PRESENTATION

Operator

Ladies and gentlemen, thank you for standing by. Welcome to the Covestro investor conference call on the 2017 full year results. The company is represented by Patrick Thomas, CEO and Interim CFO; Markus Steilemann, CCO; and Ronald Koehler, Head of Investor Relations. (Operator Instructions) I would now like to turn the conference over to Ronald Koehler. Please go ahead, sir.

Ronald Koehler - Covestro Aktiengesellschaft - Head of IR

Good afternoon, and welcome to our full year and Q4 2017 conference call. With me on the call is Patrick and Markus. And for your information, we have posted our annual report and the conference call presentation on our website, and we assume you have read our safe harbor statement. I would now like to turn the conference directly to Patrick.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Thank you very much, Ronald, and good afternoon, everybody, and thank you for joining us on the call. 2017 represents the year in which we believe we have established new levels of financial performance. We benefited from continued strong demand and we achieved a core volume growth of 3.4% for the full year, although we had to cope with limited product availability as we were practically sold out from the second quarter of 2017.

We further improved our earnings in tight industries with high utilization rates with an impressive year-on-year EBITDA increase of 71% to reach a full year figure of EUR 3.4 billion. This leads us to an EPS of EUR 9.93, an improvement of 2.5x versus last year. For the full year 2017, we will propose to our Annual Shareholders Meeting a significantly higher dividend of EUR 2.20 per share. This implies a dividend yield of 2.4% based on Friday’s closing share price of EUR 90.06 as of February 16.

Our shareholders have benefited from our strong operational performance with a total return of 35% over the course of the year 2017. However, our valuation multiples are still low. As an example, in 2017, we generated a free operating cash flow of EUR 1.8 billion, which translates into a double-digit free cash flow yield, certainly the highest in the European chemicals sector.
In 2017, we saw a strong demand in all regions. However, we were not able to fulfill all our customers’ demand due to our limited product availability. As a consequence, our volume growth often decoupled from the general demand trends.

In 2017 and especially in quarter 3, we suffered severe production losses in the U.S. caused by Hurricane Harvey. Even in quarter 4, the aftermath was still visible as we had to replenish our inventories back to normal levels. Therefore, our volumes were flat in the U.S. despite an estimated underlying market growth of 5% to 6%.

On the other hand, our strong development in Germany was mainly driven by a low comparison basis. In quarter 4 2016, we faced a force majeure of one nitric acid supplier, which caused a significant production loss at that time. Consequently, we achieved a very strong rebound in 2017.

In 2017, we delivered on our promises and fully achieved all financial targets we set ourselves. Overall, we certainly operated in a favorable market environment in terms of demand development. The positive trend, which started in 2016, remained with us over the course of 2017. However, as you have heard, the environment was less favorable in terms of manufacturing and logistics for our industry.

These excellent results were supported by our agile organizational structures, our young and reliable asset base and the extraordinary motivation and dedication of our employees. All these strengths enabled us to react quickly in challenging situations.

For the full year 2017, we posted a dynamic sales increase of 19%, driven by all business segments. Volume and price positively contributed to top line growth, with price being the main driver. Higher volumes had a positive sales effect of 4.3%. The impact of ForEx effects changed from a tailwind in the first half of the year to a headwind in the second half. For the full year, we saw a small burden of around EUR 200 million, but since translational in nature, with minor effects in our margin.

With an impressive EBITDA improvement of 125% in quarter 4 2017 versus the prior year quarter, we finished the year with an increase of 71%. We recorded a positive pricing delta in all 3 segments for quarter 4 and for the full year, the main drive stemming from Polyurethanes. The further improvement of our utilization rates was a clear contributor too, reflected by the strong volume leverage of 46%.

Although we faced significantly higher raw material prices, we were able to increase selling prices even more due to the constantly high demand and continuously tight situations in our industries. Regarding ForEx, the slight burden from the second half of the year also impacted EBITDA, as said, translational in nature.

With regards to other items, the small net positive is composed of 2 elements. On one hand, we faced higher operational costs due to our intensified activities and on the other hand, we recorded operational onetime effects of EUR 146 million for the full year. Noteworthy for quarter 4 were the EUR 63 million for the release of provisions triggered by our final decision to continue the operations in Tarragona. In order to be fully transparent, we’ve added an overview of the onetime effects affecting EBITDA in the last 2 years in our appendix to these slides.

The EBITDA margin improved from 16.9% to 24.3% for the full year. This is an impressive 740 basis points increase. Equally impressive is the fact we did not experience a typical seasonal slowdown in quarter 4. However, this margin has to be put into perspective. Excluding the positive effect of the TDI fly-up and the onetime items, our margin would have been at around 20%. This still represents a progression of 3 percentage points versus the prior year but shows a level we deem more appropriate to reflect the performance in 2017. Overall, we were able to increase our EBITDA each quarter versus the respective prior year in the last 12 quarters.

I’d now like to hand over to Markus for more detail on the segments.

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Thank you, Patrick, very much and also very warm welcome from my side.

Demand remained strong in Polyurethanes, driven by the accelerating global GDP growth. However, the industry in 2017 was characterized by operating at its limits, reflecting the constrained available capacities. As we have seen throughout the year, every production interruption resulted
in an industry shortage. So we look forward to new capacities since they will bring room for growth and improve the image of the industry with our customers as a reliable supplier of PU raw materials.

Although constrained by limited product availability, we grew our core volumes by 3.4% in 2017, driven by all 3 subsegments. The main contributors were TDI and MDI. Regionally, Polyurethanes followed the same patterns as the group core volume development. APAC contributed most and NAFTA least to the results. In terms of customer industries, we saw major growth impulses from automotive, transportation and electrical for MDI as well as furniture for TDI.

EBITDA reached EUR 2.2 billion this year, representing 2.5x the level of 2016. The hatched part on the EBITDA bars on the chart indicates the portion attributable to the fly-up margin in TDI and to onetime items. Adjusting for them, we reached an absolute EBITDA level of EUR 350 million to EUR 400 million per quarter in 2017. This corresponds to a margin of around 20%, a level we feel more comfortable with to describe 2017. This is also a margin we consider more sustainable going forward.

Firstly, for MDI, we assume a further structurally improving global utilization rate over the next years. This is due to a favorable supply-demand balance and a higher-than-forecast demand development while supply additions stayed below this increase.

Secondly, for TDI, we assume that industry margins will normalize. However, it remains difficult to predict the timing of this normalization. So we continue to assume that half of the 2017 benefits will disappear over the course of 2018.

Lastly, on Polyether Polyols, we believe that the pricing pressure should reverse when TDI returns to normal growth. This might help to partly mitigate the TDI development.

In Polycarbonates, we delivered a strong core volume growth of 5% for the full year. We started the year with an impressive double-digit growth. In the quarters thereafter, our growth was compromised by limited product availability. Additionally, we actively steered the product mix improvement.

The growth was broad based, driven by all 3 regions. We achieved double-digit growth rates in automotive, electronics and some medical and diverse industries. This enabled us to gain further shares in the industry now for the fourth consecutive year. The high-volume leverage drove the EBITDA margin to 22.8%, an improvement of 150 basis points.

We continued to de-emphasize our sales in non-differentiated applications like sheets in the construction industry and the CD/DVD industry. This development, too, led to product mix improvements beneficial to our margins. After a negative pricing delta in the first half year 2017 due to higher material prices, the intended catch-up planned for the second half of 2017 was successful. Indeed, the pricing delta was positive both in Q3 and Q4, thanks to increased selling prices compensating higher input prices.

Our future earnings development will be driven by continuously strong volume growth and further product mix improvements. Even if some new entrants in China are currently ramping up their production, we are confident that our competitive advantage will stay intact since it takes decades to achieve the high levels of differentiation and quality we are able to offer.

In Coatings, Adhesives and Specialties, we kept our core volume stable year-on-year in a difficult year. We started the year with a strong core volume growth, including some pre-buying in Q1, then had to cope with volume phasing in Q2. The core volume growth in Q3 and Q4 was affected by destocking, a weaker underlying demand, some industry share losses and product limitations mainly due to Hurricane Harvey. On top of this, in Q4, we saw the usual seasonal dip.

EBITDA decreased by 9.4% year-on-year to EUR 453 million, affected by the negative volume leverage. In line with the announced price increases, we achieved a 3.2% year-on-year price increase in Q4 after satisfying increases in Q2 and Q3. This enabled us to close the full year with 1.8% improved average selling prices year-on-year and to compensate the impact of higher raw material prices.
Despite these short-term headwinds, CAS remains an attractive resilient business with EBITDA margins above 20%. We also expect an improving volume growth in the full year 2018 as recent reporting in the coatings and adhesives industry points to a better environment. Please note that Q1 has a tough comparison basis, i.e. a year-on-year volume and earnings decline is rather likely.

Before handing back to Patrick, I would like to conclude with the announcement of a change of structure for one of our business units. From January 1, 2018, we shifted the Thermoplastic Polyurethane business unit from the PUR to the CAS segment. Thermoplastic Polyurethanes is a relatively small unit with a rather complex structure, just like many businesses of the Coatings Adhesives Specialties segment. And that is precisely why we believe it can be even better managed in the CAS environment. As a consequence, we see a restatement of figures starting with Q1 2018, the details of which are shown on a separate slide in the appendix.

I now hand back to Patrick.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Thank you, Markus. We were able to generate a record free operating cash flow of above EUR 1.8 billion in 2017, also establishing a new level here. The strong improvement was fully driven by the significant EBITDA increase. More intense working capital needs, EUR 100 million higher CapEx and higher tax payments based on increased earnings reduced the figure for the full year. We achieved a working capital to sales ratio of 15.4%, which is at the lower end of our target corridor. Nevertheless, higher prices caused a revaluation of inventories and receivables, which led to a cash absorption of almost EUR 500 million in 2017. Without this burden, free operating cash flow would have been at EUR 2.3 billion.

In a more stable pricing environment, we would expect to keep our working capital stable. Thanks to the benefits of the high free operating cash flow, our total net debt has been reduced by EUR 1.2 billion over the course of the year. The net financial debt level decreased by the same magnitude to reach EUR 283 million at the end of December 2017.

With that, the ratio of total net debt to EBITDA decreased further to reach 0.4x at year-end compared to 1.3x at the end of 2016. Our target remains unchanged at 1.5x. Based on the faster paydown of debt than originally expected and to financials that further improved Covestro’s positioning in its current rating category, Moody’s lifted our credit rating outlook from stable to positive in December 2017.

In quarter 4 2017, we transferred bonds with a value of EUR 250 million to fund parts of our pension provisions. Without this voluntary funding, we would have seen an increase of around 20% in pension provisions, mainly due to re-measurements. This move was neutral to our total net debt and simply represents a swap between net financial debt and pension provisions. Interesting to note that without the CTA funding, we would’ve been almost net financial debt-free at year-end. But as we said, this is not our ambition.

As Markus is responsible for the future outlook, I’m going to hand over to Markus now for his views on how the business will develop in the future.

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Thanks, again, Patrick. In view of a new record cash flow generation in 2017, we reviewed our previous free operating cash flow target. At our last Capital Markets Day in London in June last year, we made the commitment to generate EUR 5 billion of cumulative free operating cash flow by year-end 2021. After the strong result delivered so far, we have decided to shorten this period of time. We now plan to reach the cumulative EUR 5 billion already by year-end 2019, 2 years earlier than originally planned.

Let me review our options for the use of free cash. We stay committed to our previously communicated use of cash plans. Our dividend policy is unchanged and we will propose at the next Annual General Meeting on April 13 an increased dividend of EUR 2.2 per share. This represents an increase of 63% versus the prior year and corresponds to a dividend yield of 2.4% based on last Friday’s share price at EUR 90.6 as of 16 February 2018.
This translates into a total dividend payout of above EUR 400 million. In order to further improve our portfolio, we continue to screen the market in a disciplined way for external growth options with value creation as our key focus. Our share buyback program is fully on track. We started on November 21, 2017, and plan to execute it until mid-2019. As of today, we have already bought back close to 4 million shares, which represents around 2% of the capital stock.

2018 has started well and we assume similar positive economic conditions as seen last year. We are confident that our industries will continue to outgrow global GDP. Core volume growth remains a focus for us as we continue to expect an ongoing positive volume leverage.

In 2018, we assume growth in line with our industries, which should allow us to achieve a low to mid-single-digit core volume growth. In 2018, we assume a free operating cash flow significantly above the average of the last 3 years or to be more precise, significantly above EUR 1.391 million. This takes into account planned higher CapEx of EUR 600 million to EUR 650 million in 2018. On return on capital employed, having achieved a new level here as well, we plan to approach the same level as in 2017.

With regard to EBITDA, we had a highly encouraging start to the year. In Q1 2018, we expect our EBITDA will significantly increase compared to Q1 2017. We assume that we can achieve a positive pricing delta of more than EUR 300 million. However, we expect a low triple-digit million euros burden from the negative currency development. In addition, higher operational costs should also have a negative mid-double-digit impact. Given the high comparison basis, we assume a very limited contribution from volume growth, which might be even negative.

For the full year 2018, we assume that EBITDA will be around previous year’s level. This takes into account the following headwinds: Firstly, we recorded EUR 146 million positive one-time items in 2017. Secondly, we assume foreign-exchange headwinds of EUR 150 million to EUR 200 million. Thirdly, we continue to assume increasing competitive pressure in TDI during the course of 2018, which should burden EBITDA by an estimated EUR 250 million, especially in the second half of 2018.

After many figures and before closing our session with a summary, let me show you one example of our digitalization program called Digital@Covestro. Indeed, we are pursuing a comprehensive strategic program to seize the opportunities of digitalization and set new standards in collaborating with customers. To do so, we are anchoring digital technologies and operating procedures on all essential levels: in production, supply chain, research and development and all points of contact with customers and in developing new business models.

Our focus in all these efforts is on the specific benefits to customers. As one key example, we expect to launch a new digital commerce chemistry platform in 2018. Business customers can then efficiently purchase standard products online from our range of polymers at current market prices. Materials valued at up to EUR 1 billion are to be sold via the platform by the end of 2019. Designed on the basis of customer needs, this platform is currently in the testing phase.

And now I would like to hand over back to Patrick.
We would now be delighted to take your questions.

**QUESTIONS AND ANSWERS**

**Operator**
(Operator Instructions) The first question comes from Patrick Lambert.

**Patrick Lambert - Raymond James Euro Equities - Research Analyst**

Patrick Lambert, Raymond James. I ask 4 questions a bit pretty quick. The first one, easy. U.S. tax down, I think, about 2 percentage points of tax also -- but EUR 16 million. Is that the correct number on a cash basis? And how long do you think that will last? I know there's a lot of changes over the years with the tax reform, especially on the depreciation, on the CapEx spend impact. So that's question one. Question 2 is regarding the bridge 2018. Thanks for giving a lot of granularity into getting there. But at the end of it, you still have about EUR 550 million headwinds going into '18. Could you comment where you see the tailwinds coming from by division? Can we expect Polycarbonates and CAS to actually recover from last year in terms of bridge contribution? That's question number two. Question number three, about polycarbonates. If you could comment a bit more on the adding capacity in China? I have a few, but if you could put a quantification on the kilo tons that are coming in production in 2018, that would be useful. And then finally, the CapEx 2019, 2018, you gave guidance '19. I think your plan, it was going back again above, like around EUR 800 million. Is that still the case that we should think about a step-up in CapEx for larger expansions?

**Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO**

Okay, Patrick. Thank you very much for your 4 very clear questions. The first one, I'm going to hand over to my tax expert, Ronald, who is, as you know, always hot on this topic. U.S. tax, Ronald.

**Ronald Koehler - Covestro Aktiengesellschaft - Head of IR**

Okay. Thank you. On U.S. taxes, obviously, as we announced already in our press release some details on that, just to give you once again the insight. EUR 87 million was actually the tax benefit in Q4, which was a noncash tax benefit as we benefited from the faster depreciation we did in the tax P&L versus our IFRS P&L. That one was immediately on the P&L results and in Q4 but noncash. And that brought actually down our underlying tax rate from around 28% to a bit more than 24% in 2017. So we had 3.3 percentage points actually benefit from the U.S. tax noncash items in the full year 2017. We regard the impact on the going forward tax rate of 1 to 2 percentage points per year. That's obviously cash relevant. And if you start with this underlying 28% tax rate, then you see, we're planning with 1 to 2 percentage points benefit. We also planned with some others like benefits, therefore, we give you the new guidance of 25% to 27% tax rate in 2018 and the years to follow. And the cash tax rate, we actually assume a very similar cash tax rate in 2018 versus the P&L tax rate.

**Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO**

Thank you very much, Ronald, as I said, our tax expert. Markus, do you want to comment on how our nonfinancial numbers bridge feels to you looking out for the full year?

**Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board**

Yes, Patrick. I mean, to both of you, thank you, and -- Patrick #1, one for handing over; Patrick #2, for asking the question. So how does it feel currently? We assume from our perspective headwinds of a bit more than EUR 300 million due to the missing onetime income that you'll find more details in the document we have provided in the foreign exchange burden in 2018 compared to 2017. This should be balanced out by a positive...
operational leverage. We still assume that part of the TDI fly-up margins will disappear during 2018, more geared towards the second half. On the other hand, the pricing delta for the remaining business looks favorable, which should compensate the normalization of the TDI margins. I hope that gives you a little bit of insight about how I feel about the overall development in 2018.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO
Okay. And on polycarbonates, Patrick asked the question about capacity in China.

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board
Yes. Also, yes, thanks, Patrick, for the question. Very well observed. We are aware of some so-called environmental impact analysis announcements in 2017 that would suggest some additional capacity coming up on stream in China, and we are not only aware but also very well prepared on those additional capacities. As we have pointed out numerous times, we are shifting the product mix of polycarbonates towards more resilient higher-margin and specialized grades in the entire portfolio whereas new entrants always enter into the low-value, highly commoditized and highly cyclical business parts, for example, sheets as well as CDs and DVDs if they can actually achieve their respective quality. Having said that, we are aware of this potentially new additional capacity, but we are not hit unexpectedly by it, but we are very well prepared.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO
Very good. And on your question...

Patrick Lambert - Raymond James Euro Equities - Research Analyst
Is Wanhua part of it?

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board
Absolutely, but that is not new to us. It is already very well known, also this fact.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO
Okay, so that’s the polycarbonate question. Finally, on CapEx, Patrick, you asked a question about 2019. The guidance we’ve given is between 2019 and 2021. We expect to see, at lower end, on CapEx of around about EUR 650 million; and in the higher end, about 1 billion. The actual spending is going to depend specifically on the projects which come through and their exact timing. So I would be somewhere in the middle of that range for 2019 as a sensible guidance. So somewhere in the range of EUR 650 million to EUR 1 billion would be the CapEx I would put in my model.

Ronald Koehler - Covestro Aktiengesellschaft - Head of IR
And Patrick, if the question is related to -- did we change anything on our CapEx budget? No, not at all. We stick completely what we had before in mind and also our free operating cash flow upgrade, which is after CapEx spending, is not impacted at all on any CapEx decisions.

Operator
The next question comes from Paul Walsh.
It’s Paul Walsh from Morgan Stanley. And Patrick, I’d just say good luck with all your endeavors in the future. And from my side, thanks for the interactions as well. It’s been great fun. In terms of my questions, if I back out the Tarragona provision reversal in the fourth quarter, I get an EBITDA margin in Polyurethanes that’s pretty similar to what we saw in Q3. And I would have expected more, and I was just wondering if there was anything in that higher cost or any other factors that might have kept the margin under locks given the expansion in margins we actually saw in MDI and TDI. So that’s my first question. My second question is around Markus’ comments on normalization in TDI. Simple question, why? We always see in these markets, just keep getting stronger and stronger and stronger. I’m just curious what specifics you see out there that you would call for normalization? And just my final question, again, simple one. What are you going to do with the cash? Or is there genuinely no change in the capital allocation policy at a group level?

Thank you very much, Paul, and thank you for your nice comments. I look forward to staying in touch. Tarragona backed out, it was a margin that’s fairly constant Q3 to Q4. Ronald, do you want to just comment on how you look at that?

Point number one, Q4 is the typical seasonal lower quarter, which means, actually, in the quarter-on-quarter comparison, we had lower volumes as usually, which is already diminishing a bit the margin. Point number two, Q4 is our quarter with the highest maintenance shutdown. So actually, when you think about the shutdowns we had, it was once again the highest quarter, which actually increased costs. So these 2 items were counterbalanced so to say by better margins. And indeed, the cash margin was underlying improving. Obviously, then, we had the 2 items I just described as a negative and the outcome was a flat result, which is obviously pretty good versus the standard expectation which have been a result which is down.

Okay. That was the Q3, Q4 margin development on Polyurethanes. Normalization in TDI markets, are you going to give a quick update on why or should it go on forever?

Paul, thanks for the question. For TDI, we still assume, and it’s really an assumption and the best educated guess we could ever have, that industry margins will normalize. Why is that? Number one is we are still in this very exceptional situation where we have 2 capacities which are supposed to come onstream at one point in time, which is BASF and also Dow-Sadara because we really don't know when exactly they will come finally in full capacity on stream. It is so difficult to predict when this normalization in terms of timing will really happen. And we know that we since first quarter 2017, talking about it exactly because it is so difficult to predict. So we do not have any updated version or any updated information about when it really finally will happen. The only thing that is for sure, it will happen one point in time. And the best guess we have is that this will be geared more towards the second half of 2018, and that’s the best guess we currently have. We keep you posted.

Okay, that’s helpful. And just maybe partly, to that question, I guess, you'll still also view no flat margins in MDI?
Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Correct. That’s the current working assumption we have. Average 2017 -- however, average 2017 is important as a good basis and approach for calculation, not fourth quarter times 4.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Good guidance. And on free operating cash flow, which was one of your topics earlier, Markus?

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Well, here, I can refer back to what he have said before. We stay committed to all our previously communicated use of cash plans. And maybe to give you some flavor about our share buyback in this context because some of you might wonder why the share buyback is what it is, it is what it is because we have very clear and strict regulations about how we are supposed to buy back shares from a publicly listed corporation that is listed in a German stock market and that’s what we are currently doing is to exactly following those rules, and that gives us exactly the time frame that you currently see, which means we can finalize from today’s perspective the share buyback programs somewhat in second quarter or more gearing towards the end of second quarter 2019. And that’s the current speed at which we are operating. And so this is the use of cash we have in terms of share buyback. Then our dividend policy, I think, also has been pretty clear. And just as a reminder, 2015, we paid EUR 0.70 per share per share 2016, EUR 1.35. And now we suggested to the Annual General Meeting, EUR 2.20 as a share buyback, which would mean a 63% increase. In addition, we have a very good investment, which means organic growth by spending CapEx in our own assets because, even at the margin levels that we deem to be more stable on or above 20% EBITDA on a group level. I think that it’s also pretty good investment to invest in own CapEx, and that goes from small, smart investments, debottlenecking up to brownfield investments, as you have seen recent announcements. I hope that gives you some flavor.

Operator

And the next question comes from Andreas Heine.

Andreas Heine - MainFirst Bank AG, Research Division - MD

Andreas Heine from MainFirst. Actually, 4 small ones. The first, if I look on what we can see from market data for TDI and MDI margin, I would think that for the first quarter, TDI margins are still going up even Q-on-Q, whereas MDI seems to have some softening, but really only marginal softening despite – Sadara at full speed aside. We know – is that about right? Or do you have a different view on looking on to Q1? Second, could you update us how you are progressing this conversion and upgrade of the Brunsbüttel plant? Is that going to come at the end of this year? And how is it with Polycarbonates in Caojing? Then thirdly, on CAS, could you elaborate a little bit more about the competitive environment here? So you improve prices, which shows that there is pricing power. You lost some market share. I think you will retry to regain the market share in 2018. Are you still strong enough to keep the prices on this level? Or do we have to be here a little bit more cautious? And the last question, only a clarification, could you remind me what your M&A criterias are? These were my questions.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Okay, Andreas. Thank you very much. So first of all, insights on TDI and MDI margins. Probably Markus, that’s something for you to think about in terms of regions.
Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Yes. Andreas, thanks for your question. On TDI, I mean, there's nothing more to say. You're perfectly right. On MDI, we see different movements. We see that in Asia Pacific, the MDI spread's going a little bit down. But that is more, at least from our current working assumption, a seasonal effect simply because we are in the mid of Chinese New Year. And traditionally before Chinese New Year, there's a lot of activity going on. Stocks are piling up. Some dealers try to deleverage, some dealers try to just cash in. And therefore, we do not think that this is a structural issue in China but just a typical seasonal effect before Chinese New Year. And we will know more first, second week of March when we enter into the normal business activities. In Europe, the spreads for MDI actually improving. So that might give you some flavor about TDI and MDI.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

And then the second question from Andreas was around conversion of Brunsbüttel and polycarbonates in Caojing.

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Yes. I think in terms of the conversion of the former TDI plants towards the MDI operations in Brunsbüttel, we are in plan. It means we expect that the plant and also the first product will come out of the plant by end of this year, exactly as you mentioned it. On polycarbonates, we are going for one of our major smart capital expenditures here because we are debottlenecking. And that is maybe a little bit misplaced this wording of debottlenecking because we are talking about 200,000 tons additional capacity as a smart CapEx debottlenecking approach. This is normally 2 to 3x what other people consider to be world scale polycarbonate. And we're just doing it at an existing plant with 400,000 tons of capacity and expecting that the first 50,000 tons would come onstream already within this year and help to continue to support us in our growth ambitions in polycarbonate.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

So then the story around CAS, clearly, prices are starting to move up, and we did lose some market share in the process because of new entrants. How do you look at the CAS development for next year, Markus?

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Well, I have to say, it feels pretty okay for this year, in particular simply due to the fact that the price increases have, as we stated earlier, now shown first traction. We, however, compare the first quarter, in particular in the coatings business, to a very strong first quarter in 2017, if I'm totally correct, of 9% volume growth in the first quarter 2017, which means we have a very strong basis in the CAS arena we compare ourselves to. And that's why maybe even into the first quarter, might even still show slightly negative volume growth, but that is not indicative for the remainder of the year where we believe that the coatings business will go back to a low to mid-single-digit growth path at the improved pricing level. And with that, we'll continue to be a very attractive, still very resilient and very profitable business with margins above 20% EBITDA.

Ronald Koehler - Covestro Aktiengesellschaft - Head of IR

And if I may add specifically to pricing, obviously, we initiated the price increases as of Q2 2017, which means, yes, in Q1, we will still see nice price increases, but we have not announced any major additional initiatives so far, which means obviously, just on a year-over-year comparison, as of Q2 2018, price increases should be left visible from today's perspective.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Thank you, Ronald. Just a clarification on M&A criteria, Markus?
Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Yes. Thanks, Patrick. There’s 3 main criterias. Criteria number one is value creation, number two is value creation and number three is value creation. And to be a bit more precise on that, we're looking at return on capital employed after synergies, above our weighted average cost of capital. That's the absolute minimum. For sure, we are expecting it must have a positive contribution to our free operating cash flow through the cycle. Then to mention the least, no significant change of credit rating should be the impact of any of our respective acquisitions. We have also alluded all the criteria during our Capital Markets Day last June in London.

Operator

The next question comes from Christian Faitz.

Christian Faitz - Kepler Cheuvreux, Research Division - Equity Analyst

Christian Faitz, Kepler Cheuvreux. Just to follow up on Andreas' question in terms of CAS. You mentioned this morning during the press conference that there's new entrants in your CAS business, which are kind of disturbing the market a bit. Are these competitors with a PU backbone? Can you give us some background to this? And then second question, what kind of end markets are you observing at present in terms of trends? Particularly, on automotive, construction, furniture and electronics, it would be helpful to get some feeling what's going on currently in Q1 and maybe in your auto books into Q2 potentially already. And then thirdly, Patrick, --your CFO - I actually forgot his name - this morning, also in the press conference, was suggesting that multiples for assets are extremely high at present. As such, can we exclude any major acquisitions for now?

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Thank you, Christian, CAS, new entrants. Markus, do you want to fill in on the current state of play?

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

This is Markus speaking. If I recollect, correct what I tried to say this morning, it was not about new competitors but slightly increased competitive pressure. And you are right with your analysis, it is from also people who are very familiar to the PUR business, in particular, one large Chinese player Wanhua because they had installed capacity on one of the major aliphatic isocyanates, HDI in particular. But we were not absolutely clear about how large the capacity would be. And we worked on a specific assumption about how large this capacity might be and on that assumption, started to increase prices in the market. And during the process, we learned a little bit more about how large their available capacity might be, and that was the entire situation that in particular, then haunted us for quite a number of weeks, not to say months, during us trying to push through price increases. And in that context, we also lost some market share.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Very good. And the other competitor change, I think, was around Vencorex who have converted their TDI units into HDI, but we had a reasonable fix on what that would mean in the market. To give you some color on end markets, Christian, I think probably if we start with automotive, I think we believe that Europe will slow down a little bit in 2018. I think somewhat counter to that in the U.S., we saw a fall in 2017, which will be, I think, followed by recovery in 2018. And as you’ve seen probably with -- the motor shows are moved towards quite big vehicles again and lots of trucks coming back into popularity. And of course, Asia is the fastest growth of all in automotive. There seems to be new competition among some of the middle-class vehicles and of course, a huge move towards e-mobility, which is driving a lot of our sales into particularly crash prevention systems and crash energy absorption systems, which have to be nonmetallic in a Chinese car. I mean, I think in a battery pack vehicle, you end up with a whole load of new applications as we are now discovering related to charging systems, related to the battery protection, related to all sorts of lightweighting, not least to which the charging stations, which turns out to be quite a big market, and each charging station consumes a significant
amount of polycarbonate. The construction industry, I think, in Europe was beginning to get more confident towards the end of the year, although it's been slightly disappointing during the year. U.S.A. growing at about 2%, the main driver there has moved from light industrial more into single-family homes and a little bit coming in on construction in terms of infrastructure but not as much as we had hoped for. Let's see how Trump's infrastructure plans develop. China, the outlook is very promising. We see something around the sort of civil engineering infrastructure of about 9% growth. India is now coming in as pretty strong in the construction space, growing at just over 5%, somewhere close to 5% to 6%. Furniture industry, still growing in Europe. We saw a quite big overall TDI demand in the third quarter globally. After the market was very constrained in quarter 2, we saw a catch-up growth as this product became available in quarter 3. And I think the growth approached 10% globally in quarter 3 on TDI. So that, taken in consideration with Markus' comments earlier about TDI supply-demand balance, might give us a bit of a surprise in terms of just how tight this market is going to stay. I think the biggest growth driver in Asia at the moment is the furniture industry, still strong demand for TDI, more positive even in '18 than in '17. And then, I think as we look at the electronics, electrical, it's a widely different set of performance in different segments. Very healthy in Europe, although purchasing power is slightly less upbeat around consumer goods due to the overall higher inflation. NAFTA, robust growth. The connected devices revolution is extraordinary. I mean, just about everything you buy now is connected. I was telling a story this morning about a present I got from my wife, which every time the dog barks, it automatically informs our iPhone, gives her a photograph of the dog in the kitchen, allows us to talk to the dog and then press a button and fire a dog biscuit at the dog. Everything is getting internet-connected. And when you go for internet-connected, you need polycarbonate blend to do the protection that the radio frequencies -- that are necessary to do all the connectivity out. A new 5G phone antenna, particularly difficult challenge for the technology for both base stations and mobile devices and something where polycarbonate takes a really interesting new role. So a lot of growth in that area. And obviously, in Asia, a lot of the components are being assembled there. Latin America is the one thing I've missed there as a regional sort of color, very difficult economic situation still. There is some growth in residential housing, although it's not particularly strong because of political uncertainties. The regional production of vehicles in Latin America is expected to grow significantly by about 9% per annum, but it's more domestic market than anything else because of obviously the economic situation. And the whole electronic thing is still falling to bits. It's not looking particularly good from that point of view. Furniture is still positive to an effect but not dramatic. It's not the main driver of our growth. So does that help, Christian? That was an overview of all markets, all regions' color. And then your final question?

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Yes, Christian. This is Markus again. The way how I look at M&A is not necessarily about including or excluding any opportunities or possibilities. The way I look at it is more, does it create value or not? And as you have seen recently, there are quite a number of deals out there, which are paid for a high multiple or bought by a high multiple. And maybe some of the targets, if not all, are, from client perspective, maybe a bit overvalued, and that's why we also have, last year, decided to rather invest into one of the most valuable stocks, which is currently undervalued, which is our own stock. And that's why we started the share buyback program. So you see, we are not including or excluding anything. We're really very, very closely and very diligently looking at all opportunities and just preparing ourselves for the right moment. But I would feel uncomfortable to say excluding or including at the point in time is the right wording in this context.

Operator

And our next question comes from Geoff Haire.

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

It's Geoff Haire from UBS. Just had a quick question with regards to capacity constraints that you have. This has obviously been a theme that we've been sort of hearing you talk about for the last 6 to 9 months. Just wondering at what point we get to where you're going to have to consider building greenfield capacity. And maybe you could go through each of the 3 product lines and talk about that please?

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Okay. Markus, do you want to cover that?
Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Well, the point for real greenfield, to address your question, is far out. I mean, really far out. We more would talk about something that I could imagine would be more towards the end of the next decade. There is, however, the need for larger brownfield investments, which we already have in our capacity expansion plans, short, mid and long term included. That means we would start them today but still would only be onstream, for example, in 7 years. And then, please not to forget, there is a significant amount of very smart debottlenecking CapEx measures that we still have. We have introduced already a few of them. We talked about polycarbonates. We still have opportunities in MDI, talking about the combination, Brunsbüttel, Tarragona in this context where in Tarragona, we are now looking for a very cost-competitive addition of chlorine supply for the existing MDI facilities to also long term guarantee supply here. And polycarbonates, we have mentioned. So there’s plenty of opportunities for us to grow within the existing capacity expansion project and capital expenditure projects in the range that we have suggested midterm, which we want to grow strategically in all our major product areas. And that is exactly one area. The other area is -- it is quite common in the industries that from time to time, you sell out capacities to other market players, which are then distributed via those channels in the market. And over time, for example, you didn’t take back, at one point in time, some capacity or stopped delivering here and there some capacity. So despite the pure need to build capacity, there is also always some opportunity to grow via the construction of those contracts, which we do not disclose in any detail, but it helps us also to bridge some gaps that might exist in an Excel spreadsheet where you say, “Wait a moment. They’ll still only build in 2 years. How do they bridge the gap?” And we have opportunities to bridge those gaps by so-called swap deals. In the past couple of years, we have been a so-called net-out swapper, which means for some product groups, you still have the opportunity to take back material and take this also as one opportunity to spur our growth. I hope that’s helpful.

Operator

Our next question comes from Laurence Alexander.

Laurence Alexander - Jefferies LLC, Research Division - VP & Equity Research Analyst

Laurence Alexander, Jefferies. Just 2 quick ones. First, you made a comment earlier about how coatings volumes will get back to low to mid-single digits in Q2 and beyond. Did that refer just to coatings or was that the full CAS segment? And then secondly, can you remind us how much volume you’re moving from the Polyurethanes business to CAS in 2018?

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Okay. So the first one is an easy one, I think. And I’ll just clarify, on the second question, Laurence, are you talking about moving Thermoplastics Polyurethanes into CAS?

Laurence Alexander - Jefferies LLC, Research Division - VP & Equity Research Analyst

Thermoplastics, correct.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Yes. It’s thermoplastics, what you’re saying, yes. Okay. Markus, let’s just reaffirm.

Markus Steilemann - Covestro Aktiengesellschaft - Chief Commercial Officer & Member of Management Board

Okay, Laurence. Thanks also here for the question. The coatings volume refers to the entire coatings, adhesives and specialty portfolio. Sorry for not being more clear on that in my previous answer. And on the thermoplastics Polyurethane business, it is a very limited volume we are talking
about. If you look into the appendix, we also have provided as part of the overall presentation, you see that the overall sales we are intending to move for the full year 2017 would be at EUR 274 million, which at current price level, and I’d just do a quick math would represent roughly 4% of the entire Polyurethane sales and at an EBITDA level of 33 million. So you may get an idea about how large/how small the business is in comparison.

Operator

Our next question is from Andrew Benson.

Andrew Benson - Citigroup Inc, Research Division - MD

Best wishes, Patrick. And perhaps if you could send some of those biscuit machines, we could try them at Salesforce if they don’t answer the phone.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

It’s brilliant.

Andrew Benson - Citigroup Inc, Research Division - MD

I have questions. The only one that I’m interested in is the issue of chloride waste and discharges. Because obviously you kind of use straight chlorine in your production processes. But -- so in the light really of Chinese environmental regulations, are you seeing any change in the ability to produce or the competitive landscape in China because of new environmental legislations? It’s not necessarily a chloride issue. But I think that’s pertinent -- relevant to the isocyanate business, but just how you see that environmental landscape affecting how the market is evolving.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

That’s a really good question, Andrew. And I think your idea of using the dog biscuit machine with the Salesforce is something we might investigate as well. The chlorine issue is a really important one. And I’m pleased you’ve raised it as a question because it’s one that’s kind of not very often asked about and it’s a huge part of our backbone. And it’s also a huge part of our competitive advantage because, for example, our CAS business lives with very good margins partly because it sits on a huge chlorine backbone, which we mainly operate ourselves although we do access other people’s chlorine. You mentioned specifically China. And in China, we have probably the most flexible chlorine system for the very reasons that you have described because there’s overcapacity in the PVC chain. So getting rid of hydrochloric acid, which is the result of using the chlorine, is quite difficult there. And that’s the one location where we actually have 2 different recycling technologies. We have a licensed Mitsui Decon unit, which catalytically converts hydrochloric acid back into chlorine, which is environmentally a very good route and one which we know that other Chinese producers are starting to copy. We were the first to introduce the technology from Japan into China, and it’s certainly been a huge success. Very tricky to do, but it’s working really well. Secondly, we have an electrolytic process taking hydrochloric acid back into chlorine. That also works recently well but is less financially attractive depending upon energy pricing, which in China can be a problem. But we have those options in China because otherwise, we only have a single source of supply for chlorine from Shanghai Chlor-Alkali Company, which was always something we were rather concerned about because not all the standards for operating chlorine plants are the same across China. Shanghai Chlor-Alkali, on the Caojing site, is extremely competent and is a member of the World Chlorine Council and is well supported by the government. So we’re not too worried in Caojing, but it is an issue elsewhere. And other people have suffered with the ability to get chlorine licenses in China. So you’re hitting on a very sensitive issue for some of our competitors. In Europe, the biggest issue was in Spain where we had the issue of a third-party supplier operating an old mercury-based cell. Remember, as you know, at the end of last year, those were all shut down. That had a couple of effects. One is our short-term fix on chlorine and shipping chlorine in and out of Tarragona, but we’ve now decided to invest and put a world-scale state-of-the-art chlorine unit in using our new super efficient chlorine technology, which is about 30% less energy than the normal process. So that supports our Tarragona conversion and then expansion. Again, a very clever business -- smart engineering that we’ve come up with, I think. So that solves that problem. The side effect of all of this is caustic pricing is, of course, now quite high in Europe with European phaseout. So there’s quite a few moving
parts around the whole chlorine chain. So you're right to ask about it. But none of them are threatening to our ability to operate in any way so there is no risk from operability.

Laurence Alexander - Jefferies LLC, Research Division - VP & Equity Research Analyst
I was actually asking from a slightly different angle because I'm not by your technical competence. I was thinking really of whether that chlorine license issue has constrained isocyanate production and the extent to which you can guess that it may or may not had an impact on the pricing in 2017.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO
Well, yes, I was trying to answer it as delicately as possible in that arena because it's not for me to comment on our competitors and any difficulty they may have had in gaining licenses to operate chlorine plants. But I think your supposition is exactly correct and that it is difficult. Any of these facilities we're talking about are classified as major chemical acid facilities. That means there is a huge barrier to entry. And for the chlorine-based processes, that can be restricting the output of some of the plants because of lack of chlorine supply, because of lack of license. But in our case, that has not been a problem.

Operator
And our last question for today comes from Chetan Udeshi.

Chetan Udeshi - JP Morgan Chase & Co, Research Division - Research Analyst
Chetan Udeshi, JP Morgan. Maybe last few questions. The first is on cyclical in earnings, you guys talked about having more differentiated products in both MDI and polycarbonate than in the past. Maybe can you help us understand how we should think about cyclicality in earnings and in the -- from a mid- to long-term perspective versus say historical Covestro as such and how to sort of track that in the numbers into the midterm? And the second question I had was, just looking at the current spreads for TDI, MDI and Polycarbonate, what sort of impact do you see for the full year if those spreads remain at the current level? Because in my calculation suggests you could have actually a much higher year-on-year increase, if I'm talking about increase not flat if the spreads were to remain at the current level for the whole year.

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO
Chetan, thank you very much for your question. Maybe I can try the first one on cyclical in earnings, which is quite tricky. And then perhaps Markus will have a go on the spreads issue because it's really -- I'm repeating something we said earlier I think because it's difficult at product level to actually -- and we don't disclose individual spreads at product level clearly. The cyclicity is, in our industry, is not necessarily driven by economic cycles. It's typically driven by supply and demand cycles. So where are we at the moment in the big picture cycle? So in 2008, 2009, we had a huge volume, shocking demand. A lot of companies didn't carry on investing their capital. They canceled their CapEx. They reduced their investment time. And as Markus has pointed out earlier, the lead time for investment for these sort of assets is something like 7 years. Now we did keep going with some of our CapEx, which we're very grateful for because that was really an act of faith in the future of the growth of the industry, and that just led to our success particularly in the TDI space and particularly in the polycarbonate space. So at the moment, there is tightness in the market. We've talked about how we think that will develop on TDI because of the potential for more capacity to come on stream later in the year. We've talked about the structural change, which is taking place in MDI where we see very balanced, continued supply and demand looking forward. And we've talked about polycarbonates where we see a similar picture certainly through next year. And in part, that, I think, answers your spreads question. I think we gave guidance for the full year on EBITDA and gave you some idea about how you'd look at the ups and downs. But I think it's -- when we see an economic recession like in 2008, then you see massive volumes, sort of massive overcapacity and clearly, margins collapse. Where we are at the moment is, I think, we're operating at a level which I believe will be sustained for some time, hence, our year-on-year guidance despite some of the headwinds that we will deliver a number around the same as 2017. Does that help? Because I'm not going to go into detail, spread
analysis on MDI and TDI because that would take us quite a long time and would be quite difficult to explain. We would have to sit down together and go through some of the ways in which we look at modeling MDI and TDI spreads over time. But it’s pretty much supply-demand driven, and I think we’ve got a good fix on that we’ve explained during the call. Is that okay, Chetan?

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

Yes. And maybe just a quick one, if I may. There have been a number of issues for different reasons with MDI and TDI producers, not only in China. Now you’ve seen there is an increasing issue of carbon monoxide supply at Korean vendors as well. Well, you guys haven’t seen any of that issue, especially associated with carbon monoxide. So is there something to read into that as such?

Patrick Thomas - Covestro Aktiengesellschaft - Chairman of Board of Management, CEO & Interim CFO

Well, let me explain a tiny bit. MDI and TDI are right at the end of the supply chain in the chemical industry and therefore, rely upon a large number of feedstock supplies, including carbon monoxide. You cannot make MDI or TDI without that carbon monoxide. And we had interruptions 2 years ago in our Baytown facility with a carbon monoxide reformer that failed. Other competitors have had similar issues with carbon monoxide producers in some of the other sort of chemical islands around the place. It’s a fairly normal source of a problem because these are not 100% reliable assets all of the time. And typically, to get a good performance out of an MDI train, it’s certainly where the MDI will be running pretty much flat out, we would be expecting to see about 93% of nameplate. And for a TDI unit, if we can get to 90%, we would be very, very happy because that’s pretty much a stretch. We’re not operating assets like oil refineries, which operates at 98%, 99%. These are very difficult complex plants that rely upon a multitude of feeds, which all have to be available at the same time, otherwise, you can’t run. So I think when we saw the CO supply issues coming up, we haven’t had issues recently on CO supply, but we know all about it from history, and it a recurrent source of problems. It is something we insure against because it is something, which is occurring from time to time. We know that. And the types of contract we operate on with the gas supply, industrial gas supply companies mean that we do need to insure against their declaration of force majeure on supply. So that’s really where we are, I think. That’s probably the best explanation. Is that okay, Chetan?

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

Okay, yes.

Operator

Mr. Koehler, there are no further questions at this time. Please continue with any points you wish to raise.

Ronald Koehler - Covestro Aktiengesellschaft - Head of IR

Thank you very much, and thank you all for participating in this conference call and your interesting questions. And we will latest speak to you with the Q1 conference call or perhaps we might have a chance to see you in between. Thank you. Bye-bye.

Operator

The conference is no longer being recorded.