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Coretec Group Inc To Host Shareholder Call

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PRESENTATION

Operator

Welcome to the Coretec Group's Shareholders Conference call.

At this time, all participants are in a listen-only mode. Please be advised that today's conference is being recorded. I would now like to hand the conference over to your speaker today, Matt Kappers, Chief Executive Officer of the Coretec Group.

Please go ahead, sir.

Matthew Kappers ***Coretec Group - CEO***

Great.

Thank you, Norma. Good morning, and welcome to the Coretec Group's Investor Presentation.

I'm Matt Kappers, the Chief Executive Officer of the Coretec Group. And with me are Dr. Ramez Elgammal, our Chief Technology Officer, and Dr. Michelle Tokarz, our Vice President of Partnerships and Innovation.

I'd like to take a minute to introduce Ramez. He is a key player on our team. Ramez has over 12 years of experience in the energy storage arena, which is a long time in today's rapidly changing battery world. He has worked with a number of different types of batteries and battery components, including electrolytes, cathodes, and, of course, anodes.

Ramez earned a Ph.D. from Caltech in chemistry, which fits perfectly with our bottom-up chemistry approach. His R&D experience includes working at both universities and in the commercial sector. Most importantly, his vision, backed by hands-on experience and chemistry background, is leading Endurion to the successes which we will discuss today.

We have some great news to report today. Our battery testing has yielded strong and promising data. Our unique approach is working. These results support the inventions in our recent provisional patent filing. In today's call, we will go into the details of our testing and patent, as well as discuss our partnerships. We will wrap up today's presentation by answering questions that were submitted over the past few days.

I was on a webcast last week with a couple of EV industry players. Our discussion was centered on battery innovations and EV adoption. The recurring theme was range anxiety.

To minimize this, EV batteries need higher energy density and faster charging times, as well as longer lifespans.

These are exactly the goals of our Endurion program.

Before we get into the test results, it's important to have a quick recap of the value of silicon anodes in our Endurion technology. First of all, why silicon? Currently in lithium-ion batteries, graphite is the anode material which is most widely used. Silicon, on the other hand, is attractive because it has 10 times the theoretical storage capacity as compared to graphite.

As such, even a modest increase in silicon can be a game-changer that will revolutionize the EV market. For example, an anode with 20 to 25% silicon could potentially double the energy capacity as compared to a full graphite battery. Our current developments with Endurion are focused on developing coatings for silicon nanoparticles that form composites when mixed with graphite carbons. In addition, silicon is plentiful and environmentally friendly. Silicon has desirable properties, but definitely has its challenges. The major problem is the expansion and contraction of the silicon particle as it charges and discharges.

A fully-lithiated silicon material can expand as much as 300 to 400%. Given the somewhat fragile nature of silicon, it fractures and pulverizes as it expands and contracts, which greatly decreases its performance.

Secondly, as part of the chemical reaction, a solid electrolyte interface layer, also referred to as the SEI layer, is formed. This SEI layer breaks apart and can trap lithium as it reforms, contributing to loss of capacity and furthermore obstructs the flow of lithium ions into the silicon material.

Expansion and contraction in the SEI layer results in a shorter cycle life. We are solving these problems. How is Endurion solving these issues? Our approach is different in two fundamental ways. First, we are using silicon nanoparticles that are created through a bottom-up process.

Nanoparticles can be created in two ways. One way is by milling down larger particles into nanoparticles, although this process definitely has its limitation. The milling process tends to produce larger and irregular nanoparticles. The bottom-up approach uses chemical methods to create silicon nanoparticles that are smaller and more uniform in shape. The smaller nanoparticle is less likely to fracture.

Further, by creating nanoparticles through chemistry, it allows us to have better control of the surface characteristics of the particle. All of these factors are important in the second part of our differentiator, an engineered solid electrolyte interface layer.

Starting with bottom-up silicon nanoparticles, we are adhering a polymer to the surface, thereby creating an artificial SEI layer, which minimizes the degradation and allows for the easier flow of ions into the silicon and also produces better conductivity, both of which will improve charging times. The chemically synthesized silicon nanoparticle forms the basis of Endurion's anode material, and our approach was chosen specifically to be scalable, unique, and to develop transformative materials for the EV battery space.

Ramez, do you have any other additional thoughts on what we just discussed?

Ramez Elgammal ***Coretec Group - Chief Technology Officer***

I do, and thank you, Matt, for the nice synopsis.

So, what Matt was alluding to was one of the major issues with silicon anodes being the SEI, and our approach to tailoring the SEI also was done to prevent further reactions with the electrolyte, and we think this is the best opportunity to get stable cycling.

And one of the fundamental issues that exists with not just silicon anode batteries but all battery types is the interface that exists between the electrode and the separator, and some of the chemistry that we're decorating our silicon nanoparticles with also attempts to address these interfacial issues, which will improve the transport.

So, if you want to think about how lithium moves in and out of a battery, you can think of a highway where you're driving and there's traffic, and you want to get around the traffic so that you can get to your destination faster. So, the structure of the electrode kind of makes your car, in this sense, be able to weave in and out and get there faster.

Matthew Kappers ***Coretec Group - CEO***

That's great. So, that's a great analogy, Ramez. Thank you.

Okay, so now that we've had a refresher course on Endurion, let's get into the battery tests. There are two primary metrics for battery testing. They are cycle rate capability, known as C-rate, and cycling stability. C-rate measures the speed at which a battery is fully charged and discharged relative to its capacity. Cycling stability tests measure how many charge and discharge cycles a battery will last until it loses its capacity.

In our tests, we use a benchmark of how many cycles until a battery loses 80% of its initial capacity. The objective of our testing is multi-fold. First, we want to see how the artificial SEI layer behaves when the anode is charged and discharged, and how it improves cycling characteristics. We ask the questions, how long until it degrades? Is the artificial SEI also acting to enhance lithium-ion conduction?

Secondly, we test the conductive additives. We are incorporating electrically conductive carbon nanomaterials onto the silicon nanoparticles, as well as conductive carbons in the composite electrode. Silicon is inherently less electronically conductive than carbon, so care needs to be taken to design an anode material with sufficient conductivity throughout the electrode to handle the fast charging.

Thirdly, we hold constant the manufacturing process while modifying the active material compositions. These controls are necessary to identify the prevailing elements in our artificial SEI that play critical roles in improving performance.

We also compare dry versus wet processing with various solvents. Currently, we're making great progress using a water-based slurry casting, which is significantly less expensive and easier to use as compared to ethanol or NMP solvents. And furthermore, water is more environmentally friendly.

Battery development and testing is an iterative process, and the overall goal is to determine which formulations yield the best results.

To accelerate our development, we have purchased our own battery testing equipment, thereby reducing our dependence on third-party testing. However, we will continue to use third-party testing companies to independently validate our battery materials. But for everyday development and testing, having our own equipment is much more expedient and less costly.

Another important part of the testing procedures is to characterize the material before and after it has been tested. Fortunately, being located in Ann Arbor, we are close to the University of Michigan in Wayne State University. They have the necessary and very expensive equipment needed for characterization testing. Our senior scientist has extensive training on these instruments, giving us the ability to perform post-test diagnostics using this equipment. As such, we can learn from our successes as well as our mistakes, and this feedback loop is crucial for rapid progress.

Ramez, any further elaboration on that?

That was a mouthful about all our testing.

Ramez Elgammal ***Coretec Group - Chief Technology Officer***

Yes, it certainly was Matt, but [there are] a few things that I'll add. I'd like to say that the testing and the protocols that we've developed are specifically targeted to make batteries that meet the demands of EVs. Those batteries have different requirements than you find in your laptop or your cell phone. The testing protocols and the rigorous screening of materials that we're doing in our lab in Ann Arbor and with our testing partners have been done with that in mind.

And now that we have our own lab set up where we can test our materials in-house, this will give us the ability to do high throughput screening, which will only drive innovation further and get us towards our goal of developing an anode material that has high energy density, [which] will deliver long range in an EV sooner, can be realized.

And back to Matt's point about this being an iterative process, we have a clear roadmap in mind and with pivot points that we are essentially examining a broad scope of potential coatings that I'll get more explanation to in the next section of the call.

Matthew Kappers ***Coretec Group - CEO***

Ramez, can you elaborate a little bit more on the importance of the characterization that's done on this material?

Ramez Elgammal ***Coretec Group - Chief Technology Officer***

Yes, certainly. There are a few things about the characterization. When our senior scientist is making these materials in the lab, we want to know that the chemistry that's happening at the surface of the silicon is what we planned out so that we know from a composition of matter, and this becomes important from the patentability of the material, that we know exactly what's on the surface and that can be characterized by a wide variety of methods and that we know what's in the electrode before it undergoes cycling and then what's known as the postmortem analysis after it undergoes cycling so we can see what happens inside the cell so that we can learn more about pathways where a material may degrade so that we can re-engineer or refine our approach to making this material.

And that is absolutely critical to driving this innovation and success.

Matthew Kappers ***Coretec Group - CEO***

That's great. Thanks, Ramez.

Okay so let's get into the test results. All of the materials that have been tested as candidate anode active materials have been rigorously characterized, as Ramez just discussed, to confirm the chemical modifications that were designed in appending the artificial SEI on the surface of the silicon nanoparticles.

We performed cycle tests on the modified material that's silicon material that has our engineered SEI layer against unmodified material which doesn't have any additives to the nanoparticle.

This set of tests were performed at the University of Michigan battery lab with both our personnel and the UofM battery lab folks. These tests gave us favorable and confirming results.

First of all the test proved that our engineered solid electrolyte interface layer the SEI layer improves the rate capability with respect to the unmodified silicon nanoparticles. This is significant and shows promise that our Endurion electrode materials are well-suited for fast charging.

Secondly we tested cycling stability of both modified and unmodified silicon material and our modified material outperformed the unmodified materials substantially. This test proved that our approach works. Our strategies have now gone beyond proof-of-concept experiments. We are now expanding the scope of our materials for an artificial SEI and fine-tuning the composition of our anode to deliver even better performance.

Our unique solution to developing silicon anode materials coupled with having in-house testing and world-class characterization tools in our backyard gives us a clear pathway for success.

Okay, Ramez, you want to get you want to interpret a little bit more of what we just what we just talked about?

Ramez Elgammal ***Coretec Group - Chief Technology Officer***

Sure so probably one of the most significant findings that came out of our work at the University of Michigan battery lab was that the coatings that we've developed for these silicon nanoparticles showed that when the battery is cycling and lithium is reacting with the silicon to make -- and this happens in various stages depending on the degree of lithiation or essentially how much lithium can you load into the silicon particle. One thing that we saw was there is what's known as a metastable phase or a specific composition of lithium and silicon that is unfavorable to form and our coating compared to an unmodified material suppressed the formation of that that unstable phase.

So that's an early indication that the SEI layer that we've artificially engineered is doing something favorable and throughout our testing in the future we're going to expand upon that and see what we can do about making it even better.

And other things that we've learned so far from the testing is the formulation of the electrode material, not just what's on there but the processing steps, the mixture of conductive carbon, the order in which all those things are combined together including the binder in the electrode matter. So if you think of a design of experiment type of -- that parameter space, we are actively exploring that parameter space and our testing protocols are revealing even more methods or steps that we can do to optimize the performance.

And all of this is ultimately driven by increasing the silicon loading so that we can develop batteries that have high energy densities to meet EV demands.

Matthew Kappers ***Coretec Group - CEO***

Yes, that's great and again you know having the access to the University of Michigan Battery Lab as well as we use Polaris which is another well-known testing facility and then having our in-house has been a real blessing as far as expediting our work.

All of the test results that we just discussed led us to led us into filing our provisional patent and Ramez is our expert in in the patent landscape not just with the silicon anodes but with other batteries.

Ramez, you want to lead the discussion on the patent portfolio and where we stand?

Ramez Elgammal ***Coretec Group - Chief Technology Officer***

Sure. I'll start out by giving a very small primer on patents and what they are and why they're important.

Before I get into that, one thing that I want to highlight is that the IP or intellectual property landscape for batteries is highly competitive and companies and universities as well are out there patenting things and one of the most important things in a patent are the claims, and a claim is basically a statement where you're saying what the crux of an invention is.

And if you look at the scope of claims that exist already, if a patent has been granted and someone makes a claim that that restricts your ability to make an identical claim for your technology.

We've thoroughly investigated the battery landscape for IP for silicon anodes and have identified several key things that were absent that we'll get to later, but what I will say is that there's a strong need to develop IP that's both distinct, so that you can have a patent that's granted and that one that actually offers solutions that are innovative. And those are things that we've done.

And if we look at more generally the importance of a patent what it gives you is the ability to generate income for your corporation through a variety of means by licensing, sale, or commercialization of your protected IP and these IP assets are becoming highly valuable and are replacing more traditional [assets] (corrected by company after the call) or value more broadly.

And, ultimately, there are several strategies that exist around how to use your IP that were outlined in that bullet point, and the ultimate driving factors are a return on investment for the R&D and increasing the market capital of the corporation.

So, what does a patent actually do? A patent gives property rights to an inventor and basically prevents other entities from using that technology. So, it's a critical way to give you a competitive advantage over not only other technologies, but also other competitors in the space.

Now if we think about the types of patents, there are several types of patents that exist. The ones that are important from the perspective of batteries are known as a utility patent. And, a utility patent, at least in the United States, once it's granted, gives you a 20-year window from the time in which it was initially filed. And this utility patent can be a process, the route that is used, say, to make an electrode material, it could be a device, so say our anode material fully integrated into a battery with a given separator and a cathode material, and the specific composition of matter.

The chemical groups that are on the silicon nanoparticle and related chemistries are protected under a utility patent.

And, if we think a little bit more about the patent process, one of the most critical things that we have is what's known as first to file which is the date in which you file your provisional patent application which basically prevents anyone from filing similar IP at a later date.

A provisional patent, the best way to think about that is a placeholder where it gives you a year to refine your technology, then you can go back with your patent attorney and draft a non-provisional patent application that is examined by a patent office. And, that can be done in the US or also what's known as a PCT application where you can get global coverage, and then once that 18-month period is over, you can choose the jurisdictions in which you want to file.

Where you can get protection in Europe, countries in Asia, et cetera. So, all of this is an important part of the overall patent strategy, and it also allows you to, once you develop related technology, to have what's known as a follow-on patent where you preserve your original filing date of the provisional patent.

So, all of this is part of the strategy that we're developing to make Endurion a very broad solution to the silicon anode landscape. If we now take a look at more generally at the lithium-ion landscape, there's several types of anodes besides carbon or graphite and silicon that have been explored, so there's silicon oxide materials, tin materials, aluminum, and lithium titanate materials. And this is broken -- that figure you see is broken down into three different phases.

So, it's really -- up until 1991, there was very little exploration of lithium-ion anode chemistry, and then when Sony in 1991 first published their lithium-ion battery patent, the field exploded, and they used a graphite anode, and many other corporations and universities also started patenting different configurations of that using a graphite anode. And we can see around the year 2002, interest in silicon really began happening, and now it's become the predominant anode of interest for a lithium-ion battery.

So, what this graph doesn't show is lithium metal anodes because those are used in solid-state batteries, but we're also developing silicon anode materials for solid-state batteries as well. So, our approach is twofold. We think that the Endurion material can serve both lithium-ion batteries and being more forward-thinking solid-state batteries, which will eventually replace lithium-ion batteries.

And so, over the gamut of the types of intellectual property that can be developed around silicon anode materials, so it's the method in which they're made and the composition of the material.

So, all this points back to what can be in a utility patent.

If we think about our Endurion approach, what this figure is showing is essentially it's pinpointing the individual components that exist in the electrode, and we're really taking a holistic view of the anode.

If we look at what's happening inside the anode, as Matt talked about earlier, the SEI, and our engineered control gives the ability for improved cycle life and charging times, and that's part of the design.

The other part of the design is if we think about the composite electrode, the silicon that's been coated with our artificial SEI, and we have our conductive additives, a mixture of graphite and a binder, and we want this to be a porous structure so that the electrolyte can come in and interact appropriately with all the components in the battery.

And really, we're thinking about this as a 3D electrode structure, so what's necessary for effective lithium-ion transport in and out of the electrode, and all these considerations are not only part of our approach to making high-performing anode materials, but are a part of our patent strategy.

And, with regards to the Endurion, we have two pieces of IP right now, so one, a patent that was filed initially, and then where we've done a conversion in February of 2022 through a PCT application, is a CHS approach to making a wide variety of silicon anode materials, and these can be either pure silicon anode materials or doped silicon anode materials or even silicon nitride in an anode material that's now of interest, or an approach to take a graphitic or carbon type of particle and then grow silicon nanowires on that using CHS.

The patent filing that we did earlier this month now focuses on another type of bottom-up approach where we're taking silicon nanoparticles and decorating the surface of the silicon nanoparticles with -- an artificial SEI.

So -- and certainly, we anticipate further patent filings around Endurion in the months and years to come.

And so essentially, what are the next steps? When you first file the provisional, as I discussed earlier, the next step is a year later you can file in the United States a non-provisional patent application and a PCT so that you get global coverage. And what this is showing is that the patent process is kind of a long process, and there are things that can be done to expedite this process, but really, the value that's extracted from the provisional filing actually starts at the provisional filing.

And as we start to build our set of data and start communicating the results that generate interest, that's where value is created, and that's even before a patent is granted.

Matthew Kappers ***Coretec Group - CEO***

Thanks, Ramez, and to reiterate the importance of the first-to-file concept, that is, as we look at this graphic of the next steps, I mean, the first-to-file was an important piece. And you really hit on something, you know, that this patent provides more than just protection on our development, it creates significant value to our company.

With this asset, we now have something valuable for potential partners and licensees that would be interested in.

So speaking of partners, Michelle, you want to give us an update on the partnerships and things that you've been working on?

Michelle Tokarz ***Coretec Group - Vice President of Partnerships and Innovation***

Yep, absolutely.

We've made great progress in developing relationships with key industry players and we continue to make new relationships. Our outreach has been highly effective, in some cases, battery companies and auto makers have initiated contacts with us.

This shows that Endurion is gaining attention in the market.

The right partnerships are key for Coretec's success and we've been working closely with them to accelerate the development and commercialize our unique silicon anode solutions in the lithium-ion battery market.

As both Matt and Ramez have alluded to, we are using silicon in a different way. And thus we will need to be smart about our strategy and how we include partners.

With regards to downstream partners, these include cell and pack manufacturers, scaling partners, and end-use application manufacturers. Some manufacturers, put together the various components needed to make the cell, namely the anode, cathode, separator and electrolytes, while pack manufacturers generally put together many cells, and other hardware necessary to make a complete pack intended for a particular application.

There is typically quite a bit of overlap between the cell and pack manufacturers with players such as CATL, LG, BYD, and Panasonic to name a few. As we develop and perfect our unique anode solution, we would rely on these kinds of cell and pack manufacturers for insights about building cells and packs as well as capability to manufacture large orders as necessary.

Scaling partners generally work with new technologies to increase the production volumes from what is typical in a small lab to that needed to supply the market. They generally have the expertise to optimize active material production in electrode and cell fabrication, and they include many of the above names of cell and pack manufacturers.

So how would we use either a cell or pack manufacturer or scaling partner? As we have only basic laboratory capabilities, we would rely on a scaling partner anytime we receive an order for more than a few grams of material.

End use application manufacturers are those what will use the lithium-ion battery as one component of their product. The most well-known example of this are electric vehicles, and all the major automakers are in the EV game, including Ford, GM, Tesla, Rivian, and others.

However, there are other end-use applications that could be appropriate, including military applications, drones, and fitness bands, to name a few.

We are in conversations with many of these players. Introductory conversations are fairly straightforward, but as the conversations progress, NDAs are required so that we can go deeper into the science.

These NDAs are mutual, which are noteworthy because our partners may be sharing some of their proprietary information. It shows a give and take. These NDAs contain very restrictive clauses, hence they are negotiated and reviewed with legal counsel.

These documents are the first major step in building a relationship, and we take them very seriously. Conversations with companies that represent all parts of the ecosystem are key to our success, as we learn the different testing requirements for each. Our meetings with automakers and end-users have been very helpful. Most importantly, they have shared with us their desired testing protocols and metrics. Since there are many ways to conduct battery tests, knowing their needs helps us craft our testing methods so that we can provide them data in the format that they prefer.

Because of the nature of these relationships, we cannot tell you exactly who we have been in conversation with, but we can tell you that they include automakers, battery manufacturers, and national labs. As the science progresses, these conversations will include more technical depth and eventually produce more robust partnerships.

As for upstream partners, these include graphite suppliers, anode material suppliers, and any other key ingredients. One of the key ingredients are the silicon nanoparticles we use to make our active anode material. We require a partner that is able to be flexible and collaborate with us as we tweak our product.

To that end, we have recently signed Memoranda of Understanding with two silicon nanoparticle suppliers, namely Alroko and SkySpring Nanomaterials.

A Memorandum of Understanding accomplishes several goals. One, it sets expectations for both companies. Two, it outlines commitments at a high level. And three, it establishes expectations for purchase orders.

In addition to these key parts of an MOU, both of these companies are able to easily alter their silicon nanoparticle products in order to accommodate our needs. Additionally, they have volumes large enough that they should always be able to supply us. For added supply chain security, we have also identified backup suppliers that we could employ if needed.

Finally, there are a handful of other organizations needed to be successful. As already been mentioned by Matt, we have the University of Michigan Battery Lab and Polaris Lab that we use for some of our routine battery cell testing, cell creation and testing.

There are also a number of trade organizations that are important to us. This past February, I attended the NAATBatt 2023 Annual Meeting and was able to present the Endurion solution to this very focused group. I also work regularly with several NAATBatt committees, including Electrode Materials, Manufacturing in North America, and Military Batteries.

These are collaborative in nature and include individuals across the ecosystem, including mining, active material manufacturing, and cell and pack assembly. My participation in these committees allows Cortec greater visibility and allows me introductions to more players in the ecosystem.

I also recently attended the Joint Center for Energy Storage Research, known as JCESR, at Argonne National Labs, where I was able to hear updates of the work being done at Argonne in batteries. In fact, I wrote a blog about this visit, which is available on our website if you wish to read it.

Given the highly technical nature of our Endurion product, it is important that we establish and maintain relationships not only with industry, but also prestigious national labs like Argonne as well.

In addition to industry-focused events and government labs, our own Nathaniel Downes and Ramez Elgammal will be attending the Electrochemical Society Annual Meeting at the end of May.

The ECS hosts some of the largest international electrochemical conferences, bringing together a confluence of academic and industrial experts to explore state-of-the-art topics in electrochemical and solid-state sciences.

Their attendance will allow an expansion of their current knowledge base of state-of-the-art approaches to battery technologies.

Lastly, it is important for Coretec to maintain connections with the industry so that we are up to date on industry trends and we have the opportunity to establish new relationships. To that end, I will be attending the Battery Seminar hosted by PlugVolt in July. This show is well attended by component suppliers and battery manufacturers and we plan to engage with them.

Matthew Kappers ***Coretec Group - CEO***

That's great.

Thanks, Michelle. You've been busy.

And I want to reiterate the importance of the NDAs that Michelle mentioned. They're with major companies and these major companies don't go through the time, effort, and money to negotiate and enter into an NDA unless they're interested in what we're doing.

An NDA, as Michelle mentioned, is a major step in what we hope to be a fruitful relationship. So as you can see from today's presentation, we have strong momentum. We have successfully secured relationships with key vendors to supply our needed materials. We've successfully coded silicon nanoparticles. Our testing data proves our concept works. We filed a provisional patent for our novel inventions. We have in-house testing equipment to accelerate the development. We have access to characterization instruments to analyze our materials. And we have and will continue to build relationships with key partners and industry players.

So what's next? Ramez, would you speak to the technology of the future technology with Endurion and the Coretec group?

Ramez Elgammal ***Coretec Group - Chief Technology Officer***

Certainly. In terms of forecasting our R&D efforts through the rest of the year, I think it's important to think about what's going to be necessary from a research perspective to get to the point where we have material that's ready for commercialization.

We've identified technical milestones that are aggressive, but we think that with our in-house capabilities and the expertise that our senior scientist has developed, we can hit all these milestones without any difficulty.

And in thinking about the milestones we hit, the approach that we've taken in developing this roadmap is similar to the approach that, say, ARPA-E, a branch of the Department of Energy takes in not only hitting technical objectives but trying to tie that with some type of milestone which is known as a SMART milestone, so something that's measurable or quantitative.

Towards that end, as we continue to do our materials development over the next quarter or so with materials discovery and evaluating those materials in a half cell and then pushing that towards a full cell where we can start to see how our anode material is behaving in an actual battery, we're really pushing that to making pouch cells, because pouch cells are what's going to be necessary for meeting the demands of an EV.

And by the end of the year, our plan is to have a one-amp hour cell, which is a modest sized pouch cell that we think will give us very clear indicators of how this material stands with regard to being put eventually in a battery pack in an EV.

And all these steps are taken with that goal in mind.

QUESTIONS AND ANSWERS

Matthew Kappers ***Coretec Group - CEO***

That's great. And thanks, Ramez. And you know, as we continue to improve and refine Endurion, our facts, the testing data, will get better. This will enable Michelle and I to have material conversations with potential end users like automakers and battery manufacturers as well as battery material companies, cultivating these relationships now as Michelle and I have done will help us better to understand their needs and criteria which then provides us guidance for our future developments.

As we commercialize Endurion, it will become attractive to potential licensees and buyers, developing relationships with our current and potential partners at every level in the battery ecosystem is our highest priority.

Okay, let's move in to some of the question and answers. The first question, Ramez, you covered this a little bit. Are there any future patent filings and what are the next steps?

Ramez Elgammal ***Coretec Group - Chief Technology Officer***

Yes, we can go into that in a little bit more detail. As we pointed out, we have established a priority date with regards to our approach to -- in our artificial SEI. And the way that was laid out was that we broadly covered the types of chemical groups that we are going to append on to the surface of the silicon nanoparticle and as we continue to refine that technology and expand upon that technology, developing specificity in the types of coatings that we can put on that really lead to transformative enhancements in performance, that's what's known as a follow on patent where we preserve the IP priority data of our provisional filings for all related technologies in what we're calling our patent family.

And that allows us to build an IP portfolio with some of the -- a term that is used in the industry is a frontier IP portfolio where you can see filings, related patents, preserving our March -- sorry our May 2023 filing date and really build a robust portfolio.

And all that is in the works as we continue our development on the Endurion.

Matthew Kappers ***Coretec Group - CEO***

Great. Thanks, Ramez.

We had a question, how's the project going with CSpace at Adelaide University, I will answer that one.

We have a great relationship with our friends at Adelaide. You know, we -- earlier have shared a preliminary report which showed that the tellurite glass performed well and exceeded the performance of ZBLAN and our partners are Adelaide, they are preparing a more formal paper and presentation and they have asked that we don't release the final report until they have had a chance to publish and present their paper which should be in the next month. But moving forward, they just as of last week, they sent us a proposal to continue work using the Tellurite glass with an emphasis on making larger cubes and working towards refining the manufacturing process with the goal of commercialization.

We are reviewing that proposal, we think that there may be an opportunity for the country of Australia as well as there may be some United States funding available to help support that project. And so stay tuned on that.

We got a question, Ramez, this will fall under your category. Are we getting into developing fuel cell battery technologies?

Ramez Elgammal ***Coretec Group - Chief Technology Officer***

Yes, this is a great question, and the way I interpret this question is that kind of thinking of more about a hybrid approach to making batteries and for - a fuel cell vehicle that we think about the ones that are -- that exist now, there is the Toyota Mirai and the Hyundai Nexo and both of those are fuel cell cars and there is certainly a hydrogen economy that is developing and is a complementary solution to powering the future through electrification.

And regardless of what fuel cell technology exists in a vehicle, be it a passenger car or a truck, there is a need to have a battery on board and so if we think about the Toyota and the Hyundai vehicle, so those are fairly small batteries, 2 Kilowatt-hour batteries which are about 2% of an extended range Tesla Model 3. But those batteries are almost certainly going to be lithium ion or solid-state battery based.

Our approach with using our silicon anodes when paired with a cathode material that is like LFPs that is targeted for a high-power application, we see avenues to use our Endurion approach as more of a -- kind of a hybrid complementary battery that can be integrated with a fuel cell-based device.

Matthew Kappers ***Coretec Group - CEO***

That's great. Thanks, Ramez.

That really is a state-of-the-art approach.

We had a question, what are the timelines on government and state fund? More broadly, to answer that question, you know, there are -- there's been a number of federal acts that have passed, the CHIPS act, the Inflation Reduction Act, we are very in tune with what is going on there. Kind of the rumor on the street is with the Inflation Reduction Act, that is primarily geared towards infrastructure. However, we think that there's going to be some R&D funding carved out of that bill and we are looking to see some activity on that towards later this summer.

And then we also talked about you know, potentially partnering with the Australian government and US government for some of our work with CSpace. But the short answer is we are closely monitoring all possibilities, you know, especially with the DOD and DOE for any releases.

Let's - to wrap up the call today, we've made some substantial achievements over the past few months. Our test proves that Endurion works, which has led to our very important patent filing. There are great things on the horizon and as we continue to make strides, we will keep you posted.

We encourage you to sign up for company notification on our investor relations website and follow up on social media.

The transcript of this call and presentation will be made available on our website as well as an 8k filing in the next few days as soon as the transcript is available.

In addition, the recent webcast that I referred to in our explainer video are linked in this presentation and can also be found on our website and our social media outlets.

On behalf of the Coretec team, we appreciate your participating in our presentation and thank you and have a great day.

Operator

We close today's conference call. Thank you for your participation. You may now disconnect. Everyone have a wonderful day.
