

Overview	
Country	Germany
Type of organization	Circular economy consultancy and product developer
Number of employees	Approx. 30+
Type of practice	Best
Level of investment	Medium
Activity type	Processing waste / Product design from waste material
Key words	Recycling / Upcycling / Reusing / Waste collection



Summary

HolyPoly GmbH, based in Dresden, is a sustainability-focused company specializing in closed-loop plastic recycling systems for brands. It offers end-to-end services through two core programs: "Take Back," which designs and operates custom systems for collecting post-consumer plastic waste, and "Make Use," which transforms that waste into high-quality, market-ready products.

The company works with recycled materials throughout the entire product development chain, from material sourcing and design to tooling and manufacturing, while integrating life-cycle assessments and sustainable logistics. HolyPoly has collaborated with major brands like NUK, Mattel, Got Bag, and Soulbottles, creating impactful upcycling solutions such as toys, bricks, and bag components from household waste plastics.

Backed by ESF public funding (running until November 2025) and private crowdfund investment, the company is currently advancing innovations in recycling complex plastics from appliances like washing machines.

One particularly innovative aspect is their ability to align technical plastics engineering with public engagement: for example, by turning old pacifiers into sand toys and returning them to families through a raffle, they make circularity tangible, emotional, and fun. With this blend of engineering, communication, and sustainable design, HolyPoly stands out as a model for how circular economy practices can be scaled while staying relatable to everyday consumers.

Background and origin

HolyPoly was founded in Dresden as a response to the growing mismatch between the demand for recycled plastics and the lack of infrastructure to process complex plastic waste. The team brings together experts in plastics engineering, industrial design, compliance, and sustainability communication, aiming to close material loops in ways that are both technically sound and publicly engaging. With support from public funding (like the ESF) and crowdinvesting, HolyPoly has evolved from a niche consultancy into a prominent force in the German circular economy landscape.

Relevance to the craft sector

HolyPoly's model offers valuable insights and inspiration for the craft sector, especially for artisans and designers working with recycled or upcycled materials. Their work demonstrates how post-consumer plastic waste, often considered too complex or contaminated, can be transformed into safe, aesthetic, and functional products through thoughtful design and innovation. For craftspeople interested in sustainability, HolyPoly provides a working example of how storytelling, material experimentation, and public engagement can turn waste into a resource, while also promoting local production, low-impact processes, and creative reuse.

One great example is their collaboration with Soulbottles, a Berlin-based social enterprise that shares many values with the craft world. Together, they created high-quality, toy-safe building bricks made from old refrigerator plastics. Projects like this prove that small creative businesses can use recycled materials without sacrificing quality, safety, or individuality. HolyPoly brings the kind of expertise that helps craft entrepreneurs push their ideas further, while staying rooted in sustainable, hands-on production.

Target groups

- Brands and manufacturers seeking to adopt circular practices
- Craft and design businesses interested in using recycled materials
- Sustainability consultants and product developers
- Environmental educators and campaign managers



Material focus - type of waste material involved

HolyPoly focuses on transforming challenging plastic waste streams into valuable new products, especially those typically excluded from standard recycling. This includes post-consumer items like pacifiers, toys, and branded packaging, collected through take-back campaigns with partners like NUK and Mattel. The company also works with technical plastics from appliances such as washing machines and dishwashers—materials like PP, ABS, and PC that are often discarded despite their high quality.

Their ESF-funded project targets these complex plastics, aiming to create scalable closed-loop systems. They also collaborate with partners like Got Bag to repurpose ocean-impact plastics, and with Soulbottles to turn recycled ABS from fridges into safe, toy-grade bricks. What sets HolyPoly apart is their ability to adapt design and processing to imperfect or mixed materials—an approach highly relevant to the craft sector, where resourcefulness and sustainability go hand in hand.



Source: www.holypoly.co

Stakeholders involved

HolyPoly works with brands (e.g. NUK, Mattel, Soulbottles), consumers, recyclers, retailers, logistics partners, public funders (like ESF), and private investors to create closed-loop recycling systems.

Professionals involved and their roles

Their team includes plastics engineers (material testing), designers (product development), mechanical engineers (tooling and production), sustainability experts (compliance, LCA), marketing specialists (public engagement), and logistics coordinators (collection and supply chain).

Connection of the practice with the project-identified needs

Knowledge of Waste Materials

HolyPoly demonstrates a strong knowledge of waste materials, particularly complex and post-consumer plastics that are often overlooked. Their team of engineers and material scientists carefully assesses the composition and recyclability of each plastic type, ensuring safe and effective reuse. This expertise allows them to create high-quality products even from contaminated or mixed waste streams.

Green Entrepreneurial Skills

By integrating waste collection, material processing, product design, and public engagement, HolyPoly builds scalable circular systems that generate both environmental and economic value. Their partnerships with major brands and use of public funding show how sustainable business models can thrive with the right strategy and collaboration.

Creativity and Innovative Solutions

Creativity and innovation are central to HolyPoly's work. They develop custom solutions, like turning pacifiers into toys or fridge plastic into educational bricks, that connect recycling with emotional and functional value. These design-led approaches make sustainability tangible and inspire craft businesses to see waste as a creative resource.



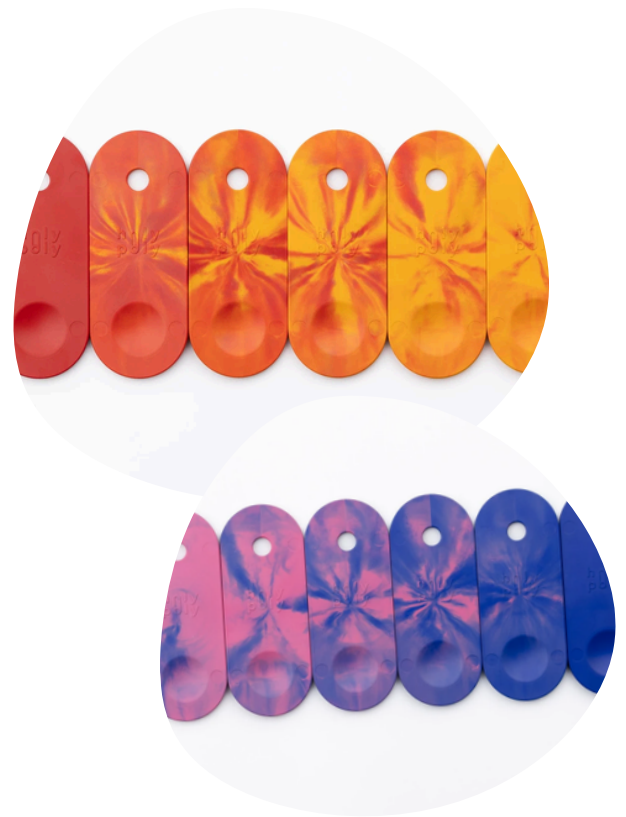
Methodological approach to implement the practice

Process description - step by step instructions for implementing the practice

The process begins when a brand approaches HolyPoly for help with recycling their plastic waste. Together, they identify which products or materials could be part of a closed-loop system: anything from used toys to appliance plastics.

HolyPoly then designs a custom take-back strategy, manages collection logistics, and tests the materials for reuse. Their team develops new product concepts tailored to the recycled plastic, oversees prototyping and tooling, and ensures everything meets safety and sustainability standards.

Once a viable product is ready, they help scale production and launch public-facing campaigns that tell the story behind the recycled material—making the process both functional and emotionally engaging.



Source: www.holypoly.co

Related Resources that have been developed

Resources Developed

- Awareness campaigns (e.g. NUK's "Soother Monster")
- Life Cycle Assessments, safety docs, and design files
- Case studies of recycling success
- Toolkits for circular product development
- Internal systems for tracking, sorting, and quality control

End product

The final outcome varies by project but always involves a new, functional product made from recycled plastic, often with strong storytelling value. Examples include:

- Sand toys made from old baby bottles and pacifiers (NUK)
- Toy-safe plastic bricks from recycled fridge ABS (Soulbottles)
- Backpack buckles from ocean-impact and post-consumer PP (Got Bag)
- Recycled plastic items used in educational or promotional campaigns

Sources of funding for this intervention

HolyPoly is supported through a mix of public funding, notably an ongoing ESF (European Social Fund) project, and private investment, including a successful crowdinvesting campaign via ROCKETS in 2023. Client brands also fund projects directly through service contracts.

Innovation, novel methods or technologies used

HolyPoly's innovation lies in combining plastics engineering, product design, and storytelling into a full-cycle service. They create tailored take-back systems, design new products specifically for recycled materials, and make circularity emotionally engaging through strong public-facing campaigns.



Source: www.holypoly.co

Obstacles and challenges faced

Key challenges include the complexity of plastic waste, especially from mixed or contaminated sources, and the lack of infrastructure to process technical plastics. Convincing brands to invest in long-term circular systems over short-term solutions is also an ongoing hurdle.

Steps further and plans for the future

HolyPoly plans to expand its work on technical plastics from household appliances, develop more scalable closed-loop models, and grow its international client base. They also aim to create more standardized toolkits to make circular design accessible to more businesses.

Key impacts - environmental, economic & social

The impact of their work is significant. Environmentally, they help reduce landfill and incineration by keeping valuable plastics in circulation. Economically, they create new value from waste, opening pathways for green product innovation. Socially, they engage the public, raise awareness around plastic reuse, and help brands tell more responsible, sustainability-focused stories.

Qualities and criteria's to consider the practice effective, efficient, sustainable, transferable

Qualities	
Effectiveness: How well does the practice achieve its goals?	HolyPoly effectively achieves its goals by closing the loop between plastic waste and new products. Their partnerships with brands like NUK, Mattel, and Soulbottles have led to tangible, market-ready items made from recycled materials, proving that circular systems can work on both technical and public
Efficiency: Does the practice minimize resources while maximizing outputs?	The practice is resource-smart. By designing custom take-back systems and choosing recycled plastics that suit specific product needs, HolyPoly minimizes waste and avoids unnecessary processing. Their in-house expertise also reduces reliance on external consultants, streamlining implementation.
Sustainability: Does the practice contribute to environmental protection, social equality and long-term viability?	HolyPoly contributes directly to environmental protection by reducing plastic incineration and landfill use. Socially, they raise public awareness through storytelling and inclusive campaigns. Economically, they build durable partnerships and scalable models, making their approach viable in the long term.
Transferability: Are the methods transferable in different contexts?	Their methods: material testing, product design from waste, take-back logistics, and circular storytelling, can be adapted to various industries, product types, and national contexts. While technical adjustment is needed for each case, the core model is widely applicable and replicable.

Required Competences for the best practice implementation

Activities-to-competences mapping

Associated competences	
Knowledge	<ul style="list-style-type: none">• Properties and recyclability of different plastic types• Circular economy principles and waste hierarchy• Product design and material compatibility• Environmental standards, LCA (Life Cycle Assessment), and compliance
Skills	<ul style="list-style-type: none">• Material testing and sorting• Designing recycled products and tooling• Managing logistics and take-back systems• Communicating sustainability effectively
Attitudes	<ul style="list-style-type: none">• Sustainability mindset• Innovation and adaptability• Collaboration and attention to quality

Training needs required for successful implementation

- Basics of plastic types and recyclability
- Circular product design and sustainable manufacturing
- Logistics and system planning for take-back schemes
- Communication and storytelling for public engagement

Lessons learned

- Tailored solutions work better than one-size-fits-all recycling models
- Public involvement increases recycling success and brand impact
- High-quality recycled products require both technical and creative input

References / links

- [linkedin.com/company/holy-poly](https://www.linkedin.com/company/holy-poly)
- www.instagram.com/holypoly.co
- www.holypoly.co



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