

Looking through: reflecting on the past year in the glass industry

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We consider the economic obstacles faced by glass manufacturers in recent months, along with the key changes they're making to support sustainability.

CHALLENGING MACROECONOMIC ENVIRONMENT

In 2023, global markets faced a challenging landscape, characterized by rising inflation, reduced consumer spending, and a slump in construction. These trends were exacerbated by persistent international instability, including a renewed conflict in the Middle East and ongoing tensions resulting from the war in Ukraine.

The glass industry grappled with the lingering effects of conflicts and inflation, as the decline in new construction and rising costs of raw materials presented formidable obstacles. Despite efforts to implement improved efficiency measures, many companies found themselves unable to avoid passing on the increased costs to consumers through price hikes.

A GREEN REVOLUTION IN GLASS PRODUCTION

Last year also marked a significant turning point for the glass industry as it actively embraced sustainable practices and green energy solutions, contributing to a global drive for increased hydrogen usage and carbon reduction. Major players in the sector made substantial investments and strategic moves to transform traditional glass production into an eco-friendly and low-emission endeavor.

(CONTINUED ON NEXT PAGE)

“Embracing green energy and sustainable operations is imperative for ensuring glass producers align with industry and global market standards, and stay at the forefront of evolving trends.”

VALĒRIJA LIEĢE

GLASS PROCESSING & FINISHING
SPECIALIST, OAKLINS



In 2023, Saint-Gobain led the glass industry's decarbonization efforts with significant achievements. Research and development trials successfully produced flat glass using 30% hydrogen, demonstrating technical feasibility and a significant reduction in CO₂ emissions.¹

In addition, a collaboration with AGC involved a pilot flat glass product line targeting a 50% electrified and 50% oxygen and gas-fired setup — this is a notable contribution to broader industry decarbonization initiatives.² Saint-Gobain's global commitments also included a biomethane purchase agreement in France with TotalEnergies, showcasing a shift towards renewable energy integration, while the approval of the Nazaré Green Hydrogen Valley project in Portugal aligned with national and international strategies for carbon neutrality.³

Further fortifying this eco-friendly momentum, German glass manufacturer SCHOTT unveiled plans to add a climate-neutral building to its Bavarian plant, aiming to meet all electricity needs through renewable sources. The company not only achieved milestones in emission reduction but also pioneered hydrogen integration in specialty glass

production, showcasing a commitment to sustainability. Meanwhile, Ryze Hydrogen's strategic partnership with Guardian Glass marked a pivotal move in leveraging hydrogen's potential in manufacturing, contributing to reduced carbon emissions in the UK.⁴

The Horizon Europe project, H2GLASS, illuminated the industry's path forward, with leaders like Steklarna Hrastnik, Pilkington, Owens Corning and Stara Glass collaborating to revolutionize glass manufacturing through 100% hydrogen combustion. The project not only promises substantial emission cuts but also to be a catalyst for job creation and revenue generation.⁵

M&A IN THE FACE OF GLOBAL HEADWINDS

In the previous year, M&A across all industries faced challenges arising from geopolitical tensions, inflation and increased regulatory scrutiny. As per Mergermarket data, this led to a notable 23% decline in total deal value and a 16% decline in deal volume, the lowest M&A activity levels since 2013. Q4 saw a slight recovery with big-ticket deals reaching levels not seen since Q2 2022.

However, the overall environment was characterized by prolonged deal processes, increased due diligence, and creative deal structures. The financial landscape, influenced by recession fears and interest rate hikes, led to caution among dealmakers. Strategic deal multiples hit a 15-year low, causing negotiations to stall over pricing differences. Private equity firms adapted to the new environment by favoring minority-stake investments amid more expensive financing.

In light of this, the glass industry witnessed a slight decline in M&A activity in 2023, mirroring the overall slowdown in the global economy. Despite the slowdown, a few noteworthy deals managed to transpire during the year.

SAINT-GOBAIN'S DIVESTMENTS CONTINUE AT A REDUCED PACE

While Saint-Gobain continued its strategy of optimizing its business portfolio, exemplified by recent divestitures in Switzerland, Slovakia and Portugal, the pace of divestments has slowed compared to previous years, marking the potential end of their divestment efforts.



¹ <https://www.glass-international.com/news/saint-gobain-achieves-flat-glass-production-using-30-hydrogen>

² <https://www.glass-international.com/news/agc-and-saint-gobain-partner-for-decarbonised-flat-glass-line>

³ <https://www.glass-international.com/news/portuguese-glass-hydrogen-plan-moves-step-closer>

⁴ <https://www.glass-international.com/news/schott-in-hydrogen-glass-melting-success>

⁵ <https://www.glass-international.com/news/hydrogen-glass-project-to-launch-in-2023>

In March, it was announced Saint-Gobain was selling its glass processing business Glassolutions Switzerland to the privately owned German investment group, AEQUITA. The target, which focuses on high-end quality glass and glass innovations, became part of AEQUITA's glass company, vandaglas, which was formed through the carveout and merger of several former Saint-Gobain units in Western Europe.

Later, in July, Saint-Gobain divested its glass processing business in Portugal, Glassolutions Covipor. It was acquired by glass and aluminum product manufacturer PNI Portugal & Permanente.

In their latest divestment, Saint-Gobain concluded its exit from its glass

processing business in Nitra-Chrenová, Slovakia, through a sale to the plant's management team.

FAMILY OWNED GLASS COMPANIES EXPAND THEIR BUSINESSES

The all-round flat glass producer Schollglas expanded its business operations by acquiring HoffmannGlas, a German glass trader and insulating glass producer, and in November became the majority shareholder of Danish flat glass trader Glasscom.

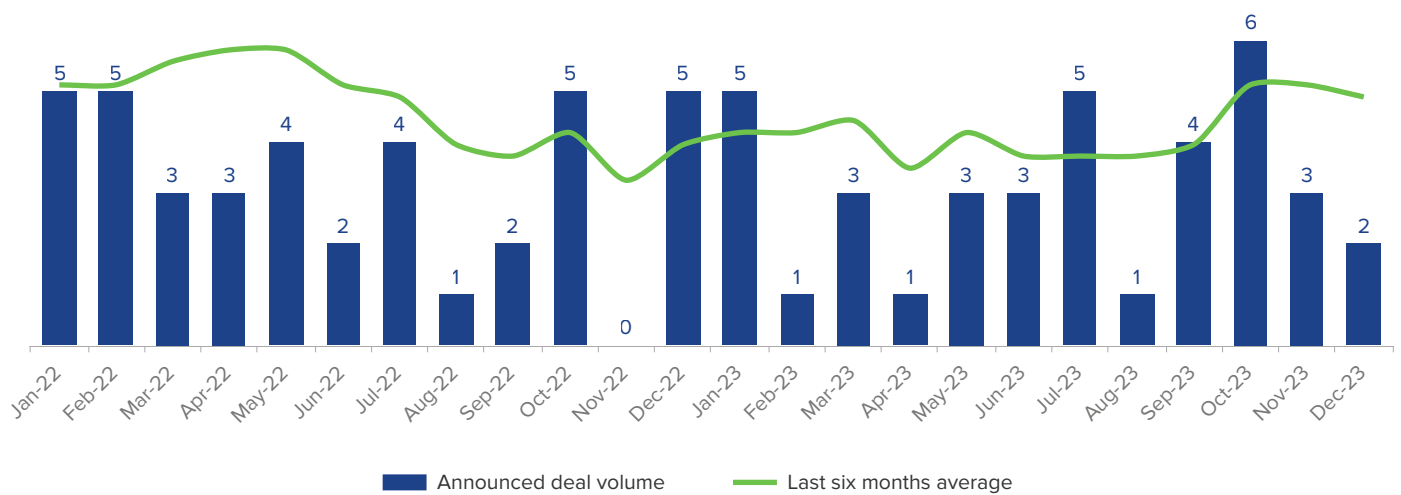
France-based RIOU Glass, which specializes in glass glazing, was just as active, acquiring Spanish glass

producer Vidresif then complementing its operations through the acquisition of local glass transformer, Diffuver.

In May it was announced that Italian luxury metal windows and doors manufacturer Brombal acquired a majority stake in Zanatta Vetro, a historic glass factory in Montebelluna. The deal creates a new major production group with over 170 employees.

At the end of the year, UK-based family-run business of Cornwall Group completed an acquisition of its local peer Forward Glass.

Announced deal volume



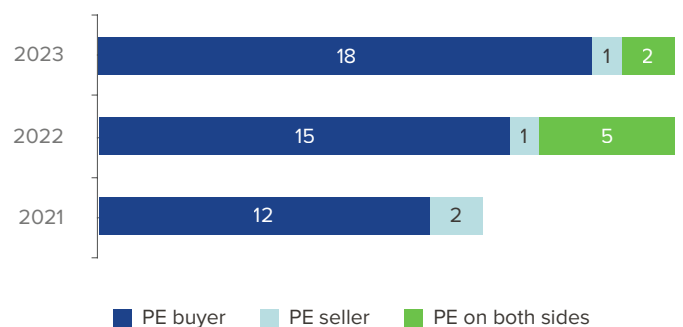
Sources: Mergermarket, Pitchbook, Oaklins analysis

Total announced transactions



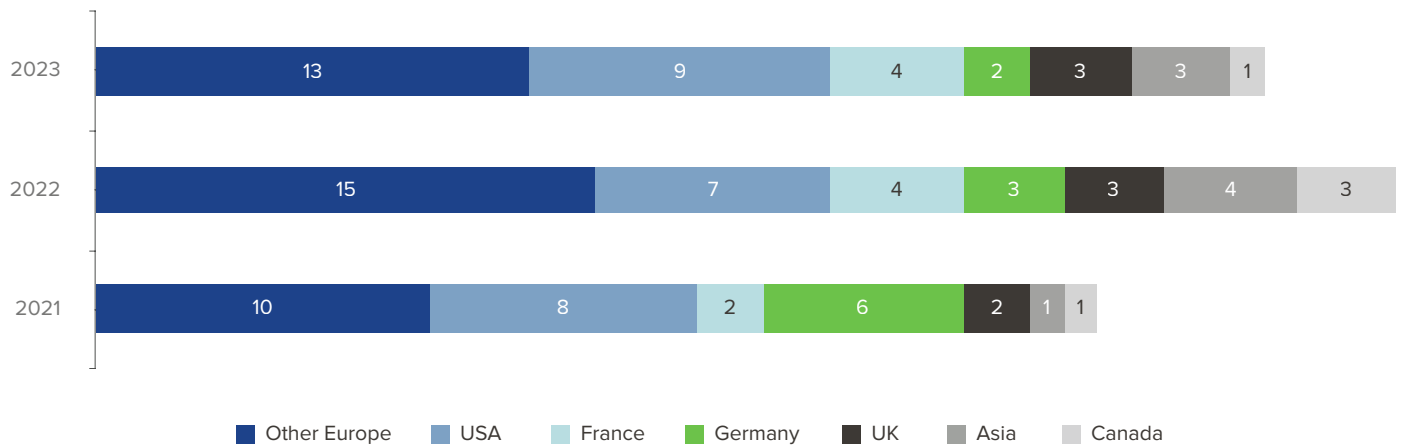
Sources: Mergermarket, Pitchbook, Oaklins analysis

Private equity activity



Sources: Mergermarket, Pitchbook, Oaklins analysis

Target geography



Sources: Mergermarket, Pitchbook, Oaklins analysis



“Against a backdrop of challenging macroeconomic conditions, the M&A landscape in glass processing & finishing has demonstrated overall resilience, characterized by ongoing divestments by Saint-Gobain and key players strategically fortifying their market presence. Notably, private equity engagement in the sector remains robust, with investors actively involved in an increasing number of buy-side transactions.”

VALĒRIJA LIEŽE

GLASS PROCESSING & FINISHING SPECIALIST, OAKLINS



Case study

MKB FONDS HAS SOLD MOSA GLAS IN A MANAGEMENT BUY-OUT BACKED BY ING

MKB Fonds and other shareholders have sold Mosa Glas to ING Corporate Investments alongside management. With ING Corporate Investments, Mosa Glas has found a new partner that can assist in accelerating growth, as the Benelux market for flat glass provides numerous opportunities.

Mosa Glas is a processor and value-added wholesaler of flat glass products used in construction and renovation projects. The company's products include insulated glass, triple glass, fire-resistant glass, and single and tempered glass. In addition, it provides processing capabilities, transportation, mounting, project advisory, urgent delivery, warehousing services and glass rack solutions. Mosa Glas' products are sold to more than 400 customers in the Netherlands, Belgium and Germany, including other glaziers, façade builders, carpentry factories, window manufacturers, greenhouse manufacturers and local

glass (wholesale) companies. Mosa Glas is headquartered in Echt, Netherlands, has in-house processing and logistics departments, and can offer custom-made products. The processing facility in Echt enables glass operations such as grinding, custom-made cutting, polishing, doubling and coating. Mosa Glas also includes its subsidiary, L.H. van der Woning Glas, a Netherlands-based modern glass processing specialist, which was acquired in 2020.

ING Corporate Investments, part of ING Bank N.V., is a provider of risk-bearing capital such as subordinated debt and minority equity, often as part of total financing solutions, to companies active in the mid-market and large corporate segments in the Benelux.

MKB Fonds is a Dutch private equity firm. The company invests in mature and consistently profitable Dutch family businesses with a proven market position. MKB Fonds is a long-term and actively supportive investor, primarily focused on facilitating business succession and buy-and-build strategies.

MKB FONDS
has sold its investment in
MOSA GLAS
in a management buy-out to
ING CORPORATE INVESTMENTS
M&A SELL-SIDE
Construction & Engineering Services/Private Equity

Oaklins' team in the Netherlands acted as the exclusive sell-side advisor to the shareholders of Mosa Glas.

Global Security Glazing **DLUBAK**
SPECIALTY GLASS CORPORATION
have been acquired by
ISOCLIMA
High-Tech Security Glass
M&A SELL-SIDE
Construction & Engineering Services/Private Equity





























KENSINGTON
has sold
WALKER
to
Ironbridge
EQUITY PARTNERS
M&A SELL-SIDE
Construction & Engineering Services/Private Equity




























Martin Glas
has been acquired by
VE PARTNERS
M&A SELL-SIDE
Construction & Engineering Services/Private Equity

SAINT-GOBAIN
has sold
GLASSOLUTIONS
SAINT-GOBAIN
to
OARRUS
M&A SELL-SIDE
Construction & Engineering Services

M&A activity

A selection of recent private transactions in the sector from January through December 2023

































Date	Target	Rationale	Bidder	Type	Country
Dec-23		Cornwall Group Ltd, a UK-based glass and glazing producer, has acquired Forward Glass Ltd, a local toughened glass manufacturer and stock distributor		Strategic	
Nov-23		Schollglas has acquired the majority shares of the Danish flat glass trader Glascom, headquartered in Slagelse		Strategic	
Nov-23		Current management team supported by ING Corporate Investments has acquired Mosa Glas, an independent glass manufacturer and wholesaler, from MKB Fonds, a Netherlands-based PE firm		MBO / PE	
Oct-23		Riou Glass SAS, a France-based company engaged in the transformation of flat glass, has acquired Vidresif S.L., a Spain-based glass manufacturer		PE-backed	
Oct-23		Schollglas has acquired HoffmannGlas GmbH & Co. KG Berlin in a share deal, forming Schollglas Technik GmbH Berlin. The new entity is a full-range specialist in glass trading and insulating glass production		Strategic	
Sep-23		Nebac Finances, a France-based holding vehicle, has acquired Tremper SAS, a local company specialized in glass tempering and other flat glass processes	Nebac Finances	MBI / PE	
Sep-23		HSBH Holding has acquired Flachglas Schweiz AG, a local holding company providing processed glass products for the construction industry, from Germany-based Flachglas Wernberg GmbH	HSBH Holding	MBO / PE	
Sep-23		Saint-Gobain, a global building materials leader, has completed the sale of its glass processing business Glassolutions Nitrasklo in Slovakia to Glasora AS		MBO	
Jul-23		Cevino Glass, a leading player in the transformation and installation of custom-made glass products, particularly for the energy renovation sector, acquired Établissements Dumas 1770, experts in the transformation and distribution of special glass, in particular anti-reflective glass for framing and the decoration market		PE-backed	
Jul-23		Siparex, Bpifrance and Rives Croissance, has invested and supported Cevino Glass' owner Thierry Gautier and 21 managers from his team in order to accelerate the development of the company.		PE	

Date	Target	Rationale	Bidder	Type	Country
Jul-23		Saint-Gobain, a global building materials leader, has sold its glass processing business in Portugal, COVIPOR, to PNI Portugal & Permanente S.A., a local company specializing in glass and aluminum products	PNI Portugal & Permanente	Strategic	
Jun-23		BuildingEnvelope, backed by KPS Capital Partners, has acquired Syracuse Glass, enhancing its presence in the Northeast region of the USA		PE-backed	
Jun-23		ActiveCap I - Portuguese Growth Fund has acquired Cristalmax, a Portugal-based company focusing its activity on the transformation, marketing and application of flat glass panels on buildings		PE	
May-23		Russian investor Vladimir Voronin has acquired Pilkington Glass LLC and STiS Group OAO from Japan's Nippon Sheet Glass Co Ltd	Private Investor	Strategic	
May-23		Serramenti Brombal SRL, an Italy-based window supplier & manufacturer, has acquired 70% of Zanatta Vetro SpA, a local glass manufacturer		Strategic	
Mar-23		Germany-based PE fund AEQUITA and its portfolio company vandaglas has acquired Glassolutions Switzerland from France-based Compagnie de Saint-Gobain SA, a building materials company		PE-backed	
Mar-23		The managing director of Keller Glass, Mr. Vogt, has completed a management buy-out of Keller Glass via his holding company Lina Romeo Holding	Lina Romeo Holding	MBO	
Feb-23		Modular Group Investments Ltd (MGI) has acquired Oakland Glass Ltd, adding substantial capacity and capability to its insulated double glazed unit production		PE	
Jan-23		Riou Glass SAS, a France-based company engaged in the transformation of flat glass, has acquired Diffuser, a local flat glass transformer specialized in technical insulating glazing for façades		PE-backed	
Jan-23		Guardian Glass has acquired the assets of Vortex Glass, a US-based (Miami, Florida) laminated and insulated glass fabrication business		Strategic	

Sources: Mergermarket, Pitchbook

Selected listed players

Selected flat and specialty glass industry players

Company	Country	Market cap (US\$m)	Enterprise value (US\$m)	Revenues 2022 (US\$m)	EBTIDA 2022 (US\$m)	EBITDA margin	EV/Revenue LTM	EV/EBITDA LTM	
 SAINT-GOBAIN		38,755	48,961	51,197	6,805	13,3%	0.90x	6.78x	
 福耀集团 FUYAO GROUP		14,579	14,559	3,713	915	24,6%	2.00x	8.52x	
 AGC		7,662	11,025	14,496	2,568	17,70%	0.79x	5.31x	
 FGG FLAT GROUP		6,327	7,397	2,067	502	24,30%	3.58x	14.73x	
 SİŞECAM		5,071	6,390	4,772	1,049	22,20%	1.34x	6.09x	
 XYG		4,336	5,706	3,079	905	29,40%	1.64x	6.56x	
 旗滨集团 KIBING		2,347	3,225	1,761	329	18,70%	1.03x	6.43x	
 NSG GROUP		384	3,192	5,304	-8	0.00%	0.46x	16.84x	
 TAIWANGLASS 台玻集團		1,689	2,413	1,339	186	13,90%	1.00x	11.62x	
 SG		1,874	2,070	2,005	457	22,80%	0.75x	4.32x	
 金晶集团 JINJING GROUP		1,185	1,467	1,035	157	15,10%	0.84x	5.52x	
 CNG中玻		110	1,203	632	107	16,90%	2.16x	21.85x	
 apogee enterprises, inc.		1,019	1,169	1,441	168	11,70%	0.53x	4.16x	
 Vitro		533	1,164	2,374	226	12,20%	0.49x	5.16x	
 CENTRAL GLASS		507	784	1,176	190	16,10%	0.40x	2.74x	
 洛阳玻璃股份有限公司 LUOYANG GLASS COMPANY		598	515	638	90	14,00%	0.81x	5.74x	
						Average	11.05%	1.19x	8.44x
						Median	13.65%	0.90x	6.43x

Source: InFront Analytics

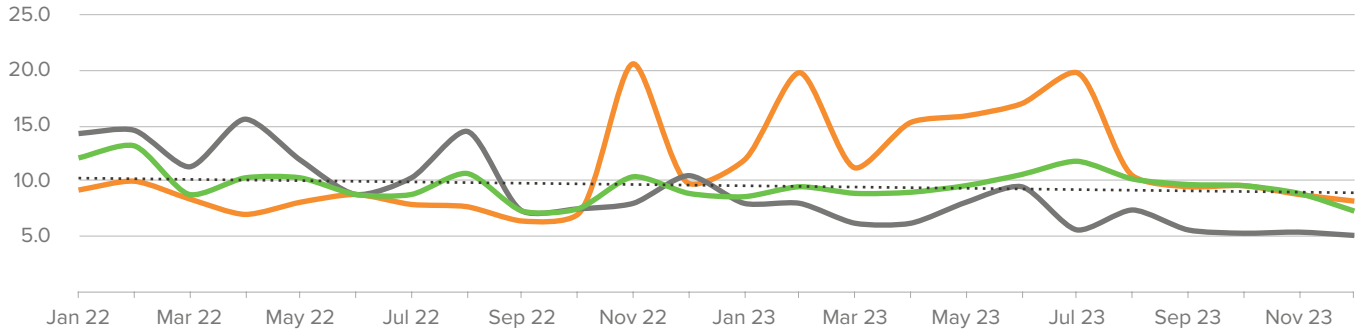
Valuation trends

Following the higher valuations enjoyed by all glass companies and increased volatility for companies outside China and Taiwan at the start of 2022, Q3 and Q4 2023 recorded a notable decline in company valuations.

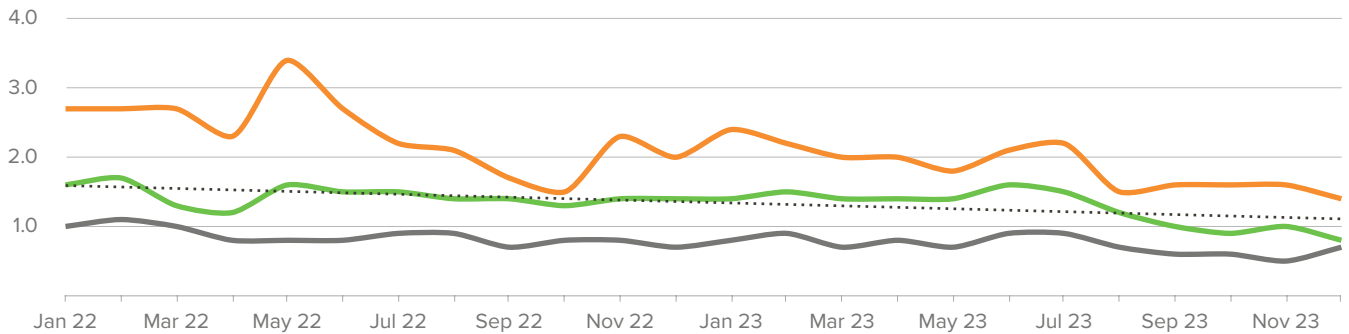
However, the sector has since achieved a level of relative stability. The current EV/EBITDA range, standing between 6.0x and 8.0x, reflects a slight reduction from the 7.0x to 9.0x range observed at the close of 2021. The three largest

companies in the flat & specialty glass sector have seen their EVs decrease by 10–35% in comparison to two years ago, with the Chinese company Xinyi Glass losing more than half of its EV in the same period.

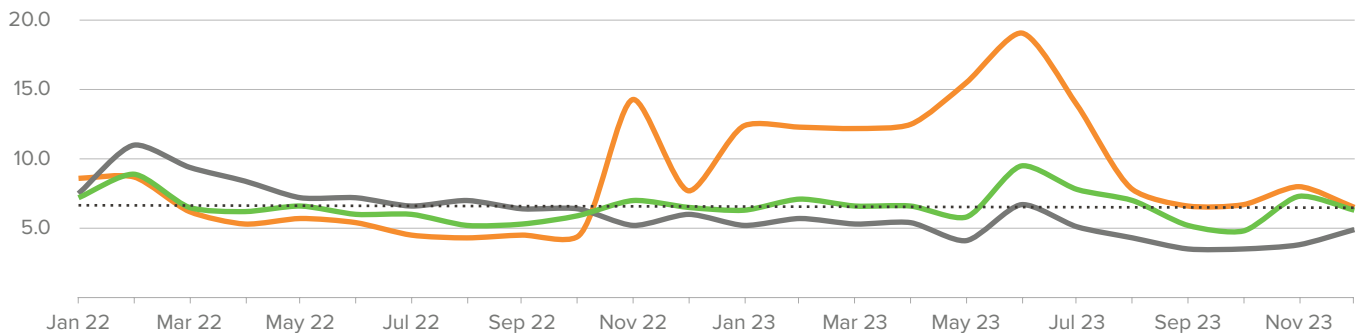
Price/Earnings (last 24 months)



EV/Sales (last 24 months)



EV/EBITDA (last 24 months)



— Selected listed peers
 — Selected listed peers based in China and Taiwan
 — Selected listed peers outside China and Taiwan

Source: InFront Analytics
Valuation data is as of 31 January 2024

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- M&A advisory (buy- and sell-side)
- Growth equity and equity capital markets advisory
- Debt advisory
- Corporate finance services

Glass processing & finishing is one of our focus areas. Combining comprehensive sector knowledge with global execution has led Oaklins to become one of the most experienced M&A advisors in the glass processing & finishing sector, with a large network of relevant market players worldwide. This results in the best possible merger, acquisition and divestment opportunities for glass processing & finishing companies.

If mergers, acquisitions or divestitures of businesses or business units are part of your strategy, we would welcome the opportunity to exchange ideas with you.



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Valērija leads Oaklins' glass processing & finishing team, and is a partner at Oaklins Baltics in Riga. As part of her sector focus, Valērija continuously follows developments, attends the major events and maintains regular contact with the key players in the industry. Among other transactions, she recently advised former owner NCH Capital and the management team on a management buy-out of Groglass, the world's leading producer of anti-reflective glass using proprietary vacuum coating technology.

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