Across every industry, the issue of sustainability has grown from a trendy murmur to a roar of necessity as the predictions of environmental experts become increasingly dire: per a pressing report released by the UN Intergovernmental Panel on Climate Change (IPCC) in 2018, we now have just nine years as a planet to significantly cut carbon emissions before experiencing ‘climate disaster.’

In response, numerous names in fashion have launched sustainability initiatives. With many fashion brands and companies overlapping on their environmental commitments, brands like Gucci and Moncler have announced carbon neutral goals; Adidas, Levi Strauss & Co, Kering and dozens more are signatories of the Fashion Industry Charter for Climate Action; LVMH is a signatory of the United Nations Global Compact; brands from Tommy Hilfiger to H&M have released collections with recycled elements.

While many brands have released recycled or upcycled pieces in materials like cotton and denim, one area that has been tapped into less often is leather. This is potentially a consequence of some brands moving to eliminate animal furs and skins from their line ups entirely—it’s worth noting that traditional methods of treating and producing original leather are known to create a significant amount of toxic output. However, this gap in the market could also be attributed to existing leather’s cumbersome qualities: the process of making leather products often leaves many small, irregular pieces of scrap leather on the cutting room floor, and many methods of repurposing that leather into a workable shape results in a product that lacks the same workability and general leathery-ness of the original. Yet, the leather market is just as in need of waste solutions as any other—according to the United States Environmental Protection Agency, landfills received five million tons of municipal solid waste rubber and leather in 2018 alone alone.

Here, Sustainable Composites, a Lancaster, Pennsylvania-based engineered leather company formed in March of 2012, is offering an innovative new solution. Co-founded by retired scientists and former executives Frank Fox and Tom Tymon, the company uses a unique chemical process to recycle leather into a material—made from only...
Tom Tymon, the company uses a unique chemical process to recycle leather into a material—made from only recycled leather scrap and dubbed ‘enspire leather’—that the company says looks, feels and performs identically to the original leather from which it was made.

Currently sourcing the majority of its leather from Wilson footballs, Sustainable Composites primarily focused on leather for items like shoes and furniture. However, the company recently dove deeper into the apparel landscape through a new partnership with another signatory of the Fashion Industry Charter for Climate Action: VF Corporation, and specifically its Timberland brand. With the U.S. economy beginning to slowly recover from the impact of the Covid-19 pandemic as infection rates plateau, the future for Sustainable Composites also includes a leather partnership with Gucci, as well as the possibility of expanded work within the VF portfolio.

To date, the company has raised about $2.3 million from 13 investment groups, including Ben Franklin Technology partners. To learn more about the company’s development, FashionNetwork.com (virtually) sat down with co-founder and chemical engineer Frank Fox and spoke about Sustainable Composites’ place in the sustainability landscape.

**FashionNetwork:** Tell us more about how the company began and what it looks like now.

**Frank Fox:** Tom and I have worked together on different projects for over 30 years. In 2012, we went on a journey of our own. Both of us had a lot of passion for recycling, and we started to do research on how to make a unique and different recycled leather product. We founded Sustainable Composites as an independent entity to develop this family of products that we were interested in. Taking the technology and ideas we had developed, we set up an operation that was first in Tom’s basement and later expanded to a facility.

We set up the operation in Lancaster more as a research and product development facility. We developed the chemistry and processing technology there almost like Coca-Cola—we make our ‘syrup’ in our facility, and we then outsource the actual construction and manufacturing of the product to other manufacturers. We have a manufacturer that actually makes the base leather product for us, and then we have manufacturers that will finish it, emboss it, and make it look exactly like leather. We work on the development, the chemistry and technology to allow people to manufacture the product.

Currently, we have three facilities that are able to make the product, and we focus mostly on using one facility in Upstate New York.

**FNW:** What makes your company unique to your industry?

**FF:** When we were looking at recycling leather, we did a pretty in-depth study of the industry and the market for leather substitutes, and we were intrigued by two things in particular: the first was that leather is a material that generates a lot of waste; people work very hard to not do this, but it’s just the basics of the process. The second was that we could not find any leather alternatives that actually looked and felt like leather. There were a lot of companies that had developed some excellent technology where they would basically grind scraps of leather into dust and mix it with polymers and put films on top of it, but it’s restricted in its use.

Our process is totally different. We start with a piece of leather, and once we work our magic, it becomes leather fibers and solution. We are then able to put those leather fibers back together much like Mother Nature put it together in the first place. So our finished product, if you look at it microscopically, looks like real leather. That is a feature that most recycled or upcycled leather products do not have; we can truly be substituted for leather and the user can’t tell the difference.

We have taken our product to a lot of users and most of them have claimed that they haven’t seen anything like it. I think as a general statement, as a leather alternative product, we’re the only product that looks, feels, smells, processes like leather, and has the same physical properties. So we’re in a unique category of product. And, although pricing can be fairly complex, enspire leather in its finished form is less costly than natural leather with additional significant savings gained from improved production yields.

**FNW:** What can you tell us about the development of the special chemical process you use to make your product?
We soon discovered that Mother Nature was not very kind in giving up her secrets. We wanted to use chemistries that are very environmentally friendly; we couldn't use harsh chemicals of any kind anywhere in the process or in the product, so it took us a bit of time. We've been under development in various phases since we established the company in March of 2012. It's taken a long time to get all the pieces together, and there have been times where we felt discouraged, but a lot of innovators told us, 'it takes time.' If you introduce something new, there are a lot of facets to the whole journey.

Once the leather you use is recycled and turned into enspire leather, what are the different ways it can be used?

Just about any way you could use leather. Another unique thing about our product is that, when we put it together, we make rolls of material. We can make rolls of any length, at the same gauges and thicknesses of original leather. So, if someone wants to buy base leather, they can buy a 100-yard role, or we can cut it into sheets. A great advantage to this is that, traditionally, there's an awful lot of waste in hides because of their non-uniform shape—it can be very difficult to get large, perfect pieces of hide. The way we supply our product gives the user great advantages in yields, because the sheets or rolls are perfect in dimension.

This allows us to tap into more than one aspect of sustainability depending on how you choose to define it: we're both taking something that was going to be waste—leather scraps—and repurposing it into something useful, and we're adding to the efficiency of use once we've saved that waste. Our next step, although we do not have these processes in place, would be to prevent any waste at all by having our clients send any scrap back to us where we would recycle it again.

How did the partnership with Timberland come about?

Early in our journey, we were introduced to VF and learned that they were making significant investments into their future, both in terms of sustainability practices and in the use of 'supernatural' materials—better fabrics and new uses for materials. They were thinking about leather, and when we met, we fit the direction they wanted to go in. They were very excited to be able to use a product that is leather and is sustainable.

To date, the focus of our partnership has been in shoes that would go into Timberland. The first Timberland products from our partnership will probably be released in early 2022. There’s also discussion of our product expanding to other brands in the VF family.
FNW: Are you looking to expand into more apparel partnerships?

FF: Yes, that’s an area we’re focusing on—apparel, articles, handbags, things of that nature. We were just beginning to get into the marketplace when Covid-19 began and took over the industry; that really slowed things down because so much was shut down. We’re now starting to ramp up again. I think our product is going to be suited very well for handbags; we have some beautiful prototypes for that. In the apparel marketplace, we think that our product works because it allows a buyer to say, ‘I am contributing to getting rid of waste when I buy this product.’

FNW: Can you say more about how the pandemic impacted your business? How did you get through the past year?

FF: We had help through the PPP (Paycheck Protection Program) process that helped immensely. We had some of our supporters provide help.

Having anything manufactured became significantly more difficult because we work with outside companies and they were also affected, so over the last year we had a very limited ability to make anything. We are fortunate enough to have kept our staff on during this time, and we’ve [started moving forward]. We are fortunate enough to have a large enough facility that we could bring people in [on staggered shifts] and make sure we did not contribute to the spread of Covid. But it has still been a market restrictor for us, and a manufacturing restrictor. Still, we’re beginning to see the light at the end of the tunnel.

FNW: How has the company been funded thus far, and what’s next in terms of growth and expansion?

FF: We started the company by funding it ourselves. As we moved ahead, we created some bank loans that supported us, and most of the support has been local. We’ve taken our concept to people in the Lancaster area who became excited about it, and we have eight to 10 private investors in the local area. To date, that is how we have funded the company over the past five to six years. We’ve not yet used angel investors or any large institutional investors so we have a window of places to go but we’re in the process of working on that right now.

We’re planning to do a funding round, but not a large one. Right now, we are focusing most of our energy on marketing initiatives, and we have put together several teams to help us [fuel these initiatives]. For 2021, our focus is market, market, market. We have sufficient capacity if the market opens up and we have sufficient raw materials to jump in very quickly.