

Transcription

**TRATON SE – IR Conference Call_3M 2021
Interim Statement and Deep dive e-mobility
- the TRATON perspective** {EV00120932} - {118 min}

10 May 2021

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PRESENTATION

00:00:03 Operator

Dear ladies and gentlemen, welcome to the TRATON SE 2021 Interim Statement and Deep Dive E-mobility conference call. At our customer's request, this conference call will be recorded. As a reminder, all participants will be in a listen-only mode. After the presentation, there will be an opportunity to ask questions. If any participant has difficulties hearing the conference, please press * followed by 0 on your telephone for operator assistance. One final request: please note the disclaimer that you will find at the beginning of the presentation. If you're only connected by phone, please access the online disclaimer. May I now hand you over to Rolf Woller of TRATON, who will start the meeting today?

00:00:45 Rolf Woller

Thank you very much. A very warm welcome. I hope you have a similar weather situation that we have here in Munich. It's fantastic. It fits very much, actually to our first-quarter results. Together with me here in Munich I have Matthias Gründler, our CEO, and Christian Schulz, our CFO, and the usual suspects here from Legal, from Finance, Strategy. They are sitting in the other room, because we are 100% pandemic-conformed. But we also greet them from here to 5 m right of us.

The format of today, as you know it: we have first Christian, then Matthias, guiding you through the Q1 results, which will be followed by a Q&A session. And then we have two special guests for you, Dr. Atif Askar, our Head of Business Development, Strategy and M&A, together with Dr. Andreas Kammel, who is responsible at TRATON for the alternative drive train strategy. So, two experts with an extra session on battery-electric vehicles and TRATON's view on that. I should mention that we, obviously, pre-released some of the major KPIs. So, some of the excitement is already gone, but order intake and some other KPIs are still worth hanging on with us in this afternoon.

The housekeeping items I should mention is that you hopefully have received the presentation, as well as the interim report. And if not, you can grab them from the TRATON webpage. And as the Operator already mentioned, the disclaimer on page two, please take a note of it. We will not read it to you. And with that I hand over to Matthias.

00:02:38 Matthias Gründler

Thank you, Rolf, and a warm welcome from my side. To start, let me make some remarks on our very robust development during first quarter 2021. You can actually find them in the upper box on page four. Overall business recovery continued despite the still challenging environment. What were the challenges? These have been supply chain bottlenecks because of semiconductors shortages, and because of the overall COVID-19 pandemic situation. Our underlying market trends, especially in Europe and South America, remain solid. Thanks to these strengths, incoming orders for our trucks above six tons were up substantially in all regions. With 70,262 units, we ended up at the highest level ever in a quarter. Including buses and vans, we booked total incoming orders of 81,742 units. Truck units sales were also up significantly, and totaled more than 51,000 units.

In Q1 we have booked EUR 362 million of restructuring expenses related to the MAN Truck and Bus realignment program. Excluding this item, our adjusted operating result more than tripled, to EUR 516 million year over year. This was achieved thanks to the good sales momentum from our renewed truck lines, in combination with strict cost discipline. Therefore, adjusted return on sales substantially improved to 7.9%. Both parts of the business, the Industrial Business and the Financial Services arm, contributed to the improvement.

Net cash flow in our Industrial Business improved substantially, to EUR 397 million. On the lower box of the page, you can see that we are making good progress also on our other topics important to TRATON. On the technological side, we started

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self-driving tests in motorway traffic. We made very solid progress in refinancing the envisaged Navistar transaction. Last but not least, we executed an important step in our MAN realignment process.

Page five summarizes the first-quarter achievements for some of our core KPIs. Looking at our key figures, all have been clearly up versus prior year's first quarter, and therefore showing into the right direction. Incoming orders reached new highs, with a 51% increase versus first quarter 2020. Unit sales jumped back to pre-COVID-19 levels, with more than 60,000 units. Sales revenue reached EUR 6.5 billion, noticeably up, and even above Q1 2019 levels. That development shows that our new truck generations and our services are gaining more and more traction. Thanks to strict cost management, the adjusted operating results more than tripled, to EUR 516 million. Christian will elaborate later on where we made progress.

I'm now on slide six, where we can see the development of our unit sales and incoming orders on absolute, on the left hand, and relatively level on the right hand chart. Overall, the positive development of vehicle utilization in most regions since May 2020 continued also into the first quarter of 2021, especially in the long-haulage trucking business. Incoming orders of trucks were likewise recovering faster than anticipated, in combination with good perception of our new truck lines, which helped the order momentum. The order momentum is broadly based across all our main truck markets, all of our core markets showing double-digit percentages in growth.

As you can see on the left hand graph, unit sales in Q1 were slightly below Q4 2020. That can be explained partially because of lower unit sales of buses. In trucks we were only 600 units below Q4 2020 levels. Looking at the year-on-year change in the right hand graph, we see that unit sales are following the incoming order momentum, which means that is a good opportunity for us, for the remainder of the year and even beyond. By relating incoming orders to unit sales, you can see that our book-to-bill ratio was well above 1, with 1.4 for Industrial Business. And I can reassure you that the start of the second quarter saw this strength not abating.

The next slide on page seven is for your reference, as it shows we have reached pre COVID-19 levels, already one year after the COVID-19 pandemic started. Fix costs savings and availability of our new truck lines allowed us, with a small increase in sales revenues, to lift our margin by around 30 basis points for TRATON GROUP compared to Q1 2019. Please bear also in mind that the first half 2019 was held by pull-forward effects from the introduction of the digital tachograph mid of June and by Brexit pull-forward effects in the United Kingdom. With that having said, I leave the floor for Christian, who will provide you with more details on the segment and brand performance. Christian, please.

00:07:51 Christian Schulz

Thank you very much, Matthias. For the next two slides, page eight and nine, we first show the group development, before we continue to take a closer look at the Industrial Business performance. As you can see on the left graph on page eight, all three brands showed double-digit percentage increases on the top line and MAN and Scania almost evenly contributed to the increase in sales revenue in absolute terms, which led to a rise in revenues of close to EUR 865 million, to EUR 6.5 billion for the group.

On the right chart we see that the increase in adjusted operating results was also fairly well distributed with regard to the size of each brand. MAN improved its adjusted operating result by almost EUR 150 million, while Scania was a notch better, with an improvement of EUR 154 million year over year. But also Caminhões e Ônibus and Financial Services saw a decent rise in operating profit. Adjusted return on sales at Scania is back to 12%, putting it back to top level in the industry. Including Financial Services, Scania reached a return on sales of 13%. But MAN also added roughly EUR 150 million to its adjusted operating profit result and showed a 2.7% margin in Q1 2021. Levers have been higher sales revenues, the introduction of the new truck generation and strict cost management. Worth mentioning, Caminhões e Ônibus, despite the fact that COVID-19 is currently weighing heavily on the operations in particular in Brazil, our colleagues showed a very decent 7% margin and added EUR 33 million to the Group's operating result. This was driven by higher

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sales revenues and improved product positioning, a result they can be really proud of. Last, in the Financial Services business we saw a small drop in revenues, but reached nearly 25% adjusted return on sales, meaning that operating result versus last year's first quarter doubled to EUR 51 million. I will come to the details in a couple of minutes.

Let me give you more details on where the improvement in the Industrial Business came from. Let us concentrate on the light blue columns, with the Industrial Business sales and the Industrial Business adjusted operating profits. Top line compared to last year increased by EUR 875 million, but even past Q1 2019 level by EUR 133 million. Cost of sales, as a percentage of sales in Q1 2021 compared to Q1 2020, were lowered by 219 basis points, and gross profit increased by close to EUR 290 million. Therefore, we managed to achieve the same levels of gross profit in Q1 2021 as in Q1 2019. It totals to EUR 1.232 billion.

Despite higher sales, we managed to keep distribution expenses almost at the level of Q1 2019, and reduced compared to last year. Administrative expenses were down to 3.5% of sales. This is before the implementation of the realignment program in MAN. It is partly due to the restructuring Scania initiated last year, but also because of strict cost management in the holding and across all brands. Compared to the first quarter of 2019, administrative Expenses are down by EUR 33 million. Adjusted operating result more than tripled compared to last year, and the operating leverage was as high as 38%. If you take into mind that prior year saw some COVID-19 effects already affecting the first quarter, the true operating leverage was more at around 25% to 30%. That the quality of the earnings improvement should not be underestimated is also to be taken from R&D costs. The net P&L effect of R&D was EUR 283 million in Q1 2021 versus EUR 244 million in Q1 2019. The capitalization ratio declined from 36% in Q1 2019 to 27% in Q1 2021. Let me make one final remark here. If we would include our equity-accounted investees into the operating profit, as it is common practice in our industry, our margin in Q1 would have been well above the 9% level.

And now slide 10, where we have a detailed view on brand level for unit sales and incoming orders. Starting with Scania, both incoming orders and unit sales showed a strong increase year over year in the first quarter 2021, and followed the positive trend from fourth quarter 2020. Truck incoming orders doubled – to be fair, from a lower basis – whereas unit sales increased by 1/3. Regionally, we saw strong incoming orders in all regions, EU 27+3 being the strongest. For unit sales we saw strong increases in Brazil and in Russia. Looking at MAN, a strong increase in both metrics was visible as well. Truck orders increased by 40% and unit sales by 1/3. The incoming order increase on a regional basis was both driven by the EU 27+3 and other regions like Russia, of course, with the EU on an absolute level at the forefront, in accordance to MAN's regional mix.

For both brands, the impact of the ongoing lockdowns relating to COVID-19 is clearly visible on the bus business. Incoming orders are down by around 60% versus first quarter of 2020, and respective units sales are down in a magnitude of roughly 30%. Especially demand for coaches came to a near standstill in all relevant markets. Last, let us spend some seconds on Caminhões e Ônibus. Our colleagues also had a good momentum on incoming orders and unit sales in the first quarter of this year, and posting a small increase in bus orders.

On slide 11, we show you the development of our adjusted net cash flow within the Industrial Business. After the strong cash flow in Q4 2020, we have been able to once more show a very solid net cash flow. Year over year the operating cash flow improved by EUR 565 million. When we have a look into the pockets of the improvement, we see a clear positive from adjusted operating result, which increased by almost EUR 330 million. Some smaller items in the P&L added to the increase, while depreciation and amortization was almost neutral to operating cash flow. Change in working capital contributed with about EUR 50 million as well. Investing activities were almost stable compared to Q1 2020, at about EUR 312 million. As you know from our short history, Q1 is normally, seasonally, one of the weaker quarters. That gives us some more comfort with regard to our net cash flow guidance for the fiscal year 2021. Overall, the good net cash flow generation was helping us to increase our net liquidity position. Once again, we show no net financial indebtedness in our Industrial Business, but close to EUR 400 million net cash.

As promised, we now take a little deeper look into our Financial Services business on page 12. Our net portfolio increased by 4% versus first quarter 2020, and penetration rate increased by 1.3 percentage points. The book value of equity totaled

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slightly more than EUR 1 billion. Operating result was strong, with EUR 51 million. This was helped by some lower bad debt allowances and a larger average portfolio. We expect to see some relief from the bad debt provisions also in Q2. From Q3 onwards, we should return to normalized returns achieved, for instance, throughout 2019.

On the next slide, we provide a short overview of our recent refinancing activities in light of the envisaged Navistar acquisition, which as you all know, is still expected to be closed mid of this year. In November 2020, we signed a term loan agreement with Volkswagen AG of EUR 3.3 billion to cover the purchase price for all outstanding shares of Navistar not belonging to TRATON. In March of this year, we for the first time have been active in the euro debt capital markets. Based on our recently established EUR 12 billion TRATON EMTN program, we have issued in a first triple tranche, a total of EUR 3 billion senior bonds. The bonds have maturities of four years, eight years and 12 years in a fixed rate form – a very good deal, I must say. Prior to the bond market debut, TRATON had signed several *Schuldscheindarlehen* in a total amount of EUR 700 million, with maturities of three, five and seven years and fixed and floating formats, respectively. The senior bonds, as well as the *Schuldscheindarlehen* have been placed at very attractive terms, allowing for an average interest rate for the EUR 7 billion raised, of below 1%.

We're heading to the second section of our Q1 presentation, which is the outlook. On slide 15, similar to last reporting, we have collected market views for 2021. Most forecasts foresee an increase of the truck market in Europe, which should range between plus +10% to +25% for the year 2021. These views remain more or less unchanged to what we observed back in March, when we reported our fiscal year 2020. However, that the ACEA data reported for March were stunningly strong, and support now even the upper end of the range suggested here. The same holds true for South America, where the range goes from plus +10% to 40%, as you can see in the middle chart. As shown on the lower chart, the truck market in North America is forecast to grow between +10% to +30%. Market observers have turned optimistic on North America as of recently. In conclusion, still, market participants including ourselves are undecided how strong the recovery is taking place, which is also reflected in the big bandwidth we monitor for each market. On the one hand, we see strong truck order momentum. On the other hand, there's still a lot of uncertainty arising from COVID-19, but also with regards to supply chain topics. This leads me to the next slide, the outlook for TRATON GROUP in 2021.

Our outlook still assumes a sharp increase in volumes and a substantial increase in group sales revenue, as witnessed in Q1 '21. With the ad hoc release of our core KPIs on April 19, we have raised our guidance on the operating return of sales to 5% to 7% from the before 5% to 6%. This reflects the very robust start we had into the year. On the cash flow, we replaced the cash conversion rate by an absolute net cash flow bandwidth, as the cash conversion rate for 2020 is no longer considered to be a meaningful indicator due to our restructuring in MAN Truck & Bus. We expect our net cash flow for the Industrial Business in the corridor of EUR 500 to 700 million. Please have in mind that the entire outlook is before expenses from the MAN Truck & Bus restructuring program, and effects from the planned acquisition of Navistar.

Business trends in the second quarter remain very solid. So far we see no bigger impact from the supply chain bottlenecks, like semiconductors or others, to affect our manufacturing operations severely. With that in mind, we can definitely not rule out to hit the upper end of our margin and net cash flow range in fiscal year 2021. Our cautiousness simply continues to reflect the uncertainties we currently see all around us, like the COVID pandemic and the supply chain bottlenecks, as well as the raw material volatility. As soon as we see relaxation on this front, we will power ahead.

This leads me to the last slide of our Q1 session. Besides the very supportive market environment, which we see on both bubbles at the top, we have plenty of potential to lift our performance this year and in the years after. As Matthias mentioned in the beginning, product-wise, we have a very – if not the most – competitive portfolio, with our new truck lines on all brands at the very moment that will help to win new customers. The introduction of the new truck generation at MAN will be completed in the second half of the year, and will allow MAN to further reposition its brand. First benefits were already realized since second half of 2020. This will be complemented by the introduction of our common base engine in the second half of the year at Scania. By leveraging powertrain components across our brands, we can realize significant cost savings over the years to come. With successful implementation of our common base engine, we can concentrate now on new investments for future technologies. That means we will continue to further speed up our electrification activities and expand our positions on alternative drive trains.

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Two other topics concerning the group structure will further enrich TRATON's potential: the planned acquisition and integration of Navistar. The deal accelerates our global champion strategy by creating a global leader across key truck markets. Also quite known, MAN has initiated a comprehensive realignment program, which will allow for structural changes in its cost framework. We agreed on the German plants because of the negative outcome of the ballot about the takeover of the Steyr plant, MAN is now resuming plans to close the Steyr plant. Another topic which is also helping to streamline organizational setup is the reinitiated merger squeeze-out of MAN, as you could see over the weekend. I think we can truly say be prepared TRATON to emerge much stronger from the pandemic. And with this, Matthias, Rolf and myself are very happy to answer your questions, if there are any.

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Q&A

00:22:43 Operator

Thank you. We will now begin our question-and-answer session. If you have a question for our speakers, please dial 01 on your telephone keypad now to enter the queue. Once your name has been announced, you can ask a question. If you find your question is answered before it's your turn to speak, you can dial 02 to cancel your question. If you're using speaker equipment today, Please lift the handset before making your selection. One moment, please, for the first question. The question comes from Hampus Engellau of Handelsbanken. Please go ahead. Your line is now open.

00:23:24 Hampus Engellau (Handelsbanken)

Thank you very much. Two questions from me. Given the sharp increase we see in order intake and also moving over to ramping up the production, could you talk a little bit about how you see lead times between order and delivery? Is that something that we should maybe start to worry about, that lead times are creeping up and maybe build in some risk in the order backlog? And I guess connected to this question is also how price management has been, given that we see these sharp swings in demand from full breaking to full accelerating. Do you managed to push through prices and balance that? And if you could give maybe some specific thoughts on the MAN pricing. Thank you.

00:24:10 Matthias Gründler

Thank you very much for the question. The lead times in the moment are between four to six months, depending on the model lineup. And I must tell you this is for us almost too long. So it's getting a concern for us, so you really hit the point there. Pricing, we are very happy, especially on the MAN side, which is also reflected in market share. Hampus, we are making progress here.

00:24:38 Operator

Our next question comes from Nicolai Kempf, Deutsche Bank. Your line is now open.

00:24:44 Nicolai Kempf (Deutsche Bank)

Good afternoon. My first question was on the MAN, which saw a nice result in the first quarter. Can just provide some color on how sustainable this development is? And my second one would be actually on the semiconductors, as one of your major competitors announced production cuts in the quarter. Can just give us a bit more color on how you will be impacted also on a brand level?

00:25:09 Christian Schulz

First of all, Nikolai, on MAN, as you saw and as I referred to in the beginning, we are very cautious on prices. We'd rather go for margin before volume there. And I would say that this is a sustainable effort that we will not give up.

On the cost side, as you know, we've achieved agreement with the unions on Germany. These effects will kick in in the quarters to come. Obviously, some of the measures a little bit later. And I will also say, on that end, this progress will be increasing sustainably. On the material cost side also with the new truck, we started to work on material costs. So all in all, we should see MAN solidly improving in small steps.

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And on semiconductors, well, look, we haven't had yet very big break-ups here. We are, let's say, rescheduling a little bit the production program in the second quarter. We have some slight disturbances there, but overall do not see a major magnitude, Matthias, right?

Matthias Gründler

No, we only had the plant closure so far in Brazil, but that was because of COVID, because also all suppliers had to close down the plants. But we have a plan in place how to catch up these days.

00:26:29 Operator

Our next question comes from Horst Schneider, Bank of America. Please go ahead. Your line is now open.

00:26:35 Horst Schneider (Bank of America)

Thank you and good afternoon. Thanks for taking my questions as well. I need to come back on these comments that you just made on this semiconductor shortage. We have some companies which are warning about the impact in Q2. So therefore, I would be interested to get some more details basically on the outlook for Q2. I mean, are the volumes still going to be stronger than Q1? Or you expect basically some dip versus Q1 already, which will be then caught up in H2? So, some better feeling basically for the path that we are going from here regarding production, if there's anything unusual regarding the season.

The second question that I have relates to the order intake, and here particularly Scania versus MAN, why Scania with a little bit older product is performing better than MAN, which has got the newer product, even. And the last question that I have, or the last two questions that I have, relate to the Navistar acquisition, when you can announce some details? And regarding the closure of the Steyr plant, when can be expect some news on that? Maybe some time frame would be useful. Thank you.

00:27:54 Christian Schulz

Okay, Horst. Before Matthias steps again on the semiconductors, let me put it that way: we do not give a guidance for second quarter. And as you could see, by increasing the range on profits from 5 to 6, up to 5 to 7, obviously we believe in a strong order book that we do have. We are managing on a very tight basis currently the supply chain in all brands. So we cannot rule out that there will be further disturbances in second quarter, but I cannot really guide on the second quarter. But Matthias might give some more color on semiconductors.

For Navistar, we still aim for a closing early in Q3 this year. Obviously before that, we cannot give any color on synergies or other things ahead, but we do plan an extensive capital market interaction in autumn this year. We will then also talk about our plans on Navistar. Matthias?

00:28:42 Matthias Gründler

As of today, we don't see that we lose any production days because of semiconductors. We might slow down production on a few days, but trying to catch that up at a later point. I can just tell you we're working with all the creativity we actually have in the Group. If there's a coach bus standing around with a semiconductor, we actually take it out of the sub-unit and put it into production. So we are very creative. We have a great and fantastic logistic and procurement team, and they're doing the best they can. Sorry, can you remind me? We forgot the Steyr question.

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00:29:26 Horst Schneider

Sorry. Maybe too many questions. I apologize for that. It was just about some timing on the Steyr plant closure. What do you think? How long that's still going to take? Is it more a matter of – I don't know – two, three months, or it's a matter until end of this year? I don't know. Any assessment of that would be useful.

00:29:47 Christian Schulz

It might take longer than the end of the year because we want to move production from Steyr down to Poland in Krakow, and so on. And we have to do this thoroughly. We don't want to have disturbance in production. We have good orders. So we take the time we need for that. And quality is of essence, not the speed.

00:30:05 Horst Schneider

But the announcement comes before, right? Or it comes also only next year, then?

00:30:10 Christian Schulz

Yes, the announcement comes sooner.

00:30:13 Horst Schneider

Alright. That was my question. It's the next few months?

00:30:15 Christian Schulz

Yeah, absolutely. Then it's more operation and handling of the plant closure, you know. It has some complexity in it.

00:30:29 Operator

Our next question comes from Kai Müller, Barclays. Please go ahead. Your line is now open.

00:30:34 Kai Müller (Barclays)

Hi. Thank you very much for taking my question. The first one, really, you mentioned that order intake has been very strong going onto into the early part of Q2. Can you give us a little bit of sense in terms of also your production levels right now, carrying that into the second quarter? I know a couple of people were asking earlier, and you don't guide for the quarter, but just the sense of, are things running smoothly and as you planned?

The second point would be on the competitive environment. You mentioned that particularly with MAN, it's been very strong. How do you think about Scania? What's different there? Is it just the end markets that we need to think of?

And then a third point, you mentioned your bus business has been particularly weak, especially looking at the coach business. How does it look for the bus business for normal commercial buses? Is that any different? Or do you see demand from some of the municipalities also low, given the current COVID impact on their finances?

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00:31:38 Christian Schulz

So on the capacity side, I can just give you the answer. We are at 100% capacity in Brazil as well as in Europe. And some of the days we will be slightly below 100% because of the semiconductor issue. And when it comes to the discussion on MAN and Scania, on Scania, you remember our discussions on the improved material cost programs they were running on the dual ramp-up costs ramped down, so to say. And what you basically have now is a very strong order book, very solid pricing, good and improving material cost and fixed cost position, which leads you obviously to better result. And with a full order book, without guiding, we do not intend to increase the costs again. So we'll hopefully manage into that direction. And again, as Matthias has alluded to before, the same holds true for MAN. Margin before volume is important.

For buses, well, look. This is an interesting question. The coach business is nearly dead. You tell me when all the borders are open again and travel will be lifted, I tell you then when the coach business comes back. I simply don't know. When it comes to the city bus segment, we see that certain movements were there already. In particular, we saw that also with competitors in France, but on coaches, Matthias, I think we'll take some time until we recover, right?

00:32:45 Matthias Gründler

We will definitely have to do some significant cost reductions, as we know that the capacity utilization will not be there for the next month to come. So we can only work on the cost side. But as you could see it from first quarter it's, luckily, not impacting us to a greater extent.

00:33:16 Kai Müller

Exactly. And maybe one follow-up. You mentioned that your current lead times are four to six months, and you think that's too long. I don't know if I missed it earlier, are you actually fully booked, then, for the year? Or can you give us a color in terms of regions, where you stand with terms of order intake? And have you opened 22 yet?

00:33:34 Christian Schulz

I can just tell you some brands are fully booked, some not yet. And we are also fully booked on the engine capacity.

00:33:49 Operator

Our next question comes from Jose Asumendi, J.P. Morgan. Your line is now open.

00:33:56 Jose Asumendi (JP Morgan)

Thanks a lot. Jose Asumendi J.P. Morgan. Hi Matthias, Christian and Rolf. A couple of items, please. The first one, can you talk a bit about this EUR 1.7 billion cost-cutting target? I can see where the headcount is going. And you're definitely making progress there. Can you talk a little bit more about the other two buckets you had there, which was material cost and the sales force? I think one of them was EUR 100 million and the other one was about EUR 450 million? Can you talk a little bit about the actions that you had behind those targets and how far have you achieved so far, either in actions or in money, whichever way?

And then second, thinking in advance for the presentation you're going to host afterwards, which is I think very interesting, can you touch also on the Hino partnership? Any update there in the past months? Has anything happened there significant in terms of collaboration in the past months, or are you going to discuss this also in the next session? Thank you.

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00:34:56 Christian Schulz

So Jose, first of all on the cost improvement, the MAN program was started. According to our plans we are progressing on MAN. You saw in the news that we got agreement on 3,500 headcount in Germany. When it comes to Steyr, Matthias alluded to that we now follow the plan to close it down. All other working packages, in particular on pricing and on sales, are working according to plan, as you can see reflected in Q1 when it comes to relation of market share and profitability, also all others on material cost. The new truck will be completely integrated with all model lineups in the second half of the year, as I've alluded to. So cost optimization work has started and is progressing as well, very much so.

When it comes to Hino, well, look, we were a little behind in that timing compared to Navistar. We started with a purchasing joint venture. That one is running very well. The teams are working. There's an alliance management established. We have joint projects. We do not communicate those. We do so by the time they are ready. I would say there are no news for the time being, Matthias, right?

00:36:13 Matthias Gründler

The projects are well in place.

00:36:21 Operator

Our next question comes from Erik Golrang, SEB. Your line is now open.

00:36:28 Erik Golrang (SEB)

Thank you. Just one question that hasn't been asked. It concerns MAN and margins. Good to hear that you're focused on pricing. I just wanted to hear how you reason about the TGE business. It's growing quite rapidly as a share of the total now, a quarter of the last 12 months' order intake. Ad I guess that's very dilutive from a margin perspective. So how do you think about the balance there? And is the TGE still a part of the long-term plans for MAN?

00:36:56 Christian Schulz

Well, first of all, TGE is a delivery truck and unfortunately doesn't have the same margins like a heavy duty truck. And in that way you are right: it is dilutive to a certain extent. But the product as such is very well accepted by the customers, and I think we let it run at the moment. Matthias?

00:37:12 Matthias Gründler

Yeah, but you must also understand the car park is not getting bigger every month. And at one stage you start having more aftersales business. And there we have different margins then in the new vehicle business, as you know. So the business is getting healthier over time.

00:37:34 Operator

Our next question comes from Xing Lu, UBS. Your line is now open.

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00:37:39 Xing Lu (LBS)

Hi. Xing Lu, with UBS. Just one question, which is actually two parts, just on your guidance. Firstly, margin guidance of 5% to 7%, I think given your first-quarter margin of almost 8% is around Scania orders, which is positive for the mix for the rest of the year. It just seems a bit conservative. Is this a reflection of your seeing cost buildups, one-off costs reversing, or just generally being conservative? I guess the second part of the question is just on your cash guidance of EUR 500 to 700 million. I think achieving over 40 million the first quarter – and also you mentioned the first quarter is typically lower on cash generation – is this a reflection of your expecting more costs, more investments to come in for the three main quarters? Thank you.

00:38:31 Christian Schulz

Hi, Xing. Look, as I alluded to before, we are prudent people. And what we see now with things ongoing on COVID-19, when we look into Brazil, where as Matthias has said before, we needed to stop operations for a couple of days, we have semiconductors, we have rubber, we have all other things that might come in in the second quarter or thereafter. So this is why we just say we enlarge it, given the good order intake that we do currently see in the book. But it is a conservative approach. And we think it's the right thing to do in the current range of uncertainties. And with this, I think I leave it with the same on the cash flow. You know, there's a relation between profit and cash flow, obviously. On the other hand, we have working capital with ramp-up there. And basically, I think the range we've given out here, from 500 to 700, is what we can at the moment justify. And that's all I have to say, sorry.

00:39:31 Operator

Our next question comes from Rajesh Singla, Société Générale. Your line is now open.

00:39:38 Rajesh Singla (Société Générale)

Hi. Thanks for taking my question – a couple of them. So first would be the restructuring cost. We booked around EUR 360 million in this quarter. So for full year, how much we should consider in our estimate? And the second question would be on MAN margins, given that the currently we are seeing a very tight market environment across the commercial vehicle space. So should we assume that these margins will be sustainable on an organic basis, even without much of restructuring in 2021?

00:40:14 Christian Schulz

So first of all, as you have rightly said, EUR 362 million booked for the first portion of the restructuring. Once the final decision is done, if closure or any other options, then book the next portion of that three digit million euro number. It puts it into a higher area. We do not yet disclose the full amount. And when it comes to the current performance of MAN with the 2.7% return on sales, that is something that, given the current environment, I would call it sustainable going forward, absolutely.

00:40:52 Operator

Our next question comes from Horst Schneider, Bank of America. Your line is now open.

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00:40:59 Horst Schneider

Sorry, I have even more questions. It's me again. I just have got a question again on pricing, because I asked myself all the time-- and I remember back to Q4 '20, when you booked this fairly weak MAN Truck & Bus results, I still got the feeling that you maybe booked some provisions, basically, for pricing. I think you even mentioned that in your annual report. Given now that the pricing is getting so strong, what are the chances that these provisions get reversed? And to which extent maybe? Because it also may be a benefit for Scania. Thank you.

00:41:33 Christian Schulz

Well, look, as you have rightly observed, we had a very challenging situation on used trucks last year. And we've taken action for that one. And it's not that we have sent back anything that we now release on new prices. This is not the case. It's mainly, if you go back to a used vehicle, and if you see the absolute amount over the quarters and where we are now in the documentary of the IR presentation, you really see that this was rather referred to a clean-up.

00:42:02 Horst Schneider

Alright, so there is no reversal also, if they are now getting sold, or whatever.

00:42:06 Christian Schulz

No.

00:42:014 Operator

We haven't received further questions at this point. I will hand back to the speakers.

00:42:19 Rolf Woller

Very good. Then, I thank you very much. We have now a short break of maybe 15 or 20 seconds until the two gentlemen switch with their successors, with Atif and Andreas. Thanks, Christian. Thanks, Matthias. Thanks, Rolf [laughs]. Thanks, everybody in the line and hope you will enjoy the next session. It's really interesting, I tell you.

Now the true secrets will be revealed. Very good. So I welcome very much Atif and Andreas. I did already mentioned actually what to do. Before I hand over to you, let me briefly go to the two pages, actually, which are the introduction to the to the scene. You know, actually, that from the year-end presentation which we hosted on March 10, that we set ourselves quite ambitious targets on brand level with regards to electrification. Currently we use an electric powertrain toolkit, in particular across our bus format for Scania and for MAN. By 2025. We said that Scania aims for a 10% electrification level in Europe, and half of MAN's new buses will run on alternative drive trains. And then the huge step forward and the very ambitious goals: by 2030, 50% of all our vehicles in Scania should be fossil-free, and on the MAN, 60% of the delivery trucks. I think we had the question on how important is the TGE for us. Maybe one number of interest to you: we had close to 200 TGEs electrified already sold in the first quarter. And also certain deliveries on the BEV side on the long haulage business, up to 20 on the Scania side, and also a couple of buses on the MAN side. And 40% of long haul trucks will be also emission-free on MAN.

This brings me to the next slide with regards to the budget. So what do we prioritize? We clearly prioritize in the future battery/electric versus the internal combustion engine. Just two data points: cumulative, we will spend EUR 1.6 billion now on electrifying our fleet, and by the year 2025 – so only in the year 2025 – we will drop below EUR 200 million with regards to expenditures on the R&D side for the internal combustion engine. I think this displays how ambitious we are on that

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front. And with that, I hand over to the experts, to Atif and to Andreas, in order not to bore you with the known statistics. Atif, please go ahead.

00:45:32 Atif Askar

Hello. Thank you very much also for inviting us. Pleasure to be here. Also, hello to everyone on the line. Actually, the electrification of trucks in the last month was in the press quite a lot. Many things have been discussed. And we have the feeling they're also a couple of misconceptions. So it's a pleasure to be here. Thanks for taking the time and giving us the opportunity to describe to you a little bit what is our strategy when it comes to electrification and what is our view on BEV trucks, fuel cell trucks or diesel trucks. Let me start with one thing, and that is why trucks and passenger cars are so different. You see that on the left side. Every one of you knows trucks run much more mileage – 130 km, maybe even 200 km a year is not a lot. If you have a 1 million km VW Golf, you put it at the dealer on the stage. If you have a 1 million km truck, well, that's an ordinary truck after five, six or seven years. Everyone knows trucks are bigger. We have 40 times instead of 1, 2 or 3. Of course, then also they burn more fuel – 30 to 35 liters on the long haul would be normal. And also life cycle is much longer. It says more than 10 years here. To be honest, if you look at the cap or engine platform that you develop completely new, that happens once every 20 years.

Now the most interesting difference and the most important difference is nothing you can see. That's the fact that trucks are industrial goods. And that changes a lot. Trucks look like passenger cars, but in how the business works, they're closer to a turbine or a machine and they're in a production line, because no one really wants to buy a truck because he wants to own one. He has a business. He has a transport business. And for that, he or she needs the transport machine, and that's the truck. That's why one aspect for these entrepreneurs is very important, and that's TCO, total cost of ownership. For the business of our customers, it's quite important how much an entrepreneur needs to put into the truck. And if you want to have it a little bit more correct, you don't talk about TCO – total cost of ownership – but about TOE, total operating economy, the difference being it takes into consideration also revenue effects, like if you have less payload that you can transport and losses in revenues, that would have that. So our customers will very much look at TCO. And now when electrification kicks in, it brings that TCO picture quite a different situation. It changes quite a lot. So let's have a look in the middle column how is the total cost of ownership for a typical truck owner built. And that's a typical haulage truck.

You see in the middle column, around 40% of the cost is energy cost, be that diesel or electrification for a BEV truck or be that for a fuel cell truck, hydrogen. So this is huge. And there's very little you can make up if you're worse in electrification. Second observation here: if you look at vehicle costs, especially compared to the block of energy costs per year, they are much smaller over the lifetime. So you can actually afford to pay quite a lot of more money for your truck if it ensures you much lesser costs on energy. And actually, this is what we're doing every four to five years when we spend a couple of EUR 100 million into the further development of an engine to get 1%, 2% or 3% fuel efficiency out of that engine. And that's the calculation a customer will do when he or she looks at electrification. So you could say in trucks, as opposed to passenger cars, the tipping point, you can more or less calculate it, because you make a calculation about when is the BEV truck more efficient on the same route, assuming the same reliability. Whenever one of the customers, so one of the haulage companies, finds a way to operate on that route with lower costs, he will make the entire market. Because we all know, when we get something delivered by Amazon – and the same is true for every transport buyer – they do not really care what kind of truck transports good, as long as it's reliable and low-cost. So it's a focus on total cost of ownership, which is much bigger than we see in passenger cars. It's very decisive. And therefore, it's a calculation about the tipping point when cost parity will be reached between diesel and electric trucks, where we will see the whole truck market turning.

Now, having said that, there are of course, a couple of more customer values on the right side, where we will get more and more pressure on that. And that's about having a better CO2 footprint and also the other benefits of electric trucks, like having less noise, for example, overnight deliveries, and things like that. And a lot of our customers are asking us because they want to gain experience in electric trucks, how to charge them, how to operate them. Now with that, let me hand over to Andreas, because he will start with explaining, why now? I mean, electrification has been around for more than 100 years for trucks, and even passenger cars. But why now? Why is it changing now and not 20 years ago? And with that, let me hand over to Andreas, please.

00:51:13 Andreas Kammel

Thank you, Atif. So maybe one way to get this started is to look back half a decade. You see this on the left-hand side of the slide, a typical quote. There are tons of these from the mid-2010, where it's basically been claimed that a battery in a long-haul truck would weigh around 25 tons and typically take 12 hours to charge. Neither is going to be true for trucks. We expect that our batteries are on the order of photons. And of course, we also take out some old components, diesel components, the engine, the fuel tanks, etc. So in the end, in many use cases, there will be little or no payload penalty left. At the same time, the 12 hours, that is now completely different. We are thinking more about 45 minutes, which would be quite convenient to fit into that 45 minutes a rest period that we have to do every four and a half hours anyway. So we are looking at an entirely different set of parameters going forward. And a lot of that has to do with battery development, which you see on the right-hand side.

This is an illustrative graph of battery pack costs over time. And maybe the most important thing to take away from this graph is that every year there has been a forecast. And every year that forecast has been wrong by around a factor of 2.5. So actual cost development has been much more aggressive than what has been expected. And this has been a consistent picture in the past. So every time around, the forecasts have consistently underestimated the potential of batteries. Now, importantly, everything you will see in this presentation assumes that from now on those forecasts are actually spot on. So we assume that right now, battery pack costs will fall not as fast as they did in the past, but roughly as fast as is expected. And even with that, we achieve the results that you will see in a moment.

There's one more reason why we strongly believe in battery electric vehicles, especially compared to the other alternatives. The big one that people are typically talking about is hydrogen trucks. And here, the main difference between the two is actually on the energy efficiency side. So if we look at the upper half of this slide, you see how an electron is, in the end moving from a wind farm or a solar power plant to the wheel on a truck. And of course, there are losses in every step along the way: in production, in refueling – recharging in this case – and in operation to actually get it to the wheel. But all of those losses happen in the same state of energy. It's all electrical energy. And in the end, only around a quarter of that energy is lost, so three quarters remaining. At the same time, if we talk about using hydrogen in a truck, then we actually switch between electrical and chemical energy. So in the production, we have a step where we go from the electricity that has been produced by, for example, that same wind power plant via electrolysis to something that would go as hydrogen into the truck. So we are basically turning electricity into hydrogen.

Then there are more losses in the transport and storage department, for example. It has either to be compressed or it has to be cooled down to low temperatures. Both, from a thermal thermodynamic standpoint, result in losses. And then there's the third big loss in the fuel cell itself in the vehicle, when that chemical energy is transferred back into electricity with a lot of excess heat that in a truck, in a non-stationary application, cannot be used in most use cases. And then, of course, we have the same losses that we are seeing on the upper hand because we are still talking about a battery electric vehicle, even if we are talking about a hydrogen based fuel cell electric truck. And that means, in the end, only a quarter of the total energy is remaining. And that means we need, with the same kind of backbone, three times as many, for example, wind farms to drive the same amount of kilometers with hydrogen-based trucks compared to fully electric ones. And obviously, it has an impact on energy costs. It's not always a one-to-one relationship, but this difference is so pronounced, that is basically impossible to overcome, on average. So even if, for example, the hydrogen would be imported from higher efficiency production regions, we would still be at a point where we would be adding more distribution and transportation costs, even if there's, for example, a pipeline from North Africa to Europe. Also, from a technology standpoint, some of these efficiencies can go up slightly on both sides, both on the BEV and on the fuel cell electric vehicles, but not in such a meaningful way, due to the limitations of physics that will not be overcome, to get to a point where this is meaningfully shifted. So, neither technology nor import will change the picture so drastically that we expect to see, on average, energy cost parity between those two solutions. It also means, from a CO2 perspective, that of course, there's a lot more carbon reduction potential to be gained from employing battery electric vehicles.

And this has a result on our total expected costs. What you see here on the slide is the expected cost in comparison between a diesel, battery electric, and fuel cell electric vehicle in 2023, 2030, and 2040, respectively. The different colors

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of the bar are as follows: gray is repair/maintenance; bright blue is the base vehicle cost; dark blue are all the new shiny components, batteries, fuel cell stacks, etc.; yellow is energy; orange, the charging costs; and then in red, we have the tolls and the CO2 effects from a delta perspective. And maybe the two most important key takeaways, if you look at those colors, and how they develop over time, if that dark blue starts as quite a big bar, but over time, it doesn't matter all that much. That's not to say that it doesn't matter at all. But compared to the energy cost in yellow, both the battery costs and the fuel cell costs do not matter too much. That's also an important takeaway. We do expect that the fuel cell components will become much cheaper in the future, but that doesn't matter compared to the energy cost impact that we see above here. And that means, in total, that the energy costs delta that Atif has in the beginning been mentioning is still decisive, and especially so if we are talking about long haulage, because typically long haulage has regular long-distance applications, meaning a truck is being used to its fullest every single day. So the energy cost is a huge share of total cost in there.

The comparison to passenger cars makes it maybe even a bit clearer. A passenger car would use, instead of commercial electricity rates, household electricity rates in many cases, when charging at home. So it's more expensive. In terms of charging at a fast charger, those fast chargers have to actually take into account effects like vacation peaks or weekend peak, while it's much more homogeneous on the truck side, meaning both the electricity costs, due to using commercial electricity rates, and the fast charging costs due to much more homogeneous operation and thus significantly higher utilization, are actually lower than for passenger cars. This, coupled with the energy cost dominance for trucks, makes trucks actually a much better battery electric vehicle business case than even cars. And of course, for trucks, this matters tremendously. TCO is the most important parameter to get right.

We would also say that both battery electric vehicles and fuel cell electric vehicles will ultimately beat diesel on cost. But we expect that fuel cell electric vehicles are unlikely to ever reach parity cost-wise with a battery electric vehicle. Importantly, hydrogen would have to go significantly below 4 EUR/kg to even come close to that parity point. And by 4 EUR/kg or less, we say price is at a pump, not production cost. Production cost can and will be significantly lower than that, but price is at a pump. In Europe, on average, in quantity it will be hard to get to those levels. This is somewhat different from a couple of studies out there. Mostly we don't disagree with the fuel cell electric part. We see parity roughly around 2030, as do many of those studies, but we do disagree with the view on battery electric vehicles. And a lot of that has to do with what we have been talking about on one of the earlier slides here, with the battery development in the last couple of years, but a lot of it has to do with those studies coming from a passenger car perspective. Quite often, they don't take into account that we have those 45-minute rest periods, which can be used for charging, if they're charging infrastructure, and which reduce the battery weight and the battery cost by half, already a significant lever. Quite often, instead of commercial EU electricity rates, for example, German commercial rates, or even household electricity rates are being employed in those models, again, quite often stemming from passenger car assumptions. And then there are some models with very conservative assumptions about 2030 battery cost or battery life cycles. But we already know that a long time before 2030, we will be significantly below those values. And that's why we have so much certainty and so much robustness in terms of how we see this picture here.

There are of course, differences between different parts of different markets. So for example, in Europe, we expect that Scandinavia and Switzerland are among the best markets from a battery electric vehicle perspective, from a business case point of view. This is mostly because they have cheap green electricity, it tends to have high diesel prices, and a lot of regulatory support – the perfect storm for a battery electric vehicle. But also in Central Europe and Western Europe, a lot of those conditions are met. For example, in Germany, electricity tends to be costly, but regulatory support is very high, especially [inaudible]. And then those regions are followed by the southern parts of Europe, and then the eastern parts of Europe. And if we were to talk about ramp up scenarios, growth of market share over time, the colors wouldn't shift all that much from this picture that we are showing here.

One reason why we see the world a bit differently is because we try not to simplify it to a picture between short and long-range applications. So what you see here on the left-hand side is a graph showing the BEV or fuel cell advantage against the other solution. The bluer, the more favorable towards BEV. The more orange the color, the more favorable towards fuel cell electric vehicles. And if you see, if you look at the left-hand side of the graph, this is basically where the Y axis increases range of requirements. But we are still talking about low daily variability in range, which is the X axis. So for

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example, the lower left-hand corner of that graph means high range at low variability. A trucker would drive the same kind of distance roughly every single day. The opposite would be the lower right-hand corner. We're still talking about high range, but also high variability. So sometimes they wouldn't go far at all. On other days, they would have extreme environments. But usually, trucks are used as efficiently as possible. There are of course, some limitations. That means 0% variability is uncommon, but low variability is the standard. So what you see here, the red rectangle in that graph, this is how our customers typically use our products. And within that range, higher ranges actually tend to favor a battery electric vehicle business case even more, even in absolute terms, compared to a fuel cell electric vehicle case. Only if we combine long range with high variability in range does that picture start to turn around. And even then, of course, once there is widespread charging infrastructure, we tend to go towards a scenario where more and more of that lower right-hand corner would turn into blue color shades as well. It's still going to be true, even super long term, that the best business case for a battery electric vehicle would be high range at low variability. But even high range at high variability becomes more and more accessible the more infrastructure is being built.

So why is it that long range actually favors BEV? It's mostly because of that super high share of energy cost, if we drive a vehicle a lot every single day. It also means a large battery would be amortized quite quickly, even if that battery cost is on the order of EUR 100,000, or whatever. And of course, if the battery doesn't have to be over dimensioned, the payload losses from the battery would also be significantly lower, or even non-existent, for example, with a favorable axle configuration. And that means that in the end, long haulage favors fuel cell electric vehicles, only if we have highly variable, long distance requirements without a full, ubiquitous, fast charging infrastructure. That will already inform a bit of our later view on where we do actually see fuel cell electric use cases and where we tend to favor battery electric vehicles. But it's very important that we say long range tends to be more of a BEV domain, unless it's extremely flexible, extremely inhomogeneous.

What you see on this graph is a picture of the different shares between battery electric vehicles, fuel cell electric vehicles, and everything else, as always, for long-distance applications, for heavy duty trucks, over different hydrogen costs. So the left-hand part of the graph – and let's start with the left hand side of the total picture – would show high hydrogen cost while the right-hand side would show low hydrogen cost. Naturally, the fuel cell electric vehicle share of all things would grow, the lower the hydrogen costs would go, meaning the green part of the graph that is the fuel cell share would grow as well. But in the beginning, in a middle ground scenario, medium hydrogen costs, most of that cannibalization would happen on the diesel side. Only if hydrogen was truly cheap, maybe the right third of the graph, would we start to see cannibalization of the battery electric vehicle share of everything. Importantly, also, most studies, most of the hydrogen industry expectations, most Big Oil analyses see more of the middle ground scenario. So somewhere within that shaded area in the middle is where those players would see hydrogen costs going forward. And that tends to come out to either almost no hydrogen share of trucks, or quite a bit, but less so than battery electric vehicles.

Now, the question is, can we reach a scenario that would be more to the right-hand side of the picture on the left, with very low hydrogen price? Importantly, if we were to arrive at such a scenario, it would have implications on the electricity cost as well, either if it's hydrogen from Europe, directly, because then the electricity cost has to be significantly lower than it is today. Accordingly, the best electricity cost would be significantly lower. Or if it's imported hydrogen, we can crunch the numbers and see whether that hydrogen could be used to be turned back into electricity, to take out the peaks in the electricity market – with heat coupling, even more than just the peaks. And of course, the cheaper that hydrogen would be, if we had abundant, cheap green hydrogen, the bigger the effect would also be on the electricity costs that a BEV would use. And that means there's a correlation that is typically not considered in many models, between the two. That means low-cost hydrogen actually boosts not just the hydrogen business case, but also the battery electric vehicle business case. That means there's actually a sweet spot of the hydrogen cost from a battery electric vehicle standpoint, that is closer to the lowest end of the expected values in the industry. So it's super hard to arrive at a point where there is true parity between both solutions due to that interconnectedness between both.

And that means that we do expect to see a lot more competitiveness on the hydrogen side in the next 10 years, but we are more skeptical about the long-term prospects. So obviously, in the next years, we will see a lot of cost aggression on the components. We've briefly touched on this before. This will lead to a significant drop in cost for every for the fuel cell vehicle upfront price, a bit like what we've seen on the battery side in the last 10 years and keep seeing right now. We do

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expect there to be significant subsidies. They couldn't be enacted super long term. They would be prohibitively expensive to forever take out the difference between the two options. But in the 2020s, we expect this in a significant way. And we do expect an emerging hydrogen economy to be established in Europe. Just to make this clear, even though we are not certain about long haul business cases in trucking, in a mainstream scenario, we still think there is going to be a hydrogen economy. And everything that you've been seeing in terms of the pricing of hydrogen, for example, takes that assumption as a baseline. But then, if we talk more long term, we see most of the trends out there favoring better electric vehicles strongly. Obviously, batteries do become better. So we expect to see more lightweight, cheaper batteries, batteries lasting longer, potentially even new chemistries. We don't expect this as important as a base case in our modeling. So we're still talking about current chemistries. But if we had, for example, solid state batteries, then super-fast charging in terms of not 45 minutes, but maybe 10, 15 minutes could become a reality. Also batteries lasting 1,000 kilometers could become a reality, potentially even without solid state batteries.

And then we have autonomous driving kicking in. And on first glance, autonomous driving might favor fuel cell electric vehicles more than battery electric vehicles because theoretically, it now opens up 24/7 operations. But in real life, what matters most is that the cost of standstill goes down to negligible numbers. So of course, there's no driver that has to be paid while standing still. There's almost no depreciation happening. It's a bit of a capital utilization effect and some minor other effects like parking, etc. And if the numbers are crunched, then the end result shows that the cost of standstill is basically almost zero. This means that some of the flexibility disadvantages that a battery electric vehicle might have early on would actually evaporate in the moment autonomous driving comes to the scene. In that regard, autonomous driving behaves a bit like ubiquitous, fast-charging infrastructure by taking out that flexibility topic.

And then we have, over time, increasing grid storage. Increasing grid storage, meaning, it will be more and more common to store energy and via hydrogen. And in comparison to the different alternatives that we are seeing today in that market, this is a significant boost, which brings the energy efficiency disadvantage on the hydrogen side more into the spotlight than it would otherwise be. And this is important because there's also going to be a merit order topic. On the hydrogen side, there will not just be trucks who might use hydrogen going forward. There will be other industries, like for example steel plants or steelworks. And if, for example, a steel work is supplied with a pipeline, because of its high volume intake, it has few other de-carbonization alternatives, and at the same time, can afford maybe to go for higher hydrogen prices, because of CO2 fees having a bigger impact on his business, then, from a merit order perspective, that consumer would take precedence over a battery electric vehicle. So it's important to take into account also the expected capacity, the expected total volume of hydrogen in the European market, and how it would be used most effectively, especially when you think about the CO2 implications that we see from going for battery electric vehicles, from going for a more energy efficient solution, like a BEV truck.

All of that means we do see a distinct advantage, especially in long-distance applications, and especially long term. But we still see use cases for hydrogen that exists out there. And some of them, we've talked about those, like the second column on the slide. Inhomogeneous usage: if there's, for example, a vehicle in a fleet that is only rarely used on long distances, but has to be flexibly used, and has to be able to go wherever it wants before ubiquitously fast-charging infrastructure exists, then this can be a good augmentation for a mostly BEV fleet, for example, if cost doesn't play a huge role. And there are some customers – a small amount, but some – where this is true, for example, for time-critical missions. Then hydrogen can be a better option, because those charging breaks will fall away or will be significantly reduced in duration. And of course, whenever we have severe payload restrictions. One good example would be a long-distance coach with two drivers, which typically only stops for 15 minutes, not enough currently, to recharge the battery. And then we would have to go for very large, very heavy batteries, which in this case, actually do have a payload impact, hence having a better business case on a hydrogen side.

And last but not least, wherever hydrogen is actually competitively cheap, this can be used. This can come through different factors, it can, for example, be very early on, if we have significant operation subsidies, like in Switzerland with toll exemptions. And there the main competitor right now still is diesel. So compared to diesel, those significant toll exemptions open up the market for hydrogen applications. And then of course, wherever we have local cheap hydrogen, where we would, for example, be talking about nuclear plants, as mentioned fore, or import harbors, if we have somewhat cheaper, imported hydrogen, or around local cheap renewables. These can sometimes turn the business case around. But of

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course, in many use cases, also battery electric vehicle profits from them. So there's a lot of complexity and we have to go down to a per use case level, to define or find out about the most efficient solution to be used by our customers. And with that, I would hand it back over to Atif for a conclusion.

01:14:31 Atif Askar

Thank you very much, Andreas. I'll try to summarize what has been said on our last page, along six key takeaways. First, BEV will become competitive with diesel no matter what scenario. So it's not the question anymore whether that will be better than diesel trucks. It's a matter of when. If you look at the values and make a halfway reasonable assumption towards their development, you will end up in the same corridor, where also long haul BEV will be more competitive than diesel. Second, this will happen and happened earlier and faster than we have expected. And it's no wonder if you look at our own company five, six years ago, with 500 EUR/kWh in battery costs. Then we said no, the numbers don't add up. We don't see that. But things have changed more radically. So we'll see this change continuing and we'll be faster in the BEV world than we have thought maybe five or 10 years ago.

Certainly, just fulfilling EU or general emission regulations is not sufficient. Firstly, we expect them to tighten or it's more likely that they will tighten further. But more importantly, the economic reasons for having a BEV will supersede the ecological reasons, meaning BEV will simply be in certain roles, the more cost-efficient solution, no matter what the regulation is. And by that, you will need to be able to offer a BEV solution. Fourth, infrastructure is a very important enabler. And we need more incentives here for private, but also for public charging infrastructure, mainly mega chargers. Fifth point, we do believe that fuel cell is a complimentary solution in certain applications. In fact, we have a partnership with other OEMs to get the fuel cells into one of our trucks. But we don't believe it will be mainstream. And that's number six, we simply believe that also in the long haul, BEV will be the dominating solution, simply for the aforementioned reasoning along TCO. That was our summary. And with that, I will hand back to Rolf.

01:16:44 Rolf Woller

Not too many things. Atif and Andreas, I think, mind-provoking, and definitely the contrary view to what you might have heard, actually, from one or the other competitors. Operator, I think I see already two questions on the line. Should we directly hand over to them?

01:17:06 Operator

Our next question comes from Kai Müller, Barclays. Please go ahead. Your line is now open.

01:17:11 Kai Müller

Hi. Thank you very much for this presentation. It's very, very helpful actually, to go through that. The first point maybe to start off with is the current MAN electric vehicles that you have, and maybe you could also talk about some of your Scania program, what fast charging speeds do you actually offer? And what voltage levels to these systems operate on? And can you give us a sense of the battery sizes that you currently are equipping these vehicles, what ranges we're looking at?

The second point is really, when we talk about battery materials, I think that's becoming more and more a concern for investors, especially on the automotive side. Now, given you, of course, with your truck fleets also go the same direction, what do you think about the materials shortages, potentially, and the price points that could hamper any of these cost reductions over time?

Then, third question is also, you mentioned the payload impact. When you think about the payload impact, I understand because of the break times that drivers need to adhere to after three hours, is it fair to say that the range of these trucks

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only are for three or four hours and there's no more required, simply by the fact that after three or four hours, you have to make a stop, and then you just recharge. And what I didn't quite understand is when you said autonomous will help this development. Wouldn't autonomous be actually more a solution, like your two-driver solution, where the truck could run 24/7, without the requirement to make those required breaks?

01:18:48 Atif Askar

Excellent questions, Kai. And we'll work through them, maybe from number three and four, and then I'll hand over to you, Andreas, for number one and number two. Now, payload break times, etc., payload is a little bit different. For a long time, people said, look, if you want to have a battery, it needs to be 26 tons. You will have a lot of payload losses, and therefore, it doesn't pay off to have to have a BEV truck. Now, the fact is that, in fact, if we put the battery on a truck, and instead of that take out the current conventional power chain, the one to two max current numbers, one to two tons additional weight that will have is even allowed by European regulation. We can have this on top, so it's not even an issue. And even if it would be, around about 80% of our transports are volume-restricted and not weight restricted. So this is to clean up with the common belief that batteries are so heavy, you lose payload, so you don't get the BEV truck. So we don't think that's the case. And you can do the math quite easily.

Then at the same time, you mentioned the question about brakes. Exactly. It's exactly as you said. Our trucks need to stop every four and a half hours for 45 minutes. So if you want to have optimal transportation, you just plan in that after four and a half hours, you have a charging. And that charges the truck for the next four and a half hours. And that's good enough. So that gives you that you need one mega-charging event on a trip that is longer than the typical for 4.5 hours that someone is allowed to drive. Now even if you would only go 500, for example, Kai, you wouldn't even need the mega charging, because if you just have 50 more kilometers to go, you can do that. You charge quite less or you get a little bit of a bigger battery. The interesting thing is there are opportunities to do the same transport job, where today no one can be much cheaper because the distance is known, the driver cost, you cannot go down forever, and the diesel cost is known. That gives you very new possibilities to go quite down with your charging costs.

And then briefly on autonomous, and then I'll hand over to Andreas, well, actually, this is one of the major misconceptions. So you drive autonomous, you need to drive 24/7, don't you need fuel cell in there? If you bear in mind that the biggest part of the cost is energy, and if you take out the driver, which is another 1/3 of the cost, it's all about energy. And now you have one technology that spends three times as much energy than the other. So BEV is, especially on these non-stop applications, even better. Now, you could say, but this truck needs to stop every five hours. But what's the downside of that? How would you calculate that? Well, that's the depreciation of your truck. And you could argue, yes, I have a higher depreciation, but then it runs more years. So the additional cost on having more stops, if it's not really a time-critical transport, is a no relation through to putting in three times as much energy. As Andreas said, actually, it's making the BEV case even stronger. Now I will allow Andreas to correct me on three and four, and then add on your question one and two.

01:22:14 Andreas Kammel

So, basically, the only downside that still remains is a capital utilization effect. Even depreciation basically stops when that truck is not being used. But of course, if there are more breaks than would otherwise be needed, an operator would need a larger fleet. But for example, operating those 11 BEV trucks compared to maybe 10 fuel cell trucks would still be significantly cheaper. The only effect is that the initial capital invest would be accordingly higher, but we can crunch those numbers. We can do that calculation. And the effect is not even close to the effect of the savings on the energy cost side. And the flexibility advantage that would be gained by being able to just stop whenever it's convenient, instead of having the driver in there that gives you some parameters, would be highly favorable. And then last thing, we are probably not going to use those trucks 24/7. It's more like maybe 20 hours a day. And with that kind of behavior, there are already a quite a few organic charging stops, for example at home depots that could be used. And that reduces that effect even further.

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For the payload impact, maybe just one tiny bit to add – and I'll try to be brief on the questions – would be on the extra weight part, where we have a lot of potential to play around with that sector as well. So sometimes different axle configurations were not always equally well. But there's usually quite a bit of flexibility. And that means even some use cases where, even with a larger than 4-ton battery, where we would theoretically use payload on a typical axle configuration going for a different axle configuration, brings this down to an effective zero payload loss, even though we have a more heavy-weight truck. In terms of voltage and so on, the standard that we are going to be looking forward is 800 volts. Also, we will go more and more from a CCS perspective to an MCS perspective. That's a new charging standard going forward. Our contracts don't yet support this. We're still at the CCS stage, but our next generation will do that. And then in terms of maximum charging speed, this means still limited to CCS right now, but going up to up to 700 to 900 kilowatts over time, our range currently being up to 250 kilometers with our products in the BEV regime. Over time, definitely those four and a half hours, but I would not be surprised to see some use cases significantly go further than that.

And then I think we had the material cost reduction aspect. Yes, we are coming closer to material cost limits. So the material cost is a larger and larger part of the total battery cost. So the biggest lever we are seeing right now is using the same amount of materials or slightly different types of materials for higher and higher energy density. That means even if the material cost actually goes up, which we have in quite a few scenarios in our modeling, the higher energy density over time still results in cost degression. It's slower than in the past, but as mentioned, we are taking those slow estimates in our modeling, not the fast ones. And very important, to go a bit beyond that question, is to not just look at the material cost or the cost of the battery itself, but at the lifetime cost of the battery, including life cycle, which in our use cases, in many cases it will not be limited to those 600 or 1,000 on the passenger car side, but go up to the thousands and thousands. Does that answer your questions? Otherwise, we continue with the recycling. But I think that covered all the questions.

01:25:53 Kai Müller

I think that covered the majority. Maybe actually a follow up on the electricity point of view is, do you think the taxes on electricity will stay like this? And I think you mentioned-- are you able to use or do you think trucking companies are able to use the commercial rates rather than the retail rates on electricity?

01:26:14 Atif Askar

We certainly work with commercial rates when we when we talk about trucks, right? What you cannot do is go and take the [inaudible] roaming rate and make a calculation with that. But no, jokes aside, we have seen studies that even do that. And of course, that doesn't work because a truck if it charges two times, three times it spends as much energy as a household with two people spends in a whole year. You can assume you will have commercial rates, middle voltage, at least, maybe even at some places high voltage. And then you calculate with very, very different numbers here. So I think this is fair to assume.

01:26:51 Andreas Kammel

In some cases, you would even go to industrial rates. We try to be conservative in the modeling approach. Commercial rates are a conservative approach. We typically look at the 500 to 2,000 MWh per year range, which in many cases, if you have a large fleet or are operating a mega charger, you will exceed. And you will get closer to industrial rates. So that's an additional upside on top. Regarding the part of the question with the taxation, we do expect that to come to the market. We do expect that to be an important point, but to be fair, on all-new technologies. So on the electricity side, but also on hydrogen, over time, when we see both solutions have a significant market share, we will not see overall taxation levels drop, we will see them shift. But there are some nuances to this. This would not happen for the first 10%, 20% of the fleet share of the market. There's not enough to be gained. And of course, there is support for those early endeavors. And we

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also expect that there will be a simultaneous increase on the diesel taxation side as well. So in our models, we expect that over time, total taxation levels will remain roughly steady, but there are some nuances to how they shift.

01:27:58 Atif Askar

Exactly. And on page number 25 I think we even had a dotted line showing you where 2040 would end up if you would calculate that the whole mineral oil tax goes on electricity as it does in diesel, which is unlikely – I mean why would someone price diesel as much as electricity? But even then in latest 2040 there will be [inaudible],

01:28:27 Operator

Our next question comes from Himanshu Agarwal, Jefferies. Please go ahead. Your line is now open.

01:28:32 Himanshu Agarwal (Jefferies)

Hi. Thanks for the presentation – very helpful – and taking my question. Himanshu from Jefferies. My question is on the capacity of the power grids. Can you talk a bit about how you foresee the power grids fulfilling the massive power requirements once you reach a meaningful penetration? Basically, I'm just trying to understand when you put on all or a majority of BEV trucks charging at night, will the power goods be able to support that much of power? Thank you.

01:29:07 Andreas Kammel

To get started, I think you already included part of the answer there. The at-night part helps tremendously. And the majority of the total charging needs in terms of total power will happen at those hours where we are not seeing typical peaks, for example, from residential or industrial usage. There's going to be a second smaller peak in the early afternoon, like noon. But this also does not coincide with the most tricky part of the day, which is in the evening. And of course, there is a cost-efficient business case for employing battery buffer over time in many mega charges. Depending on how strong that difference in electricity price over time will be, a couple of hours of battery storage would make a lot of business sense in many use cases. And then, of course, in terms of a pure grid connection perspective, we could also always discuss about which locations are the most suited. Sometimes we see a lot of difference between different locations. Some are very easy to supply sufficient power to, even for a large amount of trucks. Some are more tricky. And of course, optimization would include going more for those locations where it's actually easier to get there. And from a total energy perspective, we are still not talking about such a massive amount that it would not fit to the built-out regime that we are currently seeing out there. We would actually be more worried about the same thing happening with hydrogen with its three times higher energy requirements going forward.

01:30:37 Operator

Our next question comes from Hampus Engellau, Handelsbanken. Please go ahead. Your line is now open.

01:30:42 Hampus Engellau

Thank you. I have a question on competition. I think that was very long ago that you had new entrants coming into the truck market. And if you look at what's happening here with Nikola Tesla, long haulage battery electric and then [inaudible] distribution, naming a few, these guys have started off by designing their product around the battery. Many of them traditionally in trucking have been heavily invested in existing platforms, and they have been designing in the battery in that platform. What competitive advantage do you see with these guys maybe designing a more easy-to-use product? Do

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you see the need for MAN and Scania to re-design the product and start from the point of having the battery and then building the product around that? That's my question.

01:31:42 Atif Askar

Thank you, Hampus. Very good question. You know, it's always difficult to comment on our competition. But let me let me do two comments. First, interestingly, if you look at BEV trucks, you need a structure that is simple and carries a lot of weight, because the batteries are heavy. And that's exactly what trucks typically do. This is why a ladder frame as such is not the worst solution to carry the batteries. You can be sure, also, our engineers are looking at everything from more evolutionary to more revolutionary approaches to adjust the truck. At the same time, there's a big benefit of having more modularity and benefiting from scale, especially in our business. As you know, we have so many applications that we do not have a truck like an ID.4, but we have some kind of modular toolbox, and we put the trucks together depending on what kind of application you need. So, also, evolutionary developing this modular box – and especially Scania is, I think, leading in that – is something beneficial.

And then let me briefly comment on competitive advantages. You know, I think you cannot underestimate the importance and the weight of a functioning service network. Our customers really rely on their trucks. Reliability, uptime, and serviceability wherever you are, in short time, is of essence. No one can afford to have his trucks staying somewhere in the garage or driving 500 kilometers to get to the next service point. And I think this is a quite strong advantage of MAN and Scania having proven this, having trusted relationships, and having a service network that can guarantee you to get you up to speed and maintain as good as possible. When we look at pure technology, this is sometimes overseen. And just one comment on technology. Scania is working together with Northvolt, one of the most sophisticated, I would say, battery companies who really come up with new ideas. And we're adjusting it to the specific needs of a truck. And that can be a tremendous advantage. At the same time, we can leverage on volumes of Volkswagen, and have also relationships with suppliers of Volkswagen, and piggyback on their volumes, adding ours. So there's a couple of advantages we see. And then we'll see how this develops.

01:34:29 Operator

Our next question comes from Horst Schneider, Bank of America. Your line is now open.

01:34:34 Horst Schneider

Thanks for taking my questions as well. Sorry, maybe I've missed that, but I realized you're totally convinced about this BEV strategy and that it has got several advantages over the future truck. But could you maybe outline what happens now? If the future nevertheless, for which reasons ever, makes a breakthrough – and we know the initiatives from Daimler and Volvo – in that case, what are you doing? What is your strategy? What are the products that you have got in the pipeline, if that comes through?

And then the other question that I had was related to the lifecycle revenues. We know that from the Volvo capital markets day, in November, when they basically talked about the potential of services, and that the lifecycle revenues are going to increase. So maybe, could you also make some comments on that? What level of group sales you expect to come from services, let's say, by 2030?

01:35:37 Atif Askar

I will start, Horst, with your first question. And to make that very clear, we don't have a BEV-only strategy, but we have a BEV-first strategy, and invest most of our funds into a BEV strategy. We fully see that, given the different kinds of applications that you could have with a truck, there is no silver bullet. We have today just a few percentage of gas trucks.

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We have just a few percentage of trucks with four axles. But we offer them. They come out of the modular box. We have a solution, because that's the best solution for certain customers. And we see it very similar with the fuel cells. And if you look at the fuel cell truck, it's actually a BEV truck. It has electromotors. It has quite a big battery – it could be 100, it could be 200 kilowatt hours. It has power electronics. It has a battery management system. The difference being, on top, it has a fuel cell, and it has tanks. And we have a cooperation with Toyota – Toyota being one of the companies who for the longest time has made R&D and worked with a fuel cell – and we try to get fuel cells and a modular principle into MAN trucks. So for those customers for which fuel cell is a better solution, we have also solution for them. So we're not leaving it out. We just believe that most of our own R&D and money and priority needs to go into BEV. And again, there will be quite some use cases where fuel cell might be the beneficial one. So I think we have a good strategy there.

01:37:15 Andreas Kammel

And maybe to add to this as well, even if we see widespread adoption of fuel cell electric vehicles, we still believe, as shown on the earlier slide, that many of the long term advantages tend to still lie on the battery electric vehicle side. Batteries still have a long way to go. Autonomous driving, as mentioned, is mostly favoring better electric vehicles strongly over fuel cell electric vehicles. And over time, we will see more and more infrastructure. If for example, we have a scenario where we have solid state batteries over time, if there's a scenario where we have 1,000 kilometer batteries, the infrastructure is both less crucial to get it really out there, and at the same time, will develop more and more over time. And the subsidies that would be needed to have a bias into one direction would be substantial, would be in the billions of dollars. And with that, we expect that, long term, no matter what happens in the next couple of years, the picture is quite clear.

01:38:13 Atif Askar

And then, Horst, briefly touching on your question about how does service revenues change with BEV trucks, first, yes, BEV trucks have less moving parts. And typically the aftersales revenues of a diesel truck is lower. But on the other hand, repairs for a BEV truck might be more costly in terms of euros per incident, so to say. When it comes to electrification, of course, it opens up a whole new world of opportunities, just thinking about batteries and a second life for batteries. Of course, we will offer a solution to our clients to take back their batteries, to have a corporation to recycle them. Batteries will be recycled. It's a far too expensive and far too precious material to do anything else. And there will be other opportunities. If you think about charging solutions where you don't offer just the truck, but also a charging offer or a public charging. You could think about, like, we have a few cars that the customer buys the truck together with the charging solution. And we'll need to be prepared to finance even more. New truck will be more expensive, so our Financial Services unit will have more to do.

And also it's a little bit difficult to exactly predict. Also today we can sell a truck, we can lease a truck, we can do an operational or financial lease. There will be a mix. And we'll see the same in electrification. And, of course, we'll try to offer the best solution for our clients, at the same time also looking where we can have additional opportunities for business, especially in the beginning when customers are unsure. And some of the partnerships like the partnership with NGA and Scania, has been communicated already.

01:40:05 Horst Schneider

Can I maybe sneak in a follow up or two follow-ups?

01:40:08 Atif Askar

Of course, as long as Rolf doesn't say anything, any follow-up. We love this topic.

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01:40:14 Horst Schneider

No, just two follow-ups. What I have maybe missed as well is, could you maybe outline then your roadmap? So basically, for the various use cases, what is the rollout plan? So when are you going to launch the short-haul EV truck, long-haul EV truck? Even if it doesn't make to breakthrough, when you launch the first fuel cell truck? That's number one. And number two, I'm still interested in the fact, what is the average battery size of the various use cases, so let's say for short haul versus long haul? And what are the charging times? Sorry, if I missed that during your presentation.

01:40:54 Atif Askar

No, no problem. I don't know that we have mentioned, so happy to answer your follow-up question, Horst. Look, as Andreas has described, for our customers, it's about the TCO. TCO parity, as you see in one of the first charts, between a BEV truck and a diesel truck on long haul is not there today. Today, I couldn't sell a BEV truck to a customer that runs 450 kilometers, even if I put in the battery and everything, simply for the reason it will be much more expensive for this customer to drive this truck and have the same transport with the BEV truck. Our strategy is to be there and to be there reliably and in scale whenever the technology is the superior technology. Therefore, it's also not a surprise that the first truck Scania brought out is a truck with 250 kilometers for sure. This is not a long-haul truck. But that's a regional distribution truck where you reach the business case much earlier. So these trucks are out already, and you can purchase them. For long haul, around the middle of the 2020s we'll see a significant pickup in long haul trucks. And we'll come up with the respective vehicles by then. Let me hand over to Andreas regarding the battery sizes.

01:42:19 Andreas Kammel

That of course also differ strongly based on the kind of application that we would be talking about. Maybe starting, because we've been spending most of the time today talking about long haul, with the long haul use case. So, there we typically, depending on the exact use case, talk about high three-digit values. So something like 500, 600, 700 kilowatt hours, that definitely gets you to those 4.5 hours, depending on the weight of your truck. So it will again be a per use case thing, depending on the exact requirements of the customer. But in many cases, those 4.5 hours are the way to go. We will also exceed this. We have plans for larger batteries. And of course, we also have plans for smaller batteries – coming back to that in a second.

In terms of charging times for the long haul truck, it's simple. It has to be able to get that full charge or a near full charge, because it typically doesn't arrive completely empty and it typically doesn't leave completely full either in those 45 minutes. And that requires the new upcoming standard the MCS standard, which will probably even be in the megawatt range. And we would probably require something between 700 and 900 kilowatts out of that. Overnight, of course, a long haul truck could be charged much more slowly, even below 100 kilowatts, and then even less so if we are talking about distribution trucks. There, we could even get away with AC instead of DC charging in some use cases. But it's usually easier to just have a common standard everywhere. Daily usage for a regional or an urban distribution truck can differ. Some of those would only charge overnight and could charge quite slowly. There are also different optimal scenarios depending on the use case. For regional distribution trucks, in many cases, there could be an intermediate charging event, especially if they're being used almost 24/7, and don't spend much time at the home depot. So they would be charged while on the go. In many cases, they stop for around 1.5 hours, for example for loading/unloading, and then can get away with 150 kilowatts, or in some cases also a bit more, but typically still within the CCS range.

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01:44:30 Atif Askar

And let me make one more comment for clarification. In the whole presentation and everything we say, we basically go with current technology. So we're not talking about fantasies. Also, please not until 2035-ish. So this is all with current technology, normal extrapolation of what we thought would be the development in the last nine years extrapolated to the next years. So we are rather on a conservative [side], especially because we know we're quite pro-BEV compared to others who want to be rather on the conservative side.

01:45:10 Horst Schneider

The 500 kilowatt hours, that is even for short haul truck? Or is it just for long haul?

01:45:15 Andreas Kammel

For short haul, it can be less than this, in some short haul applications. If, for example, flexibility pays a premium, it can also go to this number. But we really are going to offer the full range.

01:45:31 Rolf Woller

Two to go. Jose, I think it's the next one right, operator?

01:345:35 Operator

Yes. Our next question comes from Jose Asumendi, J.P. Morgan. Your line is now open.

01:45:40 Jose Asumendi

Thanks very much. I'll keep it brief. A couple of questions, please. As we think about long haul applications by 2030, 2040, how much cheaper is it to run the BEV version versus the fuel cell? Is it a significant percentage in terms of cost advantage? Second, can you talk about the charging infrastructure? Because we're having here, I think, a very interesting debate around the next 10, 15 years, but who's going to be doing the investments for charging infrastructure on the BEV side? Who do you see will take the lead? What kind of investments are required? If you could just maybe think about the next 50 years there. And then the third topic, on the heavy truck side, the battery, again on long haul, have you factored in— I'm sure you have, but what kind of degradation factors of the battery have you factored in for the next, let's say, on a three to five years cycle of a truck? Thank you.

01:46:40 Atif Askar

Thank you very much, Jose. Let me start with number one and number two, and then I'll hand over to Andreas for the degeneration, which is critical, especially for trucks giving the much higher cycles. You see basically an indication of what's the benefit of a BEV truck versus a diesel truck on our page number 25. It says illustrative, but you can assume that it is significant. And here's the point, Jose: in our business, it doesn't have to be that big. An ordinary haulage company – I'm not talking about DHL, but a haulage company – they do 3%, 4% of a margin a year. So for them being able to go down in costs for 2%, 3%, this is this is huge. But we do think it will be significant. It will be in the double digits. So we will see this shift. And whoever is able to provide logistics, 10% lower cost transport on the road, we think he'll take this market sooner or later.

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Charging infrastructure, also very good question. I mean, there are, as you know, already now, utility providers, but also independent companies doing charging and also more and more of the bigger companies that you see with their stations along the autobahn, etc., are going into and start installing that. And we have the feeling there is a big interest in also offering this, especially, Jose, because I would say it's a much more interesting business case than for passenger cars. And that's not only because it's much more energy consumption involved. But even more important, it's the more regular take of the energy. You don't have these peaks when it comes to vacations, where you need to charge so many vehicles on the same route and then there's nothing that week after. It's much more steady utilization of these stations. And that's the thing that makes it very interesting for utility companies, for example. And we need to go away from this idea that we'll plaster whole of Europe at the same time. You're seeing the different TCOs in Andreas' charts. There are certain regions where it comes first. And there will be certain highways where it will come first. But the first company who starts to offer that and makes the TCO on that range better, there would be not a big reason to drive with a diesel on that location anymore. And then let me hand over to Andreas regarding your question of degeneration of batteries.

01:49:17 Andreas Kammel

And there, without changing too much about the battery chemistry, we can improve that one parameter that matters far, much more than it does on the passenger car side, which would be talking about the life cycles. For a passenger car, even today, a typical battery starts to outlast the vehicle itself. And over time, of course, this will just keep growing. So they are not focused too much on bringing life cycles up to the maximum. It's always a trade-off between different parameters. And with just a tiny bit of disadvantages, for example, on the energy density side, lifecycles can be improved tremendously with small shifts and tweaks in the battery chemistry. And of course, this is something that is happening on the trucking side because, in the end, it's a much better cost optimum for us if we don't have to do any battery swapping, even for the second owner or beyond. So over time, we do expect that the battery would actually last as long as the truck or even outlast a current diesel truck. And then of course, we will know our batteries quite well. And we already do so today. And we'll just keep getting better. So we know exactly how to use them, how to charge them, how to set the duty also in different stages of life for the battery. And then, very importantly, even though we use that battery a lot, and thus have to focus much more on life cycle than a passenger car would have to, we don't really fast charge all batteries, to be fair. Even that mega charger in comparison to what a Porsche Taycan would do at an ionic charger, that's quite mild. We're still on a charging rate of around 1C because the batteries are so large, and it takes us almost an hour to fully charge that battery. That means, from a certain perspective, we don't go fast-charge our batteries, we only slow- and medium-charge them.

01:58:08 Operator

Our next question comes from Xing Lu, UBS. Your line is now open.

01:51:12 Xing Lu (UBS)

Hi. Thanks for taking my question again. It's just a very quick one, which I guess you touched upon earlier. Just on your repair/maintenance portion, going back to the TCO edge, do you have an idea how much lower repair maintenance costs for battery electric vehicle compared to conventional ones? We've seen numbers floating around up to 50% lower. Do you have any guidance on that? And then just on your potential service offering going forwards, also considering the introduction of autonomous driving and new technologies, how do you see your service offerings changing going forward? Are you considering predictive maintenance or anything down that route? That would be helpful. Thank you.

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01:52:12 Andreas Kammel

Okay, maybe starting with the R&M question. That's tricky to put an exact number on it. It depends very much on the use cases. In some we see a more significant reduction. In others, it's more benign. There's also a time component to it, because of course, those components have to become more reliable and will become more reliable over time. But, as mentioned by Atif, there's also a difference in the cost of those components going forward. So total R&M will drop going forward. And you see this even just illustratively in those graphs, but the numbers will differ between different use cases.

01:52:49 Atif Askar

And then coming to your second question, Xing, if you talk about things like predictive maintenance, this is actually something we are doing already. We started doing it, because our truck fleet is sending every minute data packages, every half an hour bigger data packages about the situation of the vehicle. And we use this for different things, for continued R&D to further optimize the product, but also for trying to predict where and how – also depending on the use patterns of the week – maintenance should take place or not. So a lot of the topics are also here in now. And when it comes to electrification, an important topic will be, for example, routing of vehicles in a way where you do not only take into account the driving times of your driver or certain roadblocks or traffic jams, but also the charging regime. So this kind of service is making use of vehicle data. Also how to charge a battery, for example. As Andreas mentioned before, the life cycle of a battery, it makes a huge difference how fast to charge it. And if you know, okay, I'll go 50 more kilometers, but I have now 45 minutes, why should you mega-charge? You wouldn't do that. So these kinds of use cases we have already. A very different game starts with autonomous, which will change the whole industry. And, as you're probably aware, Scania actually is the first company that has two trucks running for Scania logistics on public streets with a security driver, but doing real haulage for logistics. So we're very proud of starting the proof of concept to show that autonomous can work and it will work, especially regarding on high running routes first.

01:55:44 Andreas Kammel

And with regards to the maintenance part, we offer two sides to that same metal, in terms of not just talking about on R&M costs, but also potentially selling uptime as a value to the customer for that as well.

01:54:58 Atif Askar

Let me add one more thing on the R&M. Now, if you think about that a significant percentage of our trucks are sold with a full warranty contract, actually, if we get R&D costs – repair and maintenance – down, that's good news for us, because we are responsible for R&M. And if we find a better regime because it's electric truck, and it requires less R&M, that's actually good news for us. So our aim is always to find the best solution for the customer, and the rest will level out between the cost price for the vehicle and the cost for repair and maintenance over the lifetime.

01:55:44 Xing Lu

Thank you. And how long are typically warranties? About one or two years?

01:55:48 Atif Askar

It depends. You can buy different types of contracts. And typically, a leasing contract is a four-year contract. That would be a typical one you can get. Then you can get a second life extension of a warranty contract. Of course, in the first years, quite a lot of customers take this and then the uptake goes lower over the years.

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01:56:16 Operator

This concludes our Q&A session. I will hand back to the speakers.

01:56:20 Rolf Woller

Thank you very much, Lisa. Thanks to all of you for hanging with us for two hours. I hope you enjoyed the discussion, as we did. I thank Atif and Andreas, once again, for being our guests today. We will continue with these kinds of speaker-guest sessions now in our quarterly calls, just to prepare you. If there are any follow-up questions, please get back to us by mail or just ring the IR team here in Munich. We are very happy to take your questions. And thanks, actually, for keeping us employed. If we do not hear us again within the next weeks, latest occasion to get in touch with us is either on the annual shareholder meeting which is on June 13th, or later then with the release of the half-year results which is on July 30th. So until then, please stay healthy. We wish you a very good time and look forward actually to catch up. Thanks very much. And that concludes today's session. Thank you.

01:57:29 Operator

Ladies and gentlemen, thank you for your attendance. This call has been concluded you may disconnect.