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CORPORATE PARTICIPANTS

H. Lawrence Culp *General Electric Company - Chairman & CEO*
Scott L. Strazik *General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova*
Carolina Dybeck Happe *General Electric Company - Senior VP & CFO*
Steven Eric Winoker *General Electric Company - VP of IR*
Rahul Ghai *GE Aviation Systems LLC - CFO*
Russell T. Stokes *General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace*
Amy L. Gowder *General Electric Company - President & CEO of Military Systems Operation - GE Aviation*
Eric Gray *General Electric Company - President & CEO of GE Gas Power*
Jenna Fillmore
Mohamed Ali *General Electric Company - VP of Engineering*
Philippe Piron *General Electric Company - President & CEO Grid Solutions and Power Conversion*
Victor R. Abate *General Electric Company - Senior VP, CTO & CEO of Onshore Wind*

CONFERENCE CALL PARTICIPANTS

Andrew Alec Kaplowitz *Citigroup Inc., Research Division - MD and U.S. Industrial Sector Head*
Andrew Burris Obin *BofA Securities, Research Division - MD*
Brendan John Luecke *Sanford C. Bernstein & Co., LLC., Research Division - Research Analyst*
Clifford F. Ransom *Ransom Research, Inc. - Founder and President*
Deane Michael Dray *RBC Capital Markets, Research Division - MD of Multi-Industry & Electrical Equipment & Analyst*
Douglas Stuart Harned *Sanford C. Bernstein & Co., LLC., Research Division - SVP and Senior Analyst*
Jason Michael Gursky *Citigroup Inc., Research Division - Research Analyst*
Joseph Alfred Ritchie *Goldman Sachs Group, Inc., Research Division - VP & Lead Multi-Industry Analyst*
Joseph John O'Dea *Wells Fargo Securities, LLC, Research Division - Senior Equity Analyst*
Joshua Charles Pokrzywinski *Morgan Stanley, Research Division - Equity Analyst*
Julian C.H. Mitchell *Barclays Bank PLC, Research Division - Research Analyst*
Kristine Tan Liwag *Morgan Stanley, Research Division - Equity Analyst*
Nicole Sheree DeBlase *Deutsche Bank AG, Research Division - Director & Lead Analyst*
Nigel Edward Coe *Wolfe Research, LLC - MD & Senior Research Analyst*
Robert Michael Spingarn *Melius Research LLC - MD*
Ronald Jay Epstein *BofA Securities, Research Division - MD in Equity Research & Industry Analyst*
Seth Michael Seifman *JPMorgan Chase & Co, Research Division - Senior Equity Research Analyst*
Christopher Glynn *Oppenheimer & Co, Research Division - Equity Analyst*
Saree Boroditsky *Jefferies LLC, Research Division - Equity Analyst*
Christopher Snyder *UBS Securiries, Research Division - Executive Director*

PRESENTATION

Steven Eric Winoker ***General Electric Company - VP of IR***

(presentation)

Good morning, everybody. I don't know about you, but when I see that video, it makes me so excited about the future of two independent companies: GE Vernova and GE Aerospace. So I'm pretty psyched to have you all here today. Actually, there are about twice the number of investors and analysts in this room this year relative to last year, which was also fun in Greenville. But thank you all for making the trip here. And for those of you online, appreciate you taking the time to join us.

You're actually sitting in the CTEC, the Customer Technical Education Center, for GE Aerospace. I hope you'll find it is an impressive facility. You're surrounded by engines that make up most of the fleet in the world today. You probably got here on one of those. And this is literally where we have training classes. When we were preparing for the event, there would be trainees going around. It was just a wonderful place to be. Thank you for coming.

Before we start, some reminders. We've got materials on the website. As usual, note that some statements are -- that we're making are forward-looking, and they're based on our best view of the world and our businesses as we see them today. As described in SEC filings and on our website, those elements can change as the world changes.

Now we're excited to be joined today by: Larry Culp, Chairman and CEO of GE plus CEO of GE Aerospace; Scott Strazik, who is our CEO of GE Vernova; Carolina Dybeck Happe, CFO of GE, and many business leaders throughout the room who hopefully, you had a chance to

talk with last night, at breakfast and you will through the day today.

It's a busy agenda. We have presentations and Q&A sessions through about 11:30. Then we'll have lunch. And then we begin the tours on site at Gemba, where you are, where the work gets done. And we're excited again to have you here.

All our key meetings at GE start with SQDC: safety, quality, delivery, cost. And with that in mind, we're going to start with safety today. So welcome Jenna Fillmore. Jenna is our Senior Health & Safety Staff Manager at Bladeworks, which is part of GE Aerospace and that you'll see today as well. Jenna, thanks. Come on up.

Jenna Fillmore

Thanks, Steve, and thank you all for traveling to Cincinnati. We're excited to have you here today with us and look forward to showing you several of our sites. At GE Aerospace, our purpose is we invent the future of flight, lift people up and bring them home safely. We pride ourselves on our safety focus. With that in mind, I have a few quick safety topics to cover.

First, fire safety. In the event of a fire, please exit the building through the same doors you entered this morning. Once outside, a GE employee will take you to our gathering area. Second, tornado safety. The weather in Ohio can change in an instant. If we would experience severe weather, a GE guide will take you to Rooms 201 or 202 as these are our location's safe shelter areas.

Later today, many of you will experience tours at active work sites. We're very excited to take you here. But please keep in mind that safety glasses are required whenever we're on the production floor. Steel-toe shoes are not required today but closed-toe shoes are. Be mindful of your surroundings as there is active equipment running and possible for truck traffic. And also, please do not touch any production hardware or machinery unless a GE employee has indicated it is safe to do so.

GE Aerospace has established the ARC, the Aerospace Response Center. This emergency command center is based here in Cincinnati, but it's dedicated to keeping our employees safe no matter where they are in the world. Today, this coverage extends to each of you. So if at any point, you feel unsafe or experience an emergency, simply call the number on the back of your badge.

Finally, I will end with where I began. Safety is of the utmost importance to us at GE Aerospace. We experienced an 18.8% reduction in injuries from 2021 to 2022. This is largely in part due to the implementation of operator standard work, our rigorous safety training and the quick identification and correction of stop-work issues.

Thank you so much for your time. I look forward to seeing you on the tour. Please enjoy your day and stay safe.

Unidentified Participant

Please welcome to the stage, Larry Culp.

H. Lawrence Culp *General Electric Company - Chairman & CEO*

Good morning. I'd like to welcome everybody who is here at CTEC. We really do, as Steve said, appreciate you taking the time to come and spend the day with us, and certainly all of you who are dialed-in all around the world. We hope this is a good investment of time. Jenna, thank you for getting us started, extremely well-said. We really start every meeting, we thought it was appropriate to do the same thing here, to make sure we were focused on safety.

Well, and then there were two. And I think what we're looking forward to doing today is really doing a deep dive, right, a deep dive into GE Aerospace, the company that will shape the future of flight, and then do the same thing with GE Vernova, the company that will lead the energy transition. I think we've got a very full agenda here, both with the presentations and the tours, to give you an in-depth look at where we are, more importantly, where we're headed in each of these businesses. So we're excited to have the opportunity to share that progress and share that outlook with you today.

Very pleased to be co-hosting this with Scott Strazik, the CEO of GE Vernova. I've had the real pleasure getting to know Scott over the last 4.5 years, one of the first people I had, in fact, met when I joined GE. He led a phenomenal transformation of our Gas Power then our

Power sector overall and now is at the helm of GE Vernova. I think he's the right leader for this business at this point in time. And I'm excited to see the continued progress at Vernova as they prepare to launch as a public company sometime early next year.

And I think what you'll see, not only through the course of the Aerospace presentations but also with Vernova, is that, in fact, this is a new era. It's a new era with respect to how we operate. It's a new era culturally, let alone in terms of the corporate form that we'll take going forward. So we're excited to have the opportunity to share all of that with you during the course of the day.

If we jump in, we clearly are here today operating off of a much stronger foundation than we've had in a long time. And that's not just a function of putting $100 billion of debt behind us, though that certainly helps, right? But it has, as it always has with me, it starts with the team, right? We've got a team that really is living the GE leadership behaviours. And when we talk about our leadership behaviours, we're really talking about humility, transparency and focus and really walking that talk on a daily basis, not only to deliver for customers and for investors, but to really drive the sort of culture and workplace that we want to see at our company.

Talk a lot about lean, really at the heart of kaizen or continuous improvement, it's just getting a little bit better every day. And that, on a compounded basis, is a beautiful thing to see. And I think you see that in a lot of corners of GE today, all the while running this business in a much more centralized way. It's not about the center. It's about the customer and those closest to the action to serve the customer. There are a whole host of things that you'll see today in terms of how we operate in a more decentralized way.

You'll see it a little bit in Russell's world as we've combined our engines and services businesses together, as we've broken out widebody from narrowbody, trying to operate in the way that customers see us. Scott has got a bevy of examples in his world. And I think that's making us much, much better, all the while not losing sight of what has made us the company we are all the way back to Edison, right?

And that's leading edge, innovation and technology, not for its own sake but really applied to the problems our customers have and the solutions that they need. You put all that together, that really is, I think, how these businesses are positioned, to truly shape the future of flight, let alone lead the energy transition. And I hope you walk away today with that very much in mind.

Where do we start? Two businesses, two sectors. Obviously, a common heritage but also some interesting common denominators here as we prepare to separate, right, both coming in close to a $30 billion revenue level. So we have scale. People are worried about GE getting smaller, these are still big businesses, right, with global reach, capability, contacts that really set them up to perform very well on a stand-alone basis.

We love the fact that we are so close on a daily basis with our customers. The hardware that you see here, Scott could have taken you to a similar location to show off the GE Vernova capabilities. This is interesting, but it's what we do day in, day out to keep the lights on, to make sure planes are in the air, which is really where the action is for us.

And as you see on the slide, that very much is how these businesses are structured from a financial perspective with 70% of revenue in Aerospace coming from services, 70% in Gas Power. For GE overall today, it's 60%. I think a lot of people kind of missed that fact. So we talk about technology, we talk about services. That's really what we do despite the size of these magnificent machines that we deliver to customers on a daily basis. Those services obviously are a function of the installed base. And as you'll see, those installed bases are really unparalleled in both of our industries and continue to grow as we innovate, be it with engines, turbines and the like.

This is a slide that many of you will recognize, or at least the key facts in it, from our earnings report back at the end of January. And we were in Miami just a couple of weeks ago with both Julian and Andy, reiterated, so no change here. But just if I can take a moment to talk about GE as a whole before we dive into the businesses, we think we're going to have a very good year. Not unmindful of the fact that a lot of people are talking about recession, but we're talking about a high-growth year at GE, right?

We see organic growth up at the high single-digit levels, largely because of what we're seeing in commercial aero and the beginning of a recovery at Vernova. I think we're excited about the earnings potential that we see this year. We've got to adjust everything, of course, with HealthCare. And by the way, in case anyone hasn't noticed, HealthCare went out on the 3rd of January. They seem to be doing very well. And we're proud of that.

But on an adjusted basis, we're going to grow earnings this year by at least a factor of 2. We think we'll be somewhere in $1.60 to $2 a share. So really excited about that. And those just aren't earnings, those are real earnings. Again, because we'll see strong cash conversion this year, we'll be up over 100% again. That should yield, as you see here, $3.4 billion to $4.2 billion, adjusted off the $3.1 billion base for HealthCare. So I think we're well positioned to have a strong year. But we've got to earn it. So when we wrap up today, we're going to get back to work. And you can see what we're going to be doing here in 2023.

If I go to the next slide and just walk earnings in a little bit more detail for you. Again, on an adjusted basis, we're starting at $0.77. It will be largely a volume-driven year in many ways, again Commercial Aero helping, a little bit of mix pressure with the ramp of the LEAP, that does create some headwinds for us. A little bit of that we see in offshore wind. But we do think, in turn, we're going to work through that and have positive price/cost in 2023. Doesn't mean inflation is abating, but we do see it softening a bit.

And we know we're getting better at offsets, workarounds, redesigns, resourcing in addition to getting price where we can. There's been a lot of work, and Scott will get into this in some detail, with respect to the Vernova businesses, onshore wind, in particular, where our cost-out and our restructuring work will be an important part of the profit bridge into 2023. We continue to invest. That obviously will be the gray box here. But with the deleveraging, we also get a nice EPS lift simply because of the lower interest. So that's what takes us from $0.77 to $1.60 to $2 in 2023.

And if I do the same walk quickly on cash, I think what you'll see here, again adjusted for HealthCare, is a volume-based step-up into 2023. Really pleased with the way the services businesses, not only in aero but frankly, in gas, continued to drive very strong cash generation and earnings conversions into cash for us. That continues into this year. We do think we get a bit of a working capital benefit this year, modest, but nonetheless, our lean efforts really helping us here with our trade working capital. We aim, despite the supply chain challenges, to be more linear. That will help us both from an inventory and from a receivables perspective. We also know this is a year where our contract assets and our progress should really help us as we move forward.

AD&A, if all goes according to plan, will be a meaningful headwind for us simply because as deliveries catch up, and we do think deliveries will increase through the course of the year, it's a timing issue, works against us in '23. But net-net, we'll manage through that. And again, a little bit of CapEx, taxes, normal course puts us in a very strong cash position again at the operating level in this year.

So that's really the wrap on the GE perspective. Now it's going to take a lot of work to deliver those numbers. We know that. That's why we're so keen to get back at it after we host you today. And virtually, it will take virtually all of us to deliver those numbers. But we also have something else we need to do this year. And that is clearly get ready for the separation, not only of Vernova but also for Aerospace as a stand-alone company, right? That won't happen automatically.

So while we've got 95% of the team hard at work, delivering within the businesses, we will have a small team, as we did last year, as part of our Separation Management Office working through all the work that needs to be done to get the businesses ready to go. We have the benefit of the experience of HealthCare a year ago. We learned a lot through that. And I think we're poised to do the work that's required to get Vernova in a position to go early next year.

Scott will introduce a number of his new team members that are new to the company that, I think, a number of you had a chance to meet last night. Really excited about the way the team is coming together here in preparation for that. I think we all know it really comes down to a few things, right? We've got to work through what I call the rewiring and the replumbing to separate these two businesses. It's a little tougher admittedly between Vernova and Aerospace than it was with HealthCare. But we know how to do it. We know what we're signed up to do here. So we'll work our way through that.

There are a host of other things that we need to do, particularly continuing to bring down the Corporate cost. And you've seen us have the Corporate cost over the last couple of years. We want to make sure we've got a small a center as possible when we get to that moment, where both Vernova and Aerospace are carrying those Corporate overheads. And rest assured, I know Scott has came to bring that down, and the fellow running Aerospace seems to be very much of a similar mindset. And then -- some of you got that, so give me a little bit of feedback as to who's paying attention.

The work the Board has to do though is pretty critical here as well. And as we work through the year, and we've got time to do this as much as we did last year, we'll work through the capital structures for each of these two businesses as well as stand up the two Boards. Excited about what we were able to do with the HealthCare Board, we'll clearly do the same here with Vernova and Aerospace. So we won't talk a lot about the separation work today. But rest assured, we know that what's most important is the operating performance of the businesses. And that's where we'll spend our time together today.

So if I go to a final slide here, just to step all the way back. I think what we want to have you walk away from is just a much better appreciation as to why GE Aerospace is the leader in aerospace, strong positions both on the commercial and on the military side. Russell will come up and take you through a number of the core efforts that are underway on the -- in the commercial business. Amy will do the same thing on the military side. We'll have Mohamed come up and really cut across both businesses and talk about how we are driving innovation and technology with an eye toward the future. Proud of what you see in the hall, but we know when none of us are here and it's the next generation, we want to make sure that they're prepared with the technologies in hand to take care of the next generation of flight.

And similarly, at Vernova, there's a lot of talk about the energy transition. But we don't know of a company better prepared to lead, truly lead than GE Vernova. And there's so much that we're so proud of in terms of what has happened at Gas Power. Clearly, we need to turn the performance in Renewables. I think you'll hear Eric Gray come up and talk about how we continue to drive improvements, even though we've come in a year early in our profitability goals for Gas Power. And then both Philippe and Vic will come up and talk about what's happening in Renewables, how we've turned grid to a point now where it's a profitable business and the line of sight we have on the improvements that we really have to deliver, not only for you as our investors but also for our customers in onshore wind, work we know how to do, work that is underway.

And I think through the course of that, certainly later on through the tours, we really do hope you see that a new era is upon us at GE. Again, not strictly a function of the corporate structure, but more importantly, how we operate, who we are culturally and, in turn, how all that comes together to generate and create more value going forward, both for our customers and for you as investors in terms of revenue and certainly, in turn, good profit and cash performance.

So that's really the framing for the day. We thought we'd jump in. Let's go alphabetically, no better way to do that. So we'll start with GE Aerospace. And as we do that, we'll start with a video.

(presentation)

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Good morning again. You heard Jenna at the outset talk about our purpose. And you saw it again here in the video, right? It really is, I think, incredibly compelling when you think about what it means to invent. I mean, how many of us have the opportunity in the course of our careers to really shape the future of an industry? Not many. And when we talk about that in terms of lifting people up, you might think that's merely an engineering effort. But there is also something that's quite motivational in terms of what we do. And as you saw with the safety moment at the outset, we take bringing them home safely incredibly seriously.

We brought 3 billion people home safely last year. That's how many people were in the air with GE and GE partners under wing. It's really an unfathomable number. But it's something that we are incredibly proud of at GE. But in terms of how we operationalize that, as you'll see through the course of the presentation, we really think about how we shape and define flight today, tomorrow and into the future. And we'll dive deeply into each of those elements.

And in doing that, I think that really is the core of what makes this business so special. What we're trying to do on a daily basis is to make sure that we don't simply coast on the back of this wonderful platform but really manage with not only more intensity, more discipline but with greater focus. There's a lot that our customers need and want us to do. There's a lot that we can do. But you've got a senior leadership team, many of whom will take the stage here in a moment, they're keenly focused to make sure that everyone on the team knows exactly what we need to do today. And we're not trying to do too much but to really do those things that we have to do incredibly

and exceedingly well. So that's really, I think, the framing here.

If we go to the next slide, we operate fundamentally in two different sectors. I mentioned this earlier, on the commercial side and on the military, both fundamentally propulsion businesses. These are leadership franchises in both sectors. If you think about what's happening on the commercial side today, both in terms of just the post-pandemic return to flight and the expansion and modernization of fleets, we couldn't be better positioned. And on the military side, it comes down to one word, readiness, right, with respect to the fleet that is out there today, let alone what is to come.

And that's why the service element of these businesses is so important. Again, 70% of what we do at GE Aerospace is service-based. As from a revenue perspective, clearly profits and cash are an even higher percentage in the aftermarket. That's the financial profile. But being close-in to the customers on a daily basis really helps us see and hear what they need, what they need today, what they're going to need tomorrow. And it's that intimacy that so many companies aspire to. It is woven into the core of how we operate and what we do. And I think that's a real competitive advantage in addition to being an attractive financial profile.

If we go to the next slide, just a couple of, I think, key points to highlight here. Talk about 3 billion passengers, that equates to basically 3 out of every 4 departures around the world. And as Steve said in his opening, many of you probably arrived here safely with GE under wing. Again, 70% revenue in services, a phenomenal backlog, over $350 billion. But also when you look at the lower right, hybrid, high-altitude, megawatt-class testing, those are the sort of futuristic investment that we're making today to make sure that we continue to shape the future of flight. So there's a lot of momentum in this business, momentum that we're going to continue to build on.

We've got a tremendous amount of tailwind in the marketplace today. Obviously, the last few years both -- during the pandemic were challenging. But when we look at the post-pandemic recovery on the commercial side of the business, we think we'll, through '25, grow at a 25% compounded clip, just phenomenal growth, again largely because the flying public wants to be back in the air. And even at a time where clearly, there are concerns about the consumer, it would appear that travel, flying in particular, is a priority. And as we talk to our airline customers, they could not be more optimistic. They couldn't be more bullish with respect to the outlook this year. We're well positioned to play there.

And on the military side, as the world continues to evolve and becomes a more uncertain place, we're certainly seeing defense budgets, not only in this country but amongst our allies, continuing to rise in the face of those concerns. As you'll see in Amy's presentation, we're well positioned to be a partner to the military here and abroad as they lean into those challenges. So that's really the backdrop. And again, we're not going to suggest that we are recession-proof or recession-immune. But coming into '23, it's the last thing on our mind because of all the incredible backlog and demand that we see in front of us.

So with that market backdrop, if you look at the businesses, and we often talk about how well positioned our commercial business is in terms of the size and the age of the fleet. And that's true. You see over 41,000 engines, many of whom have not seen their first shop visit. Russell will take you through how that really spring-loads us for a very strong run here. But I think if you step back for a moment, why is that the case, right? Why are we so fortunate to be in this position? It really comes down to the way customers have viewed our offerings over time with respect to efficiency, reliability and safety.

We don't have a birthright on that next order. But time and time again, Mohamed and his team have really made sure that we're able to deliver to spec or more so that we are the engine of choice, be it on the part of the airframer or the airline. And that, coupled with an open MRO network, really allows customers to tailor their aftermarket support in ways that suit their business strategies. And we see airlines with different configurations all over the world. And having that open network really is, I think, another part of what is distinctive about the GE Aerospace commercial franchise.

Now there's a similar setup on the military side, right, a significant installed base, a strong global footprint here. But as we think about not only today's readiness but also the preparation for next-generation aircraft, for example, sixth generation, there's a lot of investment going on here that we think positions us very well to tap into those rising defense budgets over the next many years. Excellent backdrop, very well positioned.

So if we go to the next page, this is a format that we shared actually in this room as part of our Annual Takeoff Meeting just several weeks ago. And what we tried to do was capture on one page for everybody on the GE Aerospace team: What are we doing in 2023? Talked about empowering the team through lean and decentralization. Steve talked earlier about SQDC. That's really where we want to focus our lean efforts. It's not lean for lean's sake.

But if we're going to ask the Aerospace team to drive a near 20% improvement in safety, if we're going to drive, as we did last year, a dramatic reduction in defects per engine within our manufacturing processes, if we're going to meet the ramp, the challenges of the ramp, both in the aftermarket and with respect to new units, let alone continue to drive productivity, it's not just pushing people hard, it's really helping them. And our lean toolkit really is the way that we're doing that work and getting better at it, in my view, every single day, all the while trying to run this business less as GE Aerospace, where we can, and again on a more decentralized basis.

You'll see a number of examples. One of which we won't touch on is our very important systems businesses. And I say businesses, plural, deliberately. We used to talk about that as one business. But when you look at it, it really is four. And not unlike what Scott has done in Power, we're going to take that business and not run it horizontally anymore, we're going to run it in a vertical fashion. Amy has picked up two of those businesses, Riccardo Procacci, who is here, CEO of our Avio business, is going to run the other two. And we already see the benefit of focusing on the discrete P&Ls as opposed to the accounting consolidation. That's what lean and decentralization really mean for us.

But we do all of that to serve the customer, right? And we want to make sure that we're not only meeting but exceeding our customer expectations. There's a lot of ways in which that will manifest itself. But I'm sure, as we have seen already with many of you, the focus is on the ramp. And it's not one, it is two. Everything that we do is aimed at making sure that we're able to deliver on those commitments. We feel like we're exceptionally well aligned with our airframers. But we know that every extra engine that we can ship, they can put to use, as will the airlines with respect to our aftermarket activities. So we'd love to be in that position. It's a daily battle, but one I'm confident the GE Aerospace team will rise to meet.

But we can't let all of that activity, dare I say, that pressure, distract us from what we need to do with respect to the longer term, right? It's just so important that we not only protect our investment but also protect our talent that's working on the breakthroughs that Mohamed will share with you, again because we know that we're the recipients of that type of commitment over years that has led to the enviable position this business enjoys today. We're wholly committed as a leadership team to make sure that we leave the business in a light condition as we move forward. And when we put all that together, we really think we can be the company that defines flight today, tomorrow and into the future.

And it's that framework that you'll see us use here, as I bring Russell up. We really want to share with you both on the commercial and on the military side, what we're doing. Again, the airlines are ramping, the airframers are right behind them with new aircraft. And we're smack in the middle of that, all the while protecting the future with programs like our RISE investment. And Amy will take you through what we're doing today. We've been challenged from a delivery perspective. In a number of instances, we're not happy.

We need to serve the customer more robustly. So we'll recover our delivery this year, all the while making sure that as we ramp on new platforms, we are doing the same without those slowdowns. And I mentioned sixth-generation military aircraft earlier. It's a significant part of our investment envelope. And there's a lot that we're excited about, given the technology that is being developed and is proving out very well in test here at GE Aerospace.

So if we go to the next slide. From a financial perspective, you've seen these broad guidelines. We'll have Rahul come up after the presentations to really take you through the GE Aerospace financials in more depth. But in essence, what we're looking at is very strong growth in 2023, right? We'll be up somewhere in the low- to mid-teens from a growth perspective as we move into 2025. We think by 2025, we should be at a 20% operating margin level, right, so good growth. But we've also got a number of productivity improvements to lay in to be at that 20% op margin ratio. And by 2025, we think we will continue to convert very strongly triple-digit cash conversions.

So we know 2023 will be a very strong year in this regard. But as you play that out through '24 into '25, this is the sort of financial profile that we're aiming for. But we don't think '25 represents some sort of cliff. We think we're positioned longer term to see a tempering of

growth but still very strong growth in excess of GDP in the mid- to high single-digit range, continuing to accrete margins while maintaining that very strong cash conversion, again a combination of the power of this franchise and all the work that we're putting in to continue to improve the trajectory.

So hopefully, that gives you a little bit of a sense of where we are in Aerospace level. But in the spirit of decentralization, we're going to dive into each of our two major sectors. And we'll start first with Russell on the Commercial Engines & Services side. Russell, over to you.

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

Thank you, Larry. And I'd like to thank everybody for being here today. I know this is a considerable investment of your time. But we really hope to make this worth your while, the time we're going to spend this morning. Today, I'd like to share with you this morning a real look into how, as you heard Larry say, we're defining the future of flight today, tomorrow, and the future.

I'm going to spend some time talking to you about what we believe makes this business unique; the market dynamics; give you an overview of our portfolio and then go deeper into our narrowbody and widebody platforms. And then we're going to close out talking about some of the innovation priorities and investments that we're making in the business. Basically, what I hope to accomplish this morning is to help you understand why I just absolutely love this business.

I've been around the Aerospace business for over a decade in my GE career. And I could say that there's three things that really differentiate this business. First, on the far left is the breadth of the products and the quality of the products that we offer, propulsion offerings across all aircraft types. We believe we have the best technology that provides the right reliability, fuel efficiency, durability and safe operations that you heard Larry talk about.

Second, we operate in an open network. This means that our customers get maximum choice. The MROs in the market compete to be able to service on the GE engines. And then the customer is able to determine who they prefer to work with. That means it's also a broad network, where we're focused on ensuring that we have the right offering at the right place at the right time for our customers. It also means that we have higher residual values on the GE assets and that the engines thus stay in service and operate longer.

Third, differentiated customer support. We have 10,000 engineers, we believe the best team in the industry; 500 specialists that monitor 120 million (corrected by company after the call) data records; 41,000 engine assets, enabling a take-off every 2 seconds side-by-side with our customers. These three things have built the trust that has created this broad portfolio with the operators, lessors and airframers around the world over decades. And it's once again this expansive portfolio that you see behind me on the screen, or better yet for those of you in the room, just look around at these beautiful engines that you get to sit amongst.

If you think about this portfolio, you can see the amount of work and the commitment of people that have come before us to do such amazing things for absolute decades. The CF6 engine on the far right, over 40 years in operation, the LEAP engine that we talk about so much, coming into service and are continuing to grow, is going to be a phenomenal asset. And the GE9X will be entering service soon.

We are a diversified propulsion provider. That means we operate across all major platforms, covering all the airframers and working with all the different airframers and then wanting to make sure that we stay close in those positions where we happen to also be sole source. 15 different applications, as you see here, we operate sole source, like the 737. Where we compete, we like to believe that we are the engine of choice. And you could tell by the picture behind me that the business model has a significantly long service tail, which means higher margins, lower volatility, which also helps to protect us during economic downturns or troubling times.

So let me stay with services a little bit because it is such an important part of the business and offering. I'll walk through an illustrative life of a CFM56 engine. There are a few variables that everybody needs to understand on what drives the maintenance interval on one of our engines. Three major components: utilization, the number of hours that it's used; cycles, takeoff and landings; and the temperature. You can see on the left, an engine schematic that shows you the key components of the engine and down below, a temperature gauge that tries to give you a feel for where the hottest temperatures in the engines are or where we might see the greatest wear over time.

On the right is a snapshot of the four different types of shop visits that we'll see typically over the life of an engine. First is quick turns. We

really think of these as warranties. And they're called quick turns because we want to get those engines in and out, targeted, proactive, planned maintenance to be able to address issues in the engine to be able to ensure that we minimize disruption for the customers and get those engines back into their hands as quickly as possible to deliver on that time-on-wing objective. As the engine goes out and operates over its life, about 5 to 10 years, given different operating parameters and how they're used, we end up doing a full hot section restoration. So you can see by that picture in the center there, that we're really addressing the core part of the engine, that hottest section.

5 years later is shop visit #2. And we come in, and you'll see the little dots that's saying that we do targeted work around blades and vanes, some LLP, but we're also addressing the LPT. Here, we also tried to incorporate a mix of repair and used serviceable material to make sure we're doing this at the right cost of ownership for the customers. 15 years in or 20 years in, the engine comes home once again. And we do a full restoration on the engine plus the fan. What I'd also draw your attention to is that over time, the offerings can shift from CSAs to T&Ms, where the customer, is over time, determining that they, too, want to shift value over products that might provide a level of certainty versus ones where they might have a different degree of choice and ability to dictate work scopes.

Now I know we've covered a lot on this page, but I just want to make sure I leave you with three things. It's temperature and utilization that drive the shop visits and the work scope of the engines as we accumulate cycles over the life of the engine. The PRSVs are the source of the revenue and profit for services in terms of those major events. And realize that the service offerings can and do change over the life of the asset, working very closely with our customers.

Now we talked about one of the critical drivers is cycles. So why don't we stay with cycles for a little bit and elevate here for a moment and talk about what we're seeing in the market and some of the economic factors, some of the tailwinds that you heard Larry referenced here a moment ago. It's really exciting to be able to see all the people that are coming back. We watch the flight data each and every day and can see the number of people that are choosing to get back in the year on the heels of what has happened with COVID. And that accumulation of cycles is what drives the very strong shop visit strength that you see to the right side of the page.

We're working with supply chains to continue to recover and are navigating through material shortages. But I can assure you that our teams are making progress in that endeavor. Through '25, we have the soft capacity in place to be able to support the existing fleet. But we are making targeted, thoughtful, efficient investments to be able to support future demand. And on the LEAP, we are activating external partners to expand and support network growth as needed. But I would say in short, the demand that you see here is strong. The shop visits are robust. And we feel really good about the today and tomorrow and future components that you see here.

So now let's move to new engines. On the left side of the page, you can see the long-term demand for aircraft are driven by continued macro tailwinds. I think we all know what those are. We are aligned with our airframers through 2024. And through the natural course of our discussions, we'll work on alignment beyond those dates. On the right is how this then transitions into engine demand. We expect to see mid-20s growth driven by LEAP-powered aircraft with strong growth in the remaining portfolio through 2025. I'd like you to note that the production output is a function of installs working with the airframers and spare engines that we also make sure that we have to be able to manage fleet stability and take care and support our customer operations, especially on the LEAP engine.

So let's transition from the market to the strategy. This page looks familiar, it's what Larry just showed a moment ago. We think about it in terms of three major components. Let's keep this really simple. At the end of the day, today is all about supporting the installed fleet and keeping it flying. We're focused on that SQDC component that you heard Steve reference and Larry as well here earlier; the safety of our products and the safety of the flying public; making sure that we have the right quality and are delivering on our durability commitments; making sure that we're delivering the assets in line with customers' needs and expectations; and then wanting to do that more efficiently each and every day, continuously improving in those endeavors to be able to drive that C for cost.

Tomorrow, it's about delivering on our NPI programs, making sure that we meet the commitments and expectations of the LEAP, and we bring that 9X engine into service as expected, a real focus on durability, make sure that we get that right and that we also build out the MRO network to support those assets as they come into service and we'll need what you saw in the earlier slide in terms of overall support capability. In the future, we're continuing to develop, certify and scale safely the technologies for the future.

And so now I would like to walk you through a little more detail into some of the specific product lines to provide a little bit more context. Today, we're focusing on the narrowbody and widebody product lines and portfolios to keep this kind of contained for this morning. On LEAP, LEAP is clearly the major original equipment and services contributor to growth for us through the decade. The 9X will be small volumes through 2025 but grow through the second half of the decade.

But it's that mature base that you see down below in the dark blue that is the large and stable contributor of revenue and is also what drives the high-margin parts and services content, given how much is aftermarket-oriented over the life as you kind of saw us showing that chart earlier on the progression of how engines move over the lifecycle.

Now clearly, it's pretty obvious from the chart here that the largest proportion of that is CFM56. So why don't we go back to that and talk about that in a little bit more detail? The CFM56 is truly a special program. It was launched as part of a JV with Safran, as many of you are well aware. But we get to celebrate the 50th anniversary of that amazing partnership next year. The shop visit growth for CFM56 will be a function of the two things you see here on the page: fleet demographics and the retirement dynamics.

From a fleet demographic standpoint, 23,000 engines in the installed fleet, 50% approximately of those assets have yet to see their very first shop visit. This gives us great confidence in terms of what is still yet to come. And we're working with our customers to make sure that we have the right mix of new, repair and used material to give them the cost of ownership to want to make sure that they invest in those shop visits as we expect.

The retirements to the far right have pushed to the right versus what we were expecting earlier following COVID. It's really been attributable to a slower delivery of MAX and NEOs while demand has shifted -- continue to shift, if you will, to a robust set of offerings, where customers are just really wanting to come back, and we're seeing the airframers really bullish on their forward schedules. Now another point to note on retired aircraft is that as they retire, they become feedstock for the used serviceable material components that we use to be able to service our customers. Ultimately, I hope that you could see that the fleet remains strong. And there's a lot of shop visits left in CFM56.

Now we need to make sure that we could deliver those shop visits, and I'm sure a number of you have heard about the constraints inside of the MRO space. We are working each and every day, leveraging lean to break constraints and drive lean across our supply base. So I thought I would take a moment to share with you an example of one of our suppliers, Component Repair Technologies in Cleveland. I had the opportunity to go see Rick and his team live to see what they were doing and to watch how we're partnering with them to be able to drive their own culture of lean through problem solving, as you'll hear him talk about PSRs, or problem solving reports. And I thought it would be good for you just to have a peek into how we're continuing to drive this, not just internally but through our supply base. Let's see the video.

(presentation)

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

I love that video. 5 cases a week to 5 cases a day because everyone feels empowered, and we're able to get everybody in the game to be able to deliver. And there's more examples where that came from on what we're working together with our supplier base to do to be able to deliver on both the CFM56 and LEAP ramps.

So now moving to LEAP. It's the primary growth driver for the business and is a critical enabler of our growth. With output up in 2022 already 50%, we're going to jump another 50% in 2023 to achieve our expectations and targets. This ramp is no small feat. The LEAP is actually 1 program but 2 different engines, 2,500 parts, 160 different suppliers, 20 GE shops and, believe it or not, only 10% common hardware. Once again, this gives us an opportunity to be able to demonstrate the power and the potential of lean to be able to be successful on a program like this.

So I'd like to share another example here from one of our own shops, Terre Haute, and what they did on the turbine center frame. This team increased output by 70%, going from 22 to 38 turbine center frames by value stream mapping, leveraging production preparation processes, or 3P, for those that embrace the lean. Strategic supplier relationship development, we actually have these suppliers kitting

for us now, and some of them that are actually embracing and working on pull for inventory management and flow.

Now the growth on this chart is something that clearly excites us and I hope excites you. But it is only one factor of the things that we know we need to manage and must get right. So we're also focused on customer experience and clearly the profitability of this program. These dynamics are a function of durability, cost per unit objectives and PRSV growth. To be clear, durability is our #1 priority. We want that engine on-wing making money for our customers exactly where it belongs. We're doing this, as I said earlier, through proactive, targeted improvements to achieve the time-on-wing objectives.

To be clear, if you look on the left side of the page, the LEAP engine is actually performing better than CFM56 at the same point in its life. And Mohamed is going to come up right after me and provide a little bit more color on what we're doing around our action plans there. On unit costs, we expect to achieve mid-single-digit cost-out between '22 and '25 despite the inflationary headwind, of which you're all aware. And we focus each and every day to look at how we could do more in that effort. And I can absolutely tell you that the teams are committed to do so.

The product is seeing high utilization. So when customers have it, they're flying it. And the fleet growth thus then drives -- as we talked about earlier, those cycles means that we're going to see PRSV growth over time. We are focused on enhancing the support network, leveraging lean once again to be able to build out efficient capacity. And we are making some targeted investments to complement that, where necessary. We do expect this program to be profitable by mid-decade.

Now we've talked about narrowbody quite a bit. But as I mentioned at the opening, one of the key differentiators for us is that we have a balanced portfolio. And so I'd like to share a little bit right now around what it is that we're doing with our widebody fleet. We offer a diverse set of widebody platforms that play a unique role in air travel. The GEnx, for those in the room, they're right there, powers the most versatile widebody. The GEnx has a 2:1 win rate versus its competition. The GE90, the 777 demand remains strong amongst both PAX and freight operators.

And the GE9X -- or excuse me, the CF6 first. And I'm going to come to this in one moment, I'm getting excited. The CF6, really, 50 years of operation, really a great reputation for its reliability and has been the product of choice for a lot of the freight operators around the globe. Overall, we're seeing high single-digit and low double-digit shop visit growth over the medium term and attractive margin profiles, given that 80% or so of this is really tied to services mix.

So let's look to tomorrow and why I got excited, the GE9X engine. This engine is one that we will continue to work to bring into full operation in 2025. And our focus is what you see here on the page. We're working very closely with Boeing on the certification of the 777X program. We're working to continue to win more and to be able to build out and ensure the success of this campaign. We're working into technical aspects around durability, performing dust tests and other elements, making sure the parts are producible to ensure the proper technical capability. And then clearly, we want to make sure that we build out the operational elements to support our shops.

So we spent time this morning kind of clarifying what is it we're doing today, what is it we're doing tomorrow across the products. And now I wanted to take a moment to talk about what it is that we're also doing with our services network and then get into a few of our innovation priorities.

Starting with services. We're using lean. We always will start with lean first. We want great processes before we overlay something on top and technology to improve maintenance operations. You can see here from the chart an example of a vane repair turnaround time improvement that we did with our shops in Singapore, a 40% reduction in turnaround time, enabling this to be an additional way that customers choose to come to us when they want to get their repairs and back at their hands as quickly as possible.

On the technology front, we want to keep the engines on wing actually where we can. The image that you see is an AI-assisted, 360-degree inspection with higher-quality inspection capability. It enables 25 additional cycles for our customer to continue to operate. It reduces the inspection time from 4 hours to 1.5 and actually means that we also reduce the amount of time that the engine is not available for the customer to be able to operate, what we call maintenance burden.

Now as I said in the opening, we are focused on defining the future of flight today, tomorrow and clearly in the future. It's kind of hard to do that if we don't talk about products. And we have a lot going on with new product technology. We're strategically focused on making sure that we have the right technology to compete and win on the platforms of the future. To do that, there are multiple demonstrations that are underway as we speak.

On the open fan, we're working to deliver 20% fuel efficiency, working closely with Airbus. On hybrid electric capability, we're working with Boeing, NASA and Clean Aviation to be able to support battery and fuel cell hybridized experiment demonstrations. And then alternative fuels, we're also working with Airbus (corrected by company after the call) to be able to modify our Passport engine to be able to perform on liquid hydrogen fuel. As I said, once again, a lot going on in the new product space. And you'll hear some more in a moment from Mohamed.

But what excites me most, honestly, about this is an opportunity for us to be able to work with industry partners, governments and some of our closest customers to be able to jointly determine and find the solutions that are going to drive how we decarbonize the planet in the future. So I'd like to share with you for a moment a video from Scott Kirby, CEO of United Airlines, speaking about how we're partnering today and moving forward, particularly as it relates to SAF.

(presentation)

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

I'd like to give a special thanks to Scott and his team. United is clearly an important customer of ours. And we're really excited about growing our partnership further. So in closing, there has never been a more exciting time to be connected to GE Aerospace.

Let me summarize a few points that I've shared this morning just to make sure that you could take those with you. It's this, GE Aerospace is a great business with significant tailwinds and an opportunity for us to be able to continue to help define the future of flight. I have great confidence in the ability and the capability of our team and their ability to execute. And I could tell you that we're building on our progress, there's more to come. We have a large diversified portfolio that delivers real value for our customers, who put their trust in us each and every day.

And when customers choose, we are together for decades, jointly finding solutions and creating value together side-by-side. I can assure you, as I mentioned earlier, we do not take their trust for granted. We have a lot to get done. We know that there's going to be ups and downs along the way. But the team that is doing this each and every day around the globe is a resilient one, one that is excited to take on defining the future of flight. And that, I know we will.

Thank you for your time. And I'd now like to bring up my partner, Mohamed Ali, our VP of Engineering.

Mohamed Ali ***General Electric Company - VP of Engineering***

Thank you, Russell, and good morning, everybody. I'm very glad to be here again today. So here's my plan for the day today. First, I will talk about how the engineering team is supporting the ramp that Russell spoke about, both in original equipment and in services with our customers. Then we'll have a deep dive into LEAP. And then we'll finish with talking about the future of flight.

So we have a new term that we coined. We call that Engineering 360. This is not your traditional conventional engineering team that creates great designs and then will pass them over a fence to supply chain and the customer and services. So let's talk about supply chain first. Let me introduce you to the picture in the middle. It's of a LEAP, high-pressure compressor spool, complex critical rotating part. The picture shows it's actually in a tank being inspected. This part was one of the most limiting parts for production in the second quarter of last year.

So what do we do? Went there, the engineering team went there, worked with a great supply chain team, spent a week, understood the problem. And the problem was the part was spending 6 hours in inspection, was way too long. We worked with them in updating the tooling. And we also changed the inspection path of the ultrasonic inspection technology. At the end of that week, working with supply chain, these changes were implemented. And instead of 6 hours of inspection time at the beginning of the week, it became 30 minutes.

At the end of that week, that part is not limiting production anymore.

If you recall last year, in the second half of the year, LEAP production increased by more than 40% versus the first half of the year. This takes you a little bit behind the scenes in one of the ways that this was accomplished. But how and why are we able to achieve that? If you recall, the industry was hit very hard by COVID. Some would argue the industry has lost talent and expertise. But we have maintained a stable experienced engineering team throughout COVID.

And just to give you some numbers, we went into COVID, average years of experience in the GE Aerospace engineering team was 13 years. Even after 18 to 24 months of extensive hiring, we're going to finish this year with an average experience of somewhere between 11 and 12 years. This allows us to deploy capacity, but more importantly, deploy capability where it's needed to resolve issues across the entire supply chain and across the entire industry. This is part of the secret sauce and the differentiation we talk about.

Let's move to talk about customers and services. The picture in the far right is actually of the world's first successful robotic on-wing intervention in a jet engine. We have been able to go robotically in a part of the engine that's this big and go in with a laparoscopic device, think about minimally invasive surgery, and reverse the effect of dust in the Middle East. And besides this being very cool, it extends the time-on-wing for our customers in the Middle East.

So think about it, it's 10,000 engineers worldwide, that they are developing and understanding a great knowledge of supply chain. They understand what's producible and what's not producible. They work with customers every day, understand the environment where the customer is operating, understand how the engine is being used, solving problems for those customers every day. And as a result of that, it creates this virtuous cycle of continuously improving the designs for our customers. And no wonder that at the end of that, that team designs the world's best jet engines that you fly on.

So shifting now to talk about LEAP. And here is my plan. I'm going to talk about what's good in LEAP and what needs to be improved in LEAP. Let me first talk about what's good about LEAP. The engine was designed to provide 15% better fuel burn than its predecessor, CFM56, met expectations on the mark. The engine is actually being heavily utilized. Let me give you some numbers. 97% of 365 days, the LEAP engine is ready to go, available to the customer. And they use it every day of those 97% of the 365 days. This actually is the highest utilization in the industry of any modern engine.

Relative to its predecessor, the CFM56, which, as you know, is an iconic engine in its own right, the removal rate of LEAP is actually better than CFM56 at the same point in the lifecycle of the engine. So we are very proud of where the LEAP engine is. But we have improvements to make. And we have a very important work ahead of us to make these improvement. But before I talk about the work that needs to be done on LEAP, it actually is the same work we have done in every engine that you see in this hallway. It's the same work we have done on CF6, same work we have done on GE90-115B, same work we have done on CFM56 and the same work we have done just recently on GEnx. As a matter of fact, we actually have a big head-start with LEAP.

So let me take GE90-115B as an example, which is the engine right to my left here, looking at me and looking at all of us. And it's actually the grandparent of GEnx and LEAP that came afterwards. When the engine started, it had a shortfall in time-on-wing, and it needed heavier maintenance burden on our customers when it started, particularly in the Middle East. I actually recall, I worked with that team in 2012 and 2013. And I heard many people say, "GE90 is never going to achieve its customer expectations, particularly in the Middle East."

So what do we do? We do what we know how to do. We went. We visited the customers. We understood the problems. We worked with them. We actually developed the technology to simulate the effect of dust in the Middle East and be able to test that in-house, understood the root causes, provided the fixes to our customers. And the rest is history, it became that gold standard that you all know for the widebody market. And we didn't stop there. At that time, GEnx was in development. And we infused some of the GEnx technology into GE90. And that even exceeded the expectations in fuel burn, created sustainability. And at the same time, we exceeded expectations in time-on-wing and maintenance burden.

But there is a very important ingredient. GE90 has a stable, reliable architecture. And we only needed to change a handful of parts that are on this page, a handful of parts to achieve the customer expectations. And let me tell you, anybody who will tell you that they need to

redesign a large portion of the engine in order to achieve the customer expectations, you should be worried. But that's not what we are doing.

So let's talk about what we are doing with LEAP. Apply that to LEAP now, now you understand why I said we have a head-start. Large installed base, successfully working in the Middle East, India, China and all around the world of CF6, GE90, CFM56 that are all meeting or exceeding the customer expectations. As it stands today, LEAP has a shortfall in time-on-wing, particularly in the Middle East and India. Sounds familiar? There are a small, handful of parts that are causing that. And that should sound very familiar to you. And actually, for the first time in public, I'm standing here and saying that we have tested the improvements to those parts. And we are excited about the performance they are showing.

As a matter of fact, one of those parts, which is the fuel nozzle, which is the highest cause of the maintenance burden for our customers, has been in flight testing since early 2022. And we are really thrilled about the performance we have been able to do. What we do? Turn the problem on, turn it off, show it works. And that makes us having very high confidence about our ability to meet customer expectations. But why is that? Again, reliable, stable architecture, a handful of parts that need to be changed, a successful, performing installed base and the Engineering 360 team. And I think by now, that sounds very familiar to you.

Now with that momentum, let's shift gear and talk about the future of flights. There are two revolutions that everybody talks about. And we are in technology, and we are in the forefront of these two revolutions. The first one is hybrid electric. The second one is alternative fuels, including hydrogen. We are excited about the partnership we have with NASA and Boeing to develop hybrid electric technology. In fact, 2 days ago, we also announced collaboration with Sikorsky to develop hybrid electric vertical lift. And we have successfully tested the world's first altitude testing of high-voltage, megawatt-class hybrid electric system. And we have done that in collaboration with NASA at the only facility in the world that's capable of testing hybrid electric systems up to 45,000 feet.

Now why is that testing important? The reason is that high-voltage electric machines, they have the tendency to produce plasma in high altitude, think about lightning bolts. And obviously, you can imagine how that's very critical for safety of flight and reliability. And for the past decade, we have been developing the material, system, technology to prevent that. And that test was very critical to demonstrate, and it was very successful in demonstrating the safety of flight and reliability. With regard to hydrogen, we are progressing very well in our partnership with Airbus and the European Union with Clean Aviation toward a flight test of an engine working on liquid hydrogen by the middle of this decade.

But there are two revolutions that we do not talk enough about, maybe not at all. And I am really convinced that those who will miss on those two revolutions will be missing on the future, period. The first one is that for the first time, we are able to design and analyze practically at the molecular levels. And we are using toward that the world's fastest supercomputers as we speak right now, which is informing us about geometries and designs that in the past, we would have really considered to be completely outside our experience, think the innovations that can happen with that.

Now without the ability to manufacture those geometries and designs, it's really meaningless. And that's when the second revolution comes, which is ceramic matrix composites and additive manufacturing. And today, we are the only company with certified and flying ceramic matrix composite parts and additive parts. And when we embarked on ceramics, there was a report in the industry that will pigs fly before ceramics? Now I don't know about pigs flying. But I know that most of you probably flew in here with ceramics parts designed and made by this company and by this team.

But I want to go back to supercomputers for a second because I'm very, very passionate about it and just to give you some calibration here. We are using supercomputers that are six times the computational power and capability of any artificial intelligence technology that you are thinking about in the world. And you don't actually buy your way into that. You are invited to participate in that. And we are very grateful to the collaboration with the United States government and the Department of Energy, which is allowing us to use the world's fastest supercomputers right next to applications like vaccine development and national security. This is how the next generations of aircraft engines are being designed.

Now I always get that question, including last night, do we have to wait until RISE suite of technologies develop and all of them mature,

RISE being the Revolutionary Innovation for Sustainable Engine program that we have? And the answer is no. We are actually working on upgrades. And we are maturing the technologies that we can provide to our customers, informed by the supercomputing capability and using ceramics and additives, so we provide those upgrades, so we can continuously increase the value of the assets that they own today, including LEAP.

Recall that's exactly the same we have done with GE90, when we infused technologies coming from GEnx, to increase the value of the assets that our customers own. This is what this engineering team does. This is the virtuous cycle of learning innovations that I talked to you about. This is what Engineering 360 is. And I was proud here to stand today representing that engineering team.

Thank you very much for your time. And with that, I introduce Amy Gowder.

Amy L. Gowder ***General Electric Company - President & CEO of Military Systems Operation - GE Aviation***

Good morning, and thank you, Mohamed. I'm excited to be with you. I got a lot of great warm-up questions last night. So I'm confident that I'll be able to answer questions across the portfolio. And I'm going to talk about how our portfolio is well positioned today, tomorrow and in the future to meet the warfighter needs and deliver on growth. And yes, I will talk about the adaptive engine.

So let's jump in. Our security environment around the world is very dynamic. And it is leading to increased funding and budgets. In the U.S., we expect over the FYDP, or the Future Years Defense, to continue to see 2% growth. I believe the budget coming out today will be around 2.4% or so. And when I talk to acquisition executives in the Pentagon or the program executives, such as in Army Aviation, they're all very clear, they're focused on modernization of capabilities and readiness.

For GE Aerospace, that means we continue to see strong funding in the operation and maintenance accounts that service the existing fleets, which we deliver through performance-based logistics contracts. We also see -- we saw last year, additional orders of products, such as F-15EX and then, of course, funding for next-generation capabilities. And for modernization with next-generation capabilities, of course, our adaptive engine technology as well as other classified engine technologies make us well positioned to compete and deliver on the future of combat for the customer.

Shifting to international. In Ukraine, those events and conflicts have obviously made NATO nations reconsider their capabilities and increase spending and results in procurement. An example of that for us was in Poland, just last year very rapidly, they acquired 96 T700-powered helicopters as well as 48 F404-powered (added by company after the call) light fighter combat aircraft. And we see nations around the world outside of NATO investing in indigenous aerospace capabilities, which offers GE Aerospace opportunity to put our products on even more platforms and create those partnerships for the future. So we believe we're well positioned to support the warfighter across all of these.

And let me illustrate for that on the next slide with the breadth of our portfolio. So we have a broad spectrum of products across many different platforms. And we're already seeing a demand signal for those products. Our backlog for just the engine revenue is $11 billion. That's 2.5x our 2022 sales. In the last 2 years, our book-to-bill ratio has been 118%. We are seeing that demand signal. And that demand signal has been across rotary wing platforms, combat, trainers as well as our commercial derivatives applied in the air mobility space. And then finally, what you might not see on there is we do power the ships. So turbine powers our surface navy. We power 90% of those turbine-powered ships.

We also see this demand signal, not just for U.S. products but international exports, such as the F-16 as well as indigenous platforms that you see along the bottom that I spoke of, where they're investing in aerospace capabilities in the country. Our 404 and 414 engines have been integrated more than any other engine in over 20 platforms, providing combat and training capability around the world. We also see that the international market, through the indigenous and the exports, is growing. And that's higher margin revenue for us.

In fact, coupled with that international revenue with our commercial derivatives on top of our existing services base, we are seeing the growth to be higher margin and, therefore, accretive to GE Aerospace. And then we have our new platforms, particularly rotary wing, where we've introduced two new platforms, T408 and T901, which I'll speak on details later, and then of course, our next-generation capabilities. We believe this spectrum of products is well positioned.

So now let me walk you through the strategy of how we're going to deliver on that growth. So like Russell, we are framed in today, tomorrow and the future in our strategy. Today, it's all about using our lean operating system to deliver on that growth and improve our operations. And then in our growth platform, executing on those new product introductions, competing internationally and then, of course, taking the 26,000 engines in the fleet and continuing to deliver value through our spares and services will lead to growth.

And then of course, we're very excited about adaptive technology and its application in sixth-generation aircraft as well as some adjacencies in hybrid electric that Mohamed spoke of as well as hypersonics and UAVs. So we do believe this product portfolio is aligned to the warfighters' needs and the future of combat today, tomorrow and in the future as well as meeting our shareholders' expectations. So let me go deeper on each of those elements.

So lean, Russell's video showed a great example of how we're partnered in lean in commercial. The same holds true in defense. And so I'm going to give you a couple of examples on this slide of where we've seen the results -- we're feeling and seeing those results. So our T700 engine, we embarked on a quality initiative to improve the amount of defects we were generating in the manufacturing process. It was a comprehensive effort. And we called it part-to-print. And as we implemented it on key parts, we saw a 90% reduction in defect generation in those parts. And of course, that means less risk of customer escapes but improvements in yield and, most importantly, no rework or disruptions to flow.

Flow is the other area we focus on specifically in the defense market. We, too, have partnered with suppliers. In fact, the F110 example in the compressor case, we worked with a supplier to employ traditional lean tools, constraint management, reconfiguring their operation, breaking down the bottlenecks. And that has improved, of course, yield, reduced costs. And most importantly, we've seen 2 to 5x the output that both Mohamed's example and Russell's examples show. We know that these improvements will be felt in terms of improved delivery to our customer.

So now let's move on to growth. So our great backlog, that $11 billion backlog, is going to lead to a 7% CAGR in output of engine units over -- between now and the end of the decade. So that will grow our installed base in the industry as well. And so why are we being chosen for these new platforms?

Let's talk about the F404. The F404 is the ideal thrust class for the training market. And the training aircraft around the world are being recapitalized as we need new pilots introduction. It's also the engine that was first designed for the F-18. So it was designed to be reliable and durable in hot and harsh carrier environments. And it has also been reliable. The reliability has been -- made it successful in single-engine applications. So it's been proven an engine of choice continuing now. And we see it growing through the end of the decade.

Our F110 engine is the most -- or has the longest time-on-wing of any combat aircraft out there. So it has 8.5 million hours of flight time. It enables a stall-free, full, unrestricted envelope. It enables a heavy payload as well as proved itself reliable, enabling the time-on-wing in hot, harsh and high environments. And how do I know we're the engine of choice? In the last 5 years, there's been 21 competitions to select the combat engine. The F110 has been chosen 20 of those times. We've only lost once in the last 5 years. That's how I know we're the engine of choice with the F110.

So now shifting to our new products. The T408, it's known and chosen for its power and efficiency. It is on the CH-53K, the Marine Corp's heavy lift. And to quote our Marine Corps customer, Lieutenant Colonel Luke Frank, he said, "Horsepower is my weapon system. And the 53K is armed to the teeth. It enables the 53K to lift 36,000 pounds of payload."

Now the T901. The T901 is going to replace the T700. And I have to speak about how successful the T700 has been. The T700, we've delivered 24,000 of those engines to date. And 12,000 are still flying in the fleet. It has 100 million flight hours. It's proven to be a workhorse for over 50 countries and 130 customers. The T901 though does it better. It's going to improve the power by 50% and proven 25% improvement in specific fuel consumption.

The great thing about the T901 is it fits in the same envelope size as the T700. So that means it's retrofittable back to all the thousands of Black Hawk and Apache as well as we are the engine selection for future vertical lifts in the FARA, Future Attack Reconnaissance

effort. We also see applications and have already started talking to customers, such as Leonardo or those competing for the U.K.'s next-generation helicopter program. So we see that T901 has a bright future ahead of it, too.

And the T901 is a great example of leveraging commercial investments in technology that Mohamed talked about. It has CMCs, additive and our advanced cooling, coupled with specific military innovations around sand tolerance or dual-engine controls. The T901 is positioned for growth into the future. So with all of these engines in all of these multiple platforms, we have demonstrated that we have aircraft engine integration expertise and we are sought out for that.

We're also sought out for the performance on the time-on-wing, reliability and power and thrust that our engines provide. And lastly, we have long-standing customer relationships, where our services have been keeping those engines on-wing and readiness available. And so with this great portfolio of opportunity, the very strong backlog, we are well positioned for growth. And I haven't even gotten to next-generation technology yet. So let's go there.

Let's talk about adaptive engines. Adaptive engine technology is an architectural revolutionary change in the architecture. It is delivering revolutionary performance. And it is the performance that is needed for the future of combat in the contested Asia-Pacific environment. And this is not a paper engine. We designed, built, tested it and proven its performance, not just in our test cells but also in the United States Air Force Arnold Engineering Development Center.

And that testing has proven the performance that it has the high bypass efficiency of one of our commercial engines as well as the proven performance of thrust needed for the next generation of combat. This testing, and you can see the data on the screen, has -- we have proven through that testing that this application in the F-35 would improve speed, range, thermal capacity and fuel burn, not to mention durability, so 25%, up to 20% more thrust and 2x the cooling, so thermal management capability, that the future fighters will need in the contested environment.

And we've worked with the United States Air Force, and we have proven that this application in the F-35 would save $10 billion net. Let me explain that figure to you a little bit. That means they have calculated the savings in efficiency -- fuel efficiency and maintenance costs already including the development and implementation of this. So that is a net savings. And that is a net savings over the baseline. You may see other numbers out there. And you have to caution yourself on cost avoidance of not achieving the baseline durability and maintenance cost numbers.

So we're very confident in that this technology is going to deliver what the warfighter needs. And that includes in sixth-generation applications. This new architecture with a third stream and the advanced engine controls will be positioning us to compete in those sixth-generation applications. So this is proven. It is ready. It is not a paper engine. In fact, it is ready and here and now. And so we are ready to compete to put it in the hands of the warfighter as quickly as possible.

So this obviously applies to next generation. So let me talk about the next-generation business now. So our next generation business, Edison Works, is our classified business. And it's an exciting time to be there. We've actually already won several programs in the classified space. Our revenue last year was $350 million. And Edison Works has a long history of innovation in classified programs, dating back to classified programs such as the F-117, the U-2, the B-1, the B-2. And the Edison Works team is not developing just adaptive technology, we're also developing other classified technologies that, for obvious reasons, I can't get into the details. But those have caused us to achieve these wins, those innovations. And that is going to grow this business through 2025 at over a 20% CAGR.

We've invested beyond just some of these classified into adjacencies. So we've done inorganic and organic investments to enable scramjet and ramjet technology that we believe will be critical for the hypersonics market. We're also investing in low-cost technology to enable us to be successful in the close-combat aircraft or UAVs. And then as Mohamed mentioned, just a couple of days ago, Paul Lemmo and I, the President of Sikorsky, announced that we are partnering on HEX, a hybrid-electric demonstrator aircraft, which we see applications in, say, contested logistics or even ground forces with the United States Army.

We have a successful portfolio in the next generation because we have deep engineering expertise that Mohamed shared with you. We have a history of fielding innovation on time and with the capabilities the customer requires. And we are well aligned to our customers'

capability to deliver on the capability we need for combat readiness. And we're pushing the boundaries of that innovation. And we're excited to do so with the customers' funding.

So in closing, the defense market is resilient. It's strong. And we are well positioned. We in GE Aerospace are pushing the boundaries of the step function change in operations for today. We are growing our U.S. and international customer base for tomorrow. And we're preparing for the future with those great innovations I talked about that can be shared across the portfolio, even back into commercial.

So with that, I'm excited to be part of this great GE Aerospace team and to lead the future of the defense business to make sure we deliver on that profitable growth now, tomorrow and in the future. So with that, thank you. I'd like to turn it over to Rahul Ghai, who's our Chief Financial Officer for GE Aerospace.

Rahul Ghai ***GE Aviation Systems LLC - CFO***

Thank you, Amy. Good day, everyone. Hard act to follow. So I'm Rahul. I've been with GE Aerospace now for about 7 months. And what drew me to this opportunity was to work for an organization that has shaped the world by making it smaller. And it is still propelling us forward just as it did 100 years ago. And yet there's plenty to do to make the business better, more efficient, more streamlined. And that sets me up for what I want to cover today.

First, I would share a little bit of the historical financials of the company and how this business behaves through various cycles and what differentiates GE Aerospace from other companies. Second, I want to provide more details on the 2023 guidance for GE Aerospace. And third, build on the medium-term outlook that Larry provided earlier. So with that, let's switch and talk about the background.

So what you see on the left side of the page is that in 2022, we delivered $26 billion of revenue. 30% of that came from new equipment sales and 70% came from supporting the existing installed base. Not only are the ratios similar for both defense and commercial businesses, they are best-in-class, 2x to some of our closest peers. And the number has improved by 15 points over the last 10 years.

And what drives this unique services franchise is the installed base that you can see on the right, which is up 60% over the last 20 years or so. And that's an annualized growth rate of more than 2%. And that growth rate has accelerated since 2010. And our growth on the installed base is coming from the positions we have on the major platforms and is a testament to both the technology and the customer orientation of this organization.

What the services business does is it provides us resilience through the various economic cycles. Not only it helps us weather the downturns, but it also helps us emerge stronger from each of the recessions, be it 9/11 or the financial crisis that you can see on the left. And over an extended period of time, we've delivered mid-single-digit revenue growth and high single-digit profit growth.

And even though this COVID-driven dip is one of the sharpest that this industry has endured, we are well positioned to surpass the pre-COVID peaks on both the top and the bottom line, driven by one of the largest renewals of fleet in aerospace industry. And this recovery will continue through 2023 with mid- to high-teens revenue growth and more than $700 million of profit growth at the midpoint of our guidance. And this builds on what we delivered in 2022, when we delivered 20%-plus organic growth and 4 points of margin expansion.

So let's talk about what drives the profit growth in '23. The biggest contributor of profit growth in '23 will be the improvement in our services revenue, which we expect to be up mid- to high-teens to 20% with the shop visits up, internal shop visits up approximately 20% and the spares in line with the departure growth. The recent trends out of China and widebody traffic growth are encouraging. And that could take us through the higher end of our services projections for the year. we want to wait until China and the freight traffic trends become clearer through the year before we revisit this outlook.

We do expect our new equipment business on the commercial side to be up about 20% (corrected by company after the call), driven primarily by LEAP, which will be up about 50% (corrected by company after the call) during this year. But the widebody and the regional platforms will grow as well. So this volume growth will be partially offset by the negative mix impact from LEAP, which we expect to be about an incremental mix impact of about 1 point.

And this negative incremental impact comes from both the growth of the installs that we ship and the increase in the quick turn shop visits that are covered by warranty. So outside of this, we do not expect any material segment mix impact. And the ratio of our spare engines on LEAP to new installed shipments is similar to what we saw in 2022. And the ratio of the overall spares to installed ratio is also similar to what we saw pre COVID.

We do expect that inflation will be a bigger headwind for us in '23 than it was '22. And part of that is due to the structure of our material contracts, where these headwinds hit us with a lag. But the price increases that we implemented last year are going to help us offset that inflation. We're expecting to make progress on productivity this year through implementation of lean initiatives that are helping us reduce our non-productive time over time in our factories and increase the output per FTE.

And this improvement in our productivity will offset the investments that we need to make, both for supporting the LEAP durability that Russell and Mohamed spoke about and also to create the next generation of technology. So you put all this together, $700 million of profit growth at the midpoint on top of the $2 billion of profit growth that we delivered last year. In terms of margin, the net of price/cost and productivity will be offset by the incremental investments that we need to make and the negative mix impact from LEAP of about 1 point.

So next, let's talk about free cash flow, both a little bit of history and what we see for 2023. First, as you can see on the left-hand side of the page, even though our earnings came down by $2 billion between 2019 and 2022, our free cash flow actually improved by $0.5 billion as we managed our CapEx better and reduced our working capital.

Now as we look forward into 2023, we do expect continued improvement in free cash flow. And this will happen from higher earnings and lower working capital. We are lowering our working capital this year by reducing our base yields outstanding and through higher service billings due to increased utilization that continues to outpace the growth of services revenue.

We're also very judicious about our capital spending. We are investing this year to create MRO shop visit capacity, both what we need for LEAP in the future but also to reduce our turnaround times for our existing customers. But we are very, very diligent about avoiding overcapitalization of facilities. So free cash flow will increase over 2022 and exceed net income for '23.

Now let's switch gears and talk about the medium-term outlook. As Larry discussed earlier, we are confident about the trajectory we are on and in our medium-term outlook. The pandemic is fully behind us. Air traffic is still growing. The defense spending is resilient. And our backlog is at record levels. This framework supports low double-digit to mid-teens revenue growth with commercial up mid-teens and defense up mid-single digits to high single digits from growth of our classified programs and continued strength of our core platforms.

On the commercial side, our OE business will meet the growth from continued increase in LEAP shipments with our services business remaining strong as we expect our internal shop visits to grow high single digits between '23 and '25. Profit growth of $2 billion during this period, both from higher revenue and from improvement in margins that get back to that 20% range by 2025. This implies an annualized profit growth rate of high-teens percentage during this period. We will convert these higher earnings to cash as AD&A headwinds abate and we drive an improvement in our inventory turns.

So let's talk a little bit more about the key enablers of profit growth between '23 and '25. Volume will be a huge plus from everything that we just spoke about. Mix will be an issue as LEAP approaches breakeven, but the profitability levels on LEAP are still not as strong as some of the more mature platforms and 9X shipments increase between '22 and '25. We do expect that inflation levels should subside post '23. And our price increases that will be in line with our historical averages will offset that inflation and help drive both profit growth and margin expansion.

We're expecting to make progress on productivity from the lean capabilities that we are developing in the organization that will go deeper and all the projects that we are starting this year that will have carryover benefits for '24 and '25. And that should more than cover any investments that we need to make for supporting revenue growth, increasing durability of existing products and creating the next-gen technology.

So with that, let me talk a little bit more about our productivity initiatives and our SG&A controls. Because maintaining cost is a critical element for us. And we are focused very, very sharply on that. So let me start with cost of sales on the left first.

On cost of sales, we are expecting to drive 2 to 3 points of productivity every year. On material, we are working with our suppliers to drive with value engineering projects to reduce our parts per cost. We're also implementing source changes to get some volume leverage. We are introducing new technologies, like metal injection moulding and additives, to reduce price per cost -- or price -- or cost per part, I'm sorry.

And let me give you a couple of examples. We recently did a source change on our metal fabrications. And separately, we changed one of our components on one of the castings we buy. And both these projects delivered low double-digit million savings. And there are several more like that, that are helping us reduce our material cost.

On the factory side, the lean capabilities that we are building are helping us improve the flow in the factories, which reduces our setup time or changeover time, increases output per FTE as we increase our productive time. It also is helping us reduce our scrap and rework. In addition, the learning curve on LEAP will be a huge enabler for reducing our manufacturing cost in the factories. So we are focused on it. This year, we're going to run several kaizen events in our factories to make sure that these improvements actually happen.

And there on the right-hand side of the page, you see the SG&A. First, SG&A as a percentage of revenue will be lower in '23 than it was in 2019. And there's plenty to do on SG&A. And we are managing our SG&A cost through three key things. First, we're being very, very careful about adding cost as revenue comes back. Second, digitization and automation is helping. Let me give you one example. We just ran 5 kaizen events to improve our quarterly close process, and we took 95% of the time out in those processes. Over the last 4 years, we've taken 50% of the time out in our quarterly close process. And these improvements add up.

We're also investing in our IT systems that is helping us consolidate the number of systems we use, driving us to a leaner, simpler, more cost-effective footprint. The SG&A road map that I've shared excludes the dis-synergies that we are expecting from spin that we think will be in the $150 million to $200 million range. But we are working hard to offset that by modifying the processes, the applications that we're going to inherit from GE Corporate and adapting them to the needs of GE Aerospace. So plenty of work to do on cost, and we are all over it.

So let me now talk a little bit about our cash flow trajectory. As I said earlier, we do expect to drive these higher earnings through cash. And we expect strong free cash flow over this next 3 years. What gives us this confidence? First, the capital intensity of the business. We have largely completed the investments that are needed to support the ramp of LEAP on the new engine side. And now we are investing to create the MRO shops at capacity. But all of this should keep us within 2 points of revenue and -- CapEx at 2 points of revenue over the next couple of years.

Second will be day sales outstanding. As we look at our days sales outstanding, after the spike we saw in 2020, days sales outstanding were lower in 2022 than they were in 2019. And we expect incremental opportunities in '23 and beyond. First, as we make our output more linear, that stops these quarter-end spikes that come back and hurt us. Second, we are driving huge improvements in our billing processes. Today, there are certain places where there's a lag of about 21 days when the work is complete and by the time we send the invoice out. We are working to eliminate that lag.

Second, through the improvements that we are driving in our billings process, we are reducing the number of disputes with our customers, which allows them to pay us faster. Both these things shorten our cash conversion cycle and help reduce our day sales outstanding. But the biggest opportunity we see is on inventory. Our inventory turns, as you can see, declined sharply post COVID, both from the material shortages and from the need to support our customers in their ramp. But as material shortages ease and flow gets over back to normal, we do expect that the inventory turns will go back to the pre-COVID levels.

But in addition to that, that is clearly not satisfactory. So what we're doing is through the lean initiatives that we are driving and through the flow opportunities that I spoke about on labor productivity, they'll also help us reduce our inventory by reducing the work in progress

and the raw material WIP that we are carrying in our factories. We're also working to implement pull systems with our vendors and suppliers, so they ship us material when we need them. And that ratio will increase substantially over the next year to 2 years.

Both these things help us reduce the inventory. I saw the benefit of that first hand when I was at Greenville a few months ago. And I'm sure some of you saw that as well when you were there last year. And we have a lot of work to do here to make sure that happens. So plenty of opportunities on cash. And I do think we have -- we'll have a good next couple of years.

So let me summarize. It's a great business, solid operational and financial fundamentals. The growth will be driven by the macro trends and by the great technology, people and processes that we have. Price and productivity will drive both margin expansion and profit growth. And that will offset the typical headwinds that we see with new product introduction.

We have a lot of execution ahead of us. But we are very, very clear-eyed about what we need to do. And as Larry said earlier, even beyond '25, we do see a clear opportunity to continue growing the top line mid- to high single digits, expanding margin, delivering strong cash flow, just as we've done the first 20 years of this century.

With that, let me hand it over to Larry.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

I'm not sure there's much more to say, right? You've seen the team. I think we've articulated the tailwinds pretty clearly. Technology over generations sets us up not only with this magnificent installed base but an opportunity day in, day out to be close to customers, driving that service revenue and all that comes with it, poised to do even more.

And hopefully, you saw that when we talk about lean, we talk about decentralization, those aren't just buzz words, right? But that's how we're running the business. That's how we're running the business better and that's how we're also transforming the culture, which creates that flywheel effect. So I couldn't be more pleased. I think we're clearly well positioned commercially, the military team, the defense team making lots of strides.

And as we think about next year, when this is a stand-alone company, a pure play, it is a really attractive piece of ocean-side property, one that we don't think is anywhere close to realizing its full potential, which is why everything that you saw this morning is front and center for us on a daily basis, so we can do that, we can realize that full potential for our customers and obviously, for our investors, both those of you who are with us now and hopefully, those who will join us along the way.

So with that, I think we're going to bring up the team, Steve, and go to a little bit of Q&A. Perfect.

QUESTIONS AND ANSWERS

Steven Eric Winoker ***General Electric Company - VP of IR***

Thanks, Larry. Thanks, everybody. So we're going to take questions in the room today, not online like last year, just given we have so many people who have gone to the effort to get here today. So we're going to do that. Why don't we -- as we're getting set up today, first question from Andrew Obin. Yes, as I said, that takes a while. He takes his -- his questions take a while, Larry. So it's all right.

Andrew Burris Obin ***BofA Securities, Research Division - MD***

Just a question longer term, if you look at a lot of your aerospace peers, a more traditional model is a balance between defense and commercial, right, where defense has government-funded R&D, provides stability over the cycle, which allows to fund commercial. And I fully appreciate that as the maturity of the CFM program, your service business and aftermarket is much more stable than it has been in the past. And you are probably differentiated from your peers. Having said that, what are your thoughts about GE Aerospace going forward and the evolution of your own business model now that you're going to be a stand-alone company?

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Yes, let me take that. Andrew, I think that what we want to do is run good businesses well, full stop. I think we're fortunate today that we start both with everything going on in Russell's world on the commercial side, Amy's on the defense side, Riccardo obviously a big piece on both sides of that. I don't think you're going to see us as an independent company try to shape the portfolio, right?

You all can do that. I think we want to create the best investable option in the sector. And if that means from time-to-time, we might be a little heavier here than there, so be it. But that will be a function of opportunity and where we see growth, profit and cash generation potential as opposed to try to play portfolio manager and shape our portfolio.

Steven Eric Winoker ***General Electric Company - VP of IR***

Rahul, anything you want to add?

Rahul Ghai ***GE Aviation Systems LLC - CFO***

No, I think Larry said it...

Steven Eric Winoker ***General Electric Company - VP of IR***

All right. Rob, second row.

Robert Michael Spingarn ***Melius Research LLC - MD***

Rahul, I wanted to ask you what your assumptions for China are in your forecast, particularly this year and next year in terms of the MAX. And if it starts delivering, does that reduce the number of CFM56s and so on?

Rahul Ghai ***GE Aviation Systems LLC - CFO***

Yes. So let me start, and Russell, jump in here, on traffic growth first. Because -- so we started the year thinking we're going to get out of the gate in China at around 70% and end the year at about 100%. So we were in that 80% range for the average of the year. As you probably and can probably know better than we do, but China has gotten off the gate much stronger than what we had anticipated. It's -- January was around that 90% mark in terms of traffic recovery relative to 2019. So the growth started much stronger in China.

But the China lunar year was in Jan this year versus February. So that kind of creates a little bit of noise in terms of looking at trends in China, especially in the first quarter. So China is trending a little bit stronger in terms of departure growth than our initial assumptions, 70% versus 90% now. But we want to see how that plays out over the next couple of months before we revisit that outlook. In terms of the engines, I don't think that makes much of a difference for us in terms of our 2023 outlook. So that is where we are on China. Russell, I don't know if you want to...

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

No, I would agree. I mean, like you said, we're seeing 90% right now. So we expect to be at 100% as we get towards the back end of this year. We know what we need to deliver into Boeing, what they end up delivering and where it's kind of on their side of the ledger, if you will. So we feel pretty good about where it's going. We watch it each and every day. But I'd say you answered it well.

Steven Eric Winoker ***General Electric Company - VP of IR***

That's great. Julian, front row.

Julian C.H. Mitchell ***Barclays Bank PLC, Research Division - Research Analyst***

Maybe just a quick two-part question. One is when we're thinking about the aerospace remainco...

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

We don't use that term.

Julian C.H. Mitchell ***Barclays Bank PLC, Research Division - Research Analyst***

Or Aerospace futureco.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Better.

Julian C.H. Mitchell ***Barclays Bank PLC, Research Division - Research Analyst***

Rahul, you talked about that $150 million to $200 million of stranded costs that everyone is trying to figure out versus that $8 billion (added by company after the call) profit number in '25, what you deduct from that on Corporate plus stranded. So any thoughts on that? And then secondly, the mix headwind came up many times for the medium term. Maybe just put a finer point on what do you expect that to comprise some kind of LEAP OE and aftermarket and then 9X after this year.

Rahul Ghai ***GE Aviation Systems LLC - CFO***

Yes. So let me talk -- let me start with the first question, Julian. I think that, that is a two-part answer. I'll start and then I'll hand it to Larry. And then I'll take it back for the mix question. So in terms of the $150 million to $200 million that we spoke about of dis-synergies, that is not in the framework that we shared, right? So that will be a deduct.

Now in terms of margin expansion, you can think we're going to be a $30 billion revenue company this year. So you take $150 million, that's about 0.5 point of margin, right? That does not include yet anything else that can come from Corporate. I think that is to be decided as we go later in the year. Larry, I don't know if you want to add anything on that.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

No, I think that captures it well.

Rahul Ghai ***GE Aviation Systems LLC - CFO***

Okay. Then in terms of mix, Julian, the mix drivers and the impact -- and the margin impact will be very similar to the construct that we've seen for 2023. As we think about the margin drivers for '25, price and productivity are going to be helping. And productivity is going to be a far bigger contributor to margin expansion than it is in '23. And that is where it helps us grow our margins as we offset that investment and the mix, right? And in terms of mix, obviously, LEAP, as we think about the revenue growth and as Russell said in his section, LEAP is kind of breakeven by the middle part of the decade, right?

So we go from losses right now to breakeven. But that is clearly a headwind, right? And so that is we built that in. And 9X starts shipping by '25. We start shipping and the volume increases by '25. But clearly, it's an early part of the engine cycle, more OE, no services. So we do expect that 9X will be an issue as well. So that is where we are. I think we have built the level of mix headwinds into our 20% framework that we provided earlier on the margins.

Steven Eric Winoker ***General Electric Company - VP of IR***

So we're going to mix it up a little bit, go to the middle of the room in the back. So Doug Harned, if you can get Jen right in the middle there.

Douglas Stuart Harned ***Sanford C. Bernstein & Co., LLC., Research Division - SVP and Senior Analyst***

Yes, just following on that, on the 9X, you didn't really go into it much during the presentation. But perhaps could you talk a little bit about the issues that you've had and the prospects for getting this fully on and ramping in 2025?

Steven Eric Winoker ***General Electric Company - VP of IR***

Maybe Mohamed, you want to start and then Russell?

Mohamed Ali ***General Electric Company - VP of Engineering***

Okay. So the issues we had, so you probably talk about some of the 777Xs in testing at Boeing. They were grounded for a while. I just want to make sure I answer the right question.

Douglas Stuart Harned ***Sanford C. Bernstein & Co., LLC., Research Division - SVP and Senior Analyst***

That's correct.

Mohamed Ali ***General Electric Company - VP of Engineering***

Yes. So obviously, facts speak for themselves. The flight that has resumed back safely, reliably. And we agreed on that with the Boeing team and with the FAA as well. I think that speaks volume for itself. We have done what we always do here, which there was an issue. It was in testing here in-house. And we understood the issue, understand the root cause, provided the right inspection and fixes, which was satisfying for the Boeing team and for the FAA. And the aircraft is resuming flight safely and reliably.

Steven Eric Winoker ***General Electric Company - VP of IR***

Russell, do you want to add anything to...

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

Yes, I would just add, I think Mohamed said it best. And then Doug, we're just working to then manage the ramp, so working very closely with Boeing on the number of units we'll output in '23 and '24. We're in discussion on what that number needs to look like for '25. As I said, we're doing everything to make sure we're focused on the durability of the program, making sure we're coming down the cost curve so that it's profitable and then working with Boeing to grow the program. So pretty excited about it.

Steven Eric Winoker ***General Electric Company - VP of IR***

Great. I see Joe Ritchie over there.

Joseph Alfred Ritchie ***Goldman Sachs Group, Inc., Research Division - VP & Lead Multi-Industry Analyst***

Appreciate all detail this morning. Maybe my question for Russell. I just want one clarification on internal shop visit growth for the LEAP. You see it ramping in 2024. I just want to be clear that, that is profitable growth that is out of warranty growth. And then my second question is really around 2023 and what you're seeing in widebody. I think that, that is a pretty underappreciated part of the story or a good part of the margin story for 2023. So I'd love to get some color there on widebody shop visits.

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

Yes, two great questions. So the first answer is that as you look at the profile we were showing, we'll see PRSVs that actually start '24 and then '25. Those will be profitable events, so yes, in terms of your first question. On your second question, if you kind of go back to '19 pre COVID, widebody revenues as a percent of total were around 46%. They went up close to 50% during COVID, given freighter operation was really growing during that time. We expect it to normalize back around 46% this year as well. So that's kind of the dynamic. So it's about half the portfolio is widebody.

Rahul Ghai ***GE Aviation Systems LLC - CFO***

But we do expect though the -- when we talk about our total shop visits being up around 20% this year, the widebody shop visits are up slightly higher than that. Because Russell is right, the freight traffic is coming down. Passenger traffic is going up on the widebody. So that's -- the shop visit growth is a little bit tilted more towards the widebody versus the narrowbody. And that is what my comments earlier that the widebody is looking a little bit better than what we thought at the beginning of the year. That kind of pushes us to the higher end of the service growth outlook that we provided.

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

And pretty simply is just that the narrowbodies led the recovery. So the widebodies are coming back a little bit later. So that's why we're starting to see those events now as customers are working to support those fleets. Maybe an additional point on top of Rahul's comment is that when you look at the amount of content on a widebody shop visit versus a narrowbody, those tend to be higher. So we also see a positive mix contribution on widebodies.

Steven Eric Winoker ***General Electric Company - VP of IR***

So let's stick with the -- let's go to the back of the room, if I could. And John, have you got anybody in the back there? There you go, right in the middle.

Christopher Glynn ***Oppenheimer & Co, Research Division - Equity Analyst***

I was curious how you're envisioning the transition from CFM56 shop visits to LEAP? Is that a similar mix, internal/external shop visits? And is that a smooth transition from overall volume?

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

Yes. So I got that one. So yes, what I would say is that if you look at the profile right now of CFM56 and given just where it is over the lifecycle, it tends to be more kind of what we would call an external channel being done by third-party MROs. As the LEAP comes into service and customers get familiar with the technology, we do see more CSA penetration than what we would see on CFM at this point in time. But at the same time, we do have a view of kind of what we want that overall mix to be and are working very closely with third-party partners, what we call CBSA, certified -- or CFM Branded Service Agreement partners that are bidding on those efforts as well to be able to do that work in the outside shops.

The CSAs, we tend to underwrite internally. We'd like to have inside our own footprint. One of the benefits of what we try to do from a capital efficiency standpoint is make sure they were able to look at the mix of shop visits that we do through third-party partners so that we don't have to build all that additional infrastructure. So we're working through that mix dynamic right now. But we have an eye on making sure that we build out that third-party network. It's going to be necessary.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

And I would just add, I think one of the things we're hopeful that we're able to do as we start, if you will, from scratch is drive a lot of those standards that you saw on the lean example, right? We're getting real effect on the 56, but we're really applying those principles to active work around the world. We can lay that in from the jump here, have a much better shot at hitting our quality delivery and productivity objectives as LEAP ramps in the aftermarket.

Steven Eric Winoker ***General Electric Company - VP of IR***

Nick, I think I see Kristine from Morgan Stanley right near you with her hand up. Thanks.

Kristine Tan Liwag ***Morgan Stanley, Research Division - Equity Analyst***

Great. A question for Amy. Amy, thank you for providing all the details on the different engines that you guys have won. Can you talk about the F-35 re-engine and milestones that we should look forward to with the adaptive engine? And should you not win that, what's the profile to NGAD? And how do you think about the opportunity there?

Amy L. Gowder ***General Electric Company - President & CEO of Military Systems Operation - GE Aviation***

Certainly. As you saw from my presentation, we're convicted that this technology is what they need for the future of combat. The presidential budget is coming out today, as we all know. That's kind of the start of the process. Obviously, Congress will weigh in on the timing of when the Air Force and the services need this capability. The Air Force has been clear, it is a capability they want and they need.

So it is a decision on timing, a timing of the F-35 program itself and the timing of the NGAD. And we'll look to see the funding and how we position for that timing. We're very happy with the performance and that it is meeting the requirements they need. So it is really a decision the nation needs to make on how fast they want the capability for the contested environment.

Steven Eric Winoker ***General Electric Company - VP of IR***

Hey, why don't we start moving our way back towards the front? Blaire, I see somebody who's making a great effort, so let's go there. And then we'll come up to Cliff and Deane if we can.

Jason Michael Gursky ***Citigroup Inc., Research Division - Research Analyst***

Jason Gursky from Citi. A question for Russell and one for Amy. Russell, can you talk a little bit about what your assumptions are on aircraft actually -- or engines, excuse me, reaching their third shop visit and kind of risk you have there for early retirements, kind of what's embedded into your assumptions on reaching third shop visits? And then Amy, can you talk a little bit about some of the sunsetting programs, like F-18, and what your assumptions are related to that?

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

It's ultimately -- and we could try to work with Steve to get you a more specific answer. But it's ultimately a blend based on the extent to which the customer and kind of the operation that the customer has and the amount of cycles that they're putting on that engine over its life. So there's clearly some number that we expect to see three, some number that we expect to see two. So I'll have to -- to be able to give you a more specific answer, I can work with Steve to follow up with you.

Steven Eric Winoker ***General Electric Company - VP of IR***

Amy?

Amy L. Gowder ***General Electric Company - President & CEO of Military Systems Operation - GE Aviation***

Sure. And then on -- so yes, F-18 is still -- we still see strong demand in terms of readiness. The Navy has been very clear, it's still a platform they're flying and need the readiness. So we still see the demand for spare parts and services in that regard. And we've already factored that into profile. But the 414 engine itself, we see the demand growing in those indigenous capabilities that I spoke of, specifically with Korea.

So the production line will stay stable. Our F404, the legacy F-18 engine, is actually growing because of the training market. So you'll see growth in F404. You'll see stability in F414. And then you'll still continue to see some demand for spares and services in the U.S. maybe.

Steven Eric Winoker ***General Electric Company - VP of IR***

Great. Blaire, let's go to Cliff and then, Jen, to Deane.

Clifford F. Ransom ***Ransom Research, Inc. - Founder and President***

Cliff Ransom, Ransom Research. Larry, this is not for you, this is for your colleagues, please. I know you're only 5 years into this lean transformation. But can you give us any feedback on where you stand on the penetration of Hoshin Kanri through your organizations? And Steve, that could include an answer from you.

Steven Eric Winoker ***General Electric Company - VP of IR***

I'm going to forego that, Cliff, to later. Why don't we start and go left? Why don't we start with Russell and Amy?

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

Okay. I would say we're in the early phases of it still, to be completely candid, but making progress. I mean, the ability to -- in a very structured way -- so you're very familiar with this, right? Think about what are the 3-year objectives move to how do I get to 50% of those objectives on the kind of what we call the western side of that box and define what are the breakthroughs that are required. It's unlike anything I've ever been around before in my GE career.

Much less than move it to the right and to be able to start to talk about what are the targets to improve very specifically in the calendar year, I find it to be very powerful. I would say I think the teams are continuing to get their legs under them. So we've done a number of reps. We have a regular rhythm around the projects that we've chosen, where we really think that we need breakthrough capability to be able to hit our long-term objectives.

So I'd say we're making good progress. But there's just so much that we're learning about kind of the benefit of getting their reps on a sequential basis year to year to year. And that's been, for me, probably one of the biggest eye-openers. We, as you said, started it several years ago. You do it, then you kind of do it the next year. And you realize how much better you could be and what you did accomplish.

I would say there's been some things that have been interesting to see, things that maybe we didn't do so well, where you kind of go back and say, "How do we approach that differently?" So we continue to work with the teams and drive it, regular cadences around it. But it's something that I have found to be one of the more fascinating things that I think we've added to the operating capability of the organization.

Steven Eric Winoker ***General Electric Company - VP of IR***

Amy, how about a quick answer?

Amy L. Gowder ***General Electric Company - President & CEO of Military Systems Operation - GE Aviation***

Yes, real quick, I would just say I saw a lot of progress in daily, weekly management. So the daily management on the shop floor, the weekly operating reviews using problem solving and data is where we made a lot of strides last year. This year, with Hoshin Kanri, we've created a lot of alignment. So I think it was the first step, alignment. And then I would echo, we're really now how do you take that to breakthrough? We're still early in that phase on Hoshin Kanri.

Steven Eric Winoker ***General Electric Company - VP of IR***

And Mohamed can't resist, so go ahead. And Rahul has to go. Larry, you have to wait to the break. Go ahead.

Mohamed Ali ***General Electric Company - VP of Engineering***

I have been -- you call it Hoshin, but you call it what you want to call it. But in the past 14 months, I have been practicing it personally. And the amount of focus because we are rallying the entire organization around these are our top objectives, it just -- you get help from everybody. You get the whole team dedicated and focused. And we have shown -- when we have done that, we showed great results. And I'm not saying that because Larry's here haha.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

it's quite all right haha.

Russell T. Stokes ***General Electric Company - President and CEO of Commercial Engines & Services - GE Aerospace***

I just have to add to that comment. It is the first tool that I've seen where teams have asked me in the past over the years of my career, "What are we not going to do?" It tells you. It absolutely tells you.

Steven Eric Winoker ***General Electric Company - VP of IR***

So we're going to squeeze in one last question before break. Deane?

Deane Michael Dray ***RBC Capital Markets, Research Division - MD of Multi-Industry & Electrical Equipment & Analyst***

Yes. A couple of quick ones. For Mohamed, can you just clarify on the engine fix related to the Middle East dust condition? Was that a fleet-wide fix or just for engines in that region? Can you put a cost on that? And then for Larry, any comments on the AerCap announcement use of proceeds and so forth?

Mohamed Ali ***General Electric Company - VP of Engineering***

You're talking about LEAP in particular? For LEAP, actually, the configuration management and what to give which customer, that is still in discussion. That's part of the work that we are doing right now. Some of the fixes would provide lift to everybody, we're going to go provide it to everybody. Some of the fixes are only intended and they provide only the time-on-wing improvements for the Middle East, those will go. And we are debating, "Do we give it to everybody?" Because that also gives flexibility of moving the fleet. So that's some of the debate that happens as part of our standard configuration management process, we call it product control board.

Rahul Ghai ***GE Aviation Systems LLC - CFO***

But there's not a lot of big retroactive fixed cost that we've -- that we need. So a lot of these things that Mohamed is talking about that are quick fixes, they're not going to be a big retroactive cost impact in our financials.

Mohamed Ali ***General Electric Company - VP of Engineering***

Exactly. And I showed you an example. You probably saw in the GE90, the blade pre fix and the blade after fix that was part of my presentation. The normal human eye will not be able to tell differences between them. This is -- these are small tweaks that make a big difference, that's what this engineering team does.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Deane, I would just say, briefly thrilled with the first step here in the monetization, right, both in terms of the secondary and the buyback by way of AerCap, but no change relative to the capital allocation strategy. We really are, to borrow from Mohamed a moment ago, quite focused on job 1 here. And that is to set up both Aerospace and Vernova as investment-grade companies. As you see us work through those monetizations, that goal will not change.

Steven Eric Winoker ***General Electric Company - VP of IR***

So we're going to leave it there, just given the time, take a short break. Please be back in your seats just about 10:00, okay? Thanks so much, everybody.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Thank you.

(Break)

PRESENTATION

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

Good morning, everyone. I hope you find the purpose video that we just shared as motivating as I find it every time I watch that video. It is great to be here with you today. It's great to be at CTEC today. I was reflecting yesterday, it's been about 10 years since I visited CTEC. And at that time, when I was here 10 years ago, I was the CFO of the Commercial Engines business in Aviation and shifted to Power in 2013.

And coming back made me reflect a little bit yesterday of how much has changed in the energy industry in the last 10 years. 10 years ago, when I was here, Elon Musk could ship 5,000 cars. Now we talk about electrifying the world. 10 years ago, we were 2 years shy of the Paris Accord and talking about halting global warming at 1.5 degrees. Now it's common dialogue.

Today, we look at the world and the biggest challenge we have in front of us with climate change, but also one of the biggest opportunities to invest. And it just makes me think about how fortunate I am, and I feel how much motivation I have to lead GE Vernova on a go-forward basis. But as much as that 10-year retrospective can be interesting, I think the most important message is in that 10-year period of time, the last 12 months have most likely been the most impactful on our path forward. And that's really where we wanted to start the discussion today.

So if you go to the first page and talk about our home market, in the U.S., the Inflation Reduction Act is a game changer for the renewable energy industry, for our customers and for our renewables businesses. If we start there and talk about the wind industry, the buying certainty that our customers have today relative to where we were 12 months ago, night and day difference. We see a clear path to add 150, 200 gigawatts of onshore wind in the U.S. in the next 10 years, that's relative to 88 gigawatts in the last 10 years, 150 to 200 relative to 88. Vic will come up and talk about the visibility we see on a go-forward basis with our onshore wind business.

But it's just not onshore wind. The reality is the production tax credits with nuclear is going to extend the life of nuclear power plants in the U.S., which is very good for our services business. Hydrogen, carbon capture incentives are going to decarbonize gas faster. So there's a lot to be excited about the U.S., but this isn't just about the U.S. either. The reality is when you look at the global events in the last 12 months, whether it be the continued extreme weather events, whether it be the crisis in Ukraine, whether it be us having a better level of understanding to the impact on the grid with higher renewables penetration rates, there's a lot of other changes in the market right now. And it really starts with a very material shift in how the world is viewing firm, fixed baseload power with gas and nuclear.

We see that today in our gas business with our customers investing $2 billion in upgrading their gas fleet in 2022. We see that in our nuclear business with the huge expansion of small modular reactor pipeline that we see. But this also isn't just about power generation, whether it be wind, gas or nuclear, the investments that are going to be required in the grid to drive the energy transition are massive. We

see that shift most acutely today in Europe, where the European TSOs are investing in the grid, both for resilience and for energy security. This is becoming a market where demand is outstripping supply, both of the grid expansion, but then the opportunities that follow with it with investing and making the grid smarter to manage the complexity of the world at play.

So a lot is changing in the markets in the last 12 months. But simultaneously, we're doing the hard work to set up GE Vernova to lead in the energy transition. So if you shift to the right, that starts with the team. It starts with elevating internal leaders with domain expertise that have seen cycles in these businesses to lead. I'm thrilled to have Eric Gray come up and walk through our gas power business. Eric has been in the gas power business for over 20 years. We are very fortunate to have Vic Abate leading the Onshore Wind business again. Vic led this business from 2005 to 2013, and it's the most profitable years.

Philippe Piron is crossing into his second year leading our electrification businesses and will come up and talk about Grid Solutions. His background with undersea cabling at Alcatel and the symmetries that we see with the HVDC growth today create tons of great conversations for us today on how we grow that business. But this isn't just about elevating our internal leaders, we're bringing in external talent to make GE Vernova better, to make me better as a leader.

I'm thrilled to have Mavi Zingoni here, our new conventional power leader. Mavi comes from us from after 20 years of leadership -- more than 20 years of leadership at Repsol, Spanish energy company. Steven Baert, our new Chief People Officer, previously Chief People Officer at Novartis; Rachel Gonzalez, our new General Counsel, after 3 previous general counsel roles, most recently at Starbucks; Michael Lapides, our new Head of Investor Relations, after 17 years at Goldman.

So we're building the team that we need to lead in the energy transition. And while we're doing that, we're infusing the self-help that we need into these renewables businesses to drive forward. And there's really 3 themes there that we're going to talk about a lot today: Organizational simplification; structural cost out; better underwriting. And doing all of that in the context of lean and Hoshin Kanri, lean with continuous focus every day, but still finding the space and the oxygen for the breakthroughs that take place.

Now if you go to the page that you can see in front of you with 3 key messages for the day. Starts with the fact that GE Vernova is positioned to serve our customers and lead in the energy transition like no other company in the world. For me to really best illustrate that, I think it's ideal to go to the markets that we're experiencing every day. My first international trip of 2023 was to Japan. This is a market that has a big gas power generation fleet, but not a lot of domestic gas and is determined to consume hydrogen ammonia. Our gas power fleet has 8 million operating hours with hydrogen and hydrogen-like fuels. No one is better positioned to decarbonize gas more than GE Vernova.

In the end of '21, we were tech selected for about 2 gigawatts of offshore wind that will translate to orders in the middle of the decade for fulfilment in the second half of the decade. Japan is having to revisit how they think about nuclear on a go-forward basis with their existing fleet and potential new additions. So whether it be Gas, Offshore wind, Nuclear, GE Vernova is positioned to serve our customers throughout the energy transition.

We take a very different example, Ukraine. We just delivered our first aeroderivative application into Ukraine to put the power gen at the place where it's needed in the country today. And while we're doing that, we're planning to upgrade and enhance the grid over the medium to long term. Few companies on day 1 can put power at the source where it's needed, but then make the investments that are needed for the long term in the grid. And those are all the reasons I'm so proud and excited of what GE Vernova can be in serving our customers.

Now a few key business messages for the day. If we start with Power, these are a set of businesses that are going to generate a substantial amount of free cash flow for a very long time. These businesses bled $2.3 billion of free cash flow in 2018. In 2022, they generated $1.9 billion of free cash flow, a greater than $4 billion improvement in free cash flow. But that's not the message, the message is we continue to see huge opportunities to serve our customers better, to expand our margins and grow free cash flow from here. And that's exactly what these power businesses are going to do.

On Renewables, it's been a humbling period of time. I sat on the stage a year ago and framed up the historical financial results were

unacceptable. And we certainly weren't happy with our 2022 results. But as I said at the start, these business teams are infusing the self-help required to fix these businesses. We have the right leaders in place to run these businesses today with secular tailwinds that give us clear pathway to profitability in '24 that we'll build on from there.

Now if we go to the next page, there are a lot of numbers here. But what I want to really focus on is the middle of the page, $107 billion backlog, primarily services. This is a business that generates about half of its revenue from services today and with a huge installed base, 7,000 gas turbines that you can see unlocked. That's 2.5x the next largest competitor. But we're not just focused on what we built yesterday. We are innovating for tomorrow. Whether be in the top right-hand corner with our Grid Software business, 30% of the global utilities in the world use our grid software. We continue to invest in new combustion technology for gas to create new upgrades and new optionality for our end customers. And we're excited about what we have with a small modular reactor on a go-forward basis.

Now if we go to the page that follows. We play in sectors that matter. If we just focus on the spend in these 3 columns, $0.25 trillion a year between equipment and services spend. We start on the left with conventional power. These technologies are the technologies that electrify the world today. Big install bases. Huge services businesses that will generate a substantial amount of free cash flow for a very long time.

In the middle, on wind, the world is going to double the wind capacity in the next 10 years. We are very well positioned to lead in the markets that matter. And on the right, again, this is not just about power generation. We are excited about what we have with both grid solutions, expanding the grid, but also making the grid smarter, and the investments and the growth opportunities we have in front of us with good software. And we'll talk about all of that today.

So we follow on to the next page. GE Vernova is set to lead in both elements of the energy transition. On the left, this is about decarbonizing the system we have today. We still have over 2,000 gigawatts of coal in the world running today. We have almost 250 gigawatts of coal running in the U.S. Coal to gas switching continues to be a major driver of decarbonization. But $1 invested in gas today is not $1 invested in carbon forever. We will decarbonize the gas fleet with both hydrogen and carbon capture.

And then if we shift to the right, the needs of the world to further electrify, and think about a world, Tesla cars, pumps for homes, that is going to drive electricity demand up by 50% over the next 20 years. And that doesn't mean we grow the capacity of the electric system by 50%. We need to double it. The world today has 8,000 gigawatts of capacity. And for 50% electricity growth, we're going to have to go to 16,000 over the next 20 years, because a lot of that new power addition is variable power, intermittent power that doesn't have 100% capacity factors.

So for context, the world today has 8,000 gigawatts, 6,000 of it was built in the last 40 years. In the next 20, we need to add at least 8,000. And some would say that's a conservative estimate. Huge opportunity for us to serve and lead in the energy transition.

If we take that context and then transition to the financials for a few moments and start with the top line and our revenue growth, we come into this year with about $24 billion of our revenue case in backlog, about 80%. We see a very clear pathway to grow revenue low to mid-single digits in '23, mid-single digits in '24. This is on the strength of Gas Services. This is on the strength of growing our Aero book and Gas. It's also on the strength of Onshore Wind and the IRA volume starting to ramp up substantially in 2024, and Grid growth. Vic and Philippe will talk about both.

And in all of these businesses, Gas, Onshore Wind, Grid, real price momentum right now because this isn't just about growth. This is ultimately about profitable growth. And with that, if we shift to the next page and talk about the profitability of these businesses, we're going to start with GE Power.

The GE Power businesses in 2022 generated 7.5% op profit margins. But we see a very clear pathway that, that 7.5% in 2022 turns into low double-digit margins in 2024. That's on the strength of Gas Power, generating double-digit margins in '23. That's also on the simplification of our Steam business by 2024 as we complete our transaction with EDF. And the Steam business becomes primarily a services business, bit smaller, but much more attractive from a margins perspective.

Now on Renewables, we will see a meaningful improvement in 2023 on the profitability. A lot of that is Onshore Wind, but Grid will also be profitable. With the pathway in 2024, the profitability for the businesses in totality and continued improvement in Onshore Wind as the volume ramps up, Grid's pathway to mid-single-digit margins in 2024, and the other businesses sequentially improving.

So we take that and then talk about free cash flow. And this is one of the more important pages in our discussion today. You can look at the '22 and '23 bars, and they look similar. The reality is the power businesses are generating a substantial amount of cash flow in both years. But in both '22 and '23, a lot of that positive free cash flow is being consumed by the renewables businesses. 2024, we see a very clear inflection point in which the cash these businesses are capable of generating is going to grow exponentially.

Now how does that happen? It starts with Power. We see the Power business is generating more free cash flow in 2024 than what we generated in 2022. That's on the strength of gas services. That's how the strength of starting to see the first real ramp-up of HA outages. This is a program we're 10 years into and we're really getting to the point mid-decade, as we've shared in the past, this becomes a real cash generator for us as the outages and that annuity stream starts to come 10 years into the development of this program. It comes with the simplification of the steam business becoming a core, high-margin free cash flow-generating services business at the completion of the EDF transaction.

It comes with a substantial improvement in our Renewable's businesses in 2024. That's on the volume growth that we're going to see in both onshore wind and in grid, but also from a substantial improvement in Offshore wind from a working capital perspective after a tough 2023 I'll walk through, and that normalizing with collections and disbursements in 2024 into 2025. So 2022 and 2023 looks similar, very clear inflection point into 2024, with strength in power and a substantial improvement in Renewable Energy. That's just a baseline that we can grow off of from here.

Long-term targets. We're holding our long-term target for one metric, we're raising our long-term targets for two. The one we're holding, op profit. High single-digit target. That's on the strength of Power getting to double digits, that's on renewables being profitable in 2024, and growing off of there. We're raising our long-term target with revenue from low single digits a year ago, when we were together, to mid-single digits. That's on the strength of the secular tailwinds that we're talking about and the clear visibility we see the growth in both Onshore Wind and Grid from here, along with the strength in our Gas Power Services business.

We're also raising our long-term targets with free cash flow from where we were a year ago at the 80% to 90% conversion to approximately 100% conversion per year, acknowledging some fluctuation with working capital in progress year-over-year. With the benefit of having led the renewables businesses for the last year, I see no reason we shouldn't be running those businesses with the expectation that we convert at approximately 100% free cash flow on a go-forward basis.

Now if we put all of that together, and then talk about what we have with GE Vernova, it starts again with the secular tailwinds we have in front of us, sectors we play in with $0.25 trillion of spend annually. 8,000 gigawatts of new capacity that need to be added to the power gen system over the next 20 years, and doing all of that in an increasingly complex system that is going to require real investments in the grid, both expanding it and making it smarter.

Middle of the page, real opportunities to run these businesses better. We talk a lot about applying the Power playbook to the renewable energy business. A lot of that is lean and Hoshin, both on opportunity to expand margin and grow free cash flow from here. We have great products, we are also investing in our products for tomorrow. And we put all of that together, the secular tailwinds, the opportunity to run these businesses better. The product portfolio we have today and the investments we're making tomorrow, we see a clear pathway to grow the profitability of these businesses substantially, while creating a company that is going to generate a substantial amount of free cash flow for a very long time for its investors.

So with that, I'm going to hand it over to Eric to go into more detail on our Gas Power business.

Eric Gray ***General Electric Company - President & CEO of GE Gas Power***

Thank you, Scott. It's really great to be here with all of you this morning. Gas Power will continue to drive strong operating profit and free cash flow based on a portfolio of solid fundamentals. With 70% of our revenue coming from our services portfolio, strong aero demand

and continued focus in lean and continuous improvement, we plan to continue to grow.

From an installed base perspective, you've already heard Scott and Larry talk about the fact that we have the largest heavy-duty install base in the world. And based on the fact that we expect demand to continue to grow, we also expect that generation will follow. Our services contracted asset portfolio provides long-term revenue, profit and cash flow, while delivering value for our customers. With $45 billion in backlog and more than 75% of our contracts with greater than 10 years to go, this provides certainty in our revenue streams. We also enjoy a 70% renewal rate on these contracted assets. In addition to our contracted asset portfolio, we have a robust transactional business that provides parts, services and repairs to the remainder of the fleet.

Our HA platform continues to grow and provides critical baseload power to our customers. We've got over 15 gigawatts of new capacity being installed today across more than 30 HA gas turbines. And the majority of these HA gas turbines will be added to our contracted asset portfolio. Between our installed base and the HAs that are coming online today, we expect our 2024 HA outages to more than double. By the mid-decade, we would expect this platform to be delivering $1 billion in both revenue and free cash flow.

For our Aeroderivative business, we're experiencing a natural tailwind, driven by the fact that this technology can deliver fast and flexible power to the grid. Some of our recent aero awards are going to support renewable penetration, adding grid firming, data centers as well as energy security across the globe.

Scott talked to you about the effort in the Ukraine and the delivery of our TM2500, providing fast power to a damaged grid, a true testament of what this technology can provide. And as we install more of our aeroderivative new technology into the fleet, we would expect our maintenance visits to follow, thus adding to our services revenue.

Now let's talk a little bit about lean, and the value of lean and what it's been doing for us in gas power: Safer for our teams; fewer quality escapes; delivering faster for our customers; as well as providing cost benefits to the business, SQDC, and in that order. Last year, for those of you that were with us in Greenville, we talked to you about our live outage program and our lean lines, and I'd like to provide an update for those today.

Live outage is a transformative process where we're utilizing core crews, think about groups of individuals that are traveling from one outage to the next, building reps on similar scope, utilizing advanced tools, digital technologies as well as re-sequencing the way that we work to provide more predictability for our customers, thus allowing them to have an additional benefit to create more revenue through generation.

As you can see on the slide, the average number of shifts that it's taken across our 7F fleet as a result of live outage has been decreasing. We plan to add 8 additional technology platforms beyond the 7F to our live outage program in '23 and '24. And this year, the number of outages that we'll execute under the live outage program will more than double.

On the supply chain side, to date, we've added 33% of our manufacturing hours to lean lines. Prior to this, we were working more in a batch and queue-type process, where parts would traverse across one end of the factory floor to the next, only to have to wait for the equipment to become available for us to begin processing those parts.

Now with lean lines, we've got dedicated equipment for each value stream to ensure that we can add additional capacity, all while driving marketable improvements in safety, quality, delivery and costs. And while we're just at the beginning of our journey from a lean perspective in our manufacturing facilities, we remain encouraged that we've got additional costs and cash opportunities as we add the remaining 60%-plus manufacturing hours on to lean lines.

From a financials perspective, we're proud of what the team has been able to accomplish over the last 3 years, but the best is truly yet to come. We plan to continue to see the improvements for both our services and our aero markets while we continue our lean and continuous improvement journey. Additionally, through lean and pricing, we plan to continue to navigate the inflationary environment that we're working through today while continuing to add value for our customers.

We plan to grow our top line, and we will be a double-digit margin business in '23 and '24, while providing strong cash flows. Beyond '24, we continue to see improvements and opportunities for our margins as we become more proficient and lean and drive those efficiencies.

On the last page, I shared with you what we're doing with our lean lines. But our lean lines are more than just our factories in Greenville, South Carolina. We're adding lean lines across the globe. I'd like to show you a brief video on what lean has done for one of our factories in Vietnam, so you can hear firsthand from our facilities manager about the improvements that it's driving.

(presentation)

Eric Gray ***General Electric Company - President & CEO of GE Gas Power***

13,000 crane lifts eliminated from our process at that manufacturing facility. What a testament to the power of lean and the improvements that we can make. First around safety, next around quality, our delivery and cost. These are all the reasons why we remain excited about getting the next 60% of our manufacturing hours on to lean lines such that we and our customers will benefit from these improvements.

I'd now like to invite Philippe to the stage to talk to us about electrification.

Philippe Piron ***General Electric Company - President & CEO Grid Solutions and Power Conversion***

Thank you, Eric. Since last year, our transformation of Grid solution has developed in the right direction. Based on power conversion recovery example, we continue to focus on profitable growth to elevate the quality of our backlog, while continuing our restructuring to lower the cost structure and to rationalize our industrial footprint. In 2022, our order intake has grown double digit, while improving [contributive]margin as whole, and we continue to streamline our cost base.

We reorganized grid solution around a decentralized structure with 3 full-fledged business lines with system integration, forward transmission, and grid automation. Like forward conversion, these business lines, with their regional set P&L, allowed to reach a higher degree of accountability and a closer proximity with customers, technology and field work. Empowerment and entrepreneurship at the point of impact make the difference.

This year, we'll continue to improve our backlog by fixing remaining legacy project, applying lean practices to improve on-time delivery and obviously, to reduce our lead time while continuing to capture high single-digit growth, driven by grid automation and grid system integration with high-voltage direct current opportunities. As you can see on the graph, grid solution improved already significantly its profitability over 2022. And we are still in adherence with our original plan to reach a modest profitability and a positive free cash flow for 2023.

I must admit that our assets are supported by an unprecedented market growth of the grids, transmission, distribution and microgrids for industrial applications. The imperative of energy transition and energy security having induced an exponential need for grid expansion, reinforcement and modernization. According to ENTSO-E, the association of grid transmission system operators, for $1 invested in renewable energy, you need to invest $3 into the grid.

HVDC is illustrative of this mega trend. HVDC is about converting alternating current AC to direct current DC to -- if I create the power and to transmit it on a DC line and to reconvert DC to AC before connecting to regional AC grid. Grid solution delivers the full set of equipment and system here, excluding the power cables. HVDC is the optimum solution for submarine transmission, but as well to interconnect desynchronized high-voltage onshore networks and globally, providing 20% less life cycle cost than AC over long distance. The main reason being that HVDC systems are 50% less power losses than AC networks.

On the HVDC platform, as you can see, we deliver modular multi-level converters, transformers, switch gears and breakers, automation and control and obviously, all the system engineering, allowing a secured real-time execution, and this with a latency of less than 1 microsecond. All product ranges of our business lines are mobilized to deliver a compelling integrated solution.

HVDC investment, as it is shown on this graph, expected to grow by 35% per annum over the next 3 years, mainly due to the European

Super Grid interconnection and as well the U.K. and the German offshore wind expansion. North America is going to follow very soon with future East Coast offshore wind project and interstate connection development.

HVDC ranks very high within the CEO agenda of power utilities and transmission system operators. From a buyer market, HVDC is becoming a seller market, enabling us to develop multi-project, multibillion partnership with key customers. And this obviously offering repeatability and economies of scale for growing profitability.

According to the International Energy Agency, until 2030, more than 50% of worldwide power investment will be dedicated to the grids. Grids, according to this institution, are not any longer a simple enabler but the backbone of the energy transition. Only 3 global players are credible to deliver such value proposition, and GE Grid Solution is one of them. I am committed we are -- all of us are committed to win a larger share of this sustainable and profitable growth.

Thank you for your attention. I will hand over to Vic now after a short video of our customer, NextEra Energy.

(presentation)

Victor R. Abate ***General Electric Company - Senior VP, CTO & CEO of Onshore Wind***

Awesome. Well, good morning, everybody. It's terrific to be here and look forward to just giving you an update on the progress that we're having with our onshore wind business. But before we do that, I just want to start by thanking our colleagues at NextEra Energy. And hopefully, you could see from that video just how important GE Vernova is and our businesses in GE Vernova when we partner with great customers like NextEra to really lead on the energy transition.

So with that, what I thought I'd do is I'd start with a slide that really just talks to how we're driving profitability in our onshore wind business by focus, and focusing on our core markets. Scott talked about the IRA and how we see that as a game changer. On the left of this slide, you can see our view of what that market looks like in the U.S.

A couple of key points. This is a first principal shift next decade versus last. We see double-digit growth as we look at the next decade. And also, when you look at the value of the PTC, this is going to drive the average market to be twice what it was last decade.

So now you say, what does that mean? So this is a great backdrop. But what does it mean to GE in our onshore wind business? In the middle, what I've tried to show is our view of our demand visibility and how that's increasing, and increasing rapidly. If you look at the first 3 bars, what that shows you is our visibility of business with customers, commitments, orders and tech selects when we entered 2022. As you can see, we had about half of our volume for that year in that category. So when you look at '23 and '24, it was really focused more on opportunities than it was firm deals with customers.

Fast forward 12 months, what a difference a year makes. We're entering 2023 fully committed on our volume for this year. And when you look at '24 and '25, customers are lining up looking for capacity to drive their mega projects as this IRA is really about transforming and decarbonizing United States at a much faster path.

So as you pull it all together and you look at the slide here on the right, what does this mean relative to our business performance right around the corner? Scott talked about an inflection point. What we see is we see a favourable mix shift in our backlog, so when we enter 2024, over 70% of our backlog will be comprised of the volume that's here right in this country. And that business is being underwritten at higher prices, more competitive costs because it's leading into our core products, and leading to our competitive advantage as we deliver that here in this country. And we see near-term margin expansion as a result.

So let's just talk about our priorities. So that's the market. What are we doing to really drive the business in a more lean fashion going forward? There's really 3 key priorities. But before we dig into this, I just want to step back. Our view is when you think about the wind OEMs, us included, we've just become too complex. If you look at the last 3 to 5 years in a market with declining PPAs, the PTC on its way to 0, OEMs have been really trying with faster product launches, more variants, more product derivatives to offset that. And the reality is the result of that was more complexity, lower quality and higher costs.

So our priorities, as shown on this chart, we think are instrumental to the turnaround. On the left, we're going to lead with quality. And to lead with quality, we're going to reduce our product variants. And what that means, you can see some numbers there. We're going to reduce our rotors as a result, from 15 to 4. The nacelles, which is the drivetrain that converts the energy, from 9 to 4. And towers, the variation in tower designs, from 40 to 9. As a result, we're going to end up with larger fleets of the same unit. This is going to give lower production costs. This is going to drive a faster closed-loop learning curve and really allow us to drive more robust innovation in a structured way. And when you think about what that means to the supply chain, especially going into a volume ramp, it's a very strategic move for us.

In the middle of the chart, workhorse products. What a workhorse product is, is these are products that we produce in large quantities at scale versus low-volume, one-off niche projects. We believe by doing this, we can provide our customers the best economics. And our analytics show this strategy for 80% of the ZIP codes in the United States, we'll will have a cost advantage. And we can also improve the reliability and the fleet performance of our customers' assets as we do this. The other positive of a workhorse strategy is in a ramping-up volume case. This allows us the unique opportunity to double our volume capacity with limited investment.

Our third strategic priority is to simplify. We just see tremendous opportunity, and you've heard it all day today, but in our wind business, to really focus and drive lean into our operations. For example, we're now focusing on bidding in countries where we have clear advantages. And we define a clear advantage is where we have high product margins. And this is allowing us to reduce our regional design variation and able to shed $500 million of cost structure as we enter 2024. So that's $0.5 billion worth of cost coming out of our business as we enter 2024.

So this next chart illustrates, and I think this is a very interesting chart here, this illustrates the importance of leading with a workhorse strategy and really having a best product strategy as part of our core to lead in this industry. On the left, this is the industry of onshore wind in the last 20 years and the next 20 years, and these are the terawatt hours that are being put on the grid.

To deliver on our climate change goals, we have to deliver a 6x increase in the amount of terawatt hours that are going on to the global grid in the next 20 years. So in the last 20 years, we've got to do that again, only 6x the volume. This is a completely different problem to solve. This is quality at scale. When wind becomes 25% of the planet's electricity, you have to think about fleets of 50,000 units, fleets of 100,000 units, not one-off niche projects of 1,000.

So at GE Vernova, we've taken actions to deliver on this promise. Number one, we've implemented a fleet performance management team, taking some best practices from our gas colleagues that you heard from Eric, where we're taking 200 engineers, and we have them really performing as the eyes and ears of the fleet, taking the data, taking the lessons learned and getting that information from our fleet back into our design teams, closing the loop into our supply chain, closing the loop into our manufacturing centers.

We also are starting every day at a staff level with a quality and safety meeting. And this is cross-functional, lean problem-solving system by system. So as that data is coming in, where we see the opportunities to improve quality, the teams are addressing that as a first priority.

Third, in the third quarter of last year, we launched a proactive fleet enhancement program. We took an elevated charge in Q3 of 2022, and this was focused on specific components and some specific models where we wanted to make sure our quality standards were maintained so that we -- our customers have the best running fleet. And to give you an update on where we stand on that, exiting last year, 15% of the medicine that we wanted to get into the fleet has been completed. And by the end of this year, we'll have more than half of that done going forward.

So let's just wrap here with a profit margin walk to best illustrate what our actions mean financially. Last year, Scott talked about it, it was a difficult year in Renewables. Onshore Wind clearly was a significant contributor there. So let's start from 2022 and walk from there. A couple of bars, the first one, which is a positive, will be quality. If you look at the situation we're in, we're addressing the quality challenges and the proactive measures that we're making, we don't see that charge that we took last year repeating. So you can see that as the first tick here.

The second bar is cost out. I talked about our workhorse strategy, our focus on the markets and our ability to use that to structure $0.5 billion of costs out of our business entering next year. That's the second bar there.

The third, U.S. volume and the price of that volume and our competitiveness to deliver that on a cost-effective basis is a favourable mix for us, and you can see that bar, third.

And then fourth is just price net inflation. We're seeing margin expansion there as well. So these actions that we talked about are going to result in taking a negative onshore wind business in 2022 to a profitable low single-digit business next year, and that's just the beginning. When you look at the market backdrop, we see continued margin expansion throughout the decade.

So with that, thank you for your time, and let me turn it back over to Scott. Scott, thank you.

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

Thank you. Thanks, Vic. Now I'd like to spend a few minutes talking about our Offshore Wind business. Offshore wind is our most challenged financial business as we come into 2023. You can see on the left-hand side, we've got about a $6 billion backlog and how that converts to revenue between 2023 and 2025.

Below the bars, you can see that from both a profitability and a free cash flow perspective, 2023 is going to be our toughest year, especially on cash. That very challenged working capital dynamic is primarily driven from the fact that the volume that we're going to ship in 2023 is volume we've already been paid for. So we have disbursements associated with fulfilling on that volume with collections we received in prior years.

Now when we go into '24 and '25, we see that cash dynamic normalizing, collections and disbursements normalizing to a much greater degree that will drive a substantial improvement in free cash flow into '24 and '25, and a modest improvement in profitability also as we liquidate or convert the rest of the backlog to revenue over the next 3 years.

Now we will see sequential improvement '23, '24, '25, but that does not mean that any of us sitting here today are happy with the economics of the $6 billion backlog. But we've got opportunities to work both our product costs and our project cost, and that's exactly what we're going to do.

And in parallel to that, if you take a step back and just look at the right-hand side of the page, offshore wind is going to play a material role in the energy transition. The capacity factors of offshore wind are substantially higher than other renewable energy sources. The technology moat, the barrier to entry is much higher. The number of OEMs competing in offshore wind are less.

When you think about markets that need power-dense solutions, think the Northeast in the U.S., whether it be New York, Boston, makes all the sense in the world to build Offshore Wind to connect that to the load demand in big cities. So there's a market here. There's a growing market and a real opportunity, but one that we're going to be very selective in, one that we're going to focus on markets that we have a competitive advantage.

We can underwrite deals at better economics than what's on the left-hand side of the page, more profitable and grow from there. So we look at offshore wind, and we've got a $6 billion of a backlog that we need to contain and manage and improve over the next 3 years in a clear growing market that doesn't require us to force anything. We're going to look at each deal individually, every market individually, focus where have those advantages and grow our offshore wind business from there.

Nuclear, we want to spend a moment on. Nuclear is another dynamic in the energy transition that is changing drastically today. Nuclear generates about 10% of the world's electricity, about 18% in the U.S. But there hasn't been a lot of new nuclear capacity growth in the last 10 years, really the only place has been in China. I talked earlier about the fact that a number of governments in the world are starting to extend the life of their existing nuclear power plants. But there's also a sentiment shift towards new capacity additions in nuclear. The challenge in this space is the legacy nuclear projects have consistently come in over cost and over-budget because the

nuclear plants that have been built have all been unique and different. And that's why we're so excited about what we have with the small modular reactor because it's smaller. 300-megawatt blocks of power that we can build over and over in a more repetitive way and drive down the volume cost curve and deliver products on schedule and on cost.

Now on the right, we are very fortunate to have 3 strategic and funding partners for our small modular reactor in TVA, OPG and Synthos. We're focused on our launch contract with Ontario Power Generation. We see a growing pipeline opportunity. And we look at this business is not one that is the biggest impact for tomorrow, but is a hugely important investment for us for the long term and one that we're very excited about.

Small modular reactors, if we go to the page that follows is one of many innovations we are investing in today for our customers for the future. In the context of a page has a lot on it, I just want to emphasize that if you really are going to lead in the energy transition today, you need to lead across all 4 columns: sustainability, affordability, resilience and energy security. We talked a lot about wind. Eric talked a lot about gas. But I want to go back there for a moment and just frame up our aeroderivative applications.

Think about the fact that our aero engines today can consume very high rates of hydrogen. The world thinks about storage and zero carbon storage, our aeroderivative applications running on hydrogen are going to be one of the most competitive forms of long-duration storage with hydrogen.

The bottom row, we haven't spent as much time in all of these pieces of the businesses today. Think about our hybrids business. We've got about a $500 million business last year in orders. These are primarily inverters that support the solar industry. This is a part of the Renewables business that I took leadership over last year that's been a pleasant surprise for us. We see this as a business that's going to grow another 20% this year, and we've got real opportunity to grow profitably into from here.

Philippe mentioned Grid Automation through his discussion. This is a great business. $900 million of orders. We're investing and innovating today for the HVDC growth that we see in front of us, mid-40s gross margin. This is a $1 billion top line business for us that's growing for a long time that we're incredibly excited about.

In the bottom right-hand corner, the Grid Software. I really hope the teams have an opportunity today to spend a few minutes with our Digital leaders, Scott Reese and the interactive sessions we're doing later in the day. But as Philippe framed up with the expansion of the grid, that's part of the equation. But as the system becomes so much more complicated, the grid has to get smarter for the bidirectional flows of energy with solar panels, with electric vehicles, with the complexity with the extremes of weather. We are investing in this business and excited about it.

Cyber, another great example. So throughout this grid, we look at the leadership opportunity that the world presents today for GE Vernova to serve and have a lot of things to be excited about. Now if we go look to the page reinforcing our long-term targets, as I said in the first part, high single-digit margin expectations unchanged from a year ago, raising our long-term targets on revenue, primarily in the secular tailwinds we've talked about, onshore wind and grid being the biggest drivers, but strength in gas simultaneously, raising our free cash flow expectations or conversion to 100% on a go-forward basis.

And then putting all of this together and wrapping up the discussion, if we go to the last page. We've gone through a lot of content. But I just want to pause for a minute and articulate that if I had the chance to bring this room to Malaysia and Indonesia. We're, right now, we're commissioning 5 gigawatts of gas plants, 10 HAs in those 2 countries. And everyone could see the impact these 5 gigawatts of new power in Southeast Asia is having in these communities, those countries, in the region at large.

The electrification of the world is a noble cause. Simultaneously, which takes a step back to last summer in Western Europe, extreme heat, drought conditions, we must slow down the effects of climate change, ultimately reverse them. This is one of the world's greatest challenges, and with it, one of the world's greatest investment opportunities.

Our GE Power businesses play in the technology spaces that electrify the world today. We see a clear pathway financially for these businesses to deliver low double-digit profit margins, greater than 100% free cash flow generation for a very long time. We will fix our

wind businesses. We talked about them today. The capacity growth that is going to come is huge in applying a lot of the principles from gas power and power at large to these businesses. We have a great degree of confidence of what these businesses are going to become.

But as we've said a few times today, this is not just about power generation. This is the time where the emergence of opportunity for both expanding the grid and making the grid smarter, are going to change exponentially. I'm excited about these businesses. Excited about the business in electrification and excited about the investment opportunities we have in front of us with our digital businesses. And again, for those that can join a little bit of the interactive session this afternoon, I look forward to the interactions.

But we're doing all that while continuing to invest for the long term, whether that be small modular reactors, whether it be some of the things we're doing with Digital. We are excited about what this company represents and its opportunity to lead in the world.

Secular tailwinds. $0.25 trillion of spend in the markets we play in, 8,000 gigawatts of new power that needs to be added in the next 20 years, real growth, great opportunities to run these businesses better, serve our customers, which is exactly what we're going to do, leverage the technology we have while investing for tomorrow and build a company with a substantial improvement in profitability, a real free cash flow inflection point in 2024 that we would build off of growth from there is something that we're very excited to serve the markets and lead the industry forward.

So with that, Steve, I think we're going to shift the Q&A. Team, come up with me?

QUESTIONS AND ANSWERS

Steven Eric Winoker ***General Electric Company - VP of IR***

We're going to just go to Q&A as we get set up, give that a sec while everybody comes up on stage. And give folks a little more time here, but I see the hands and we'll start with Nigel and then go from there.

Nigel Edward Coe ***Wolfe Research, LLC - MD & Senior Research Analyst***

So maybe can we talk about the orders you're booking today for '24 and '25. And maybe just touch on the pricing per megawatts for Onshore. How well ring-fenced are we against further inflation shocks? And then my second part of the one question is '24 low single-digit margins for Renewables in total. First half versus second half, do we expect to still be losing money in the first half? And then hockey stick in the second half of the year?

Steven Eric Winoker ***General Electric Company - VP of IR***

Vic, do you want to start on just the orders dynamic.

Victor R. Abate ***General Electric Company - Senior VP, CTO & CEO of Onshore Wind***

Yes. So Nigel, on the order side, a couple of dynamics there. One of the things coming out of an inflationary environment, clearly, a lot of opportunity. And with the market, what we've really focused on is changing our bid validity timing. So shorter windows, managing the risk that way. And so with our customers, what they're trying to do is they're positioning '24 and '25, they would like nothing better than to lock in long-term deals. This isn't the time that we're out doing that.

So we're strategically positioning. And so that window of firm deals we're talking about, you saw really was heavy in '23, that risk, we completely understand. '24, we've got that managed. When you're out into '25 and '26, we're not really taking that risk on right now.

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

I think, Nigel, one thing to add, when you think about Onshore today, and we underwrite our customers' projects and the pricing that we're able to present. When you look at a U.S. market with PTC at 100% or with a lot of our volume 110% because we're providing the local content. And where the PPA prices have gone, our customers can make good money in the North American market today, which gives us also a conviction on where we can price and serve them on a consistent basis in which it's just a much healthier system. Not just in the near term, but now with the 10-year clarity we have with PTC really for the long term.

I think on the first -- the second part of your question, if I hit on that a little bit, I mean, I wasn't sure if that was exactly '23 or '24, but if you start '23, certainly, first half of the year is going to be tougher than the second half of the year. We still have a dynamic, Nigel, where we have a mix dynamic where we're shipping a lot of international onshore wind turbines that are at tougher margins.

And because the orders profile of '22 in North America was pretty light, the mix is not ideal. But I think what you need to lean into is it improves in the second half of '23. And as Vic framed up earlier, 75% of our backlog in revenue in '24 is going to be North America. So that illustrative for how much confidence we have in a much more profitable business, second half of '23 versus first half and even more -- substantially more profitable in '24.

Steven Eric Winoker ***General Electric Company - VP of IR***

Right. So Nigel, your question also was cadence through '24, and it's a little early right now. But I think what you're basically saying is exiting strongly from '23, start '24 strongly and just keep getting better through the year.

Next question. I think I see Ron, there you are in the middle of the room, Ron Epstein John or Nik, there you go.

Ronald Jay Epstein ***BofA Securities, Research Division - MD in Equity Research & Industry Analyst***

Ron Epstein from Bank of America. When you think about the Aeroderivative business and the separation, how do you separate the industrial gas turbines from the jet engines when industrial gas turbine business is really based on technology that's developed in the Aero Engine business.

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

Maybe I'll start, Eric, and then you play off of me. But the reality is when we separated the Baker Hughes business from GE, we created a joint venture with both our Power business and Baker that is interacting with the Aerospace business today that already has a construct for how, on a go-forward basis, we will transact with the Aerospace business.

So in that regard, not a lot necessarily changes. You've clearly heard from us today our enthusiasm for the aeroderivative business and really the role it serves in a world with substantially higher renewables penetration. But there's already a construct on how that will work in a future state and one that we may tweak and build upon, but it's not something that we need to build from the ground up.

I think that's real...

Steven Eric Winoker ***General Electric Company - VP of IR***

Yes, that covers it. Andy Kaplowitz here in the second row, please.

Andrew Alec Kaplowitz ***Citigroup Inc., Research Division - MD and U.S. Industrial Sector Head***

Scott, how do you assess the risk that underwriting just kind of takes longer to fix given you have to change culture to some extent. And then when you think about inflection in cash in '24 that you're predicting, do you need that inflection early in '24 to separate Vernova early in '24, would you delay separation a bit if cash is slower to inflate?

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

I appreciate the question. I mean I think a few thoughts on the underwriting. You take some of our more complicated parts of the business. And Offshore Wind, HVDC projects, these are big billion dollar projects. And candidly, we haven't closed a lot of orders in the last 12 months. But we aren't losing sleep on that either because the conversation we're having is this has got to be the right deals, the right economics for the long term.

And I think we're doing a lot of teaching in those discussions on what business we want and what business we don't. And I think we're making real progress there. I think an onshore wind, Vic, I think that's a good place for you and I can maybe give a little bit of...

Victor R. Abate ***General Electric Company - Senior VP, CTO & CEO of Onshore Wind***

It's a great question. And one of the things in Onshore Wind as we turn the business around is there's a lot of process. But the question within underwriting is more of that accountability. So to follow a process but not have the outcome be where you want it to be, isn't success, right? We all know that. But for a large complex organization, sometimes that can get more difficult for the teams to see, and pulling that to the top of the house.

That's why I talked about the daily management, and I think this is where lean is helping to change the culture, having a daily call on quality and on safety, with the top issues. Nobody is allowed to move the cheese across the organization. It is this has to be running in the eyes of our customer. So I think -- do think that's a big deal with the underwriting.

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

The cadence is key and if you'd be willing just at a moment, just the difference on what we're seeing with the HVDC projects that you and I would have looked at a year ago to today, and how the market is evolving just a little bit?

Philippe Piron ***General Electric Company - President & CEO Grid Solutions and Power Conversion***

Yes, I think that on HVDC, it's clear that it's still a project business, but there is some evolving conditions. First to market, as I said, the customer, they understand that there is an imbalance between the demand and supply. So they want to enter into a different non-transactional approach. We are entering a partnership with multi-project over 5 to 7 years with the same design. First, this is changing a lot of things. After we improved as well our technology, and as well, we push up a little bit the pricing and the professionalism about project execution. That's make a lot of difference.

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

And I think that's key. It's a common theme I want you to hold us accountable to in the same sense that Vic talked a lot about the workhorse product. A lot of what we're looking at with Grid is, do we want to chase the last dollar for 6 different projects. Or do we want to enter markets that we feel like we can do the same thing over and over again. And then really come down the cost curve. And that's a lot of what we talk about in grid today and how we're taking our time to pick our next spots. It's not different than what Eric has lead in gas.

And you think about Taiwan for us, we're commissioning 17 HA gas turbines in 1 market. We're going to do a lot more where we feel like we can get the scale to drive productivity. And those 17 gas turbines in 1 country is exponentially worth more to us than if they were scattered all over the world. So just some different ways we're really talking internally about building a business that expands margins after we underwrite it versus the opposite.

Steven Eric Winoker ***General Electric Company - VP of IR***

Brendan from Bernstein, then Joe.

Brendan John Luecke ***Sanford C. Bernstein & Co., LLC., Research Division - Research Analyst***

Question on the Onshore Wind business in the U.S., as orders start ramping back up with the IRA, can you offer some color on your conversations around services, attach rates and maybe what your expectations are there?

Victor R. Abate ***General Electric Company - Senior VP, CTO & CEO of Onshore Wind***

Yes. In the U.S. market with a lot of the customers, it's unique in that most customers, a lot of the -- most of the customers we deal with don't require or they don't want a contractual service agreement, they'll deal with us more transactional. And to be honest, I like that.

When I look at our transactional business, it's very profitable. It's predictable and that the wear out rates, et cetera. And our differentiator is we have the bill of materials, we have the supply, and we can aggregate that risk profile across multiple fleets and provide with less inventory, a responsiveness to get the part there within a day.

But there are some that also have service contracts as well, and we do that as well. One of the benefits of the U.S. as some of these larger projects now, we've got teams that are next to these projects as they get built and we can optimize our labor force as well there, but I'm

very comfortable selling equipment at good margins and having parts and maybe maintenance and upgrades down the road with repower be our service stream because that's the most value that we bring to the table versus just the labor at the site.

Steven Eric Winoker ***General Electric Company - VP of IR***

Joe, in that third row. Joe?

Joseph John O'Dea ***Wells Fargo Securities, LLC, Research Division - Senior Equity Analyst***

I just wanted to start on the Onshore Wind and the cost that's coming out at the same time that volumes going to ramp and talk about the risk that that creates, pain points for you or even lost volume opportunities?

And then secondly, just in terms of the field work that's going on, you talked about 15% and then 50%. Just when you expect that to be completed? And sort of the efficiencies that you're gaining as you go through that?

Victor R. Abate ***General Electric Company - Senior VP, CTO & CEO of Onshore Wind***

Yes. On the cost, the $0.5 billion we're taking out, it's a great question. We aren't -- it's not 10% everywhere or 20% everywhere. This is a very strategic simplification effort that says, here's where we're going to focus and here's where we're not. And to be honest, one of the ways that was prioritized was there are markets internationally where we make good margins. And there are markets internationally where we don't. And so holding that threshold to help decide how we're going to focus and prioritize what markets we're going to enter has helped us. Where we're not going to be as active, that's where we're taking the cost out. And so any facilities that we had there, team resources that we had there that were local, we're able to take that down.

The other is I do believe, and this gets back to the, I'll call it, the NPI deck. And this is where it's not just about spending more money in R&D. It's the right priority and the right investment at the right time. And so we did look at our deck, and we had a lot going on trying to fulfil all these markets, cold weather package, somewhere in one country, a different package in somewhere another country, which was driving resource strain. And so by pulling that back, we're able to actually have our core design centers and communities of practice that are working a more strategic NPI deck that we believe is going to position us through this cycle.

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

If I just give 2 very quick examples to make it real. We were doing NPI engineering, new product introduction engineering and Onshore Wind last summer in 12 places, physical locations. We're doing it in 4 today. That's just bad planning to be working on the same product in 12 different places. So yes, we've taken out some costs, but we're driving a more productive, efficient engineering process in scaled centers of excellence.

Vic -- if you compare the people doing the work in the field at the wind farms in the layers between that person, at the customer and Vic today, there are 4 less layers here it was 9 months ago. Neither of those in the investments or the costs that we've gotten out of this business are inhibiting our ability to ramp up in North America and capacity as the market ramps up. And we're protecting for that.

Victor R. Abate ***General Electric Company - Senior VP, CTO & CEO of Onshore Wind***

And just to your question on the fleet, some of the work that we're doing in the fleet in the third quarter of last year, when we had that elevated charge, that was a program. And that program has a specific list of turbines, models, sites and remedies that we wanted to put in, some proactive, some monitoring and reactive. When you look at that program, that's what I said 15% of that is done last year. We'll have over 50%, but close to 60% by the end of this year behind us. So we see that as something that is a hill that's we're climbing, but going to be behind us quite quickly here.

Steven Eric Winoker ***General Electric Company - VP of IR***

Outstanding. Josh Pokrzywinski, Nik and, right over there.

Joshua Charles Pokrzywinski ***Morgan Stanley, Research Division - Equity Analyst***

I'm just trying to consider in Onshore, the magnitude of post '24 improvements in revenue and profitability. You have this 30% increase in gigawatt installations, big jump in price, big geographic mix shift. Should we expect kind of profit and revenue growth to try to track

alongside gigawatt installations there? Are there still kind of a bigger bowl of productivity to dip into or other things that we should consider?

Victor R. Abate ***General Electric Company - Senior VP, CTO & CEO of Onshore Wind***

There is tremendous leverage in this business with volume. And if one of the things that we've done is we've really set the business up for success here is we're not counting on the volume, if you will. This is a very conservative volume case. And so when you actually look at the expectations of where the market could go, there is some dramatic upside there, right? This doesn't have what hydrogen looks like in the second half?

What some of the agendas are relative to the growth that's needed. But getting your costs right -- in our model as well, we assemble. We do make some blades, but we buy some blades as well. So we're more of a system architect, so we can scale volume without a lot of CapEx and without the need for a lot more staff. So our cost structure stays nimble. And as that volume goes up, there should be nice leverage.

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

It's one of the things in Onshore that I'm most attracted to, which is it's a very capital-light model for us, really. When we look at the next 3 years and healthy growth at least through '25. We can lean into that growth with our legacy market share percentages and grow the business and gain that volume leverage with limited capital. So I would say it's really a first things first, let's get back to profitability next year. There's more capacity and volume we can lean into the '25 with limited investments. And as the market continues to grow over the next few years, we'll look at being smart in that regard.

Steven Eric Winoker ***General Electric Company - VP of IR***

So as much as I want to end on that answer, I'm going to -- we're going to make room for a few more. Back of the room. Can we...

Saree Boroditsky ***Jefferies LLC, Research Division - Equity Analyst***

So with your focus on market selectivity for projects, it seems like this will be very impacted by the competitive environment. So just -- how do you expect that to evolve for the U.S. projects over time? And how well protected are you from others entering the market that might take lower margins?

Victor R. Abate ***General Electric Company - Senior VP, CTO & CEO of Onshore Wind***

No, it's a great question. And when you look at the U.S. market, first of all, look at the industry. And this -- some of the challenges Scott showed weren't just GE Vernova, they were industry challenges as you look at last year. So everybody realizes to deliver on the decarbonization goals. You need viable technology providers that can reinvest in the technology. And that probably worked its way too far one way. It's in the process of working its way back. I think our biggest part of the strategy is we're going to be a cost leader. We'll have world-level performance, but we're going to have a cost leader.

And a big part of that is the supply chain. We haven't talked about that much here, but getting towers and blades and the cells to sites, can be 1/3 of the cost. On average, it's probably 20% of the cost. So how you're located and distributed throughout the country gives you a competitive advantage.

Also cycle time, your ability to fulfil matters, and where your capacity is based on the season because different times of the year in the Northern Hemisphere country. So that's why when you look at the North American market, we are very well positioned to be competitive on cost. And we believe with our product position, we'll be in a good spot.

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

And I think that sentiment again, if we just -- if we elevate to Vernova level for a moment, across our markets right now, a lot of these markets are coming towards us. We've structurally sized our gas business, assuming 25 to 30 gigawatts of new additions a year, took $1 billion of cost out. Market was almost 50 gigawatts. I make that point to say we don't deforce anything in gas. We're going to be selective on what deals we go after. Philippe is the same dynamic in grid today, where there is a massive expansion that's needed. We don't deforce anything.

So in a lot of these businesses, whether it be wind, grid, gas, a lot of our internal discussions are, okay, let's get the foundation in place, get these businesses back towards profitability and pick our spots. And that includes which markets and within those markets, which deals, because with the trends in the energy transition at large, there's no need for us to force anything. And that's really a core principle of how we're underwriting GE Vernova for today and for tomorrow.

Steven Eric Winoker ***General Electric Company - VP of IR***

Sure, thanks. We'll take one last question, Julian, in the front.

Julian C.H. Mitchell ***Barclays Bank PLC, Research Division - Research Analyst***

Sorry to end on a sort of stickier note, but just Offshore wind again. Just trying to understand the -- you have the 6 billion backlog. You said you've been sort of paid for most of that. So I guess that's obviously a cash flow comment. And then as you get into '24, the cash normalizes. How are you thinking about kind of the assumption on your cash flow from future orders? As you said, you haven't got a lot recently, and what's the update on the medium-term sort of revenue goal? I guess I just want to understand, does the profit improvement next year come from new orders that are higher margin? Or it's just the existing 6 billion flowing through?

Scott L. Strazik ***General Electric Company - Senior VP, President & CEO - GE Power & Renewable Energy and CEO of GE Vernova***

Julian, I think it's a great one to wrap on because, again, Offshore is going to be a meaningful part of the energy transition. We've got a $6 billion backlog that we're going to work our way through. The improvement we see, '23, '24, '25 on cash that's purely on the existing backlog. That's not presuming a lot of new orders and new cash generation. It's just for the volume that we're shipping in '23.

We're ahead of the progress payments at this point, and that will liquidate down and will normalize in the '24 and '25. So our '24 and '25 existing backlog, collections and disbursements get a lot better, okay?

The profitability improvement is really on the fact that the volume in that existing $6 billion backlog has better escalation protections on the '24 and '25 than this first tranche we're shipping this year. So through escalation, price improves. It's again, not about new business converting to revenue in this period of time. That really, to a large extent, is going to be what we convert to revenue in the next 3 years because this is a longer cycle business than what Vic has with Onshore.

Now we are getting a very positive reception from the market with our 17 to 18 megawatt Haliade-X variant off of what we're shipping this year. We're working that very hard, but we're being thoughtful about it. And I think over the course of this year, there's a high likelihood we'll get tech selects for that next product and economics that we believe can be very profitable, but they won't convert to orders for a period of time. That may be -- more likely '24, some of it into '25.

So there's not a ton of cash or profitability dynamics assumed with new activity in this period of time, '23, '24, '25. The way we should think about this is we've got a $6 billion backlog, we're going to contain and manage what we've got, will work to make it better with both product costs and project costs, and we see a market that's attractive, but only attractive when we can do deals we like. And that's going to -- we're going to be selective and thoughtful in that regard.

And as we can do that and we look into the second half of the decade, it's hard to not believe that Offshore wind is going to be a meaningful part of GE Vernova the energy transition at large. But there's so many open switches, I would say, with Offshore, more so than the certainty we're seeing with Onshore that it's hard to call a revenue number right now for x year. And more of the message I would have is we're going to be thoughtful throughout this process. So I appreciate the question.

Steven Eric Winoker ***General Electric Company - VP of IR***

Thanks, team. We're going to go to Larry. Thank you.

PRESENTATION

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Thank you. Thank you, team. Very well done. I know we have tested your patience on the Renewable side of the house over the last few years. As Scott said at the outset, I don't think we're necessarily pleased either. But I hope as you took from Eric's presentation and some of the references that Philippe made that there is a body of work, we call it the Power playbook, which is highly applicable to what is underway, right?

We're not done with that work in Power and you saw a number of examples where we continue to think we've got margin and cash improvement potential. But perhaps more importantly, you saw in Scott's deck, the inflection point, right? We really think that the application of those same tools and principles really do set us up to run the wind businesses run grid much more effectively.

And by the way, we really have a fundamentally different context a year on, given the IRA and the events in Europe. So we've got work to do. We've got a couple of quarters here that are still going to be sloppy in terms of the print, but I hope you come away with the optimism that we have, the confidence as well coming out of just the operating reviews we had but a few weeks ago with these same teams where we went even deeper and walked out of those sessions with the view that, that inflection point is very much under construction, and we're going to be poised to be the leader in the energy transition and really a unique investment proposition as the world looks to decarbonize and electrify.

So we're excited about it and all the more with the new additions to the team here in the front row. So that's Vernova, I think you've heard the story on Aerospace, an exceptional franchise in every possible way. We don't take that for granted. But there's a lot to work with here, and we think we're on our way to realize the full potential of this business as we move forward.

And then just to wrap it up, again, there's just the two of us now. We're proud of what's happening in HealthCare. We've learned a lot over the last year as to how to set up both Vernova and Aerospace successfully. Some of those lessons are portable. There'll be some new lessons for sure. But I think the underlying operational improvements, the strategic context for both businesses really set us up to be in a position next year, early next year, right, for these 2 businesses to be out on their own and represent, I think, significant investment plays for everybody with an interest in the aerospace world, let alone the energy transition.

So again, we appreciate all your time and commitment. I know it's been a long morning, but hopefully, a worthwhile investment of time. Going to call Steve and Carolina up.

Scott is going to come back up as well, and we'll take a few minutes here for Q&A, and then we'll break for lunch and tours.

QUESTIONS AND ANSWERS

Steven Eric Winoker ***General Electric Company - VP of IR***

Why don't we start off with Nicole, I think that's -- there you are.

Nicole Sheree DeBlase ***Deutsche Bank AG, Research Division - Director & Lead Analyst***

Yes, it's me. Maybe if we could just talk a little bit about corporate expenses. I think probably for Carolina. But as we try to come to a free cash flow estimate for each business, like how you're thinking about corporate between the 2 entities?

Carolina Dybeck Happe ***General Electric Company - Senior VP & CFO***

Yes. So I think it's probably best to take a step back and let's start with where we landed in 2021. So we have 1.2 billion of corporate expense in 2021. What we're talking about now in 2023, we expect a half that number. So in 2023, we expect to see $600 million of corporate costs.

For next year with the 2 stand-alone companies, each of the companies are expected to have between $150 million and $200 million of stand-alone public company costs. Then if you look at what will be left of corporate, we'll have about $400 million of legacy costs. The majority of that will be EHS. And as we go through the year, we'll work on how we allocate that between the 2 entities.

And I would add to that, the cash aspect. So today, the companies are reported as segments and they will be full companies. So you'd have the P&L effect that I talked about and EBIT, and you add to that the interest cost as well as the tax costs. And all of that together then would also translate into cash impact. On top of that, I would say it's really some pay-as-you-go pension cash out, that you'll see.

And finally, I'll say, that's the starting point for the 2 companies, and I do know that Scott and the fellow that runs Aerospace are planning to continue to work down that cost.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Setting up a little competition here, Scott.

Steven Eric Winoker ***General Electric Company - VP of IR***

Who can take that down faster?

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Who's got the lower corporate cost in 2025?

Steven Eric Winoker ***General Electric Company - VP of IR***

Andrew, front row.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

We'll have fun with that.

Andrew Alec Kaplowitz ***Citigroup Inc., Research Division - MD and U.S. Industrial Sector Head***

Just a question of balance sheet liabilities. A, can you just comment on Long-Term Care, I think there were some accounting changes coming if you know the range at this point? And B, what's the thinking, right, as you sort of separate the 2 assets? What's the thinking on timing on sort of closing the book on Long-Term care at GE?

Carolina Dybeck Happe ***General Electric Company - Senior VP & CFO***

So why don't I start with the financial part of this? So basically, you have 2 different accountings. You have sort of -- well, you have the accounting that you see in the P&L on the balance sheet, and you also have the cash impact. And what has been key for us is to continue to manage the business better. And what we see is with the first principles and the new accounting, we still expect to be positive and also the CFT that we just finished was also as expected, a positive, which basically means that we only have one payment left to go, $1.8 billion early 2024. And then we will be done with all the cash calls on insurance.

And then we continue to manage, as we've talked about before, both the asset side and the liability side, including claims management, different areas of even leaning out the processes within that business to continue to reduce risk, that's really key for us. Interest rates helped a little bit as well. But again, it's really running it better that matters.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

And the second part of that question, if I can take that. I don't think we're in a different posture today than we have been over the last several quarters, right? Between the massive deleveraging and a lot of the controls and improvements that Carolina just referenced, that is a stable situation. It's not something we necessarily covet for perpetuity, but I don't think there's a transaction that is necessarily imminent. But I know we're in a much better position to have a shareholder-friendly conversation with potential counterparties.

So it will play out. And if we get to a point where there's something there that makes sense, we'll obviously let everybody know. But I wouldn't necessarily kind of post the sentry hour by hour waiting for that to happen.

Steven Eric Winoker ***General Electric Company - VP of IR***

I think I see Seth in the back. Is that right?

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

You've got better eyesight than I do.

Seth Michael Seifman ***JPMorgan Chase & Co, Research Division - Senior Equity Research Analyst***

Larry, I don't know if it's premature for this, but as you think about capital deployment for Aerospace, if you look at the major A&D companies in the U.S. over the past decade, they pretty much tended to give back all of their cash to shareholders. How do you think about that for GE Aerospace going forward?

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Seth, I would say, by the way, welcome. We're pleased to have you here. I think that's going to be at the top of the agenda for the new Board, right? We're going to work through this year, the work we did last year, creating a HealthCare Board. We'll, at some point, announce the Board that Scott is going to have. The Board will have here at Aerospace. And I think that will be really at the top of the agenda for Aerospace, similar to Vernova, I would add, right? And we don't want to get ahead of that. Again, job one is make sure both companies our strong, independent stand-alone investment-grade entities. And then I think as we'll -- as we move forward from there, we'll sort through the capital allocation schemes. So tad premature, but critical.

Steven Eric Winoker ***General Electric Company - VP of IR***

Cliff, I see another question here, Blaire.

Clifford F. Ransom ***Ransom Research, Inc. - Founder and President***

Cliff Ransom, Ransom Research. Scott, between COVID and breaking my neck, welcome back. I'm a little late. Carolina, I asked questions about continuous improvement in policy deployment before. Can you talk about the hardest part of implementing this methodology, this cultural change in your part of the business? What are the major lessons that you've learned? The hardest part. So stuff that hasn't worked well during this initial transition period?

Carolina Dybeck Happe ***General Electric Company - Senior VP & CFO***

Well, I would start by saying, and you know this, but a lot of people see lean as something that only -- or that is mainly working in a manufacturing environment. What I would say is it works in all parts of the business, including in finance. And for us, it's really been about how do you, as a finance organization, better support the business, and as we transform GE businesses, how do we then transform GE Finance to better support.

So it was a lot about how do we have the right set of numbers in decentralization at the right level, going to 30 P&Ls on 5, also the cadence and the frequency that you heard the team members talk about. So having monthly numbers and sometimes even weekly numbers to be able to drive decisions better. What is always hard is when you drive this kind of change at this scale, so it's really important to take the time to get the team not only to understand the what, but also sort of how and the why, and taking that time to really have the team aligned through Hoshin, why we're doing this, how it's going to help the business and then get going. So go slow to go fast. That's probably what we learned.

Christopher Snyder ***UBS Securiries, Research Division - Executive Director***

I believe you guys said there was about 1 point impact on Aviation margins in '23 from mix. I was just wondering what the 20% guidance in 2025 assumed? And just trying to get a sense for where the margin profile of that business could go because revenues are going above '18, '19 levels. There's a lot of productivity initiatives in place, but there still seems to be some upside to that '21 kind of prior peak.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Well, I think what we -- can I take that?

Steven Eric Winoker ***General Electric Company - VP of IR***

Yes, off course.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

I think what we said was that in 2025, we think we're going to be in that 20% zone, right? So we should be close. So we're going to need to see margin expansion each step along the way. But as we think about a post '25 world, where we're growing at a mid- to high single-digit level, we think there's margin accretion from there. So we're not ready. We saw a little bit of the news today was to red circle 20%. So we're not quite ready to kind of go beyond that today, maybe tomorrow.

But first things first, the 100 basis points of margin pressure is really the year-over-year pressure that we're going to see as a result of LEAP is about 2.5 points in year on an absolute basis, both from an OE and from a services perspective back to what Russell was tagging. And as we continue down the cost curve on new units, as we drive more productivity post the warranty shop visits, that's when you're really going to see LEAP begin to contribute. So that's the latter part of the decade dynamic.

Steven Eric Winoker ***General Electric Company - VP of IR***

Last question from Andy upfront.

Andrew Alec Kaplowitz ***Citigroup Inc., Research Division - MD and U.S. Industrial Sector Head***

Larry or just thinking about how much cash is locked up in working capital. If you think about Aviation, I think you guys showed the chart around inventory turns and the possibilities, but you also have very high growth. You've got the lead doing this thing. So how do you think about -- is there any way to quantify or think about how much cash and the supply chain issues that are out there? Are we past the most acute sort of point in that?

Carolina Dybeck Happe ***General Electric Company - Senior VP & CFO***

Andy, thank you for that question. I know we're running up on time or I could spend 10 minutes going through this as most of you in this audience know. When it comes to working capital, I would start by saying the work we are doing is starting to get traction in 2022 with the supply chain pressures that did have an impact on our working capital and the efficiencies.

And one of our biggest priorities is driving improvement in linearity. And through that, you do get the improvement also on working capital. I would say the biggest areas of opportunities are really in inventory and then also you see digital or therefore, receivables sort of coming as a secondary to that as you drive improved linearity. And we're talking about one turn of inventory is about 4 billion of free cash. So it's certainly worth getting up every morning and focus on improving that linearity.

Steven Eric Winoker ***General Electric Company - VP of IR***

Larry, you want to add on that?

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

I think we're at time.

Steven Eric Winoker ***General Electric Company - VP of IR***

We are. All right. So let's -- if I could ask everybody to hold for a second as I walk through the tour logistics and lunch right now. So we -- for those on the webcast, we finished the formal presentation. In terms of the afternoon, lunch is ready, it's upstairs where you came in after lunch, tours are going to begin promptly just after 12.

Look on your badge, you all have a number on your badge labeled 1 to 8. If you're a group 1 to 4, your tours will start here at CTEC. If you're in 5 to 7, you're going to leave CTEC for their Evendale campus first. And there will be folks in your way out with signs of your group numbers, so you can't miss it.

Thank you for your time, your good questions and your investment, and we look forward to talking to you and working with you in the future. Thanks, everybody.

H. Lawrence Culp ***General Electric Company - Chairman & CEO***

Thank you.

Carolina Dybeck Happe ***General Electric Company - Senior VP & CFO***

Thank you.