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Circular Principles

October 2022

Airthings Circular Principles

Are you struggling to recall the Airthings KPIs from your induction? It's ok we will forgive you. Below you can see our targets for 2026 that defines our trajectory for Airthings sustainability ambitions:

What are the Circular Principles?

The Airthings Circular Principles are key elements to be aware of and discuss in the beginning, during, and at the end of the design phases of the products as a self-diagnosis. This will trigger a conscious discussion about choices and tradeoffs. The diagnosis will set measurable data to find the points where we can improve the circularity of our products and compare it with other products.

These principles structure Airthings product design processes! This helps us to ensure that new and old products and/or services are assessed, therefore providing the best overall value with the lowest environmental and social impact. And of course following business ethical standards.

We shall also strive to find partners and products that comply with our beliefs on sustainability while setting a sustainable procurement system in place (For this follow the procurement guidelines).

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So who does it apply to?

Everyone! The Circular Principles apply to all Airthings Employees, staff, managers, directors, and officers seeking to design and create new products on behalf of Airthings. It implies careful consideration at all stages of the project. Environmental and social impact, cost-effectiveness, and quality shall figure heavily in the design process. But it will have particular importance for the product, hardware, software, and operations team with respect to the design of the new products and logistics.

The Principles

So what do we want? We are taking steps to move towards a circular economy! A circular economy is a consumption and production model where waste is designed out of the system by maintaining, repairing, reusing, refurbishing, and recycling existing materials and products (EMF, 2021). To do this, we have defined a set of principles so that our products are designed with the environmental impacts from the product's lifecycle in mind.

To do so, we have set 3 main principles that are held by our mission to:

Empower the world to breathe better, by

Principle 1 (P1). focus on responsible materials and manufacturing,
Principle 2 (P2). dare to reduce energy and carbon footprint and,
Principle 3 (P3). love the product experience and end of life.

What's not to love? Each one of these principles will have its own guiding elements and questions on which it shall focus. The project will then be evaluated based on the Circular Principles Form - Start of project

The Team leader of the project team will be the one responsible for making sure these circular principles are being discussed and taken into account when making decisions for the product.

Now let us explain each of the principles

Empower the world to breathe better:

As a purpose product, our mission will be considered as part of the design as all the positive aspects our products can give to the health and wellbeing of our customers and the environment. This aspect will be taken into account as positive points in the self-assessment:

- Monitoring valuable data for Air Quality

- Improvement of Air Quality
- Decreasing energy consumption

P1. Focus on responsible materials and manufacturing

In P1. you should take into account the next:

P1.1 Suppliers approved and signed the Code of Conduct
P1.2 Over 10 years durable products and conflict-free materials
P1.3 Keep waste and hazardous chemicals out of the product life cycle

P2. Dare to reduce energy and carbon footprint

In P2. you should take into account the next:

P2.1 Giving value to effective and renewable energy
P2.2 Minimize the size/volume/weight of the PCB, and product housing plastics and packaging
P2.3 Design for minimum energy consumption
P2.4 Minimize the transportation environmental burden

P3. Love the product experience and end of life

In P3. you should take into account the next:

P3.1 Create such an awesome experience that the clients will use it for 10 years
P3.2 Inclusive products for our customer segment
P3.3 A simple dismantle experience (for properly maintain, repair, reuse, refurbish, recycle)

Remember to fill the Circular Principles Form - Start of project

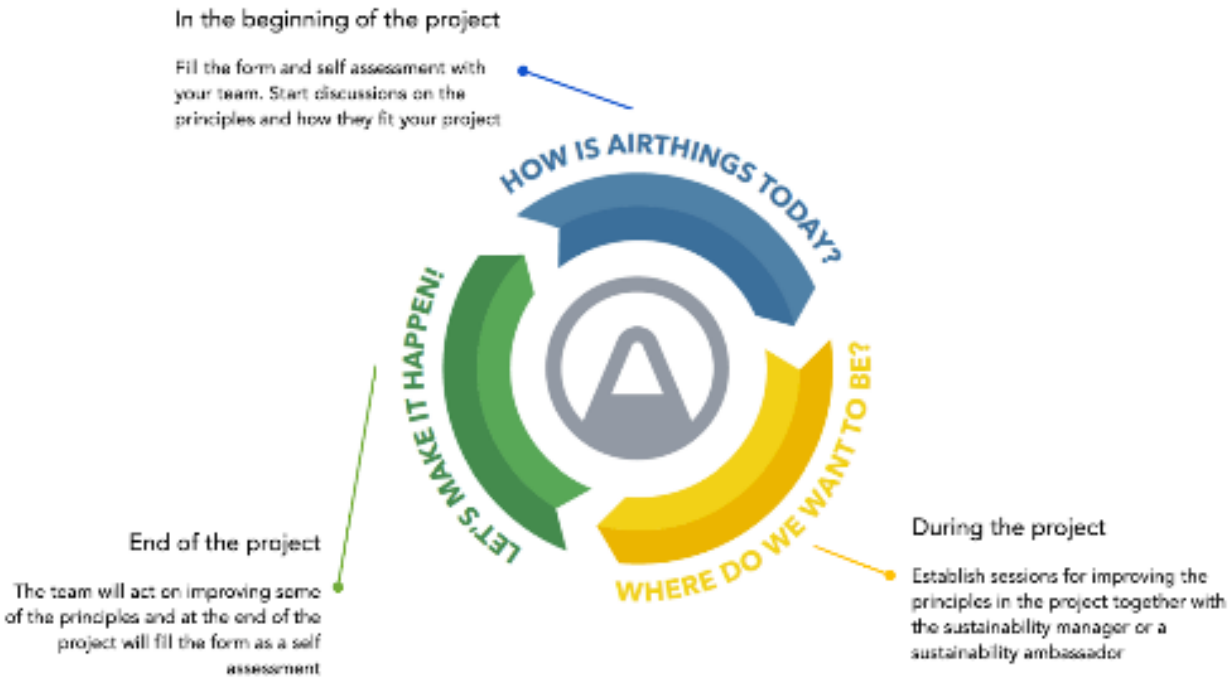
Self assessment methodology:

Use the next methodology for evaluating products and decision making in the product phases.

For any sustainability action, there needs to be a continuous re-evaluation of our practices.

Therefore, we will continue following the methodology, "How is the project today?" where we assess the current impacts of the project. "Where do we want to be?" is planning to take actions on the impacts, and "Let's make it happen!" involves taking actions to improve our impacts. It is designed as a closed system where there is constant feedback and re-evaluation.

We will have 3 steps to establish the circular principle in the projects. These principles will evolve and be monitored with each self-assessment. See graph 1 below:



Step one: How is the project today? At- Beginning of the project

As a first step, the team will gather to discuss the policies by answering the Circular Principles Form - Start of project. It evaluates the project and how elements of the project relate to the policies. The form should be answered honestly so the project is able to improve weaknesses based on the policies.

The results will then be analyzed by the sustainability manager and a small radar chart will be sent to the team leader so they can identify the policies that need improving. If you are working with external suppliers, consultants, teams, make sure they have filled in and signed the Suppliers Code of Conduct.

Step two: Where do we want to be? - During the project

Now that you have analyzed the policies in step one, you now need to consider them throughout the project.

When the project is underway and the team feels it is lacking in a certain area regarding the policies, they can call for a session with the sustainability manager and/or a sustainability ambassador, to discuss new ideas for improving the overall project performance against the policies.

Step three: Let's make it happen! - End of Project

Throughout the project, actions will be taken to achieve the project goal, while using these principles. Therefore, by the end of the project, we will do one last assessment on the performance of the project and grade it accordingly. This will give us an overall view of which areas have to be improved for future projects. You can find the form in the next link: Circular Principles Form - End of Project

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Appendix

Circular Principles Questionnaire

Each of the principles will have a set of questions that the team will have to evaluate in order to make the best circular decision for the product:

Empower the world to breathe better:

- ☐ How might the product help positively the world?
- ☐ The project will empower the world to breathe better
- ☐ The project will take inspiration from the air we breathe (biomimicry, how nature does the job?)
- ☐ The project involves an element of educating users about air quality, power consumption, or pollution
- ☐ The project will consider the end of life of its elements?
- ☐ The project will help customers improve their air quality
- ☐ The project will help customers reduce their energy consumption

P1. Focus on responsible materials and manufacturing

P1.1 Will you focus on working with approved suppliers that have signed the Code of Conduct by,

- ☐ Ensuring suppliers follow our values
- ☐ Working with approved suppliers that have signed the code of conduct
- ☐ Ensuring suppliers know Airthings whistleblower procedure
- ☐ Working with suppliers that have a diverse and inclusive workforce
- ☐ Ensuring suppliers workers have been trained in human rights and environmental risks
- ☐ Ensuring suppliers workers are not exposed to hazardous chemicals

P1.2 Will you focus on over 10 years of durable products and conflict-free materials by,

- ☐ Sourcing components from a certified company (human and environmental rights) (set examples the 3rd person audit) (eg: Responsible business alliance)
- ☐ Ensuring traceable components to the raw material sourcing
- ☐ Having > 10-year lifetime expectancy products hardware
- ☐ Designing the product for durability
- ☐ Having an end of life plan for the product to keep materials in use out of landfills
- ☐ Designing standardized components across different products and models
- ☐ Making it easy to identify the materials and relevant information
- ☐ Considering modular designed products

P1.3 Will you focus on keeping waste and hazardous chemicals out of the product life cycle by

- ☐ Avoiding hazardous chemicals from the product life cycle
- ☐ Preventing the generation of waste
- ☐ Following REACH standards
- ☐ Being compliant with banned environmentally harmful chemicals (eg, cradle to cradle list)
- ☐ Investigating current and upcoming laws and regulations

P2. Dare to reduce energy and carbon footprint

P2.1 Will you dare to give value to effective and renewable energy by,

- ☐
- ☐ Reducing energy consumption and the carbon footprint of our clients
- ☐ Setting clear instructions on how to use the product to achieve the maximum efficiencies
- ☐ Designing products with minimum energy consumption and/or powered by renewable energy
- ☐ Purchaing elements and materials sourced from renewables

P2.2 Will you dare to minimize the size/volume/weight of the PCB, and product housing plastics and packaging by,

- ☐ Downsizing the PCB
- ☐ Optimizing the board shape for maximum panel utilization and avoiding waste
- ☐ Using recycled materials in product housing and packaging
- ☐ Reducing the total weight of materials to be used in the product
- ☐ Using recycled materials in packaging
- ☐ Avoiding plastics in the packaging
- ☐ Using biodegradable/compostable materials in the packaging
- ☐ Creating reusable packaging for new purposes
- ☐ Eliminating elements that have a likelihood of being littered
- ☐ Not mixing biodegradable materials with technical
- ☐ Using biodegradable/compostable materials in the product casing
- ☐ Reducing unnecessary elements in the boxing (eg. European US UK sockets)
- ☐ Using certified paper (eg. FSC, Rainforest Alliance) or no paper even better
- ☐ P2.3 Will you dare to design for minimum energy consumption by,
- ☐ Setting real sleep mode when not being used
- ☐ Planning for the end of battery life
- ☐ Making a low and effective energy use for the product
- ☐ Aiming for > 5-year battery life

P2.4 Will you dare to minimize the transportation environmental burden by,

Avoiding air freight during development and RTM stock build-up
Reducing the routes in the life cycle of the product

P3 Love the product experience and end of life

P3.1 Will you design such an awesome experience that the clients will use it for 10 years by,

- ☐ Creating a timeless design with emotional attachment, and compatibility
- ☐ Making an emotional experience for long term durability
- ☐ Encouraging reusing our products

P3.2 Will you design inclusive products for our customer segment by

- ☐ Making it easy to use products for everyone
- ☐ Making it accessible for color blind
- ☐ Making it accessible for blind
- ☐ Making accessible for hearing impairment
- ☐ Respecting people's right to privacy

P3.3 Will you desing a simple dismantle experience (for properly maintain, repair, reuse, refurbish, recycle) by,

- ☐ Creating a delightful disass
- ☐ embling by the user to repair and recycle
- ☐ Creating easy to dismantle the product nondestructively
- ☐ Providing manuals and documentation on how to repair and recycle
- ☐ Using joints and connectors that can be easily opened and closed multiple times
- ☐ Making it easy to clean and inspect the product and components
- ☐ Using standardized components across different products and models
- ☐ Making an easy recovery of materials

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Breathe better.
Live better.

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Approval: Oyvind Birkenes - CEO

Signature:

Next Review: September 2023