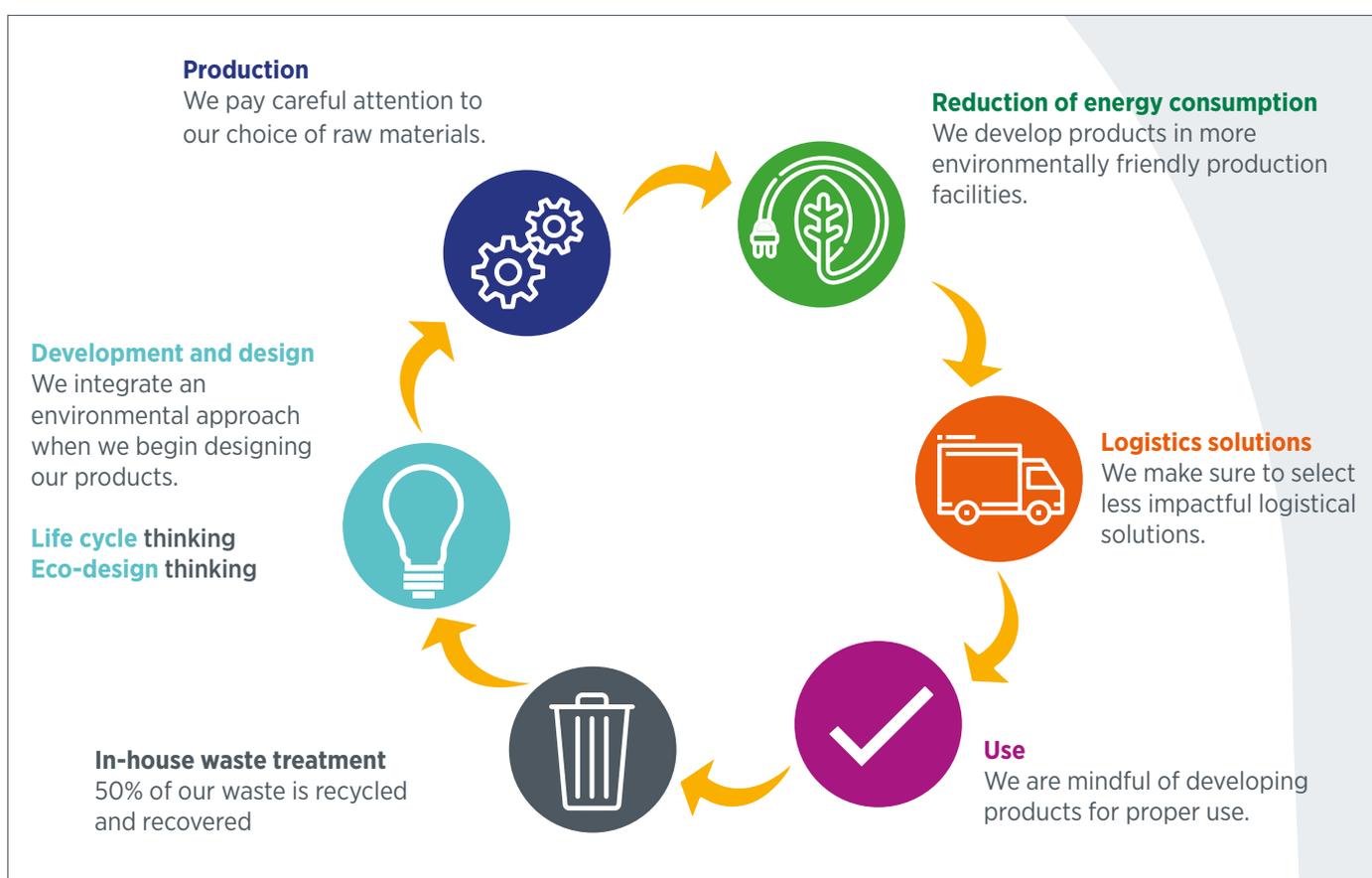


PURELAB PLASTICS IS COMMITTED TO AN ECO-DESIGN APPROACH

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Environmental protection steps at PureLab Plastics.

As a trusted partner for plastic injection, molding, and the manufacturing of plastic parts dedicated to the life science industry, PureLab Plastics applies an eco-design approach to its value chain. This method will be required for many manufacturers in the near future.

By Evelyne Gisselbrecht of DeviceMed

An eco-design approach considers all the environmental impacts caused by a product throughout its life cycle. It involves a reflection on the product, from the choice of raw materials to the end of the product's life, including manufacturing, logistics, distribution, and use. There is no standard requiring this approach, but the ISO 14001:2015 norm strongly suggests that companies think about implementing it in their product's life cycle.

PureLab Plastics, a subsidiary of the American group Gilson, Inc. located in Moirans en Montagne (39), is already well ahead of the game when it comes to environmental sustainability. Within plastic subcontracting services, their first actions in favor of environmental protection began three years ago. To ensure a real strategic shift in the company, PureLab Plastics recently appointed an eco-design project manager, Mathilde Bressy, who also services as the Corporate Social Responsibility (CSR) manager.

“When a client is aware of eco-design approaches or when we have managed to guide them on this path, the first thing we need to determine is if the project justifies carrying out an Life Cycle Assessment (LCA),” says Mathilde Bressy. “This process requires time and resources, with the goal to create a system around it, no matter the project.”

To achieve this goal, PureLab Plastics has defined a minimum threshold that depends on four factors:

- The turnover that will be generated by each project.
- The complexity of the product in development, whether in terms of its design or the number of components it is made of. For example: the higher the number, the more advisable it is to carry out an life cycle assessment (LCA).
- The materials used and their environmental impact.
- The use of the final product: the shorter its lifespan, the more important it is to limit its environmental impact.

If the four thresholds are reached, PureLab Plastics performs the first LCA in the project launch phase. The company studies all the environmental requirements associated with the product to identify new opportunities to reduce its environmental impact. A second LCA is carried out after the qualification steps but before the launch to evaluate the product's final impact and assess environmental progress margin.

SHARING SUSTAINABLE PRACTICES WITH ALL ITS SUPPLIERS

At PureLab Plastics, the eco-design approach applies to the entire value chain and starts with the design and development. The company plans to involve all its suppliers in this environmental approach. Project managers select the material(s) according to the product's application, its ecological impact, and potential recyclability. They can use recycled plastic materials if this possibility exists, even if they often face sourcing difficulties. Concurrently, they are also studying the best way to optimize the disassembly of the product's components to facilitate recycling. An example of this is a metal product over-molded with plastic material. The company has developed a design booklet for each step that involves project managers, injection tool designers, product designers, and developers. They all their own personalized guidelines at each stage of the project.



Mathilde Bressy, a master's student in polymer chemistry and eco-design, worked at PureLab Plastics for three years under an apprenticeship contract. She now manages eco-design and corporate social responsibility tactics.

In terms of process, the company aims to reduce its energy consumption and has set a goal of reducing it over time. PureLab Plastics initiated a plan to renew its equipment, which will eventually allow them to operate in the long term with 100% electric injection molding machines. Their machinery is also equipped with grinders to collect the injection sprues at the device's foot and reinject them into the production cycle according to a validated protocol. PureLab Plastics has also evaluated its packaging and logistics, leading the company to reduce the number of products they manufacture, choose adapted packaging options, and optimize the delivery. Additionally, PureLab Plastics works closely with its customers to carry out studies on the reuse of materials to stimulate recycling channels.

Achievements include the packaging of plastic tips for life science industries, for which PureLab Plastics has succeeded in improving the shape and reducing the weight for optimized transportation. Another success was replacing conventional plastic material requested by a Swiss customer with a material that's made entirely from recycled plastic.