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PRESENTATION

Operator

Ladies and gentlemen, thank you for standing by and welcome to the Umicore Full Year 2019 Results Conference Call. (Operator Instructions) I must advise you that this conference is being recorded today, Friday, the 7th of February, 2020.

And I'd now like to turn the conference over to your speakers today, CEO, Marc Grynberg; and CFO, Filip Platteeuw. Please go ahead.

Marc Grynberg - Umicore SA - CEO & Executive Director

Thank you, Joanne. Good morning, everyone, and welcome to the presentation of Umicore's performance for 2019. I will first make some comments on our performance and outlook, give an overview of our major achievements and then hand over to Filip, who can talk you through the 2019 financials. I will then wrap up before handing the call over to you for any questions that you may have.

Despite the challenging market environment in 2019, particularly in the automotive sector, I'm proud to announce that we turned in a strong performance while making significant strides in the execution of our growth strategy in all 3 major activities.

In Catalysis, we outperformed the car market by significant mileage as a result of market share gains in gasoline catalyst applications. This outperformance was most pronounced in China, the largest car market in the world, where we became the leading light-duty catalyst provider. We also recorded strong growth in the demand for our fuel cell catalysts.

In Energy & Surface Technologies, our sales of cathode materials for electric vehicles grew in line with the market, although the 2 halves of the year were sharply contrasted. Sales were softer than the market in the first half and improved somewhat in the second half when the rest of the industry was down following the subsidy cuts in China.

Results of the business group were affected by lower cobalt prices and the competition from unethically sourced cheap cobalt from artisanal mining as well as the higher depreciation charges and upfront costs related to our greenfield investments.

In Recycling, we posted a very strong performance. While we processed lower volumes in Hoboken due to the scheduled extended shutdown in the first half of the year and the fire incident in July, we optimized in the feed mix in order to offset the effect of the volume shortfall. The business group also benefited from favorable supply terms and higher precious metal prices.

With our statement in April 2019, we were among the first players to identify that demand patterns for cathode materials were deteriorating in the Chinese EV market, in particular. We were also amongst the first to project no near-term recovery in automotive demand in general. The statements we made and the outlook we gave at the time have, unfortunately, proven to be accurate. As we communicated then, we expect to grow revenues and earnings in 2020 despite a deterioration in the macroeconomic environment globally, in particular, in the automotive market.

It is also worth to point out that visibility is limited today. The outbreak of the coronavirus is probably going to amplify the economic slowdown although it is much too early to estimate how much or for how long. Our growth outlook assumes today no protracted or material effect of the virus on economic activity in 2020.

In Catalysis, although market projections point to slightly declining or flat car production at best, we expect to benefit from our strong market position in gasoline catalyst applications and a higher penetration rate of gasoline particulate filters in Europe and China. Fuel cell catalyst production will ramp up in our new plant in Korea and contribute to the growth.

For Energy & Surface Technologies, we expect higher sales of cathode materials for EVs, and a positive contribution from the acquisition of the Kokkola plant. We do not expect EV sales in China to show a material degree of recovery. Our performance in 2020 will be affected by continued investments in greenfield production sites, resulting in higher depreciation charges and substantially higher start-up costs as well as increased R&D costs as we step up product and process development programs.

In Recycling, the Hoboken smelter is expected to offer more availability in 2020 after completion of the expansion investments in 2019. We expect the supply environment to remain favorable and that metal prices, some of which were hedged in the course of 2019, will continue to provide tailwinds.

Overall, I'm pleased to confirm a growth outlook for 2020, despite the adverse market trends that developed in 2019 and continue to prevail today.

We will continue to execute our growth strategy with determination while keeping the agility to adjust our investment programs to take account of evolving market needs in the short term.

Let's now turn to the review of each business group, starting with Catalysis. There was a significant contraction in global car production in 2019, actually, the strongest decline in car production since the 2008 recession. The biggest reduction was observed in the world's largest car market, China, which contracted for the second consecutive year. Diesel car production continued to decline in Europe and now accounts for a 35% share of the European car market.

On a positive note, more stringent vehicle emission standards have come into effect in key regions and the market share of gasoline particulate filters increased in Europe and China, as expected.

Umicore strongly outperformed automotive production, with revenues up by 7% year-on-year as a result of market share gains in light-duty gasoline and the growing penetration of gasoline particulate filters in China and Europe. We have now become the leading supplier of light-duty catalysts in China, reflecting market share gains and a strong exposure to platforms, which have implemented China 6 norms ahead of the due date.

Precious Metals Chemistry also increased revenues year-on-year, with growing sales in pharmaceutical and fine chemical applications as well as in fuel cell catalysts.

Throughout 2019, we continued to invest in R&D, supporting the transition to more demanding emission norms. Also, we expanded production capacity in China, Poland and India to cater for the growing demand for our catalysts. Very recently, we opened a new plant in Korea for the production of catalysts for fuel cells. Hydrogen fuel cells are gaining momentum as a clean mobility solution for light and heavy-duty applications. And Umicore is well placed to benefit from a growing market penetration of this technology.

Let's now move to Energy & Surface Technologies where the market context also became more challenging last year. The global EV market grew by less than 8% in 2019 compared to more than 60% in 2018. It is also worth pointing out that 2019 was a year of 2 contrasting halves in the EV market. While global EV sales continued to grow in the first half, albeit at a slower pace than in 2018, EV sales decreased in the second half, as expected, due to an abrupt decline in EV sales in China following the subsidy cuts.

In consumer electronics, there was also a slowdown in demand, which was caused by destocking across the value chain. In the energy storage market in Korea, demand was very much down owing to safety incidents on certain installations.

Finally, cobalt prices were depressed to less than half 2018 levels, and this was exacerbated by the inflow of cheap cobalt products originating from unethical sourcing.

Against the backdrop of declining EV demand in the second half, we managed to grow our sales of NMC cathode materials, both sequentially and compared to the same period in 2018, as expected. For the full year, Umicore's sales of NMC cathode materials for EVs grew in line with the EV market globally, or, in other words, our market share has remained stable in this segment.

As also expected, sales of LCO cathode materials for consumer electronics and NMC for energy storage applications were lower year-on-year, and we have no indications of an imminent recovery of demand in these segments.

Financial performance of the Rechargeable Battery Materials business unit was also affected by higher depreciation charges and upfront costs related to our expansion investments in China and Poland as well as higher R&D costs.

The Cobalt & Specialty Materials business unit was severely impacted by the lower cobalt price and low demand for end products as customers in several industries reduced excess inventories. We also continued to face unfair competition from cheap unethically sourced cobalt supplies, which have dented our sales volumes and margins for high cobalt-containing products.

You may recall that we indicated last year that the combined effect of lower cobalt price and the unfair competition from unethically sourced cobalt was estimated at EUR 10 million to EUR 15 million in the first half of last year compared to the first half of 2018. For the full year 2019, we estimate this impacted approximately EUR 25 million.

While we were adjusting to short-term fluctuations in demand with the required agility, we made significant strides in the execution of our strategy, which should enable us to capture significant future growth.

On the supply side, we concluded long-term supply partnerships for sustainable cobalt with Glencore; and in January 2020, with CMOC. We completed the acquisition of the Kokkola cobalt refinery and precursor facility, which, together with the supply partnerships I've just mentioned, strengthen our sustainable value chain. We started commissioning of the greenfield plant in China and construction of the new plant for cathode materials in Poland.

Downstream, we signed significant multiyear sales agreements with leading EV battery producers, LG Chem and Samsung SDI, for deliveries from our plants in Korea, China and Europe.

Another milestone was the qualification for financial support for certain of our innovation programs under the umbrella of the Important Projects of Common European Interest, also known as IPCEIs. This umbrella was established by the European Union to provide a framework under which member states are authorized to provide financial support to projects which aim at creating a sustainable and innovative battery value chain for EVs in Europe.

Finally, I'm pleased to report that the Global Battery Alliance, of which Umicore is a founding member, has now issued clear sustainability principles for the rechargeable battery industry. As the next step, the alliance will develop a battery passport which will trace the origins of materials and monitor them throughout the entire life cycle of batteries. This passport, which would act as a type of quality seal on a global digital platform, should help eradicate unacceptable practices from a social or environmental viewpoint and establish a level playing field. And obviously, we will seek widespread support from car OEMs for its implementation.

In Recycling, 2019 saw a supportive environment in terms of metal price, notably, precious and platinum group metals, especially in the second half. Umicore also experienced a favorable supply environment with increasing availability of complex secondary materials such as spent automotive catalysts. And these tend to have higher metal loadings on average as the proportion in the mix of spent catalysts for tighter norms such as Euro 4 or Euro 5 and equivalent norms in other regions is growing.

Also, China's Green Fence policy resulted in higher availability of end-of-life materials, such as printed circuit boards.

Revenues of the Recycling business group increased by 9% in 2019 to EUR 681 million and EBIT by 40% to EUR 188 million, mainly due to the favorable supply mix and higher metal prices.

In Hoboken, we successfully optimized the input mix in order to offset most of the shortfall caused by the extended scheduled maintenance in the first part of 2019 and the fire incident in July.

Revenue at Jewelry & Industrial Metals remained stable year-on-year, while the earnings contribution from Precious Metals Management increased substantially due to favorable trading conditions, in particular, for PGMs.

While the multiyear expansion program at the Hoboken plant was completed in 2019, investments continued and will continue in order to further improve the environmental performance of the plant.

With this, I would now like to hand over to Filip to cover the financials.

Filip Platteeuw - Umicore SA - CFO

Thanks, Marc, and good morning, everyone.

This first slide recaps some of the key numbers for 2019. Revenues were up 3% compared to the record year 2018. And this, despite the recession in our largest end market, the automotive sector. Revenues grew 7% in Catalysis and 9% in Recycling, but were, to a large extent, offset by the headwinds faced in Energy & Surface Technologies.

Recurring EBIT came in close to last year's record number. Excluding the impact of high depreciation charges, recurring EBITDA grew 5%, which includes a EUR 17 million increase due to the adoption of the new IFRS 16 lease standard. The recurring EBITDA margin for the group was stable, with higher margins in Catalysis and in Recycling, in particular.

Our recurring net profit was down 5% due to higher financial charges and specifically, interest payments.

While still well above our cost of capital, return on capital employed came down to 12.6%, driven almost entirely by Energy & Surface Technologies. From a group perspective, the reason for this decline was not lower recurring EBIT, but the substantial increase in the average capital employed year-on-year following the recent growth investments.

The Kokkola assets, acquired at the beginning of December 2019, are also included in the end-of-year capital employed for some EUR 200 million without yet having contributed to earnings in 2019.

This next slide puts our group operating earnings and margins in a historic perspective. And we would like to highlight the consistent path of earnings delivery in recent years, reaching a new high in recurring EBITDA in 2019 and consolidating the margin up-trends of recent years, again, despite the challenging market context. This is consistent with our ambition to target profitable growth.

When calculating the compounded annual average growth rate since 2015, we reached 11% for recurring EBIT and 10% for recurring EBITDA.

Slide 19 illustrates that our 2019 performance was driven by a strong second half as group revenues and earnings recovered from a softer first half. Sequential and year-on-year second half growth rates for group revenues and recurring earnings are strong despite Energy & Surface Technologies feeling the force on its second half earnings of the upfront cost headwinds related to the greenfield site investments in China and in Poland.

The graphs on this next slide show that we significantly improved our free operating cash flow compared to 2018, as previously guided. Our cash flow from operations reached EUR 549 million compared with EUR 92 million in 2018.

On working capital, we ended the year with an increase of EUR 78 million, entirely situated in the second half of the year. This number reflects a more substantial increase in the working capital needs of Catalysis, driven by the inflation in PGM prices. This increase was partly offset by a decrease in working capital in Recycling that included the release of some inventories built up in Hoboken following the recent fire incidents.

Now in view of the sharp PGM price spikes seen since the start of 2020, the net working capital in Catalysis is expected to further increase significantly if, obviously, current prices prevail. I can assure you that managing our working capital remains a top priority for our teams in 2020. Obviously, metal price fluctuations will remain always the dominant driver.

CapEx over the period increased to EUR 553 million and is still concentrated on our strategic expansion projects. Some 60% of total CapEx was spent in Energy & Surface Technologies. And the 2 greenfield projects, obviously, took up most of that amount. CapEx in 2019 also included the investments carried out during the extended maintenance shutdown in Hoboken and the expansion investment in Korea for fuel cell catalysts.

For 2020, we would, at this stage, guide towards a CapEx level of the same order as in 2019 or maybe slightly higher, but we will obviously continue to adjust and align our plans as much as possible to the market reality.

The recent trends of gradually increasing capitalized development expenses also continued into 2019 and accounted for EUR 35 million over the period. Again, most of these assets are related to R&D projects in Energy & Surface Technologies.

Accounting for these investments, the free operating cash flow over the period amounted to a net cash out of EUR 39 million compared to a negative cash flow of EUR 406 million in 2018, as you can see, plotted by the blue line on the lower chart.

This next slide walks us through all cash flow items, starting from the operating cash flow we just discussed. The combined cash out related to taxes paid and net interests amount to EUR 127 million over the period, which is less than last year as higher interest charges were more than offset by lower cash taxes.

The increased dividend in 2018 amounted to a cash out of EUR 186 million.

Finally, a key use of cash in 2019 was the acquisition of the Kokkola operations for EUR 188 million on a cash-free basis.

At the back of the bridge chart, you can see the accounting effect of the adoption of the new IFRS 16 lease standards on a net financial debt, which is a modest EUR 46 million as we only use limited operating leases.

As shown in the next slide, the increase in our net debt of EUR 582 million over the year brings us to slightly more than EUR 1.4 billion of net debt at the end of 2019, which corresponds to 1.9x recurring EBITDA. This includes the new EUR 390 million long-term U.S. private placement debt that was drawn in September. Maintaining sufficient funding headroom to execute our growth strategy and remunerate our shareholders is obviously a key priority.

And Slide 23, actually recaps this flexibility with some numbers related to our current, medium- and long-term committed facilities and their comfortable maturity profile. These facilities are complemented by substantial additional sources of funding, including commercial paper programs and bank loans.

Finally, a word on nonrecurring items, which had an impact of EUR 30 million on EBIT and EUR 24 million on net profit. They are almost entirely due to a few restructuring initiatives. In particular, the closure of one U.S. site of the business unit, Cobalt & Specialty Materials, as we continue to optimize our footprint where necessary to maintain value creation.

This concludes my section, and I'll hand back over to you, Marc.

Marc Grynberg - Umicore SA - CEO & Executive Director

Thank you, Filip. Before opening the line to your questions, I would like to recap the key messages of this morning's call. I'm proud of our performance in 2019, which was close to the record levels of 2018 against the backdrop of a declining automotive market and a slowdown in EV demand. While we are adjusting with agility to short-term fluctuations in demand, I'm confident that our long-term strategy to be a leader in clean mobility materials and recycling will result in further growth for Umicore.

We have taken several major steps in 2019 to strengthen our position and prepare us well to capture significant future growth, and we will continue to execute the strategy with determination. We will also continue to address the issues that challenge our industry, including our unwavering stance on ethical supply of raw materials.

Finally, I'm pleased to confirm that we expect to grow revenues and earnings in 2020 despite the adverse market trends that developed in the course of 2019 and continue to prevail today.

With this, I would now like to open the floor to your questions. As usual, I would like to give everybody a chance to raise a question. And if you have a follow-up question, please place your name in the queue again.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) Your first question comes from the line of Wim Hoste from KBC Securities.

Wim Hoste - KBC Securities NV, Research Division - Executive Director Research

Yes. Question is on the wording of the guidance on the RBM volumes. That was changed from tonnage to gigawatts hour perspective. I had in my mind that there was roughly 2:1 rule of thumb to be used. So to be very precise, the guidance you give now, the 60 gigawatts hour by mid-2021 and 100 by mid-2023, does that fully align with the earlier guidance, but then going towards an 18-month delay versus, yes, the initial plans? Is that how we should read this guidance?

Marc Grynberg - Umicore SA - CEO & Executive Director

Wim, yes, indeed, you are correct. The guidance is fully in line with the previous guidance, which was expressed in terms of tonnages. We decided to move away from tonnages and align with the industry practice of speaking of gigawatt hours, which is what the car producers and the battery cell producers are using as a reference too when they talk about their own capacity or requirements. And yes, it's fully in line. The target that -- and projections that were expressed some time ago in metric tons corresponds to -- considering the mix that we use at the time to do these estimates corresponds to what we're expressing now as 60 and 100 gigawatt hours, respectively.

Wim Hoste - KBC Securities NV, Research Division - Executive Director Research

And what gives you then the -- what is the reason then for now mentioning that you will be moving more towards the 18-month delay instead of the 12 months? Is it market development in China? Is it other reasons? Can you elaborate on that?

Marc Grynberg - Umicore SA - CEO & Executive Director

Well, we said 12 to 18 months because that was the range, which meant that every point in the range was a distinct possibility. As I mentioned a while ago, we see no sign of EV recovery -- EV demand recovery in China for now and do not expect that to happen before 2021, bearing in mind that the subsidy scheme was supposed to be phased out in 2021 in China anyway.

Operator

Your next question comes from the line of Charlie Webb from Morgan Stanley.

Charles L. Webb - Morgan Stanley, Research Division - Equity Analyst

Perhaps I could just ask a question around the margin progression in E&ST, just looking at the sequential decline, H2 on H1. Perhaps you can help us understand the various moving parts. Obviously, I see higher D&A, but it's not enough to kind of offset some of the other declines clearly ongoing. So if you could just help us understand the margin progression, H2 on H1? And then perhaps what we should think about as we think about 2020 for the margins at E&ST.

Marc Grynberg - Umicore SA - CEO & Executive Director

Charlie, so it's difficult to extrapolate from short-term fluctuations and from short-term situations. Clearly, the margins reflect the fact that we are incurring much higher costs, given the higher D&A charges, that's one; the upfront costs related to the construction of our greenfield site; the increased R&D costs; the growing start-up costs for the new capacity; and qualification costs of the new lines. That's one key aspect. One key aspect -- this is the key aspect in explaining the change in the margin profile.

The way I look at it is because it's difficult to -- I would say, to compare a quarterly or half yearly margin evolution, the way I look at it is, overall, we're showing -- despite the difficult market context, which I explained a while ago already, in particular, in China with the overcapacity that exists in that leading EV region, I look at our margins, EBIT margins of some 14% and EBITDA margin of some 20% in the depressed market context as being market-leading margins. And there, as far as we have seen, this is best-in-class performance in terms of margin. And this is the perspective that I would offer for you to look at the margin evolution.

Charles L. Webb - Morgan Stanley, Research Division - Equity Analyst

Okay. Okay. So sorry, just trying to understand. So as we think about next year, given kind of ongoing investment and everything else, it would be -- would it be right to expect that some of these costs continue? Or would you say -- will D&A step up again, R&D will continue to be a cost, start-up costs will be ongoing? That this is kind of the margin for now as we think into next year, is that fair? Or would you expect some of these things to roll off? I mean, clearly, D&A will go up again, I guess, but in terms of startup costs, perhaps?

Marc Grynberg - Umicore SA - CEO & Executive Director

I'm not going to be very specific on the margin expectation because it's too early to provide any quantitative guidance for any of the businesses. This being said, as we wrote in the press release that was issued this morning, we expect costs to increase, indeed, because of the higher D&A charges resulting from recent investments and continuing investments in our greenfield production sites, continuing increases in start-up costs and R&D costs. And at the same time, we expect no significant change or recovery or improvement in the market conditions. So these are the 2 dimensions that I can offer to guide you in your margin estimates.

Operator

Your next question comes from the line of Ranulf Orr from Redburn.

Ranulf Orr - Redburn (Europe) Limited, Research Division - Research Analyst

Marc, I was just wondering if you could clarify your quote on the outlook statement in Page 1. I'm referring to "adjusting investments to take account of evolving market needs." Is that just reference to the update back in April? Or is there other ongoing adjustments being made?

And then really, I wanted to ask about E&ST growth in 2021 -- sorry, in 2020. It seems like there will be very limited new capacity coming online. So should we expect growth in line with that? Or do you have the ability to drive asset utilization higher?

Marc Grynberg - Umicore SA - CEO & Executive Director

And the outlook statement regarding the evolving needs, indeed referred to what we said back in April of last year and it was an illustration of the kind of adjustment that may be required if market needs are changing one way or another indeed. So there is no other allusion that is being made with this statement.

And yes, the -- sorry, for the second part of your question, the growth -- the volume growth that we referred to for E&ST is mostly going to come from capacity additions. I do not expect, considering also the constant evolution in the product mix, that efficiencies will drive major changes in the volumes in the short run. So very capacity driven.

Operator

Your next question comes from the line of Mutlu Gundogan from ABN AMRO.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Marc, you talk about EBITDA in E&ST being down half year on half year despite EV cash flows being up. Was that your expectation already at the H1 results back in July?

Filip Platteeuw - Umicore SA - CFO

Yes. Maybe I'll take it, indeed, Mutlu. So you're referring to a lower EBITDA margin in the second half. Is that your question?

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Not so much the margin but just the absolute EBITDA, was -- I mean, the fact that it was down, was that expected?

Filip Platteeuw - Umicore SA - CFO

Yes. I mean, I think we already highlighted in the July call that we would be facing a cost increase indeed. So apart from D&A, obviously, because we're talking about EBITDA here. But indeed, the start-up costs from the greenfield site is now starting to really come through and has been coming through the second half because we now have, obviously, also the European operations and the preparations for the site coming through. So yes, that was, I think, in line with what we had mentioned in July. The R&D costs, et cetera, we also had visibility on that and that will indeed also continue.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Yes. I mean, there's no business that fell short of your expectations, that's actually what I'm trying to get at.

Filip Platteeuw - Umicore SA - CFO

No, given the market context, no, absolutely. And I would also say because if you look at -- in the question on margins, obviously, we're comparing here with 2018 and the market context is totally different. If you compare the margins with the margins we had in E&ST in previous years, you will see that they are pretty good, especially given the market circumstances we had to face in 2019.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

All right. I mean, just a follow-up question on this. Because if you look at the wording on the E&ST in the H1 press release and also now, it's similar in the sense that, yes, we expect volume growth, but there will be additional costs. And then eventually, what you reported was a decline sequentially in EBITDA. So just will this mean that we're also going to see a decline in EBITDA in 2020? Or -- I mean, you don't say a lot about E&ST in terms of absolute earnings in 2020. Can you help us a little bit there?

Filip Platteeuw - Umicore SA - CFO

I think it's a bit too early, Mutlu, to go beyond what we've said on 2020.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Okay, because you are rather explicit on the 2 other segments, so, but not on E&ST.

Filip Platteeuw - Umicore SA - CFO

No. I think you're asking a specific question on EBITDA in 2020. And that, I think, goes beyond where we want to go. And I think it goes beyond the outlook statement we've made, yes.

Operator

Your next question comes from the line of Peter Olofsen from Kepler Cheuvreux.

Peter Olofsen - Kepler Cheuvreux, Research Division - Analyst

I wanted to ask on your efforts related to batteries, but outside of cathodes. So first, on battery recycling, I know volumes are still a few years out considering the time it will take for engineering, construction, et cetera. What would be the time line in terms of decision-making around the potential industrial-scale battery recycling plan? Could it be that potentially later this year, we get more news on this? And could you also provide an update on your efforts around anodes. Are you already generating some revenues there? What's the progress there?

Marc Grynberg - Umicore SA - CEO & Executive Director

So no, I do not expect that we will reach a decision point this year regarding the scaling up of our battery recycling activities. I still expect that we will need to be on stream with industrial-scale facilities in the second part of the decade. And indeed, there is quite a bit of a time lag that you have incorporated, I guess -- that you have factored in your question, I guess. As I've typically said that we need 2 years to engineer, 2 years to build, 2 years to ramp up, so we still have a bit of time ahead of us. And we're working on the subject to figure out how to best -- how and where to best scale up. So -- but likely, most likely not reaching a decision point this year.

And then in terms of the anodes, yes, we do have revenues from commercial sales for certain applications. These are, however, pretty small at this stage and not of a nature, not of a size that can move the needle in the E&ST segment as of yet. And the development efforts do continue, of course, to broaden deeper technology view and the potential application, indeed.

Peter Olofsen - Kepler Cheuvreux, Research Division - Analyst

But this is an area where we may see more significant CapEx in the coming years? Or is that unlikely to be the case?

Marc Grynberg - Umicore SA - CEO & Executive Director

Well, if we are, I would say, extremely successful from a technical and commercial point of view, yes, that would be the logical outcome. However, given the amount of development work that has yet to be done from a technical and commercial point of view, I think it's too early to be more specific on this one -- to be, I would say, 100% affirmative on this one.

Operator

Your next question comes from the line of Mubasher Chaudhry from Citi.

Mubasher Ahmed Chaudhry - Citigroup Inc, Research Division - VP

Just one quick one and a follow-up. Would you say that the drop in margins is entirely cost related within E&ST? Or is there a price portion to it as well? And then on a longer-term basis, how would you prioritize between kind of market share and margin for E&ST going forward?

Marc Grynberg - Umicore SA - CEO & Executive Director

The main effects that we have in the margins are cost related, as we mentioned earlier or indicated earlier. Yes, indeed. I'm sorry, the second part...

Mubasher Ahmed Chaudhry - Citigroup Inc, Research Division - VP

And then the second part was just because you talk about retaining market share and I'm just trying to think about how that evolves going forward. Given the choice between market share and margins, how would you prioritize between the 2?

Marc Grynberg - Umicore SA - CEO & Executive Director

Yes. No, thank you for repeating the question. I'm sorry I missed it in the first place. The -- our priority is and has always been to optimize returns. And we are not obsessed. We're not driven by market share because it's -- in a way, it's too easy to win market share if you sacrifice prices and margins, and this cannot be an objective. Objective is -- our objective is to make this growth business a sustainable growth business with acceptable returns, so that we can continue to generate the means of -- that are required to further invest. So whether we're talking about E&ST Catalysis or Recycling, the common -- one of the common denominators is that we will always prioritize margins and returns over market shares.

Operator

And your next question comes from the line of Nathalie Debruyne from Degroof Petercam.

Nathalie Debruyne - Banque Degroof Petercam S.A., Research Division - Analyst

I'm sorry, I'm going to come back on E&ST again because I just want to make sure I understand correctly the building blocks because you flagged the higher cost, that's pretty clear, the D&A, we factored that in. But then you mentioned in the press release, substantial impact from the lower cobalt prices and sourcing of unethical cobalt. Okay, you mentioned that was a EUR 25 million impact, about that, over the full year. But I'm wondering does that include the impact on your LCO business? And if so, could you maybe help us quantify that?

And also for the ESS business that (inaudible) until last year. So that's for the first part and yes, I'm going to have a second question.

Marc Grynberg - Umicore SA - CEO & Executive Director

Nathalie, let me maybe start with this one if you allow me. Yes, this impact of EUR 25 million -- estimated impact of EUR 25 million includes the impact on LCO. LCO is one of these high cobalt-containing products, which is facing very significant competition from products containing unethical cobalt. So this is one of the issues that I flagged last year, indeed.

And on top of that, it's also worth to remind everybody that LCO sales were also down because of the excess inventories across the value chain. And we saw a general movement in the industry to reduce these excess inventories, in particular, towards the end of 2019.

Nathalie Debruyne - Banque Degroof Petercam S.A., Research Division - Analyst

Okay. And for the ESS business, is there any chance that you can give us an order of magnitude of the impact it had on the 2019 numbers?

Marc Grynberg - Umicore SA - CEO & Executive Director

No, we're not going to detail that too much. What I can confirm, which compared to what I said last year, is that the impact is material enough to be mentioned.

Nathalie Debruyne - Banque Degroof Petercam S.A., Research Division - Analyst

All right. And then maybe, if I may, and then I'm going to stop. I just wanted to have a bit of an update of your hedging strategy, especially for Recycling. So I just wanted to have a bit of an idea of what -- of the portion of metals exposure of 2020 that is already hedged?

Filip Platteeuw - Umicore SA - CFO

Yes, so in the press release, what we've written is that we have locked in more than half of our both 2020 and '21 exposure for gold and palladium. So that's a significant portion. And then also a significant part of our 2020 exposure for platinum. Now what's significant versus more than half, it means less significant so for platinum portion is somewhat less hedged than palladium and gold. But -- so it means that, indeed, for -- especially for 2020 and also 2021, for gold and palladium, we have already a good portion of hedges in place, more than half of our exposure, which obviously means that yes, it caps in a way part of the upside that you see in the recent price spikes, specifically for palladium, obviously, because these hedges have been entered into, I would say, during the course of 2019. And you know the strategy is really to create visibility at an attractive level.

What I would, just to finish on the hedges, say is that on rhodium, because that's also a metal that has been increasing a lot in 2019 and especially recently, there, we have no hedges so -- because rhodium cannot be hedged. It's not a paper market. So for palladium, more than half hedged as well for gold; for rhodium, no hedges; and then we have a few additional hedges for other metals, but those are less significant.

Operator

Your next question comes from the line of Alex Stewart from Barclays.

James Alexander Stewart - Barclays Bank PLC, Research Division - Chemicals Analyst

I have a technical question. If you build a new asset, and it takes you 2 years to build the asset and then ramp it up in year 3, at what point does the cash you've invested, so the capital on your balance sheet, get allocated to the divisions? And at what point do you start depreciating the asset? Do you depreciate it immediately when it ramps up? If you could give us some sense of how the accounting works, it would be extremely helpful.

Filip Platteeuw - Umicore SA - CFO

Yes. So the depreciation starts when the commissioning. So when we use the assets, that's the simplest way to put it. So once we are really in commissioning and commissioning when it's really, I would say, operational commissioning, then we start to depreciate the assets.

So what you see in terms of D&A and increase in D&A in '19 is really still largely related to the investments we've done in recent years and partly the Chinese plant for part of the year. And then -- so the European plant, that increase, you will actually see mostly as of 2021. But obviously, the Chinese plant will continue to be depreciated in 2020.

James Alexander Stewart - Barclays Bank PLC, Research Division - Chemicals Analyst

And just on the invested capital portion, at what point do you make the asset live rather than work in progress?

Filip Platteeuw - Umicore SA - CFO

I'm not sure I understand that question. Could you specify what you...

James Alexander Stewart - Barclays Bank PLC, Research Division - Chemicals Analyst

Yes, sorry. Let me be clear. Let's say, you build an asset with EUR 300 million. And after 2 years, you've spent EUR 200 million of that, but the asset is clearly not operational. Do you put the EUR 200 million of cash that you've spent into the invested capital within EST division?

Filip Platteeuw - Umicore SA - CFO

Yes, absolutely. So that in -- that's why you see the increase in capital employed, yes.

Operator

Your next question comes from the line of Geoff Haire from UBS.

Geoffrey Robert Haire - UBS Investment Bank, Research Division - MD and Equity Research Analyst

I just have 2 very quick questions. First of all I was wondering, could you give us some idea of what benefit the Kokkola asset will have, either on sales or EBIT in 2020 for ES&T, given, obviously, we think -- well, you feel that as you've gone through this year with contract with the Glencore?

And also just more on NMC cathodes in general. I noticed that BMW has signed a contract with Samsung to buy NCA cathodes from -- their battery systems from them. But obviously, this is, I think, the first time somebody's moved into NMC that's not Tesla -- or NCA that's not Tesla. Is this something that you're seeing with other OEMs that they're looking at NCA or even other battery systems as well?

Marc Grynberg - Umicore SA - CEO & Executive Director

So let me start with the second part of your question. Yes, we see a number of battery makers and carmakers testing a number of chemistries. Now, as far as we are concerned, this doesn't make a lot of difference because high-nickel NMCs or NCAs are the same family of technology -- of product technologies, and so it doesn't -- this is not a departure from their strategy to go to a higher nickel composition in any ways.

And on the Kokkola contribution, we're not going to quantify that nor in terms of revenue nor in terms of bottom line impact.

Geoffrey Robert Haire - UBS Investment Bank, Research Division - MD and Equity Research Analyst

Could I just come back on the first point you made on NCA? Does that mean that then your capacity could make NCA or NMC because they're the same family?

Marc Grynberg - Umicore SA - CEO & Executive Director

Absolutely, high-nickel NMC or NCA, we do make them on the same equipment, indeed.

Operator

Your next question comes from the line of Sebastian Bray from Berenberg.

Sebastian Christian Bray - Joh. Berenberg, Gossler & Co. KG, Research Division - Analyst

I would have 2. The first is a simple one. Were total volumes of NMC produced up, flat or down during the year 2019 across all applications?

The second one is on margins. There was a 370-basis-point EBIT margin decline between H1 of 2019 and H2. Now there's about EUR 20 million of additional depreciation. It looks as if there's an additional EUR 5 million of cobalt-related issues. And that leaves about 140 basis points of unexplained change. Is any of this due to pricing deflation in NMC? Or is it primarily cost?

Filip Platteeuw - Umicore SA - CFO

So regarding the first part of your question, I would say that volumes were on a full year basis, across applications, roughly in line, with the growth in EVs offsetting the shortfall in electronics and energy storage segments.

And regarding the second part of your question, I would turn to -- I think it's the same question on the margin effect in ES&T, and I would repeat what Marc already said, is that the main effect that you see in the second half is on cost.

Sebastian Christian Bray - Joh. Berenberg, Gossler & Co. KG, Research Division - Analyst

Sorry, just to clarify, Marc, when you say in line, does it mean in line with 2018 -- in line with the wider EV market for the total NMC volumes produced at Umicore in 2019?

Marc Grynberg - Umicore SA - CEO & Executive Director

No, we compare things that are comparable. So we compare NMC volumes to the EV industry and the EV market and not to the total capital market. So our sales to the EV applications grew in line with the market and the total sales volumes were roughly in line with those of 2018.

Operator

Your question comes from the line of Chetan Udeshi from JPMorgan.

Chetan Udeshi - JP Morgan Chase & Co, Research Division - Research Analyst

Just a few questions. Just back on E&ST margin, you guys have talked about the main impact coming from cost. But my question is where do I see that cost? Because if I'm looking at the R&D for E&ST, it's essentially flat versus first half. And if I look at the overall OpEx line in the P&L, it doesn't seem like we've seen a major jump in full year '19 versus full year 2010 -- sorry, 2018. So I was just trying to see where are those fixed costs coming through, in which line? That would be the question in P&L.

Second question I had was more just trying to distinguish between what are temporary effects just now, maybe fixed cost increase, ramp-up cost and market slowdown versus what might have changed structurally in the last 12 to 18 month. So Marc, maybe can you throw some light on if anything has changed structurally that we start questioning whether E&ST as a business can make, say, 15% returns over the next 3, 4 years, assuming the market recovers?

And maybe a related question is, the contracts that you guys announced with Samsung and LG, does that have the pricing visibility that gives you confidence that, that is in line with the return aspirations that you have in the business? Because one of the key concerns in the investor base is maybe we know the volumes, but we don't know the pricing of those contracts.

Marc Grynberg - Umicore SA - CEO & Executive Director

Okay. So Chetan, let me jump immediately to the second part of your question because we have already answered a number of times the question about the margin evolution, and we're not going to go into more details anyways. So no, the market context has not changed, indeed, compared to -- that is not -- I mean, today, the market context is still the context of subdued demand, mostly because of the low demand levels in the Chinese EV space. And as I mentioned on previous occasions, the subsidy cuts ahead of schedule, which took place in the course of last year, has caused a significant decline in the EV demand in China and has had a significant impact on the demand patterns globally because China is the largest market for EVs globally. And we don't see any change in the market context today.

It's a context where, indeed, there is overcapacity in China, not elsewhere because capacity is mostly concentrated in China nowadays and has yet to be built in Europe. And no, there is no change compared to the previous comments, whether it's in terms of, I would say, market shares, positioning, qualification, pricing mechanism because the market context is exactly the same as when we spoke last time.

And I'm not going to comment on the pricing and the pricing aspirations or whether the aspirations or return aspirations can be met with the pricing of specific contracts because these contractual terms are not to be commented on. They are not to be shared publicly. So I think it's -- that's too sensitive from a commercial point of view and from a competitive of view to go there.

Again, suffice to say that the market conditions are what they are considering the overcapacity in China, which I expect to last in 2020 as has been the case in 2019. And how much can we extrapolate from that, today, it's difficult to say.

Chetan Udeshi - JP Morgan Chase & Co, Research Division - Research Analyst

Okay. Maybe just a separate question. How would you say your win rate has been maybe in the last 6 to 9 months in general for the new projects?

Marc Grynberg - Umicore SA - CEO & Executive Director

I'm sorry, I will have to be relatively impolite but I have to give other people a chance to raise a question, and we're starting to run out of time. So we'll have to follow-up with you separately offline. I'm sorry for that.

Operator

Your next question comes from the line of Georgina Iwamoto from Goldman Sachs.

Georgina Iwamoto - Goldman Sachs Group Inc., Research Division - Associate

I was wondering if you could give us some insight into what drove the strength in Catalysis in the second half of 2019. And if those drivers you expect to continue in 2020?

And then I'm going to come back on the E&ST margin, but from a kind of different standpoint. All else equal, so same market conditions, you'd be comfortable with market forecasts for a big recovery in the divisional margin in 2021 or '22, when the greenfield sites are ramped up, is that a fair statement?

Marc Grynberg - Umicore SA - CEO & Executive Director

Let me start with the catalyst question. What drove the significant outperformance in the second half of the year was our very strong record in China. We had outstanding performance in China. That's, in particular, due to the fact that we were extremely well exposed to automotive platforms that moved to the China 6 norms in the course of 2019, 1 year ahead of the due date. So that's a significant uplift to our position and to our revenues in 2019. And of course, we'll continue to benefit from our strong position in gasoline applications and in particulate filters in the course of 2020. But the uplift from the early adoption of China 6 norms cannot be repeated by definition for the same platforms in the course of 2020.

And on E&ST...

Filip Platteeuw - Umicore SA - CFO

2021.

Marc Grynberg - Umicore SA - CEO & Executive Director

Okay. No, I think it's really too early to comment on 2021 and 2022. We'll get there in due course.

Operator

Your next question comes from the line of Charles Bentley from Crédit Suisse.

Charles Bentley - Crédit Suisse AG, Research Division - Research Analyst

I just wanted to ask specifically on Europe for EST next year. Can you indicate the amount of production that's kind of directed to Europe for 2020? And then can you give any indication of whether those platforms are single or dual source or multiple source or whatever?

And then just finally, just on the kind of 60-gigawatt hour target by mid-2021, can I just ask how much of that is dependent on China kind of returning to growth? I guess the question would be that whilst you -- you might have a delay to the withdrawal of subsidies, that might happen in the first half and maybe that impacts demand. So I guess it's just a question of how important China is to that target?

Marc Grynberg - Umicore SA - CEO & Executive Director

So the -- again, we do not expect Chinese demand to recover in 2020. That's a confirmation of what I said last year. We don't see any reason to change our views there. There is no sign of a turnaround in 2020. So the -- in a way, the 60-gigawatt hours and the 100-gigawatt hours projections that we have mentioned are not dependent on the recovery of Chinese demand in 2020. And clearly, China will continue to be a significant market for us. So yes, this is part of the 60- and 130-gigawatt hours projections.

Concerning Europe, we're not going to quantify how much production is coming on stream in the course of 2020. It's, as I mentioned on the previous occasion, just to provide a high-level guidance, in the midterm, we're going to have significant capacity in Europe and China. Today, Korea and China are the largest production sites and markets for us. And Europe is going to catch up over time.

Charles Bentley - Crédit Suisse AG, Research Division - Research Analyst

Sure. Sorry, can I just check on that?

Marc Grynberg - Umicore SA - CEO & Executive Director

Maybe it's also worth reminding you that we are starting production in Europe at the end of 2020. So the main effect will be visible -- in the course of European production will be visible in the course of 2021.

Charles Bentley - Crédit Suisse AG, Research Division - Research Analyst

Sure. I was just -- sorry, I was asking more sales in Europe as in like as a percentage of your sales, how important is Europe as a market versus China in 2020? And then the platforms that you're selling on in Europe that are -- yes, whether they're dual source or multisource or single source?

Marc Grynberg - Umicore SA - CEO & Executive Director

Yes, whether there are single source or dual source, we have a mix of situations. And whether it's in Europe, China or Korea, is the same, and we have quite a number of global platforms as well. So we have a reasonable mix of single-sourcing and multiple-sourcing platforms in our portfolio.

And Europe is actually today, by definition, still smaller than other markets for us because the share of EV sales in Europe relative to the rest of the world is around 20%, 25% -- 25%. So by definition, this a proportion that is meant to grow in the future as Europe is moving this year actually to tighter emission norms and we see quite a number of launches of new models. So our sales will grow as in our sales to European -- for European models, which will grow, sorry, quite substantially in the years to come. And the proportion of Europe in our portfolio will grow in the years to come.

Operator

At this stage, we will take 3 last questions. And your next question comes from the line of Jean-Baptiste Rolland.

Jean-Baptiste Henri Rolland - BofA Merrill Lynch, Research Division - Associate

When you talk about profit growth this year, it sounds that it's going to be entirely driven by Recycling and probably on the back of metal prices that you have been able to hedge. I just wanted to confirm that.

And then, I'm slightly surprised that the main impact from Europe in E&ST is not coming before 2021 since OEMs are ramping up production of EVs as of now. And presumably, a number of suppliers in the market have already started to see a good start from current trading. Is that, that you're not seeing material orders? Or is that, that you prefer staying prudent and maybe assume that there is no guarantee that the OEMs will actually manage to have commercial with their -- sorry, commercial success with their EV launches this year?

Marc Grynberg - Umicore SA - CEO & Executive Director

Jean-Baptiste, actually thank you for raising that question, because it gives me a chance to clarify my previous statement. I was referring to our European production starting in -- at the end of this year, and its impact being visible in 2021. I was not referring to our sales ending up in the European models. So that's, I think, an important distinction.

No, we are extremely well positioned on models across the world, including in Europe. And there is no -- I would say, no issue of position or growth in line with the market in that respect. I was just referring to our new production.

And I'm not going to go into more granularity in terms of the outlook statement, also given the fact that, for obvious reasons, visibility is quite limited today for any business in any industry and for global businesses and especially for companies with a significant exposure in China. So I don't think it would be wise nor meaningful to provide more granularity and indeed, I'm confident enough that we can grow revenue and earnings, but I'm not going to go into more detail.

Jean-Baptiste Henri Rolland - BofA Merrill Lynch, Research Division - Associate

Can I just ask a quick follow-up on trying to understand whether you are actually, as of now, exporting cathodes from South Korea into Europe in order to supply OEMs. Or is that something -- maybe if you can specify whether that's something that you're doing at the moment? I'm just trying to understand if that's something that you would be doing if you had demand from OEMs in Europe?

Marc Grynberg - Umicore SA - CEO & Executive Director

Let's put it this way. We have quite a number of our materials, quite a volume of our materials ending up in European cars. And whether this is through direct sales in Europe or sales to our customers in Asia who themselves sell into Europe, I'm not going to detail that. It can be a combination of both.

Operator

Your next question comes from the line of Stijn Demeester from ING.

Stijn Demeester - ING Groep N.V., Research Division - Research Analyst

So a question on CapEx. Where are you in terms of the CapEx budgets of all the battery expansion? And is 2020 the final year of heavy CapEx in E&ST?

Following up on that, can you comment on leverage in 2020? Do you see net debt to EBITDA up? And if so, to what extent?

Filip Platteeuw - Umicore SA - CFO

So maybe I'll take that on CapEx. I mean, if you look at the growth prospects in this business, it's fair to say that CapEx will remain high in this business for the foreseeable future. So it's not like there was a tailing off to be expected. That's just a consequence of the unique growth opportunity that we see for 2020. In my voiceover, I gave you a bit of guidance. So for '19, we're at EUR 550 million if I round it. So what I've said is -- I mean, again, it's early days, but probably somewhere similar or maybe a bit higher with the caveats, and that's related then to, I would say, the general statement on visibility in all of our markets, that obviously, we will adjust that if we need to, based on the market context. But that's the kind of number. So yes, continued high investment in 2020, driven mostly, not only, but mostly by E&ST. And certainly, the European greenfield plant is a key aspect into that.

Stijn Demeester - ING Groep N.V., Research Division - Research Analyst

So you don't see an easing of CapEx in 2021?

Filip Platteeuw - Umicore SA - CFO

Well, obviously, I mean, it's too early, but I'm just referring to the growth opportunity in this market. So if you only take the greenfield sites and clearly, the Chinese site and the Polish site, that will be commissioning end of 2020. So that CapEx, obviously, will fall away. So that's more a question then of the future growth of the market in the next few years. That was only what I refer to; I was not giving you specific guidance on 2021. But I'd say it's still a logical consequence of the growth opportunities in this market more than anything else.

And the second question now, I forgot. Would you mind us...

Stijn Demeester - ING Groep N.V., Research Division - Research Analyst

Net debt to EBITDA.

Filip Platteeuw - Umicore SA - CFO

Yes, the leverage. So it's -- again, I think it's early days to give specific guidance. But the -- I would say, the building blocks you hope we give you a bit of guidance on the EBITDA, you make your own assumption, obviously, based on our outlook statement, the CapEx we've just covered. The working capital, as always, metal prices will play a very key role. That's the determining factor for Umicore. So it's too early to give an indication. The only thing I would like to highlight, as put in the voiceover, is that given the spike in PGM prices that we've seen in January and in beginning of February, that, that will have an important impact on working capital in Catalysis. We already had an impact in 2019 at -- towards the second half and towards the end of the year. But if you look at the PGM prices, where they are today, you can expect at least the same impact in 2020, obviously, assuming that metal prices will prevail at the current levels. But so Catalysis is something to highlight related to metal prices. The rest of the units, it's too early to give an indication.

Operator

And our final question comes from the line of Jaideep Pandya from Millennium.

Unidentified Analyst

Just a simple question really is you've announced 2 contracts with LG and Samsung. In the current plan that you have given us today of 60 gigawatt and whatever, 100-plus gigawatts, is there any room for more contract announcements? Or are you done basically?

Marc Grynberg - Umicore SA - CEO & Executive Director

No, these were big contracts that both parties, in each case, wanted to advertise. And clearly, we have multiple customers and while our Korean customers are very large customers of ours, our portfolio is broader than that. And the projections of capacity includes other customers in the mix as well.

Operator

There are no further questions.

Marc Grynberg - Umicore SA - CEO & Executive Director

Okay. So thank you. And I realize that we haven't had the time to address all of your questions. So I'm sure that there will be many follow-up questions. And of course, as usual, we will -- our Investor Relations team will be available to address your follow-on questions. And also, we will meet in the next few days, and will have chance to continue the discussion about the performance of Umicore.

And with this, I would like to thank you for your participation in the call today and wish you already a nice weekend. Thank you, and bye-bye.

Filip Platteeuw - Umicore SA - CFO

Thank you.

Operator

That does conclude our conference for today. Thank you for participating. You may all now disconnect.