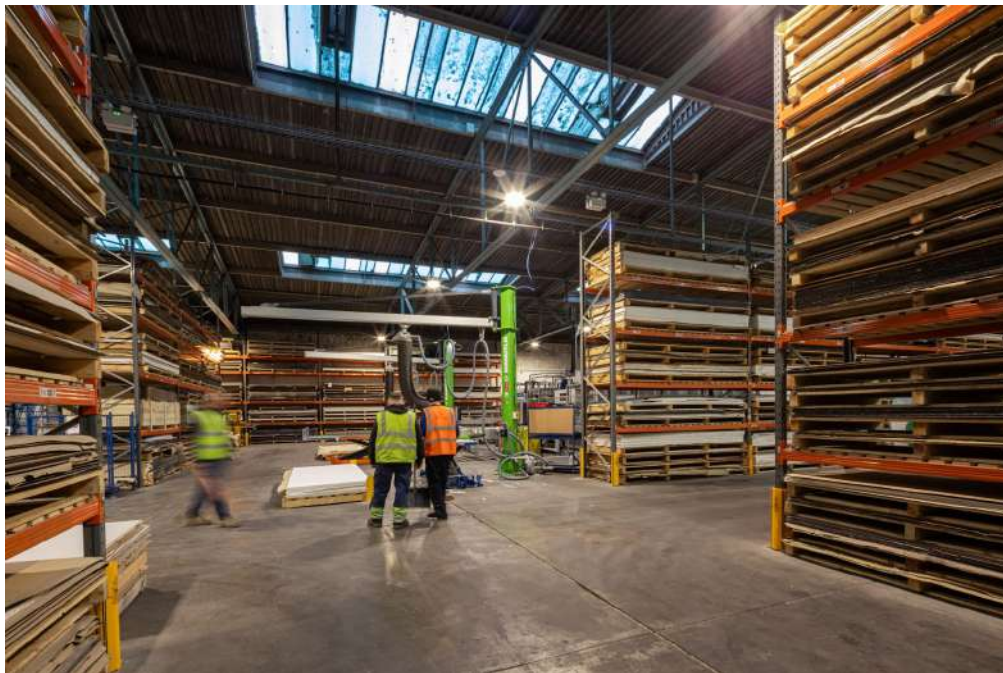


Smile Plastics: making waste beautiful Recycled-plastic pioneer expands production with new Wales factory



Smile Plastics' factory, Swansea UK. Image credit: Handover.

Of the 400 million tonnes of plastic that the world produces every year, less than 10% is currently recycled. From its base in Wales, Smile Plastics has been on a mission to change these numbers since 2015.

Originally founded in the 1990s, Smile Plastics uses proprietary technology to transform plastic waste into 100% recycled, 100% recyclable plastic panels for architects, designers and brands around the world. Taking materials that would usually be consigned to landfill – everything from yoghurt pots to fridge-freezers – Smile Plastics selects and blends plastic waste to create beautiful and functional architectural surfaces that can be used for a host of applications, from countertops and shower panels to furniture and signage.



Smile Plastics' factory, Swansea UK. Image credit: Handover.

New factory super-charges recycled-plastic production

Until recently, the company was converting around 500 tonnes of plastic waste into circular products – the equivalent of 62.5million 500ml PET bottles. Now, thanks to a move to a new, larger factory close to Swansea on the Gower Peninsula, Smile Plastics has increased its production capacity, and now has the potential to divert up to 3,000 tonnes annually – producing 300 3mx1.2m sheets each week – converting up to 70 tonnes of 100% recycled material every seven days.

Capacity was not the only consideration behind the move. Smile Plastics' relationship with South Wales has always been central to the business, and the company was determined to maintain its locally focused talent, community and supply chains through the move. In addition, the natural magnificence of the surrounding landscape serves as an everyday reminder of Smile Plastics' mission:

"Wales is central to the Smile Plastics story. The fact that the Gower Peninsula was the first Area of Outstanding Natural Beauty in the UK aligns perfectly with our company's values. Beauty drives our creative direction, yet waste – especially plastic – is a scourge on the landscape and our environmental

wellbeing. To maintain the landscape, we as a society must address our waste disposal and processing. If we as a company can highlight the desirability of recycling plastic not only in practice but also in the aesthetics and performance of the results we can deliver, we can nudge the dial closer to solving the problem of plastic, and permanently change the way we think about waste."

– Adam Fairweather, director, Smile Plastics



Smile Plastics' factory, Swansea UK. Image credit: Handover.

Cradle-to-cradle manufacture

Since its original technology was developed in the 1990s, Smile Plastics has led its sector in the drive towards a circular economy, and today serves as a proven template for a low-energy, waste-efficient manufacturing model. The move to a larger facility – in what was once Wales' biggest chocolate factory – has opened up the space and resources necessary to implement more extensive quality checks across the production line, and optimise process efficiency, enabling Smile Plastics to turn around larger orders within much shorter timeframes. Today, Smile Plastics has the capacity to operate 24-hour continuous batch production, seven days a week.

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The new factory diverts plastic waste from more than 60 local businesses around Swansea and beyond, and works in partnership with community groups and organisations including Cwm Environmental and Swansea Environmental Centre, to source raw materials and tackle specific waste streams.

Plastics are sorted and graded by colour and polymer type, then shredded, heated and pressed into sheets. The type and colour of raw materials determines the pattern of the finished panel, which can be everything from a sober natural stone mimic to a maximalist eruption of colour, making the panels suitable for a wide variety of applications. (One of Smile Plastic's popular styles, Alba, is flecked with silver, thanks to the fact it is made from yoghurt pots – 111 million in 2022, in fact.)

As well as being recycled, Smile Plastics products are also designed to be fully recyclable – a cradle-to-cradle production cycle. Used panels can simply be returned to the beginning of the process, as can any waste plastics or substandard materials generated during manufacture and cutting. The company operates a buy-back service to facilitate return and recycling, making Smile Plastics panels especially well suited to temporary uses in events and exhibitions.



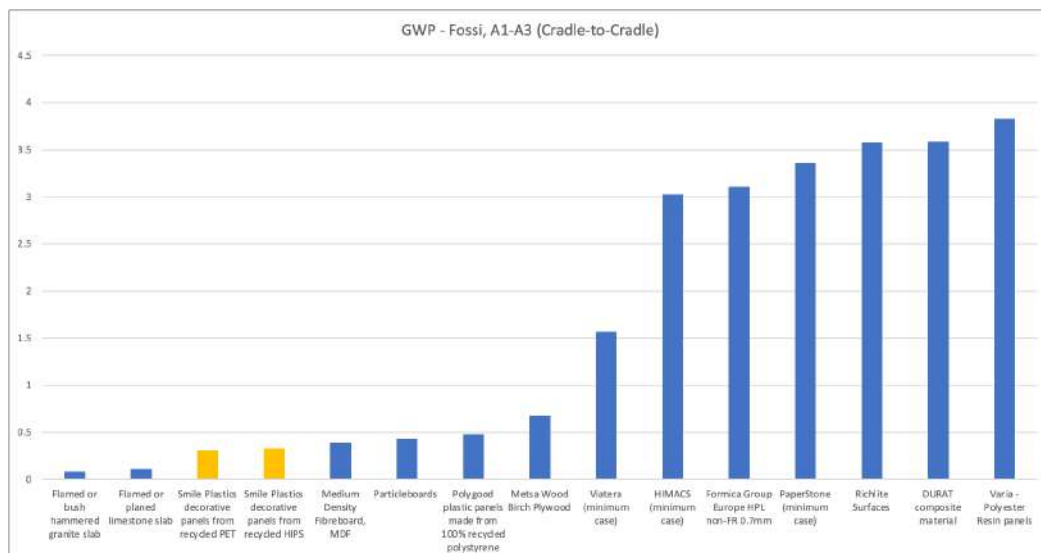
Adam Fairweather (left) at the Smile Plastics' factory in Swansea, UK. Image credit: Handover.

Measuring environmental performance

Smile Plastics products – both based on HIPS (High Impact Polystyrene) and PET (PolyEthylene Terephthalate) – have undergone detailed Environmental Product Declaration (EPD) assessment, ensuring complete transparency when it comes to end-to-end environmental impact.

The publicly available EPD data for both material types shows that Smile Plastics is one of the top performers in terms of its environmental impact – across every measurable metric. Most notably:

- Smile Plastics’ carbon footprint is well below 0.5 kgCO₂e –far less than plywood, particleboard or solid surface and under 1/6 that of most of its nearest competitors.
- From raw material to factory gate, Smile Plastics panels use a fraction of the water consumed by manufacturers using primary (virgin) materials.
- Smile Plastics’ exclusive focus on secondary materials means that its production processes consume minimal natural resources and minerals.



Smile Plastics EPD – Environmental Impact Summary Report by Blue Marble. The indicator is Global Warming Potential (GWP) fossil (aka *carbon footprint*). All information for this graph was taken from the respective manufacturers’ publicly available EPD documents.

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Smile Plastics is also proud to hold ISO 14001 accreditation, reflecting its continuing commitment to responsible waste management. To ensure health and wellbeing of people and the planet, all 'at risk' waste material is tested for Persistent Organic Pollutants, which enables Smile Plastics to confidently operate within REACH compliance. In addition, the matt factory finish applied to Smile Plastics products requires no sanding or polishing, which greatly reduces the potential for microplastics pollution at factory level.

Smile Plastics continues to monitor and refine its materials, processes and supply chains to optimise environmental performance, and is currently exploring the possibilities of establishing a decentralised network of factories in Europe and globally, increasing in scale without compromising on quality, aesthetics or environmental performance.

“Our Swansea factory is a blueprint for replication around the world. This approach meets our international customer base’s desire for localised manufacture and supports a sustainable future, minimising carbon impact from shipping and harnessing the localised waste streams at a global scale. Our mission is to create a conscious community on a global scale – by decentralising manufacture of 100% recycled products, we can achieve this.”
– Rosalie McMillan, director, Smile Plastics

Notes to editors

Smile Plastics

From its Swansea factory, Smile Plastics produces 100% recycled, 100% recyclable plastic panels for architects, designers and brands around the world. Focusing on single-use plastics, Smile Plastics sources materials that would usually be consigned to landfill – everything from white goods to yoghurt pots – and, through its proprietary process, reinvents them as beautiful and functional architectural surfaces.

On a mission to revolutionise our use and understanding of waste, Smile Plastics is one of Europe’s leading champions of circular design, offering a blueprint for decentralised manufacture. The business was first established in the early 1990s, leading the way in the drive to recycle plastic for almost two decades. In 2014, the then-dormant brand was revived by Adam Fairweather and Rosalie McMillan, employing new processing techniques and low-energy manufacturing technology

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that enables rapid, high-volume production via a continuous batch process. Today, Smile Plastics has an international customer base, a 24/7 production cycle, and an ever-expanding range of beautiful plastic products.

smile-plastics.com