S&P Global
Market Intelligence

Aspen Aerogels, Inc. NYSE:ASPN

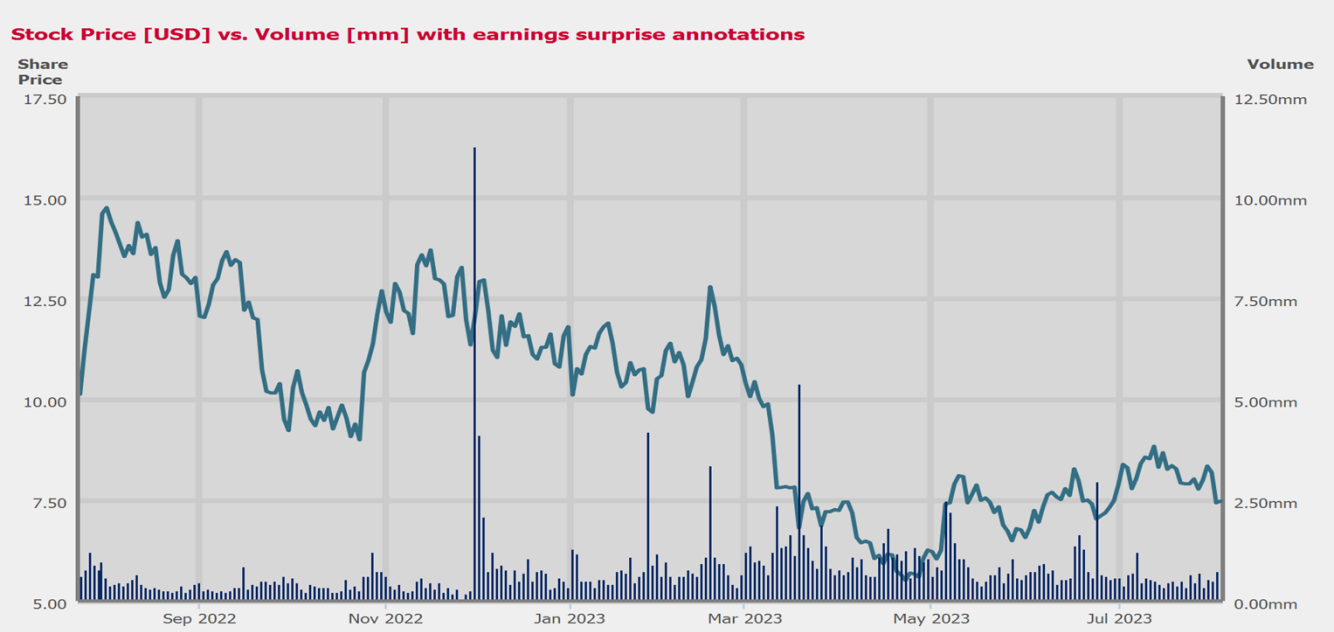
FQ2 2023 Earnings Call Transcripts

Thursday, August 03, 2023 12:30 PM GMT

S&P Global Market Intelligence Estimates

	-FQ2 2023-			-FQ3 2023-	-FY 2023-	-FY 2024-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS Normalized	(0.36)	(0.22)	NM	(0.35)	(1.20)	(0.51)
Revenue (mm)	49.17	48.16	▼ (2.05 %)	55.34	225.36	402.02

Currency: USD
Consensus as of Jul-26-2023 9:19 PM GMT



- EPS NORMALIZED -

	CONSENSUS	ACTUAL	SURPRISE
FQ3 2022	(0.55)	(0.75)	NM
FQ4 2022	(0.29)	(0.20)	NM
FQ1 2023	(0.39)	(0.24)	NM
FQ2 2023	(0.36)	(0.22)	NM

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Call Participants

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Presentation

Operator

Good morning. Thank you for attending the Aspen Aerogels, Inc. Q2 2023 Financial Results Call.

[Operator Instructions] I would now like to turn the conference over to your host, Neal Baranosky, Aspen's Senior Director of Corporate Strategy and Finance. Thank you. You may proceed, Mr. Baranosky.

Neal Baranosky
Senior Director of Corporate of Strategy & Finance

Thank you, Henry. Good morning, and thank you for joining us for the Aspen Aerogels' Fiscal Year 2023 Second Quarter Financial Results Conference Call. With us today are Don Young, President and CEO and Ricardo Rodriguez, Chief Financial Officer.

There are a few housekeeping items that I would like to address before turning the call over to Don. The press release announcing Aspen's financial results and business developments as well as a reconciliation of management's use of non-GAAP financial measures compared to the most applicable U.S. generally accepted accounting principles, or GAAP measures, is available on the Investors section of Aspen's website, www.aerogel.com.

In addition, I'd like to highlight that we have uploaded to our website a slide deck that will accompany our conversation today. You can find the deck at the Investors section of our website.

On today's call, management will make forward-looking statements about our expectations. These statements are subject to risks and uncertainties that could cause our actual results to differ materially. These risks and uncertainties include the factors identified in our filings with the SEC. Please review the disclaimer statements on Pages 1 and 2 of the slide deck, as the content of our call will be governed by this language.

During this call, we will refer to non-GAAP financial measures, including adjusted EBITDA. These financial measures are not prepared in accordance with GAAP. These non-GAAP financial measures are not intended to be considered in isolation or as a substitute for results prepared in accordance with GAAP.

The definitions and reconciliations of these non-GAAP financial measures to the most directly comparable GAAP financial measures and a discussion of why we present these non-GAAP financial measures are included in yesterday's press release.

And one final note, during the Q&A session, in the interest of time, we ask that you limit your questions to 2 questions at a time. If you have additional questions beyond the initial 2, please get back into the queue and we will get to all questions.

I'll now turn the call over to Don. Don?

Donald R. Young
President, CEO & Director

Thanks, Neil. Good morning, everyone. Thank you for joining us for our Q2 2023 earnings call. My initial comments will highlight the implementation of several critical elements of our strategy, our EV OEM development pipeline and GM's ramp, and the financial benefits of key operating efficiencies. I will complete my remarks by drawing a picture of Aspen's business profile, given current assets and opportunities. Ricardo will dig deeper into our financial performance and various elements of our business strategy. We will conclude with a Q&A session.

During our last earnings call, we introduced the idea of our supplemental supply arrangement and the related plan to supply our Energy Industrial customers with products sourced from our aerogel manufacturing partner. The product will be produced exclusively for Aspen, to our quality specifications, and shipped by us under our labeling and through our distribution to our customers.

The implementation of this supplemental supply arrangement supports several critical elements of our strategy. First, it allows us to serve our energy industrial customers with shorter, more dependable lead times and to continue to grow that base load of revenue without supply constraints and in a manner consistent with our goal of achieving overall company gross margins of at least 35%.

Second, it allows us to dedicate Plant 1 in Rhode Island to produce PyroThin thermal barrier in order to support the ramp of our EV OEMs. And third, it allows us to maintain a strong balance sheet by right-timing the final phase of the construction of Plant 2 in Georgia.

In whole, the implementation of the supplemental supply arrangement allows us to focus on driving significant profitability from our existing resources and opportunities. We believe that we are building a business around our current assets and near-term commercial opportunities that has the potential to produce annually approximately $550 million of revenue, approximately $200 million of gross profit and approximately $140 million of EBITDA. We are striving to hit this level of business performance on a run rate basis over the next 4 to 6 quarters.

At the same time, we believe that we maintain our full longer-term upside potential as we continue to have talented teams garnering more design wins from EV OEMs to build out a profitable base load of energy industrial revenue and to leverage our aerogel technology platform into additional high-value markets, including our ongoing work in battery materials.

Regarding additional design wins from EV OEMs, we continue to build our reputation as an industry leader in the mitigation of the risk associated with thermal runaway. We are working closely with several EV OEMs as they finalize the designs of their battery platforms. As we announced earlier, we received our third design award from an important commercial truck subsidiary of a major European OEM group. We are now delivering production parts to this customer.

In addition, we believe we have near-term line of sight on design awards from at least 3 other EV OEMs with volumes expected to commence in 2024 and ramp in 2025. In the meantime, we anticipate an acceleration of the revenue ramp from General Motors later this year as they enter the production phase of the higher-volume Silverado, Blazer, Equinox, and BrightDrop electric vehicles.

Turning to Slide 4 and our Energy Industrial business. Both financial performance and demand are strong. Driven by product mix, operating efficiencies, and a more normalized supply chain environment, we achieved a record Energy Industrial gross margin in Q2 of 27%. We believe we are on track of having the Energy Industrial business provide strong support for our overall company gross margin target of at least 35%.

We have significantly greater demand than we can produce from Plant 1, especially as we dedicate additional manufacturing lines to producing PyroThin thermal barrier. The supplemental supply arrangement is key to balancing supply and demand for the energy industrial business. We previously said that we plan to test our supplemental supply strategy during 2023 before the full program begins to contribute in Q1 2024. To that end, we are currently focused on the completion of our product qualifications with our aerogel manufacturing partner, which, when completed, we believe, has the potential to drive incremental Energy Industrial revenue, gross profit and EBITDA during 2023.

Turning back to the earlier slide. In many ways, Q2 was about blocking and tackling with a keen focus on strategic advancement and unit economics and profitability. Progress in operating efficiencies resulted in a 17% gross margin with significant improvements in both the PyroThin thermal barriers and Energy Industrial segments.

To illustrate the financial impact of the improved operating performance, it is interesting to compare Q2 2023 with Q2 2022, where we had $2.5 million of incremental revenue and $9.6 million of incremental gross profit. Each contributing factor falls under the umbrella of our intense focus on our goal of reaching near-term profitability and achieving gross margins of at least 35%. Consistent with these goals, we are maintaining careful control of OpEx with 3 quarters in a row at the $25 million level.

Before I turn the call over to Ricardo, I want to reiterate that our vision for Aspen is built upon the successful execution of the 3 pillars of our strategy, namely, the implementation of the supplemental

supply arrangement, the dedication of Plant 1 production to PyroThin thermal barriers, and the right timing of Plant 2.

Again, we believe that from our existing resources and opportunities, the business has the potential to generate, on an annual basis, approximately $550 million in revenue, approximately $200 million in gross profit, and approximately $140 million in EBITDA.

We believe that we maintain our full upside opportunity, but during a potential period of economic uncertainty, and while our EV OEMs ramp, we optimize the use of our existing assets and opportunities to create a cash-generating business and to avoid unnecessary dilution.

Ricardo, over to you.

Ricardo C. Rodriguez
CFO & Treasurer

Thank you, Don, and good morning, everyone. I'll start by covering the results of the second quarter and first half of this year and then move on to our 2023 outlook and briefly discuss the key near-term demand drivers across our business segments.

Before handing the call back to Don, I'll also spend some time framing out how we're gearing the company for continued improvements to near-term financial performance as we continue to grow without requiring a second aerogel plant in Georgia, which we've historically referred to as Plant 2.

To cover our results from Q2 of 2023, I'll start on Slide 5. Beginning with revenues, we delivered $48.2 million of revenue in Q2, which translates into 6% growth year-over-year. These revenues were supply constrained during the quarter as our aerogel plant was down for planned upgrades and maintenance on 2 of its 3 production lines, with the lines down for 7 and 8 days during the quarter.

In an operation that is running 24 hour a day, 7 days a week, this is a loss of productivity of at least 8% on those lines during the quarter. This downtime in production was necessary to ensure that we're ready to fulfill an expected ramp in PyroThin demand during the second half of 2023, particularly in Q4.

Year-to-date, we have delivered $93.7 million of revenue, which reflects a 12% year-over-year increase. Energy Industrial revenues in the first half of the year were $69.4 million, a 6% year-over-year increase. Given our capacity constraints, in Q2, we continue to focus on optimizing our Energy Industrial production mix, to lighten the load on our operations by making those products that require the least standard hours of processing and delivered $35.5 million in sales, reflecting a 5% quarterly increase and a 2% year-over-year increase.

Adding to Don's earlier remarks on our energy business, we have approximately $138 million of backlog in orders to fulfill over the next 2 to 4 quarters. To fulfill this excess demand, we are focused on continuing to optimize our mix for steady supply during the second half of the year and bringing in contract manufacturing supply as soon as possible.

EV thermal barrier revenues of $12.6 million were up 17% year-over-year and 8% quarter-over-quarter, reflecting an expected delay in the demand increase from General Motors that we communicated during our Q1 results and steady volumes from the Toyota nameplate that we supply, the bZ4X. Our EV thermal barrier revenues of $24.3 million during the first half of 2023 represent a 32% increase over the first half of 2022.

Next, I'll provide a summary of our main expenses. Material expenses of $17.4 million for the quarter made up 36 percentage points of sales, reflecting the work that our supply chain and procurement groups have put into reducing the cost of some of our main raw materials, particularly silanes. In a normalized environment, it is encouraging to see these costs come in 4 percentage points of sales, below our usual target of 40 percentage points of sales.

The Q2 performance enabled our total material costs of the first half of 2023 to be of $36 million or 38 percentage points of sales, or 200 basis points below our target of 40 percentage points of sales. Conversion costs, which we describe as all production costs required to convert raw materials into finished

products, were $22.4 million or 46 percentage points of sales in Q2. These costs include all elements of direct labor, manufacturing overhead, factory supplies, rent, insurance, utilities, process, logistics, quality and inspection.

These results compare favorably to conversion costs in Q1 of this year, which were a 48 percentage points of sales. As previously mentioned, our long-term target for these costs at a higher revenue run rate is of 20 percentage points to 25 percentage points of sales. So, we still have work ahead of us here. While we've made improvements, primarily thanks to the efficiency of our operations in Mexico, we need to continue capturing additional opportunities to reduce these costs.

As our plant in Rhode Island is fully converted to making PyroThin and it finds its flow, we will continue driving several reductions in the cost of a standard hour of product conversion at the site. Year-to-date, our conversion costs of $44.2 million reflects 47 percentage points of sales and our performance improvement year-over-year here has been primarily driven by fabricating $99 million of subsea products within our Energy Industrial segment in Mexico versus Rhode Island.

In Q2, company-level gross profit margins were up 17% and our gross profit of $8.4 million is a $9.6 million improvement over our gross loss of $1.2 million during the same quarter last year on revenues that were only 6% lower, highlighting how we haven't just been relying on higher revenues to drive profitability. The material cost tailwinds have been helpful, but we still need to keep pushing for a lower fixed manufacturing cost base through process updates.

Our Energy Industrial segment delivered $9.6 million of gross profit or a 59% year-over-year increase. In EV thermal barriers, we had a $1.1 million gross loss in Q2. If we compare this quarter with Q1, our EV thermal barrier gross loss improved by $2.7 million on incremental revenue of only $900,000.

Our second quarter of 2023 gross loss in EV thermal barriers was also 84% lower than the gross loss of $7.2 million that we incurred during Q2 of last year in this segment, reflecting the benefits of automation and our assembly facilities in Mexico. The resulting gross profit margins during the quarter were 27% and negative 9% for our Energy Industrial and EV thermal barrier segments, respectively.

For EV thermal barriers, through Q1 of 2023, we needed a quarterly revenue run rate of $20 million to achieve a positive gross profit. Thanks to additional assembly automation that the team has been implementing, we have now lowered this breakeven point to approximately $15 million of quarterly revenues.

For the first half of the year, our gross profit of $13.5 million reflects a $16.5 million improvement in gross profit versus our loss of $3 million during the same period last year. Operating expenses, which are sized for our near-term projected annual revenue capacity of over $550 million, were $25.5 million during the quarter.

We continue to level off our OpEx increases with 3 consecutive quarters around the $25 million range and have ensured that any additional costs are focused on streamlining how we work and increasing productivity through new process development and important system upgrades with 12-month paybacks.

Approximately 1/3rd of our quarter-over-quarter OpEx increase of $1.5 million was driven by strategic investments in resources tied to accelerating EV thermal barrier sales and commercial launch activity with specific customers. Putting these elements together, our adjusted EBITDA was negative $10.8 million in Q2 compared to negative $18.3 million during the same period last year, resulting in a year-over-year reduction in our EBITDA loss of 41%.

When we compare our year-to-date adjusted EBITDA loss of $24.8 million, with our original expectations for the first half of 2023, we're $14 million ahead of those plans and our EBITDA loss is lower by $8.1 million during the first half of this year versus last year.

As a reminder, we define adjusted EBITDA as net income or loss before interest, taxes, depreciation, amortization, stock-based compensation expenses, and other items that we do not believe are indicative of our core operating performance. In Q2, these other items included $2.7 million of stock-based compensation and $1.6 million of net interest income.

Our net loss in Q2 decreased to $15.4 million or $0.22 per share versus a net loss of $24.1 million or $0.68 per share in the same quarter of 2022. Our quarter-over-quarter net loss decreased by $1.4 million from $16.8 million. Our year-to-date net loss of $32.2 million is $11.3 million lower than our loss of $43.5 million during the first half of last year or down by 26%.

Next, I'll turn to cash flow and our balance sheet. Cash used in operations of $7.7 million reflected our adjusted EBITDA of negative $10.8 million and a decrease in cash needs of $3.2 million. The key items that enabled us to free up working capital during the quarter were an increase in accounts payable of $4.1 million and a decrease in accounts receivable of $3.3 million, while our inventory increased by $6.3 million and consumed working capital

Our capital expenditures during the quarter were $66 million. This put our operating cash needs for the quarter at $73.7 million. $40.7 million of our CapEx was spent in closing the main buildings of Plant 2 in Georgia and helping bring the plant to a healthy resting spot.

While the remaining $25.3 million was spent on tooling up our facilities in Mexico to support the EV thermal barrier capacity ramp through the end of 2024 and finishing the construction of our recently opened Advanced Thermal Barrier Center, along with meaningful upgrades to our state-of-the-art material R&D labs outside of Boston.

As progress on the construction of our second aerogel manufacturing plant continues, we have incurred $244.9 million in capital expenses through the end of the first half of the year towards it. As we right time this project with the support of Turner Construction, most of the subcontractors left the site during the 4th of July weekend, and we expect to spend less than $30 million over the remainder of the year to preserve the asset and position us to complete the project in 4 quarters from when we decide to reaccelerate construction at full pace. We ended the quarter with $134.3 million of cash and shareholders' equity of $420 million.

Turning over to Slide 6, I'd like to spend some time recapping the last 15 months and cover where we've been before going into our updated financial outlook for the remainder of 2023.

On the left side, you can see how, with the exception of Q4 of 2022, where we fulfilled a supplemental order from General Motors, we haven't yet broken through the $50 million quarterly revenue run rate in the past 5 quarters. But at the same time, we've improved the company's gross profit margins from a low of negative 17% in Q3 of 2022 to positive 11% in Q1 of this year and 17% in the most recent quarter.

Our adjusted EBITDA loss has also shrunk from a loss of $23 million in Q3 of 2022 to an adjusted EBITDA loss of $10.8 million in the most recent quarter. Since 2021, we've communicated our plans to double our 2021 revenues by 2023, and we've increased our emphasis on reducing our fixed cost base to accelerate our path to profitability.

This doubling of 2021's revenues into 2023 is still a possibility, but it's heavily dependent on demand from General Motors in Q4 and their ability to fulfill this demand alongside that of our energy industrial businesses growing order backlog. With this high level of variability in demand from GM, we still maintain a range of $50 million in our revenue outlook for 2023, from $200 million to $250 million.

I'll go into more detail in a minute on how we think about General Motors expected ramp. Where we are updating our guidance for 2023 is in profitability, where we are seeing positive results from key initiatives such as optimizing our Energy Industrial revenue mix, reducing our raw material costs, driving process improvements in our subsea and EV thermal barrier's assembly operations in Mexico, and managing our structural costs to yield a near-term payback.

As these efficiencies materialize versus our original plans, we're already $14 million ahead of where we were expecting to be by this time as we were planning the year. At the same time, while a higher revenue run rate is required to further drive near-term efficiencies, we're revising our adjusted EBITDA range to a loss of $45 million to $55 million, a loss reduction of $5 million versus our prior range of a negative $50 million to $60 million of adjusted EBITDA for the year.

As we factor in the effect of meaningful interest income and a different amortization schedule as we operate with less deployed capital, we're also lowering our net loss guidance for the year from a loss of $92 million to $102 million to a loss of $75 million to $85 million.

This improvement of $17 million represents an 18% and 17% reduction on the lower and upper end of our prior guidance range, respectively. This also brings our earnings per share guidance to an updated loss range of $1.07 per share to $1.21 per share. With $115.4 million of CapEx spent year-to-date, we're focused on keeping our CapEx for the remainder of the year below $34.6 million, aiming to still not spend more than $150 million of CapEx in 2023. We will only increase this amount if we see a very clear picture of 2024 EV thermal barrier demand as the second half of Q3 and Q4 materialize.

To provide flexibility, we've recently come to an agreement with an asset-backed lender to fund up to $25 million of CapEx and are in discussions with other lenders to provide us with additional liquidity during the next few quarters. In the near-term, we're focused on managing the company with at least $75 million of cash on the balance sheet and are pursuing non-dilutive sources of financing such as working capital lines of credit, asset-backed loans, equipment leases and other instruments that leverage our current asset base.

You may remember that on June 15, we terminated our ATM program and that we have not sold any equity in 2023. To provide flexibility for reaccelerating the construction of Plant 2, as EV thermal barrier demand starts pointing towards exceeding our current revenue capacity of over $400 million of annual revenues, we have applied for a loan with the U.S. Department of Energy's Loan Program Office, LPO.

As a reminder, the LPO was created to grant loans for large-scale energy infrastructure projects with the goal of supporting the development of more fuel-efficient products, including the expansion of domestic manufacturing of electric vehicles. Our team has continued consultation with the Loan Program Office and was invited to apply for a significant loan as part of its Advanced Technology Vehicle Manufacturing program, which we did on May 31 of this year.

The LPO process is uncertain, and there is no guarantee that our proposed application will be looked upon favorably. We believe, however, that we are a very good candidate for a direct loan as part of the ATVM program, based on the importance of battery performance and safety, and that while the timing can be drawn out, it may match well with our right timing strategy for Plant 2. We have also gotten positive feedback on the quality of the materials provided as part of our application.

Turning over to Slide 7, I'd like to provide more color into how we think about General Motors' expected Ultium EV production ramp in the second half of 2023 and beyond with the help of some data from IHS Markit like vehicle forecast, which, as we've seen over the past couple of quarters has been adjusted downward since the beginning of the year from an expectation of 140,000 Ultium-based vehicles to be produced in 2023 to 76,000 vehicles in the most recent forecast, a 46% reduction.

As we built our revenue projections for 2023 late last year, we anticipated this delay and still believe this forecast to be high. 89% of the expected volume for 2023 is expected to be produced in the second half of the year, putting most of the revenue variability in the second half of Q3 and particularly in Q4.

GM has cited cell manufacturing supplier automation issues as the source of this production delay, but has said that it remains confident in its ability to resolve these challenges in 2023, reiterating their target for 100,000 EVs in the second half of the year, a figure that includes the Chevy Bolt, a legacy vehicle that is currently not yet based on the Ultium battery platform.

With a 30% increase over our part demand from Q2 from General Motors in Q3 and Q4, we'd be able to achieve the low end of our revenue guidance. In forming the upper end of our guidance, it's a higher revenue ramp that is currently being communicated by General Motors and the most recent IHS Markit forecast, projecting GM to triple its Ultium EV production in Q3 over Q2's levels and then more than double that production into Q4.

We are geared to capitalize on any potential demand scenario. But as you can see, the range of outcomes here is wide, but encouraging, particularly for Q4. The production ramp in vehicles in the second half of

2023 of the nameplates that have already been launched, such as the Hummer EV, the large BrightDrop van and the Cadillac Lyriq can drive a significant portion of this demand increase.

The Silverado EV and the Blazer that recently launched along with the Equinox that will begin high-volume production in Q4 will provide additional volumes. GM reiterated the start of production dates during its earnings calls last week, and we're ready to support the ramp amidst broader uncertainty brought by the upcoming UAW negotiations of the Detroit-based automakers, including General Motors.

While our 2023 outlook remains wide, as GM begins its ramp, we believe that in the long term, the outlook remains strong. This belief is supported by our ongoing conversations with GM, other suppliers and IHS. GM has continued to reiterate its long-term commitments to significantly ramp up its EV production capacity over the next few years. It continues to emphasize targets of producing 400,000 EVs from 2022 through the end of the first half of 2024, and is investing in capacity for producing 1 million units per year in North America by 2025. The trends within the latest IHS Markit forecast also align with these expectations for 2024 and 2025.

Turning over to Slide 8. I'd like to cover a question that most investors have asked us since announcing the right timing of our second aerogel Plant in Rhode Island or Plant 2. The question is this, what business are you building during the next 4 to 6 quarters? To which our answer is now a lot simpler. We're basically building a business with the potential of $550 million in revenue capacity available in 2024 and 25% EBITDA margins as we fill that capacity.

Evolving EV thermal barrier demand will determine the timing of when we reach our approximate EV thermal barrier revenue capacity, which we currently estimate at $400 million. Our energy industrial demand already exceeds the initial $150 million annual capacity enabled by our supply arrangement in 2024.

As a company, we're working to have our material costs not exceed 40 percentage points of sales and we're focused on driving our manufacturing or conversion costs to less than 25 percentage points of sales to deliver at least 35% gross margins. 5 percentage points of sales and variance between either of these 2 cost buckets make up the range in cost structure differences across our products.

If we manage material and conversion costs as targeted, we have the potential to deliver $200 million of annual gross profit on a run rate basis. The OpEx ramp that we've experienced during the last 2 years is coming to its end, as we remain focused on managing this below $100 million on an annual run rate basis, which is less than 20% on $550 million of revenues or $110 million.

We've illustrated this basic gearing in Slide 8, while also showing how our historical quarterly financial performance compares with this near-term gearing of our business plan on an annual run rate basis. While the revenue run rate isn't there yet, we've brought material costs and manufacturing costs down, while the OpEx ramp is being managed.

In Q4 of 2022, when thanks to a supplemental order from General Motors, our revenue run rate increased, one can see how our fixed manufacturing costs were better absorbed and our gross profit improved to 24%. As Don mentioned earlier, we have the potential to deliver $140 million of EBITDA or 25% plus gross margin on an annual run rate basis by combining the elements that make up the core gearing of our operating plan in the same quarter.

Over the next 4 to 6 quarters, we are looking forward to posting results on this board and getting closer to delivering the profitability that is enabled by this gearing as demand increases across both our segments and we fulfill it with our current asset base, combined with supplemental supply. As one can see, material costs are already there, and our focus needs to remain on keeping OpEx near $100 million annually and cutting our manufacturing or conversion costs in half as a percentage of sales with the assistance of higher revenues.

Turning over to Slide 9, I would like to close by saying that this quarter has been a lot about near-term execution and setting up Aspen for what we believe is an eventual but not conditional surge in demand. We believe that this is really a matter of when, not if. This growth is driven by the underlying global

vehicle electrification trend and the high share of vehicles that will be launched with pouch or prismatic cells.

Our latest assessments of PyroThin serviceable addressable market is that it can be of $8.7 billion annually in 2030 or an underlying compounded expansion of 27% per year between now and then. While we don't have a crystal ball and process this market sizing exercise with caution, it's clear that the wind is on our sails as we work on our way through the EV plans of different OEMs at their pace, in most cases, enabling a safe transition to electrification.

We remain convinced that this is an opportunity worth capturing with all of our assets and energy to create value and post results as demand gets closer to these market sizing estimates. When we step back and compare these market size assessments that account for only a subset of the global EV market, it is easy to see that with our $400 million of near-term potential annual revenue capacity for PyroThin, we are really only getting started at capturing a very large opportunity while building a business that is geared for profitability in the near-term.

And with that, I'm happy to pass the call back to Don.

Donald R. Young
President, CEO & Director

Thank you, Ricardo. We have covered a significant amount of ground today in reviewing Q2 and our strategy. Before we move to Q&A, I would like to emphasize 3 points. First, and perhaps our most important point, we are focused on driving significant profitability from our existing resources and opportunities.

We believe the near-term business profile as we have constructed and consistent with current assets and commercial opportunities, has the potential to produce, on an annual basis, approximately $550 million of revenue, approximately $200 million of gross profit, and approximately $140 million of EBITDA.

We are striving to hit this level of business performance on a run rate basis within the next 4 to 6 quarters. At the same time, we believe that we maintain our full longer-term upside potential as we continue to have talented teams garnering more design wins from EV OEMs, building out a profitable base load of Energy Industrial revenue and leveraging our aerogel technology platform into additional high-value markets, including our ongoing work in battery materials.

Second, we believe the implementation of the supply -- of the supplemental supply arrangement supports several critical elements of our strategy. It allows us to continue to grow the base load of energy industrial revenue without supply constraints and in a manner consistent with our goal of achieving overall gross margins of at least 35%.

The supply arrangement allows us to dedicate Plant 1 in Rhode Island to produce PyroThin thermal barriers in order to support the ramp of our EV OEMs. And finally, it allows us to maintain a strong balance sheet by the right timing of the final phase of the construction of Plant 2 in Georgia.

And the third point of emphasis, in addition to having the large European commercial truck customer joined GM and Toyota on the list of design awards, we believe that we have near-term line of sight on design awards from at least 3 other EV OEMs with volumes expected to commence in 2024 and ramp in 2025.

Even with this anticipated near-term success, our team believes that we are just getting started as the need for battery performance and safety in EVs becomes yet more paramount.
With that, operator, let's turn to the Q&A.

Question and Answer

Operator

[Operator Instructions] Your first question comes from the line of Eric Stine from Craig-Hallum.

Eric Andrew Stine
Craig-Hallum Capital Group LLC, Research Division

So first, can we just start with the guidance. You've laid out keeping the OpEx largely flat and reasons why the margins -- potentially some improvement from here. And I know it's dependent on the GM ramp, how steep that might be in the fourth quarter, but your EBITDA guide seems to expect, I guess, very little, if any, improvement from what we've seen, especially in the second quarter. So maybe just skew that. And I know in the past, you've thought that fourth quarter of this year was a potential EBITDA positive quarter, whether -- curious whether that still holds.

Ricardo C. Rodriguez
CFO & Treasurer

Yes. So I mean, I think being EBITDA positive in the fourth quarter is still very much a possibility if the GM ramp materializes. However, at the same time, I mean, just given the range of outcomes and the fact that we almost have to protect for a scenario in which the ramp comes in Q1 of 2024 and we have to produce a lot of PyroThin in Q3 and Q4 of this year without having the ability to record it as revenue in -- during this year.

And so we felt that, that combined with -- I mean, in the end, you can only optimize the energy industrial product mix so much without totally not fulfilling orders for particular products. And so we may be in a position here at the end of the year where we have to fulfill some of the energy products that we've sort of postponed manufacturing of during the first half of the year. And I think that combined with a GM ramp that's materializing more aggressively in Q1 of next year, it's really what guides that conservativeness on -- and the lower end of the guidance.

I mean, I do feel pretty good about the savings, and there's more juice left to squeeze, particularly as the revenue run rate increases, we just want to be careful here, Eric, and protect the range from some of these lower probability, but still potential scenarios.

Donald R. Young
President, CEO & Director

Eric, I would just add -- to echo what Ricardo said. We realized that our revenue outlook is pretty wide, right? We're halfway through the year. And there are really 2 things that will cause us to move higher in that range. One, of course, is the GM ramp. And the second -- and I mentioned it in my comments and as did Ricardo, the ability to test the supplemental supply agreement here a bit in the latter part of this year. If we can get one or both of those things to happen, of course, we move higher up in that revenue outlook range. And I think you'll see us continue to improve our EBITDA outlook. But for now, until we see those things fall into place, while we did improve the EBITDA outlook a bit, I think we're very comfortable with where it is right now.

Eric Andrew Stine
Craig-Hallum Capital Group LLC, Research Division

And then maybe just on the second question. I know you had some thought that you might -- whether it was before on this call, be able to announce an OEM, and I know you mentioned that at least 3 for the remainder of the year. I mean, is there any thoughts on timing, gating factors there? And maybe longer term, do you kind of have a thought of how many OEMs you potentially have if we looked out to, say, 2025?

Donald R. Young

President, CEO & Director

Well, we have talked about 3 to-date award -- design awards. We're -- as I said in the last earnings call and reiterate again, we feel confident that we will have a half a dozen design awards by the end of this year and that will begin to contribute a bit in 2024, but really ramp in 2025. Those are the near-term opportunities. We continue to work with virtually all the companies around the world who are -- have pouch and prismatic designs in their battery platforms. And we believe that we will continue to make inroads with all of those companies, whether they turn into design awards or not, time will tell. But I can say, and I think we all are seeing the dangers of thermal runaway and the need to address it to be ever more important. And we are confident that all the EV OEMs are going to address this in some manner. And again, we think we're industry leaders in the mitigation of that risk.

Operator

Our next question comes from Alex Potter from Piper Sandler.

Alexander Eugene Potter
Piper Sandler & Co., Research Division

So maybe first question on profitability. And I guess the things that give you confidence with the new contract manufacturer, you mentioned, on the one hand, with regard to revenue, you could be toward the higher end of your range if that contract manufacturer sort of pulls their weight and comes online sooner than expected or on time, which would -- which is easy to sort of conceptualize. But what I'm trying to get a better understanding of is the impact that, that would have on margin. So what does it -- how do you feel confident that as you shift that mix toward the contract manufacturer, somebody won't drop the ball somewhere or there won't be price dislocation or cost dislocation. So anything you can comment on in that regard would be great.

Donald R. Young
President, CEO & Director

So the way we think about it a couple of different ways. If you compare it to the current situation of producing in the East Providence plant, we take raw materials from the U.S., from Europe and several from Asia, including China, and we bring them -- we put them on the water for 8 or 10 weeks, and we bring them into this country, and we pay a 30% tariff, and we bring them up to Rhode Island, and we produce our energy industrial product there, and then we turn around and we export about 2/3 of that, much of it back out to Asia. So you can see there's a lot of cost and a lot of time and a lot of working capital associated with all of that.

And so I guess the clarity that we have is for one thing we've got a lot to work with, as I just described. And I think the clarity is we know our pricing for our energy industrial products, well established. And we also know our contract arrangements from the supplemental supply. So there's not an enormous amount of mystery left to that. Yes, we have to execute. They have to execute. We're working very closely with them. But the math is pretty clear to us, and it says that it very much supports our overall targets of 27 -- excuse me, 35 -- at least 35% gross margin. And you saw Alex, this quarter on the energy industrial side, we were at 27% level, even without some of these enhancements.

So I think a lot of our operating efficiencies are improving. We're seeing sort of the supply chain and raw materials, let me just say sort of normalize a little bit after, of course, a very hectic 3-year period or so. So that's sort of the math. That's sort of both the atmosphere and the math, I guess, behind the supplemental supply.

Ricardo C. Rodriguez
CFO & Treasurer

Yes. And if I may add, I mean, I think the margins are aligned with our expectations given all of the room that there isn't the value chain to have contract manufacturer support our energy business. But most importantly for us and really why the pressure is on us is that we don't really take margins to the bank.

We take the incremental gross profit. And here with the backlog of roughly $138 million on the energy side, there's money there that we are just not taking by -- not being able to fulfill the demand.

Alexander Eugene Potter
Piper Sandler & Co., Research Division

Maybe one other question just goes to what you were alluding to just there and the last question with Eric, Don. This is the risk of potentially having to build some inventory given, I guess, the uncertain ramp, and I can appreciate how uncertain these ramps are this is sort of par for the course when somebody is turning on a big factory like this. But I've noticed that the inventory has been ramping up a bit sequentially here over the last couple of quarters. What is that? Is that reflecting a preparation for the GM ramp, I guess, just qualitatively, what's in inventory and will that continue?

Ricardo C. Rodriguez
CFO & Treasurer

Yes. I mean at this point, for us, inventory really means flexibility, right? And so when we look at the demand that we get from a customer like GM or I mean, on the automotive side, you're in a sense, have a right to build and invoice the customer for the next 4 weeks of demand. And the demand is changing on you roughly every 2 weeks. And you have a rough view of what the next 40 weeks are going to look like. But again, that can be changed every 2 weeks. And so having some inventory on hand to at least give us a month to react here, particularly on the aerogel side, we think it's important as we manage this ramp, particularly with GM.

And so the roughly $6 million of inventory that we added included quite a bit of finished goods PyroThin inventory that is basically ready to get processed in Mexico. And I think -- yes, so far -- I mean, actually, Slide 8 is really telling if you -- this is -- what we're going through now is almost a repeat of the movie that we saw in Q3 and Q4 of last year. If you see the ramp that we had in Q4 when we fulfilled the $101 million of EV thermal barrier revenues on an annual run rate basis, right?

That really came at the expense of energy revenues in Q3 because we had to make quite a bit of the PyroThin required for Q4 in Q3. And so that same dynamic is really playing out here until we get the additional supply source for the energy business. And so that's where the inventory build is going. It's really going towards enabling some flexibility on the EV thermal barrier side. And trust me, I mean, on the energy industrial side, really, the team is doing everything they can to empty the warehouse at the end of each quarter.

Operator

Our next question comes from Jeffrey Osborne from TD Cowen.

Jeffrey David Osborne
TD Cowen, Research Division

The [IHS] figures are very helpful. I had a question on the 3 potential awards. Is there a way of characterizing those relative to the GM ramp in terms of size and scope would be helpful?

Ricardo C. Rodriguez
CFO & Treasurer

Yes. I mean, I think in Toyota, it's no secret that right now, we're only supplying one nameplate. So that's the smallest one. And then the award that we have here with European -- on the commercial truck program, is the second -- the smallest and the GM one makes up the lion's share of the near-term volume. However, the program in Europe with the commercial vehicle manufacturer, we actually already started delivering production parts to them and that will ramp up significantly in 2024, and it will make up a good portion of the run rate that we're currently seeing with GM.

Jeffrey David Osborne
TD Cowen, Research Division

Jeff, I was referring to the 3 potential awards that you were announcing before year-end. Is there a way of dimensioning --

Ricardo C. Rodriguez
CFO & Treasurer

Yes, I mean, there's some pretty big ones, right? I mean --

Donald R. Young
President, CEO & Director

Yes, the way I would say, Jeff, I think, again, just, I would say that that we're very focused. We have a strong team in Europe. And we believe that even with significant growth from General Motors and additional North American wins, there's a reasonable chance that Europe could be our largest market in 3 to 5 years. And so a lot of the success we're anticipating here in the near term, I think, supports that or get that process started in a pretty significant way.

So General Motors is obviously right in front of us and are very large numbers. But we're really working hard to create diversity of OEMs and geographies and we think we're doing a pretty good job of that. So I think we'll be able to answer that question a little better as we end this year and enter 2024.

Ricardo C. Rodriguez
CFO & Treasurer

Yes, one key thing to keep in mind when thinking about the sizing of these European programs is that they're all for prismatic cells. And so the content per vehicle opportunity is lower. But at the same time, the process to manufacture those parts is a lot more streamlined and we think we can ramp that up faster than some of the current designs that we're supplying.

Jeffrey David Osborne
TD Cowen, Research Division

And maybe just one follow-up. You mentioned a few of those, maybe all 3 would start in '24, but really ramped in '25. So keeping in mind the fourth quarter construction cadence to finish Georgia, and I think maybe you can update us, but I think it was $450 million to do that. Would you need to sort of pull that trigger in the spring of '24 to start that process? Or how do we think about when Georgia, if you were to win all 3, when Georgia would have to commence the restart of construction?

Ricardo C. Rodriguez
CFO & Treasurer

We don't think we need to do it that early next year. It really depends more on General Motors, frankly, than these other customers. That's the other benefit of supplying prismatic cell programs that the material tends to be thinner. And so we could actually -- our capacity on the $400 million would be significantly higher. We're supporting mostly prismatic cell programs that are thinner. So I think we have actually more time to make the decision and what would actually force a decision to pull ahead the plant would be GM's acceleration of demand.

Operator

Our next question comes from George Gianarikas from Canaccord Genuity.

George Gianarikas
Canaccord Genuity Corp., Research Division

So just to focus on the 3 OEMs again. Can you just talk about the process that you've gone through? And what has the bake-off look like? Who are you competing against? What are the requirements that they need. I'm just kind of curious if you can give us any more detail as to what that process look like?

Ricardo C. Rodriguez
CFO & Treasurer

Yes. I mean -- so George, the process is very similar amongst all of them. And I wish we had [indiscernible] our Head of Sales here with us to help us answer this one. But I mean, in essence, the questions that we used to get around being compared with other materials like ceramic papers and mica sheets, we don't get that anymore. We're being able to leverage a lot of the data that the team has developed over the past year with customers demonstrating that we really are the only solution for solving the main 3 requirements that they're looking for. They're looking for thermal isolation in essence, the thinnest and the lightest envelope possible. They're looking for fire protection and most importantly, in the one that all of our "aspirational competitors" miss is this requirement around the mechanical properties of the material. We're in [essence] of spring inside of the battery in between every single cell.

And so it's less about demonstrating the performance now, and it's actually about just coming up with the design that will fit -- designs that, in many ways are already in flight and in progress. This idea of solving for thermal runaway is new at some of these OEMs. And so we have to bring them up to speed on -- actually on these requirements in many ways. And then it's really I think the tallest pole in the tent is their design time line for making PyroThin fit within their designs.

And then a lot of the programs that we have quoted also have to go through their own approvals inside of the OEMs to get capital that enables the supply teams to source us. And that's a drawn-out process depending on the OEM, right? Very few OEMs have the same approach that GM took of going all in on a new battery platform that will underpin vehicles that haven't even been announced or thought of inside of General Motors. Instead, it's more of a nameplate-by-nameplate, application by application exercise that the team is going through. But again, I think we -- it's not really a bake-off now, it's really more of an engineering and development exercise to develop the battery pack that delivers the vehicle requirements safely with our product in it. And that takes a while, right?

I mean, for us in Europe right now, it's -- we're starting August. So that works against us with all of Europe taking August off. But we feel pretty confident around the volume of prototype orders that we're getting from these customers, the engagement that they're having. And the discussions are becoming more strategic in nature, particularly with OEM groups that have multiple brands, but don't quite have this sort of single platform approach that General Motors has.

Donald R. Young
President, CEO & Director

George, I would just add, and I really do agree with Ricardo, the image of fitting into their platform ideas. One other thing that's really helping, I think, significant is we're a lot better, too. We have really come to understand the challenges around the mitigation of thermal runaway, but also of the sort of the mechanical test as well. And so we bring a lot of expertise into these discussions and that expertise is increasing with every day that passes. So I do agree with Ricardo that the gating item tends to be, at this point, more about their own battery design than a competitive bake-off.

George Gianarikas
Canaccord Genuity Corp., Research Division

And just as a follow-up, just to make sure I understood the range of outcomes to hit your guidance at the low end of the high end for GM. So you have this on Slide 7, 20% and 47% in Q4 [$1,000] for GM. And I'm curious if hitting those numbers, did you say that would bring you to the high end of the range or the mid --

Donald R. Young
President, CEO & Director

I think well -- so I mean, it depends on which numbers, right? So if we look at GM's current demand rate, which is basically a 40-week expectation, we come in like well within the range, but that can always change. If we were to supply the IHS rate, I think we would totally come in above the range. At the same time, it's hard to tell how many parts GM still has in inventory. We don't have that communication back from them. And so as I mentioned in my remarks, right, I mean, for us to come in on a $200 million of revenue this year, we would only need the run rate to increase by about 30% in the next 2 quarters over what we delivered to them in Q2. And that's -- I mean, I think that's a realistic expectation, right.

Operator

Our next question comes from Chris Souther from B. Riley.

Christopher Curran Souther
B. Riley Securities, Inc., Research Division

Maybe just a little bit on the puts and takes on the gross margins for PyroThin once the contract manufacturer comes online, does that change the breakeven point for PyroThin gross margins? I'm just curious if there's like a step down in those margins when that's all you're producing out of Rhode Island.

Ricardo C. Rodriguez
CFO & Treasurer

No. I mean, that breakeven point is really more driven by the assembly. And I mean don't get me wrong, I think there's still efficiencies on making only PyroThin in Rhode Island. But I'd argue that all of those efficiencies are ending up more likely on the energy industrial side, given that a lot of the processes for the energy industrial side would be taken out of Rhode Island and not necessarily benefit PyroThin.

Christopher Curran Souther
B. Riley Securities, Inc., Research Division

And then just a last one to put a point on the EBITDA guidance. It seems to reflect kind of the low end of revenue range where GM kind of slips on the ramp. Where does that shake out if GM's ramp stays on their targeted schedule and you hit that positive EBITDA in the fourth quarter. Just what is kind of the upside there since it seems like you're kind of guiding people to the downside case?

Ricardo C. Rodriguez
CFO & Treasurer

Yes. I mean I think there's definitely a probability of coming in on the high end of the range of profitability. If we have a good Q4 and if GM's demand ramp really starts in Q4, quite a bit of it would come at the expense of Q3. So I mean, I think the higher end of the guidance range reflects that, right? It reflects a good Q4, but not a great Q3 and that's how we see things potentially playing out here.

Operator

Our next question comes from Thomas Curran from Seaport.

Thomas Patrick Curran
Seaport Research Partners

Just going to [add] some cleanup here on the 3 automotive OEMs that you're in the most advanced stage of business development with and optimistic about potentially converting into significant EV -- into significant EV TB customers. Just could you confirm that -- are all 3 of those European OEMs? And then are each of the 3 distinct automotive groups? Or are any of them separate brands, but subsidiaries of the same automotive group?

Ricardo C. Rodriguez
CFO & Treasurer

It looks like you have a bingo board there.

Donald R. Young
President, CEO & Director

Yes, some are part of the group and some are separate or independent.

Thomas Patrick Curran
Seaport Research Partners

Okay. And all European?

Ricardo C. Rodriguez
CFO & Treasurer

Yes.

Donald R. Young
President, CEO & Director

Yes.

Thomas Patrick Curran
Seaport Research Partners

And then just for my second here that's left actually my first call question on the energy industrial side in a while. But for that division's LNG market, could you update us on what LNG sales should account for as a percentage of EI revenue this year? Are you also producing Cryogel product for LNG customers out of Mexico now as well? And are you currently pursuing any visible large LNG projects by which I mean opportunities that could result in awards, comparable in size to the PTT Nong Fab receiving terminal contract that you won and delivered over 2019, 2020?

Donald R. Young
President, CEO & Director

Let me peel that back a little bit. I might start with the latter part. And remind me if I missed the beginning part. We are pursuing several of the LNG projects that are on the drawing board. I mean, well along, frankly, on the drawing board where we have worked our way into the specifications of these projects. Not all of them, of course, are the size of the PTT project, which was about $45 million. But they are significant orders. PTT, of course, is also expanding their facility with another receiving line as well, and we're working hard to participate in that, and we performed extremely well on the earlier projects. So we think we're in a strong position there.

We are first focused on the supplemental supply agreement around our Pyrogel product, which is the lion's share of our revenue in the energy industrial area in the range of 3/4. And we will move to qualifying our Cryogel products next with the supplemental supplier. And so -- and that breakdown is roughly 3/4 on the hot side and the remaining amount on the cryogenic cold side of the slate. So yes, we're good at this business, Tom, as I think you know, and it was one of the reasons why it was so important for us to do the supplemental supply, we would have been severely capacity constrained in that business and there's no question that we would have had demand destruction had we not thought through and anticipated the EV business growing as it is and consuming Plant 1 for now.

So anyway, it's a really important part of our strategy. And we think we'll provide excellent service. A lot of that business is in Asia and to serve it from Asia, again, makes a ton of sense for us, both from a customer service point of view and from an economics point of view.

Ricardo C. Rodriguez
CFO & Treasurer

I think there was also a question there on Cryogel in Mexico. And so Tom, maybe just to clarify, so Cryogel -- for Cryogel, we're still selling just aerogel installation roles that come out of Rhode Island. It's our subsea products that are being with the -- those roles basically go through an additional process of being put inside of bags or they get encapsulated that cutting and encapsulation is what is happening in Mexico for subsea projects, not for Cryogel.

Donald R. Young
President, CEO & Director

No, no, I was just going to say, I know you're kind of a reformed oil and gas guy. And so I would just say it's really interesting to us. We're seeing a tremendous amount of activity in our subsea business as well, which is, I don't know, we've been a little surprised by, but we're -- we've won a series of projects that extend well into 2024. So again, supporting that business, I think, very well.

Thomas Patrick Curran
Seaport Research Partners

Just to wrap this up then, could you just provide us with rough estimates for LNG and subsea, respectively, as percentages of EI revenue?

Donald R. Young
President, CEO & Director

I like the 75-25 to the Pyrogel side.

Operator

[Operator Instructions] Our next question comes from Amit Dayal from H.C. Wainwright.

Amit Dayal
H.C. Wainwright & Co, LLC, Research Division

Yes, most of my questions have been addressed already. I won't take too much of anyone's time. Just on the competitive side, are you seeing any other competitive solutions coming up to the thermal barrier product offering?

Ricardo C. Rodriguez
CFO & Treasurer

No. I mean, we see websites and kind of press releases being put out, but we don't see them gaining traction within the commercial processes that the team is engaged in.

Donald R. Young
President, CEO & Director

It is a hard problem to solve and it's a multidimensional problem to solve. Occasionally, we'll see something that addresses part of the problem, but to have a -- to address all dimensions of the problem is very difficult. And that's -- I think that's the importance of our product and the work that our team has done in optimizing around that multidimensional challenge.

Operator

Our next question comes from Colin Rusch from Oppenheimer.

Colin William Rusch
Oppenheimer & Co. Inc., Research Division

Our [check] suggests that some of the mechanical properties that you guys offer are critically important to the win rate here. Can you talk about what you're seeing at this point around the leverage from those mechanical properties, particularly as we get into structural battery packs becoming more prevalent outside of just Tesla?

Ricardo C. Rodriguez
CFO & Treasurer

I mean, I think the mechanical element just continues becoming more important, right? I mean -- and a lot of these structural battery packs, now they're going to have crash requirements put in as well. And so we think that will yield to just more complex parts overall, right? And it's really interesting how everybody has to optimize for not just these mechanical elements and the structure or integrity of the pack itself. But now also, there's this element of ease of assembly and particularly cost right. And a lot of these ancillary things to the cells were not considered, I'd say, in the prior generation of EVs. And now as we're seeing, it's become a meaningful element of the design of the pack itself and its cost.

But I mean, as packs get more structurally focused, I think we have plenty of room in there even for LFP cells and a lot of these structural packs are actually LFP cell packs.

Donald R. Young
President, CEO & Director

I think Colin also on sort of the economics of it on the mechanical side are interesting as well in the sense that as we optimize our material to do not only the thermal, but the mechanical, we have an opportunity to displace some existing materials and in some cases, quite costly, expensive materials, and it helps our value proposition as we try to have the best possible solution. And I think certain OEMs started with the mechanical stability, if you will, of the inserts and have come to -- the thermal part of it are coming to the thermal part of it later. And so again, having a concept around displacing some of the existing materials that our cell to cell has been a really important part of our strategy. And it's been a nice economic opportunity for us as well.

Operator

I will now turn the call over to CEO, Don Young for closing remarks.

Donald R. Young
President, CEO & Director

Thank you, Henry. We appreciate everyone's interest in Aspen Aerogels, and we look forward to reporting our third quarter 2023 results to you later in the year. Be well, and have a good day. Thanks so much.

Operator
Ladies and gentlemen, that concludes today's call. Thank you for joining. You may now disconnect.