

Symphony, making plastic smarter, safer and more sustainable

As part of our quick founder questions series - or QFQs - we spoke to Michael Laurier, CEO of Symphony about the evolution of packaging, anti-plastic campaigns and making an important difference.

Temps de lecture : minute

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My family have been providing packaging solutions for three generations, since 1920. My grandfather supplied jute, hessian and cotton bags and materials for a wide range of applications, such as river flooding defence, military use, food packaging, building and construction on an international level. My father started processing rejected plastic bags as no recycling equipment was available in those early days. In the 1970's I expanded the business into plastic products, such as damp-proof membranes, construction films and refuse sacks. The business further expanded into many new types of materials that allowed thicknesses to be reduced by more than 50% without comprising strength.

Plastic is derived from a by-product of refining that used to be flared off at the refinery, and I have always regarded it as an excellent material for packaging. I became aware in the 1990s that it had become so popular that it was causing an environmental problem although very few people were then aware of this issue. This was because it could easily become litter and then lie or float around for decades if it escaped into the open environment, and especially the oceans.

So, I started looking for ways in which people could continue to use plastic, but without the environmental problem and without significant extra cost. I did a lot of work on various different types of plastic advertised as compostable and found them all to be far too costly. These products also had a foul odour, a limited shelf life of just a few weeks, and very poor mechanical performance - and they could not be recycled.

I then became aware that in the 1980s Professor Gerald Scott had discovered that if a carefully formulated masterbatch was put into the normal production process at 3%, the plastic would become biodegradable at the end of its useful life. He called this oxo-biodegradable plastic because the masterbatch promotes oxidation, which in turn reduces the molecular weight of the plastic so that it becomes a food-source for naturally-occurring bacteria and fungi. They then remove it from the environment without any human intervention.

With some support from Professor Scott, I decided to further develop this technology into a product that could be used much more widely, rather than in just agriculture films which he had patented, and also at a lower addition-rate of only 1%. I then launched it under the d2w brand.

It could be included all kinds of *packaging and bottles made with polyethylene and polypropylene*, together with shrink wrap, pallet-wrap, bread-wrappers, newspaper-wrappers, industrial bags for the farming and cement industries etc. etc. It is also very useful for agricultural mulch-film.

I also realised about ten years ago that plastic could be used to provide protection against bacteria and viruses, against insects and rodents, and against fire, so I set our polymer scientists to work to develop practical technologies, which are now supplied to manufacturers of plastic products under our *d2p trademark*.

Tell me about the business - what it is, what it aims to achieve, who you work with, how you reach customers and so on?

Our aim is to provide the plastics industry and large consumers with a range of technologies which will make plastic and certain types of rubber products even better, and more sustainable. Symphony was established in 1995 and was launched as a public company on the London Stock Exchange in 2001. It was awarded the Green Economy Classification & Mark by the Stock Exchange in October 2019 as more than 50% of our sales were derived from the Green Economy. Symphony now has a diverse and growing customer-base, and has established itself as an international business. Products made with Symphony's technologies are now available in nearly 100 countries and in many different product applications, and Symphony itself is accredited to ISO9001 and ISO14001.

We employ about 30 people at our offices and laboratory in Hertfordshire UK, and we have a network of more than 70 locally-based distributors around the world who employ their own people. We also work with academics and specialist test-houses such as Intertek, AIMPLAS, and Queen Mary University, London.

Symphony is a founder-member of *The BPA* and actively participates in the Committee work of the British Standards Institute (BSI), the American Standards Organisation (ASTM), the European Standards Organisation (CEN), and the International Standards Organisation (ISO).

Tell us about the working culture at Symphony?

We are all specialised in our different fields of expertise, but we work together well as a team. Our common objective is to provide the very best

technology to assist our customers to improve their products and to care for the environment, as we do ourselves. If we do this successfully our employees and shareholders will also benefit. Audio-visual conferencing has helped us to keep more in touch with our Distributors and customers in all parts of the world.

How are you funded?

We are funded entirely by our earnings, by trade-finance, and by the investments of our shareholders, of whom we now have more than a thousand. We do not expect government grants for our R&D.

What has been your biggest challenge so far and how have you overcome this?

Whilst we have faced, and successfully overcome, some difficult technical challenges, the biggest challenge has been lobbying against us by companies with a different biodegradable technology. This has resulted in legislative obstacles to which we have had to devote resources, although in the Middle East the reverse has been the case, and legislation actually mandates the use of our technology.

We are also affected, in common with the whole plastics industry, by anti-plastics campaigns. These are driven by the fact that plastic products can persist for a long time if they get into the environment, and this is the very issue on which our d2w technology can help the whole industry. It seems that the industry, including the plastics recyclers, are now beginning to realise its importance to them. I think also that adopting our d2w technology can help to improve a company's ESG rating, because no responsible producer or user of plastic products can ignore what happens to them if they get into the open environment.

How does Symphony answer an unmet need?

Governments have been trying for years to solve the problem of plastics in the environment, but it is now clear that “reduce, re-use, and recycle” are not solving the problem, and that banning plastic can make matters worse. See *Environ. Sci. Technol.* (2024), 58, 6, 2716–2727; which says that care must be taken when formulating policies so that we do not inadvertently drive a shift to non-plastic alternatives with higher GHG emissions. See also

<https://www.biodeg.org/subjects-of-interest/paper-bags/>

and <https://www.biodeg.org/subjects-of-interest/life-cycle-assessments/>

The problem is not the plastic which can be collected for processing or responsible disposal, but the plastic which cannot realistically be collected at all. This is a serious omission from the draft UN Plastics Treaty, to which we have drawn the attention of UNEP and national delegations. The ONLY way to prevent it accumulating for decades is to make it with a d2w masterbatch, and this is the most urgent unmet need.

There is also an unmet need to use plastics to provide protection against bacteria and viruses, against insects and rodents, and against fire, and this is where our d2p technologies can help.

What's in store for the future?

I have complete confidence in our products and I know that they can make an important difference. As demand for those products increases our company will be able to do even more.

What one piece of advice would you give

other founders or future founders?

Make sure of the scientific and technical integrity of your products, make sure that they satisfy and unmet need – and don't give up!

Michel Laurier is the CEO of *Symphony*.

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