

Market Update for the Advanced Materials Sector

Issue 4: Tracking investment in emerging
advanced materials

Tracking investment in emerging advanced materials

In July of this year, a proposed superconducting material caught headlines and garnered viral attention on the internet. LK-99, developed by a team of scientists in Korea, reportedly exhibited superconducting properties at both room-temperature and ambient pressures. The simplicity of the compound led to a race for scientists (and amateur chemists) around the world to replicate the work. While subsequent studies indicate that LK-99 is not a superconductor, this episode brings a salient observation: for a brief moment, materials science news made headlines in the same way as generative AI or blockchain technology.

The attention around this material risks overshadowing the steady advancements already being made by materials science. Much of the technology we rely on today would not be possible without developments in materials, and these developments will play a crucial role in solving some of the greatest challenges of our age. Yet the multifaceted nature of materials science, compounded by intricate supply chains, often relegates its significance to a niche audience.

This edition of FMG's market update report examines the space of emerging advanced materials from an investment perspective. We have explored the complex relationship between materials development and financial investments. Following our Financial Review section, our lead article on page 9 provides a landscape of materials research, ranging from university labs to corporate R&D. Our second article on page 11 looks at government incentives that affect the advanced materials industry, such as the Inflation Reduction Act in the U.S. Our third article examines mergers and acquisitions activity driven by materials technology and the strategies that acquirers are employing.

With such a large space as advanced materials, we have undoubtedly not addressed several areas of interesting research that warrant mentioning. And given the nature of scientific discovery, the next "wonder material" may be something few people anticipated. Yet from the investments now, advancements in materials science will reshape the materials of the future and structure of the advanced materials industry.



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How does Future Materials Group define the advanced materials sector?

Creating a concise yet meaningful industry segmentation is a challenging task. Advanced materials, in particular, can have different definitions to different observers which can shift over time.

At Future Materials Group, we prefer a broad definition of advanced materials that captures a variety of technologies. In general, advanced materials tend to have the following properties:

*Advanced materials possess **intrinsic properties that offer an advantage** to the end-product or to the manufacturing process*

*Advanced materials are often **highly differentiated** and contain considerable intellectual property*

*The advanced materials market is often restricted by **high barriers to entry** created by complex processes and technical expertise*

The above criteria create a wide breadth of advanced materials, ranging from spherical metal powders for the additive manufacturing industry to specialised flavour additives for the nutrition industry. We can further analyse this sector and derive insight by applying a variety of lenses, such as exploring the underlying chemistry of the material, the functionality the material offers, the position in the value chain and the end market it serves. These lenses provide insight into

how companies develop their strategies and how investors value them.

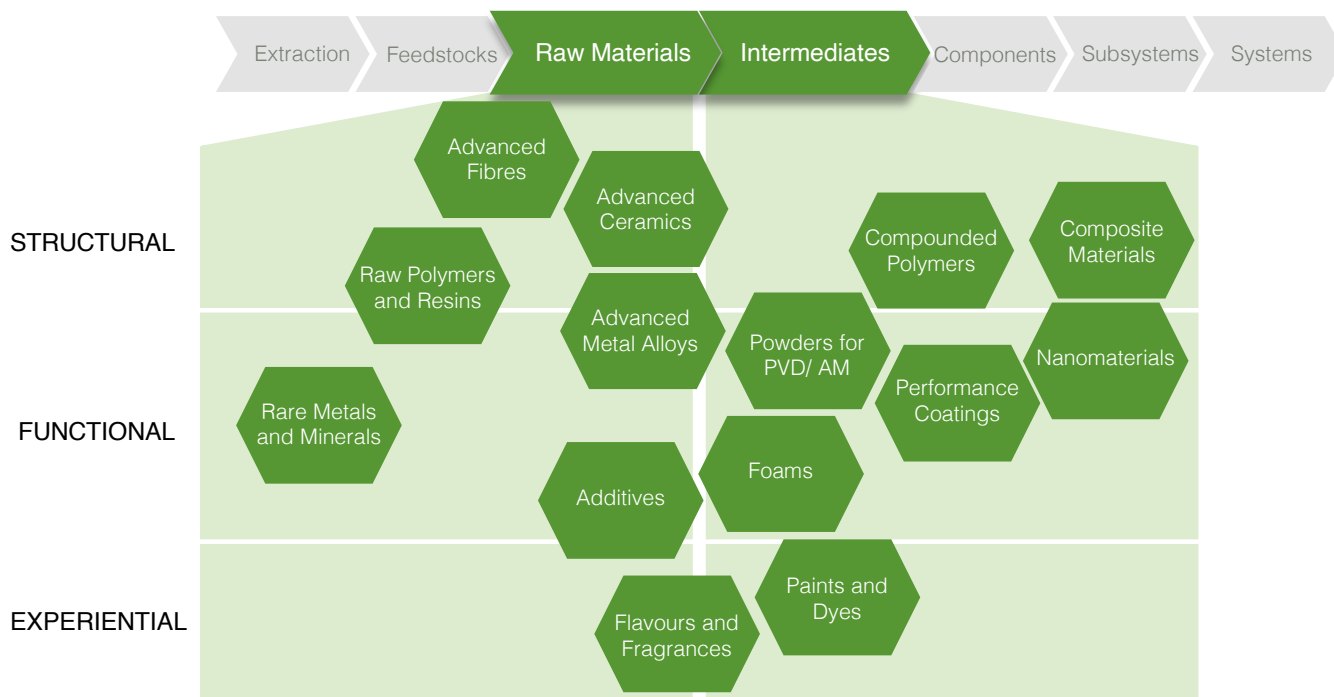
When analysing the market in this manner several commonalities emerge among advanced material companies. Advanced materials producers can often derive higher margins and are less asset intensive than their commodity chemical counterparts. As a result, advanced materials firms are typically traded at a premium in financial markets. Given the long development cycles for advanced materials, many companies use acquisitions to drive innovation and protect against commoditisation.

To monitor financial metrics within the industry, Future Materials Group has created a database of approximately 175 publicly-traded companies that helps quantify and analyse financial trends. As our focus lies with the materials industry, we focus on raw material and intermediates producers, rather than upstream feedstocks suppliers and downstream component manufacturers. The companies selected all have commercial production capacity as opposed to pure R&D firms. The chart below shows a small selection of different materials, functionality and value chain position.

Any definition of the advanced materials market is inherently dynamic as material technologies evolve over time. As some materials may shift towards commoditisation, new materials are constantly being engineered. Consequently, FMG's analysis will continue to evolve with the industry.

In our latest report, we have refreshed our lists of public companies in both the advanced material and commodity chemical sectors. As a result, you may notice small changes in the data versus our prior reports.

■ Landscape of select advanced materials



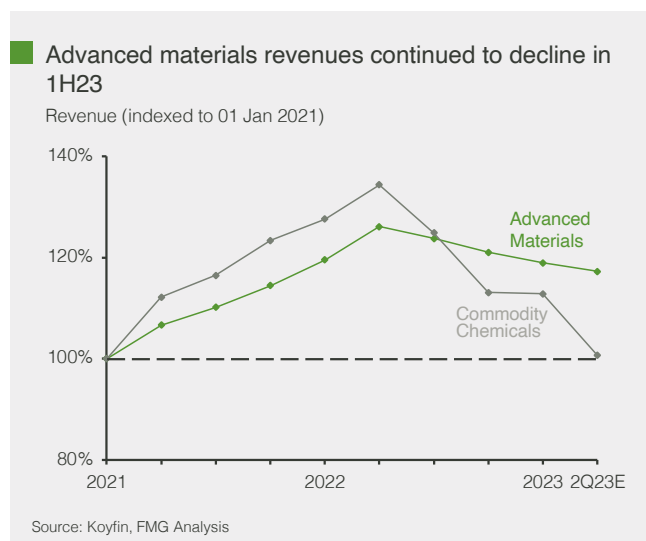
Financial Review

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Post-pandemic revenue growth reverses and stalls

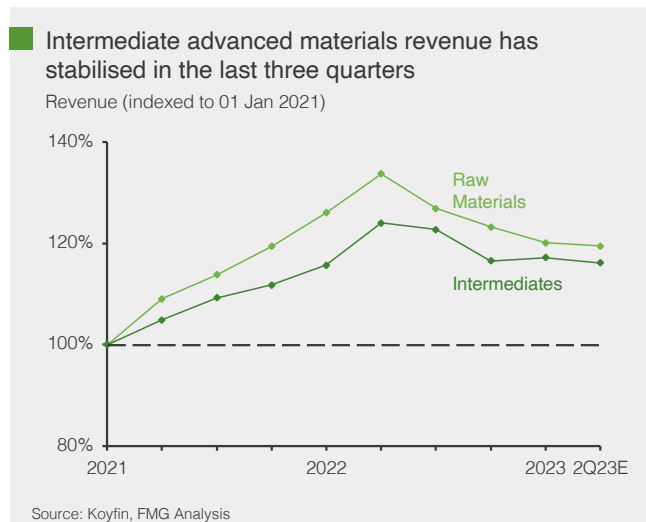
Several companies have experienced year-on-year declines

Revenue continued to decline in the first half of 2023 for many advanced materials companies. FMG's analysis of publicly traded advanced material companies found median year-on-year revenue growth to be -9%. While median growth was negative, results across the cohort were mixed with about a third experiencing a revenue increase.



Our cohort of about 50 commodity chemicals companies saw an even steeper decline, returning to levels seen at the beginning of 2021 and prior to the high inflationary period. Within the advanced materials sector, we can further divide companies into those that are further upstream in the value chain (closer to raw materials) and those that are further downstream (intermediate materials). These 'raw material' companies show a trend similar to commodity chemicals companies, while intermediates have seen more stable revenues.

Causes of the revenue decline vary by company with both price and volume decreases playing a role. Producer price



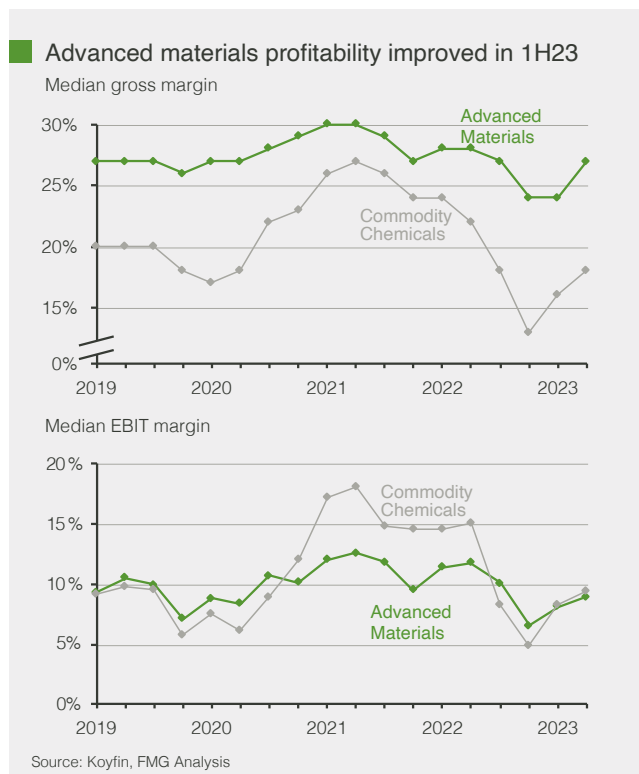
index data from the St. Louis Federal Reserve shows a fall in prices for industrial chemicals from their peak in July 2022, many of which serve as feedstocks for advanced materials. As input prices fall, advanced material producers face pressure from customers to also lower their prices. Commentary from industry players suggest that many of the price increases seen in 2022 have slowed or halted.

On top of price pressure, many advanced materials companies are facing a volume decline. Customer destocking was the most commonly cited cause of low volumes, but some advanced material companies have reported weaker demand in their end-markets. Based on our analysis of gross margins (charts shown below), FMG believes that volume declines likely played a larger role in revenue decreases than price declines.

Profitability improves in the first half of 2023

Profits remain steady despite revenue declines

After declining profitability for advanced materials in the latter half of 2022, advanced materials companies profitability has recovered back to historic levels. Companies have attributed increased profitability to a number of reasons including improved product mix and effective implementation of cost reduction measures. These measures ranged from improving operational efficiency, reducing overheads and supply chain optimisation. Lower volatility in margins of advanced material cohort is observed compared to commodity chemicals, highlighting the less cyclical nature of advanced materials industry and less exposure to commodity prices.



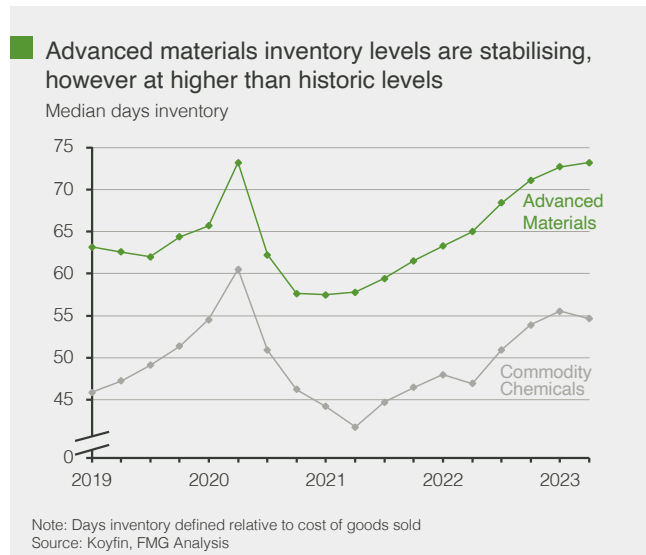
Inventory levels begin to level off after growth

Stocks remain constant, but revenue declines have pushed up inventory days

Days inventory (which we define relative to costs of goods sold) continued to rise for advanced materials companies in the first half of 2023. Median inventory days are now 10 days higher than pre-pandemic levels. However the increase is at a slower pace than throughout 2021 and 2022, with signs of levelling off.

At the start of 2022, the rise in 'days inventory' was primarily due to increases in stock levels to increase supply chain resilience. More recently, stock levels have remained stable in absolute terms, but the revenue decline shown below has resulted in fewer inventory turns than normal. Overall, advanced material companies have done well to keep inventory levels stable in the face of lower volumes.

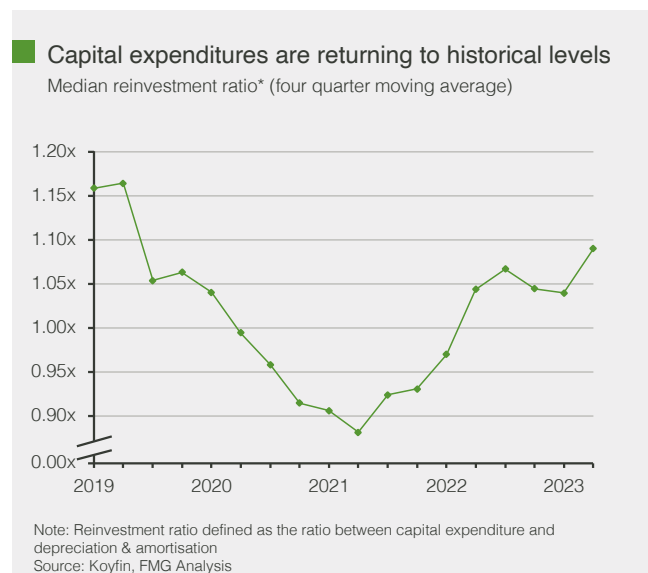
Many companies attributed high inventory levels to customer destocking. Nearly 50 companies across our cohort of advanced materials mentioned destocking in earnings calls throughout the first half of 2023. This trend is now starting to ease, with many companies stating they expect customer destocking to be over by the end of the year as demand normalises.



Capital expenditures show signs of rebounding

Accounting for inflation, there is still some room for recovery

Investment from advanced material companies has increased since pandemic lows in late 2020 and early 2021. One metric to evaluate investment is reinvestment ratio, which is the ratio of capital expenditures to depreciation and amortisation. A ratio greater than one shows that fixed assets are increasing and is typically a sign of a healthy industry. As capital expenditures can be rather volatile, FMG uses a moving average over four months in the charts shown below.



During the height of pandemic, many companies cancelled or postponed planned investment due to economic uncertainty. Even during the recovery period following, companies avoided large expansions as supply chain disruption and inflation became impediments to growth.

Since the start of 2022, reinvestment ratio has surpassed replacement rates for most companies. The first half of 2023 saw a further uplift. In periods of high inflation, reinvestment ratio tends to be higher as new equipment costs more than the depreciation of prior purchases. As a result, reinvestment ratios likely still have further to climb before reaching pre-pandemic levels.

Valuation multiples remain stable in the first half of 2023

Multiples are in line with pre-pandemic values

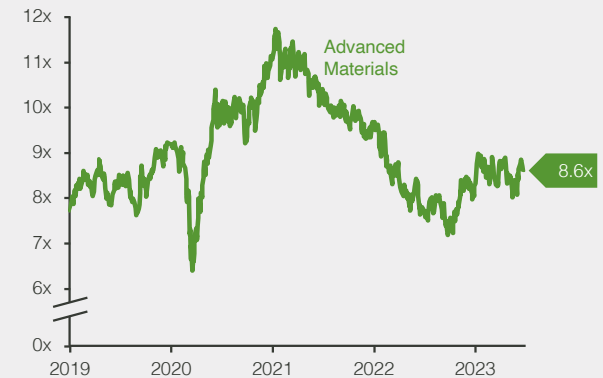
Across our cohort of advanced material companies, valuation multiples remained stable in the first half of 2023 and saw a 12% year-on-year increase. Advanced materials EV/EBITDA multiples have now stabilised around 8.6x, similar to levels seen in 2019. The valuation tends to match what is seen in the wider stock market. These multiples are forward-looking, using analyst EBITDA estimations for the next twelve months.

Polymers and Functional Electronics increased by 35% and 25%, respectively. For many of these companies, absolute valuations have not increased, but rather forward-looking EBITDAs look likely to decrease. This may reflect an expectation short-term dip in earnings on the horizon, followed by a recovery.

Variations in valuation were seen within subsegments of the advanced materials sector. Advanced materials companies in Health, Nutrition and Personal Care saw a decrease of 13% year-on-year. Despite the decline, this subsegment continues to be highly valued due to relatively high profit margins, proximity to end customers and resilience against recessions.

Advanced materials multiples have stabilised in 1H23

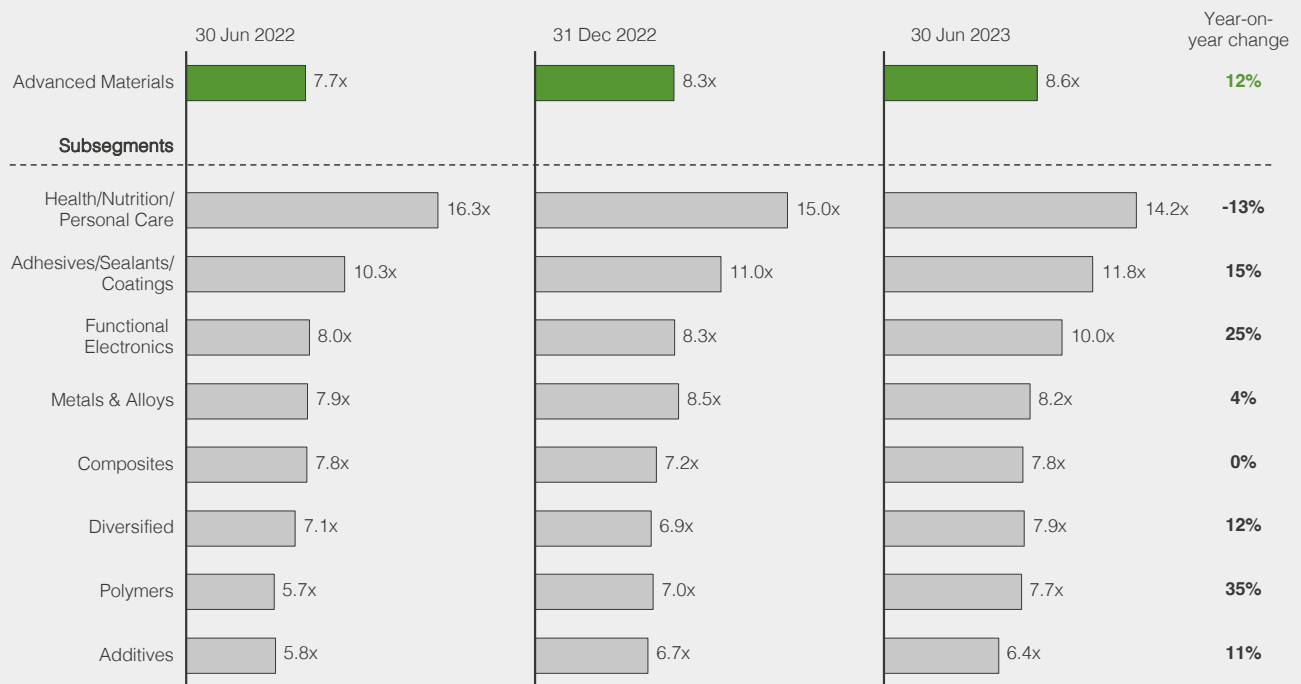
Median EV / EBITDA (next twelve months)



Source: Koyfin, FMG Analysis

Valuation multiples for advanced materials companies have remained steady over the last six months

Median EV / EBITDA (next twelve months) multiples



Source: Koyfin, FMG Analysis

M&A activity declines in the first half of 2023

Volumes have declined, but transactions are still occurring

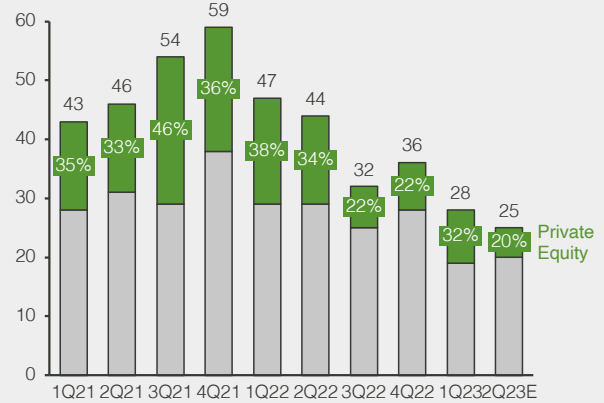
M&A activity tracked by FMG in the advanced materials sector declined in the first half of 2023. High interest rates and economic uncertainty likely contributed to a decline in volumes. This remains in line with a wider decline in M&A activity across all sectors.

Many of the deals that occurred in the first half of the year tended to be smaller, likely due to the lower risk and easier financing compared to larger deals. It remains to be seen if valuations show a correction later in the year, though data seen thus far has not shown any significant changes in valuation multiples.

Despite the slowdown, deals are still taking place and many investors are actively seeking opportunities. For corporates with strong balance sheets, the current environment may provide opportunities for pro-active M&A, where buyers can seek greater exclusivity and avoid bidding wars with other investors.

Advanced materials M&A activity has continued to decline in 1H23

Number of deals in advanced materials sector*



Notes: *FMG counts deals upon completion, rather than announcement. 3Q22 and 4Q22 number have been restated since Issue 3.
Source: Pitchbook, FMG Analysis



Market Commentary

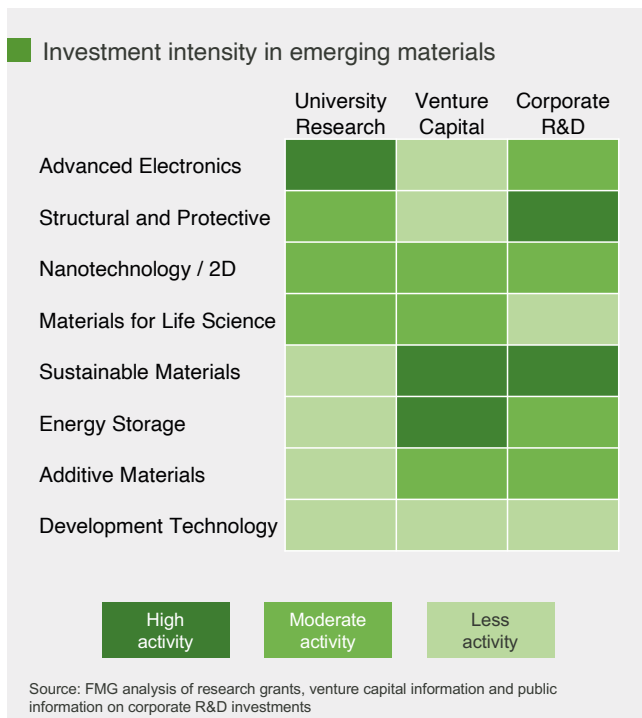
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To anticipate where advanced materials are headed in the next ten years, it is helpful to look at where investments are being made today.
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Technology investments can form an integral part of an advanced material company's M&A strategy, but understanding the rationale for these investments is key.

The landscape of emerging advanced materials

To anticipate where advanced materials are headed in the next ten years, it is helpful to look at where investments are being made today.

Investment in advanced materials typically requires a long-term perspective. While other technology sectors can rapidly scale products, reaching millions in mere weeks or months, the adoption curve for advanced materials is decidedly slower, often spanning decades. These long gestation periods in advanced materials can be both perplexing and intimidating for investors accustomed to faster turnarounds.

Yet long development times do not imply slow growth. Victrex, a UK-based producer of advanced polymers, grew at a consistent and impressive 12% CAGR over the two decades following its stock-market listing in 1995. Yet, the technological linchpin for this growth had its origins nearly 17 years prior, patented by Imperial Chemical Industries. Although the arc of innovation in advanced materials may be long, the eventual success of advanced material companies often hinges on long-term R&D efforts and the commercialisation of these discoveries.



Consequently, consistent and sustained investment in research and development is often critical for success in advanced materials. Future Materials Group has investigated investments in emerging advanced materials to understand the pipeline of innovations and the markets that drive them. Our analysis has spanned academic domains, venture capital-backed start-ups, and corporate R&D endeavours. Specifically, we have looked at investments made in Europe and North America. The data, sourced from academic grants, journals, investment rounds, and corporate R&D disclosures,

Eight selected areas of active materials research

Advanced Electronics

Materials designed primarily for circuitry, data storage or the manipulation of light.

Examples: semiconductors, photonics, spintronics

Structural and Protective

Materials that provide load-bearing support or protective properties in harsh environments.

Examples: composites, metal alloys, polymers, ceramics

Nanotechnology and 2-D Materials

Materials in which external dimensions or internal structures are on the nanometre scale.

Examples: graphene, self-assembling materials, ultra-thin coatings

Materials for Life Science

Materials designed to interact or be compatible with biological systems. For this report, we exclude active ingredients and tissue engineering.

Examples: implant materials, biomedical adhesives

Sustainable Materials

Materials designed to have a lower carbon footprint or environmental impact than the materials they replace.

Examples: bio-polymers, recycled materials

Energy Storage

Materials whose principal function is to capture energy for reuse. Includes supporting materials such as membranes in batteries.

Examples: cathode/anode materials, gas diffusion layers for fuel cells

Additive Materials

Novel materials designed specifically for compatibility with additive manufacturing technology. We focus here on materials, not equipment.

Examples: composites, advanced polymers

Development Technology

Technology that promotes the development of novel materials, often with simulation or analytical components

Examples: AI-based development, simulation tools

has led us to identify eight pivotal research areas, details of which are enumerated in the accompanying chart.

Academic research

At the university and academic research level, our analysis shows strong investment in the advanced electronics sector. Much of this investment is related to quantum computing and photonics, where the lines between materials development and hardware development are often blurry. Traditional electronic materials also feature widely, with investments in semiconductors, magnets and other materials.

Traditional structural materials are also heavily sponsored in academic research. Much of this research, however, focuses more on engineering applications rather than basic materials research. In composites, for example, several researchers focus on production technology and lowering cost, allowing these technologies to serve wider market applications.

Start-ups and venture capital

Start-ups in the advanced material sector face a unique challenge. They must produce unique and differentiated technology, but also must demonstrate commercial viability in

timeframes that can be tolerated by investors. As a result, start-ups tend to focus on large, established markets that are undergoing rapid technological change.

Energy storage and sustainable materials are two of those end-markets. In the former, many start-ups focus on novel battery chemistries for electric vehicles. These innovations aim to address multiple challenges - from elevating performance to ensuring sustainability and fortifying supply chain robustness. With a shift towards electric vehicles and strong national interest in supporting local supply chains (see further information in the next article), significant investment is pouring into these areas from governments and venture capital alike.

For sustainable materials, many companies focus on bio-derived chemistries or the use of recycled materials for feedstock. Several target the packaging industry where waste is high, but a growing number are concentrated on more advanced, high-performance applications.

Unlike academic research, fewer start-ups are aligned to advanced electronics. There are several reasons for this – first, much of the discovery involves more fundamental research which is further away from commercialisation; second, the technology required to conduct this research is often capital-intensive, which is a barrier for start-ups; finally, scale matters in the electronics industry. Manufacturers of devices rely on large, established players with reliable supply chains and strong balance sheets. As a result, many of these companies are reliant on larger players to bring their technology to market.

Large corporate R&D

For corporate players, structural and protective materials continue to be an active area of research and development. As these materials and end-markets tend to be more mature, they are well-suited to the incremental innovation of corporate R&D programmes. Composite materials, advanced polymers and coating technology remain strong areas of investment.

Much research into sustainable materials focuses on drop-in solutions for existing products. Often, these chemistries are partially bio-derived, with specific component ingredients replaced by natural sources. These drop-ins tend to be easier to commercialise than entirely novel chemistries and can serve the company's existing customer base.

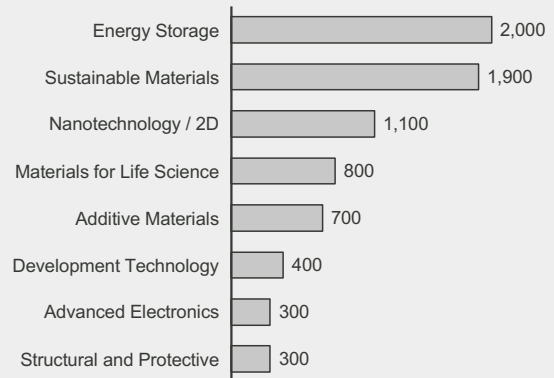
Future Materials Group found less emphasis on life science than other sectors, but the area is still highly active. Much of this research is also performed at large pharmaceutical and biomedical companies, who have been excluded from the analysis to focus on materials while avoiding active pharmaceutical ingredients and therapies.

Accelerating development and adoption

Development technology, which encompasses tools and techniques for developing novel materials, remains less active than other research areas. However, this may be starting to change. At the academic level, projects such as the Materials Genome Initiative attempt to assist in the discovery of new

Venture capital investments in emerging materials

Venture capital funding in North America and Europe
between 2018-2022
USD millions

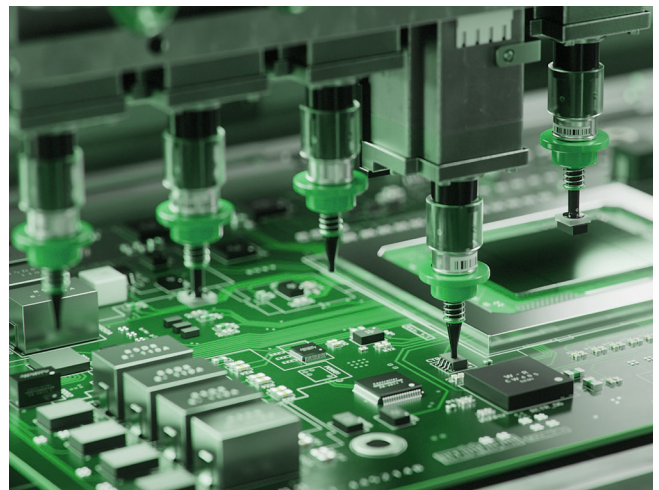


Source: Pitchbook; FMG analysis

materials and sharing of data. Advancements in AI, particularly with deep-learning, are enabling better tools for predicting the properties of new materials without expensive synthesis and testing. As these tools develop and more data becomes available, they have the potential to accelerate development of materials across research areas.

In parallel, the areas of active research may also have an impact on adoption cycles. Historically, advanced materials were utilised by industries with longer innovation cycles, such as aerospace or medical industries where regulation is high. Advanced electronics, energy storage, and sustainable materials tend to serve markets with relatively fast adoption cycles. With strong investment in these areas, they may begin to slowly shift the paradigm for materials adoption.

Past and current investments in research, whether in academia, start-ups, or established corporations, set the tone for the industry's future trajectory. While the foundation is built on long-term strategies, the opportunities ahead may materialise faster than we anticipate.



Government incentives shift the boundaries of supply chains for advanced materials

New legislation impacts the far ends of the value chain, and it remains to be seen how advanced materials companies will adapt.

In July 2023 IperionX, a materials company listed in Australia, announced a partnership with metal recycling company Apernam. Together, the two companies plan to develop a titanium supply chain entirely based in the U.S. As the U.S. relies on imports for nearly all of its titanium sponge supply, IperionX and Apernam are creating a supply chain based on recycled materials, thereby reducing the need for imports and lowering the carbon emissions of the material.

This partnership is indicative of a larger trend in the marketplace. With disruptions following the pandemic and invasion of Ukraine, companies are seeking out more secure and localised supply chain solutions. Companies are doubly incentivised if the new supply chain can be made more environmentally sustainable as a result. With governments keen to promote and secure domestic industries, a raft of legislation has been created to provide further incentives to businesses.

New legislation

One of the most impactful pieces of legislation was the Inflation Reduction Act (IRA), which was signed into law in the U.S. in August last year. The bill included several incentives for companies involved in the manufacture and implementation of clean energy solutions, including solar energy, carbon capture facilities and electric vehicles. Underpinning much of this development is USD 37 billion investment in

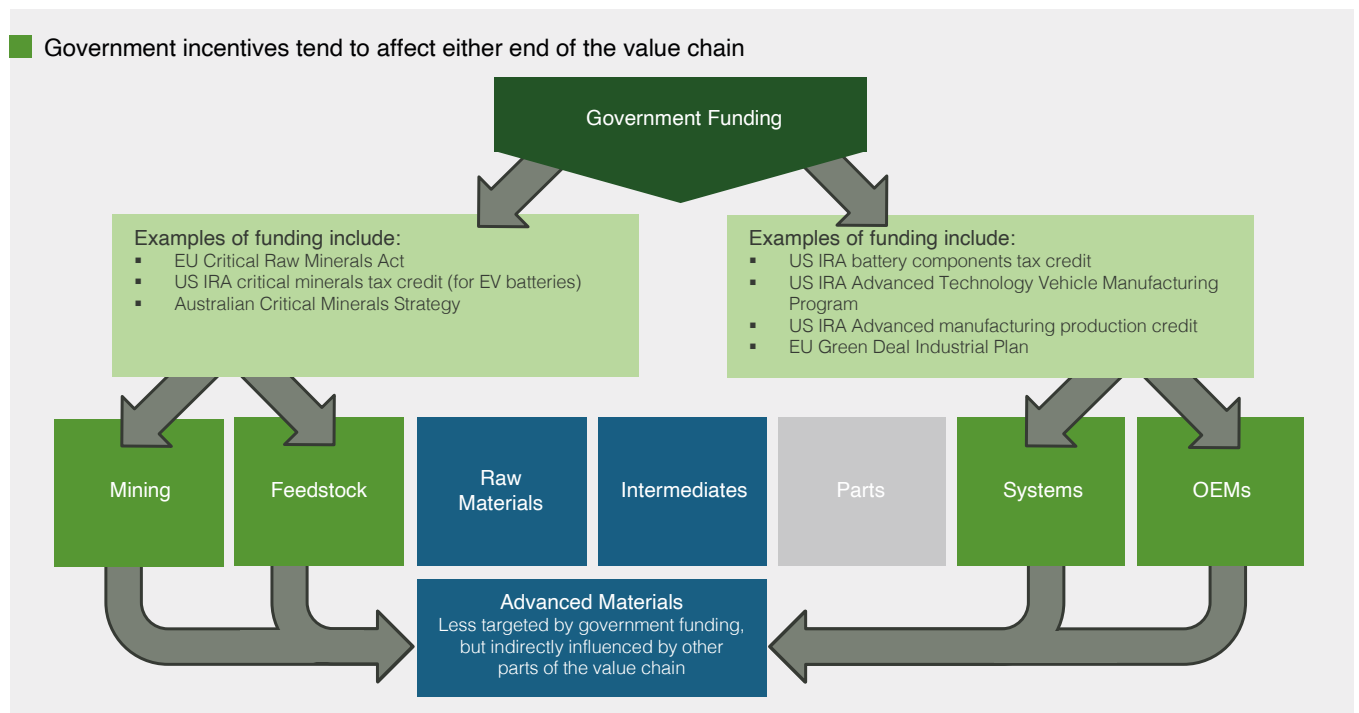
advanced manufacturing. Europe has responded with a series of legislation, though not at the same scale as the U.S. The impact of the IRA and similar legislation has been strong and fast. Jane Toogood, Sector Chief Executive at Johnson Matthey, a specialty chemicals company, stated to investors in July, “The 2022 U.S. Inflation Reduction Act, the world’s largest incentivization package for clean energy, is a fundamental game changer, driving investment and demand.”

Impact on advanced materials

Some of these incentives have a direct impact on advanced materials. For example, the recent CHIPS Act which targets semiconductor production provides USD 52.7 billion in funding, USD 13.2 billion of which will go towards R&D and the development of the workforce. For smaller businesses, R&D credits have been increased under the IRA.

Yet despite the volume of legalisation, little has a direct impact on advanced materials companies and materials research and development. Instead, the legislation tends to target the beginnings and ends of the value chain (see the figure below). Upstream in the value chain, companies have incentives respond to demand with locally sourced minerals and manufacturing equipment. By 2024, the IRA requires electric vehicle batteries to have 40% of materials sourced from the U.S. or approved trading partners to be eligible for a USD 7,500 tax break per vehicle. As a result, mining companies are investing in domestic processing plants at a rate that has surprised long-time industry observers. At the far end of the value chain, OEMs are incentivised to invest in green industries and use localised components.

Advanced materials companies, however, tend to sit in the middle – too far downstream to benefit from critical mineral legislation yet too far upstream from end-market incentives.



Shifting supply chains

That’s not to say that there is no impact on advanced materials. Rather, advanced materials companies tend to be affected in indirect ways as they respond to movements in the core value chains. Overall, we see three major impacts of new legislation:

First, government incentives will accelerate green industries, where advanced materials play a critical role. The wind energy sector is reliant on advanced composites, and electric vehicles could not exist without modern cathode and anode materials. For advanced material companies aligned to these sectors, these incentives could drive additional demand growth over the next decade.

Second, legislation can geographically shift both the suppliers and customers of advanced material companies. As governments put more emphasis on domestic production, supply chains will need to adapt. Many sustainability-driven supply chains, such as batteries for electric vehicles, are heavily reliant on Asia. With the incentives of new legislation, these may start to shift closer towards local demand.

This change can create opportunities for advanced material companies, but it can also create threats to incumbents. In an analyst call in April, Covestro CTO Klaus Schäfer acknowledged the challenges facing the German specialty chemicals industry due to energy prices, yet also commented on the effect of local incentives: “A danger of deindustrialization, therefore, cannot be ruled out, especially given that other regions are already employing positive and unbureaucratic incentives. The most recent measures taken by the U.S. government are a good example such as the Inflation Reduction Act.” Incumbent players will need to determine how to respond to these changes, keeping in mind their existing asset base.

Third, these shifts in incentives create new opportunity for advanced material innovation. As seen with the IperionX and Apernam partnership, creating sustainable and local supply chains often requires a different set of technology than what is currently employed. As major OEMs rebalance and rethink their procurement, opportunities exist for companies with the new solutions.

Outlook advanced materials

To date, FMG has seen little evidence of significant shifts in advanced material manufacturing due to the IRA. Many of the localisation efforts we have seen had already begun prior to the new legislation. Yet there may be a lag between advanced materials and the rest of the value chain. As shown in the chart to the right, spending on manufacturing construction in the U.S. has risen dramatically in 2022. Even adjusted for inflation, the level of spending is far above historic levels. If significant manufacturing capacity is created in the U.S., it is likely that some advanced materials companies will follow suit to remain competitive.



In a rapidly transforming global landscape, the interplay between legislation and supply chains reveals a clear shift towards a future built on sustainable, localised industries. The forces of government incentives, the need for security, and environmental concerns are steering industries towards innovative solutions that prioritise both local sources and green technology. Advanced materials companies, poised at the crucial intersection of these dynamics, are presented with both opportunities and challenges. While current legislative frameworks may not directly target advanced material companies, their indirect influence is profound, pushing them towards innovation and adaptation. As supply chains evolve, those companies that can anticipate and adapt to these shifts will be the ones to set the benchmark for the future.



The intersection of M&A and emerging materials

Technology investments can form an integral part of an advanced material company's M&A strategy, but understanding the rationale for these investments is key.

Mergers and acquisitions (M&A) have long been a cornerstone of the advanced material sector's growth strategy. As development and commercialisation cycles can last years, M&A often presents a quicker route to growth than purely organic methods.

Several drivers can push companies towards M&A activities within the advanced materials domain. Some might seek market consolidation, while others target improved supply chains or geographical expansion. Many of these motivations focus on refining the business structure or optimising industry position.

Motivations for technology acquisitions

Some players, however, specifically target advancements in new materials technology in their M&A strategy. A recent investigation by Future Materials Group, involving hundreds of transactions over the past five years, provides insights into the principal motivations behind these M&A activities. In general, these tend to fall into the following themes:

- **Growth platform:** In this strategy, the company branches out into new technology with few direct synergies to their existing business. These investors often focus on adjacent markets, and familiarity with the target market plays to their advantage. For instance, in 2018, Pellan Group's EUR 18 million investment in graphene start-up BeDimensional leveraged Pellan's experience in the advanced materials sector to help BeDimensional accelerate their own development and commercialisation.
- **Technology Access:** Strategic investments can grant firms access to new technology which offers an edge over competitors. For example, in 2023, ITP Aero acquired 10% of BJS Ceramics, a key supplier of SiC Fibers. ITP stated the acquisition "allows ITP to access SiC Fibers and accelerate its strategy to develop components derived therefrom with a secure all-European supply-chain."
- **Demand Generation:** Companies may invest in technology that amplifies demand for their own products. In 2019, Victrex (a producer of PAEK polymers) invested in Bond High Performance 3D (a producer of 3D printing technology for PAEK materials). Bond's technology has the potential to significantly expand the market for Victrex's primary products.
- **Future-Proofing:** Ensuring longevity in a rapidly evolving market means staying ahead of potential disruptions. Over the past five years, FMG has seen several investments in material recycling technology. These investments strengthen companies' sustainability goals while ensuring long-term access to raw materials.

These motivations are not mutually exclusive. Often, firms combine these strategies in their acquisition rationale. Toray's 2018 acquisition of TenCate exemplifies this blend: they diversified into thermoplastic composites, gained access to competitive technologies, explored new verticals for their carbon fibre business, and future-proofed against an evolution towards thermoplastic technology. As the result, the acquisition sold for 19.8x EBITDA multiple, considerably above the industrial sector's average.

Aligning motivation and strategy

For strategic investors, technology scanning can form an important part of their broader M&A and corporate strategy. This often involves setting a clear definition of where technology can provide synergies for the business. At the same time, strategic investors also need to understand what capabilities they can bring to acquisitions and why they would be the best owners of that technology.

Element Solutions, an advanced material producer serving the electronics segment, sees opportunity to bring their scale to assist in the commercialisation of new materials. At the 2023 Bank of America Securities Global Agriculture and Materials Conference, CEO Benjamin Gliklich noted that entering new markets organically can be daunting for start-ups where supply chain reliability is critical:

"You can't enter these markets organically. The moats around these capabilities are gigantic. No one's going to try a new material for Apple for a new phone, where reliability is taken for granted. So you're only going to have success if you have some proven capability. And that's why we do these small tuck-ins and then grow organically off of them, and that's worked for us."

For advanced material start-ups seeking to raise capital, understanding how their strategy aligns with a potential investor is critical. It not only helps in positioning for investment but also ensures that the synergy derived from a union is mutual. This alignment is especially important for strategic investors, where differing agendas can critically impact the start-up's trajectory.

Part of a portfolio

Not all M&A activities need to incorporate a technology element, and strong technology differentiation may not align with an advanced material producer's core strategy. But for those companies seeking out high-growth opportunities, emerging materials companies can offer a pathway - particularly when it complements existing IP and strategic initiatives.

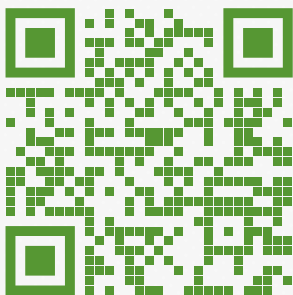
At Future Materials Group, we see many companies incorporating technology acquisitions as part of a portfolio of M&A opportunities. Given the nature of emerging materials technology, these opportunities can be difficult to predict and may arise unexpectedly. But by scanning the market and being clear on strategic objectives, companies that can navigate technology-driven M&A can create strong and defensible differentiation in the advanced materials industry.

About FMG

Future Materials Group is an independent strategic growth advisory firm, specialising in the advanced materials and high value manufacturing sectors. Working globally, the company helps businesses at all stages of their development, from start-up to maturity, to create and increase value through rapid yet manageable growth.

Our advisory work is entrepreneurial, with unparalleled insight into markets, technologies, and trends that span our three practice areas: Strategic Growth, Mergers & Acquisitions, and Growth Finance. Trusted by business owners, boards of directors, and senior executives to define the right strategic priorities for growth, Future Materials Group delivers innovative strategies and solutions to make lasting and meaningful impact.

If you would like to learn more about our analysis or have any feedback on our market update, please contact us at info@futurematerialsgroup.com



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