

Stock Data

Share Price:	2.90p
Market Capitalisation:	£3.02m
Shares in issue:	104.10m
52 week high/low:	15.75p – 1.50p

Company Profile

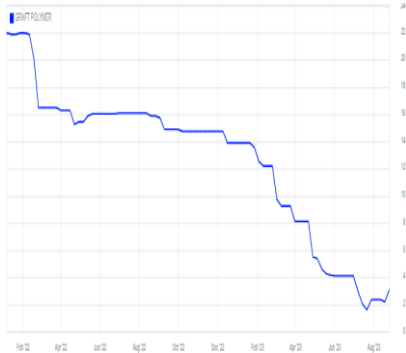
Sector:	Chemicals
Ticker:	GPL
Exchange:	LSE Standard Listing

Activities

Graft Polymer (UK) plc ('Graft Polymer', 'Graft', 'GPL' or 'the Group') is a specialty chemical business with an extensive portfolio of modified polymer solutions based on proprietary production methods.

www.graftpolymer.com/

Share price performance since Admission*



*6 January 2022

Source: [LSE](https://www.lse.com)

Past performance is not an indication of future performance.

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Graft Polymer (UK) plc

The Group's GraftBio® division has signed a manufacturing services agreement (the 'Agreement') with a prominent partner ('the Partner') in the Israeli pharmaceutical market. The unnamed customer has an innovative product whose manufacturing requires deep-seated understanding of and experience with polymers. Following a recent, successful, pilot scheme, Graft Polymer has been contracted by the Partner to produce its patented haemostatic powder at its now fully operational production facility in Slovenia, under which it will assume the role of lead contract manufacturing organisation ('CMO'). This represents an important step in the expansion of the Group's overall bio-product proposition. Having achieved its first operating cashflow positive month during 2022, on the back of GraftBio®'s receipt of a commercial-scale drug delivery order from MGC Pharmaceuticals Limited (LSE: MXC), the Group's ability to find technical solutions, for what have previously been considered intractable problems, through innovation and collaboration is clearly its unique selling point. With a number of key initiatives expected to support its drive for continued product and sales growth through the remainder of this year and next, including plans to expand global reach through the establishment of new partnerships and distribution channels in emerging markets, the Board is confident in its ability to satisfy the demands of this expanding, global market opportunity. Full year 2022 results released on 27 April 2023 noted that end-December cash/cash equivalents amounted to £1.64m; with the period's average monthly burn likely to have been sustained during H1 2023, any additional funding that could possibly be sought later this year will likely be directed toward marketing, profile raising and securing such longer-term, sticky contracts.

Contract for production of patented haemostatic powder

The partnership Graft Polymer announced today is with an innovative medical technology enterprise based in Israel, that specialises in advanced haemostasis agents and wound healing solutions. The Agreement relates specifically to the Group providing manufacturing services from its large, recently expanded, commercial-scale GraftBio® production facility in Slovenia, which is now fully operational.

Following a successful pilot scheme, the Group has been contracted by the Partner to produce its patented haemostatic powder. This is an innovative product requiring deep-seated understanding of and experience with polymers. The benefits of the product are found in its ability to change from a self-emulsifying powder to a gel on contact with blood, meaning that it can penetrate a wound and clot the blood effectively from within. As such, it has a wide range of applications and Graft Polymer will work to enhance the product in due course by leveraging its self-nanoemulsifying drug delivery system ('SNEDDS') technology. The benefits of this service agreement to Graft Polymer are:

- Leveraging the company's GraftBio® production facility to produce bio polymers as drug delivery systems for the pharma industry and become a formal CMO.
- Harnessing GPL's strong R&D capabilities for further development of the haemostatic product.

- Delivering a new material revenue stream for GraftBio®.
- Evidence of cost effectiveness and fast delivery capabilities.

This pioneering product, developed by Professor Danny Baranes from Ariel University, is a haemostatic agent which effectively stops minor to severe bleeding. Catering to a wide range of needs and applications, the product is intended use in emergency medical services, tactical and security sectors, and military medical settings, as well as for personal wound care. The Partner has a firm commitment to enhancing healthcare outcomes and is dedicated to making significant contributions to developing haemostasis and wound care solutions. The Agreement was awarded on the basis of Graft Polymer's ability to meet its requirements in terms of cost, speed of delivery and scope for R&D driven product enhancement.

Graft Polymer's product offering now includes bio/pharma and drug delivery systems

Graft Polymer launched a new division, GraftBio®, in 2020 to develop IP for bio/pharma applications, including a drug delivery system ('DDS') to support and provide solutions to the market that had been heavily impacted by the COVID-19 pandemic, in order to accelerate growth in the infectious diseases segment of the industry. Research focusses on smart self-emulsification nanostructured materials to deliver plant-derived bio and pharmaceutical active substances drugs to the target sites, with the principal aim of reducing dosage frequency and mitigating side effects experienced with traditional therapies. Back then, the division did not have its own manufacturing facility and therefore engaged in development and licensing/sale of IP for various platforms relating to the wellness (food and cosmetics) and pharma industries.

BIO BUSINESS MODEL STRUCTURE

DDS | Micro & Nano capsulation

Graft Polymer Slovenia is currently conducting research on smart nanostructured materials to deliver drugs to target sites with reduced dosage frequency and in a controlled manner, to mitigate the side effects experienced with traditional treatments.



GPL has food GMP production facilities following the granting of an HACCP certificate

Source: Graft Polymer, [Investor Presentation, March 2023](#)

The Group's novel and patented micelle technology encapsulate the particular substances in the tiniest, completely homogeneous individual parts in the shape of product. Important agents are no longer discharged broadly unused, but release their complete and planned effect by making active agents water-soluble. This method enables new potential in both the nutritional supplement and pharmaceutical markets.

The self-nano emulsifying drug delivery system ('SNEDDS') contains all API components as the lipophilic core of a micelle with emulsifiers/co-solvent and stabiliser excipients as a shell in the aqueous phase, with a globular micelle size below 50 nm. Having installed its first production line, in January 2022 the Group secured HACCP certification followed by a GMP food production licence to enable B2C commercialisation of its IP for biosupplement/pharma applications. More recently it has installed a bespoke GraftBio® product line, magnifying its potential throughput, that was fully commissioned in July 2023.

Initial customers achieve positive results from several of their own products that were based on the GraftBio®'s DDS IP. On 16 June 2022, MGC Pharmaceuticals licenced Graft Polymer's drug delivery platforms in the development of Cimetra™ (a treatment for hospitalised patients diagnosed with COVID-19) and CannEpiL-IL™ (an add-on treatment in children and adolescents with treatment resistant epilepsy, also known as refractory epilepsy) products, confirming that it has undertaken studies relating to the application of a base formulation nano delivery system founded on GraftBio® IP, to improve the bioavailability of the active compounds using a non-invasive drug administration process. The study examined the toxicity of the base emulsion to confirm its safety profile for potential use in future clinical research.

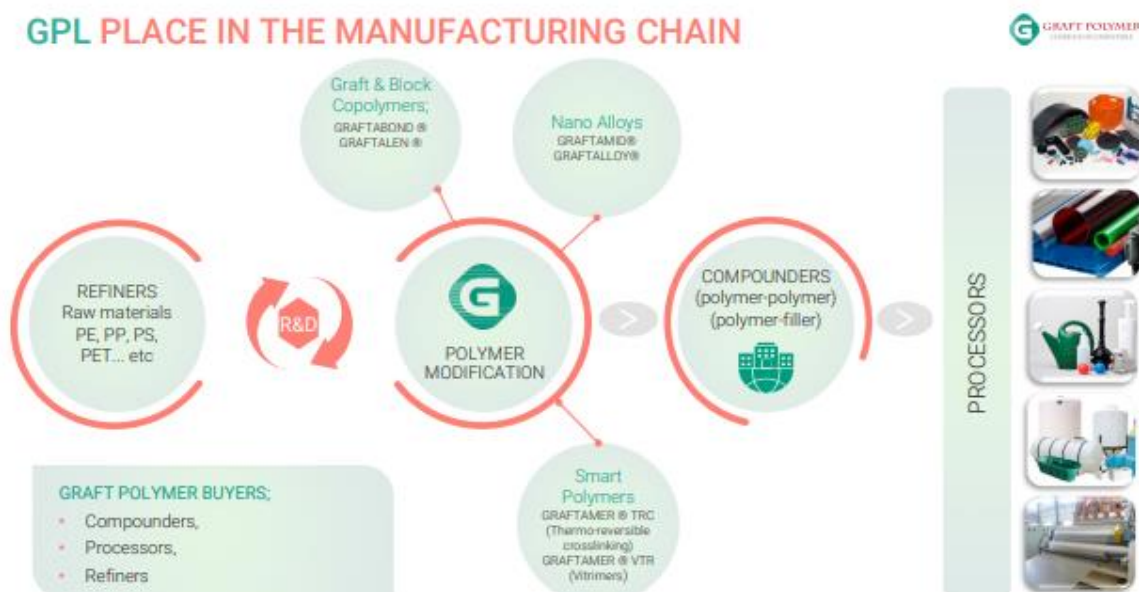
As well as highlighting Graft Polymer's role as a critical partner for MGC, whose products are being progressed through to commercialisation with potential to generate substantial future royalties for the Group, this news also significantly raises the profile of its delivery technology to the wider drug development industry, therein presenting additional opportunity for it to participate in clinical research programmes. Following this, on 18 August 2022, Graft Polymer won its first revenue generating commercial order for 50,000 units of MGC Pharmaceuticals' product, ArtemiC™ Rescue, which also uses GraftBio®'s proprietary drug delivery system. This drug has gone on to be listed as an over-the-counter drug on the US Food and Drug Administration's National Drug Code Database ('NDC'), enabling sales in the US.

Marketing specialist polymer products to refiners, compounders and processors

As a commercial supplier of polymer modifiers, the Group sells products to refiners, compounders, and processors.

- **Refiners:** Are typically large enterprises who produce virgin polymers as commodities: polyethylene, polypropylene, polyamide, etc. They often seek to upgrade their existing product portfolio or to develop some innovative grades. Typically, they apply to Graft Polymer, who in turn provides them some modifiers or masterbatches to add during their process to increase monomer content, raise modulus, increase MFI (melt flow index, relevant in processing), or improve other properties, etc.
- **Compounders:** Are direct customers of Graft Polymer. Compounders routinely produce composites, mixtures of virgin polymers, modifiers and/or fillers.
- **Processors:** composites are supplied to such parties, who produce finished or intermediate products, such as injection or compression moulded structures, pipes, blown films and packaging, etc.

Graft Polymer has positioned itself in the manufacturing chain as follows:



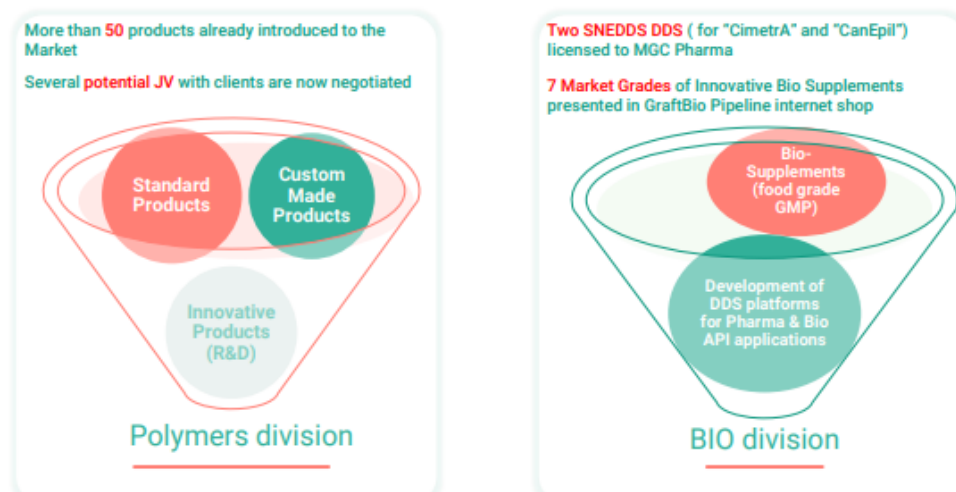
Source: Graft Polymer, *Investor Presentation, March 2023*

Intellectual Property & R&D

Graft Polymer seeks patents for its proprietary products is in line with the Group's layered IP strategy. Seven patents awarded during the FY 2022, including:

- FIPO 2765946, covering supersaturated self-nano-emulsifying drug delivery system for slightly water-soluble pharmaceutical compositions and method for its preparation;
- SIPO 26054, covering super-saturable oil-free self-nano-emulsifying drug delivery system for poorly water-soluble pharmaceuticals composition and procedure of preparation thereof;
- SIPO 26056, covering self-emulsifying concentrate of cannabinoid-ionic complex and method for its preparation;
- SIPO 26070, covering the method for industrial production of modified polymers and device for its realisation; and
- SIPO 26071, covering the method for production of a modified polymer.

GPL BUSINESS STRUCTURE & EXPERTISE



Source: Graft Polymer, [Investor Presentation, March 2023](#)

Product strategy for 2023 and 2024

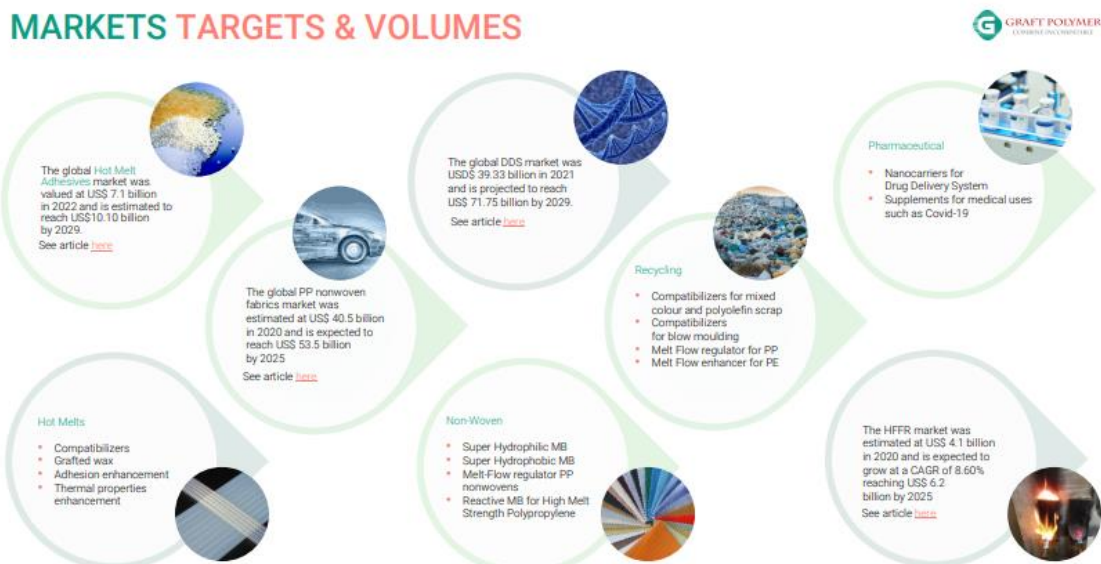
The past year of investment has resulted in Graft doubling production capacity while enhancing its competitive edge enhanced through establishment of new partnerships/distribution channels in emerging markets. This now positions it to target larger industry customers with its unique and proprietary offering. For 2023 and 2024, strategy is for current standard throughput to gradually be replaced by a much higher value-added, protected and necessarily sticky product pipeline. This includes:

- 1) Grafted Fluoropolymers powders (PVDF, PTFE)
- 2) Alloys based on Modified PVDF and Engineering Plastics (PA and PET/PBT)
 - Graftalloy F series: Hot Ozone/Plasma Module with Nauta Reactor
- 3) Nano-Infused Polymer Composites
 - Nano-fillers can be infused up to 20% (SiO₂, TiO₂, V₂O₅, Ag, Pd, CNT, Graphene etc.)
 - Multi-Functional Double Cone Vacuum Reactors
- 4) Conversion of Graphite into Graphene Oxide
 - Solvent-free method of converting Graphite into Nano-Graphene
 - a) Treatment of Graphite with Ozone
 - b) Sonification of Graphene to Nano-Graphene

Global market opportunity

Graft Polymer address subsets of two very large global markets populated by international majors. According to [Prescient & Strategic Intelligence](#), for example, the global polymer market was valued at US\$590 billion in 2021 and is expected to expand to US\$947 billion by 2030, based on a CAGR of 5.4% over the nine-year period. This is based on increasing demand for products in end-use industries, including packaging, automotive and electronics.

Elsewhere, according to [DataM market research](#) report published in November 2022, the global drug delivery devices market size was valued at US\$78.09 billion in 2021 and is estimated to reach US\$124.83 billion by 2029, growing at a CAGR of 5.6% during the forecast period (2022-2029). It recognises that continuing advances in drug delivery will help to facilitate the targeted delivery of drugs while mitigating their side effects, while key drivers include growth in metabolic disorders and pharmaceutical companies seeking innovative solutions to enhance patient compliance and/or extend existing drug patent protection.



Source: Graft Polymer, [Investor Presentation, March 2023](#)

Distribution relationships with multiple international partners

In addition to its direct sales to customers, the Group has secured distribution relationships with multiple international partners, including distributors/agents in Europe, India and Russia. These provide critical channels to market for the polymer modifier industry, providing quality assurance for potential customers as well as market volume. Prior to today's announcement, final commissioning of the Group's expanded production capacity in Slovenia had already produced two significant new operational agreements. Firstly, on 6 July 2023, a new R&D and supply agreement with Gabriel-Chemie Group, the major Austrian-based producer of masterbatch additives for colouring or imparting other properties to plastics and secondly; on 26 July 2023, a cornerstone distribution agreement announced with leading US pet product distributor, Inter-Technologies Inc., intended to leverage compelling opportunities in the country's high growth veterinary sector. Graft Polymer's Board expects to be able to secure additional arrangements in North America and other international territories in the coming weeks and months.

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