

# What is Open Source Circular Economy

Script for the Video shot by Lars in March 2018.

Search the web. The video was finished. It should be available somewhere.

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## PROPS

### PRINT:

- \* Butterfly Diagram (A 4)
- \* Butterfly Diagram Fokus left (A 3)
- \* Butterfly Diagram Fokus (A 3) Fixed Version!
- \* A 4 or A 3 Make It Circular Poster
- \* A4 Poster URL und Business Model URL
- \* A4 "Editable Formats"
- \* A4 "Available Open Documenation"
- \* A4 "Open Licenses" + Creative Commons CC0 CC-BY CC-BY-SA

### STUFF

- \* Globus
- \* Laser-Pointer or Flash light
- \* Toy Car
- \* Scooter Model (Mifactori Hugo)
- \* Mifactori Lamp

## (1. INTRO)

Hi, my name is Lars Zimmermann.

And I am going to explain to you Open Source Circularity.

## (2. CIRCULAR ECONOMY)

I start with the second part: Circularity, or Circular Economy! If you search for it right now it is likely you will find this image.

[BUTTERFLY DIAGRAM]

The Circular Economy wants to keep materials in the economy. Save them – preserve them – for the future. Avoid waste. Basically deal with planetary boundaries.

How?

Let's take a closer look at the diagram. And focus on the right side.

[RIGHT SIDE, USE LASERPOINTER TO SHOW CYCLES]

The right side is about physical objects and physical products. The circular economy tries to keep them, as long as possible, in the economy – by having them circulate through different cycles.

- The first circle is about repairing. Repairing the user can do. Imagine you have a little scooter. (MODEL) If something breaks it would be easy for you to find out what it is and fix it. As a result your scooter would be more longlasting.

- The second cycle is also about prolonging the life of your scooter. But in this cycle a service provider is involved. The service provider offers maintenance, or more sophisticated repair work. Something you can't do yourself. Like changing the breaks of your scooter. But also Second-Hand-Markets are part of this cycle – as they give your unwanted goods a new home.
- The third cycle involves a manufacturer. It is for work that requires a factory. You could for example replace large parts of your scooter or take them out, store them and reuse them in another machine. Because they are modular. This process is called refurbishing.
- And the fourth cycle is for all products and parts that can't be repaired, reused or refurbished anymore. It is about recycling. This cycle also in most cases involves factory that can melt down the materials and provide them as raw materials for things. (The fenders of your scooter, made from aluminium, are melt down and turned into aluminium profiles, or a car chassy or whatever.)

So. It think it became obvious that the circular economy is a design challenge. Things have to be designed to be fit for theses cycles. To be repairable, reusable and recyclable.

And next to this we need services and collaboration patterns that enable these circles.

### **(3. GLOBE)**

Let's have a closer look. As you know we live on a big and diverse planet. With huge distances. We live in a globalized world, with a global economy.

#### GLOBE ON THE TABLE

#### TURN GLOBE JUMP FROM COUNTRY TO COUNTRY WITH ONE FINGER

Maybe something is produced here (Africa), to be shipped to here (Germany), to be sold to here (Italy) to be used here. Then after a while it breaks and needs some repairing. Then through a second hand market it goes to here (Poland). And the new owners take it on vacation to here (New Zealand). Where it breaks completely and is disposed for refurbishment or recycling.

When products are really made to be longlasting – these stories are likely. And likely to be even more complex! It is some kind of circular economy paradox. The easier it is, to repair, reuse and refurbish the products – the more complex and unmanageable become their life and distribution patterns. A complexity explosion that requires a lot of information.

(There are two ways to tackle this.)

#### **(X. SURVEILLANCE STATE)**

The first is: We have only one or a small hand full of corporations left that can reach across the globe. And that share all information internally.

And they have a big communication system installed – where each product – knows – at all time – where it is and what it does – and sends this information to the company. Each product. This one, this one, this one this one. Each thing has a digital twin, communicating with the big guy.

So all the things in your home and around you right now would constantly or at least at some point, call home. If **each product** in your house knows that it is there, it is possible for someone to know **everything, you have in your house. At any given moment.** It is nothing less than a huge surveillance or tracking system for your life. Impossible to escape. Giving power to something, you can't meet and ask questions.

Maybe... you like this idea. And maybe you work on it, right now. With, or without knowing.

#### **(4. FLAW)**

Ok. And there is a second way to think about and tackle this circularity complexity problem:

It begins with realizing that there is a flaw in the diagram I showed you earlier:

Look at the middle part. It talks about a provideR. And ManufacturaR. It is singular. One Manufacturer. One Provider.

Well. On a complex planet and in a diverse economy it should be of course manufacturers. And providers. Plural!

Where ever on the globe a product breaks – circularity has to happen on sight. Done by local actors.

So here is a fixed version of the diagram. With plural.

[SHOW FIXED VERSION](#)

#### **(5. HOW)**

But the question then still is:

How to make sure circularity works?

2 more essential things.

#### **(5.A. DESIGN)**

A

The Design. Pick, Simple Designs.

Designs that everyone can understand really quickly.

Like this little toy here.

And here is a lamp we made with it. Everyone can use it. It is as simple as Lego. And as reusable as nuts and bolts.

Another thing you can do for design is:

Use Open Standards and only common, widespread Tools.

Tools everyone can get.

Avoid expensive special equipment or design methods that only a few have access to.

Go – obviously – for Modularity.

Nuts and Bolts are really great. They make it possible to open something and close it again.

Look at this little Chess Figure. Made from nuts and bolts. They are so simple. Everyone on the globe can understand them. Fix them. Improve it. And use the parts for something else.

Fasteners you can make loose again. And reuse again.

This is the challenge: Make something that is so simple – maybe even DIY looking – but still incredibly beautiful, so that people want to have it in their homes!

There is a full list of these design principles, collected on this **poster** called Make It Circular.

It is available in 8 languages so far including Chinese, Spanish, Russian, German and others. And it is open. You can download it to print it, remix it, translate it and sell it. Without asking someone for permission.

Here is the download URL.

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Simple Design is also already a step towards Openness. If things are simple – maybe even self explanatory – people are enabled, to circulate them.

### **(5.B. INFORMATION)**

But of course! It is pretty unlikely that everything can be so simple that it is self explanatory.

So – for this majority of cases – we need to: B

Share Information!

Make sure – the information – necessary to repair, reuse, refurbish and recycle an object – is accessible wherever the object goes.

Or, imagine the following story.

You have a scooter factory here – in Italy – and someone on the other side of the world – in China – has a repair question.

Sure. The guy in China could call you. And you pick up the phone and guide him step by step through the process. Spending 20 minutes.

That is not going to happen. Because the costs are too high. For both of you.

Deal with time-zones, language barriers, maybe licenses – invest the time on the phone – just to repair one scooter.

No! The information must be freely available. Everywhere. Anytime. So people can bring broken or unused things back to life quickly, with little effort.

The information must be open. And this means:

- It must be available.
- In editable formats.
- Under open licenses!

### **(5.B.1. Editable Formats)**

Why in editable formats?

Editable means that you share documents that can be modified. Not a PDF. But an .ODT or .DOC for example. Enable people to remix.

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Why?

Imagine someone repairs the scooter or modifies it. Updates it with new parts. It must be easy to update the documentation as well and pass it along with the scooter – so all future owners know what is in there now. And are enabled to circulate these parts also.

And you as the producer might see this documentation and draw some inspiration from it. For future circular designs. This is what people call: open innovation.

### **(5.B.2 Open Licenses)**

And it requires that these documents are shared under open licenses.

For example one of these creative commons licenses.

Open licenses are important to enable people to, work with your documents – legally! Without an open license everyone who shares your documents or modified versions of it commits a crime. That is how our law works. Almost everywhere.

To fix this, and to enable decentralized collaboration for circularity – you'll need to use open licenses.

Ah. And of course. Don't file patents or design rights that would block these decentralized open forms of collaboration.

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Let's repeat it:

- Open available documentation
- In editable formats
- shared under open licenses

This enables the collaboration and communication we need for a true circular economy – that is not in danger to become a huge surveillance and control machine.

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And by the way. There is an established name for this: It is called **Open Source**.

And in the world of software it works pretty well.

But For the world of physical objects it is more complicated. We still need to figure out some things.

## **(6. MIX + ECOSYSTEMS)**

But this is also true for a circular design of things. We still need to figure out a lot of things there too.

And the interesting thing is: For both – for circularity and for openness – you face the same questions, problems and thinking:

You start to think about ecosystems.

When you want to make a circular product – you need to make sure, that someone – you will probably never meet – someday somewhere – can! – repair it, reuse it, refurbish parts or recycle everything. You need to think about how to enable unknown future actors.

And that is the very same with Open Source. In Open Source you share things in a way that enables others to not just consume your product – but to do creative constructive work with it. For example fix it. You enable an ecosystem of unknown actors.

And the Open Source Pioneers have figured out a lot of ways to do this we can learn from and built upon for circularity.

And yes. This includes business models – ways to make an income with Open Source products. But for this there are other videos. You can find them here:

## **(7. FASTER INNOVATION)**

Before I sum up I just want to mention that when things are open it is also easier for people to get involved with circularity – to invent, use and spread circular solutions. Learn from existing stuff and built on it. Openness speeds up innovation.

## **(7. SUMMARY)**

Ok. Everything in a nutshell:

For the Circular Economy we need simple Designs and Open Communication and Collaboration about them.

That enables ecosystems. Of decentralized collaboration. With short cycles.

## **(8. OSCE DAYS)**

There are organisations working on this. One is: The Open Source Circular Economy Days. A global project with a lot of resources on Open Source Circularity. You can get involved with them. Or other organisations that push Open Circularity.

I think it might be worth your time.

## **(9. POSITIVE UTOPIA)**

Because – Open Source Circularity – that sounds like world worth living in.

- It is a world that invites our creativity and intellect.
- A world that supplies us with what we need. Without having countries invading each other for resources. Because if we don't burn resources or turn them into garbage there should be enough for all.
- It is a world that preserves nature and the biosphere. Where we don't have to fly to crowded places to see the last oases of beauty. In such a world nature remains beautiful and rich everywhere.
- And it is a world that will provide us with a lot of free time. Because – I did not mention it – for a working circular economy we also need to consume much less! Therefore less production is needed. Which frees up or time. For other things.
- And it is a world where we are enabled to express our freedom and are not surveilled or controlled by large companies using the products around us.

An Open Source Circular Economy ... well. It is the best – or most convincing – positive utopia I know.

## **(10. CLOSING BIT)**

Ok. As I said, visit us at the Open Source Circular Economy Days.

At oscedays.org

My name is Lars Zimmermann.

And you can invite me or my colleagues If you want to hear more or do a joint project. Let's invent this together!

**[11. REPRISE!]**

LOOK TO THE RIGHT TO A PERSON:

Yeah. I wanted to end on a positive note.

PERSON: Was there also a negative spin?

SHAKE TABLE

Yeah. I mean. I could have said: assume, when climate change is really kicking in. And the world is shaken and everything is blown up constantly and has to rebuild and rebuild again. Wouldn't you want the information and designs how to do that quickly – out of the remains – be freely accessible and easy to use. So we can help ourselves and aid each other. With open circularity. We better develop those tools before we really need it.