

[ Captioner ready for the virtual investors event for Caterpillar ]

>> MICHAEL FENIGER: Thank you for joining us today. I'm Michael Feniger, Bank of America's Machinery, Engineering and Construction Analyst. We are really excited today to host Caterpillar's management for a two-part series. This is a great time to check in with Caterpillar, a global bellwether in the industrial economy. The first part of the event will include a Q&A with Chairman and CEO, Jim Umpleby. The second part of the event will include a Q&A with Group President Denise Johnson, who runs the Resource Industries segment. So, please stick around after the first session. I'm going to hand it off to Ryan to provide some disclosures. He will then hand it back to me where we can then jump into Q&A with Jim. Over to you, Ryan.

>> RYAN FIEDLER: Great. Thanks a lot there, Mike. During today's meeting we will make forward-looking statements which are subject to risks and uncertainties. We will also make assumptions that could cause our actual results to be different from the information we've shared with you on this call. Please refer to our recent SEC filings and the forward-looking statements reminder in our releases for details on factors that individually or in aggregate could cause our actual results to vary materially from our forecast.

Any detailed discussion of the many factors we believe may have a material effect on our business on an ongoing basis is contained in our SEC filings.

In today's meeting we will also refer to non-GAAP numbers. For reconciliation of any non-GAAP numbers to the appropriate U.S. GAAP numbers, please see the appendix of our earnings call slides.

Additionally, please note that Caterpillar policy does not allow for meetings to be recorded with smartphones or other devices unless specific approvals have been sought and granted prior to the beginning of the meeting.

Lastly, we will post the transcript on our website as soon as we can. With that, I'll turn it over to Mike.

>> MICHAEL FENIGER: Thanks, Ryan.

>> MICHAEL FENIGER: So, Jim you joined Caterpillar in the 1980s as an engineer. You have served as CEO since January 2017. So, maybe let's just start off there, Jim. How has Caterpillar changed under your leadership compared to prior cycles?

>> JIM UMPLEBY: Well, thank you, Michael. It's great to be with you today. And I really am proud of our team. I believe they have done a lot of great work over the last six and a half, seven years or so. Now, we did introduce a new strategy for profitable growth back in 2017. And we laid out some targets that we said we would achieve. We laid out higher margins, adjusted operating profit margins, and ME&T free cash flow compared – the reference period. We chose at that time a reference period of between 2010 and 2016. And we said that different levels of revenue will achieve higher adjusted operating profit margins and higher more consistent ME&T free cash flow. And that strategy was based on a few key elements. One is operational excellence, which is safety, quality, lean, competitive and flexible cost structure. Another is services. Everything we do to support our customers after the initial sale. Expanded offerings, having the right product at the right price point to meet our customer needs. And then more recently is sustainability, which I'm sure we will talk about here later, during our time, which represents an outstanding opportunity for future profitable growth.

And I must admit we were met with some skepticism when we put out those initial margin and ME&T free cash flow targets. And we did achieve them in 2017, 2018 and 2019. And then even in 2020 when COVID hit and we had a 22% decrease in our top line, we still achieved our adjusted operating profit margin target and produced \$3 billion in ME&T free cash flow that year.

Between 2017 and 2022, except for that one year I mentioned, 2020, when we achieved \$3 billion of ME&T free cash flow, we've achieved \$5 to \$6 billion in ME&T free cash flow, which, again, very proud of the team. So, I would argue that our strategy has paid off. And it showed up in our results in terms of both higher adjusted operating profit margins and higher ME&T free cash flow.

And if you'd like I can talk about each of the elements of the strategy a bit if you like to or let you ask your next question.

>> MICHAEL FENIGER: Well, Jim, maybe just a follow-up there. Caterpillar revenue this year, based on consensus estimates, is closing in on that prior peak

revenue observed in the last decade yet unit volumes are clearly below that period. Just to help provide context, how far below are unit volumes from that prior peak? What areas of the portfolio have fully recovered? What areas of the portfolio still have room to really recover, that are still below those peak levels a decade ago?

>> JIM UMPLEBY: I think the best way to look at it is really look at each of the markets that we serve. And we are a fairly diverse business. So, you can't just look at construction. You really have to look at everything. But let me just quickly run through the various markets that we serve. I will start with construction, that is the most well-known and the one that most people focus on.

About 25% of Construction Industries' sales and revenues is based on residential and 75% is non-residential (company corrected after the discussion). That 25% that is residential, as we said during our first quarter results, is still improving. The growth rate moderated it, but it's still getting better. The 75% that is non-residential is quite strong. There is a lot of things happening there. A lot of strength in North America with the various pieces of legislation that have passed, the IRA, the IIJA, and the CHIPS Act. We are seeing a lot of strong construction in the Middle East, places like Saudi Arabia are very strong. So, construction, again, a lot of things to be positive about there.

The one negative on construction has been China. And we have talked about the fact that we expected China to be weaker this year. It's been a bit weaker than we expected. But we've typically said in the past that China represents 5 to 10% of our total sales and revenues. It will be below that in 2023 [in the greater than 10-ton excavator industry] (company corrected after the discussion).

Moving on to Energy and Transportation. A lot of strength there, starting with power generation. As you probably know, we sell a lot of generator sets for data centers. And data centers are very, very strong; being driven by everything moving to the cloud, AI and all the rest. So, a lot of strength there still. And we haven't seen any sign of that slowing down.

Oil and Gas is still strong also, both through our CAT-branded products that are used in reciprocating gas compression, well servicing. There are a lot of things we can talk about there. There are things we are doing to help our customers reduce their carbon footprint as they produce oil and gas. And solar gas turbines are quite strong as well.

Caterpillar plays across a large portion of the natural gas value chain. Engines used for drilling, our reciprocating engines, drivers, compressions for gas gathering, big player in well servicing. And, of course, Solar. And, again, if you stop and think about

the fact that all those LNG plants that are being constructed need to be fed with natural gas, we are a big player in that as well.

And our industrial engine business, that is the loose engines that we sell, that business is quite healthy as well. And in Resource Industries. What we have been talking about for quite some time is a gradual increase in mining activity. And that's certainly the way it's played out.

If we think about the energy transition, it creates tremendous opportunities for us. The average electric vehicle takes six times as many minerals as an internal combustion engine car. And everybody has a different opinion as to how quickly the energy transition will occur. But pick your timeframe. It really doesn't matter. There's no way around the energy transition not requiring a significant increase in commodities. And, of course, our mining customers use our products to produce those commodities. So, if we look at the individual markets that we serve, most of them are quite strong.

>> MICHAEL FENIGER: Fair enough, Jim. And just on the cycle-to-cycle discussion, when investors look at a consensus, your revenues are approaching that prior peak a decade ago like we were discussing but your EPS is going to be 80 to 90% higher than that period on a similar revenue number. So, what specifically would you attribute to that cycle over cycle improvement in terms of cost savings, maybe divesting some lower margin business lines, pricing power, how does that position Caterpillar going into that next cycle?

>> JIM UMPLEBY: There isn't one reason. We've worked on a whole variety of things. And our team has been very focused on this. As I mentioned earlier, operational excellence, which is, again, includes that competitive and flexible cost structure. So, we've worked very hard to remove structural costs from the business. And that certainly has been a contributor to our financial performance.

We also utilize what is called the operation and execution model, or O&E model, which allows us to have a better understanding at a much more granular level by product, by market, by application where we were creating shareholder value and where we weren't. By having a more granular understanding, it's allowed us to shine a light on those underperforming products and businesses and challenge our leaders to improve the profitability of those products. And in most cases that occurred.

In some cases, we concluded that it would make more sense to exit those products. And we have done some of that as well. So, it's really a combination of those things. But, even more importantly, the O&E model allows us to invest more resources in those

areas that represent the best opportunities for future profitable growth. And a great example of that is services. We invested a lot in services. And you probably know we have a goal to double services by 2026. And we are very pleased at our progress there. We have gone from \$14 billion in 2016 to \$22 billion last year. And we've told investors that we are increasingly confident in our ability to beat that goal. Services done right, it's good for customers, it's good for the Caterpillar dealer, and it's good for us. Always try and find ways to add more value, to prevent unplanned downtime, to increase productivity and all the rest.

So, to answer your question, there wasn't one silver bullet. There was a lot of great, hard work by the Caterpillar team around the world to improve our financial results.

>> MICHAEL FENIGER: Makes sense, Jim. And CAT is reporting some of the strongest pricing in its history. Investors believe that most of that pricing is due to inflation, yet is there a change going forward in terms of how CAT views pricing in some of its markets? For example, if we look at Resources and Energy, are barriers to entry higher there, that can underpin stronger pricing? Do you see any inflexion point where customers are paying up to replace their fleet with certain features or technology?

>> JIM UMPLEBY: So, we make pricing decisions based on a whole variety of factors. Obviously, we look at input costs. That is one factor. But we also look very closely at the competitive situation that exists in each of the diverse markets that we serve. Certainly, we are investing very heavily in technology. And the goal is to provide more value to our customers. So, if, in fact, we can make our customers more productive, they can produce more material in a certain period of time. They can reduce their carbon footprint. It's a variety of things that we do to add more value. And if we do add more value, often times we can get price for that. But, again, it all starts with a win for the customer.

>> MICHAEL FENIGER: And, just to follow-up with that, Jim, and pricing will inevitably moderate. There's a view that inflation is coming down yet can remain sticky. Just do you see that relationship of price versus cost, CAT's ability to price above its cost, is that potentially structurally higher going forward, especially in a world that is underinvested in infrastructure, metals, and energy?

>> JIM UMPLEBY: Well, yeah, as we said in our first quarter call, we do expect price to continue to be favorable – throughout the year, although the absolute dollar value of the year-over-year price increase will moderate as we lap the price increases that we put through in 2022.

Having said that, again, certainly, cost is one element that goes into price. But we also look at the competitive situation. We look at value. We are investing in technology. And so, there isn't a one-size fits all answer to that question. It really comes down to product by product, market by market, investing in technology. And, again, most importantly, making our customers more successful and providing more value to them.

>> MICHAEL FENIGER: Fair enough, Jim. And since CAT reported, macro environment is becoming as uncertain as ever. Rates are higher. Copper and oil are lower. Are you sensing customers pausing or do you sense customers are still willing to really invest through some of this uncertainty following years of that underinvestment?

>> JIM UMPLEBY: Well, again, we have a diverse set of customers around the world. So, certainly, many of our customers are continuing to buy product. And we are still in a situation where we are supply chain constrained for some products. So, for some of our large engines that serve both data centers and oil and gas, that certainly continues to be a challenge. Many of our customers wish they could get more of our Building Construction Products out of us. That is part of Construction Industries.

Earthmoving is another one where we wish we could meet higher demand. So, it all depends on, again, the customer and the segment.

You mentioned some commodities like copper and iron, ore and oil. Most of those prices, are supportive of reinvestment. And if you look at mining, there are some positives there in terms of the age of the fleet is relatively high. The number of parked trucks is relatively low. And those are positive things. And utilization is quite high as well. So, those are some of the things that we look at to try to determine what's happening in the marketplace.

And, again, you layer on top of that the energy transition, which I mentioned before. There is no way around, if we believe 50% of the EV projections come from the automobile companies, then a lot more commodities will need to be produced.

So, again, every customer is different. They will make a decision based on their individual situation. They will look at where they are investing capital, what their plans are for that year, all the choices they have, and they will make their own decisions. But, again, as I said, as we look at our end markets, we feel good about most of them and business is quite strong.

>> MICHAEL FENIGER: Thanks, Jim. And, following up on that, I mean, inventory is very topical right now. At times the market only views inventories as binary. You are either in restocking mode or de-stocking mode. As the CEO, how are you evaluating inventories at Caterpillar today and at its dealer network? Is there a middle path between restocking and de-stocking where CAT in the channel can manage to take out some inventories in certain areas without observing a big impact to profitability?

>> JIM UMPLEBY: I'll start with by talking about dealer inventory. And, certainly, dealers are independent businesses, and they make their own decisions about their inventory. We can make suggestions to them. We have conversations with them. We have a new S&OP process where we really work hard to have good conversations. But at the end of the day dealers are independent businesses that make their own decisions.

As we sit here today, there are certain cases where I know there are products where our dealers wish they had more inventory. And I mentioned a couple of those earlier, some of our Building Construction Products and in Earthmoving as well. There is just not enough.

In certain areas there is enough, and one of those would be excavators. And part of that is due to the downturn that we talked about in China. So, again, there is enough excavator inventory. There is not enough of other products. So, I do believe, again, it's not binary, all or nothing. It's a situation where product by product, dealer by dealer they will make a decision based on what they see coming from their customers. And we do, again, we are more involved than we have in the process. One of the positive things is that we – our units are connected. So, we have a sense of utilization rates. We have a sense of what is happening. We also, of course, have direct conversations with our customers. And have a sense of what is going on globally. So, we take that information and have conversations with the dealers.

And in terms of Caterpillar inventory, we are not running as lean as I would like us to run, quite frankly. And a lot of that is due to the supply chain challenges we have. We are – although there has been some improvement in – at a macro level in supply chains, there are areas that are still quite challenging. And we still deal with chip shortages in some places. We deal with a number of – I've already talked about our large engines. And that's mostly not a function of our capacity, but our ability to get components from our suppliers.

So, again, it's a mixed bag here. I know with some products dealers wish they had more inventory, but some they have enough.

>> MICHAEL FENIGER: Jim, just curious, like going forward, after we've gone through this pandemic and supply constraints, to your point on inventories, I mean, do you see the channel running with a little bit more inventory than it did pre-COVID because of the supply constraints that we had? You know, maybe it's a lesson learned after the pandemic. Curious as to how you think that channel looks going forward now?

>> JIM UMPLEBY: Well, in terms of CAT inventory, as I mentioned, we are not as lean as we would like to be. And, of course, if you go back before 2020, before the pandemic, we could count on with a high degree of certainty that when a supplier committed, they would have a part on a certain day, that it would be there. And we all learned a new word during COVID, the de-commit word. Where a supplier would call us and say, I'm sorry, I know we promised to get you that component two weeks from today, but our supplier just de-committed to us. And maybe that's because their supplier de-committed to them.

So, I would like to think that over time that we will be able to reduce CAT inventory for the amount of product that we are producing to improve our turn, to get back to a situation that we were pre-COVID. We are not there yet. And we have more inventory than we like. It's not sitting in unfinished goods typically. It's work in process. One of the examples we have given before is when you build a machine, you don't have mirrors, let's say. There was a mirror shortage at one time, so what do you do about that? Well, we built the machines. We put them in the parking lot. The mirrors came in. We put the mirrors on, and we shipped the product. So, that creates in a situation, more inventory than you would like. It's not exactly classic lean. But, again, we are looking forward to getting back to being leaner over time as the supply chain conditions continue to improve.

But we are not out of the woods yet. It's still an issue. It's even still an issue with chips. I think on the higher end people talk a lot about a glut of chips. But on the chips that we use, which are very similar to the chips that automobile manufacturers use, it's still an issue for us.

>> MICHAEL FENIGER: Interesting. And, Jim, you formally ran Solar Turbines. This is one of the highest margin business units, yet I sense the lack of investor awareness around this business. How should investors think of Solar within the E&T segment in Caterpillar today? How is this business different from most other business products in terms of services, distribution and resiliency? And what are really the drivers there for Solar?

>> JIM UMPLEBY: All right. And I won't comment on the margins in that business. So, those are your statements, not mine. But I will talk about the business as well. It is a direct end-to-end business. And Solar designs their own products, builds their own products, distributes it, and services it through their own network. So, it is a direct business. And it's low volume, highly engineered machine products. So, instead of building thousands or tens of thousands of something, this is 100, 150, 200. It's a much lower volume.

And so Solar has a highly developed services business. So, we work very hard to build that through the years. And because turbine machinery tends to run 24 hours a day, seven days a week, and because customers put so much value on up time, minimizing unplanned downtimes, it's really created an opportunity for us to, again, make our customers more successful. And also, it's been good for Solar. Just about all the turbine machinery that we've shipped in the last 20 years or so are connected. And we use AI to help prevent failures. It's gotten quite sophisticated. And we also have things like fleet managers who actually will go and sit within a customer's operation to help them maximize availability, minimize downtime. And often times we go into some of our customer facilities, you can't tell who works for Solar and who works for the customer because they are all working together as a team. But it's not a birth right. Solar has to create more value for their customers every single day. That is what they have to do. But they work very hard to do that.

But it's a great business. One that we are very glad we are in. And, again, as we think about the dynamics today, particularly around natural gas, business is quite strong. A lot of natural gas compression going on in the U.S. But also, we've seen it pick up. Solar has seen it pick up in international business and even offshore platforms again, offshore facilities. So, Oil and Gas has been strong and their business is doing well.

>> MICHAEL FENIGER: And, Jim, there is a big theme in the U.S. right now with these mega projects being announced, infrastructure, reshoring, manufacturing. As the CEO, how do you view these mega projects and these themes, LNG, EV plants, semiconductor facilities, driving your portfolio? Do you see it adding a step function to your growth profile longer term?

>> JIM UMPLEBY: Well, it's certainly a positive for us. I talked earlier about non-residential construction representing 75% of Construction Industries. Whether it's the CHIPS Act, the IIJA, the IRA, those all create opportunities for us. We are already seeing some of that manifest itself into the money that is being spent by the states and infrastructure. But, as you know, a lot of those projects, the permitting takes a long

time. So, we expect that to play out over time. Certainly, the investment in LNG facilities, and, again, that is just a facility itself, but the pipeline and all the work that has to happen in particularly in onshore oil and gas in the U.S. to feed those LNG facilities is, I believe, a long-term positive for us as well.

There is construction activity associated, again, with the energy transition. All the high-tension lines that have to be built, the wind turbines, the charging stations. And, also, thinking about some of these projects like a big battery plant as an example. If you go to one of those big battery plants or a big chip plant you will see literally hundreds of pieces of construction equipment at that – at those big mega sites, putting that together. So, that is a positive thing for us.

So, again, as I mentioned earlier, non-residential is quite strong. And we are quite bullish about what we see coming in. A lot of that is, in fact, underpinned by some legislation in the U.S. But, as I mentioned as well, places like Saudi Arabia, a lot of infrastructure work going on there as well, so construction is quite strong.

>> MICHAEL FENIGER: And, Jim, just because of the concerns around higher rates, tightening lending standards, the headlines on commercial real estate and offices, just help us kind of understand how to think about maybe some of those headwinds, yet you also talked a lot about the strength you're seeing on non-res with the infrastructure and some of these mega projects. How should we think of sizing up that – those headwinds that are starting to creep up, that we are seeing in the headlines?

>> JIM UMPLEBY: Yeah, commercial real estate is quite small. We said in one of our investor calls that [North American commercial real estate] represents about 1% of [total] Construction Industries [sales] (company corrected after the discussion). So, there is a lot of headlines written about commercial real estate as it relates to Caterpillar. And in reality, it doesn't move the needle for us. Certainly, as we think about tighter lending standards, stop and think about the customers that we serve. So, firstly oil and gas. The oil and gas customers, I mean, Chevron, ExxonMobil, and ConocoPhillips, they certainly have capital to buy our equipment. Obviously, it's not a problem. There are power generation customers. Microsoft, AWS and all the rest, not an issue for them.

The construction customers that are underpinned by the projects that we have going on, again, is quite positive as well. Smaller customers could potentially be impacted by some of the pullbacks in the commercial banks. But one of the positive things there is we have CAT Financial. And CAT Financial is very conservatively run. It matched duration risk. They aren't a bank, aren't dependent on deposits for funding. And we

use the equipment as collateral for the loans that we make. And so, what we are able to do then, and everything is connected so we know where the units are, so we don't see it as a major issue in our business for the reasons that I've outlined.

>> MICHAEL FENIGER: Perfect, Jim. And the majority of the engines that drive Caterpillar machines are diesel. You've made some investments and launched products that are alternatives. And your customers have very ambitious, zero emission goals. What are the areas of the portfolio that you see the most pull for those alternatives? How do you see this playing out over time? Does this change the parts and service stream for Caterpillar or how Caterpillar prices these type of future technologies?

>> JIM UMPLEBY: There was a lot of technologies going in. So, let me just talk a bit about autonomy, then I'll talk a bit about alternative drive trains. One of the things that we are quite excited about, and you probably are going to ask Denise about, is our autonomous solutions. And I will let her do most of the talking there. But we are very, very excited about the solution. We have customers that say – that they get up to 30% more productivity than the best manned site. And, of course, think about a mining customer, operating 24 hours a day, seven days a week, producing product. If they can get 30% more productivity, then, obviously, they need to do it safely and environmentally responsibly, that is a real game changer.

And I'd argue that our customers are, in fact, voting with their dollars. And we believe that we are doing very well in the autonomy space.

In terms of alternate drive trains, let's say batteries and machines, most of the interest right now is from our large mining customers. A lot of those big mining customers are really working hard to reduce their scope one and scope two emissions. And we are very committed to help them with that. And we had a demonstration last November where we demonstrated a fully loaded mining truck, operating at diesel performance, up a grade, on the flat. So, it's a prototype and we have a ways to go, but we are quite excited about that.

But one of the things that requires is not just changes to the product itself, the truck itself, but the actual mine site. And one of the things that we believe gives us a competitive advantage is our Energy and Transportation portfolio. A fully loaded mining truck, the battery will degrade in about 90 minutes. So, we have to find a way to dynamically charge that mining truck as it moves around the mine. And through our Energy and Transportation portfolio, we may reciprocate an engine with big, gas turbines. And those reciprocating engines and gas turbines can burn a whole variety of

fuels, whether it's natural gas or hydrogen blends or biofuels and all the rest. So, we believe that gives us a great opportunity not just to sell a truck, but also to help our customers through this energy transition. And we are turning our Tucson proving grounds in Arizona, we plan to turn it into a mine site of the future to show customers how it's going to be done. So, that is where most of the interest is.

There is also some interest in Northern Europe, places like Norway and a few other government-funded projects in a place like Holland where they are interested in battery-powered machines. And we are investing in battery-powered machines. We had four prototypes that we showed to customers in March, in Las Vegas at the ConExpo. So, our strategy is to continue to invest in our diesel-powered fleet and battery-powered fleet. And our customers will decide which one they want to buy. My sense is it's going to take quite some time before there is a significant percentage of battery-powered machines that our customers decide to purchase. And part of it is just being realistic about the applications.

It's one thing if it's in a city center or let's New York or let's say, the City of New York were to outlaw diesel engines in automobiles and construction equipment and everything else. You can very much see a situation where a battery-powered piece of construction equipment that is working in the city can be charged overnight and that is very feasible. For non-residential, for big infrastructure projects in remote areas, it's pretty tough. Think about building a highway or a dam or some other place and there is no grid. So, you've got the situation of, all right, you've got battery-powered machines and a machine goes down 2:00 in the afternoon, what do you do? Do you fire up another diesel gen set to do a fast charge? Which doesn't make any sense – the reason you put battery in it is to avoid the diesel engine. Do you have an extra machine which doubles the customer's capital cost? Do you try to change batteries? Which is not so easy to do in a big, heavy piece of machinery. Do you try to transport the product to some central location for charging? It's not easy.

And, plus, think about the geographic diversity of the markets that we serve. I think that the rate of adoption of batteries will vary not only by application but also by geographic area. And what happens, let's say, in Norway and what happens in other parts of the world or even remote areas, like what happens in New York, and what happens in the middle of Nebraska, in the middle of nowhere is probably going to be different.

So, again, we believe that this is going to take time to manifest itself. But, either way, the way we look at it, we are in good shape to win.

One of the things that we have is service opportunities around things like batteries because customers probably won't want to deal with batteries, that's service opportunities. And, unlike automobiles, we still have things that wear out. Think about, machines that dig in the dirt. Well, things wear out. We have hydraulics. So, it's a bit of a different animal than it is an automobile from a whole variety of perspectives including that one.

>> MICHAEL FENIGER: And, Jim, just to follow-up, you mentioned on the service opportunity. I mean, in 2022 CAT reported \$22 billion of services. It was nearly 40% of your [ME&T sales]. I believe you have a target of \$[28] billion, which you launched that target (company corrected after the discussion). How do you feel you're trending towards that target? Where are still some low-hanging fruit here for CAT on the parts and services opportunity?

>> JIM UMPLEBY: Well, certainly, as I mentioned earlier, we are increasingly confident in our ability to make that target. I wouldn't call the fruit low hanging, but it's still there. You have to climb up a bit higher to get it. But we think it's a great, organic opportunity to continue to grow services. We know that there is still a number of customers that choose not to buy their parts and service from a CAT dealer. And a lot of those are smaller customers. Our dealers do an outstanding job servicing our big customers, big construction customers, big oil and gas customers, big mining customers. But oftentimes small customers, let's say, a small contractor that has a dozen or so machines, don't get the same kind of attention as a large customer would be. So, we are investing heavily in our digital capabilities. E-commerce sales are increasing quite rapidly. We are pleased about that. We've developed what's called CAT central, an app that goes on your phone where a machine ships out of the factory and has a serialized QR code. The customer can scan that QR code. We know who they are. They know, using their phone, exactly what part they need to buy. So, it's very easy for them to do business with us. Maybe they push a button and they can do it themselves, get the parts and labor delivered or push a button and get the dealer to come and put the part in for them. So, we are investing a lot to help those small customers to do business with us and our dealers. And we believe it represents a substantial opportunity still to grow services.

And at the same time we are looking at new services all the time as well. So, again, I use my Solar example. We've been at it for a long time in Solar, maybe 20 years. And we are still finding new ways to increase services to our customers, to make them more successful. The value proposition for a large mining truck or a gas turbine and a small skid steer, certainly, are different. But there are things that, again, is a continuum there

of different kinds of products and services that we can sell to make our customers more successful.

>> MICHAEL FENIGER: Thanks, Jim. And, you know, in the first quarter you generated, you know, \$1.4 billion of ME&T free cash flow. Your balance sheet is very secure. So, I'm going to argue it's under leveraged to a point. ME&T Free cash flow is strong. Do you see CAT potentially adding another vertical to its end markets over time? Are there any markets or services that CAT is in today that it was not in a few years ago that you would really like to expand and grow?

>> JIM UMPLEBY: Well, firstly, as I mentioned earlier, we do believe we have some outstanding opportunities to grow organically, whether it's through services, whether it's through the energy transition, and the additional products that we will need to sell to satisfy commodity demand. One of the things I haven't talked about is distributed generation. As more renewables are added to the grid, that creates grid instability issues, which creates a need for smaller increments of power generation, whether they be gas turbine driven or reciprocating engine driven to be added throughout the grid. And we are already starting to see some of that play out. And we think it will be a bigger issue over time.

And, of course, as I mentioned earlier, our engines and gas turbines can burn a whole variety of fuels, whether it's a hydrogen blend, natural gas, or all the rest. So, we think that's a big, organic growth opportunity because, again, we have the basic products. We are always tweaking our ability to burn different kinds of fuels. And we are tweaking the product, but the product is basically there. So, it's not a new vertical, if you will. But it represents, we think, an outstanding growth opportunity.

Having said that, we are always open to new ideas. We are always open to M&A. We are not elephant hunting by any means. But we are open. We've made a number of smaller acquisitions, whether it be to fill out our product line or to add technology, which has been very helpful. We purchased SPM, Weir Oil & Gas a couple of – two, three years ago. And our timing was good on that one. I believe, if I remember correctly, while we were negotiating, the deal oil prices went negative. So, the timing of that deal was pretty good. And, again, we are very glad we have them. And it's added a whole new level of capability to our ability to help our well servicing customers.

So, again, plenty of organic opportunities. But we are open to other things as well. I would argue, I'm really glad that we had a conservative balance sheet when COVID hit. A lot of other CEOs I know, some industrial companies, were worried about making

payroll. And I slept very well. I didn't know what was going to happen, but I know we could make payroll. So, having a strong balance sheet is not always a bad thing.

>> MICHAEL FENIGER: Jim, maybe just to continue on the balance sheet discussion. You recently raised your dividend 8%. Your CapEx actually remains below its levels a decade ago, below the peak. How do you feel about CAT's reinvestment needs in terms of CAPEX and R&D, where is most of the ME&T free cash flow that CAT is generating now and in the coming years likely to go?

>> JIM UMPLEBY: Well, it's going to go in a whole variety of areas. One of the things that we talked about in our Investor Day is a higher level of investment in what we call AACE, which is autonomy, [alternative fuels, connectivity and digital, and] , electrification (company corrected after the discussion). And, again, we are investing in AACE. And we told the investors we were going to invest a higher amount in that.

We are also certainly very willing and making a rightful shot of investments in capacity where we need to. If we feel we have a constrained capacity, we will invest in that. But it's very different than what we did in the past where it was kind of a wide, a very broad shotgun approach to investing a lot of money in capital and new facilities. For the most part, we believe we have enough bricks and mortar to still grow quite a bit. But where we need to make rifle shot investments, we will continue to do that. And some of that has to do with the supply chain as well as we think about resiliency in the supply chain and so that will require some investments.

But where else are we investing? We are investing in our digital capabilities. We are investing in ways to increase services. We are investing in all the things that we feel we need to do to take advantage of those organic growth opportunities. And, having said that, we are committed that we will return essentially all ME&T free cash flow over time to shareholders through a combination of dividends and share repurchases. We just had that 8% increase. And so, again, we did pause there during the COVID year; but, again, we are very committed to rewarding our shareholders.

>> MICHAEL FENIGER: Makes sense, Jim. And the dealer network, as you touched on, is independent. Yet how is that relationship between CAT and the dealer network, really evolved in recent years? Are you seeing or more open to dealer consolidation? Are you seeing any changes really in terms of like lead times compared to where we were a few years ago?

>> JIM UMPLEBY: Certainly, we believe that our dealer network is a major competitive advantage for Caterpillar. We work very closely with our dealers. I won't

predict consolidation because so much depends upon individual dealer decisions and a lot of other factors. But I'd argue in many ways we are working more closely with our dealers than we ever have in terms of servicing our customers.

I mentioned autonomy, CAT plays a big, direct role in that. When we are dealing now with our power generation customers or our CAT oil and gas customers, with many of the big customers that cut across multiple dealer territories, we are very much there with our dealers, at the table, helping satisfy customer needs. And so, again, we have invested in a lot of tools, like we call it PIC, which is Parts Inventory Collaboration, which allows us to use AI to make targeted recommendations for our dealers for what kinds of parts inventory they need to hold at different points in time. What parts, when, and where to help service our customers, because, again, now we have connected assets. So, in many ways we are working more closely than we ever have before. And if you think about, again, servicing those small customers, thinking about all that it is you want to do to capture those incremental part sales. That does require a new way of working together. But I think the good news is that our economic interest with our dealers are very much aligned. And if we grow services, again, done right, it's good for the customer. It's good for the CAT dealer. And it's good for Caterpillar.

>> MICHAEL FENIGER: And Jim, maybe just to follow-up with the dealer network. You know, we hear a lot about rental penetration in the U.S. I'm just curious, what is CAT's view on rental? How do you equip your dealers to serve in maybe that growing area? Does rental story need to change the way CAT kind of services that market?

>> JIM UMPLEBY: So, we do believe that rental represents a very good opportunity for growth. And in recognition of that, we established a new division January 1st of this year, led by one of our very experienced executives to lead rental. And, of course, Caterpillar doesn't have a rental business. Our dealers have a rental business. And we have some dealers that are very sophisticated and have been very good at rental for a long period of time. And we have some dealers that have not been quite as focused on it and aren't quite as good.

So, our role in this process is to work with our dealers to help them get better at rental, develop new processes, practices and all the rest. So, if you look at North America as an example, the Caterpillar dealer rental stores combined is quite significant – the sum of those dealer businesses is significant. So, again, we are excited about that opportunity and we are putting more resources into that.

>> MICHAEL FENIGER: Fair enough, Jim. And how should investors on the line view CAT's ability to manage a recession whenever that may play out? I mean, there

was a great financial crisis in 2009. But really since then there was a mining downturn, an oil and gas downturn, and obviously we had COVID. So, is there any rule of thumb that investors should be thinking about in terms of CAT's sensitivity going to the next recession, whenever that may play out?

>> JIM UMPLEBY: I mentioned a couple things. One is keep in mind 2020, when we lost 22% of our top line and still produced \$3 billion of ME&T free cash flow, which many would not have viewed possible until we did it. So, I will start with that.

And, secondly, I think it's important to think about, as we started the call, Michael, I talked about the strength of our end markets. I talked about the infrastructure bills that have passed. The strength of Oil and Gas. The strength of Power Generation and data centers. The energy transition. The commodities being produced. So, as I look at the strength of our end markets, I feel very good about what we are heading into. I did not use the 'R' word. You did. But, if there is a recession, that can, in fact, manifest itself in very many different ways. A consumer recession, how does it affect us? We look at our specific markets, that we serve, as we sit here today, we feel quite good. And we told investors in our first-quarter call, based on the strength of the first-quarter results, and what we see in our end markets, we expect 2023 to be an even better year than we had previously anticipated both in the top and the bottom line.

>> MICHAEL FENIGER: And, Jim, maybe just to wrap up, since you have been at Caterpillar since 1980s, I'm curious, if you look at your three segments, do you see barriers to entry higher? Do you see consolidation needed in construction? Many view your Resource business to you having a high market share and higher barriers to entry. I'm just curious, when you look at those three segments, if you feel like barriers to entry are now higher than they were even a few years ago?

>> JIM UMPLEBY: Well, I won't talk about barriers to entry, but I will talk about competitive advantages. And so, we invest in technologies and other areas to try to pull away from the competition, to maintain our competitive advantage by providing more value to our customers. So, we believe, certainly, our dealer network is a competitive advantage. And it has taken us decades to build. I look at our technology like our autonomous solution. I look at our – the ability, the fact that we have an Energy and Transportation portfolio to support our mining customers. I think most of the energy transition, the fact that we have both, gas turbines and reciprocating engines that convert a whole variety of fuels.

Our product portfolio, I would argue, provides us the depth of that product portfolio, competitive advantages as well. So, I think it's pretty tough for somebody to match all

the capabilities that we have. And this, my predecessor used to say I would much rather be us than the competition. And I really do believe that.

>> MICHAEL FENIGER: Perfect. Jim, maybe that is the best way to wrap it up. Everyone on the line, please stick around. In another five minutes we will be having another Q&A with Denise Johnson. Appreciate it, thank you Jim.

>> JIM UMPLEBY: Thank you, Michael. Take care.

(First Q&A ends)

>> MICHAEL FENIGER: Welcome back, everyone. I'm Michael Feniger, Bank of America's analyst, covering machinery, engineering, and construction for a second session of the day.

We are lucky to have with us Group President Denise Johnson who runs Caterpillar's Resource Industries segment. For those that are not aware, Resource Industries is a segment that includes Caterpillar's famous mining trucks, among other product lines and customers.

This is a great time to check in with Denise given trends around mining, commodities, CAPEX, electrification, technology and inflation.

So, I think, Denise, the best way for us to start is maybe to look in the past to frame how we should think about the future. We look at 2012, the peak of the last cycle, Resources revenue was around \$20 billion compared to \$12 billion in 2022. CAT has restructured that business over the decade. What is different today about Resource Industries compared to that last cycle in terms of product lines, commodity exposure, percent of services and aftermarket?

>> DENISE JOHNSON: Michael, I appreciate the opportunity to be with you today. I would start by saying Resource Industries is a leaner, probably more integrated organization than it was in 2012. We've had a very big focus on leaning our operations, consolidating our footprint, and we focused using the O&E model to really improve the overall health of the portfolio. So, as a result of that, we've exited and restructured underperforming product lines, things like Longwall and Room and Pillar Mining, which is primarily an underground coal asset. We've also exited other areas like material handlers and track drills. So, really looking at the portfolio, looking at where we have competitive advantage, where there are, pools to be able to take advantage of and really focusing in on our investments.

We've also taken the opportunity to grow and invest in such areas like autonomy. And Jim talked quite a bit about that. It's been a great opportunity to invest in those products and services that really provide the greatest value for customers. I would say from a commodity exposure, I think the business today is really better positioned to capitalize on, the opportunities that are presented by electrification, more now so than in 2012.

We certainly have seen big growth in demand for our products and commodities like copper and nickel, cobalt and lithium. We've also taken that opportunity to invest in applications that really play well in those commodities. We also have invested in our Quarry and Aggregates and Heavy Construction product lines. And those are some of the most robust and highest performing assets that are leveraged in construction. So, a lot of work there.

In addition to that, from a technology perspective, we've invested in things like fleet management; asset health; safety technology; and then broadly, as I indicated, the automation portfolio. I would say though the biggest thing that is different from 2012 to today is our heavy focus on services and aftermarket growth. And while we were focused on it in the past because our machines operate in some of the most challenging and rugged environments, 24 hours a day, seven days a week, we've really taken the opportunity to expand our service offerings and solutions for customers. So, things like ensuring that we have solutions for, with life guarantees, that can be leveraged. We have taken the opportunity to make sure that we have inventory that's located at a customer's site so they immediately can replace the component. And we've leveraged technology in all that to make that very seamless for our customers.

So, from a competitive advantage perspective, I would say we are very well positioned for the future and much healthier than we have been in the past. And we are very proud of the turnaround in the portfolio.

>> MICHAEL FENIGER: And, Denise, just to follow-up on the question, we think of revenue is still 30, 35% below that 2012 peak, how far are units down versus that last peak?

>> DENISE JOHNSON: Yeah, I would say it depends on the particular product line because every product line, has a different life cycle timeline, and there was a lot of investment in overcapacity in the 2012 timeframe. So, I would say there certainly is a lot of room to still grow. We are not nearly at the cycle from a volume perspective that we were in 2012. We have aging fleets. And so those fleets need to be replaced. The assets are being run very high. We watched the utilization rates for how many parked

assets we have. So, all of those indicators would indicate that we are going to be getting some additional demand.

And I would say, on top of that, as Jim indicated, there is total upside with the total addressable market increase. And the energy transition driving additional commodity requirements, the infrastructure growth that is required, as well as what I talked about for replacement demand. And then the technology that we provide, really allowing customers to perform at higher levels. And I think from a competitive perspective we can get more share of what is out there as well. So, huge opportunities for us for the future.

>> MICHAEL FENIGER: And, Denise, when we look at Q1 results, your division reported a 22% operating margin on about \$3.4 billion of revenue. When we look over a decade ago, your division was reporting basically the same margin, 22, 23%, yet needed \$5.1 billion of revenue to get there. So, CAT is clearly more profitable on a lower revenue number. What are some of the factors kind of driving that? And, as revenues recover over the next few years, where can operating margin really go?

>> DENISE JOHNSON: First of all, I spoke to what we have done to really get the portfolio within Resource Industries leaner, more flexible, and certainly investing in the right parts of the portfolio. So, that has allowed us to take our cost structure down considerably. And at the same time focus our investments in the areas where the best opportunity is. And so, that divesting of some of the underperforming businesses, the opportunity to lean up our operations and be more, effective and more efficient. And then the investment that we've made in technology also provides additional opportunity for us. Because, now instead of selling a piece of equipment, we are able to sell an entire site solution. And that makes a win so much more powerful.

A lot of mining companies now are actually tendering out for a complete site because the technology is so integrated and because the assets work together in unison, almost like a factory. They are awarding site and entire sites to OEMs. And so, if you have a competitive advantage on top of that and you have the full line of portfolio available, it puts you in a unique position.

And then, as we talk about electrification, I'm sure we will go into that, that whole idea that our Energy and Transportation sector even allows us to be even more effective with a site solution. Whether it be a stand-by genset, whether that be a battery storage solution, whether that be a micro grid, that really provides an even bigger opportunity for the future. So, we are super excited about that.

I guess I would use one example of a recent win where exactly that happened. Last year, Escondida, which is BHP's copper mine in Chile, was awarded to us. And that was over ten years, over 160 trucks, and then their support equipment also with that. But that is autonomy. That is introduction of the traditional diesel electric truck. And then, in addition to that, there's dynamic trolley charging. And then, finally, as the evolution goes in, at the end of that ten-year timeframe, it's the introduction of battery electric mining equipment.

So, really being able to capture not only the ten years of transition that is taking place, but all of the assets, the services, and then the technology that goes with that has been a big win. So, it's really a game changer when you think about how we operate and really work with customers today versus the more transactional way we worked in the past.

>> MICHAEL FENIGER: And, Denise, maybe just to follow-up on that, your business unit is reporting some of the strongest pricing in Caterpillar today. How much of this pricing strength is just passing along those higher input costs? And how much of the pricing strength is coming to the competitive advantage that you outline? What is the normal pricing range investors should kind of expect for Resources on a through-cycle basis?

>> DENISE JOHNSON: Yeah, I mean, that is a tough question to answer because, clearly, as Jim indicated, we always want to take advantage of any competitive advantage that we have that we are offering value for the customer. It's tough to predict what's going to happen with inflation and input costs. And clearly, we price for that. But at the same time, we are really focused on outcomes for customers, helping them to be successful. And so, if we can do that in a way that, if they have to pay a little bit more for an equipment or service from Caterpillar, but that combined equipment and service offering lowers their costs or increases their productivity greatly, it more than pays for itself. So, it's all about really delivering on the customer's needs and where their pain points are and helping them to find solutions that really makes, the pricing that comes along with it. But if you focus on that, the rest is obviously a positive upside.

>> MICHAEL FENIGER: Makes sense, Denise. And, you know, since you guys reported Q1, the volatility of the macro backdrop has only intensified. We've seen some lower iron ore, lower copper prices. Just are you seeing any change in tone in order rates with customers? Or are you seeing customers willing to kind of invest after maybe going to bare bones CAPEX levels over recent years?

>> DENISE JOHNSON: It's interesting, and Jim has said this consistently, that we see our mining customers being very capital disciplined. And there is a lot of things happening in the mining industry today. There is a lot of consolidation, M&A. We have very high quoting activity that is going on right now. And, certainly, we are expecting a very, very strong 2023. So, business is lumpy. There are some quarters where orders are down and other times they are very high. So, we are seeing a pretty steady improvement overall in what we would consider both short and long-term outlook for mining. It certainly isn't a big inflexion point by any means, but we see the demand just continuing to go.

>> MICHAEL FENIGER: And, Denise, we are observing to what you alluded to, some M&A discussions or headlines in the mining space. Does this have any impact on capital allocation or CAPEX for the miners?

>> DENISE JOHNSON: It can. I think a lot of it depends on what they are doing and what assets they are acquiring and what the state of those assets are. I think it's really just more of a distraction of, really wanting to see what they need to do with those new assets. And making decisions that take time to be very thorough about. And so, I don't see it as anything where it's a diversion necessarily as much as it is they want to study and make sure they are making the right investments at the right time.

>> MICHAEL FENIGER: Fair enough. And, Denise, there is a big focus right now on the market on inventories. We discussed this with Jim in our earlier session. But can you specifically discuss inventory management within Resources? How does it typically work from the OEM to the dealer to the customer in terms of order allocation? Is there any access in the channel that you're picking up? What are lead times now versus a typical cycle?

>> DENISE JOHNSON: Yeah, I think, first of all, as a reminder, our dealers are independent businesses. They do make their own decisions about and control their own inventory. But we do have a very robust collaboration process with them. And I would say, in general, you think about mining customers, big mining assets, dealers don't want to hold big assets on their books for any longer than they need to. So, they have to be very confident and either have a sale in hand or be very confident that it's coming before they are going to order this large equipment.

And so, as part of that collaboration, we do, you, know work closely with dealers. We look at what the trends are, what we think the win rate is going to be or how far it needs to travel, when the customer requires it. And remember, some of the inventory in Resource Industries is actually just transit inventory. So, it's held in dealer inventory

once it leaves our dock, or, in some cases, it's halfway across the ocean. But then it goes into dealer inventory and they need to commission. They need to assemble it and get it running before it leaves their books. So, some of it is just the process of working through the delivery, which creates inventory for the dealer.

On the Heavy Construction and Quarry and Aggregates side, there is some dealer stocking. But they are very closely looking at the demand at the end of the line. And I would say much more disciplined today than ever before, ensuring they are not going to hold too much inventory. But be ready for a sale if it comes, so it is definitely a balance.

>> MICHAEL FENIGER: Fair enough. And, just going back to the commodity's discussion, iron ore and coal are really big drivers in that last peak in 2012. What is the most important commodity for Caterpillar today and going forward? How do some of these other metals that are part of de-carbonization efforts impact the outlook for machinery demand? For example, are lithium mines machinery intensive and a growth opportunity going forward?

>> DENISE JOHNSON: I say to the last question, absolutely. It depends. There is a number of forms of lithium mining. But we just signed a number of contracts with lithium miners that are starting up some green fields. So, I would say, absolutely, it's opportunity.

If you look at it on a volume basis, the biggest outlook for growth is in copper. And copper mines are usually deep pit, not always, but require a lot of assets. And some of our recent big wins have been in copper. And so, that certainly is upside. But we see nickel and platinum, palladium – I would say more rare metals seen a lot of growth.

And then even in coal. And I know we don't talk a lot about coal. And the outlook for coal for the long-term perhaps is a mix of energy is going be down. But it's not going away any time soon. And we have, we have opportunity there as well. So, we want to serve all customer end groups. And take advantage of this growth that the industry is seeing, and we do see it continuing.

>> MICHAEL FENIGER: And, Denise, our mining analysts flagged to us that Newmont has gone out of its way to talk about the success of its partnership with Caterpillar. Can you first talk about some of the results of that partnership? What are some of the savings achieved at the mine? More broadly, you know, what is automation driving for Caterpillar? And what is it driving for its customers in terms of productivity?

>> DENISE JOHNSON: Newmont is a customer that has been a long, loyal customer to Caterpillar. And back in 2021, we developed a strategic alliance with Newmont. And it was really to deliver more from the perspective of automation, connectivity, in addition to helping them through the energy transition and improving their end-to-end mining system. It really is about creating and working with them, like we do other customers as well, to improve their outcomes. And do it in a way that leverages technology more holistically across all of Newmont.

Newmont has a lot of underground and surface mines. They just are going through an acquisition of another mining company based primarily out of Australia, but it's global. And so, they are also increasing their scope as well. And so, we are looking forward to continuing that alliance and moving that forward.

As far as the results we are seeing, it's mine site by mine site. One of the things we talked to them about is setting strategic targets by mine site. What is the KPI that is success for them. What improvement are we trying to drive. And let's all collectively, our dealers, Caterpillar, as well as Newmont, go after hitting those targets. And that really has allowed us to align around targets and really see some good results. But there is a lot in motion. And a lot of technology being installed in many of Newmont's mines. They are also one of our early learner battery electric sites for both underground and for surface. So, we are excited about that collaboration as well.

>> MICHAEL FENIGER: Some of these technology features, are you seeing other mines adopting? Is it just the larger mines? Are you seeing other smaller, medium-sized mines being able to adapt and change their fleet to, you know, drive some of these features? And, just following up on the Newmont discussion, I mean, I always thought of Caterpillar as more surface, open pit mining, yet you mentioned underground. Is that somewhere we could see more market share for Caterpillar over time?

>> DENISE JOHNSON: Yes. I mean, I would say, to answer the last question first, absolutely, there is opportunity. Certainly, a lot of mines that, from a surface perspective, are starting to go underground because ore grades are declining. And some of those richer assets, if you will, are in underground space. One of the things that we are doing with our underground portfolio, because underground mining has a unique value prop to go completely zero emissions, right? Because of the ventilation requirements, the cost for that we see our portfolio in that space being, both a diesel, either electric or mechanical, or an underground battery electric. And we see big opportunity there for that.

As far as the beginning of your question, I would say I think the value that we can drive with customers around helping them solve their biggest issues is really the biggest focus. It allowed us to have the biggest competitive advantage. And many other mining OEMs are working on the same kinds of technology. But we have a breadth that allows you to go from a very, very small mine. And even our autonomy solution now can be scaled down to something like 12 trucks and still make sense financially. And we are taking that solution into Heavy Construction and Quarry with Luck Stone, is who our development partner is. They have a quarry in Virginia. And so, we are going scale a lot of that technology solutions so that we can start to begin to cover autonomously in a mine that only has four or five assets.

Now, you have to look at different sensors. You have to look at a different infrastructure from a technology perspective. But it really allows that whole addressable market from a technology outcome perspective to grow immensely. And that's a really exciting opportunity to be able to do. And I do think it's something that we are uniquely positioned to do as well.

>> MICHAEL FENIGER: And just on this topic, I know we discussed Newmont in detail, but just more broadly, how is CAT helping customers with those zero emission targets? Do you think miners are leaning more into rebuilds and potentially waiting for those products before more aggressively replacing those fleets?

>> DENISE JOHNSON: I think it depends on the mine site; the age of the assets; and how far they are from a mine closure. So, there are some that, yes, they are extending life, kind of waiting to see if the technology is going to develop and be ready in time. And, certainly, that is one thing that I really appreciate about Caterpillar products is our products are built to be rebuilt. And many of them are rebuilt two or three or four times. So, whether they buy a new asset, which we love them to do, or they extend the life of the existing asset, we win. And we are helping our customers make the right choice for themselves.

And so, it very much depends on the mine site, where they are at, and whether they want to wait or whether they want to dip their toe in early. We have a lot of mining companies, especially some of the big ones, that want to be the leaders in energy. There are others that want to wait and see how it develops. And, certainly, it's more than just the mining equipment, right? You are talking about the whole infrastructure of the mine site. The energy required, now that you have electrified machines can double or triple versus a mine site that doesn't have electrified assets.

So, you've got to think about how much more energy you need to bring in. And if you are going zero emissions and you are going into renewables, if you want to be completely with scope one and scope two, net zero –There is a lot of investment that is required, and it takes time for that to develop.

So, one of the unique things we are doing is we've got this early learner program. And, with that we have agreements with seven mining companies. And we are starting to put machines into those various mines. And all of them are different kind of coverage. So, some are high altitude, some are deep pit, some are long haul, and cold and hot, so we can validate our solutions. That gives us a unique opportunity to be agile. We will learn as we go. But it is something that the mining customers are really liking because they are learning not only about the assets and the technology and potentially all the infrastructure that's into going to be required, but they are going to get some practice early on so that it's not wait until it's available in production and then you have to be ready. So, it's really an exciting place for development and change over the next few years.

>> MICHAEL FENIGER: And, Denise, just on the electrification timeline, I know you had some of your biggest customers to Arizona. Just can you refresh us when we should expect some of these launches over the coming years? What is kind of the timeline we should be looking for for some of this product roll out?

>> DENISE JOHNSON: So, we are doing early learners, as I indicated. So, those will be the first in those seven sites in 2024. And then in between 2025 and 2026 there will be pilots. So, we really need to understand the interaction of the assets with one another. And one of the things that we are learning is as you deploy energy, this broad, new energy, requiring things to charge, you are going to charge them dynamically. You are going to charge them statically. And how they interact together is going to be very important, which is why that layer of autonomy becomes so important. So, we will put the pilots in, in that 2025 timeframe. And we will also put a layer of automation on that, so that we can really validate our solution in advance of our official launch.

In the 2027, 2028 timeframe is when you will start to see the first production units roll out. We are focusing on four truck models in addition to underground solutions. So, we will have both surface and underground solutions for truck models starting in 2027 with the first truck model.

The underground we actually already have launched. And it's in production for the R1700's and shortly to follow with the 50-ton truck as well.

>> MICHAEL FENIGER: And, Denise, with some of these automation features, when I think of Caterpillar and its dealer, does it change how you price and value these technologies with customers? Could we be looking at an annuity stream at some point? Or is it really just making sure we price it accordingly at the price of sale, at the point of sale?

>> DENISE JOHNSON: I think as we think about technology, we really think about technology as an enabler. And I go back to the whole point of winning the site. And whether, depending on how you divide up how that site is going to operate, it gives you more levers from the perspective of being able to win that deal. So, I think about service. I think about the product, the services, and the technology all together. We do have hardware and software. And there is an annual, reoccurring revenue model as well. And that's really required because of the investment that we are continuing to make in the technology. There's a lot of research and development (R&D) that goes into the software that's developed. And we do about two updates per year. With automation they are always bringing in new features, trying to find ways to reduce the cycle time. So, there is site specific work there. And then there is an overall software layer that goes more broadly.

So, that reinvestment is really required. But I would say, absolutely. It's an opportunity. But the way we look at it is it's a way for us to solve customer issues in a way that is holistic and is very differentiated from piecemealing it or having the mining company or construction company having to do that own integration themselves. It's a lot of technical knowledge that is required in order to do that.

>> MICHAEL FENIGER: And maybe, Denise, we can just shift to the Aggregates and Quarry side, I believe it's a sizable portion of the Resource segment. How is that business trending today? Where is it relative to last cycle? And are there different drivers there to focus on relative to mining? And can some of these autonomous features in mining at some point be applied to this, these business lines as well?

>> DENISE JOHNSON: So, I would say the Heavy Construction, Quarry and Aggregates sector is – it's not the major. It's not the predominant side of the portfolio, but it is significant. And I would say, from a growth perspective, we are seeing great growth. These are things like articulated trucks, large wheel loaders, the small end of the tractor portfolio within the RI portfolio. It's even some of our smaller drills. So, it's holistic. And it provides infrastructure to be built around the world. So, when you think about some of the comments that Jim made with regard to infrastructure investment that is taking place in developed markets, but also in developing markets, there is a big potential for future growth.

And then if you scale some of the technology solutions perhaps using a fundamental software that allows you to do that holistically and affordably, then you have an opportunity to really take that market to the next level as far as performance. And that is what we are doing today.

>> MICHAEL FENIGER: Great. And you talked a lot about the fleet age. What is the optimal age for a mining fleet? Can miners continue just extending their fleet with rebuilds and keeping it at this old age? And is it better longer term for CAT to keep harvesting this large installed base with parts and services, creating a more steady earnings stream for the business over time?

>> DENISE JOHNSON: It's a great question. We are continuing to watch it very closely. Because if you would have asked me even 5 years ago, what is the usable life of our assets, for instance, trucks, I would say 10 to 11 years. We have some of our trucks today that almost are approaching 20 years. And they are running 24/7. So, when you think about how many rebuild cycles that is, it's really, really impressive. And we want to solve our customers' problems with new assets. And we would love to continue to see them do rebuilds.

I think the thing that is going to change for the future is going to be the integration of technology. When you think about an asset that is 20 years old, and you think about the core operating system, if you will, the brains that are in the asset, they are not easy to update. It would be like taking your old computer and having to rewire all the circuit boards that are inside it. It doesn't really make economic sense. And it certainly isn't very feasible. And so, as you start to want to have more capability with the existing assets and be able to have more features, then that really drives you to buying something new.

We certainly look forward to the opportunity to help with any transition that is taking place. So, we see a lot of customers rebuilding some assets, bringing in new, learning on that, and deciding how they want to transition those fleets. Sometimes in the past you would have seen the whole fleet begin to transition with one decision and not have that mix. We are starting to see a little bit more of a strategy versus flip it all out at the same time.

>> MICHAEL FENIGER: And, Denise, when we think of last year, a lot of projects got hit with big inflationary cost drivers. I'm just curious how you're seeing your customers adapt to this inflationary environment. We are starting to see some inflation

easing in some areas. Do you think that could help green light some projects? How do you kind of see the greenfield field versus brownfield trend going forward?

>> DENISE JOHNSON: We have many of our customers that are looking at the long-term. Because when you think about a greenfield, that is not a quick decision to make. You have to have permitting. You have to have a lot of investigation on that ore and understanding that ore body. So, these are usually long planned and usually takes board approval because they are significant investments that they are making. So, I would say the short-term inflationary decisions, if they are planning to do all this and they have made plans to open a new mine, a little bit of inflation isn't going to change their minds. They are making those decisions for the long-term growth of their business.

What I find interesting are assets that previously had been retired or mine life that it assumed to be shorter. And watching miners go in and reassess that based on not only commodity price but also on the efficiency of which they are able to recover the minerals. And they actually have extended those. So, where they thought they only had 5 years, now it's 15. And so, we see a lot of that activity actually extending the life, which makes decision, well, should I buy new, should I continue to rebuild, even more difficult or challenging. But everyone is trying to get the most they can out of the assets they have, being very disciplined in their approach. And balance fleet replacements and investments in technology with investments in their fixed plans and other needs. And so, we actually have, especially with our quarry customers, which I think is really interesting, some business models where we can, help them with that, with what they call a job-site solution or a mining performance solution model where, we are helping to manage the life of those assets for them. And so, there is a lot of new services that we are providing in that space, which also can help them, make decisions that are most beneficial for themselves.

>> MICHAEL FENIGER: Thanks, Denise. And I'm just curious, what is missing in your view in CAT's Resource Industry portfolio? Is there anything upstream or downstream or even tech driven that could really help the portfolio grow even further? How are you kind of looking at the overall portfolio, upstream and downstream, surface or underground, where maybe you see there is opportunities to either do it organically or M&A?

>> DENISE JOHNSON: We are looking for opportunities for M&A. And we have done some in the technology space. We recently purchased an underground mine technology which allows, since you can't have GPS underground, you will be able to see where the assets are at all times. And so, that was one acquisition that we did to really help expand our underground portfolio and make us more competitive.

And so, that's it's a small M&A example, but it's an M&A example. We've done quite a bit in the area of automation. We've done some work with drills and really drill technology so that we can sense the ore and automate those drills much more effectively. So, most of the investments we have done recently have been both on technology that allow us to serve the customer in a way that adds value upstream and downstream. So, I think we will continue to explore that. Certainly, we see opportunity for growth with that technology. But in the way that it provides additional solutions for customers that they can't integrate themselves.

As far as the iron portfolio itself, we have been very careful to look at the portfolio and ensure that we have the right assets, that we think are going to be leveraged for the future. So, I don't see any big holes in the hard iron portfolio that we have today. It's really the technology space that I think we can continue to explore.

>> MICHAEL FENIGER: And, Denise, maybe just last question as we wrap this up, I've always thought that mines wanted to have mixed fleets. Are you starting to see a pivot? And you kind of touched on this a little earlier, where they wanted a one-stop-shop solution. Is that a potential trend we could see in the coming years?

>> DENISE JOHNSON: Think about having a mixed fleet and what that requires. If you think about having service parts, I have to have the knowledge and I have to have the right technicians that understand all the nuances of what it takes to service and maintain that equipment. In addition to that, you have to deal with different companies because you have, a dealer on one side and an OEM on the other and you are having to constantly navigate the different personalities of that. And then how do you layer technology on top of that, that isn't always inner operable? And so, I think it's a combination of having one provider, that is one company and companies when you're talking about dealer, that is accountable to help you deliver your results in a holistic way. And, again, it's going back to operating not at a unit level of a machine. But if you have some really great performing assets and some not performing assets, that site is not going to run well. So, it really adds complexity to a miner when they have mixed fleets and it adds cost, in my opinion.

Oftentimes they don't have choices, right? When you think about 2011, 2012, the delivery times were way out pacing what OEMs could deliver. And so, they really basically had to take what they got. And that is, I think, really the advent of what happened when demand really outpaced supply, you got mixed fleets as a result. And now that we are in a position to deliver a complete site, I think you are going to see more of that happen over time.

>> MICHAEL FENIGER: Perfect. Thank you, Denise. I want to thank Caterpillar and I want to thank Jim and Denise for their time today. Anyone online that wants replay information or the transcript, please reach out to me and Ryan at Caterpillar. And we will be sure to provide you the details. Thanks, everyone, for joining us. And thanks again, Denise, for your time.

>> DENISE JOHNSON: Thank you.