

February 16, 2023

ASPEN AEROGELS

Q4 2022 FINANCIAL RESULTS CALL



Disclaimer on Forward Looking Statements

This presentation contains statements that constitute "forward-looking statements" under the Private Securities Litigation Reform Act of 1995. The words "anticipate," "believe," "could," "estimate," "expect," "guidance," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "will," "would," "outlook" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. All statements other than statements of historical facts contained in this presentation, including statements regarding our short-term and long-term growth strategies and expectations about the growth of our business; 2023, 2024, and 2025 revenue targets; revenue quotes for future years, future revenue opportunities through this decade; efforts to develop and commercialize our products; market opportunities in the electric vehicle market regarding thermal barriers as well as battery materials; market opportunities in the sustainable building materials and the energy infrastructure markets; our expectations regarding future operations, future financial position, future capacity, future revenue and projected costs; our expectations about global electric vehicle sales as well as the potential revenue from the sale of our products per electric vehicle; the revenue opportunity estimates from the major US automotive OEM; Investment estimates for Plant II or in R&D; capital expenditure programs, annual revenue capacity with Phase I and Phase II of Plant 2, gross profit and EBITDA estimates with full manufacturing capacity; our expectations about revenue predictability; estimates of Awarded Programs in 2023 and 2025; estimates of product mixes in 2023 and 2025; our expectations about customers and automotive industry's approach towards addressing thermal runaway; our prospects and plans; objectives of management; and expected market growth are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These forward-looking statements are only predictions, and we may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, so you should not rely on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our business, financial condition and operating results. The Company's future financial and operating results, as well as any forward-looking statements, are subject to inherent risks and uncertainties, such as those described in its Annual Report on Form 10-K for the year ended December 31, 2021, as well as its subsequent annual, quarterly and current reports filed with the U.S. Securities and Exchange Commission. Such risks and uncertainties include those related to: an inability to create new product, partnership and market opportunities; the active quoted value may not lead to generation of actual revenue; any sustained downturn in the energy industry or energy prices; any sustained downturn in the petrochemical, refinery, subsea, LNG, U.S., North American, Asian, European, South American, Middle Eastern, building materials, electric vehicle or other market due to the coronavirus pandemic, COVID-19 or any other factor; any failure to sustain project-based demand in the subsea, LNG, on-shore or other markets; the right of EV thermal barrier customers to cancel contracts with Aspen at any time and without penalty; any costs, expenses, or investments incurred by Aspen in excess of projections used to develop pricing under the contracts with EV thermal barrier customers; any failure of Aspen or PyroThin® to meet contractual specifications and requirements under contracts with EV thermal barrier customers; Aspen's inability to create new product, customer or market opportunities, including for PyroThin® or for new products developed from Aspen's aerogel technology; any disruption or inability to achieve expected capacity levels in any of our three production lines or at Plant II including due to the coronavirus pandemic, COVID-19 or any other factor, any inability to expand manufacturing capacity Plant II; Aspen's Pyrothin® product or another product's ability to solve the customer problem towards which it is targeted; the failure to receive all regulatory or other approvals required to operate, maintain or expand our facilities; any failure of demand for Aspen's products; any failure to achieve expected price increases or average selling prices for Aspen's products; any significant increase in the cost of raw materials, utilities or any other manufacturing consumable; the failure to mitigate the impact of any significant increase in the cost of raw materials, utilities or other manufacturing consumable; shortages of raw materials, utilities or any other manufacturing consumable due to the coronavirus pandemic, COVID-19 or any other factor; the failure to generate sufficient operating cash flow or to obtain significant additional capital to pursue Aspen's strategy; the failure of Aspen's products to become widely adopted; the competition Aspen faces in its business; any failure to enforce any of Aspen's patents; any failure to protect or expand Aspen's aerogel technology platform; any future finding of invalidity of any patent in any jurisdiction; any failure to generate sufficient operating cash flow or to obtain sufficient additional capital to continue to pursue Aspen's new business, technology, patent enforcement, or patent defense strategy; any failure of Aspen's products to meet applicable specifications and other performance, safety, technical and delivery requirements; the general economic conditions and cyclical demands in the markets that Aspen serves; the economic, operational and political risks associated with sales and expansion of operations in foreign countries; the loss of any direct customer, including distributors, contractors and OEMs; compliance with health and safety laws and regulations; and the maintenance and development of distribution channels.

Disclaimer on Forward Looking Statements

The presentation contains information regarding certain financial targets with respect to the Company. Such financial targets constitutes forward looking information and is for illustrative purposes only and should not be relied upon as necessarily being indicative of future results. The assumptions and estimates underlying such financial targets are inherently uncertain and are subject to a wide variety of significant business, economic, competitive and other risks and uncertainties, as described above. Actual results may differ materially from the results contemplated in the financial targets contained in this presentation, and the inclusion of such information in this presentation should not be regarded as a representation by any person that the results reflected in such targets will be achieved. "Awarded - In Production Programs" as used in this presentation is our estimates of the revenues that we believe are potentially derivable from customers based on our knowledge of our customer's selection of our products for use in a specific platform or vehicle lineup. Certain of our customers provide us with various projections of their forecasts for vehicles to be sold in various time frames. Our estimates of Awarded Programs are based on this information provided by customers and certain other assumptions, including expectations regarding future sales volumes and the continuation of our relationship with customers. Our customers generally do not guarantee or commit to sales volumes and many of our arrangements with our customers may be terminated by them at any time without penalty.

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This presentation includes certain non-generally accepted accounting principles (GAAP) financial measures that we use to describe our company's performance or estimated or targeted future performance. The non-GAAP information presented provides investors with additional useful information but should not be considered in isolation or as substitutes for the related GAAP measures. Moreover, other companies may define non-GAAP measures differently, which limits the usefulness of these measures for comparisons with such other companies. We encourage investors to review our financial statements and publicly filed reports in their entirety and not to rely on any single financial measure.

The industry and market data contained in this presentation is based either on our management's own estimates or on independent industry publications, reports by market research firms or other publicized independent sources. Although the Company believes these sources are reliable, it has not independently verified the information and cannot guarantee its accuracy and completeness, as industry and market data are subject to change and cannot always be verified with complete certainty due to limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties inherent in any statistical survey or market shares. Accordingly, you should be aware that the industry and market data contained in this presentation, and estimates and beliefs based on such data, may not be reliable. Unless otherwise indicated, all information contained in this presentation concerning our industry in general or any segment thereof, including information regarding our general expectations and market opportunity, is based on management's estimates using internal data, data from industry related publications, consumer research and marketing studies and other externally obtained data. Certain financial or other targets are based on management estimates, currently available information and assumptions that may change. Accordingly, there can be no assurance that we will achieve our financial targets or other expectations. The expectations are inherently subject to significant economic, competitive and other uncertainties and contingencies, many of which are beyond the control of management. Actual results may vary materially based on a number of factors. For example, the Company's estimates in this presentation are based on assumptions about the following factors: (i) adoption rates of EV and our customers' market penetration, (ii) the aggregate pricing of our products, and (iii) the average amount of our products incorporated in each vehicle. Due to the rapid pace of technical development in lithium batteries, the Company's assumptions may evolve in the future due to various external factors resulting in different estimates than those arrived here. There are a wide range of estimates being published, including ones that would result in lower per vehicle figures. While the Company's management believes its estimates regarding possible pricing and market size are based on reasonable assumptions and methodology, there can be no assurance that the future pricing and market size will align with the Company's estimates. Such data may be outdated and involves a number of assumptions and limitations and contains projections and estimates of the future performance of the industries in which we operate that are subject to a high degree of uncertainty. We caution you not to give undue weight to such projections, assumptions and estimates.

Q4 2022 Developments and Year-End Highlights

Strong demand across our segments drove 62% quarterly revenue growth that enabled 48% annual revenue growth.

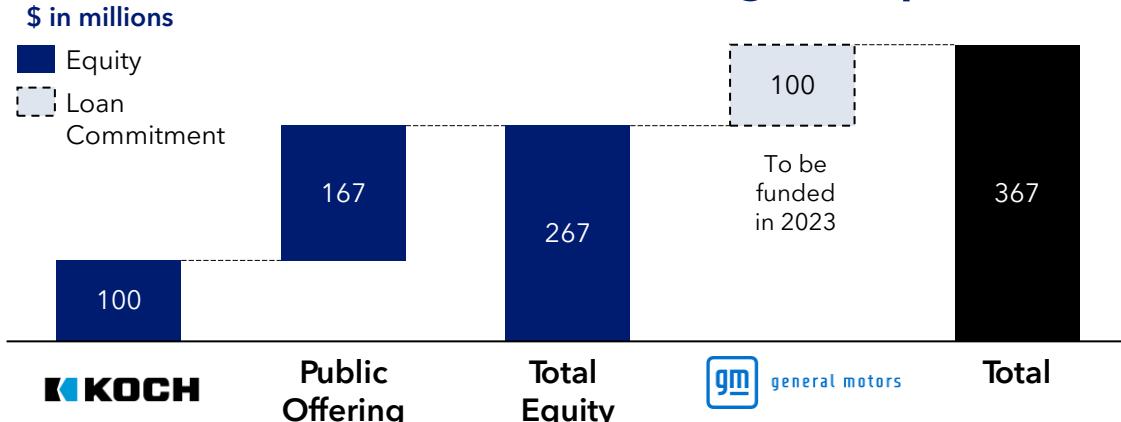
Recent Highlights

- Grew total annual revenue by 48% year-over year
- Delivered 24% quarterly gross profit margin
- Secured over \$100M of Energy Industrial orders to be fulfilled in 2023 for maintenance and new projects
- Obtained Sourcing Letter of Intent (LOI) from luxury brand of a German Automotive OEM for PyroThin®
- Invested \$164.5M in Plant II through year-end

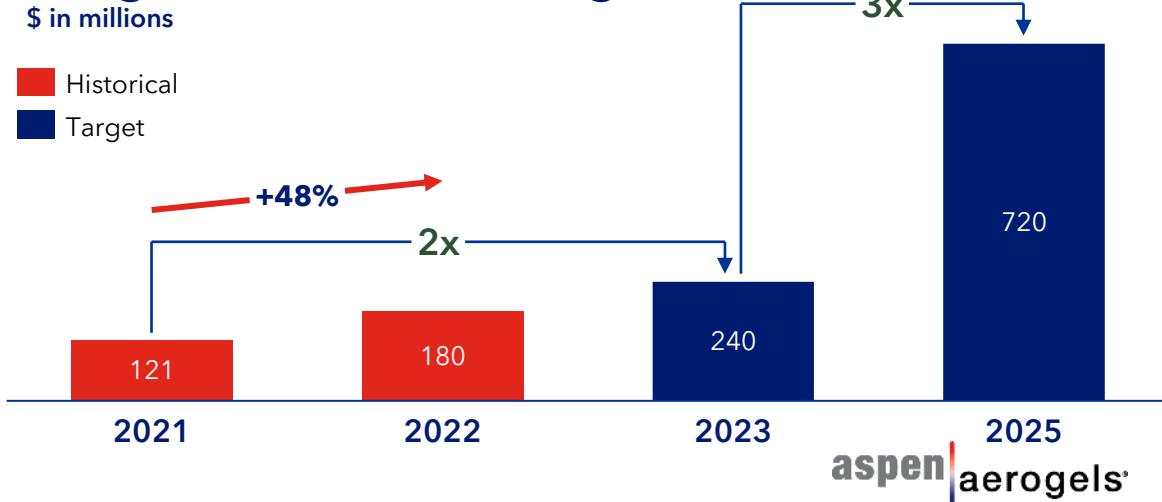
Quarterly Revenue Growth Drivers

	Quarter Over Quarter	Year Over Year
 THERMAL BARRIERS	111%	5X growth
 ENERGY INDUSTRIAL	39%	30%
TOTAL	62%	90%

November 2022 - Fundraising Recap



Long-term Revenue Targets



Q4 2022 and Full Year Financial Highlights

\$59.6M quarterly revenue run rate drove gross margin expansion during continued period of investment in growth.

\$ in millions except per share figures

	Q4 2021	Q4 2022 ¹	2021	2022 ¹	Commentary	Quarterly Trajectory
REVENUES YoY Growth	\$31.5 37%	\$59.6 90%	\$121.6 21%	\$180.4 48%	Quarterly revenue growth supported by supplemental General Motors EV Thermal Barrier order and stable Energy Industrial supply.	Revenues - \$M EV Thermal Barriers Energy Industrial
Net (Loss)	\$(16.4)	\$(9.6)	\$(37.1)	\$(82.7)	Slowed the growth rate of investment in talent, systems, facilities and tooling to enable continuous EV market growth and productivity investments aimed at driving long-term profitable growth.	Q1 38 8 31
Adj. EBITDA ²	\$(12.2)	\$(4.5)	\$(26.0)	\$(60.6)	Investments aligned to deliver customer demand and enable supply chain resiliency.	Q2 46 11 35
EPS	\$(0.50)	\$(0.20)	\$(1.22)	\$(2.10)	Plant II construction, R&D facility upgrades, PyroThin® assembly tooling in Mexico, automation equipment, IT systems and infrastructure.	Q3 37 12 25
Cap Ex	\$7.2	\$64.1	\$13.8	\$183.4		Q4 60 25 34

1- Unaudited financials for 2022

2- See slide 10 herein for a reconciliation of net loss, the most directly comparable GAAP measure, to Adjusted EBITDA for the presented period

2023 Financial Outlook

Wide range in revenue guidance is driven by expected steep increase in EV Thermal Barrier demand in Q3 and Q4.

\$ in millions except per share figures

2023 Outlook	
REVENUES YoY Growth	\$200 - \$250 11% - 39%
Net (Loss)	\$(102) - \$(92)
Adj. EBITDA ²	\$(60) - \$(50)
EPS	\$(1.46) - \$(1.31)
Cap Ex	\$350 - \$400

Wide range driven by potential steep EV thermal barrier demand increase in H2, requiring PyroThin® to be made in the prior quarters. Strong Energy Industrial demand.

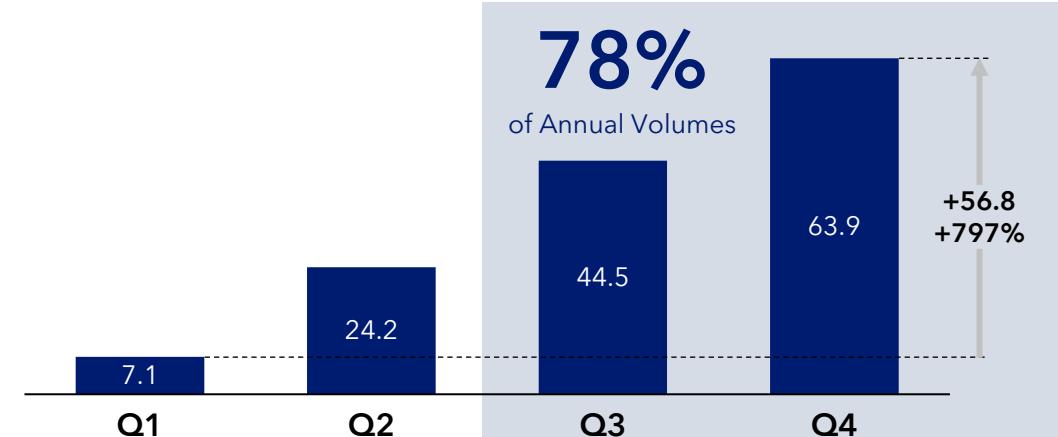
Driven by gross profit until the second half of the year. Targeting annual investment in talent, systems, and infrastructure at the current run-rate levels, or below.

Investments aligned to deliver customer demand and enable supply chain resiliency.

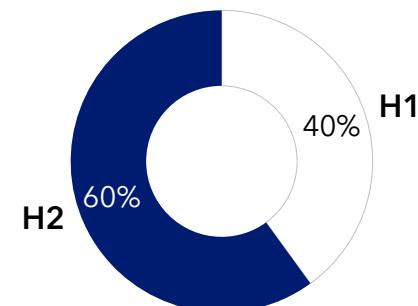
Plant II investment in Statesboro, Georgia and automated assembly equipment to drive growth in 2024 and beyond.

2023 GM Ultium EV Production Forecast³

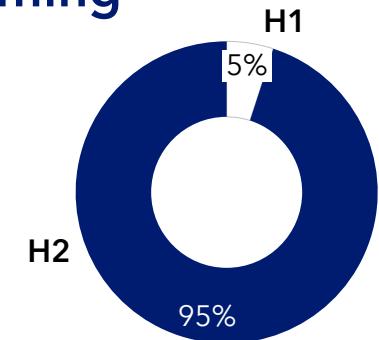
Vehicles in thousands



2023 Total Revenue Timing



2023 Total Gross Profit Timing



1- Unaudited financials for the 2023 Outlook

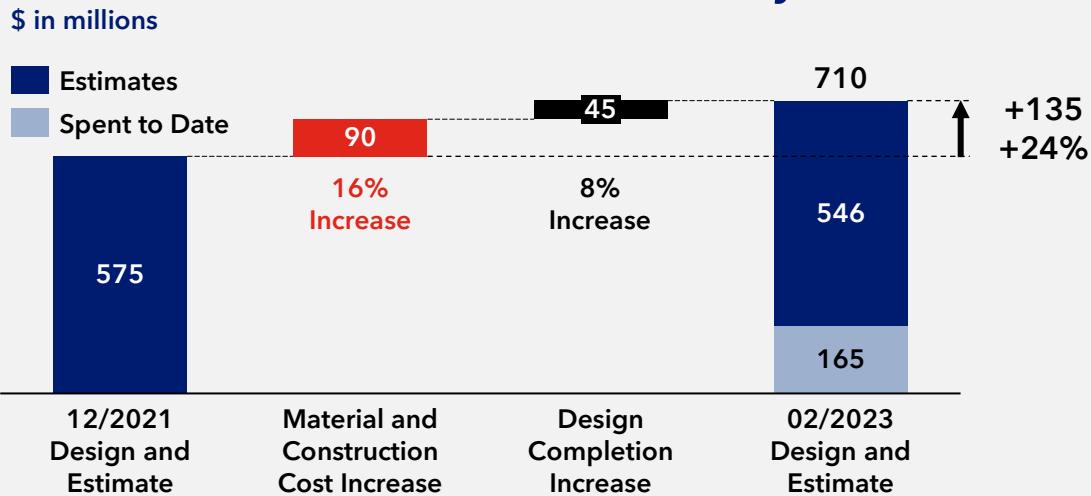
2- See slide 10 herein for a reconciliation of net loss, the most directly comparable GAAP measure, to Adjusted EBITDA for the presented period

3- IHS January 2023 vehicle production forecast

Plant II - Phase 1 Construction Update

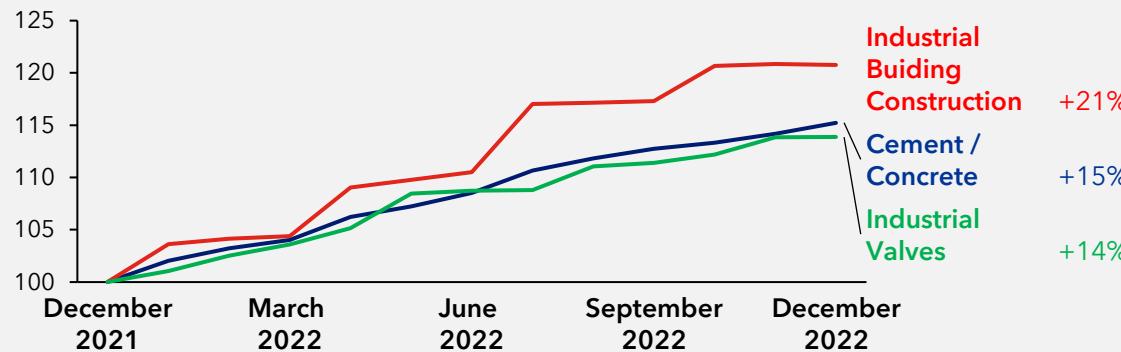
\$135M cost increase, but on target for driving an increase in capacity to fulfill a higher range of demand beyond 2024.

Phase 1 Cost Estimate Summary

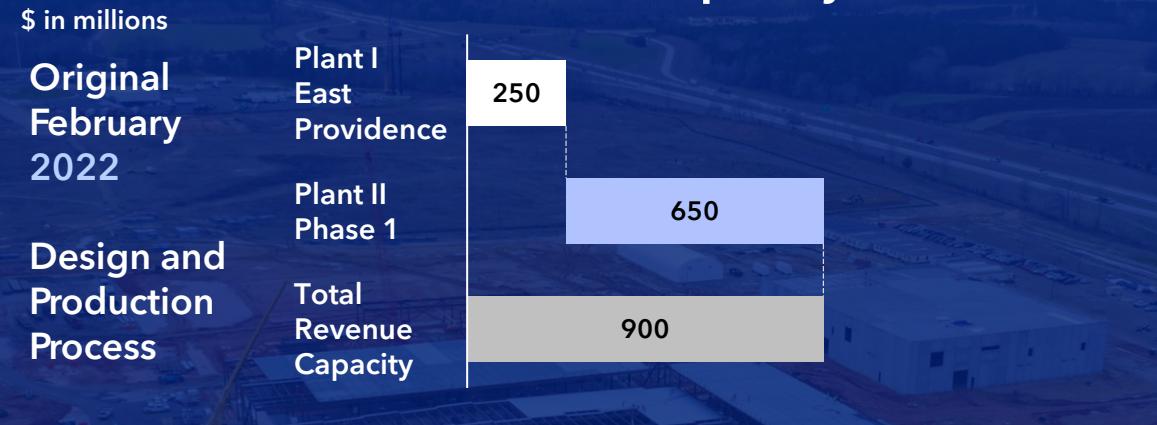


Relevant Macroeconomic Cost Indicators ¹

Producer Price Index by Industry, Index December 2021 = 100



Total Estimated Revenue Capacity



Updated February 2023



EV Thermal Barrier Award and Quote Pipeline

NMC and LFP, Prismatic or Pouch cell EV batteries present a \$15B revenue opportunity within grasp through 2030.

Region	Estimated Award and Quote Value ¹	Customer	Sourcing Approach	NMC or LFP Form Factors	Commercial Status	
	\$10B	 	Battery Platform	Pouch	Awarded - In Production	
			Auto OEM	Vehicle Nameplate	Pouch & Prismatic	Quoting
	\$3B		Battery Platform	Prismatic	Quoting	
			Auto OEM	Vehicle Nameplate	Prismatic	Quoting
			Auto OEM	Vehicle Nameplate	Pouch	Quoting
			Auto OEM	Vehicle Platform	Prismatic	Vehicle Platform LOI
			Commercial Vehicle OEM	Vehicle Nameplate	Prismatic	Quoting
			TOYOTA	Vehicle Nameplate	Prismatic	Awarded - In Production
	\$2B		Battery Platform	Prismatic	Quoting	
			Auto OEM	Vehicle Platform	Pouch & Prismatic	Quoting
Total	\$15B					

Summary

Earning our right to win by leveraging the Aerogel Technology Platform™, executing, and investing to grow profitably.

DEMONSTRATED OPERATING EXECUTION

Strong Q4 revenue and gross profit showed what our manufacturing capacity can deliver on short notice.

ADVANCED PYROTHIN® COMMERCIAL PROGRESS

Currently in the technical and commercial lead establishing the EV thermal barrier product category with a \$15B award and quote pipeline.

INCREASING FLEXIBILITY TO MEET DEMAND

Actively managing our investment in Plant II to achieve our 2025 revenue target of \$720 million dollars and flex up on demand to capture additional upside.

PAVING THE PATH TO PROFITABLE GROWTH

Modest OPEX increases in 2023 with clear gross margin targets of 35% and driving efficiency, flexibility and productivity through systems and tools.



Appendix

GAAP-Non-GAAP Reconciliation

GAAP to Non-GAAP Reconciliation

(\$ in thousands)	Q4		Fiscal Year		FY 2023 Outlook	
	2022	2021	2022	2021	Low	High
Net loss	(9,609)	(16,353)	(82,738)	(37,094)	(101,900)	(91,900)
Depreciation and Amortization	2,530	2,584	9,222	9,440	22,300	22,300
Stock-based Compensation	2,672	1,576	9,385	5,176	11,000	11,000
Gain on the Extinguishment of Debt	-	-	-	(3,734)	-	-
Interest Expense, net	(57)	41	3,493	229	8,600	8,600
Adjusted EBITDA	(4,464)	(12,152)	(60,638)	(25,983)	(60,000)	(50,000)

The background of the image is a high-angle aerial photograph of a dark, winding road that cuts through a dense forest. The trees are heavily laden with snow, giving them a white, frosty appearance. The road curves from the bottom left towards the top right of the frame.

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