

J&A Sell-Side M&A Report

Composite Materials Manufacturing and Technology M&A Transactions and Valuations

November 2024

AUTHORS



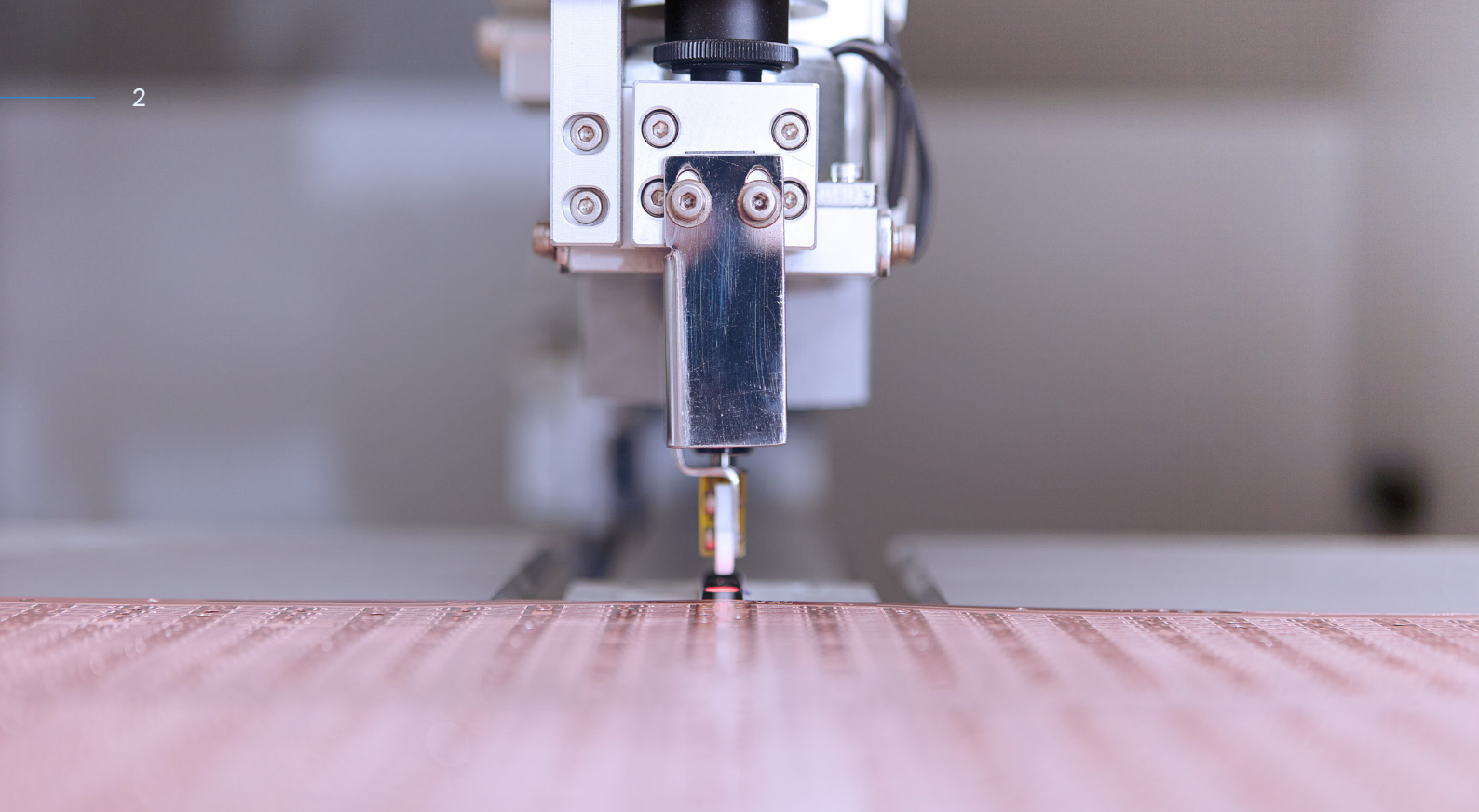
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Advancements in composite materials technology and the increasing demand for high-performance, sustainable solutions have driven M&A activity in the composite materials manufacturing and technology sector. This analysis covers transaction trends, valuation metrics, and regional dynamics, including variations in market maturity, regulatory frameworks, and industry specialization across key regions, from Q1 2020 to Q3 2024, focusing on key drivers of market consolidation. It examines capital flows and deal structures, and highlights notable case studies to provide insights into the sector's evolution. Additionally, M&A valuation multiples, including EV/revenue and EV/EBITDA, are explored to offer a comprehensive look at market trends, valuation patterns, and significant outliers.

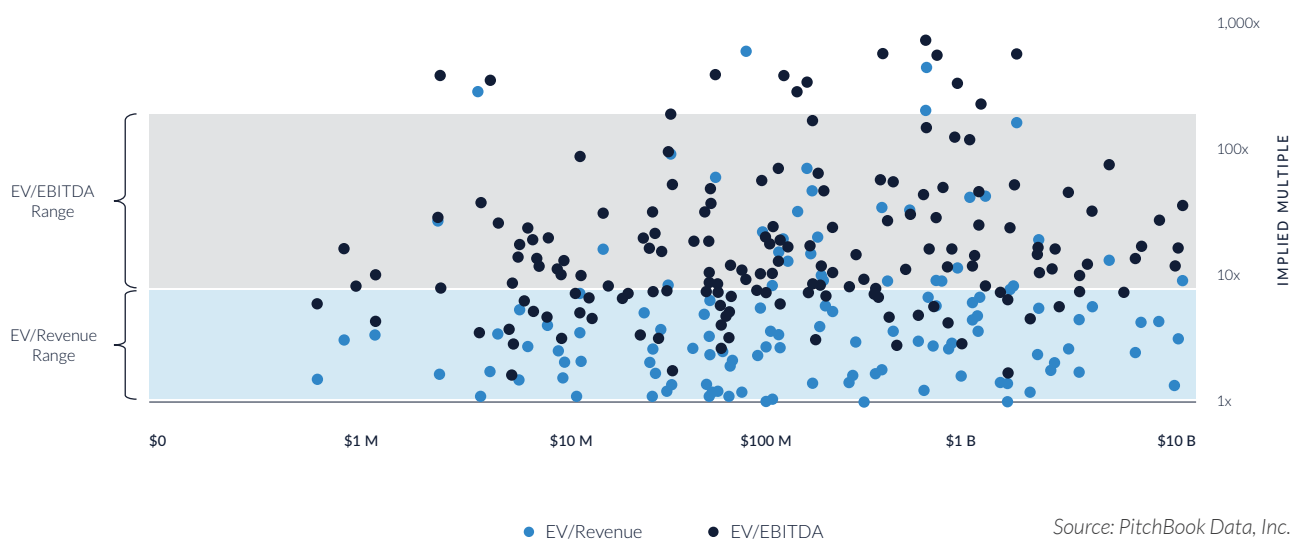
M&A activity has surged in response to the growing demand for lightweight, durable, and high-performance materials, underscoring the sector's increasing importance as it advances in aerospace, automotive, and electronics. Key transactions, such as Michelin's acquisition of Flex Composite Group, Avient's purchase of DSM Dyneema, and Arkema's investment in PI Advanced Materials, illustrate the strategic acquisition rationale behind these deals.

This report provides valuable insights for financial advisors, entrepreneurs, and executives seeking to understand M&A activity and valuation trends within the space.

VALUATIONS

The chart below presents valuation multiples from M&A transactions in the composite materials manufacturing and technology sector. It displays the relationship between enterprise value and key metrics such as EV/revenue and EV/EBITDA. The data provides insights into market valuations, highlighting M&A trends, clustering patterns, and high-value outliers.

Transaction Valuation Multiples in the Composite Materials Manufacturing and Technology Sector Analysis (Q1 2020 – Q3 2024)



*The X- and Y-axes have been converted to a logarithmic scale to better visually represent the data.

EV / REVENUE

MEAN

16 X

MEDIAN

2 X

MINIMUM

1 X

MAXIMUM

597 X

EV / EBITDA

MEAN

51 X

MEDIAN

12 X

MINIMUM

1 X

MAXIMUM

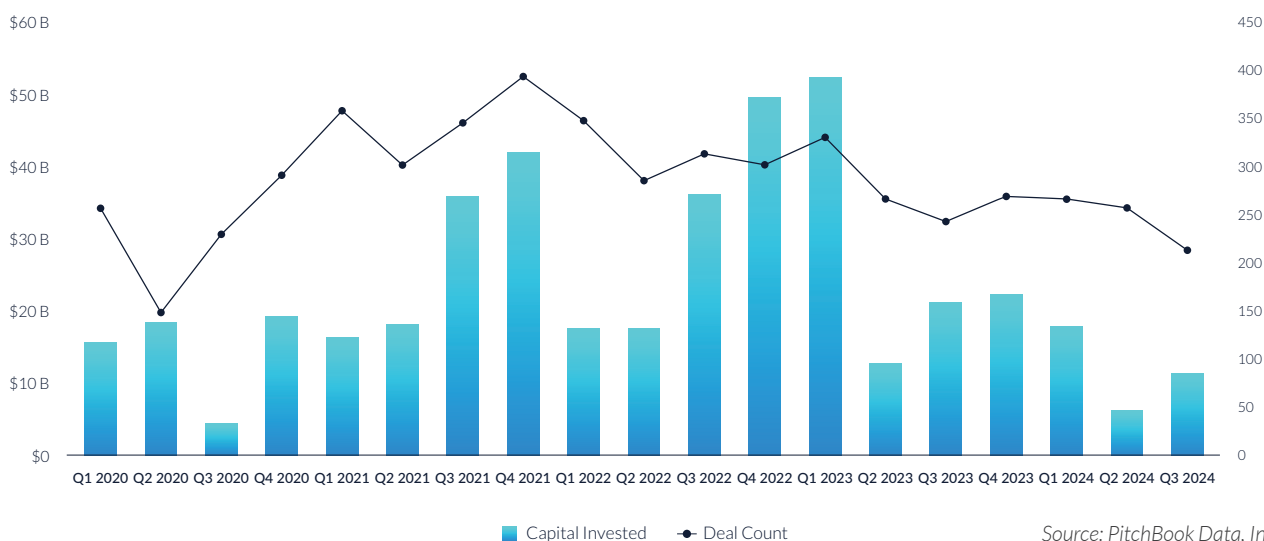
749 X

- The valuation multiples are derived from a sample set of private and public M&A transactions within the composite materials manufacturing and technology sector. The data was collected on November 14, 2024.
- Valuation multiples for smaller companies under \$100 million EV vary significantly due to diverse financial profiles, strategic value from niche technologies, and market potential. Larger firms with over \$1 billion EV maintain more consistent multiples, reflecting stable and predictable financial performance, which reduces variability in M&A valuations.
- EV/EBITDA multiples remain higher than EV/revenue multiples across all EV ranges, emphasizing the greater importance of profitability, as captured by EBITDA, over revenue. Buyers favor operational efficiency and cash flow generation, especially in deals with larger companies.
- M&A activity concentrates in the \$10 million to \$1 billion EV range, highlighting a strategic focus on mid-sized companies. These targets balance growth potential with manageable risk, offering scalable opportunities that attract buyers aiming to drive synergies and boost overall profitability.

CAPITAL MARKETS ACTIVITIES

Transaction trends, valuation metrics, and regional dynamics in the composite materials manufacturing and technology sector have fluctuated over the period covered in this report. The analysis includes a review of capital markets activity, such as investment trends and deal volumes, and an examination of how shifting market conditions and economic uncertainty have influenced capital investment and transactional activity. Additionally, the geographic distribution of transactions and deal types are evaluated to determine their impact on M&A dynamics.

Announced M&A Transactions in the Composite Materials Manufacturing and Technology Sector (Q1 2020 – Q3 2024)

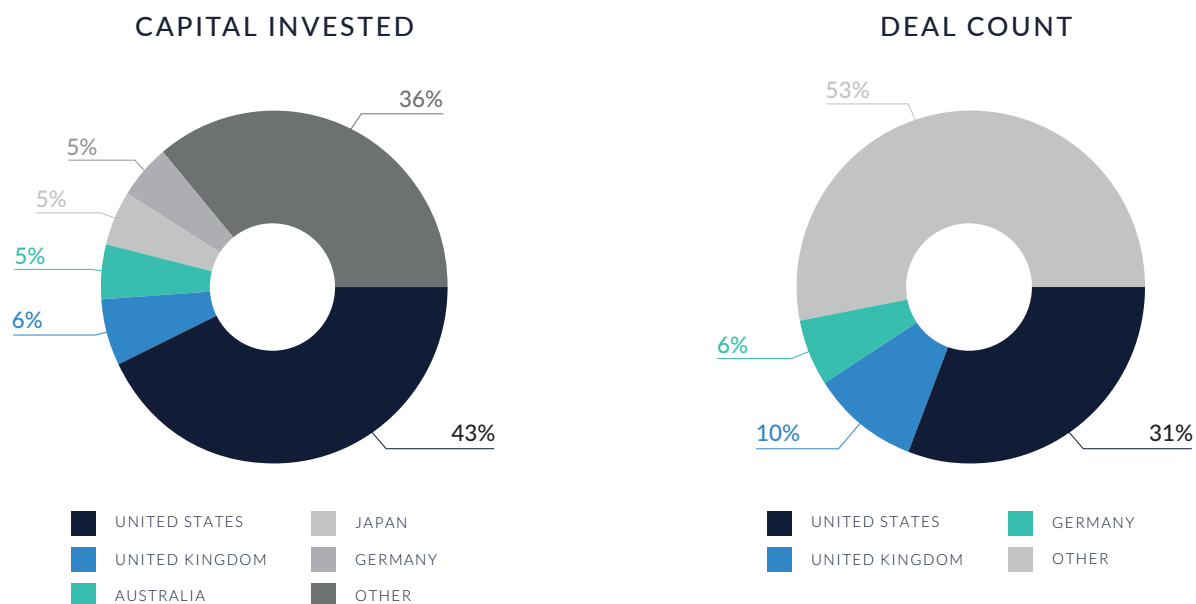


- Between Q1 2020 and Q3 2024 more than \$430 billion was invested into the composite materials manufacturing and technology sector across 5,394 deals with an average deal size of approximately \$80 million.
- Capital investment during this period peaked in Q4 2022 and Q1 2023, likely driven by heightened market confidence, strategic acquisitions, and investments in transformative technologies that advanced production efficiency, material performance, or sustainability. These surges suggest acquirers targeted high-value companies with strong growth potential, fueled by post-COVID economic recovery, rising demand for light-weight materials, and government incentives for sustainable manufacturing.
- Capital investment remained stable until Q3 2024 despite a decline in deal count from mid 2022, indicating a shift toward larger, high-value acquisitions focused on technological or operational synergies. This trend reflects strategic sector consolidation, driven by rising interest rates, economic uncertainty, and higher valuation expectations, which discouraged smaller deals.
- M&A activity experienced a sustained decline from mid 2023, with sharper drops by Q3 2024, likely due to market saturation, tightening credit conditions, and cautious investor sentiment amid global economic uncertainty. This slowdown, driven by factors such as inflation and geopolitical instability, could hinder industry innovation and growth, shifting focus toward organic expansion over acquisitions.



The graphs below present the geographic distribution of transactions, providing additional detail on regional trends and investment dynamics in the composite materials manufacturing and technology sector.

Breakdown of Announced M&A Transactions in the Composite Materials Manufacturing and Technology Sector by Country (Q1 2020 – Q3 2024)



Source: PitchBook Data, Inc.

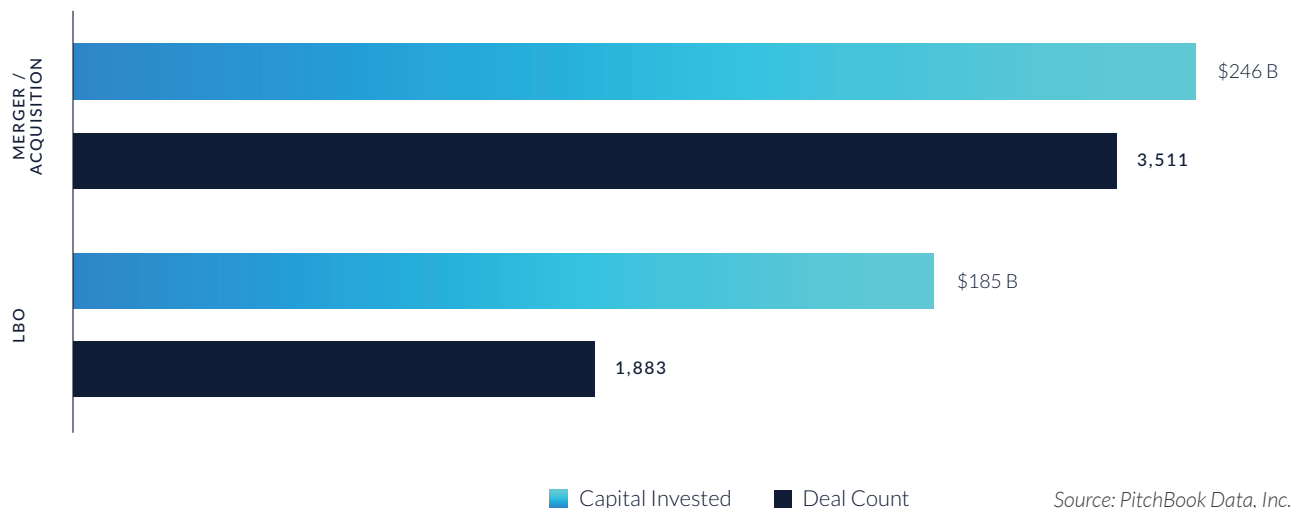
- US-based acquirers dominated the M&A landscape in the composite materials manufacturing and technology sector, contributing 43% of the total capital invested but only a third of the total deal count. This concentration underscores the strategic importance of the US market while indicating that a substantial number of transactions are occurring internationally.
- The UK and Germany contribute similarly to capital invested, at 6% and 5%, respectively, but differ in deal count: the UK's 10% reflects a fragmented market of smaller

firms, while Germany's 6% indicates fewer, higher-value transactions driven by its industrial and manufacturing sectors. These differences highlight regional variations in Europe's deal activity and value, shaped by diverse industry foci and market structures, with Germany's emphasis on manufacturing playing a key role in its transaction profile.

- The prevalence of smaller deals in other countries highlights growing interest in emerging markets or niche opportunities where M&A activity supports local or regional growth strategies.

The deal-type dynamics below provide a framework for analyzing how capital flows and strategic priorities influence the growth and landscape of the composite materials manufacturing and technology sector.

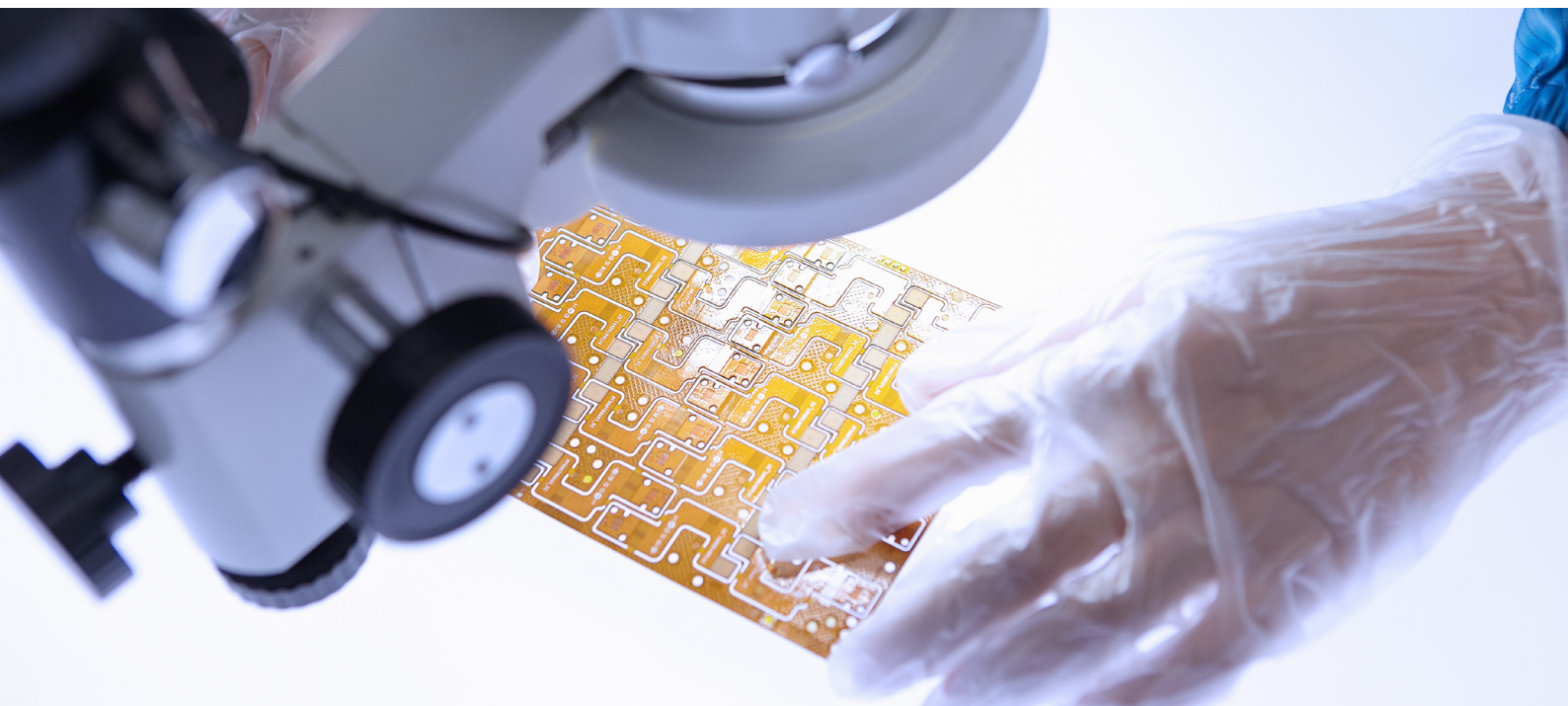
Breakdown of Announced M&A Transactions in the Composite Materials Manufacturing and Technology Sector by Deal Type (Q1 2020 – Q3 2024)



- Mergers and acquisitions accounted for \$246 billion in capital, exceeding the \$185 billion invested in LBOs. Higher valuations in M&A reflect their role in consolidating market position, expanding capabilities, and acquiring advanced technologies, while buyouts primarily involve financial restructuring.
- There were 3,511 M&A transactions and 1,883 LBO deals, indicating that M&A is the dominant growth strategy. This trend aligns with the consolidation requirements of a competitive market. In contrast, the lower volume of LBO activity reflects the higher risks associated with leveraging companies in this specialized industry.
- Buyout deals involve higher capital despite fewer transactions, reflecting a larger average deal size of approximately \$98 million per deal. Private equity firms actively target cash-flow-positive companies in the sector, focusing on mature firms with stable earnings and growth potential to support leveraged buyouts.

M&A TRANSACTIONS CASE STUDIES

Three key transactions highlight how M&A activity underscores the sector's strategic significance as companies pursue acquisitions to strengthen market positions and foster innovation.



CASE STUDY 01

PIAM



PI Advanced Materials (PIAM) is a leading South Korean company specializing in polyimide films used in industries such as electronics, aerospace, and automotive. They are known for their high-performance materials used in flexible displays, semiconductors, and other advanced technologies.

TRANSACTION TYPE	DEAL DATE	ACQUIRER
M&A	DECEMBER 1, 2023	ARKEMA INC.
ENTERPRISE VALUE	EBITDA MULTIPLE	
\$741 MILLION	25 X	

TRANSACTION STRUCTURE

Arkema acquired a 54% controlling stake in PIAM from Glenwood Private Equity for \$741 million, allowing full consolidation into its financial statements, while the remaining 46% of shares remain listed on the Korean stock exchange.

MARKET AND CUSTOMER SEGMENTS COMBINATION

The acquisition combines PIAM's leadership in polyimide films, known for their high performance and heat resistance, with Arkema's expertise in high-performance polymers, creating a robust portfolio of advanced materials. PIAM's strong presence in electronics, aerospace, and automotive complements Arkema's existing markets, allowing the combined entity to serve a broader range of industries. This integration expanded Arkema's customer base to include PIAM's established relationships with global leaders in semiconductors, flexible displays, and electric vehicles, enhancing its ability to meet the evolving needs of high-tech and sustainable applications.

ACQUISITION STRATEGIC RATIONALE

Arkema's acquisition of PIAM supported its strategic objective to expand its high-performance polymer portfolio and seize growth opportunities in advanced electronics and electric mobility. As a global leader in polyimide films, PIAM delivers innovative materials for critical applications such as 5G antennas, OLED displays, flexible screens, and electric vehicles. The acquisition drove PIAM's growth while strengthening Arkema's competitive edge in high-growth, high-value markets through enhanced production capacity and operational synergies.

KEY INTANGIBLE ASSETS



Technological
Expertise



Brand and Market
Leadership



Customer
Relationships



Portfolio
Expansion



Market
Growth



Synergies and
Efficiency

TRANSACTION RATIONALE



CASE STUDY 02

FCG



Flex Composite Group, headquartered France, is a leading designer, manufacturer, and distributor of engineered fabrics and films for industries such as marine, automotive, sports, and construction.

TRANSACTION TYPE

M&A

DEAL DATE

SEPTEMBER 26, 2023

ACQUIRER

GROUPE MICHELIN

ENTERPRISE VALUE

\$751 MILLION

REVENUE MULTIPLE

UNDISCLOSED

TRANSACTION STRUCTURE

Groupe Michelin, a global leader in tire manufacturing and mobility solutions, known for its innovation and commitment to sustainable transportation, acquired 100% of FCG for an enterprise value of \$751 million. The transaction was financed entirely through Michelin's available cash reserves.

MARKET AND CUSTOMER SEGMENTS COMBINATION

FCG meets the demands of high-growth, high-performance industries, including marine, automotive, sports, and construction, while catering to a premium customer base within these sectors. Its integration with Michelin broadens the Group's customer portfolio by incorporating FCG's well-established network of high-end clients, fostering innovation, and expanding market share across complementary industries.

ACQUISITION STRATEGIC RATIONALE

The acquisition of FCG aligned with Michelin's Michelin in Motion 2030 strategy, reinforcing its position as a leader in high-tech engineered fabrics and films. This strategic move enhanced Michelin's polymer composites capabilities, combining its cutting-edge R&D with FCG's market expertise in sectors like marine, supercars, and construction. FCG contributed to the growth of Michelin's High-Tech Materials segment, delivered margin improvements, and strengthened the group's overall growth profile.

KEY INTANGIBLE ASSETS



R&D
Capabilities



Sector
Specialization



Brand
Reputation



Strategic
Alignment

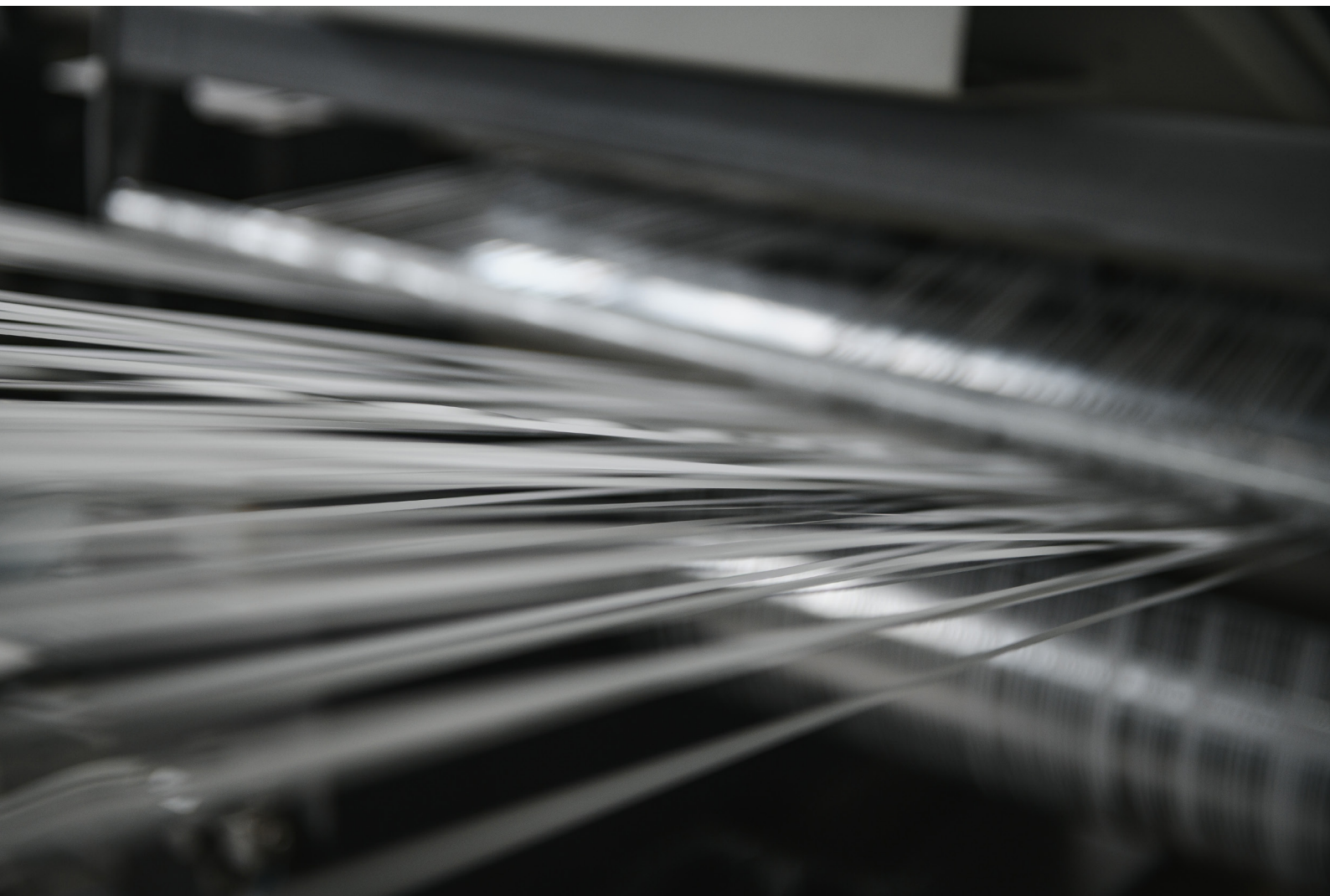


Financial
Growth



Complementary
Strengths

TRANSACTION RATIONALE



CASE STUDY 03

DSM DYNEEMA



DSM Dyneema, based in the Netherlands, is a global leader in ultra-high molecular weight polyethylene products, offering sustainable thermoplastics and specialty fibers for industries such as automotive, electronics, construction, medical, and protective gear.

TRANSACTION TYPE	DEAL DATE	ACQUIRER
M&A	SEPTEMBER 1, 2022	AVIENT CORPORATION
ENTERPRISE VALUE	REVENUE MULTIPLE	
\$1 BILLION	UNDISCLOSED	

TRANSACTION STRUCTURE

Avient Corporation acquired DSM's Protective Materials division, including the Dyneema brand, for \$1 billion, with financing secured through commitments from Morgan Stanley and JPMorgan Chase. The acquisition was completed in September 2022, after which the business was rebranded as Avient Protective Materials and integrated into Avient's Specialty Engineered Materials segment.

MARKET AND CUSTOMER SEGMENTS COMBINATION

The acquisition combined DSM Dyneema's products with Avient's specialty polymer expertise, which expanded its high-performance materials portfolio and broadened its reach across industries such as defense, marine, automotive, and medical.

ACQUISITION STRATEGIC RATIONALE

Avient's acquisition of DSM's Protective Materials division aligned with its strategy to expand its high-performance materials portfolio and enter new markets such as ballistic protection and marine. It strengthened Avient's competitive position, fostered innovation through the integration of the advanced fiber technology, and supported sustainability goals with environmentally friendly products.

KEY INTANGIBLE ASSETS



Brand
Reputation



Technical
Expertise



Customer
Relationships

TRANSACTION RATIONALE



Portfolio
Expansion



Market
Diversification



Innovation
Synergies

The composite materials manufacturing and technology sector continues to evolve with a strong focus on innovation and strategic growth through mergers and acquisitions. Recent deals underscore the industry's emphasis on expanding capabilities, enhancing market positions, and tapping into emerging technologies. As companies in the sector seek to consolidate their strengths and drive operational synergies, the future of composite materials manufacturing and technology looks promising, offering new opportunities for growth and development in high-value markets.

JAHANI & ASSOCIATES

Jahani and Associates (J&A) is a global investment bank headquartered in New York City. J&A has deep connections in the Middle East, Southeast Asia, Latin America, and North America. The firm provides investment banking advisory, investment banking transaction, and corporate development expertise to clients all over the world.

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