

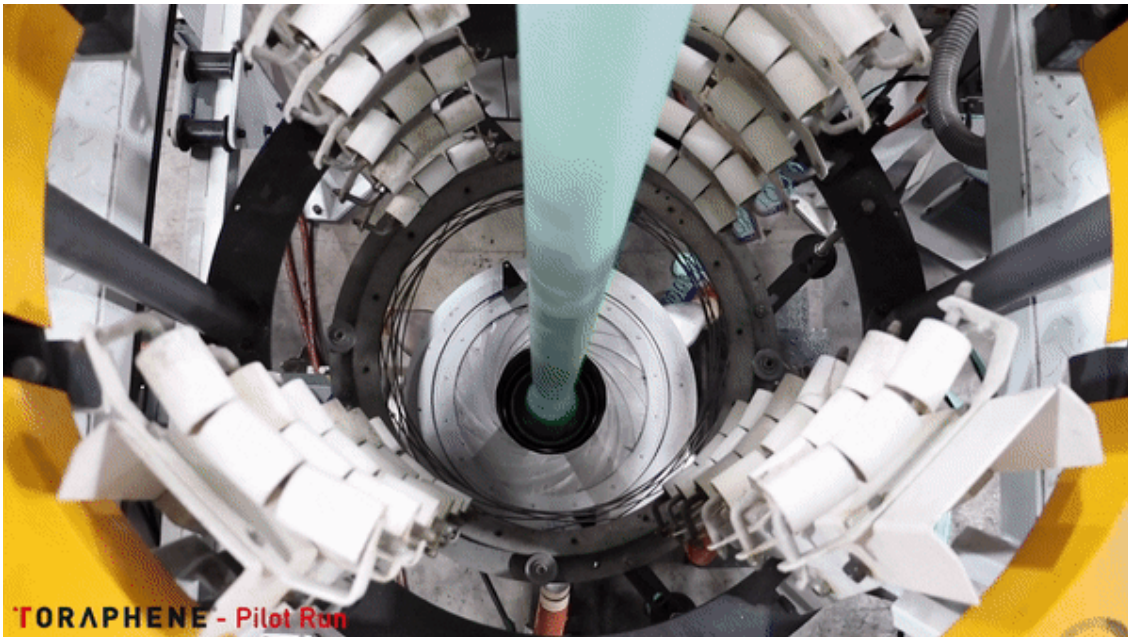
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# TORAPHENE®

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Dear Toraphene Friends and Investors

It is time again for an update, since we officially announced our early launch on [Amazon](#). We are keen to share some of the milestones we have achieved in this time and how we see ourselves progressing in the coming months!



## Scale Up of the UK

After months of iteration, and the identification and elimination of bottlenecks, we are finally confident in our ability to manufacture our product at great scale. We now have the capacity to produce over 700 tons per year and scale that by 10x in as little as three months. We can deliver direct to customers or via our recently launched [Amazon UK](#) store, which we chose to provide the fastest and leanest route to bringing our products to market.

Having overcome most challenges with sourcing, logistics, and production several months ago, we began receiving direct feedback from customers and discovered something extraordinary: Our customers told us we have solved a major problem in their kitchens that no supplier in the market worldwide could solve.

When they had used competing bags, waste leaked and quickly started rotting at the bottom of the kitchen bin liner, and that acidic, bacteria-laden liquid broke down the compostable polymers. Within 1-2 days the liquid penetrated through the bag and ended up coating the bottom of their kitchen bins with a smelly, insect-attracting glaze.

This coating sticks like glue to the bin and must be scrubbed off and then the bin must be disinfected with toxic bleach, ideally in a 30 min soak, and then rinsed, deodorized and dried before it can be used hygienically again.

Toraphene's home compostable bags are not only stronger than other compostable bags, but also have embedded barrier nanomaterials that have a unique ability to prevent leaking. It keeps the bin/caddy dry for over a week, which is well past the time necessary to remove the bag to the curb-side organic waste bin.

So the kitchen bin stays dry, and routine disinfection washing is no longer needed. Also, the kitchen remains deodorized and hygienic.

In short, Toraphene is the only company in the world that can deliver a home compostable barrier bag that is simultaneously stronger than plastic and commercially viable.

We have continually improved our positioning and listings online and are seeing satisfying growth in this highly-competitive market, where we realize we clearly have the best product on offer!

The benefits of our nanomaterial-enhanced film is confirmed by 33 paying customer reviews published on Amazon.co.uk. These customers elaborate on the reasons why we are better than the competition, and have all rated us 5 out of 5 stars available. We encourage you to buy a roll on Amazon and support us by leaving an honest review!

We also have further products in the pipeline, which we will be excited to reveal in due course.

### **Internationalisation**

Having gained new information from the market, we have been working hard to begin our first stage of internationalization. You may have seen the brief announcement of our intention to enter the United States. This has taken months of painstaking research and fact checking to identify ideal manufacturing partners to make end products in the USA.

We have now had our first test production runs which are being subjected to quality control before we prepare for a full launch in that country!

### **Patent Update**

Much progress and results have been achieved in R&D since we last updated you on this in February. Our work on the seaweed packaging innovation project has created several technology innovations and we filed a patent for this at the end of June, 2022.

We have worked on high barrier film R&D since 2015 and this has resulted in several patents we have covered earlier, but we are now pleased to announce that recent breakthroughs in innovation in this area, related to extra high barrier films, resulted in a number of innovations that we embedded in a Toraphene patent application number 7, filed in October 2022.

Regarding existing patent applications, we have been successful with yet another grant: our UK certificate of grant signed October 21, 2022 for an invention called "Biodegradable container", filed November 15, 2019.

Food packaging and food contact materials are subject to regulation in most major markets. These regulations ensure that packaging and materials which come in direct contact with food are not a source of harmful contaminants, and that they provide adequate protection against microorganisms, pests and other forms of contamination. We are also pleased to report that our

application for a TUV Rheinland certification of Food Contact for our core Toraphene home compostable film, initiated September 2021, was finally approved on April 21, 2022.

### Media update

We are proud to have been featured in various publications in the last month, which we thought we should share. This includes being [recognized as a top 5 nanotechnology companies in the packaging industry](#), as well as increased following on our channels: Instagram (over 5100 followers), LinkedIn (667 followers), and Facebook (466 followers). Please do follow us on these platforms to stay updated, and also help our own visibility in getting the word out about Toraphene!

We are nearing other significant milestones that we are not yet ready to share, but you can expect further news soon.

Watch this space!

Regards,

The Toraphene Team

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