

# Transforming the Built Environment with Circular Design Technology

Design is the Key to More Sustainable Production

ARCO, Italy, Aug. 26, 2024 — **Aquafil SpA (ECNLF:OTCQX - ECNL:IM)**, based in Arco (TN) Italy and a pioneer of the circular economy, today released its second in a series of monographs that illustrate how we can design better to do better.

The potential for technology to revolutionize the way we live and work is boundless. In this context, the intersection of sustainability and technology presents a compelling growth opportunity. Companies that prioritize eco-design and circular manufacturing practices are not only driving positive environmental outcomes but also positioning themselves at the forefront of a rapidly expanding market segment.

But, in the context of circular design, the key drivers of this transformation are not just AI or advanced tools, but the designers, manufacturers, and producers who wield them.

True power for change lies within the human mind, capable of reimagining and reshaping design. When creative minds and cutting-edge technology come together, the opportunity to transform industries is immense-especially within the built environment.

Aquafil is an industry leader with a legacy of innovation in sustainable design, exemplifying how businesses can capitalize on these trends. The kernel of all change is concept and design. In the circular economy, therefore, it all starts with design, and here are some of the ways design can support circular technology.

## Stage 1: Designing with the End in Mind

Eco-design is the process of minimizing environmental impact by designing a product with circularity in mind at inception. While designing a product, consider what is going to happen at the end of its life - tossed into a landfill, or recycled into new ingredients for new designs?

One of the essential elements is to design products where its materials are easily separated and recycled after use at the design stage. This means making it easy to remove the nylon tufts from carpet backing, or separating the metal zipper from a nylon jacket so the nylon can be recycled or, better, regenerated.

Not only do products need to be creatively designed to be easily separated, but the technology that can produce these eco-designed pieces also needs to be developed. For instance, Aquafil started with the flooring industry where it launched the R2R project in partnership with our customers to co-design the environmental friendly flooring of the future.

## Stage 2: Creating Circular Ingredients

The world has become reliant on plastic products, which are made by extracting oil and gas, and are often designed to only be used once. Every year, millions of tons of plastic ends up in landfills or, worse, irresponsibly dumped into our oceans. There is an opportunity to reduce our reliance on resource extraction and eliminate waste by creating circular plastic ingredients.

Aquafil has developed ECONYL® regenerated polymers that can also be used in place of hard plastics made from oil. The versatility of ECONYL regenerated polymers makes the ingredient ideal for injection molding, extrusion and production of products like chairs or frames for sunglasses.

The beauty of these polymers is that, unlike the limited life of most plastics that are recycled, they can be infinitely regenerated for endless use – circular. In addition, the development of this technology not only reduces production waste but also aligns with global sustainability goals-trends that are increasingly important to both consumers and regulators.

### **Stage 3: Developing Circular Manufacturing Practices**

Once we have a product made of recyclable ingredients that can easily be separated for continued recycling and regeneration, we need a circular manufacturing model to reduce waste during production. One of the latest technologies getting interest is circular additive manufacturing, or 3D printing.

3D printing currently only makes up about 1% of the global manufacturing market, but it is set to grow exponentially. This is a great opportunity for designers to utilize 3D printing to create more sustainable products since it is an additive process, meaning it builds a product by adding materials as needed rather than creating waste by removing what isn't needed.

In addition to reducing the amount of waste during production, 3D printing can also reduce waste by enabling designers to create more effective prototypes through the digital system, make and replace parts as needed, and manufacture in multiple locations instead of shipping from one central plant. 3D printing can be even more sustainable when designers elect to print with recycled plastics, like ECONYL® regenerated polymers and filaments.

To evolve into a truly circular economy we must continue to learn and innovate, that is why Aquafil, in the last year alone, invested almost 2% of revenues in R&D.

Do not miss the latest updates by tuning in to the Aquafil Group's 1H 2024 Results which will be presented on Thursday, 29th August 2024 at 12.00 PM ET, live on YouTube (the link to the conference call will be available on the IR calendar: <https://www.aquafil.com/investor-relations/financial-calendar/>).

### **About Aquafil SpA**

Since 1965, the Aquafil Group has been a pioneer of the circular economy and a landmark in terms of quality and product innovation for Italy and the globe. We primarily manufacture Nylon 6 fibers and polymers but also Nylon 6.6 and Dryarn. Our flagship product is ECONYL® nylon, which revolutionizes the world of synthetic fibers through a closed-loop model.

Today, Aquafil remains a leader in the research of new production systems for sustainable development.

To keep current on Aquafil, please go to [www.aquafil.com](http://www.aquafil.com).

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