



## The circular economy as a driver for product innovation

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**Thanks to a partnership with Sirris and PolySto's innovative expertise, a new generation of CleanRock® kerbs has been developed: circular and ten times stronger than concrete**

What if an innovation project does not deliver the results you had hoped for, but uncovers a much better solution along the way? That is what happened to [PolySto](#). Together with Sirris, the manufacturing company explored ways of giving discarded composite materials a new lease of life. The original research approach turned out not to be industrially viable at that time. Nevertheless, the insights gained formed the starting point for an innovation that ultimately led to a new generation of [CleanRock® kerbs](#): stronger, slimmer, and made from recycled production surpluses.

Their story illustrates how collaboration on the circular economy can deliver more than just a sustainable solution. It can also become a driver for product innovation.



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## **Why PolySto deliberately opted for sustainability and circularity**

### **Hygiene does not permit compromise**

Food safety leaves little room for compromise. Production environments not only have to meet the strictest hygiene standards, but must also be able to withstand intensive daily use. Walls and floor-to-wall joints are subjected to impacts from forklift trucks, roll containers, and other internal transport equipment day in, day out. What is more, they are thoroughly cleaned using strong detergents. To ensure long-term hygiene and food safety, these surfaces must be resistant to both impacts and moisture. Any damage increases the risk of hygiene problems.

[PolySto](#) develops, manufactures, and markets hygienic finishing systems for the food industry. From its base in Lokeren, its solutions are deployed in more than 110 countries through an international network of distributors and installers, including at food companies such as Danone, Mondelez, and PepsiCo. The range includes wall panels, doors, windows, and kerbs. A few years ago, the company decided to look beyond its existing solutions.

#### **Innovating before the market demands it**

*"We really wanted to do something involving sustainability and circularity,"* says **CEO Jasper De Jaeger**. "The market did not explicitly ask for it, but we were convinced that, as a company, we had to take responsibility for this ourselves."

## **From wind turbine blades to the company's own production surpluses**

#### **Sirris brought businesses and expertise together**

This circular ambition was in line with Sirris's C-Blade research project on recycling fibreglass-reinforced composites. In collaboration with various companies, Sirris examined ways of reusing end-of-life wind turbine blades as a high-quality raw material.

#### **Why the first approach was inadequate**

The initial research findings were technically promising. Recycled material from wind turbine blades could be reprocessed into new composites. However, as the project progressed, it became apparent that one major challenge was proving difficult to resolve at this early stage in the circular supply chain.

*"I am still convinced it can work,"* says De Jaeger. "But at the time, the recycling process was not yet sufficiently developed. The quality of the recycled material was not consistent enough for us to use it reliably in our production process."

#### **A new approach using the company's own production surpluses**

Whereas many companies would have called a halt to the project, [PolySto](#) used the same insights to pose and answer a new question: could it recycle its own production surpluses?

This did indeed turn out to be feasible. Like the wind turbine blades, these in-house waste flows were fibreglass-reinforced, which meant that the results from C-Blade could be applied immediately to this new material flow. Furthermore, the composition was much more consistent, resulting in recycle of consistent quality. While the consortium continued working towards a stable solution for wind turbine blades, [PolySto](#) was able to realise its short-term ambition with this other recycle.

## How production surpluses led to stronger kerbs

### Five times stronger thanks to a new material composition

What began as a search for a circular application ultimately led to an unexpected breakthrough.

*"When we started incorporating the recycle into our kerbs, we found that they became five times stronger than before," says De Jaeger. "And they were already exceptionally strong," he laughs.*

### Less material, more space for the customer

This completely changed the way the project was viewed. Thanks in part to the fibreglass added to the recycle, the new material composition made it possible to design much more compact kerbs without compromising the robust protection required in food production environments. Whereas the previous generation was about fifteen centimetres wide, about half that width is sufficient today. This not only means using less material, but also providing more usable space for the customer.

"In a building measuring 2,000 square metres, you can easily gain hundreds of square metres of additional usable space," De Jaeger explains.

In addition, [PolySto](#) incorporated several other innovations into the new [CleanRock® kerbs](#), including an updated base design that both further improves day-to-day cleaning and protects the kerb itself. The company is now gradually transitioning to the new generation, and the first international projects have already been successfully completed.

## Why collaboration accelerates innovation

### Sirris as a knowledge and networking partner

Not every research project leads straight to a commercial application. However, that does not mean it is without value. The collaboration between [PolySto](#) and Sirris shows just how often innovation takes an unexpected turn.

Research projects can create value in various ways. Sometimes they lead directly to a commercial application, as was the case with [PolySto](#) and Sirris. The knowledge gained has found its way into products that are on the market today. At the same time, the project shows how innovation can sometimes take an unexpected turn.

The original aim, recycling end-of-life wind turbine blades, turned out not to be technically feasible at that time. Nevertheless, the project gave [PolySto](#) much more than just new insights. Thanks to its collaboration with Sirris, the testing facilities, and exchanges with other companies, the firm was able to expand its knowledge of circular materials considerably more quickly. Furthermore, the project gave [PolySto](#) the opportunity to invest further in research and development.

*"Thanks to this process, we immediately recruited an R&D engineer who works full-time on circularity. For a smaller company, an investment like this is not an easy undertaking. The grant for this project really gave us the push we needed to take that step," says De Jaeger. "Without this process, we would probably never have come up with this idea. You gain knowledge, get to know other companies, and discover opportunities you had not thought of before."*

According to the CEO, this is where the greatest added value of a knowledge partner such as Sirris lies: bringing companies together, fostering cross-fertilisation between sectors, and helping to develop ecosystems in which companies can learn from one another.

## **What other manufacturing companies can learn from this process**

For [PolySto](#), the story does not end with the new generation of [CleanRock® kerbs](#). The company is examining ways of reusing even more production surpluses as high-quality raw materials and is also identifying opportunities outside its own organisation.

Today, fibreglass-reinforced composites are used in a wide range of applications, from boats and lorries to wind turbines. According to De Jaeger, there is still considerable untapped potential for the circular economy here. In his view, this calls for collaboration across companies, sectors, and national borders.

*"The more companies share their knowledge, the sooner circular solutions will become a reality."*

## **The circular economy as a driver of competitiveness**

The [PolySto](#) story shows that the circular economy does not have to be an end in itself. When companies experiment in collaboration with knowledge partners, solutions often emerge that could not have been foreseen.

The new generation of [CleanRock® kerbs](#) proves that sustainability and economic added value can go hand in hand: fewer raw materials, better performance, and greater value for the customer.

That is precisely the role Sirris aims to play: helping manufacturing companies turn circular economy challenges into new competitive opportunities through collaboration and practice-oriented research.

## **Would you like to accelerate circular innovation?**

Sirris helps manufacturing companies transform production surpluses, waste flows, and new materials into innovative applications through practice-oriented research, testing facilities, and a strong network of companies and knowledge partners.

[Discuss your innovation challenge](#)

## Authors



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