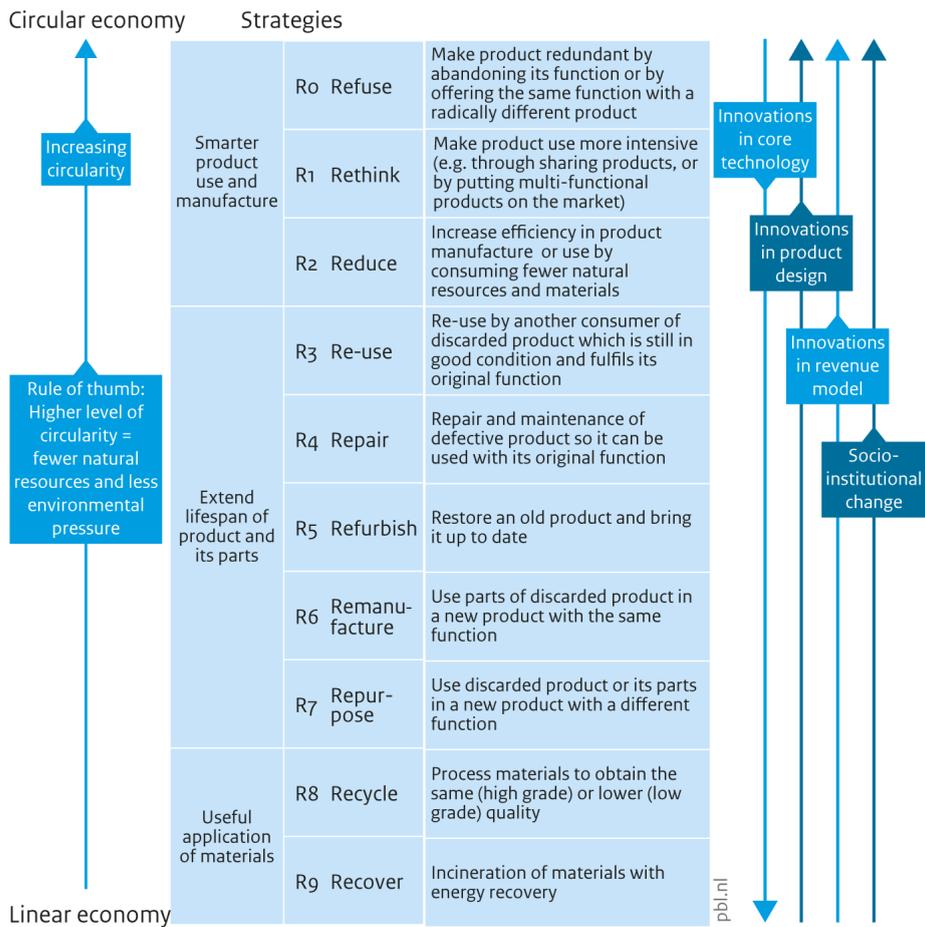
- reusing (R3) and reducing (R2) are only possible if effective repair is in place, otherwise they will only be superficial in their achievements;
- and even refusing (R0), especially when refusing to buy a product to rather use an existing one brought to the customer via a functional-economy¹⁷ proposition, is not achievable in a sustainable way if the existing products in circulation cannot be maintained in the long term, hence repaired.

¹⁵ Combining activities can be an interesting solution to pursue social objectives or to develop meaningful activities to personnel whose salaries are covered by other main tasks.

¹⁶ Image extracted from “[Circular economy: Measuring innovation in the product chain](#)”, English translation of the report ‘Circulaire economie: Innovatie meten in de keten’ © PBL Netherlands Environmental Assessment Agency, The Hague, 2017

¹⁷ According to [economiecirculaire.org](#), “the functional economy is an economic model based on the development of solutions that combine service guarantees and the functions of use of material goods belonging to the producer. For example, solutions may involve: Providing a more efficient mobility offer, and not selling vehicles, Providing a suitable lighting ambience, and not selling bulbs, Selling cubic metres of high energy-efficiency compressed air, and not selling compressors, Ensuring simple, safe kilometres, and not selling tyres, etc.”

Circularity strategies within the production chain, in order of priority



Source: RLI 2015; edited by PBL

www.pbl.nl

So, obviously, European policies (and other international and national ones) envision Repair as a desirable activity to boost, one that is a key enabler for a more sustainable world. So, if it is desired, how come that it is not feasible in practice and not (financially) viable. Probably because it faces a biased competition which does not take social and environmental externalities into account, and it will therefore require political support to emerge.

About the costs-benefits balance of repairing

There exists a vast literature dedicated to (corporate) assets managers as to when to repair or replace equipment: the decision to repair or replace equipment should be based on minimising the total cost of the equipment to the business over its remaining lifetime. There are a number of factors to take into consideration, and the ideal way to evaluate these is to assess the entire *Lifecycle Cost* of the assets.

Similar rationale can be held for “big white” appliances, which can be summed up as: “Home appliances don’t last forever, but many of them, like washers and dryers, are made to last. If you have an appliance that’s experiencing some issues, it may be less expensive to repair it, and get several more years out of it before it’s time to replace it altogether.”

Yet, almost no such literature exists about small appliances? Why is it so? A dedicated study should further investigate the problem but it is the intuition of the present report that it is because, appliance per appliance, there is no real financial challenge behind it.

Indeed, all these approaches strictly consider a financial view of the direct costs and benefits of replacing or maintaining equipment. None of them integrate further externalities which are supported by the community. And, when tackling specifically small appliances, the real cost is definitely paid by the community, even a global community, and not by the individual owner of each appliance: poor social conditions where the object is manufactured, resources consumption, biodiversity loss, greenhouse gas emissions associated with the entire process, generation of waste...

As long as these aspects are not taken into account, the purely economical costs-benefits balance for repairing small appliances will always be biased.

Circular Canvas of an Urban Repair Centre

In a more graphical way, a synthesis can be made of the various societal implications of developing URCs across European cities. It takes the form of a circular business canvas¹⁸, aiming at summing up all models discussed above: Repair Studio, Fun Centre, Training Centre.

It does result in the Circular Canvas presented on the next page, with

- on **blue stickers** all aspects that are generic to all business model approaches;
- on **yellow stickers** the aspects specific to an activity of Repair Studio;
- on **green stickers** the aspects specific to educational activities, be it sensibilisation of citizens through escape games in a Fun Centre or workshops for repair persons in a Training Centre.

¹⁸ Designed by Circulab, it is a tool to Tool to design Circular Business Models: <https://circulab.com/toolbox-circular-economy/circular-canvas-regenerative-business-models/>

Political Support

As highlighted on the above canvas, running URCs has a lot of positive impacts for society. It is why it is the belief of the present report that at some point it is a matter of collective decision and action, hence it is a political issue.

In the same way that political actors have started considering what actions should be taken to fight (programmed) obsolescence¹⁹, there is a need for similar studies to emerge around repair, which is not only a solution against obsolescence but also a key enabler for a circular economy and a more sustainable society.

Yet, while waiting for such analysis to emerge and for political action to take place, actors willing to develop repair of small appliances will still have to combine various arrangements to make it viable, while communicating around the difficulties to make it a self-supporting activity, and still pursuing partnerships to assist it. As an inspiration for politics and a study-to-be, hereunder are some tracks of actions that could facilitate the emergence of URCs.

Actions to Make Reparation Economically Viable

To make the model of an Urban Repair Centre balanced, it is possible to influence all the variables that contribute to that model, be it on the cost or the income side. The major aspects are:

- costs: reducing the time needed to repair
- costs: reducing the price of spare parts
- income: augmenting the willingness to pay of customers
- income: having manufacturers contribute in order to cover their externalities

And here below are some preliminary ideas as to actions that could influence one or several of these aspects.

Integrating the Full Costs of the Life Cycle

If the producers had to take into account the entire externalities of the lifecycle of their objects (from resources consumption to waste management), it would definitely influence their own costs and consequently the price of the appliances they sell. This would make the choice between repair and replace more balanced.

And it could also trigger a virtuous loop, where:

¹⁹ There are many reports on the subjects. See for instance the study orderer by the Belgian Federal Parliament on “Planned obsolescence: Belgian consumer protection policies and measures”, available in French “[L’obsolescence programmée : politiques et mesures belges de protection du consommateur](#)”, Rapport Final, Mai 2017, written by RDC Environnement. Or the report of the European Parliament: “[On a longer lifetime for products: benefits for consumers and companies \(2016/2272\(INI\)\)](#)”

- manufacturers also pay for repair of their objects because it becomes their interest to do so (cheaper than producing a new one);
- hence they sensibly augment the price of their device to take such operations into account in their warranty policy (which they could also make longer);
- hence customers are also ready to pay more for repair;
- more successful repair happens;
- more repair services are needed;
- and repair becomes a mainstream activity which appears normal to be included in the loop by all manufacturers, distributors and consumers.

In total, even if they pay more for the initial objects, customers should save money because their objects would last longer through successful and (comparatively) affordable repair.

Repair Tax

Similar to what exists in Belgium for plastic waste with [Fost Plus](#) or for e-waste with [Recupel](#), a tax mechanism could be instilled on all devices that are likely to be maintained and repaired in order to finance the emergence of URCs while waiting for the market to pivot by inclusion of the real costs (cf. above).

It would be critical for this tax to be specifically dedicated to repair or reuse. Indeed, for most existing similar taxes, these are driven by indicators focusing on collection and recovery targets, without much scrutiny to what happens after those steps. Not only is there no distinction between recycling and reuse, but often not even a target in terms of recycling or reuse intensity after collection. For instance, Recupel is the association of producers of electrical goods who have joined forces to implement the collection and recovery imposed on them by the government. As there is no distinct objective of reuse, they mostly claim collection results, and are satisfied to claim recycling performances, which allows them to continue to sell new appliances.

Reparability or Sustainability Index and Right to Repair

In line with the objectives of the Right to Repair movement²⁰, repair needs to gain more visibility but, most importantly, any consumer should be made aware at the time of the purchase if the object under scrutiny is likely to be fixed or not, how long it is expected to last (vs how long it is guaranteed)...

France had led the way with a “reparability index”²¹ from electronic devices, which emerged from an national “anti-waste” law, but it is definitely possible and needed to go further into such a direction.

Enforcing Availability of Plans and Spare Parts

Initiatives such as the “10-year reparability of [SEB](#) are definitely going into the right direction since it is a huge time-saver for the repair centre since:

²⁰ Cf. <https://repair.eu/>

²¹ Full details are available in French: <https://www.indicereparabilite.fr/>

- repairmen have direct access to the plans and the way to disassemble;
- similarly, spare parts are readily available;
- and this will encourage the emergence of an ecosystem where intelligence will boost eco-conception to make devices even more easily fixable, identify the weakest points...

All manufacturers should proceed in the same way. Be it through incentives or coercion.

Final Word

Generalising repair practices in the society does not only provide a lot of immediate positive impacts, it also creates local jobs while being a key enabler for a more circular, hence sustainable, economy.

Yet, in purely economic terms, it hardly pays for itself as the present report has demonstrated at length. But the cause mainly lies in a willingness to pay (for repair) by end-users which is too low because the competition is biased by a continuous flow of relatively cheap new objects. The production of such brand new objects does not take into account the negative impacts it provokes, and therefore “artificially” maintains low prices on the market, which cannot meet the salaries of repair persons, while repair does take time in all situations.

It will therefore be up to the Society to decide how important repair is to reach its vision of a sustainable future, and then to take decisions to either encourage and promote repair through financial support, or correct the bias by enforcing manufacturing to take into account the prices of its negative externalities.

Appendix 1 - exhaustive Results of the first brainstorming session

Blocking Elements

Instructions:

- Feel free to complement your ideas in the first column (add new ones, rephrase/refine existing ones).
- Do not hesitate to react (constructively) to ideas of others in column two (See my example on Adelaide lines here below). Please **add your name** to your reactions so that we all know whom to ask for more details if needed

What aspects do I see as blocking ones (barriers or threats) to establishing an URC ? These will be used later in the process to make sure that the model we come up with does overcome them.

CONTRIBUTIONS	REACTIONS
<p>Adélaïde</p> <ul style="list-style-type: none"> • The difficulty (lack of resources) of raising awareness to citizens about repair • Time • Ability to repair (programmed obsolescence, spare parts) • Having something "really" good to offer to consumers (vs new product, and marketing of big brands) 	<ul style="list-style-type: none"> - Xavier: overall threat “not to find a market” - Niels: Ability of repair is indeed an important one. How do we set realistic expectations for citizens? The URC in that part could also inform citizens about malpractices / programmed obsolescences etc.
<p>Nick</p> <ul style="list-style-type: none"> • hard to find enough volunteers • time consuming • 'customers' don't want to pay for diagnosis if its costly • not everyone wants to spend a lot of time to hear its not repairable • buying something new is just way easier than repairing it • most times you need to be physically there to get a good 	<ul style="list-style-type: none"> • Vincianne : There is also the fear that if an appliance is repaired, another part of the device will break soon afterwards

<p>diagnosis</p> <ul style="list-style-type: none"> ● Finding spare parts is not always easy + time consuming ● you can only communicate so much ● Many products aren't designed to be repaired (glued,) ● Buying new stuff brings people joy ● Some products you use on a daily basis, can't wait for repair ● hard to scale up 	<ul style="list-style-type: none"> ● Vincianne : There is also a risk of mistake when you order a spare-part. It is a problem for the customers and for the URC as well ● Niels: Repairing something can probably give you as much joy as buying something new. But of course this repair “high” is mainly experienced if you are part of the repair. How can we stimulate this.
<p>Matthieu</p> <ul style="list-style-type: none"> ● Due to the high costs to employ someone in Belgium, is it realistic to build a good repair service that costs less than buying new for the client? ● Due to the low cost of buying new small appliances, will it ever be possible to build a sustainable business model without repairing bigger appliances? ● 3D printing is fun but far too expensive if we add up the design time cost. Does it really make sense to integrate it in the URC process, or does it make more sense to get these files from the manufactureres directly? ● Subsidies can help at the beginning, but we should aim to be client-funded only. ● Repaired products are not as good as new, are they? 	<ul style="list-style-type: none"> ● The market is indeed showing that simply repairing broken devices is not a feasible business model. So we might need to shift focus and not simply end up with the same conclusions repair shops had years ago (that it's not financially feasible when you just repair broken products and only generate income from the repairs directly)
<p>Niels</p> <ul style="list-style-type: none"> ● It's hard to find repair volunteers to assist the citizens ● The URC might be there, but we still need to convince citizens to come repair ● Price setting for the use of materials ● The use of 3D printing for repair is quite a time consuming thing (trial & error & iterate) ● How do we find good lecturers for repair workshops / repair education 	<ul style="list-style-type: none"> ●

<ul style="list-style-type: none"> • is it even possible to make it financial sustainable without city sponsorship? (Is it necessary?) • Is it possible to have actual (paid) employees (vs volunteers) • Space limit for storing spare parts from defective devices • Pricing of spare parts collected from defective devices 	
<p>Sanne</p> <ul style="list-style-type: none"> • repair aware? • stakeholder involvement & commitment • C2C vs. B2C vs. B2B? • workforce & knowledge dependency (volunteers?) • time investment (repairer/ customer) • "offering" by professional repairs is existing - what is the market share of a URC vs. the existing services? • Current relationships between stakeholders are a barrier to enter the market (URC in competition with repair cafe?) • With electronics there is the overall feeling of "need to have" to be hip/modern/cool • Repair possibility, many products difficult to repair (time consuming) • Expectation management, repaired = not always new (it is as new) • Stock management of spare parts (requires availability of space/ requires investment) • Economically, environmental, social advantage or - what is the gain? 	<ul style="list-style-type: none"> • Niels: shouldn't it be a condition that we join Repair Cafés with the URC as a means to strengthen the repair mindset, instead of creating an competing service?
<p>Sébastien</p> <ul style="list-style-type: none"> • Risk management with opening and closing objects (legal issues) • Production of new objects is neglectable compared to repair • Repair is not invertible (entropy) 	

<ul style="list-style-type: none"> ● Repair for upgrade needs a strong collaboration with industry ● The limit of the process is not fixed (could we fix medical devices e.g.) ● Repair is not sexy ● Production tools are no more in europe. How could we repair industrial equipment ? ● Industry turns towards predictive maintenance to deal by themselves with anticipated repair ● Not enough formation centers for qualified repairers (could we undo the closing of most SAV services) (what was the cause ?) ● Logistics of "double products" ● 	
<p>Vincianne</p> <ul style="list-style-type: none"> ● Externalities of new appliances. The price is to low ● Appliances are not made to be fixed. More repairable appliances change the business model of producers. 	
<p>Xavier</p> <ul style="list-style-type: none"> ● Tension between "fair" or "affordable" price for customers while covering all costs ● Only repair or also "knowledge center", and then how to monetize that aspect ? ● how to make it competitive against the price (always dropping) of new objects ● Do we aim at creating jobs as well, or to foster on benevolent volunteers, but then perpetuating the fact that citizens cope for externalities of the market 	

Customers

Instructions:

- Feel free to complement your ideas in the first column (add new ones, rephrase/refine existing ones).
- Do not hesitate to react (constructively) to ideas of others in column two. Please **add your name** to your reactions so that we all know whom to ask for more details if needed

What are the top reasons/motivations for a customer (B2C or B2B) to come to an URC.

Reminder from the session: the purpose was to have first 5 “obvious” ideas, and then to enforce ourself to dig further... do not hesitate to do it again

CONTRIBUTIONS	REACTIONS
Adélaïde •	
Nick As a "customer" I would like to... <ul style="list-style-type: none"> • 1. find a solution for a broken appliance • 2. use tools to repair a broken appliance • 3. get knowledge on how to repair • 4. get spare parts to repair • 5. have impact on my ecological footprint • buy a total package (tools, knowledge, guidance) • mine spare parts out of broken appliances • upgrade my appliances with better parts (like fairphone) • pimp my appliances to fit my home aesthetic • get paid (some kind of way) for my repair skills • 	<ul style="list-style-type: none"> • Niels: I like the term “finding a solution” for a broken appliance. The “solution” can be more than just having it repaired by someone else. Depending on your skills or interests different options are possible to help you. (knowledge, repair guidance, referral to other services, tools, ...)
Matthieu <ul style="list-style-type: none"> • I can afford to have it repaired but I don't want to pay too 	

<p>much</p> <ul style="list-style-type: none"> ● The repair café is only opened on wednesdays 16-18h and I'm not available ● I'm sick of buying new stuff ● I believe I cannot repair by myself ● I don't have the tools at home ● B2B: we get all these returns that could easily be used again if repaired but we it's not part of who we are as a company ● B2B: my clients get pissed when I tell them it's not repairable. Can I sent them your way? ● I want to get access to a similar device while mine is being repaired (or we wait for the spare parts to arrive) ● 	
<p>Niels</p> <ul style="list-style-type: none"> ● I'm confident I can replace my battery, but I do not have the necessary tools (pentalobe screw bit / suction cup / heater) ● I bought a new bike and would like to learn & maintain it myself, but I don't have the knowledge nor the necessary tools (& space) ● I want to join a community of like minded people and help people get stuff repaired ● I have this old product that I love, but there is no professional repair option for it. Could I maybe try to repair it myself with some help and guidance? ● Schools like to come over to inspire students wrt repair (repair workshops) ● I'm a repair enthusiast but also do not have every tool at my disposal (e.g. Hot air station) . I can go to the URC to use it. ● I want to have discussions / talks around the general state of repair (Right to Repair) with others ● I want to rent tools to take home ● I want to have my product repaired cheaply 	

<ul style="list-style-type: none"> ● I'm looking for a spare part ● 	
<p>Sanne</p> <ul style="list-style-type: none"> ● 1) cost benefit ● 2) knowledge on how to repair ● 3) contributing to the environment (better self-esteem) ● 4) doing it together (extra control) ● 5) not having the proper equipment @ home ● 1) contributing to society (employment) ● 2) B2B - sharing space/ equipment (lowering costs) ● 3) Availability of spare parts / availability of equipment to make spare parts ● 4) financial model--> renting equipment(?) 	
<p>Sébastien</p> <ul style="list-style-type: none"> ● 	
<p>Vincianne</p> <ul style="list-style-type: none"> ● It's easy : they come home, it's on my way ● They have the spare parts ● I'm concerned by environmental issues ● Price ● It's fast ● I want to prevent further breakdowns 	
<p>Xavier</p> <ul style="list-style-type: none"> ● Having an object to be fixed ● Not knowing if an object is worth being fixed or not (feasible, price-wise) ● Searching for a specific spare part (for doing it myself or because I started in a Repair café) ● Acquiring spare parts because the Repair center has them all 	

<ul style="list-style-type: none"> ● "Printing" a spare part that cannot be found anymore ● Repairman seeking for assistance / knowledge ● Object manufacturer seeking partnership for maintaining/repairing over the long term what he sells to customers... ● Citizens willing to "do it together", and to learn how to fix/maintain his own devices (esp. important ones) ● Manufacturer doing a partnership for on-demand spare part production (instead of having to warehouse them) ● 	
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URC Key Aspects

What are critical aspects for an "efficiently running URC" ? These four aspects were the results of a prioritization and a selection of only 4 ones by the group. Feel free to further comment on what you believe is key (one or two aspects max) or to argument what another aspect is the key one...

CONCLUSIONS	REACTIONS
<ol style="list-style-type: none"> 1. Outstanding customer journey and "solution" 2. availability of (skilled vs offered service) workforce & knowledge 3. Logistics (spare parts, tools, space, storage warehousing, processes...) 4. Financial equation (result >=0) 	

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Creative Remix

Instructions:

- Feel free to complement your ideas in the first column (add new ones, rephrase/refine existing ones).
- Do not hesitate to react (constructively) to ideas of others in column two. Please **add your name** to your reactions so that we all know whom to ask for more details if needed

The purpose of the creative remix is to push us to think further by enforcing us to find any business idea/concept for each combination of:

- one of our second-thought reasons a customer would visit the URC
- with each of the four critical aspect of an URC listed above

What is proposed here is not only to complement what has been done, but also to do the exercise with your “first” customer motivations, in order to open up even more business ideas...

And for those not having had the opportunity to do it during the session, you are more than welcome to do it now :-)

CONTRIBUTIONS	REACTIONS
Adélaïde <ul style="list-style-type: none"> • 	
Nick <ul style="list-style-type: none"> • 	
Matthieu <ul style="list-style-type: none"> • We repair these returns we get for free (Chronostock) and lend them to our URC clients if their device cannot be repaired directly 	<ul style="list-style-type: none"> • Vincianne : to balance the costs and the revenues, we could search for sponsoring. The customers could watch sponsoring videos during the time for for repair. Similar to the facebook business model. I offer a free service but I get paid through

- After the two year warranty most places where you bought your devices won't offer any solutions, so their clients are very often pissed off (or existed to buy something new). Partnering with them to make sure they send their pissed of clients our way.
- This really helps build value for the customer as it offers a temporary solutions while waiting for his product to be repaired
- As we already get the flow of products for free, we need to make sure we have a high repair rate + we build repair knowledge over time (should we document it?)
- As this would increase the inflow of clients we need to make sure to have enough skilled workforce and knowledge
- We need to make sure to lend a very similar device (with the similar options the customer is used to get) + if different, having enough knowledge about how to use the device and its options to explain them to the client
- Should we partner with Usitoo to get access to the similar devices we don't have in stock (what's in it for Usitoo?)
- Sticking a QR code on the products we get to link it to their digital twins in our logistics db to always know their status and where they are
- As this would increase the inflow of clients we need to make sure to have enough logistics power (warehousing space for spare parts, tools, seamless processes, etc.)
- This is a great additional service (lending similar product for free while waiting for client's products to be repaired). It just costs the time to repair and to update the db + storage costs. + nearly free inflow of devices so this is good for the cost part of the equation
- Nearly free inflow of new clients so this is good for the cost part of the equation
- This is a great additional service (lending similar product for free while waiting for client's products to be repaired). It just

advertising.

- Niels: I like the idea of partnering with electronic shops so they refer old clients (with products out of warranty) to the URC services

<ul style="list-style-type: none"> costs the time to repair and to update the db + storage costs. 	<ul style="list-style-type: none"> Vincianne : A temporary solution when the client is waiting for the appliance to be repaired is certainly an added value, indeed. Nevertheless, I think that the customer would rather go home with a definitive solution the same day (possibly a second-hand purchase) than have to come back later, even if a device is lent in the meantime. Moreover, keeping a customer's device for a week or more requires space and a good tracking system.
<p>Niels</p> <ul style="list-style-type: none"> Create a community of repair advocates and give them "fame" Seeing what repair tools are available at the URC from your home - online All spare parts are digitally cataloged and can be easily searched Organize repair talks with a CTA: you give a damn? Why not volunteer at the URC? What if the URC comes to you? A pop up URC? There is a specific employee / volunteer that disassembles all defective devices that are brought in and catalogs them Share the tools of the URC with other organizations. Users can buy spare parts through the URC an (vs directly online) URC does the searching of the correct part and ordering aspect (extra fee) Free ticket to something if you're able to repair something help someone (way of paying, but not with money) 	<ul style="list-style-type: none"> Vincianne : It is not yet clear to me whether the URC is intended to repair for customers or to help customers to repair. <ul style="list-style-type: none"> Niels: I see both as options. Vincianne : Repair at home is also a great added value.
<p>Sanne</p> <ul style="list-style-type: none"> Repair as a service for producers. To offer an option (against discount) after the warranty period to avoid the idea with your 	

<p>customers that you keep them hanging. Ensuring customer loyalty</p> <ul style="list-style-type: none"> • Rent out of repair tools, as a business model. Before you would lend something to your neighbor, these days the barrier is higher, and everybody feels they are required to buy their own (electrical) drill (as it is perceived as relatively cheap) and use it once off (hence actually not being cheap). Renting out would solve this problem • Providing the opportunity of repair classes - and 3d classes (educating by doing) 	
<p>Sébastien</p> <ul style="list-style-type: none"> • • 	
<p>Vincianne</p> <ul style="list-style-type: none"> • 10 years warranty • learning how to use and maintenance properly • subscription for 10 years of fonctionnal appliance • I come back home with a funtionnal appliance. Mine or another one. • combining volunteers and professionnels and customers • Mobile repair center • All my stuffs are fixed at once (appliances, clothes, bikes, furnitures) • limitation of the number of references of spareparts • The URC become the main partner of the producers for the repairing (external service) • 	
<p>Xavier</p> <ul style="list-style-type: none"> • Making it clear what we have or not, and helping (digital tool) to quickly order what's needed... (stock or print) • Looking for peers or "experts", to be available as - consultant 	

with an hourly rate, or under the form of workshops

- Constraints on success rate and repair time ! Reliability will be key in the relationship
- Similar to the repairmen, except that here the team also needs to be pedagogical --> added skills otherwise the experience will be missed (cf. attention in many RepairCafes between fixing or helping one to fix)
- Need to train people esp. with the partner brands, to be fast. But then knowledge is there
- Not only technical skills but also human ones (pedagogy, friendliness, patience !!!!) Need to be clear on what is possible or not, otherwise impossible to meet the expectations
- Logistics, plan reading, 3D printing become key
- Either the experts are on board the URC... or the URC is the "networker" that organizes it all and invite the various experts: becoming then a central piece (organization) of a growing ecosystem
- Not much then, since repairmen have their own sources... Focus would go on the 3D printing and extra techniques, especially for the difficult case that repairmen cannot solve on their own. I.e. knowledge + Fablab
- Need to pre-prepare adequate spare parts, i.e. to know in advance what will be there. Or to organize it in two parts: 1. dismantling, diagnostic and 2. fixing so that in between the URC takes care of spareparts
- Partners are key for access to plans, but this is the core of what we solve here
- Part of the deal is access to spareparts and/or plans to print them. All solved ;-)
- Tricky because someone needs to bear the risk, i.e. how many objects will come back, and with what level of complexity (i.e. time) to repair. Need to have a filtrate set up with the partner for being available + a fee per repair.

- Vincianne : In order to limit logistical problems (ordering parts) and to facilitate the training of repairers, one idea would be to limit ourselves to the types, models and brands that we repair. This range can be expanded gradually.
- Vincianne : make a list of reliable partners for repairs we don't handle (smartphones, computers...). Working to get our partners to be super-reliable
 - Niels: +1

<ul style="list-style-type: none"> • Becoming more a resource center, there are limited recurrent spendings, and incomes through the "sessions". cf. business model of a "event organizer" or "shared resource center". Close as well to a "federation" (e.g. extension of Repair together with a "knowledge center") • Not affordable, or unbalanced if done case per case. To be organized as workshops, such as "let's repair all of our XXX or Y", with one session devoted to vacuum cleaners, one to hardryers, one to • To make it fluid needs for a digital tool to orientate and automate as much as possible orders, mailing parts is a plus. Then it could be balanced (but with a loss of human contacts) • 	<ul style="list-style-type: none"> • Vincianne : It's a good idea to work by type of equipment, it makes it possible to systematise actions and it makes it easier to order spare parts, but you need volume to have an effect of scale.
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Other Actors

Listing

Instructions:

- Feel free to complement the lists

Who are the other actors of the ecosystem the URC will have to fit in ? What is their position w/r to our intended URC?

COMPETITORS	SUPPLIERS	PARTNERS	FUNDERS	DISTRIBUTORS	OTHER
<ul style="list-style-type: none"> • major distributors, e.g. VandeBorre 	<ul style="list-style-type: none"> • Enterprises collecting for Recupel • Training 	<ul style="list-style-type: none"> • Manufacturers if they provide access to 	<ul style="list-style-type: none"> • City • Recycling parts managers (we 	<ul style="list-style-type: none"> • City to spread awareness • Manufacturing brands (of 	

<p>(whose margin is better when selling a new object rather than trying to fix one)</p> <ul style="list-style-type: none"> • (e-)commerce (Amazon, Mediamarkt/Saturn, FNAC, Alibaba, Aliexpress, etc.) • manufacturers (fixing a product vs selling) • New startups in the repair economy (Murphy, Spareka, etc.) • Repair cafés • Professional repairers • Recycling companies (fixing takes away from their resources) 	<p>centers for skilled people (esp. public ones such as Forem, Actiris..)</p> <ul style="list-style-type: none"> • Reuse centers • Container parks (for spare parts of certain product categories) • Delivery services (if we want to collect or deliver objects themselves but also spare parts - vary variable per model) • Companies giving their returns to URC (Chronostock, etc.) • Tool / material shops • Producers supplying 	<p>spareparts and/or plans</p> <ul style="list-style-type: none"> • Repair cafés (send them our way to offer another solution if they couldn't repair themselves) • Anyone offering space and logistics to keep a spare parts warehouse (if the URV does not do it) and aiming at collecting as many spareparts as possible (incl. from defunct objects) • major distributors, e.g. VandeBorre (URC corner in their shop?) • Reuse centers • New startups 	<p>avoid them having to deal with lot of stuff</p> <ul style="list-style-type: none"> • Intercommunale (to reduce the costs of managing this flow of waste and claim that these are all diverted from landfills) • Citizens • States since repair does internalize the externalities not paid for by manufacturers (which could one day be taxed for that) • Coalition of manufacturer (to get a "green" credential) • support to job creation, and skill training of people • "Do good" 	<p>agreement that we take care of their objects in a best/optimal way)</p> <ul style="list-style-type: none"> • Major distributors who send clients our way after the 2 years warranty • Ressources, thrift shops, Kringloopwinkels to advertise that broken objects might still have a chance too... • 	
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	assembly plans <ul style="list-style-type: none"> • Spare parts competitors (kapout.be, alibaba, aliexpress, • Schools/trainings where you can learn to repair • Kringloopwinkels: donation of broken products for spare parts • 	in the repair economy (Murphy, Spareka, etc.) <ul style="list-style-type: none"> • (Technical) Schools • Organisations of WEEE treatment (Recupel) • Fablabs • 	foundations - at least to support the kick-start <ul style="list-style-type: none"> • EU funds (more for initial steps) • Circular wallonia support • FEDER (due in Feb 20?) • Vincianne : sponsors / advertising 		
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“Transforming” Other Actors

Then, the goal is to think how we might expect to “pivot” these actors, in order to turn them into ones with a positive outcome for the URC. The supporting sentence is “If(actor) was to ...(change) , it would become ... (new role) and help us ... (positive result)”

Instructions:

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- Do not hesitate to react (constructively) to ideas of others in column two. Please **add your name** to your reactions so that we all know whom to ask for more details if needed

CONTRIBUTIONS	REACTIONS
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<p>Adélaïde</p> <ul style="list-style-type: none"> • 	
<p>Nick</p> <ul style="list-style-type: none"> • If Vanden Borre was to become a supplier , it would become an asset in delivering spare parts and help us to repair broken appliances more quickly • If Vanden Borre was to give workshops on repair , it would become a supplier of sharing repair knowledge and help us to teach volunteers/ citizens how to repair themselves • If producers was to design products for disassembly , it would become a partner and help us to easily open up products to check the failure mode 	
<p>Matthieu</p> <ul style="list-style-type: none"> • If competitors to Chronostock were open to give their product returns as well, we would get an increased inflow of free products to repair and it would help the URC get enough repaired products in each categories to lend to customers until their device is repaired (the rest being sold by the URC) • If technical schools were open to have their student learn and practice how to repair (instead of learning to design new products), it would become a great source of (cheaper) repair experts and help us reach our financial goals • If we could create a local repair coalition with all actors , it would become a repair alliance and help us grow the local repair economy • If private property owners were to partner by giving access to unused spaces in high streets, it would become a pioneering capital city of repair 	
<p>Niels</p> <ul style="list-style-type: none"> • If 'Kringwinkel' was to start training people with distance to the 	

<p>labor market to repair, it could become a partner of the URC (they are located in the same building) and help us provide repairs for citizens as a new low cost service, while in the meantime provide the trainee with necessary skills for a future technician career</p> <ul style="list-style-type: none"> • If manufacturers were to share repair guides for their products with the URC's, it would help to upscale the success rate of repairs 	
<p>Sanne</p> <ul style="list-style-type: none"> • If the Recycle company was to become a partner, a selection of ewast could be identified and potential put forward to the URC, for repair (and sale) • If manufacturers were to share repair guides for their products with the URC's, it would help to upscale the succes rate of repairs • 	
<p>Sébastien</p> <ul style="list-style-type: none"> • If consumers valued 'design for upgrade' , it would become nonsensical to focus on other than object functionalities and help us clarify the true needs of consumers • If producers were to give access to designs (supplementary fee that is politically mandatory e.g.) , it would become great(?) and help us know how to disassemble and reassemble • If repairers was to get regularly trained , it would become easier to adapt to product disuse and help us face new needs • If politics were to give (financial) incentives • 	
<p>Vincianne</p> <ul style="list-style-type: none"> • .If the producers of appliances were to clients , it would become aware of the repairability and help us repairing their 	

<p>appliances</p> <ul style="list-style-type: none"> ● If City was to partner, it would become capital city of repair and help us find a suitable place 	
<p>Xavier</p> <ul style="list-style-type: none"> ● If Repair Café was to train their volunteer repairmen , it would become a customer/distributor and help us have attendees to workshops/training sessions that the URC would organize ● If Manufacturer was to deliver spare parts and plans , it would become a supplier and help us be more efficient in repair, and then could even become a distributor since he could advertise the fact that we are a partner and we can fix (any of) their objects ● If Manufacturer was to subcontract repair of its objects, it could become a (B2B) customer and help us have a volume market of objects to repair, with visibility on the ways to fix it (access to plans...) ● 	

Business Models

For the sake of archiving, here are the tentative models that were created during the session, along with approvals signs (thumbs up) and hypotheses (question-exclamation marks) spotted by the peers. **The purpose is not to rework on them at this stage, this will come up later.**

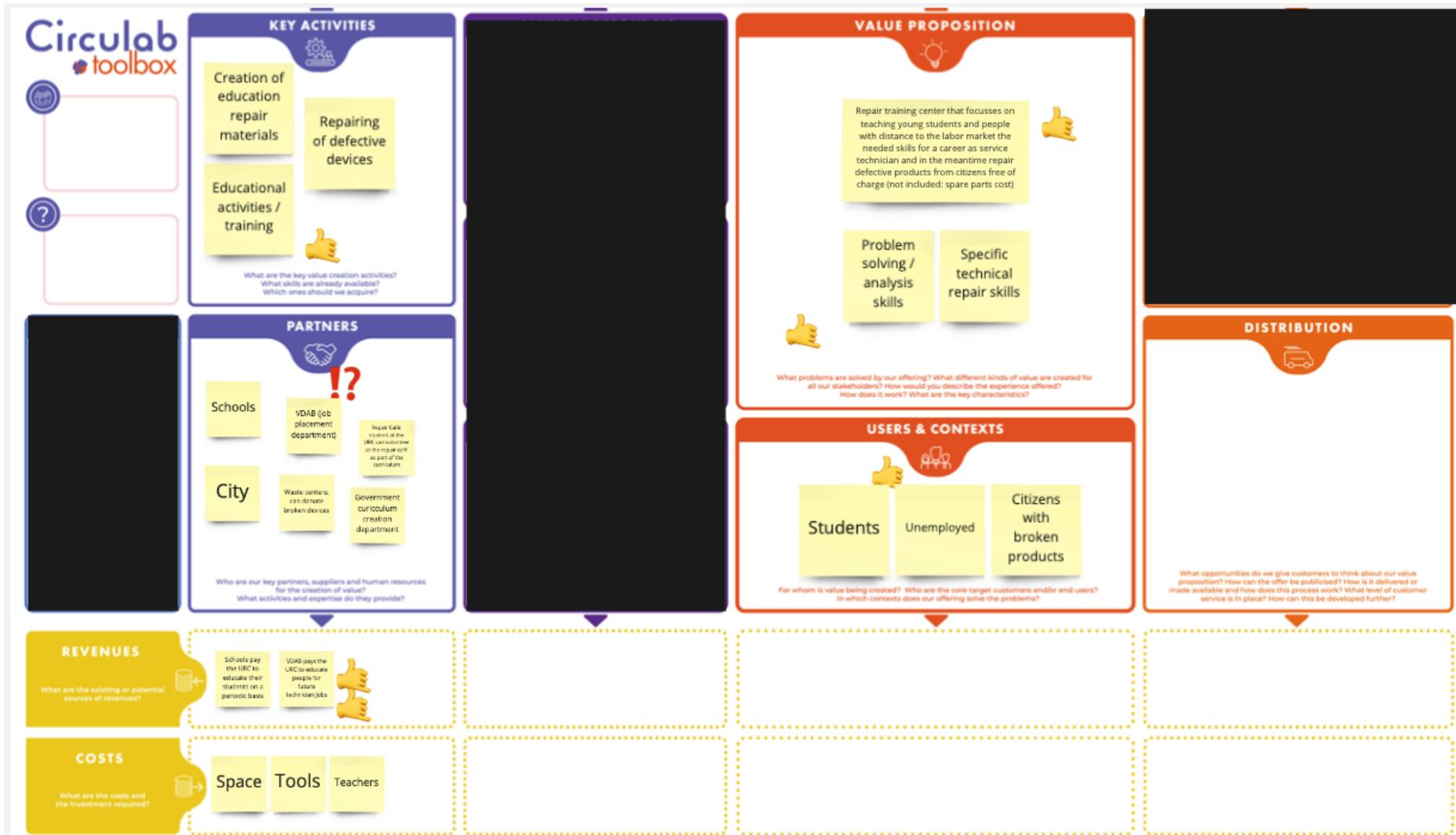
Nick :



Matthieu:



Niels:



Sanne:



Vincianne:



Xavier:

