

# Developing Circular Solutions

**2030 goal: Circular materials throughout the value chain - “Reduce, Reuse, Recycle” and design sustainability into new products.**

Reductions based on 2019 levels

## Current Focus Area/Theme

- Implement ZeroAim sustainable design tool.
- Initiate pilot projects for a circular business model and recycled plastic in our products
- Set up recycling schemes in our supply chain.

## 2021 ambition to action:

- 50% of packaging material in our products will come from recycled material.
- Start including recycled material in products with internal/non-visible plastic components.
- 25% reduction in virgin plastic material in newly developed products.
- Develop a methodology for collecting end-of-life products.
- 10% of single use (non-medical) products and components replaced by reusable, recycled or bio-based solutions.

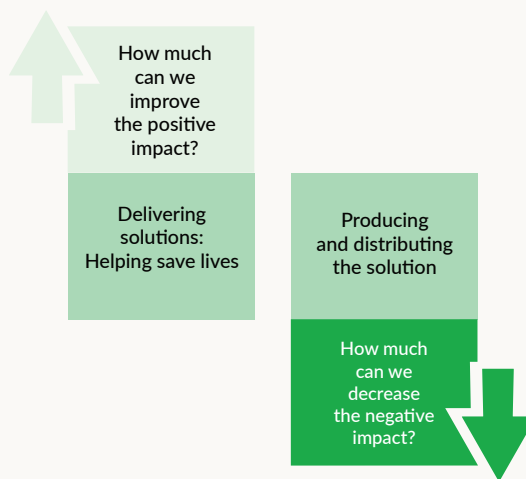
In order to ensure long term sustainability in our own operations, we need to rethink the way we deliver our solutions. Our ambition is to deliver more circular solutions driven by both circular use of materials and more circular and dematerialized user approaches.

The transition towards a more circular approach is driven by a “Reduce-Reuse-Recycle” mindset that is integrated throughout the organization. To integrate sustainability into everything we do, we have developed the Laerdal Future Fit model using elements from the Future-Fit Benchmark Model used by Novo Nordisk.

### The Laerdal Future Fit model will help us to assess:

- the positive impact of the new solutions or new way of working **DOING MORE GOOD;**
- environmental risks and how alternative solutions can help to limit the potential harm we create by the solutions we deliver **DOING LESS HARM.**

The model is an integrated part of our product development process



In working towards this ambition, we will deliver on our commitment of helping save lives while using less and more sustainable materials. We will ensure that our equipment is used in an efficient manner e.g. by developing sharing models, digital solutions and by building eco-systems to allow

organizations requiring healthcare training to connect to equipment already in the field. The shift towards a circular business model is not only vital to deliver sustainable solutions, it is also key to achieving our ambition of carbon neutrality.

# Laerdal Circular Model

## Raw materials

We are minimizing our input of raw materials through a combination of using circular material and creating circular solutions.

## Recycling

We are recycling material internally and externally, through partnerships with eg IVAR.

## Residual waste

We are minimizing waste through further developing our take back schemes and increase our assembly options.

## Services

We are improving our services through an increased use of cloud-based support systems and additional services.



## Raw materials

We will minimize our input of raw materials through a combination of recycling material and components and by developing more solutions that increase productivity. Our materials team are continually investigating new solutions to increase the sustainability of our material use. They have over the last year reviewed bio-based solutions as alternatives for plastic in our products.

The findings suggest that even though new technologies and solutions are emerging, there are so far limitations to it's durability, which for Laerdal is a key factor for sustainability. We are moving towards more use of such solutions but need to ensure that product durability is not compromised. Enhancing sustainability of our long-life products through changing the user models will increase user productivity and decrease the material needed to deliver the solution.



## Product Development

Designing for more circular and dematerialised user models are key aspects of the product development process. Using the Laerdal Future Fit model, our development teams are focusing on design solutions which lead to a more sustainable product. They are finding alternative ways to reduce the amount of plastic used, making good choices on plastic types, including using non-virgin plastic where possible, and ensuring the products are designed to be easy to service and upgrade. But sustainability is not just about the product; it is also about reducing the amount of packaging material necessary and choosing sustainable packaging.

We have developed the ZeroAim Sustainability Guide to aid us in providing relevant direction to designers and engineers. Its purpose is to help to evaluate and compare multiple concepts and design more sustainable products. The guide also helps us to think about the impact of our decisions throughout the lifetime of products. Through integrating this tool, sustainability is not an add on, it is a core development feature.



- Product Development**  
We are using ZeroAim as a tool to optimize sustainability in our product development process.
- Manufacturing: internal and external**  
We are working towards operational efficiency by using renewable energy and focus on resource and energy efficiency.
- Logistics**  
We select transportation measures and partners to reduce energy consumption and to use renewable energy where relevant.
- Sales and user models**  
We optimize our solutions and will work towards delivering more through digital platforms and sharing models.



## Manufacturing: internal and external

In the approach towards a circular solution delivery, the manufacturing process is important. We have internal initiatives in place and planned to achieve operational efficiency through elimination of waste, recycling, using renewable energy, and enhancing resource and energy efficiency. A large part of our production is done by external suppliers, and it is key to collaborate in this change.

We will work with our suppliers to exchange knowledge and learn from each other in a health and safety focussed manner. We have already started using the OECD guidelines on environmental impact as a framework to assess our own production and are expecting the same from our suppliers.



## Logistics

Closing the loop in our supply chain is dependent on an increased use of logistics to optimize our circular product services, both in our take-back systems, and in our new sales models.

In this transition we will use our transportation tool to optimize our logistics and use transportation driven by renewable energy where possible.



## Sales and user models

A vital part in our transition towards more circular solutions are the changes that we are making to our sales and user models. We are transitioning from linear models to circular models through developing shared, digital and service-based solutions. These solutions will not only help us decrease our environmental impact through dematerialization and productive use, they will also enable us to enhance our goals of helping save lives.

We will be able to increase the access to our solutions and train more people using less resources in doing so.

In Laerdal we have always had a great focus on durability and quality, which are key in delivering more circular solutions. The durability of our products will be enhanced with an increased focus on services and maintenance in a more sustainable manner.



## Services

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Circular solutions require effective service and maintenance programs. Durability and quality have always been a key priority for Laerdal, and we already have a good infrastructure in place through our deployed field engineers and our well-established Service Centers available for all markets. In addition, we have digital maintenance and services for connected solutions. We are continuously optimizing the durability of our solutions through providing easily accessible upgrade services.

We will continue to optimize our service and repair options, and we will have an increased focus on the assembly/disassembly opportunities that will further enhance our durability approach. Our digital services are also expanding and improving as we deploy new platforms and knowledge through the acquisition of B-Line Medical, the leading provider of video debriefing and simulation center management solutions (see later).



## Residual waste

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We are minimizing our internal waste by focusing on efficient manufacturing and by recycling our scrap and waste. We are also reducing waste linked to our products by delivering solutions that are circular, shared and dematerialized through digital platforms and are increasingly using materials that are widely recyclable and encouraging our users to recycle at the end of the product lifecycle.

We are also developing take-back schemes and increasing our assembly-disassembly options. The increased focus on services, repair and durability will also help us reduce our waste.



## Recycling

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Sustainability in our solutions are first and foremost promoted by durability and productive use. Our focus is to first reduce, then reuse and lastly recycle when the product no longer serves a purpose. For us, recycling is especially important with our single-use products or products with a short lifespan. We are determined to expand use of recycled and

recyclable material in these products and in our long-life products when technology evolves and does not affect the durability of the solution. We will recycle scrap and post-consumer material internally or by using local partners. We are currently investigating collection systems that can close this loop in our supply chain.

## Our journey towards circular solutions and materials

### Resuscitation Quality Improvement (RQI)

We have partnered with the American Heart Association to create and deliver the RQI program - an example of combining resources and knowledge in a “shared model”. The program uses a self-directed methodology, combining both online learning and stand-alone resuscitation skills stations.

This approach increases accessibility and utilization and improves resuscitation quality at healthcare institutions, whilst decreasing the amount of equipment required per healthcare provider.

Program implementations are now being completed remotely via online & digital support, significantly reducing the amount of travel and overall emissions.



### Cloud-based solutions from B-Line Medical

In 2019 we acquired B-Line Medical – the leading provider of video debriefing and simulation center management solutions – as a part of our strategic effort to enhance our portfolios through the use of enabling technologies. SimCapture, a key part of B-Line’s portfolio is fully cloud-based and allows us to more rapidly develop and remotely implement new features and trouble-shoot and support customers without having to physically be onsite – and thus reducing the need to travel significantly while at the same time increasing our responsiveness. Over time, the cloud-based solution will also require less hardware reducing the use of materials and electronics.

### Partnering for recycling

We have started a partnership with the public recycling company for the Stavanger Region, IVAR.

We are exploring the opportunity for using their advanced plant for working specifically on the Laerdal waste plastic. We are early in the process, but we are seeing promising initial results for them to clean and separate out different types of plastic using the 22 machines they currently have in place. They could also clean and work on the different Laerdal waste on a dedicated machine if /when required.

We are also investigating whether we can use waste plastic from IVAR in some of our products. Quality is everything to us and we will ensure that our high standards are maintained and that our products meet all relevant material compliance requirements.



### 3D printing

With our growing knowledge of sustainable technologies, we are in the process of developing 3D-printing initiatives for producing parts. This will enable us to reduce the unnecessary waste stemming from unused spare parts. In addition, we have started making our own 3D printing filament using recycled plastic scrap from our production.



### Reducing packaging waste

To help reduce our environmental footprint generated from waste when unboxing, we are in the process of removing / reducing plastic and cardboard from our packaging.



### Developing recycled skins

In order to reduce our reliance on virgin plastic, we are developing experimental skin using recycled materials. Take-back schemes will need to be established to collect these materials for recycling.

There will likely be challenges, for example with consistent colour quality. However, as one customer responded: *“No one is without blemish, so, if possible, we would like this alternative solution.”*

It will be an opportunity for us to take bold initiatives to reduce use of virgin plastic.



### Offering a sustainable Manikin Face Shield

Our material team has over the last year investigated alternative materials for our Manikin Face Shield. After comparison of multiple concepts bearing in mind the specific use of the product and the strict hygiene requirements, we found that recycled and recyclable materials will be the best solution.

